



Ministry of Energy and Mines  
BC Geological Survey

ASSESSMENT REPORT  
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)] Volterra -3DIP Survey	TOTAL COST \$128,229
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AUTHOR(S) Garry Biles, P.Eng SIGNATURE(S) [Signature]

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) MX-1-925, 24 June 2016 YEAR OF WORK 2016

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S) 5619460

PROPERTY NAME Windfall Hills

CLAIM NAME(S) (on which work was done) Uduk Lake 1,2 and 3, Uduk 9, WinEast, WinSouth, Windfall 151,152,153,154

COMMODITIES SOUGHT Gold and Silver

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN 093F,057

MINING DIVISION Omineca NTS 093F12 / 093F061/ 093F051

LATITUDE 53 ° 37 ' " LONGITUDE 125 ° 59 ' " (at centre of work)

OWNER(S)  
1) Canarc Resource Corp 2) \_\_\_\_\_

MAILING ADDRESS  
Suite 301-700 West Pender Street  
Vancouver, BC, V6G 1G8

OPERATOR(S) [who paid for the work]  
1) Canarc Resource Corp 2) \_\_\_\_\_

MAILING ADDRESS  
Suite 301- 700 West Pender Street  
Vancouver, BC, V6C 1G8

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):  
Eocene Ootsa Lake group Rhyolite flows and Pyroclastic exhibit weak argyllic alteration with minoir pyrite  
Rhyolite centers are emplaced along a northwest trending structure which passes through Blackwater  
Davidson, Caboose and Windfall Hills

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS 32522

(OVER)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping _____			
Photo interpretation _____			
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic _____			
Electromagnetic _____			
Induced Polarization _____	1026440, 1026441, 1026444, 1022650, 1026598, 1026599, 1036619, 1038772, 1038775, 1038		128 229
Radiometric _____			
Seismic _____			
Other _____			
Airborne _____			
<b>GEOCHEMICAL</b>			
(number of samples analysed for ...)			
Soil _____			
Silt _____			
Rock _____			
Other _____			
<b>DRILLING</b>			
(total metres; number of holes, size)			
Core _____			
Non-core _____			
<b>RELATED TECHNICAL</b>			
Sampling/assaying _____			
Petrographic _____			
Mineralographic _____			
Metallurgic _____			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY/PHYSICAL</b>			
Line/grid (kilometres) _____			
Topographic/Photogrammetric (scale, area) _____			
Legal surveys (scale, area) _____			
Road, local access (kilometres)/trail _____			
Trench (metres) _____			
Underground dev. (metres) _____			
Other _____			
TOTAL COST			\$128299

**Windfall Hills Property**  
**2016 Volterra-3DIP Survey**

**Omineca Mining Division, British Columbia**  
**NTS 93 E/9, F/12**  
**Latitude: 53° 39' 30"N Longitude: 126° 00' 00"W**  
**UTM: 301700E, 5949500N**  
**Zone 10 NAD 83**



**Owner/Operator**  
**Canarc Resource Corp.**  
**Suite 301-700 West Pender Street**  
**Vancouver, B.C. V6C 1G8**

Garry Biles, P.Eng  
December 14, 2016

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## **1.0 Synopsis**

This report documents the 25.4 line-km Volterra-3DIP survey carried out on Canarc's Windfall Hills Property from September 15th to 27th, 2016. The survey was conducted by SJ Geophysics Ltd of Delta BC. The purpose of the program was to identify areas of geophysical anomalies for chargeability and resistivity.

Details of the field program are included in the Volterra-3DIP Logistics Report, November 2016 from SJ Geophysics is included in Appendix B.

An analysis of the data obtained in the field is provided in the Interpretation Memorandum from SJ Geophysics dated November 18, 2016 included in Appendix C.

The survey identified four areas with coincident resistivity and chargeability highs which will be priority targets for the next exploration program at the property.

## **1.1 Location and Access**

The property is located in west central British Columbia, 244 kilometers west of Prince George and 70 km south southwest of Burns Lake (Fig. 1). Road access from Burns Lake is south by Highway 35 for 70 km to Ootsa Lake then 35 km southeast along the north shore of Ootsa Lake by well-maintained logging mainlines to a barge landing on Tahtsa Reach. This barge landing can also be accessed by driving 120 km west southwest from Vanderhoof on well-maintained logging mainlines. The barge is presently owned by the Cheslatta Indian Band.

For the 3DIP Survey work the site was accessed by helicopter on a daily basis from Takysie Lake Resort and the field crew was accommodated at the resort. Helicopter services were provided by Westland Helicopter Inc. from Burns Lake.

## **1.2 Physiography and Climate**

The property covers an area of the Nechako Plateau with subdued topography. Elevation ranges from 1,205 meters at Loon Lake on the eastern edge of the property to 1,307 meters on the western edge of the property. Landforms are affected by a strong glacial movement to the northeast. Over 99% of the property is covered by glacial till that ranges from less than one meter thick to tens of meters thick with an average cover of less than two meters. Outcrop is only present on the southwest facing slopes of prominent knobs on the property, all of which are rhyolite volcanic centers, and in ditches and borrow pits from logging road construction.

The Biogeoclimatic Ecological Zone is Sub-Boreal Pine Spruce. The property area covers mature stands of spruce and pine. Approximately 50% of the property has been clear cut. More than 80% of the remaining mature pine is standing dead from pine beetle infestation.

