Logistics Report Prepared

for

Sitka Gold Corp.

Volterra-2DIP

on the

RC Gold Property

Clear Creek, Yukon Territory, Canada

Survey conducted by SJ Geophysics Ltd.
August 2019

Report prepared
August 2019

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1. Survey Summary

SJ Geophysics Ltd. was contracted by Sitka Gold Corp. to acquire Volterra-2DIP data on their RC Gold Property in the Yukon Territory. The 2DIP data was acquired on two survey lines. Table 1 provides a brief summary of the project.

Client	Sitka Gold Corp.
Project Name	RC Gold
Project Number	SJ838
Location (approx. centre of each grid)	Latitude: 63º 49' 21" N Longitude: 137º 02' 18"W 399704E 7079580N; NAD83 UTM Zone 8N
Total Line Kilometres	3.2
Production Dates	August 7 – August 10, 2019

Table 1: Survey Summary

The RC Gold project is located within the Tintina Gold Belt, Yukon, among several intrusion-related gold deposits. Soil and rock sampling have identified six large areas with anomalous concentrations of gold. Recent work on the property includes soil sampling and a previous IP survey. This 2DIP survey was designed to be an extension of the 2018 IP survey, performed by Aurora Geosciences. The RC property is situated within the Selwyn Basin, adjacent to the Tombstone Suite Intrusion complex (the Big Creek Stock). Typical mineralization and pathfinder metals associated with intrusion related gold deposits are found on the RC Gold project.

The objective of the survey was to map the geophysical properties, resistivity and chargeability, of the subsurface in order to investigate the potential for deeper mineralization.

2. Location and Access

The RC Gold project is located in central Yukon Territory and is situated approximately 62 km northwest of the town of Mayo and 350 km north of Whitehorse (Figure 1).

Figure 1: Overview map of the RC Gold project

The RC Gold project was accessed by truck from Whitehorse with the following directions:

- From Whitehorse, take YT-2 N for approximately 420 km; passing through Pelly Crossing
- At Stewart Crossing continue heading northwest towards Dawson City
- Approximately 75 km from Stewart Crossing turn right onto a dirt road signed for Clear Creek, follow this road for approximately 50 km to reach the grid

A map of the project area, along with road access, is shown in Figure 2.

