KLONDIKE GOLD CORPORATION

INDUCED POLARIZATION
AND VLF SURVEY AT
THE SPICE PROPERTY,
ROSS RIVER AREA,
YUKON TERRITORY

<table>
<thead>
<tr>
<th>Claim Name</th>
<th>Grant #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spice 1 to 10</td>
<td>YB93156 to YB93165</td>
</tr>
<tr>
<td>Spice 11 to 14</td>
<td>YB93615 to YB93618</td>
</tr>
<tr>
<td>Spice 19 to 34</td>
<td>YB93619 to YB93634</td>
</tr>
</tbody>
</table>

Dave Hildes, Ph. D.
Aurora Geosciences Ltd.
108 Gold Road
Whitehorse, Yukon, Y1A 2W3

Location: 61° 59' N 131° 55' W
NTS: 105 G/13
Mining District: Watson Lake, Yukon Territory
Date: Dec 2004
SUMMARY

Induced polarization / resistivity and VLF-EM surveys were conducted on the Spice Property for Klondike Gold Corporation to investigate the source of elevated gold, arsenic, antimony, mercury and silver geochemical values on the property.

A total of 8.5 line-km were cut and chained to survey 7.2 line-km of IP / resistivity using a dipole-dipole array with 25 m dipole spacing, reading from the 1st to the 6th separation. The data were interpreted by employing automated computer inversion to generate 2D models of the chargeability and resistivity distribution along each line. These results were in turn contoured to generate three dimensional models of chargeability and resistivity. 2.6 line-km of VLF data were collected on lines perpendicular to the IP lines.

The IP / resistivity survey identified a shallow, gently-north dipping, chargeability-high, resistivity-high zone, approximately 100 metres wide with a strike length of 300 metres. Within this zone, the anomaly between 270N and 350N on line 500E is coincident with the best gold assays. This geophysical response is consistent with silicified rhyolite, which appears to be the source of the gold.

Blast-trenching followed by a drill program (if warranted) is recommended to determine if this anomaly is auriferous.
# TABLE OF CONTENTS

1.0 INTRODUCTION ................................................ 1  
2.0 LOCATION AND ACCESS ........................................ 1  
3.0 CLAIM INFORMATION ........................................... 1  
4.0 GRID ......................................................... 5  
5.0 PERSONNEL AND EQUIPMENT .................................... 5  
6.0 SURVEY SPECIFICATIONS ....................................... 6  
7.0 SURVEY NOTES ................................................ 7  
8.0 IP INTERPRETATION METHOD .................................... 7  
9.0 DATA PROCESSING ............................................... 12  
10.0 DATA PRODUCTS ............................................. 14  
11.0 GEOLOGICAL SETTING ......................................... 15  
12.0 RESULTS ..................................................... 16  
13.0 INTERPRETATION .............................................. 21  
14.0 CONCLUSIONS & RECOMMENDATIONS ........................... 22  
REFERENCES ...................................................... 23  
STATEMENT OF EXPENDITURES ...................................... 25  
APPENDIX A. CERTIFICATE .......................................... 26  
APPENDIX B. SURVEY LOG .......................................... 27  
APPENDIX C. INSTRUMENT SPECIFICATIONS ........................... 30  
APPENDIX D. INVERSION RESULTS ................................... 39  
APPENDIX E. 3D MODEL VIEWS ...................................... 62  
APPENDIX F. PSEUDOSECTIONS ..................................... Back Pocket

# LIST OF FIGURES
Figure 1. Property location .............................................. 2
Figure 2. Claim location ................................................ 3
Figure 3. Grid map ................................................... 4
Figure 4. Stacked resistivity models ..................................... 18
Figure 5. Stacked chargeability models ................................... 19
Figure 6. Plan view of resistivity and chargeability models ................. 20
Figure 7. Stacked VLF-EM profiles ........................................ 22
1.0 INTRODUCTION

Aurora Geosciences Ltd. was retained by Klondike Gold Corp. to perform VLF and induced polarization / resistivity (IP) surveys at the Spice Property approximately 40 km east of Ross River, Yukon Territory. The surveys were performed to locate the source of gold, arsenic, antimony, mercury and silver geochemical anomalies on the property. The IP survey was to detect possible sulphide sources in the bedrock, while the VLF survey was to define structures which may have influenced the placement of gold.

A total of 8.5 line-km were cut (baseline and IP) and 7.2 line-km surveyed with IP. 2.8 line-km of VLF were surveyed along uncut lines perpendicular to the IP lines. The work was done between July 11 and July 22, 2004. This report describes the survey, data processing and results, and contains an interpretation of the data.

2.0 LOCATION AND ACCESS

The Spice Property is located in the Watson Lake Mining District, approximately 40 km east of Ross River, centered at 61° 59' N, 131° 55' W on NTS map sheets 105 G/13 and 105 J/04 (Figure 1), the Spice Property comprises 32 Quartz claims (Figure 2). The property is 7 km south of the North Canol road although no road or trail to the property exists at this time. Access is by helicopter, either directly from Ross River or from a staging pad on the North Canol road.

3.0 CLAIM INFORMATION

The claims are owned by Ivan Elash (33.33%) and Tanana Exploration Inc. (66.67%) and are subject to an option agreement with Klondike Gold Corporation. Claim Information is as follows:

<table>
<thead>
<tr>
<th>Claim Name</th>
<th>Grant Number</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spice 1 to 10</td>
<td>YB93156 to YB93165</td>
<td>March 7, 2012</td>
</tr>
<tr>
<td>Spice 11 to 14</td>
<td>YB93615 to YB93618</td>
<td>February 22, 2009</td>
</tr>
<tr>
<td>Spice 19 to 34</td>
<td>YB93619 to YB93634</td>
<td>February 22, 2009</td>
</tr>
</tbody>
</table>

The claims cover an area of approximately 627 hectares and are on crown land that falls under the jurisdiction of the Government of Yukon. There are no first nation land claims in the immediate area of the claims.

4.0 GRID
KLONDIKE GOLD CORPORATION
SPICE PROPERTY
CLAIM MAP
Watson Lake Mining District
NTS 105G/13, J/04  NAD 83 UTM
Figure 2  Dec, 2004
AURORA GEOSCIENCES LTD
Klondike Gold Corporation

IP and VLF grid
Figure 3

NTS: 105 G/13
Projection: UTM Zone 9W
Datum: NAD83
Mining District: Watson Lake
Date Surveyed: July 2004
Job: KGC-04-002-YT

Aurora Geosciences Ltd.
The survey grid is shown in Figure 3. The grid was cut and installed by the Aurora Geosciences crew synchronous with the geophysical surveys. A 1.3 km base line trending 105 degrees was cut on the southern edge of the grid, passing immediately south of the lake in the eastern portion of the claim block. 12 lines were turned and cut to the north either 700 m or to the lakeshore. While standing-by for demobilization, a 350 m extension was cut and surveyed south of the baseline on the western-most line (L0E) to follow up an open IP anomaly. Line ends and midpoints were recorded using non-differential GPS and these measurements were used to register the grid to geographic coordinates.