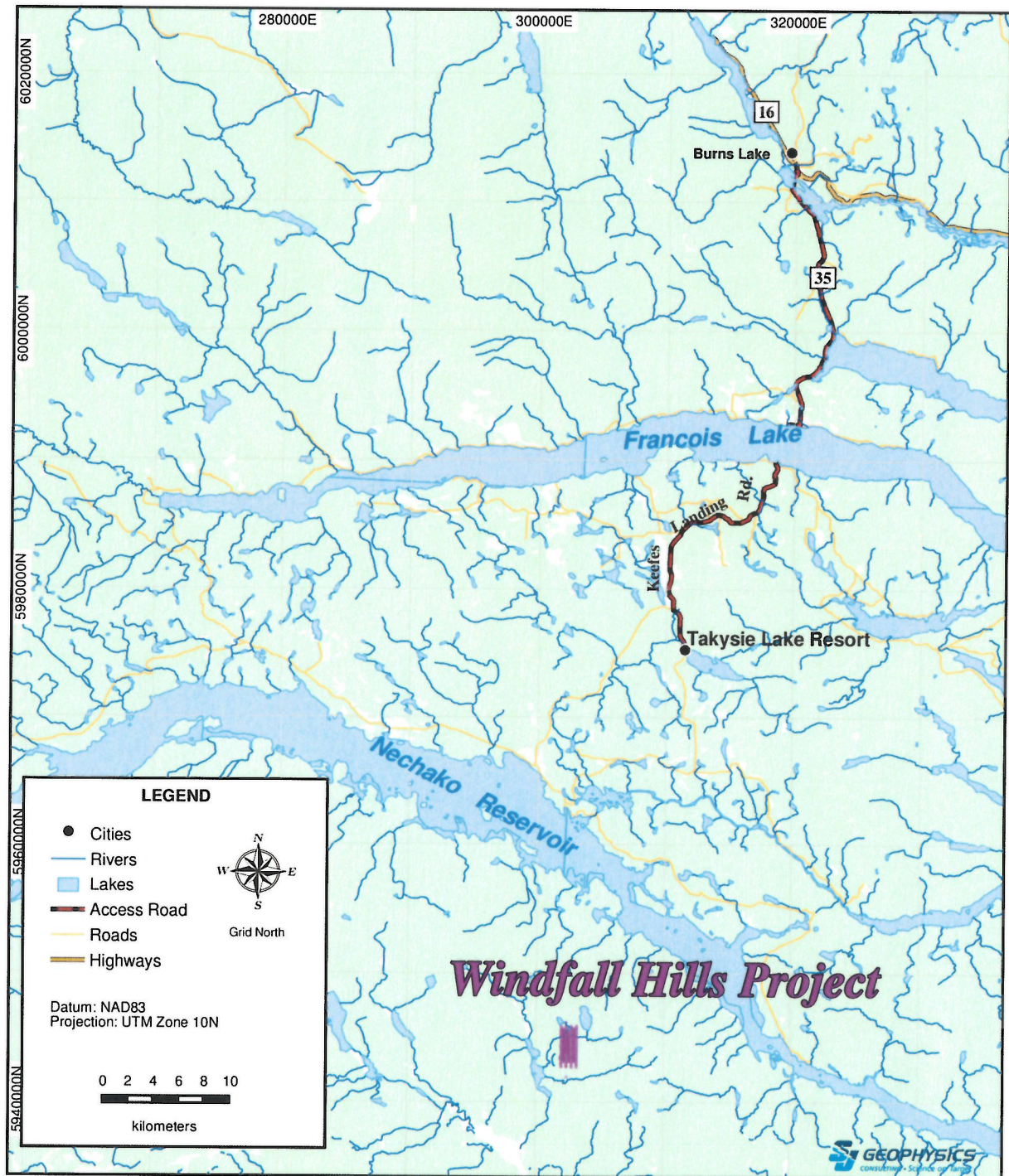


Figure 1: Location map for the Windfall Hills project

The climate is northern interior with long cold winters starting in November and lasting until mid to late April. Precipitation is light in winter with snowfalls of 0.7 to 1.5 meters. Summers are relatively wet with rainfall often exceeding 10 cm per month.

### 1.3 Property Ownership and Status

The property covers 3875.10 ha in 11 claims. Canarc Resource Corp is the registered owner of these claims. Claim details are shown in Table 1 below. Figure 1 shows mineral tenure locations.

**Table 1: Claims, Ownership and Status**

<b>Tenure #</b>	<b>Claim Name</b>	<b>Owner</b>	<b>Good to Date</b>	<b>Area (ha.)</b>
1022668	UDUKLINK	Canarc	30 Sept 2024	115.07
1026440	UDUK LAKE 1	Canarc	03 March 2025	115.11
1026441	UDUK LAKE 2	Canarc	03 March 2025	268.60
1026444	UDUK LAKE 3	Canarc	03 March 2025	172.63
1026598	WIN EAST	Canarc	10 March 2025	172.65
1026599	WIN SOUTH	Canarc	10 March 2025	153.53
1038619	UDUK9	Canarc	18 Sept 2019	19.18
1038772	WINDFALL 151	Canarc	24 Sept 2019	1918.08
1038775	WINDFALL 152	Canarc	24 Sept 2019	326.03
1038776	WINDFALL 153	Canarc	24 Sept 2019	403.15
1039011	WINDFALL 154	Canarc	02 Oct 2019	211.07
			<b>Total</b>	3875.10

### 1.4 Regional and Local Geology

The oldest layered rocks in the region are Upper Triassic/Lower Jurassic Takla Group composed of volcanic and sedimentary strata. Andesite to basalt flows and pyroclastics are overlain by shale, conglomerate and greywacke.

Middle to Lower Jurassic Hazelton Group andesite with minor chert pebble conglomerate, sandstone and shale overlie the Takla Group.

This package has been intruded by Late Cretaceous to Tertiary granodiorite, quartz diorite and granite.

Upper Cretaceous to Eocene Ootsa Lake Group rhyolite to dacite flows, tuffs and breccias, the host of the mineralization on the property, intrude the older rocks.

Much of the area was covered by Miocene to Pliocene plateau basalt of the Chilcotin Group.

A veneer of glacial till covers the region. The most recent glacial activity was from southwest to northeast. The till is generally one to two meters thick but can be much thicker in valley bottoms and on the lee side for

This region is an extensional tectonic environment and has been described as a mini "Basin and Range".

The property covers Ootsa Lake Group rhyolite. Less than 1% of the property is outcrop. Generally glacial till is thinner on southwest faces of ridges and hills. In these areas overburden can be one meter or less. Subcrop can be found in these areas in the roots of fallen trees.

Five units have been distinguished in the Ootsa Lake rhyolite:

Unit 1 - Rhyolite to rhyodacite tuffs and breccias.

Unit 2 - Flow banded rhyolite. Grey to purplish in colour.

Unit 3 - Porphyritic rhyolite, 10% - 20% quartz, 0% - 20% feldspar.

Unit 4 - Orbicular dacite, greenish grey in colour.

Unit 5 - Fine grained andesite float.

### **1.5 Exploration Targets and History**

The main mineral exploration targets on the property are disseminated gold ore bodies associated with Cretaceous to Tertiary rhyolite volcanic centers, similar to the Round Mountain deposit in Nevada or, closer to home, the Blackwater/Davidson Property being developed by New Gold approximately 90 km southeast of the property. These deposits are low sulphidation epithermal gold deposits characterized by near surface low temperature, low pressure deposition of gold associated with multiple periods of silicification, minor pyrite and pervasive argillic alteration.

Part of the area of the property was originally staked in 1981 by Amax Exploration Ltd. who carried out reconnaissance mapping and sampling but allowed their claims to lapse. In 1984 the property area was re-staked by S. Travis.

Asitka Resource Corporation optioned part of the property and conducted rock and soil geochemical sampling in 1985 and 78 meters of Winkie drilling in three holes in 1986 on the property. Values ranged from 20 to 1450 ppb gold in quartz stringer stockwork zones intersected in drill holes.

Pacific Comox Resources Ltd. optioned the property from Travis in 1987 and, in 1988, sub-optioned to Chalice Mining Inc. Chalice conducted a program of line cutting, geological and geochemical surveys, an Induced Polarization geophysical survey and 358 meters of diamond drilling in five holes on the property. Chalice did not exercise their option and the property reverted to Pacific Comox.

Pioneer Metals Corp. optioned the property in 1993 and carried out a soil geochemical program that year followed by further geochemical sampling, geological mapping and six mechanized trenches in 1994 on the property. All six trenches returned values greater than

0.1 g/t gold with the whole 42 meters of TR-94-4 averaging 0.41 g/t gold including six meters of 1.4 g/t gold. Pioneer terminated its option in 1996.

In 1997 Atna Resource Ltd. purchased the property from Pacific Comox and optioned 60% of the property to Gold Mountain Resources Ltd. Atna carried out a soil geochemical survey, geological mapping and an Induced Polarization geophysical survey in 1997.

In 2011 Canarc Resource Corp. optioned the property from Atna and Dunn and carried out a soil geochemical and prospecting program.

Subsequently, in 2012 and 2013, Canarc purchased 100% of the property and carried out a 3-hole, 1149 meter drill program in 2014. The program was successful in outlining significant gold and silver grades including 28 meters of 0.9 g/t gold and

## **1.6 Conclusions**

The Volterra-3DIP survey identified four areas of coincident resistivity and chargeability highs which is a geophysical anomaly with a promising signature. These areas will be the primary focus areas of future exploration programs at the property.

## **Appendix A**

### **Statement of Costs**

#### **Field Data Retrieval**

SJ Geophysics (five person crew)	\$79,447
SJ Geophysics – Inversion preparation and modelling	\$6,740
SJ Geophysics – Interpretation Report	\$3,310

#### **Helicopter Support**

Westland Helicopter	\$21,404
Accommodations	
Takysie Lake Resort – Rooms	
\$2,800	
Takysie Lake Resort – Meals	\$2,989
Takysie Lake Resort – Misc	\$289

#### **Project Permitting, Supervision, Reporting**

G. Biles (114 Hrs - June 2016 to November 2016)	\$11,250
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<b>Windfall Hills Project Total</b>	<b>\$128,229</b>
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**Appendix B**  
**Volterra-3DIP Logistics Report**

By  
**SJ Geophysics Ltd**

November 2016



LOGISTICS REPORT PREPARED FOR  
CANARC RESOURCE CORP.