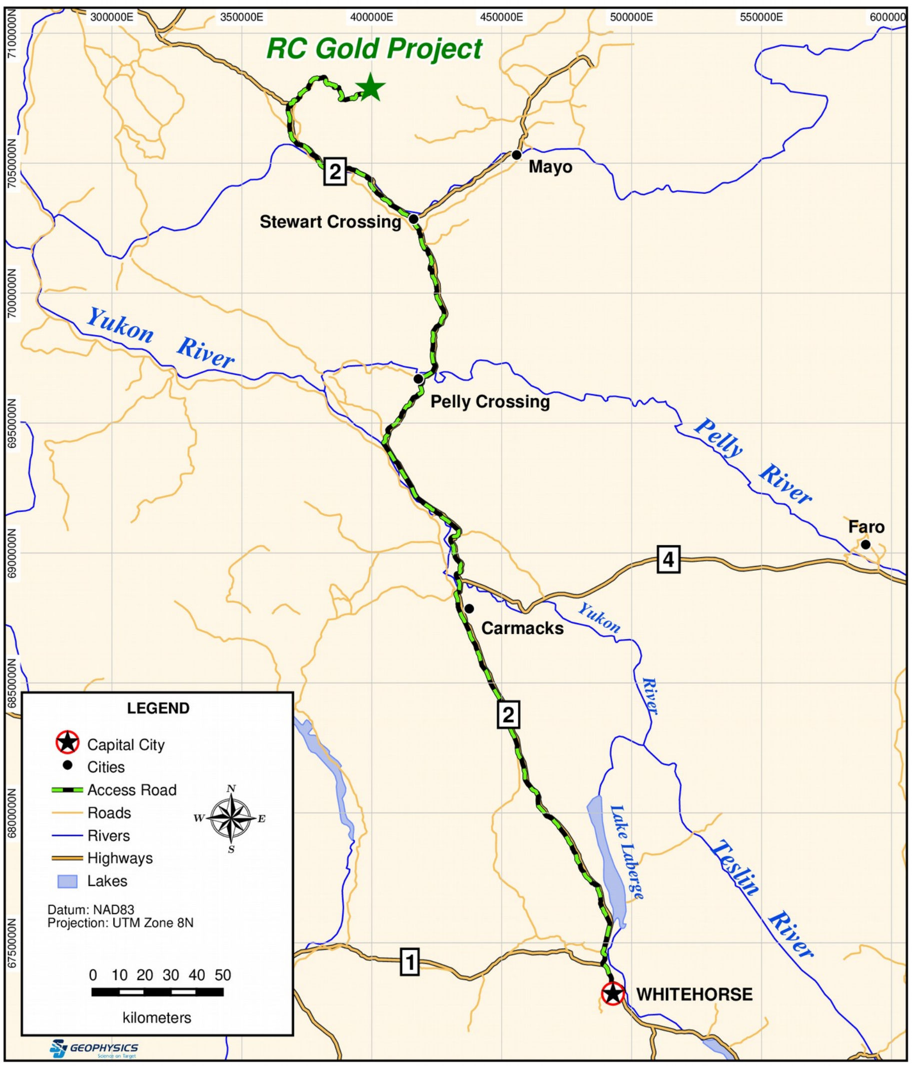

Figure 2: Location map for the RC Gold project

3. Survey Grid

The RC Gold project consisted of two survey lines, each 1600 m in length. The line spacing was 400 m. No line preparations were completed in advance of the survey. All stations were located in the field in real-time using handheld GPS units. Stations were not flagged or marked. Location data at each survey station was collected with Garmin GPSMap 64s handheld GPS units. The GPS data was collected in the NAD83 UTM Zone 8N coordinate system. The survey grid parameters are summarized in Table 2 and displayed in Figure 3.

Grid	RC Gold
Number of Surveyed Lines	2
Survey Line Azimuth	0º
Line Spacing	400 m

Table 2: Grid parameters

The station labels for the grid were based on the UTM coordinates. The station labels were represented by the last four digits of the UTM northing. Refer to Appendix A for a detailed breakdown of the survey lines.