Three VLF lines, parallel to the base line, were put in by hip-chain and compass. These lines are flagged and not cut.

5.0 PERSONNEL AND EQUIPMENT

The survey was conducted by the following personnel:

Crew chief / geophysicist : Dave Hildes, Ph. D.
Technician: Warren Kapaniuk
Helper: Anna Crawford
Helper: Qamar Khan

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

5
IP Transmitter: GDD TX-II 1.8 KW digital IP transmitter
               Honda 5KVA gas generator
IP Receiver: IRIS ELREC 6 digital 6-channel IP receiver.
Other IP equipment 6 km 18 gauge wire in good repair.
                   Breast reels and speedy winders
                   Stainless steel electrodes
                   VHF radios
                   25 m 6-channel receiver cables
                   Tools and repair equipment
VLF Geonics EM-16 VLF receiver
Camp: 1 - 4 man summer camp (2 - 12'x14' tents, kitchen gear, generator,
SAT phone)

**Line cutting:**
- 3 - chain saws
- 1 - line cutting crew kit (hip chains, chains, GPS receivers, prisms etc.) including pickets, tags & flagging

**Data processing:**
- Pentium-4, 2.67GHz laptop
- Geosoft IP package

### 6.0 SURVEY SPECIFICATIONS

The survey was conducted according to the following specifications:

**Array:**
- Dipole-dipole

**Dipole spacing:**
- 25 m

**Separations read:**
- n=1 to 6

**Tx mode / signal:**
- Standard time domain signal (0.125 Hz, 50% duty cycle, reversing polarity)

**Receiver sampling:**
- Semi-logarithmic sampling of the decay curve in 10 windows, stacked minimum 15 times.

**Parameters read:**
- $M_t$ - total chargeability (mV/V)
- $R_o$ - apparent resistivity (Ohm m)
- $M_1$ to $M_{10}$ - 10 channel samples of decay curve
- $V_p$ - Primary voltage
- Sp - spontaneous potential
- E - error in chargeability (mV/V)

**Noise:**
- Standard deviation of the chargeability was kept to 5 mV/V or less wherever possible. If this was not possible, readings were repeated several times to determine their repeatability.

**VLF:**
- Station spacing of 10 m on 3 cross-lines using the Jim Creek, Washington (NLK) station, azimuth 160.

**Facing direction**
- All VLF measurements taken facing grid east.
Other: Line end and mid-points were measured with non-differential GPS and IP station-to-station slopes were recorded with a hand-held clinometer to provide topography for the inversion. All coordinates are UTM Zone 9N, NAD83.

7.0 SURVEY NOTES

The survey log in Appendix B describes detailed survey operations including production. The crew mobilized to the property on July 11. After meeting the helicopter at a staging area (near Marjorie Lake on the North Canol road), the crew was flown into the site in 6 loads including Wade Carrell and Ivan Elash of Tanana Exploration and their camp. Line cutting commenced on July 12. The VLF survey was performed on July 14 and the IP survey started July 16. Production was very good, as was the general data quality. An open anomaly on the southwest corner of the grid prompted an extension while on standby to demobilize. Due to equipment difficulty, the data for the extension is not in standard format and is not suitable for pseudosection display. It is however readily processed by the inversion software and is included in the modelled results. The crew demobilized on July 22.

8.0 IP INTERPRETATION METHOD

The data were interpreted using the DCIP2D package developed by the University of British Columbia Geophysical Inversion Facility. The inversion algorithm is described in detail by Oldenburg and Li (1994). A brief description of key features of the algorithm follows.

The IP effect can be described in macroscopic terms. If a time domain signal is put into the ground, as soon as the current is turned on, the voltage immediately rises to a level \( \phi_\sigma \) and thereafter continues to rise to a higher level \( \phi_\eta \). At current shutoff, the voltage immediately falls to a level \( \phi_s \) and then slowly decays to zero along a curve similar to that between \( \phi_\sigma \) and \( \phi_\eta \). Apparent chargeability is defined as the "extra" voltage observed:

\[
\eta_a = \frac{\phi_\eta - \phi_\sigma}{\phi_\eta} = \frac{\phi_s}{\phi_\eta}
\]

The observed DC potentials \( \phi_\sigma \) are defined by the vector form of Ohms Law:

\[
\nabla \cdot (\sigma \nabla \phi_s) = -I \delta(r - r_s)
\]

where \( r - r_s \) is the vector to the measurement point, \( I \) is the current and \( \sigma \) is the conductivity structure of the earth - the unknown quantity in the geophysical problem. The chargeability
can be modeled by replacing the conductivity by an equivalent apparent conductivity controlled by the chargeability:

$$\sigma_\eta = \sigma (1 - \eta)$$

Modeling the IP effect then involves running two conductivity models - one with $\sigma$ and one with $\sigma_\eta$.

The unknown quantity is the distribution of conductivities in the earth. The software models the earth conductivity structure as a series of rectangular cells of varying size and aspect ratio. The grid is finest (most detailed) near the measurement points and much coarser at locations beside or at depth beneath the measurement points. The padding cells are necessary to avoid having edge effects appear in the model. The size and dimensions of the models in no way compensates for the basic limitations on depth penetration and resolution inherent in the IP/resistivity survey. Thus the effective depth of penetration (0.5 to 1.0 times the maximum dipole separation) is the limit to which the models should be relied upon to accurately reflect true earth conductivities and chargeabilities.

The program calculates the potential across the finite element network using a starting model. Appropriate boundary conditions are applied when calculating the potentials across the network. These include the condition that all current flow is normal to the cell boundaries and voltages are continuous across the boundaries. The sensitivity of the model to changing the parameters in any cell is calculated as is the misfit between the model results and the actual observed potentials / chargeabilities. The model is then adjusted using the calculated sensitivities of the response to changes in the conductivity of individual cells.

There is no unique solution or model which fits any set of IP / resistivity data. A best-fit model is one which (1) fits the data within the error of the survey and (2) invokes the minimum required degree of complexity to fit the data. For a set of $N$ measurements, a global misfit can be defined as:

$$\Psi_d = \sum_{i=1}^{N} (W_i (r_i^* - r_i^{obs})^2$$

where $W_i$ is the weighting factor for the $i^{th}$ measurement ($r^{obs}$) and $r_i$ is the model response for this measurement. The weighting factor is usually the inverse of the error so that a measurement with high error has a low weighting and vice versa. In a system with random noise, the target misfit is $N$. The algorithm reduces $\Psi_d$ by repeatedly adjusting the conductivities to improve the fit until the global misfit equals the target misfit. At this point, the model fits the data to within the error of the survey.

The second requirement of a successful solution is that the complexity of the final model
be minimized. IP measurements are inherent averages, deriving resistivity and chargeabilities from large volumes of the subsurface. It is possible to over-fit data, deriving solutions which over-minimize misfit but which invoke models with detail beyond the resolving power of the measuring arrays. The problem is ill-posed and inherently ambiguous in that an infinite number of models may satisfy the global misfit equals target misfit criterion. If both a simple and complex solution can adequately replicate the field data within the bounds of measurement error, the simple solution is to be preferred.