Volterra-3DIP  
ON THE  
WINDFALL HILLS PROJECT

BURNS LAKE, BC, CANADA  
LATITUDE: 53° 37' N LONGITUDE: 125° 59' W  
BCGS SHEET: 093F061, 93F051 NTS SHEET: 093F12  
MINING DIVISION: Omineca

SURVEY CONDUCTED BY SJ GEOPHYSICS LTD.  
SEPTEMBER, 2016



REPORT PREPARED: NOVEMBER 2016

by  
Trisha Robertson, M.Sc. Geophysics



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## 1. Survey Summary

SJ Geophysics Ltd. was contracted by Canarc Resource Corp. to acquire Volterra-3DIP data on their Windfall Hills property. Table 1 provides a brief summary of the project.

<b>Client</b>	Canarc Resource Corp.
<b>Project Name</b>	Windfall Hills
<b>Location</b> (approx. centre of grid)	Latitude: 53° 37' N Longitude: 125° 59' W 5944300N 302600E; UTM Datum Zone xx
<b>Survey Type</b>	Volterra 3D Induced Polarization
<b>Total Line Kilometres</b>	In-line = 25.4 km
<b>Production Dates</b>	Sept 15– Sept 27, 2016

Table 1: Survey Summary

The main target of the Windfall Hills project are disseminated gold ore bodies. There are low sulfidation epithermal gold deposits, and the gold mineralization is associated with quartz stockworks and alteration zones of silica, pyrite, potassium feldspar, sericite, and clay (Windfall Hills website). Shallow drilling has occurred on the property, and previous IP was completed by Atna Resources in 1997. The area is covered by glacial till that ranges from less than one metre thick to tens of metres thick. (ARIS 32522) The purpose of the Volterra-3DIP survey was to better outline geophysical anomalies on the property.

## 2 Location and Access

The Windfall Hills project is located in British Columbia, Canada (Figure 1).



Figure 1: Overview map of the Windfall Hills project

The closest town to the survey area is Burns Lake, which is approximately 70 km north of the Windfall Hills project. The crew stayed at the Takysie Lake Lodge during the project and flew each day to the project site by helicopter. The Takysie Lake Lodge can be accessed from Burns Lake by the following directions:

- Head south on Francois Hwy/BC-35 for 24 km
- Take the Francois Lake, BC – Southbank, BC ferry
- Follow Keefes Landing Rd for 18 km to Eakin Settlement Rd
- After 3.7 km, the Takysie Lake Resort will be on the left.

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



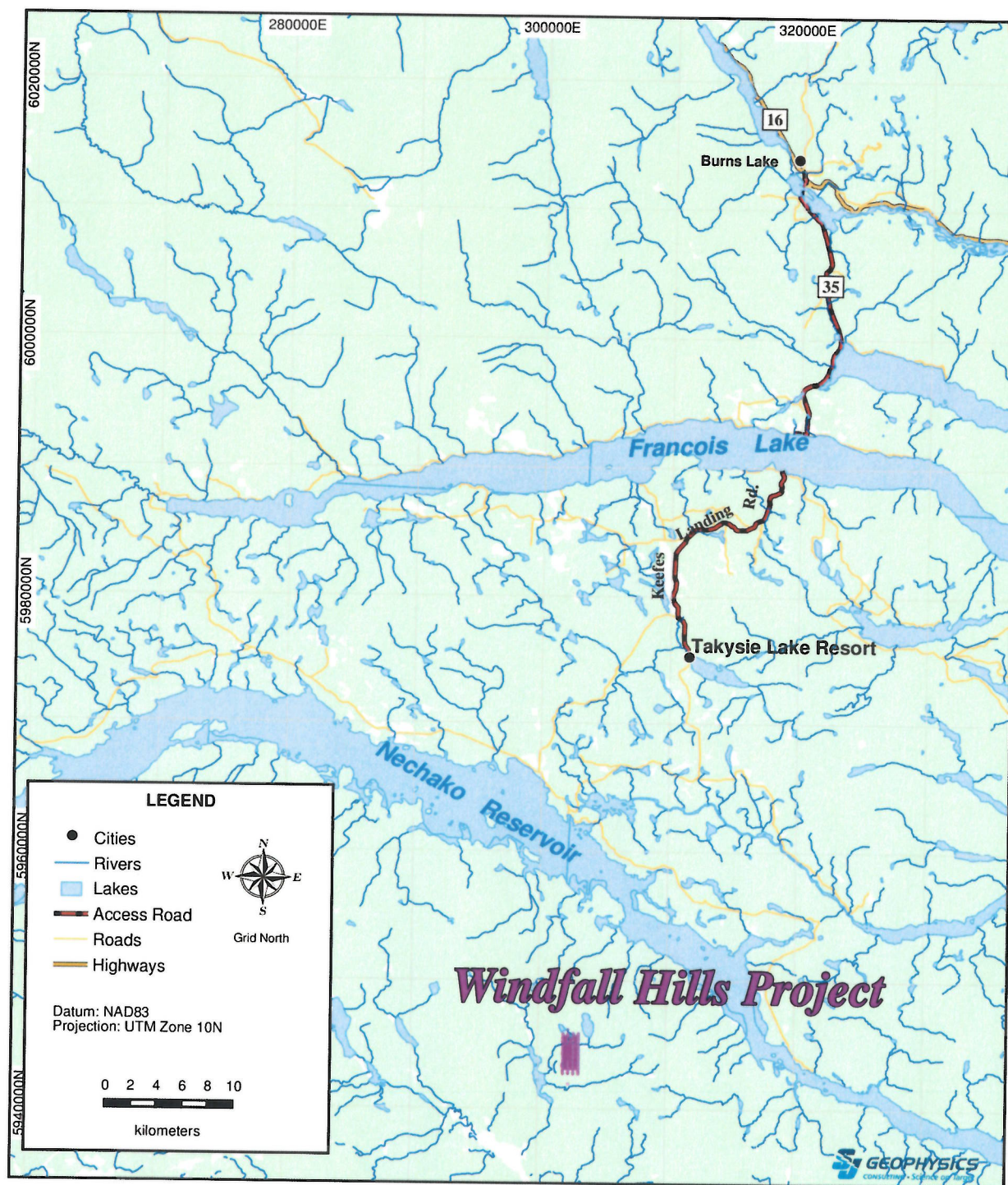


Figure 2: Location map for the Windfall Hills project

Burns Lake has a continental climate with warm summers and cold winters. The average temperature is low 20's °C in the summer and about -5°C in the winter. Winters begin in November and last until mid-April. Precipitation in the winter is light. There are old logging roads near the project area, but they were not in use at the time of the survey.

The property area contains mature spruce and pine stands, but approximately 30% of the property has been clear cut. Greater than 80% of the remaining pine has been killed by pine beetle infestation. The survey area was easy to traverse in the north where the area had been clearcut. The uncut lines to the south were bushier and traversing took longer. Wildlife in the area include moose, bears, and deer.

### 3. Survey Grid

The Windfall Hills grid consisted of a large 7-line survey and a 5-line infill grid. The first grid had 7 lines spaced at 200 m. The infill grid had 5 lines spaced at 100 m. The survey coverage is estimated at 3.84 sq. km.

The grid was not cut or flagged prior to the SJ Geophysics crew's arrival. Parts of the grid had to be moved to avoid lakes, but this did not cause any issues for the crew.