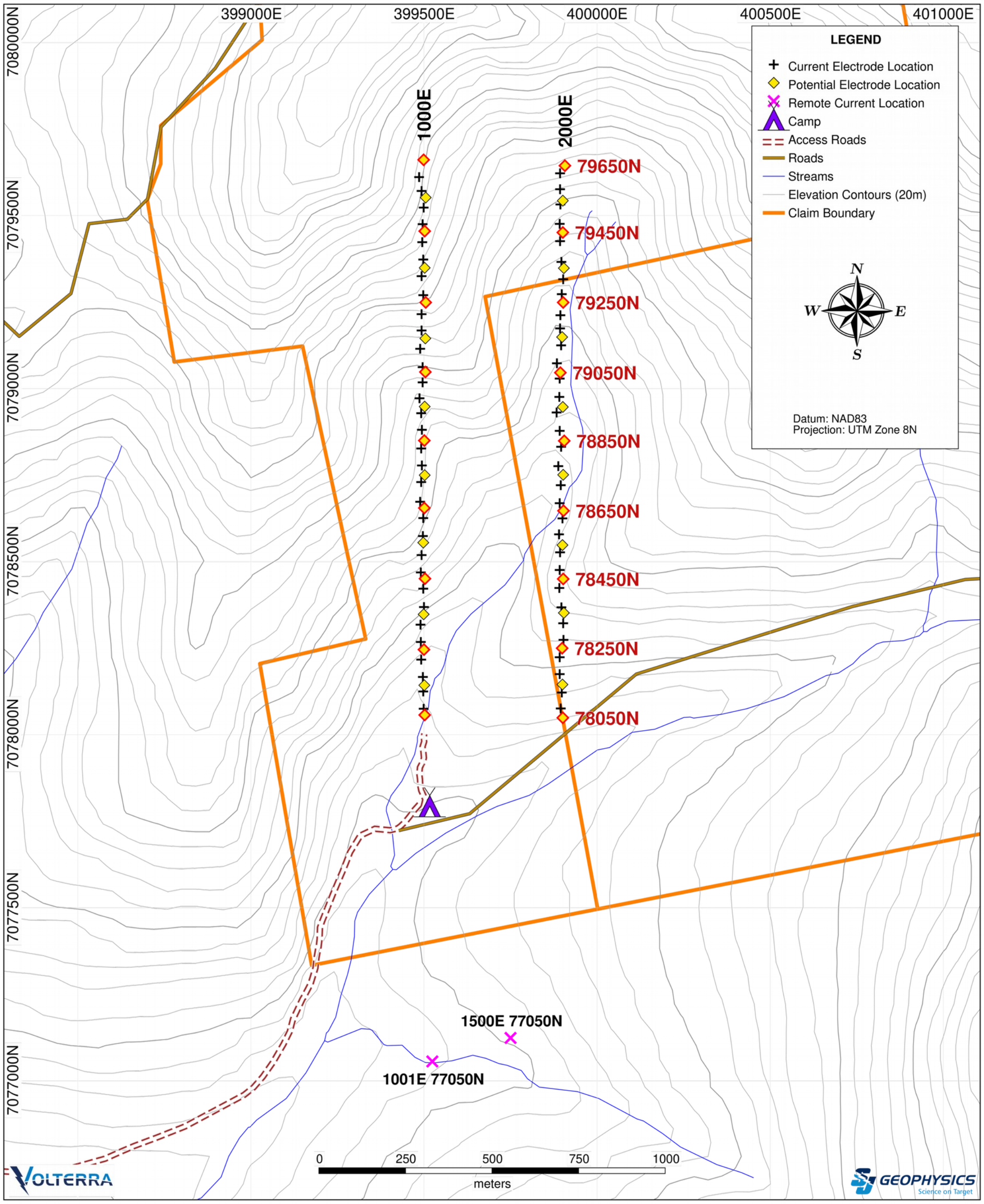

Figure 3: Grid map showing the RC Gold project

4. Survey Parameters and Instrumentation

4.1. Volterra Distributed Acquisition System

The Volterra Distributed Acquisition System was utilized to acquire the geophysical data. Each four-channel Volterra acquisition unit records the full waveform signal from a series of dipoles. The full-waveform data is then passed through proprietary signal processing software to calculate the relevant geophysical attributes; apparent resistivity and chargeability.

Data acquisition units utilized for the survey were Volterra acquisition unit 8000 and 8200 series models. The current injections were controlled using a GDD TxII 3600 W transmitter. The full instrument specifications are listed in Appendix B.

4.2. Volterra-2DIP Survey Design

The Volterra-2DIP survey utilized an in-line array consisting of 100 m dipoles. Along each receiver line, potential electrodes were setup every 100 m utilizing common poles between adjacent dipoles. A Volterra acquisition unit was setup in the centre of each set of four dipoles, corresponding to a unit every 400 m, as shown in Figure 4. Current injections occurred every 50 m, offset by 25 m from the receiver electrodes. The length of a receiver line was 1600 m, while the current injection total line length was 1550 m. For each current injection, all receiver channels connecting to all 16 dipoles for that line were active.

Receiver dipoles were set up using 50 cm long and 10 mm diameter stainless steel electrodes hammered into the ground and connected into the array by single and double conductor wire. The electrodes used for current injections were 100 cm long and 15 mm in diameter with two electrodes used at each injection site to improve ground contact. Current electrodes were connected to the current transmitter by a single conductor wire.