Starting with a reference model \( m_0 \) and weighting functions for \( x \) and \( z \) (\( w_x, w_z \)), define the complexity of the model as \( \Psi_m \) where:

\[
\Psi_m = \alpha_x w_x(x) (\frac{\partial (m - m_0)}{\partial x})^2 + \alpha_z w_z(x) (\frac{\partial (m - m_0)}{\partial z})^2 + \alpha_s (m - m_0)^2
\]

where \( \alpha_x \), \( \alpha_z \) and \( \alpha_s \) define the relative weight of the model in \( x \), \( z \) and fineness. Increasing any of these values increases the importance of that dimension in the final solution. For example, to weight the final solutions towards vertical structures, \( \alpha_z \) would be weighted several times more than \( \alpha_x \). To force the model to generate fewer small scale structures, \( \alpha_s \) is increased.

The final criteria for a successful solution can then be expressed as:

1. Minimize \( \Psi_m \)
2. Subject to the constraint that \( \Psi_d = N \) (or very close to it).

To evaluate a solution, the reader should examine not only the final values but the path the program followed to reach these values. An example of typical convergence curves is shown below:
The black line traces the value of $\Psi_d$ with each iteration and in a good inversion, this will converge to the target misfit (N). The orange curve traces the convergence behavior of $\Psi_m$. This curve normally starts at a very small value because the reference model is usually set to the initial model and the initial and reference models are very simple. As the inversion proceeds, the solution model becomes increasingly complex as it is adjusted to meet the target misfit. After reaching target misfit, minor adjustments are made to reduce the complexity of the model and the $\Psi_m$ curve stabilizes at some high value.

The field observations often have significant poorly quantified errors and the complexity of the background conductivity response may be such that it is impossible to reduce $\Psi_d$ to N. Instead, $\Psi_d$ can be scaled proportionately by a “chi-factor” ranging up or down from 1.0 (no scaling). Setting a large chi-factor loosens the control that goodness-of-fit exerts on the solution and generally directs the program to use very simple models which tend to smooth out the conductivities and fails to accurately model the fine details in resistivity or chargeability known to exist in the ground. Setting a chi-factor which is too low may prevent convergence to an acceptable solution. Generally, chi is left at 1.0.

A final feature of note in the inversion is the use of initial and reference conductivity and chargeability models in the inversion process. As noted above, the relation for $\Psi_m$ requires a reference model ($m_0$) against which solutions are compared. This can be an actual 2D model constructed from known geology or a estimate of half space conductivity or chargeability. In addition, the modeling process will start from an initial model which has the same general form. In general, an average half space conductivity and chargeability based on the field values is the best model to start from and this is the default model for both inversions if none other is specified. This will ensure that $\Psi_m$ converges to a value which is not too large. The initial and reference models can be used to estimate the depth.
of investigation. If two inversions are performed with very different reference models, there will be regions in the final models which will be the same in both inversion and peripheral regions where the final models will resemble the reference models. An example is shown below:

9.0 DATA PROCESSING

Depth of investigation determined from inversion results using different initial and reference models.

The following procedures were used to prepare and invert the induced polarization and resistivity data:

1. *Data review.* The IP data were reviewed and edited prior to preparing
pseudosections and preparing the data sets for inversion. During data collection, data with error greater than 5 mV/V were repeated, multiple times if data were not repeatable. Outliers were rejected, then repeat readings were averaged to leave only a single reading at each station and separation. If multiple readings were not repeatable, no data for that station and separation were processed further.

2. **Pseudosection plotting.** Pseudosections of the apparent resistivity, chargeability and error in chargeability were prepared from the final edited data using the Geosoft IP package. Pseudosection plots are in Appendix F, found in the back pocket of this report.

3. **Data formatting.** The apparent chargeability, resistivity (in normalized V/I) and topographic data were formatted for entry into the UBC inversion program.

4. **Resistivity modelling.** For each line, errors in the apparent conductance were assigned to the data. There is no means of directly quantifying these errors because neither the transmitter nor receiver record the apparent error in the current or voltage. Errors were assumed to be 0.0002 + 5% S/m. Following error assignment, the data were inverted. The default mesh was adequate for the data set because of the low relief along the survey lines. Default initial and reference models were used and are based on an average of the apparent resistivity. After the default run, the data were inverted a second time using initial and reference models of 10,000 Ohm-m (a much higher value than the average in the survey area). The purpose of this second run was to generate a model with a background resistivity greatly different than the average values used in the default run. After the second run, the two models were compared and regions which showed more than 10% discrepancy were blanked out from the default run. In these blanked out regions, the final model is not sensitive to the field data and there is no reliable subsurface information.

5. **Chargeability modelling.** For each datum, the observed standard deviation of chargeability was used as a measure of error for apparent chargeability. To avoid zero errors, a minimum of 0.5 mV/V was added to each error measurement. The IP data were first inverted using default values, with the same mesh as the resistivity modelling, using the default DC resistivity model. After the first run, the data were inverted a second time using initial and reference models which incorporated background chargeabilities of 300 mV/V (a much higher value than the average in the survey area). The two models were then compared and regions which showed more than 10% discrepancy were blanked out in the final models. In these blanked out regions, the final model is not sensitive to the field data and there is no reliable subsurface information.

On lines 0 E and 1100 E, the target misfit could not be achieved and the condition
of target misfit = number of data was relaxed to ensure convergence. Nevertheless, the observed data and recovered data match sufficiently well to use the inversion results in further processing steps.

6. Image extraction. After the modelling was complete, data ranges were compiled and overall data scales were assigned for both the resistivity and chargeability models. A logarithmic scale covering a range of 30 to 2,000 Ohm-m was used as a standard scale for all resistivity models. A scale of 0 to 40 mV/V was used in all chargeability model sections. Final images were generated with the inversion software and converted to JPEGs which appear in Appendix D.

7. 3D model generation. The inversion results for each lines were converted to UTM coordinates and elevation using proprietary software and plotted with Rockworks 3D imaging software. The gridding algorithm used to create the 3D model is a inverse-distance, directionally weighted method to account for higher data density along the line direction. This method produces artifacts outside the grid which should be disregarded. The ground surface (from digital topography) is used as an upper bounding surface. After the data are gridded, residuals are modelled and the final model is tweaked to better honour the control points. Numerous views of the 3D model are found in Appendix E.

8. Digital archive. The final IP data, digital copies of the pseudosections, inversion images and 3D images were written to CD-ROM.

The following procedures were used to prepare the VLF data:

1. Data entry and registration. The VLF data were transferred from field notes to a database and registered to UTM coordinates using proprietary software.

2. Profile plotting. Stacked inphase and quadrature profiles were plotted for the three lines. Data was interpreted and subsurface conductors identified (see Figure 7.)