The survey grid parameters are summarized in Table 2 and displayed in Figure 3.

Grid	Windfall Hills
Number of Surveyed Lines	12
Survey Line Azimuth	0°
Line Spacing	200 m
infill:	100 m
Station Spacing	100 m, in-line 50 m
infill:	50 m, in-line 25 m
Elevation Range	1119 – 1236 m

Table 2: Grid parameters

The line and station labels for the grid were based on UTM coordinates, with the line labels

being represented by the last four digits in the UTM easting and the station labels represented by the last four digits in the UTM northing.

Please refer to Appendix A for a detailed breakdown of the survey lines.

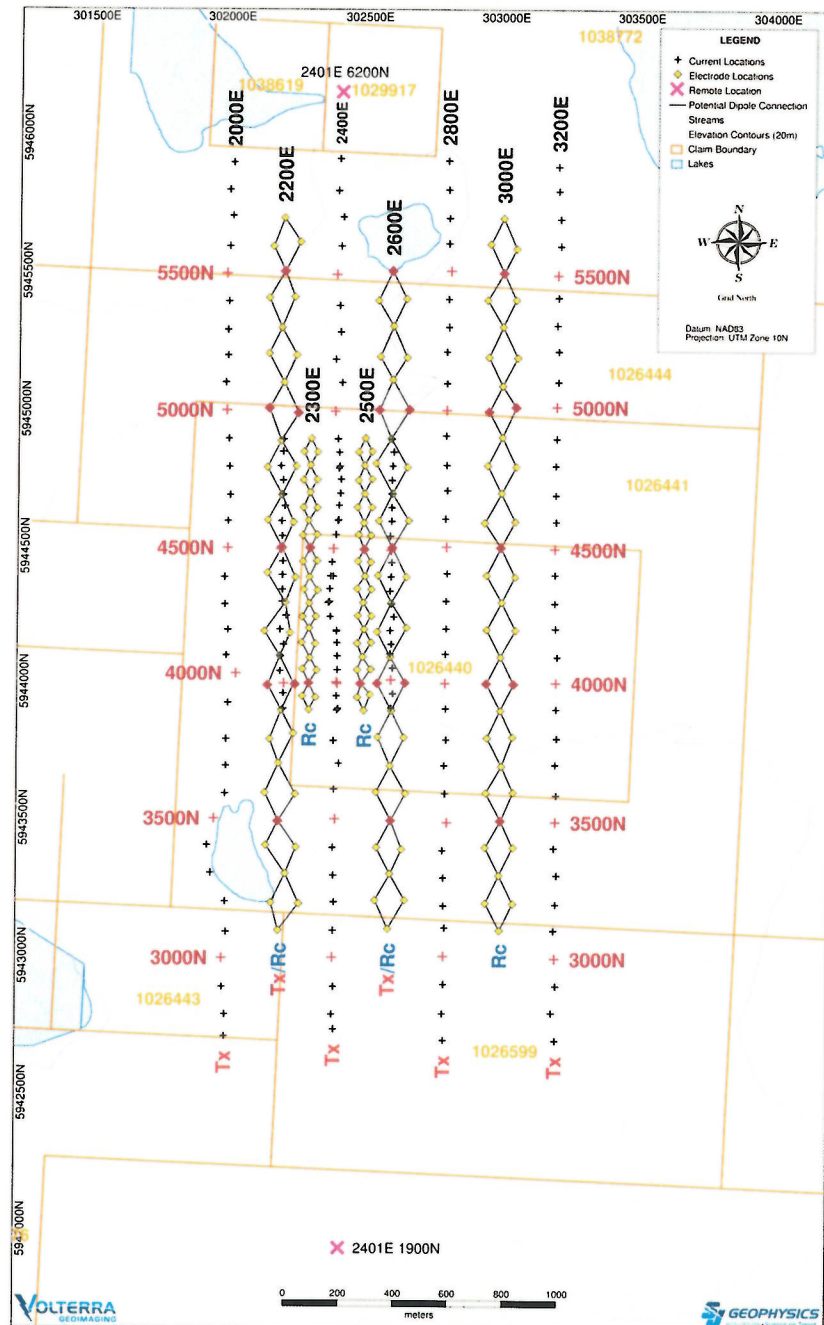


Figure 3: Grid map showing the Windfall Hills grid

## ***4. Survey Parameters and Instrumentation***

### ***4.1. Volterra Distributed Acquisition System***

The Volterra Distributed Acquisition System was developed internally by SJ Geophysics. The heart of the system are the Volterra data acquisition units. Each four-channel Volterra acquisition unit contains 24-bit analog-to-digital electronics that record the full waveform signal from various sensor configurations. This allows for various geophysical techniques such as induced polarization (IP), electromagnetics (EM), magneto tellurics (MT), controlled source audio-frequency magneto tellurics (CSAMT), etc. to be measured. The recorded full-waveform data is then passed through proprietary signal processing software to calculate the relevant geophysical attributes (ie. apparent resistivity/chargeability for IP surveys).

### ***4.2. Volterra-3DIP Survey***

SJ Geophysics Ltd.'s proprietary Volterra Distributed Acquisition System was utilized for the induced polarization (IP) survey. Current injections were controlled using a GDD TxII transmitter and the resulting ground response was measured using each Volterra data acquisition unit.

The distributed nature of the Volterra-3DIP system allows for highly customizable array and survey configurations. The resulting flexibility is a huge benefit in challenging terrain conditions where rivers, roads, cliffs, or other obstacles can easily be avoided. The crew took full advantage of these features to optimize the field logistics and maximize production.

The transmitter and IP signal recording/processing parameters used for the survey are described in Table 3. The full instrument specifications are listed in Appendix B.



<b>IP Transmitter</b>	GDD TxII
Duty Cycle	50%
Waveform	Square
Cycle and Period	2 sec on / 2 sec off; 8 second
<b>IP Signal Recording</b>	Volterra Acquisition Unit (Dabtube)
Reading Length	120 seconds
<b>IP Signal Processing</b>	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)	200–1950 ms (windows 6–26)
Properties Calculated	Vp, Mx, Sp, Apparent Resistivity and Chargeability

Table 3: 2DIP transmitter and reading parameters

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 or double conductor wire. The electrodes used for current injections were significantly bigger (1 m x 15 mm) with two to four electrodes used at each injection site to improve ground contact. Current electrodes were connected to the current transmitter by a single conductor wire.

The Volterra-3DIP system was configured using a diamond array. Details of the survey configuration are described in Table 4.

<b>Array Type</b>	Volterra 3D Distributed Array
<b>Array Configuration</b>	Diamond Array
<b>Acquisition Set</b>	5 Lines (Tx-Rc-Tx-Rc-Tx)
<b>Active Array Length per Receiver Line</b>	Minimum: 1000 m Maximum: 2400 m
<b>Total Active Dipoles per Current Injection</b>	40 - 48
<b>Dipole Length</b>	112 m
infill:	56 m
<b>Current Interval</b>	100 m
infill:	50 m

Table 4: Volterra-3DIP survey parameters

Along each 3D receiver line, potential electrodes were set up every 200 m. At the mid-point of these two electrodes, two additional electrodes were set up perpendicular to the receiver at a distance of 50 m. A Volterra acquisition unit was then set up at the center of each grouping of four electrodes and wired to form four dipoles in a diamond. See Figure 4 for a graphical representation of the diamond array.