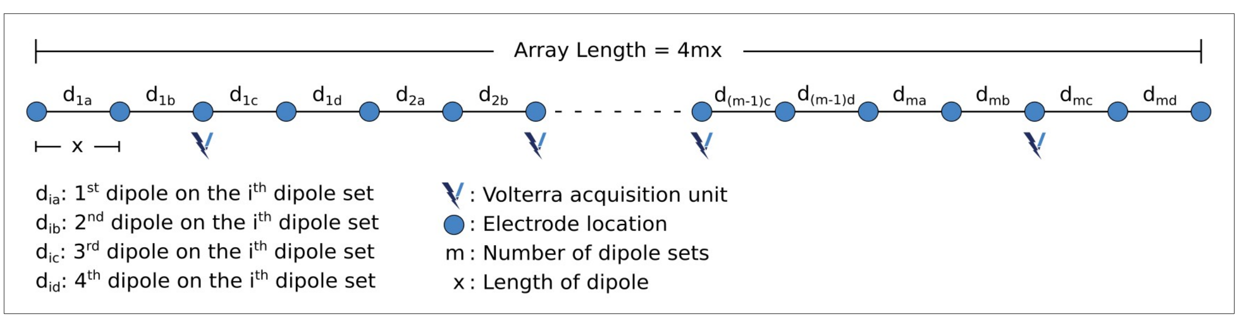

Figure 4: Schematic representation of the in-line array

4.3. Acquisition Parameters

The recording and processing parameters used for the survey are described in Table 5.

IP Transmitter	GDD TxII 3600W (SN # 433, 436)
Duty Cycle and Waveform	50%; Square
Cycle and Period	2 sec on / 2 sec off; 8 second
IP Signal Recording	Volterra Acquisition Unit (Dabtube 8000/8200 Series)
Reading Length	120 seconds
IP Signal Processing	CSProc (SJ Geophysics proprietary software)
Vp Delay, Vp Integration	1200 ms, 600 ms
Mx Delay, # of Windows Width (Window Width)	50 ms, 26 26, 28, 30, 32, 34, 36, 39, 42, 45, 48, 52, 56, 60, 65, 70, 75, 81, 87, 94, 101, 109, 118, 128, 140, 154, 150 (50–1950 ms)
Mx Integration (Inversion)	50 – 1950 ms (windows 1 – 26)
Properties Calculated	Vp, Mx, Sp, Apparent Resistivity and Chargeability

Table 3: IP transmitter and reading parameters

Two remote electrode stations were utilized during the survey. The locations of the remote current electrodes are listed in Table 4 below.

Name	Label	Easting	Northing
Remote for 1000E	1001E 77050N	399524	7077056
Remote for 2000E	1500E 77050N	399750	7077124
NAD83 UTM Zone 8N			

Table 4: Location of IP remote sites

5. *Field Logistics*

The SJ Geophysics field crew consisted of two field geophysicists, and one field technician to perform the day-to-day operations of the survey. This team oversaw all operational aspects including field logistics, data acquisition and initial field data quality control. Table 5 lists the SJ Geophysics crew members on this project. The client's field representative, Ryan Coe, assisted with data acquisition for the duration of the survey, along with his assistant Dylan.

Crew Member Name	Role	Dates on Site
Nathan Anderson	Field Geophysicist	August 7 to 10, 2019
Erica Veglio	Field Geophysicist	August 7 to 10, 2019
Jeff Moorcroft	Field Technician	August 7 to 10, 2019

Table 5: Details of the SJ Geophysics crew on site

The SJ Geophysics crew mobilized to Whitehorse, Yukon Territory from Vancouver, British Columbia on August 6 and demobilized from the project site on August 10.

The SJ Geophysics crew was accommodated by the client in a camp along the side of a placer mining road. The crew had a wall tent, heated by wood stove. Groceries were purchased for all meals by the client. Wireless internet was provided by the client's satellite internet. Communication with the SJ Geophysics office occurred by a combination of email and satellite phone.