3. Digital archive. The final database and a digital copy of the stacked profiles were written to CD-ROM.

10.0 DATA PRODUCTS

The following data files are appended to the digital version of this report.
Spice2004_IPdata.xyz  ASCII file with final IP / resistivity data. Readings with unacceptable errors and which did not repeat have been deleted. UTM coordinates (Zone 9N, NAD83) of the pseudosection plot points are included in this data base.

Spice2004_IPdata.gdb  Final IP / resistivity data in geosoft IP database. Readings with unacceptable errors and which did not repeat have been deleted. UTM coordinates (Zone 9N, NAD83) of the pseudosection plot points are included in this data base.

Spice2004_IPgps.txt  ASCII file with line end and line midpoint GPS locations. All coordinates are in UTM zone 9N, NAD83.

Spice2004_VLFdata.xyz  ASCII file with inphase and quadrature VLF data. UTM coordinates (Zone 9N, NAD83) are included in this data base.

Spice2004_VLFdata.gdb  Inphase and quadrature VLF data in geosoft database. UTM coordinates (Zone 9N, NAD83) are included in this data base.

Spice2004_VLFgps.txt  ASCII file with line end and line midpoint GPS locations. All coordinates are in UTM zone 9N, NAD83.

The following images are appended to the digital version of this report
L0E.pdf  Pseudosections of apparent chargeability, apparent resistivity and error in apparent chargeability. All plots are at a scale of 1:2000. Paper plots of these pseudosections are in Appendix F, in the back pocket of the report.
L100E.pdf
L200E.pdf
L300E.pdf
L400E.pdf
L500E.pdf
L600E.pdf
L700E.pdf
L1000E.pdf
L1100E.pdf
L1200E.pdf
L1300E.pdf
L0E - IP model.jpg
L0E - IP pseudo.jpg
L0E - res model.jpg
L0E - res pseudo.jpg
L1300E - IP model.jpg
L1300E - IP pseudo.jpg
L1300E - res model.jpg
L1300E - res pseudo.jpg
3Dmodel IP 10.jpg 3D model results showing 4 views of 10, 20 and 50 mV/V contours for the IP models and 50, 100 and 200 Ohm-m for the resistivity models. Paper copies of these plot are in Appendix E
3Dmodel IP 30.jpg
3Dmodel IP 50.jpg
3Dmodel res 50.jpg
3Dmodel res 100.jpg
3Dmodel res 200.jpg
Fig7_VLFStackedProfiles.pdf Stacked profiles of inphase and quadrature VLF data. This is plotted as Figure 7 of this report.

11.0 GEOLOGICAL SETTING

The area is underlain by the metasedimentary rocks of the Yukon Tanana Terrain and is near the boundary with the sedimentary rocks of the North American Miogeocline. Anomalous gold, silver, arsenic, antimony and mercury geochemistry from soil and rock samples indicate the potential for an epithermal gold deposit.

Bedrock exposure is rare on the property and the geology is therefore not well constrained. Highly fractured rhyolite appears to be the source of gold geochemical anomalies on the property. This unit is found in the raised central part of the geophysical grid; it may be
related to the Grew Creek volcanics, approximately 60 km northwest of the property. A strongly silicified, fractured conglomerate is also found in the central part of the property. Stratigraphically below the rhyolite is a grey phyllite unit found both north and south of the rhyolite.

12.0 RESULTS

IP / RESISTIVITY

Plots of all pseudosections are found in Appendix F (back pocket of this report). Appendix D contains a full suite of inversion results with convergence curves, modelled and observed data. Stacked model sections of resistivity and IP follow in Figures 4 and 5. Figure 6 is a plan view from above of the 3D model constructed from inversion results with 30 mV/V chargeability contoured in red and 100 Ohm-m resistivity contoured in blue. Appendix E has a more complete suite of images of the 3D model.

A detailed review of the IP / resistivity results follow:

**Line 0E** - The pseudosection of this line does not include the southern extension as this data were collected with a non-standard survey set-up. From the inversion results, three chargeable bodies are observed on this line. At the southern extremity of L0E is a chargeable zone open to the south which extends to surface coincident with a conductive area (not quite extending to surface). A 300 m chargeable zone from 25S to 275N is modelled to a depth of 80 m. Lastly a deeper chargeable zone at a depth of 100m, open at depth is centered around 400N. An proximal resistivity low is offset above and south from the chargeable body.

**Line 100E** - Two chargeable zones were detected. The first is a shallow anomaly with several lobes of 35-40 mV/V from 50N to 275N. The southern part of the line is all fairly conductive (100 Ohm-m) generally in a similar lobed pattern as the chargeability. The second is a deeper zone of 30 mV/V with no matching resistivity low.

**Line 200E** - One modest chargeable zone of approx. 25 mV/V appears in the recovered model centered at 275N with no matching conductive zone. The southern (0N to 175N), shallow part of the line is conductive (100 Ohm-m).

**Line 300E** - This line has two chargeable zone, one centered at 200N, the other at 450N. The southern zone is most chargeable at surface (35 mV/V) and less chargeable (25 mV/V) below. The anomaly is open at depth. The southern half of the anomaly has an associated conductive zone, while the norther shallow lobe has none. The anomaly centered at 450N has a conductive zone below and to the north of it.
Line 400E - This line is conductive (100 Ohm-m) in the southern and northern ends and resistive in the middle. There are chargeability anomalies within both conductive features in addition to a shallow chargeable zone centered at 300N with no coincident resistive low.

Line 500E - This line is again conductive (100 Ohm-m) in the south and northern end and resistive in the middle. There is a modest deep chargeable zone at 400N and four shallow chargeable zones through the section. None are coincident with resistivity lows.

Line 600E - This line has a deep conductive zone coincident with a chargeable zone in the south and a near surface chargeable zone with no associated conductivity at 300N.

Line 700E - A central conductivity anomaly open at depth appears at 200N. There is a coincident chargeable zone on the upper portion of the conductive anomaly which is closed at depth.

Line 1000E - A moderately deep chargeable zone of 20 mV/V at 200N, open at depth and to the north matches a 50 Ohm-m conductive zone.

Line 1100E - A closed chargeable zone of 20 mV/V at 200N sits upon a 100 Ohm-m conductor open at depth.

Line 1200E - A chargeable zone of 25 mV/V at 150N lies above and south of a weak 150 Ohm-m conductor open at depth.

Line 1300E - Two weakly chargeable zones appear in the recovered model. The 20 mV/V anomaly at 100N and the 25 mV/V anomaly at 300N are both open at depth. The resistivity model shows some surface conductivity at 100N and is not correlated with the chargeability.
Figure 4. Stacked recovered resistivity models. Line locations are shown in Figure 3.
Figure 5. Stacked recovered chargeability models. Line locations are shown in Figure 3.
Stacked recovered models of resistivity and chargeability are shown in Figures 4 and 5. These inversion results were registered to UTM coordinates and gridded to produce a 3D model. A plan view of the 3D model is shown in Figure 6. A more complete suite of views of the 3D model are found in Appendix E.