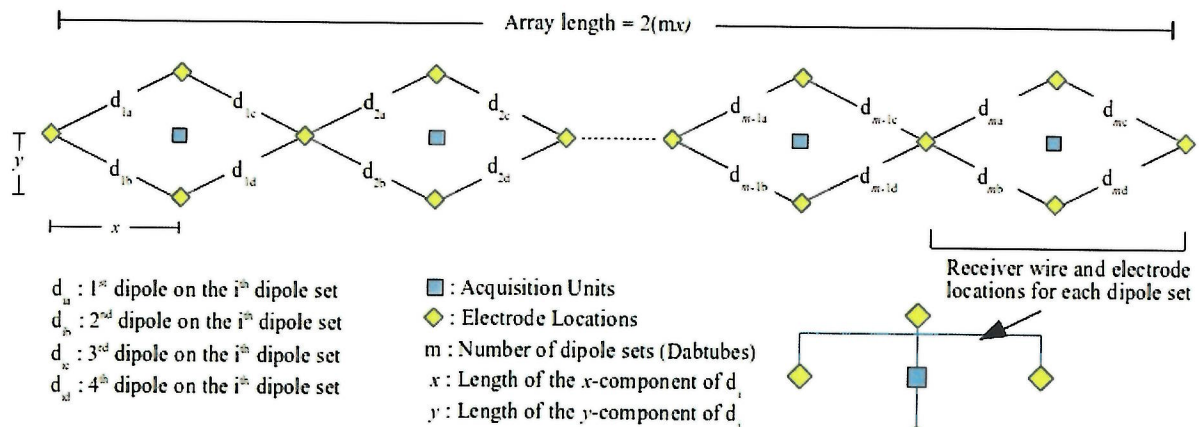


Figure 4: Schematic representation of the 3D diamond array

A total of 2 different remote electrode stations were utilized over the course of the survey.

The locations of the remote current electrodes are listed in Table 5 below.

<b>Name</b>	<b>Label</b>	<b>Easting NAD83 Zone 10N</b>	<b>Northing NAD83 Zone 10N</b>
South Remote	2401E 1900N	302422	5941937
North Remote	2401E 6200N	302407	5946155

Table 5: Location of 3DIP remote sites

### **4.3. GPS**

Garmin hand-held GPS units were used to mark the location of every receiver and current station. Garmin 62s and 64s units were used during the course of the survey. Elevation data was also collected using the Garmin hand-held GPS units. An NTS DEM was available over the survey area. These elevations were used to replace the Garmin elevations.

## **5. Field Logistics**

The SJ Geophysics field crew consisted of one geophysical operator, three geophysical technicians, and one helper 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 6 lists the SJ Geophysics crew members on this project. One local helper was hired by SJ Geophysics to assist the geophysical crew in the operation of the survey.

<b>Crew Member Name</b>	<b>Role</b>	<b>Dates on Site</b>
Francisco Cervantes	Geophysical Operator	Sept 20 – Sept 27, 2016
Victor Kulla	Geophysical Technician	Sept 15 – Sept 27, 2016
Morgan MacNeill	Geophysical Technician	Sept 20 – Sept 27, 2016
Jeff Moorcroft	Geophysical Technician	Sept 15 – Sept 27, 2016
Alex Visser	Geophysical Technician	Sept 16 – Sept 19, 2016
Justin Hall	Field Technician	Sept 15 – Sept 19, 2016
Kelly Leason	Helper	Sept 15 – Sept 27, 2016

Table 6: Details of the SJ Geophysics crew on site

The SJ Geophysics crew's first day on site at the Windfall Hills project was September 15, 2016 and they remained on site through September 27, 2016. Mobilization to the project occurred between September 13-14, 2016 for Victor Kulla, Justin Hall, and Jeff Moorcroft. Kelly Leason was hired as a local helper to assist in the survey and met up with the crew in Burns Lake. Kelly brought a chainsaw and was available as a line cutter if any lines needed to be cleared. Alex Visser mobilized to the project on September 14-15, 2016. There was a personnel change on September 20, 2016. Francisco Cervantes and Morgan MacNeill arrived at the project and demobilization from the project site began for Justin Hall and Alex Visser. Demobilization for the rest of the crew occurred between September 28-29, 2016.

During the course of the geophysical survey, the SJ Geophysics crew conducted weekly safety meetings as well as daily tailgate meetings. The safety meetings included a comprehensive review of safe work practices specific to our geophysical surveys and field operations. At the tailgate meetings, personnel discussed issues related 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 SJ Geophysics crew was accommodated by the client at the Takysie Lake Lodge. The lodge had internet access at the lodge restaurant, but not in the accommodations. Breakfast and dinner was provided in the lodge restaurant and a packed lunch was provided by the lodge each day.

The crew traveled to and from the survey site each day by a helicopter provided by the client. The helicopter remained on site during the days that there were no other jobs. On September 15, 2016, the crew met with the helicopter pilot to work out transportation logistics. The geophysical equipment was slung via helicopter to the grid from the lodge on the first day, and slung back out on the last day of the survey. The crew used radios to communicate during the survey.

The 7-line larger grid was completed first. After reviewing the data, the 5-line infill grid was completed over an area with a geophysical anomaly which was deemed to be valuable on which to have more detailed results. The survey began with laying out the remotes for the survey. Then the crew set up the survey grid and began surveying starting in the east and moving west. GPS points were taken with Garmin handheld units at each electrode location.

During the Volterra-3DIP survey, each acquisition day began with the setup of the Volterra

acquisition units along the receiver lines and the setup of the transmitter site. If necessary, breaks in the wire linking the remote station to the transmitter were fixed.

Breaks in the wires were frequently caused by roaming wildlife each night and were often difficult to find, especially along the transmitter lines. Locating and fixing these breaks regularly delayed the survey. Prior to field data acquisition, a contact resistivity test was performed 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 breaks in the wire or 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. By inspecting the quality of the current output, the current operator could detect current leakage and ensure the transmitter was functioning correctly. An Android tablet with an in-house Volterra software app was used to record the current injection start time and duration.

Transmitter wire was often laid out ahead of time and picked up either during the survey as it progressed or while surveying the next swath. Volterra acquisition units were collected at the end of each acquisition day, and if the swath was finished, the receiver wire and electrodes were picked up as well.

The terrain was generally gentle and flat. The bush was sparse on the northern parts of the survey area, but thickened to the south upon leaving the cut block. The uncut lines slowed the crew down during the survey, but they were still able to maintain good production rates.

Four of the survey days had small delays caused by weather. Because of heavy fog in the mornings, the helicopter was delayed in flying the crew to the grid. The longest delay resulted in the crew arriving on the grid shortly before noon. In spite of the delay, the SJ Geophysics crew was able to adjust and continue with productive survey day.

## ***6. Field Data Processing & Quality Assurance Procedures***

### ***6.1. Locations***

Good quality location data is the first step to the successful analysis and interpretation of geophysical survey data. For each survey, Garmin GPSMAP 62s handheld GPS units were utilized to collect location information. Measurements are taken at every survey station where satellite reception was acceptable. The quality of the location data and labeling were checked every night using GPS management software such as Garmin BaseCamp or GIS packages like QGIS and GRASS. Any inconsistent measurements were discarded and the remaining points, referred to as control points, were incorporated into a database using proprietary software called Location Manager. Any missing or discarded survey station locations were re-acquired the following day if possible. If not possible, the missing data points were interpolated based on the known points, measured slopes between stations if available, line azimuth, and idealized ground distances.

All GPS measurements typically have a much lower accuracy in the vertical direction compared to the horizontal direction. A NTS DEM is available for the survey area, so the DEM model was compared to the GPS elevations and used to replace the GPS elevation points.

### ***6.2. Volterra-3DIP 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 the data points flagged for removal were due to null-coupling, a phenomena typical in IP surveys related to the 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.