A Ford F250 Super Duty truck was utilized for the duration of the project. The crew drove the equipment from Whitehorse to the survey area. The client assisted with transporting equipment to and from the survey area. Trucks were not necessary to use when getting around the survey area, though the road was in good condition.

The SJ Geophysics crew conducted a safety meeting on the first morning as well as daily tailgate meetings. The safety meeting included a comprehensive review of safe work practices specific to our geophysical survey and field operations. At the tailgate meetings, personnel discussed issues relating to weather conditions (including ramifications on the survey/personal safety), encounters with or sightings of potentially problematic wildlife, efficient organization of daily tasks, and any other work-related questions or concerns.

The first day in the field was August 7. L1000E was completely set up with receiver and current wire, and L2000E was setup with receiver wire. On August 8, the crew surveyed L1000E while the client laid out current wire on L2000E. Training of the field assistants occurred throughout the project, including wire layout, current injection safety, and radio protocols. Two data acquisition units (at stations 78250N and 79050N) stopped recording during the survey of L1000E due to the low battery level. The related sections required a re-survey which took place on the next day. L2000E was also completely surveyed on August 9, and a majority of the wires was picked up on the same day.

On the morning of August 10, the crew picked up the remaining wires, completed inventory and packed up the trucks for demobilization. The SJ Geophysics crew demobilized from the RC Gold property on the afternoon of August 10, arrived in Whitehorse in the late evening. The client, with remaining SJ Geophysics gear, returned to Whitehorse on August 11, where the gear was packed in storage.

During the Volterra-2DIP survey, each acquisition day began with the setup of the Volterra acquisition units along the receiver lines and the setup of the transmitter site. Prior to field data acquisition, a contact resistivity test was performed at each acquisition units using a small waveform generator attached in parallel to a given Volterra acquisition channel. This was done for each dipole in the array, and allowed the operator to identify areas of poor ground contact which could degrade input signal quality. Furthermore, this test allowed the operator to inspect the raw signal, ensuring that the Volterra acquisition units were functioning correctly, and to ensure that the receiver was synchronizing with the correct GPS time. Upon completion of these tasks, acquisition would begin. During acquisition stages, a dedicated 'transmitter' Volterra acquisition unit and a current monitor were used to measure the current being injected at each station. An Android tablet with an in-house Volterra software application was used to record the current injection start time and duration.

6. Data Quality

6.1. Locations

The location data collected was of good quality. GPS signals were moderate to strong across the survey area. The location data for each survey station was collected with Garmin GPSMap 64s handheld GPS units. The GPS data was collected in the NAD83 UTM Zone 8N coordinate system. The majority of the survey area consisted of short shrubbery and with open views to the sky, which allowed for good GPS accuracy with an error of approximately 3 metres. While GPS signal was less reliable in areas of thick forest canopy with an error of approximately 9 metres.

Elevations for the survey stations were also derived from the Canadian Digital Elevation Model (CDEM) data, gridded at 20 metres. The elevation data from both CDEM and handheld GPS show consistency with an average difference of 1.3 metres. However, the GPS elevation profiles illustrate less variation between adjacent stations. The GPS elevation data were utilized for the 2D inversion modeling.

6.2. Volterra-2DIP Data

Overall, the IP data collected was of good quality. The ground contact resistance was high throughout the survey area. Several of the receiver electrodes were adjusted in the morning during Volterra receiver acquisition unit setup to improve contact with the ground. The injected currents were good throughout the survey grid with current amplitudes averaging 150 mA. In areas of talus or loose large boulder fields, the current electrodes were moved to obtain better ground contact.

Signal strength, as indicated by the voltage potential (Vp), showed a wide range of values depending on the specific line, local ground conditions, and dipole distance from the current injection. The measured voltage potential's (Vp) were good, with values in the 10s to 1000s of mV. The apparent chargeabilities averaged between approximately 20 to 25 ms. The IP decay curves were of good quality.

7. Deliverables

This logistics report and maps are provided as two paper copies and digitally in PDF format. The geophysical survey data is provided digitally on the included CD. A brief description of the provided data is below.