Figures 4, 5 and 6 identify four distinct zones. The first is the wide, very chargeable (> 50 mV/V) zone on L0E, extending from 25S and ending abruptly at around 300N. The central part of this zone is moderately resistive (500-1000 mV/V). The near surface chargeable zone on L100E may be related to the zone on L0E.

A deeper chargeable zone of 25-30 mV/V is seen on lines 100E and 200E at 275N. This has no associated resistivity low. Similarly on lines 1200E and 1300E there are deep
chargeable zones of 20-25 mV/V with no coincident resistivity low.

Two conductive zone, extending to depth, are centered approximately at 200N (lines 100E to 1000E) and 500N (lines 300E to 600E). These conductive zones are often associated with chargeable zones. The anomaly along 200N appears to dip to the east.

Lastly a set of strong surficial chargeable zones not associated with any conductor appear on lines 300E through 600E.

**VLF-EM**

Stacked profiles of inphase and quadrature are shown in Figure 7. In general, no obvious features are apparent from the data and the results from the VLF survey are inconclusive. Nevertheless two possible features are seen. The feature on the western ends of the lines shown in blue could be a geological contact or a discrete conductor if the datum for L350N and L500N are offset. A second feature shown in red is another possible conductor although absent from L250N.

The positive inflection on the west side of the lake and the negative inflection on the east side are most likely caused by conductive lake bottom sediments.

**13.0 INTERPRETATION**

Assigning the central resistive zone, approximately 200 metres wide and extending 300 metres along strike (L300 E, 290 – 410 N; L400 E, 210 – 480 N; L500 E, 220 – 590 N; L600 E, 210 – 540 N; see Figure 4) to the rhyolite unit is consistent with silicification or K-feldsparization alteration of felsic volcanics, common in epithermal deposits and is broadly coincident with the rhyolite unit as geologically mapped in previous work (Wengzynowski, 2002).

Within this resistive zone are several chargeable (35 mV/V), shallow, gently-north dipping anomalies, approximately 100 metres wide (L300 E, 210 – 310 N; L400 E, 260 – 370 N; L500 E, 250 – 350 N; L600 E, 250 – 310 N; see Figure 5). The best gold assay of the 2002 sampling program (4.46 g/t) which twinned the highest 2001 site (13.9 g/t) was assumed to be very proximal to the bedrock source given the thin till cover and angular rock fragments (Bond, 2001). This sample site is coincident with the chargeable anomaly extending to surface on L500 E at station 250 N, suggesting these chargeable anomalies
correlate to auriferous mineralized zones. The deeper, more modest chargeable (20 – 30 mV/V), resistive zones on lines L100 E, 200 – 290 N; L200 E, 200 – 290 N and 470 – 540 N; L1200 E, 100 – 230 N and L1300 E, 260 – 330 N may be related, extending the strike length to 1100 metres.

Below, to the north, and to the south of the central resistive zone are coincident chargeability-highs and resistivity-lows that may map the phyllite unit in the subsurface. The southern expression of this feature extends the entire length of the survey (L0 E to L1300 E) along 200 N. In the north it is seen on L300 E at 410 N; L400 E at 480 N; L500 E at 590 N and on L600 E at 540 N. The northern resistivity-low is absent from L200E and east, consistent with a fault or contact as suggested by the VLF survey.

The flat-lying, shallow, 330 metre wide (from 50 S to 280 N), high-chargeability (>40 mV/V) zone on L0 E is partially correlated to the resistivity model. There is also a smaller, 50 metre (from 70 N to 130 N), high-chargeability feature in a resistivity-high zone also on L0 E. These anomalies are open to the east.

14.0 CONCLUSIONS AND RECOMMENDATIONS

- The IP and resistivity survey illuminated several shallow, chargeable, resistive features, gently dipping to the north on L300 E from 210 – 310 N; L400 E from 260 – 370 N; L500 E from 250 – 350 N and L600 E from 250 – 310 N. In Figure 6, these are seen as a band of high chargeability (red) with no coincident low resistivity (blue) between 200N and 350N, defining a 100 metre zone with a strike length of 300 metres.

- Within this zone, the anomaly from 270N to 350N on line 500E is coincident with the highest gold geochemical results on the property. The modelled feature extends to surface.

- The geophysical signature of this zone is consistent with silicified rhyolite, which has been shown to host the gold in the highly anomalous assays.

- On L0 E, a flat-lying, 330 metre wide, very chargeable anomaly is open to the east.

- The deeper chargeable anomalies on L100 E (200 – 290 N); L200 E (200 – 290 N and 470 – 540 N), L1200 E (100 – 230 N) and L1300 E (260 – 330 N) with no associative resistivity lows (see Figures 4 and 5) present secondary drill targets.

Given these conclusion, the recommendations are:

- The shallow, chargeable zone from L300 E to L600 E should be followed up with blast-trenching and drilling (if warranted) to determine the source of the chargeability.
and assess whether it is auriferous. The anomaly on L500E, coincident with the highest soil gold geochemistry, comes to surface at station 270 N and is the highest priority. The anomaly on L400 E, coming to surface at station 295 N is also high priority. An additional in-fill, detailed IP survey could further delineate and define this zone.

- The shallow, flat-lying chargeable zone on L0 E should be followed up with blast-trenching and drilling (if warranted) to determine the source of the chargeability and assess whether it is auriferous. An eastern extension of the IP survey to delineate this anomaly should be conducted if the trenching/drilling results are encouraging.

- The IP / resistivity data set could be reinterpreted and yield additional insight with more geological control. This data set should be revisited after a blast-trenching or drilling program furthers the geological knowledge of the property.

Respectfully submitted,
AURORA GEOSCIENCES LTD.

Dave Hildes Ph. D.
Geophysicist

REFERENCES


Tanana Exploration Inc. (2002). Assessment Report #094271 by Traynor, S.


STATEMENT OF EXPENDITURES
### Wages

<table>
<thead>
<tr>
<th>Name</th>
<th>Hours</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean Horte</td>
<td>12</td>
<td>$428</td>
<td>5,136.00</td>
</tr>
<tr>
<td>Qamar Khan</td>
<td>12</td>
<td>$401.25</td>
<td>4,815.00</td>
</tr>
<tr>
<td>Warren Kapaniuk</td>
<td>12</td>
<td>$321</td>
<td>3,852.00</td>
</tr>
<tr>
<td>Anna Crawford</td>
<td>12</td>
<td>$321</td>
<td>3,852.00</td>
</tr>
</tbody>
</table>

### Groceries

- **Groceries**: $2,144.63

### Field supplies

- **Field supplies**: $227.69

### Truck rental

- **Truck rental - 12 days @ $107**: $1,284.00

### Truck mileage

- **Truck mileage - 1,400 km @ $0.35/km**: $490.00

### Fuel charges

- **Fuel charges**: $399.44

### Geophysical Equipment rental

- **Geophysical Equipment rental - 5 days @ $449.40/day**: $2,247.00

### Line cutting equipment rental

- **Line cutting equipment rental - 6 days @ $107.00**: $642.00

### Camp rental

- **Camp rental - 12 days @ $160.50**: $1,926.00

### Shipping costs

- **Shipping costs**: $228.09

### Administrative charges

- **Administrative charges**: $243.18

### Report Writing, map preparation and copies

- **Report Writing, map preparation and copies**: $4,280.00

### Total

- **Total**: $31,767.03
APPENDIX A. CERTIFICATE

I, David Henry Degast Hildes, Ph. D., with residence address in Whitehorse, Yukon Territory do hereby certify that:

1. I am a member in training of the Association of Professional Engineers and Geoscientists of British Columbia.

2. I am a graduate of the Queens University of Ontario with a B.Sc. (Honours) degree in Chemical Physics obtained in 1991 and a graduate of the University of British Columbia with a Ph. D. in Geophysics obtained in 2001.