## ***7. Data Quality***

### ***7.1. Locations***

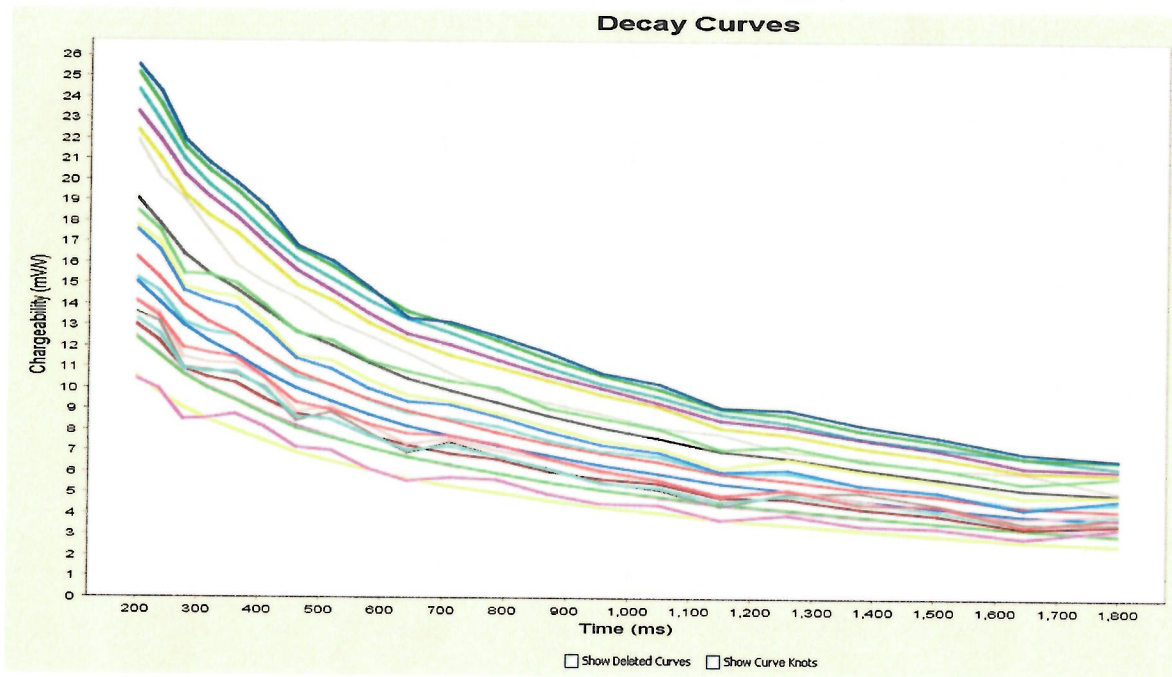
The location data acquired for the Windfall Hills project was of good quality. The set of GPS points was complete and none need to be removed. The elevation data produced by the field instruments was insufficient for accurate calculations so a DEM was substituted. The DEM used had a 30 m resolution which is suitable for the gentle topography of the survey area.

### ***7.2. Volterra-3DIP data***

Solid contact resistance at the vast majority of dipoles produced clean resistivity data throughout the grid. Trends in resistivity values were consistent between readings as well as for repeat measurements. Near-surface changes in conductivity were reflected in the voltage- potential patterns in the data. In general, the potentials observed were near 5 mV. Potentials were much higher near the current injection site and lowest at the far-offset dipoles, occasionally showing localized spots of low or high resistance.

Overall, the chargeability data collected was also of good quality. The ground conditions for the survey supported mid-range and stable currents leading to clean stacks. Some near-surface geologic features created some oddities in the data such as negative apparent chargeability values and noisy curves. These were removed before inversion, however these make up a very small portion of the whole set. The northwest portion of the grid had slightly more chargeability values removed than other areas due to increased null-coupling, noise was not an issue for any regions of the grid.

Figure 5 shows data resulting from a reading of average current intensity which produced data that was generally clean and Figure 6 shows data resulting from a reading with lower current intensity which produced data that was more noisy.



Figure

5: Example of clean decay curve (unfiltered)

Receiver Line 2600E, current line 2400E station 5300N

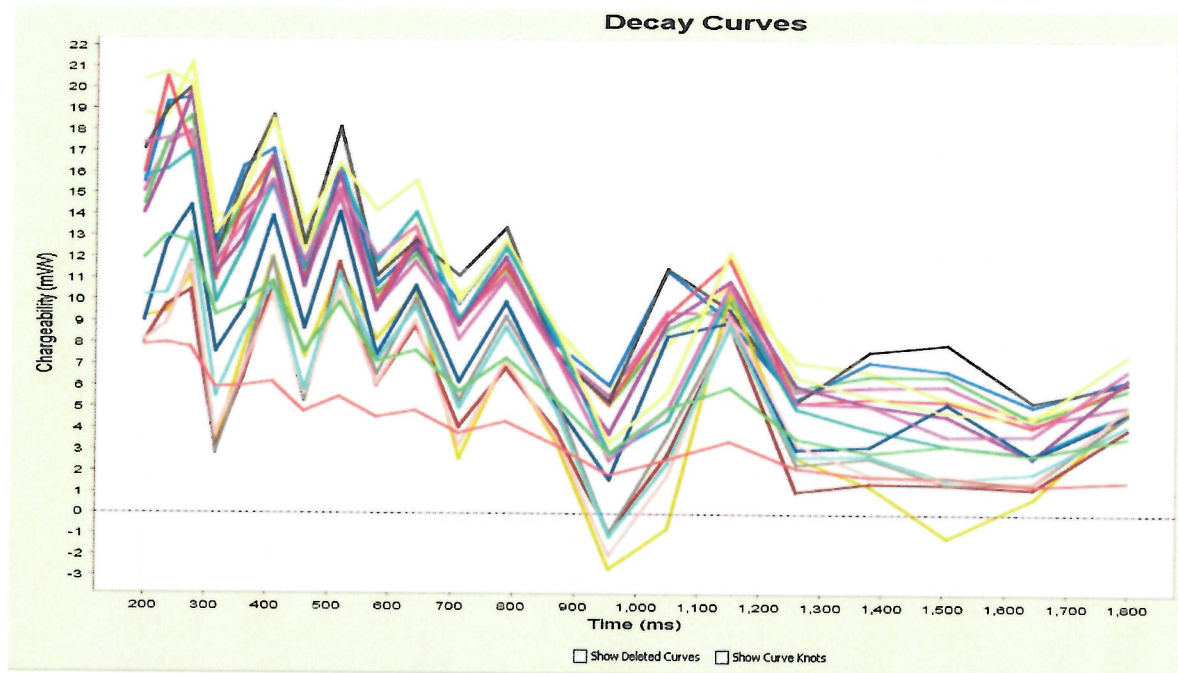


Figure 6: Example of relatively noisy decay curve (unfiltered)

Receiver Line 2200E, current line 2400E station 2800N



## ***8 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.

## 9. Deliverables

This logistics report and maps are provided as two paper copies and digitally in PDF format. All data including the geophysical survey and location data are also provided digitally. A brief description of the provided data is below.

- 3DIP Data - Raw DCIP data exported as a .txt file
- 3D models
  - UBC - inverted model in UBC-GIF standard format: .chg, .con, .res, sensitivity, and mesh files. UTM coordinates.
  - VTK - inverted model in open-source vtk format: chg, con, res, and sen files
  - XYZ - ASCII format of models are converted from UBCgif inversion models; the value of each voxel is positioned at the centre of the model cell: chg, con, res, sen files
- Location - Locations of survey stations with DEM elevations
- Maps
  - Chargeability plan maps at constant depth below topography
    - 50 m, 75 m, 100 m, 125 m, 150 m, 200 m, 250 m, 300 m, 350 m, 400 m, 450 m
  - Resistivity plan maps at constant depth below topography
    - 50 m, 75 m, 100 m, 125 m, 150 m, 200 m, 250 m, 300 m, 350 m, 400 m, 450 m
  - Plan maps in GeoTiff format
  - Section maps along survey lines
  - Location map of project
  - Grid map
- Reports
  - Logistics Report

Respectfully submitted, per  
SJ Geophysics Ltd.