- 2DIP Data – Raw DCIP data export as a .txt file
- Locations – Locations of survey stations with both GPS and DEM elevations
- Maps
  - grid map
  - 2D Inversion Maps (Resistivity and chargeability maps along survey lines)
- Logistics report
- 2D Inversion Models
  - UBC – Inverted models in UBC-GIF standard format (UTM coordinates), all model files are provided (msh, con, res, chg, sensitivity)
  - XYZ – ASCII format of models converted from UBC-GIF inversion models. The value at the centre of each model cell is given
  - VTK – Inverted models in open-source vtk format: con, res, and chg files

Respectfully submitted,

Erica Veglio, Msc GIT
Field Geophysicist
SJ Geophysics Ltd.

Appendix A: Survey Details

RC Gold Project

Line	Series	Type	Start Station	End Station	Survey Length (m)
1000	E	*Tx*	78075	79625	1550
1000	E	*Rc*	78050	79650	1600
2000	E	*Tx*	78075	79625	1550
2000	E	*Rc*	78050	79650	1600

Rc = Receiver Line, Tx = Transmitter Line *Total Linear Metres = 3,200*

Appendix B: Instrument Specifications

Volterra Acquisition Unit (Dabtube 8000 Series)

Technical:

Input impedance:	100 MΩ
Input overvoltage protection:	5.6
ADC bit resolution:	24-bit
Internal memory:	Storage Capacity 32 GB
Number of inputs:	4
Synchronization:	GPS
Selectable Sampling Rates (samples/second):	128000, 64000, 32000, 16000, 8000, 4000, 2000, 1000
Common mode rejection:	More than 80 dB (for Rs=0)
Voltage sensitivity:	Range: -5.0 to +5.0 V (24 bit)
Features	Programmable Gain

General:

Dimensions:	Diameter: 43 mm, Length: 405 mm
Weight:	0.5 kg
Battery:	5.0 VDC nominal
Operating temperature range:	-40 ºC to 40 ºC

Volterra Acquisition Unit (Dabtube 8200 Series)

Technical:

Input impedance:	20 MΩ
Input overvoltage protection:	5.6 V
ADC bit resolution:	24-bit
Internal memory:	Storage Capacity 64 GB
Number of inputs:	4
Synchronization:	GPS
Selectable Sampling Rates (samples/second):	128000, 64000, 32000, 16000, 8000, 4000, 2000, 1000
Common mode rejection:	More than 80 dB (for Rs=0)
Voltage sensitivity:	Range: -5.0 to +5.0 V (24 bit)
Features	Programmable Gain, AC/DC coupling

General:

Dimensions:	Diameter: 43 mm, Length: 405 mm
Weight:	0.5 kg
Battery:	5.0 VDC nominal
Operating temperature range:	-40 ºC to 40 ºC

GDD IP Transmitter TxII-3600W

Size:	TxII-3600W with a blue carrying case: 70 x 28 x 49 cm TxII-3600W only: 55 x 44 x 21 cm
Weight:	TxII-3600W with a blue carrying case: ~ 44 kg TxII-3600W only: ~ 32 kg
Operating Temperature:	-40ºC to 65ºC (-40ºF to 150ºF)
Time Base:	ON+, OFF, ON-, OFF DC, 1, 2, 4, 8 or 16 s
Output current:	0.030A to 15A (standard operation) 0.0A to 15A (open loop protection disabled) Maximum of 5A in DC mode
Rated Output Voltage:	150V to 2400V Up to 7.2KW and 4800V in a master/slave configuration
LCD Display:	Output current, 0.001A resolution Output power Ground resistance (when the transmitter is turned off)
Power source:	220-240V / 50-60Hz

Appendix C: Geophysical Techniques

IP Method

The time domain IP technique energizes the ground by injecting square wave current pulses via a pair of current electrodes. During current injection, the apparent (bulk) resistivity of the ground is calculated from the measured primary voltage and the input current. Following current injection, a time decaying voltage is also measured at the receiver electrodes. This IP effect measures the amount of polarizable (or “chargeable”) particles in the subsurface rock.