3. I have been actively involved in mineral exploration since 1999.

4. I have no interest, direct or indirect, nor do I hope to receive any interest, direct or indirect, in Klondike Gold Corporation or any of its properties.

Dated this 03th of December, 2004 in Whitehorse, Yukon.

Respectfully submitted,

Dave Hildes, Ph. D.
APPENDIX B. SURVEY LOG

Spice Survey Log

Dave Hildes (DH)
Warren Kapaniuk (WK)
Anna Crawford (AC)
Qamar Khan (QK)

July 11, 2004 - Mobe

Meet helicopter at Marjorie Lake at 1100 (coming from Dragon Lake). Fly to camp in 6 loads (including prospectors and their camp). Set up camp and DH locates baselines and walks some of the grid.

July 12, 2004 - Line Cutting
Production: 1950 m

Leave camp at 0815. DH and AC start cutting the baseline at 400E to 1300E, then proceed to cut approx 250 m on line 1300E. WK and QK complete 400E and start 1200E. Back in camp at 1820.

July 13, 2004 - Line Cutting
Production: 1375 m

Leave camp at 0800. DH and AC complete line 1300E, complete line 1000E and start 700E. WK and QM complete line 1200E and 1100E. Line 1300E ended at station 525N because of the lake, 1200E ended at 500N, 1100E at 425N and 1000E at 250N. There are no lines 900E and 800E, also because of the lake. Back in camp at 1750.

July 14, 2004 - Line Cutting and VLF
Production: 1050 m Line Cutting, 2900 m VLF

Leave camp at 0815. DH and QM survey 3 cross lines with VLF, encountering no problems. WK and AC complete cutting on lines 700E and 600E. Both lines run short because of the lake, line 700E goes to 650N and 600E reaches 425N. Line cutters back in camp at 1730, VLF crew at 1800.

July 15, 2004 - Line Cutting
Production: 1575 m

Start work at 0800. DH and AC complete the baseline and 400 m of line 300E. WK and QM
complete 500E and start line 200E. Back at camp at 1715.

**July 16, 2004 - IP**  
*Production: 1700 m*

Start work at 0800. QM on Rx, WK on Tx, DH on current and AC on cables. Complete lines 1300E, 1200E, 1100E and 1000E. Data is generally of good quality. Back in camp at 1900.

**July 17, 2004 - IP**  
*Production: 1425 m*

Leave camp at 0800. QM on Rx, DH on Tx, AC on current and WK on cables. Complete lines 700E and 600E, start line 500E. Data is generally of good quality. Back in camp at 1830.

**July 18, 2004 - Line Cutting**  
*Production: 1350 m*

WK and QM leave camp at 0745 and complete cutting line 200E, then move to line 000E and cut 100 metres then back to camp by 1700. DH and AC wait for helicopter resupply flight, leave camp at 0930 to complete line 300E, cut 300 m on line 100E and back in camp at 1800.

**July 19, 2004 - Line Cutting and IP**  
*Production: 1000 m Line Cutting, 350 m IP*

Leave camp at 0815. DH and AC complete line 100E and are back in camp by 1230, then continue IP on line 500E. WK and QM complete line 000E by 1500 and then help with the IP. Complete survey and clean line 500E, run current wire out to 000E. Back in camp at 1700.

**July 20, 2004 - IP**  
*Production: 1650 m*

Leave camp at 0830. DH on Rx, AC on Tx, WK on current and QM on cables. Survey lines 000E, 100E and start of 200E. Data generally of excellent quality. Very abrupt change in both IP and resistivity response at approx. station 300N. QM tested his bearspray (accidentally) and found it to be in good working condition. IP crew worked as a 3 man team for a few hours while QM washed himself in lake. Back in camp at 1715.

**July 21, 2004 - IP**  
*Production: 1850 m*

Leave camp at 0815. QM on Rx, DH on Tx, WK on current and AC on cables. Complete IP on lines 200E, 300E and 400E. Data is generally of good quality, except on south end of 400E where nearby electrical storm activity caused unacceptable errors. Back in camp at 1730.
July 22, 2004 - Line Cutting, IP and Demobe

Production: 350 m Line cutting, 500 m IP

An open IP anomaly in the SW corner of grid prompts an extension on line 000E. Start work at 0800. DH and QM clean wire from previous day and lay out new wire to 000E, while WK and AC begin cutting south. DH on Rx, QM on Tx start IP at station 150N, moving south. Survey to 350S and then clean the grid. Data is not in standard format (25 m dipoles, n=1 through 6) due to harness problems and may not be usable. Back in camp at 1615. Pack up camp, helicopter comes at 1740. Demobe to Ross River in 2 internal flights, 2 sling loads. Drive back to Whitehorse.
APPENDIX C. INSTRUMENT SPECIFICATIONS
Source of Primary Field: VLF transmitting stations

Transmitting Stations Used: Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.

Operating Frequency Range: About 15-25 Hz

Parameters Measured: (1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).

Method of Reading: In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.

Scale Range: In-phase ±150%; quadrature ±40%

Readability: ±1%

Reading Time: 10-40 seconds depending on signal strength

Operating Temperature Range: -40 to 50°C

Operating controls: ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ±40%, inclinometer dial ±150%

Power Supply: 6 size AA (penlight) alkaline cells. Life about 200 hours

Dimensions: 42 x 14 x 9 cm (16 x 5.5 x 3.5 in)

Weight: 1.6 kg (3.5 lbs)

Instrument Supplied With: Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries

Shipping Weight: 4.5 kg (10 lbs.)

Name and Address of Manufacturer: Geonics Limited
1745 Meyerside Drive/Unit 8
Mississauga, Ontario
L5T 1C5
6. TECHNICAL SPECIFICATIONS

6.1. MEASURED PARAMETERS

* Time Domain:

  - Measurement and display of the voltage, the Self Potential, the IP chargeability (10 fully programmable or preset IP windows), the standard deviation. Display of intensity of current if previously keyed in.

  - Continuous stacking of measurements (for noise reduction), display of the number of stacks.

* Frequency Domain

  - Measurement and display of the voltage, the self potential, the amplitude of fundamental and of the third harmonic, the frequency effect and phase of the third harmonic with respect to the fundamental, the standard deviations. Display of intensity of current, if previously keyed in.