Trisha Roberson  
M.Sc. Geophysics

**Appendix A: Survey Details****Windfall Hills Grid**

Line	Series	Type	Start Station	End Station	Survey Length (m)
2000	E	Tx	2700	5900	3200
2200	E	Rc	3100	5700	2600
2400	E	Tx	2750	5900	3150
2600	E	Rc	3100	5500	2400
2800	E	Tx	2700	5900	3200
3000	E	Rc	3100	5700	2600
3200	E	Tx	2700	5900	3200

*Total Linear Metres = 20,350**Rc = Receiver Line, Tx = Transmitter Line***Windfall Hills Infill Grid**

Line	Series	Type	Start Station	End Station	Survey Length (m)
2200	E	Tx	3900	4900	1000
2300	E	Rc	3900	4900	1000
2400	E	Tx	3900	4900	1000
2500	E	Rc	3900	4900	1000
2600	E	Tx	3900	4900	1000

*Total Linear Metres = 5,000**Rc = Receiver Line, Tx = Transmitter Line*

## ***Appendix B: Instrument Specifications***

### ***Volterra Dabtube 24-bit four-channel acquisition unit***

#### **Technical:**

Input impedance:	15 M $\Omega$
Input overvoltage protection:	5.6 V
Internal memory:	Variable USB flash memory stick (currently 16 GB)
Number of inputs:	4 galvanically isolated inputs
Synchronization:	GPS
Selectable Sampling Rates (samples/second):	128000, 64000, 32000, 16000, 8000, 4000, 2000, 1000
Common mode rejection:	More than 80 dB (for $R_s=0$ )
Voltage sensitivity:	Range: 10 V (peak to peak, $\pm 5$ V) Resolution: 0.24 $\mu$ V
Communication:	Bluetooth and USB
Serial Port:	4 RS-232 full duplex
Digital I/O:	6 time stamped ports

#### **General:**

Dimensions:	Diameter: 5.5 cm, Length: 60 cm
Weight:	0.85 kg
Battery:	4.8 V internal
Operating temperature range:	-40 °C to 40 °C

### ***GDD TxII IP Transmitter***

Input voltage:	120V / 60 Hz or 240V / 50Hz (optional)
Output power:	3.6 kW maximum
Output voltage:	150 to 2200 V
Output current:	5 mA to 10 A
Time domain:	1, 2, 4, 8 second on/off cycle
Operating temp. range:	-40 °C to +65 °C
Display:	Digital LCD read to 0.001 A
Dimensions:	34 x 21 x 39 cm
Weight:	20 kg

## ***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-3DIP Method***

Three dimensional IP surveys are designed to take advantage of recent advances in 3D inversion techniques. Unlike conventional 2DIP, the electrode arrays in 3DIP are not restricted to an in-line geometry. This means that data can be collected from a large variety of azimuths simultaneously leading to a highly sampled dataset containing more information about the Earth's physical properties. In an ideal world, a 3DIP survey would consist of randomly located current injections and receiver dipoles with random azimuths. Unfortunately, logistical considerations usually prohibit a completely randomized approach.

The Volterra-3DIP distributed acquisition system is based on state-of-the-art 4-channel, full-waveform, 32-bit Volterra acquisition units. The system is highly flexible and can utilize any number of Volterra units. The Volterra-3DIP system's untethered, distributed design, eliminates

the need for specialized receiver cables and a centralized receiver control station. The dipoles can be in any orientation, can have varying lengths, and completely avoid inaccessible areas if necessary.

A typical Volterra-3DIP configuration establishes alternating current and receiver lines in sets of 5, but can be customized based on the project. The current lines are located on adjacent lines to the receiver line and current injections are performed sequentially at fixed increments (25 m, 50 m, 100 m, 200 m) along each current line. By injecting current at multiple locations along each current line, the data acquisition rates are significantly improved over conventional surveys. Customized receiver arrays are utilized to provide greater cross-line focus for a better azimuthal distribution of the data. Cross-dipoles are frequently used to maximize signal coupling and improve the surface resolution.

## ***Appendix D: References***

Windfall Hills Website

[www.canarc.net/projects/windfall-hills](http://www.canarc.net/projects/windfall-hills)

ARIS Geochemical Report, 2011

<http://aris.empr.gov.bc.ca/ArisReports/32522.PDF>

**Appendix C**  
**Interpretation Report**

By SJ Geophysics

November 18, 2016

**MEMORANDUM**

Date: November 18, 2016  
From: Trisha Roberson  
To: Garry Biles  
CC: Shawn Rastad

**SUBJECT: Interpretation of Volterra-3DIP survey at Windfall Hills, BC**

SJ Geophysics conducted a Volterra 3D Induced Polarization (3DIP) survey covering a portion of Canarc Resources Corp.'s Windfall Hills project. This Volterra-3DIP project was intended to better outline geophysical anomalies on the property in search of mineralization. The primary exploration targets are disseminated gold ore bodies. More specifically, the targets are low sulfidation epithermal gold deposits, and the gold mineralization is associated with quartz stockworks and alteration zones of silica, pyrite, potassium feldspar, sericite, and clay (Windfall Hills website). The area is covered by glacial till that ranges from less than one metre to tens of metres thick (ARIS 32522).

This memo will focus strictly on the geophysical results and will not present a detailed interpretation incorporating known geology at this time.

The survey proceeded in two parts. First, a 3.84 km<sup>2</sup> area was surveyed with a larger survey spacing. Then a smaller infill grid was completed for greater detail in an area with promising initial geophysical results. The parameters for the initial large grid consisted of currents injected at 100 m intervals with ~112 m dipoles configured in a diamond pattern on 200 m spaced lines. The infill grid had current injections at 50 m intervals with ~56 m dipoles on 100 m spaced lines. The grids are shown in Figure 1. (See Logistic Report Prepared for Canarc Resource Corp., Roberson, November 2016 for more details.) The geophysical data gathered was inverted utilizing the UBC-GIF inversion codes to develop models of the resistivity and chargeability properties of the subsurface.