Under ideal circumstances, high chargeability corresponds to disseminated metallic sulfides. Unfortunately, IP responses are rarely uniquely interpretable as other rock materials are also chargeable, such as some graphitic rocks, clays, and some metamorphic rocks (e.g., serpentinite). Therefore, it is prudent from a geological perspective to incorporate other data sets to assist in interpretation.

IP and resistivity measurements are generally considered repeatable to within about five percent. However, changing field conditions, such as variable water content or electrode contact, reduce the overall repeatability. These measurements are influenced to a large degree by the rock materials near the surface or, more precisely, near the measurement electrodes. In the past, interpretation of a traditional IP pseudosection was often uncertain because strong responses located near the surface could mask a weaker one at depth. Geophysical inversion techniques help to overcome this uncertainty.

Volterra-2DIP Data

The Volterra-IP data go through a series of quality assurance checks both in the field and in the office to ensure that the data are of good quality. At the end of each acquisition day the recorded signal was downloaded from the Volterra acquisition units to a personal computer. The signals were then clipped to the GPS time windows of each current injection, lightly filtered for noise, and imported into SJ Geophysics' proprietary QA/QC software package called JavIP. This software package integrates location data with DCIP data in order to calculate the apparent resistivity and apparent chargeability values. JavIP contains interactive quality control tools to allow the field geophysicist to display decay curves, view a dot plot of the calculated parameters, and manually reject bad data points.

The majority of data points flagged for removal are due to null-coupling, a phenomena typical in IP surveys related to survey configuration. Null-coupling occurs when a receiver dipole is sub-parallel to lines of constant potential, leading to a significant decrease in signal strength and corresponding poor data quality. Additional data can also be deemed untrustworthy due to low signal quality or dipoles being inadvertently disconnected (usually due to animal activity).

After the first data quality review in the field, the database was delivered to SJ Geophysics' head office for a second review. The data were then carefully checked to ensure that erroneous data points had been removed and were not passed along to the final stage of processing: the inversion.

Appendix D: Field Data Processing & Quality Assurance Procedures

Volterra-IP Data

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Appendix E: Geophysical Inversion

The purpose of geophysical inversion is to estimate the 3D distribution of subsurface physical properties (density, resistivity, chargeability, and magnetic susceptibility) from a series of geophysical measurements collected at the surface. Unfortunately this is a challenging problem – the subsurface distribution of physical properties is complex and only a finite number of measurements can be collected. These complications lead to an under-determined problem. As a result, there are many different possible 3D physical property models that can be obtained which mathematically fit the observed data. Utilizing known geological and geophysical information to evaluate the model allows the best or most geologically realistic model to be selected and leads to a better understanding of the subsurface.

Geophysical inversions are commonly performed for every survey carried out by SJ Geophysics. Several inversion programs are available, but SJ Geophysics primarily uses the UBC-GIF algorithms (e.g. DCIP2D, DCIP3D, MAG3D, GRAV3D) which were developed by a consortium of major mining companies under the auspices of the University of British Columbia's Geophysical Inversion Facility.

In general, multiple inversions are carried out for each dataset and the resultant inversion models are compared with known information to evaluate the model. For example, known geology, drill assays, the estimated depth of investigation, and the quality of the input data are all used during the evaluation. The most geologically reasonable model that fits the data is then chosen as the best model. When available, additional information such as geological boundaries and down-hole geophysical data can be incorporated into the inversion in order to constrain the inversion model.

Once the final inversion model is selected, the model is gridded and mapped for interpretation. Typically, cross-sections and plan maps are created, sliced at different depths beneath the surface. The inversion results can be visualized in 3D using open source software packages such as Mayavi and Paraview in both 2D and 3D views. Additional data can then be overlain to aid in interpretation and help facilitate the identification of potential drilling targets.