  - Continuous stacking of measurements (for noise reduction), display of the number of cycles (full periods).

* Computation and display of the apparent resistivities and chargeabilities for main electrode arrays: dipoledipole, pole-dipole, pole-pole, gradient, Schlumberger, Wenner... for 6 dipoles simultaneously.

* Test of dry cells (internal power supply), test of ground resistance of electrodes 1, 3, 4, 5, 6, 7 with respect to 2 (value given between 0.1 kohm and 467 kohm). This test can be manual: RS CHECK function, and this test is also automatic at the beginning of each measurement.

* Test of noise level before the measurements (MONITOR function).
Storage data in the internal memory (up to 2505 readings).

The data which are stored for each reading are:

. In case of TIME DOMAIN:
  Station and line numbers, type of electrode array, lengths of lines, voltage, intensity, Self Potential, time parameters, 10 chargeabilities values, standard deviation, the date and time of measurement.

. In case of FREQUENCY DOMAIN:
  Station and line numbers, type of electrode array, lengths of lines, voltage, intensity, self potential, the amplitude of fundamental and third harmonic, the frequency effect and phase of the third harmonic with respect to the fundamental, the standard deviations, the date and time of the measurement.

6.2. SPECIFICATIONS

. 6 input channels.
  Input impedance: 10 Mohm.
  Input overvoltage protection up to 1000 Volts.
  Input voltage range - each dipole: 10 V maximum
  - sum of voltages dipoles 2 to 6: 15 V maximum
  Automatic stacking, automatic SP bucking (-10 V to +10 V).
  50 to 60 Hz power line rejection
  Common mode rejection: 100 dB (for RS = 0).
  Primary voltage - resolution: 1 µV after stacking.
  - accuracy typ. 0.3 %; max 1 over the whole temperature range.
  Battery test: manual and automatic before each measurement.
  Grounding resistance measurement from 0.1 to 467 kohm.
  Memory capacity: 2505 measurements.
  Transfer rates: 300 to 19200 bauds.
  Serial link for data transfer to a printer or a micro computer.
  Remote control of the unit through the serial link (speed: 19200 bauds).
6.2.1. TIME DOMAIN SPECIFICATIONS

- up to 10 chargeability windows
- signal waveform: symmetrical time domain (ON +, OFF, ON -, OFF) with a pulse duration (ON TIME) of 0.5, 1, 2, 4 and 8 s.
- four available I.P. curve sampling choices, three of them are preset times and the fourth one has 10 fully programmable windows.
- automatic stacking, automatic SP bucking (-10 V to +10 V) with linear drift correction up to 1 mV/s.
- sampling rate: 10 ms.
- accuracy in synchronization: 10 ms.
- minimum voltage for synchronization windows: 40 uV.
- chargeability - resolution: 0.1 mV/V
  - accuracy typical: 0.6 %, max 2 % of reading ± 1 mV for Vp > 10 mV
- each dipole measurement is stored individually in one memory location.

6.2.2. FREQUENCY DOMAIN SPECIFICATIONS

- waveform: time domain: ON+, OFF, ON-, OFF
  frequency domain: ON+, ON-
- pulse duration (ON TIME): 1s, 2s.
- resolution: about 0.01 degree for unnoisy signals and after stacking.
- storage in the internal memory: each dipole measurement is stored individually in one memory location.
<table>
<thead>
<tr>
<th>&quot;ON TIME&quot; (s)</th>
<th>WAVEFORM</th>
<th>NUMBER OF SAMPLES (FFT)</th>
<th>FUNDAMENTAL AND THIRD HARMONIC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>0.5</td>
<td>FD</td>
<td>64</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td>128</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>FD</td>
<td>128</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td>256</td>
<td>0.25</td>
</tr>
<tr>
<td>2</td>
<td>FD</td>
<td>256</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td>512</td>
<td>0.125</td>
</tr>
<tr>
<td>4</td>
<td>FD</td>
<td>512</td>
<td>0.125</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td>1024</td>
<td>0.0625</td>
</tr>
<tr>
<td>8</td>
<td>FD</td>
<td>1024</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td>2048</td>
<td>0.03125</td>
</tr>
</tbody>
</table>

(FD = ON+, ON-; TD = ON+, OFF, ON-, OFF)

Table of available frequencies (Fundamental and Harmonic).

6.3. GENERAL SPECIFICATIONS

* Weather proof case
* Dimensions: length 310 mm, width 210 mm, height 210 mm (12.2 x 8.3 x 8.3 inch)
* Weight: 5.2 kg (11.5 pounds) without drycells
  6 kg (13.2 pounds) with drycells
  7.8 kg (17.6 pounds) with the 6 V internal rechargeable batteries
* Operating temperature: -20 °C to +70 °C
  (-40 °C to +70 °C with an optional screen heater)

The specifications mentioned on the previous page are given over the entire temperature range.

* Storage temperature: -40 °C to +70 °C with an optional screen heater.

* Power supply:
  - either: six 1.5 V D size alkaline dry cells or one 12 V external battery
  - or: two 6 V internal rechargeable batteries connected in series (=12V) or
  one 12 V external battery

(The autonomy is 100 hours of operation at 20 °C with a set of new alkaline dry cells and
50 hours of operation at 20 °C with the two charged internal 6V batteries).
Instrumentation GDD

The Induced Polarization Transmitter
Txll-1800 and Txll-3600 Models
For Fast, High-Quality Induced Polarization Surveys in All Field Conditions

Flyers high / low resolution Txll/1 (63 KB) / Txll/2 (1 MB)

At Last, a High-Quality Affordable IP Transmitter

Txll-1800 Model, 1800 watts

Its high power, up to 10 amperes, combined with its light weight and a 21 kg/2000W Honda generator makes it particularly suitable for dipole-dipole Induced Polarization surveys.

Features

- Protection against short circuits even at zero (0) ohms
- Output voltage range: 150 V to 2400 V / 14 steps
- Power source: 120 V, Optional: 220 V / 50/60 Hz
- Operates from a light backpackable standard 120 V generator
- Up to three years warranty

This backpackable 1800 watts induced polarization (I.P.) transmitter works from a standard 120 V source and is well adapted to

http://www.gddinstrumentation.com/IPtransmitter1.htm
rocky environments where a high output voltage of up to 2400 V is needed. Moreover, in highly conductive overburden, at 150 V, the highly efficient Txll-1800 watts transmitter is able to send a current of up to 10 amperes. By using this I.P. transmitter, you obtain fast and high-quality I.P. readings even in the most difficult conditions.

**Txll-3600 Model, 3600 watts**

Its high power, up to 10 amperes, combined with a Honda generator makes it particularly suitable for pole-dipole Induced Polarization surveys.

**Features**

- Protection against short circuits even at zero (0) ohms
- Output voltage range: 150 V to 2400 V / 14 steps
- Power source: 220 V, 50/60 Hz
- Operates from a standard 220 V generator
- Up to three years warranty

This 3600 watts induced polarization (I.P.) transmitter works from a standard 220 V source and is well adapted to rocky environments where a high output voltage of up to 2400 V is needed. Moreover, in highly conductive overburden, at 150 V, the highly efficient Txll-3600 watts transmitter is able to send a current of up to 10 amperes. By using this I.P. transmitter, you obtain fast and high-quality I.P. readings even in the most difficult conditions.

**Specifications**

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Txll-1800</td>
<td>21 x 34 x 39 cm</td>
</tr>
<tr>
<td>Size Txll-3600</td>
<td>21 x 34 x 50 cm</td>
</tr>
<tr>
<td>Weight Txll-1800</td>
<td>approx. 20 kg</td>
</tr>
<tr>
<td>Weight Txll-3600</td>
<td>approx. 35 kg</td>
</tr>
</tbody>
</table>

http://www.gddinstrumentation.com/IPtransmitter1.htm
<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>-40°C to 65°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td></td>
</tr>
<tr>
<td>Used for time-domain IP</td>
<td>2 sec. ON</td>
</tr>
<tr>
<td></td>
<td>2 sec. OFF</td>
</tr>
<tr>
<td>Time Base</td>
<td>1-2-4-8 sec.</td>
</tr>
<tr>
<td>Output current range</td>
<td>0.005 to 10 A</td>
</tr>
<tr>
<td>Output voltage range</td>
<td>150 to 2400 V</td>
</tr>
<tr>
<td>Power source Txll-3600</td>
<td>Recommended motor/generator set: Standard 220 V, 50/60 Hz Honda generator Suggested Models: EM3500XK1C, 3500 W, 62 kg or EM5000XK1C, 5000 W, 77 kg</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>ON/OFF</td>
</tr>
<tr>
<td>Display</td>
<td></td>
</tr>
<tr>
<td>Output current LCD</td>
<td>reads to ±0.001 A</td>
</tr>
<tr>
<td>Very cold weather</td>
<td>standard LCD heater on readout</td>
</tr>
<tr>
<td>Protection</td>
<td>Total protection against short circuits even at zero (0) ohms</td>
</tr>
<tr>
<td>Indicator lamps (in case of overload)</td>
<td>High voltage ON-OFF, Output overcurrent, Generator over or undervoltage, Overheating, Logic failure, Open loop protection</td>
</tr>
</tbody>
</table>

### Purchase and Rental Info

**Interested by the Txll-1800 W IP or the Txll-3600 W IP transmitter?**

It is simple. You can rent it or purchase it. The choice is yours. Here is some information you
APPENDIX D. INVERSION RESULTS

L0E - RESISTIVITY

Resistivity Model

Iterations done: 13

L000E; dipole-dipole; 265 data

Observed Apparent Resistivity

Predicted Data
L0E - CHARGEABILITY

Resistivity Model

Data misfit

Model Norm

Target misfit = 141.00

L100E - RESISTIVITY

Observed Apparent Chargeability

Predicted Data
Chargeability Model

Iterations done: 42

L100E - dipole-dipole: 141 data
Observed Apparent Resistivity

Predicted Data

L100E - Chargeability
L400E - RESISTIVITY

Spice Property IP and VLF survey report, appendices - page 4545
Resistivity Model

Iterations done: 10

Target misfit = 133.00

L400E: dipole-dipole; 133 data
Observed Apparent Resistivity

Predicted Data
L400E - CHARGEABILITY

Chargeability Model

Iterations done: 40

Target misfit = 133.00

L500E - RESISTIVITY

Spice Property IP and VLF survey report, appendices - page 4747
L500E - CHARGEABILITY

Chargeability Model

Iterations done: 37

Data misfit: 1e+006

Model Norm: 100000

Target misfit = 141.00

L500E: dipole-dipole: 141 data
Observed Apparent Chargeability

Predicted Data
L600E - RESISTIVITY

Resistivity Model

Iterations done: 10

Data misfit

Model Norm

L600E - dipole-dipole - 149 data
Observed Apparent Resistivity

Predicted Data

L600E - CHARGEABILITY

Spice Property IP and VLF survey report, appendices - page 5050
L1000E - RESISTIVITY

L1000E - CHARGEABILITY

L1100E - RESISTIVITY
L1100E -

**CHARGEABILITY**

Spice Property IP and VLF survey report, appendices - page 5555
L1300E - RESISTIVITY

Spice Property IP and VLF survey report, appendices - page 5858
APPENDIX E.  3D MODEL RESULTS
### App. Resistivity (Ohm*m)

<table>
<thead>
<tr>
<th>Sample</th>
<th>n=1</th>
<th>n=2</th>
<th>n=3</th>
<th>n=4</th>
<th>n=5</th>
<th>n=6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>74</td>
<td>99</td>
<td>116</td>
<td>128</td>
<td>139</td>
<td>151</td>
</tr>
<tr>
<td>2</td>
<td>140</td>
<td>175</td>
<td>212</td>
<td>256</td>
<td>303</td>
<td>342</td>
</tr>
<tr>
<td>3</td>
<td>408</td>
<td>732</td>
<td>121</td>
<td>245</td>
<td>304</td>
<td>385</td>
</tr>
<tr>
<td>4</td>
<td>154</td>
<td>158</td>
<td>138</td>
<td>174</td>
<td>161</td>
<td>381</td>
</tr>
<tr>
<td>5</td>
<td>126</td>
<td>169</td>
<td>640</td>
<td>345</td>
<td>879</td>
<td>482</td>
</tr>
<tr>
<td>6</td>
<td>140</td>
<td>138</td>
<td>115</td>
<td>90</td>
<td>201</td>
<td>778</td>
</tr>
</tbody>
</table>

### Chargeability Error (mV/V)

<table>
<thead>
<tr>
<th>Sample</th>
<th>n=1</th>
<th>n=2</th>
<th>n=3</th>
<th>n=4</th>
<th>n=5</th>
<th>n=6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### App. Chargeability (mV/V)

<table>
<thead>
<tr>
<th>Sample</th>
<th>n=1</th>
<th>n=2</th>
<th>n=3</th>
<th>n=4</th>
<th>n=5</th>
<th>n=6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>17</td>
<td>11</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>28</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>5</td>
<td>14</td>
<td>21</td>
<td>34</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>9</td>
<td>3</td>
<td>9</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

### Chargeability Error (mV/V)

<table>
<thead>
<tr>
<th>Sample</th>
<th>n=1</th>
<th>n=2</th>
<th>n=3</th>
<th>n=4</th>
<th>n=5</th>
<th>n=6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>17</td>
<td>11</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>28</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>5</td>
<td>14</td>
<td>21</td>
<td>34</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>9</td>
<td>3</td>
<td>9</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

*Scale: 1:20,000*

Kinsela Gold Corporation

**INDUCED POLARIZATION SURVEY**

Spice Property

Taking, Ontario, Canada

**App. Resistivity, Chargeability & Error**

September 9, 2006

Aurora Geosciences Ltd.