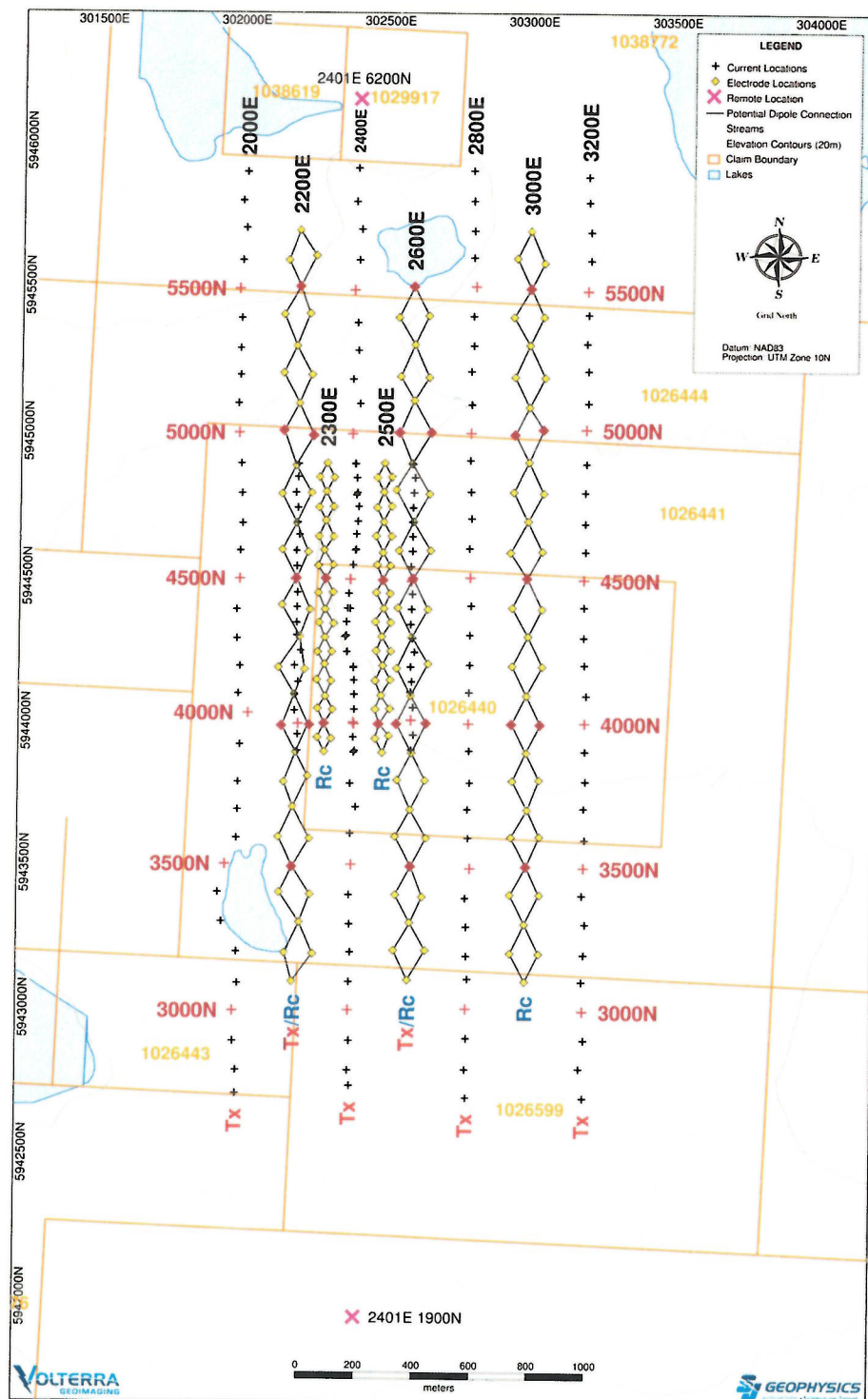


Figure 1: Grid map of the Volterra-3DIP survey on the Windfall Hills Project. The black lines and plus symbols indicate the grid which was used to collect the geophysical data.

## About the Inversion Models

The chargeability model appears to indicate a depth of investigation around 350 m below surface, where the model begins to smooth out and lose resolution. The resistivity model begins to smooth out around 200 m below surface, especially when viewed from the resistivity plan maps resulting from the Volterra-3DIP survey (provided to Canarc). However, the depth of the model resolution is likely deeper than that, and the smoothness corresponds to a lithological change into a layer with moderate resistivity. Indeed, the resistivity model tells us that, at depth, the ground is more resistive to the north and less resistive to the south.

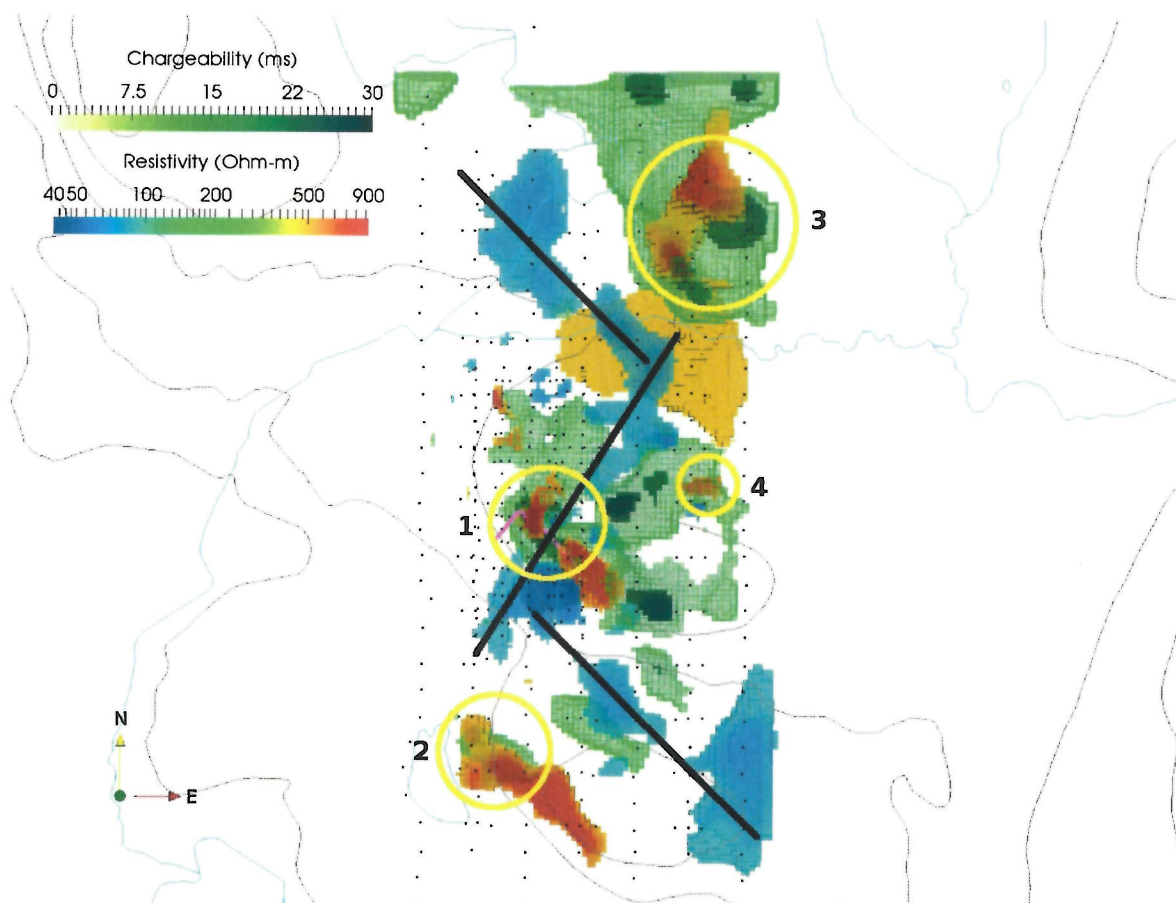


Figure 2: A plan map of the 3D models. Yellow circles indicate the areas of interest from the 2016 Volterra-3DIP survey over Windfall Hills. White dots indicate the survey grid. The black lines trace the low resistivity trend which may map out structural controls on the mineralization. High resistivity (red-yellow) is contoured above 450 Ohm-m, low resistivity (blue) is contoured below 75 Ohm-m, high chargeability (solid dark green) is contoured above 25 ms, and moderate chargeability (green wireframe) is contoured above 20 ms.

It should also be noted that the edges of the model will have anomalies that are suspect. The model is not as delineated around the edges due to lack of data to constrain the inversion. Thus, the model results around the edges are not going to be as accurate as in the middle of the grid where there is more data available. For this reason, anomalies around the edge should be treated with a more critical analysis and may require further exploration work.

The background resistivity value is about 350 Ohm-m and the background chargeability value is about 15 ms. Generally, we are looking for anomalies that are significantly more or less than the background.

## Basic Structures from Geophysical Results

The blue low resistivity values in Figure 2 reveal two southeast trending linear anomalies which are crosscut in the middle of the survey grid by a north-northeast trending linear anomaly. These low resistivity values may indicate structural controls on this region.

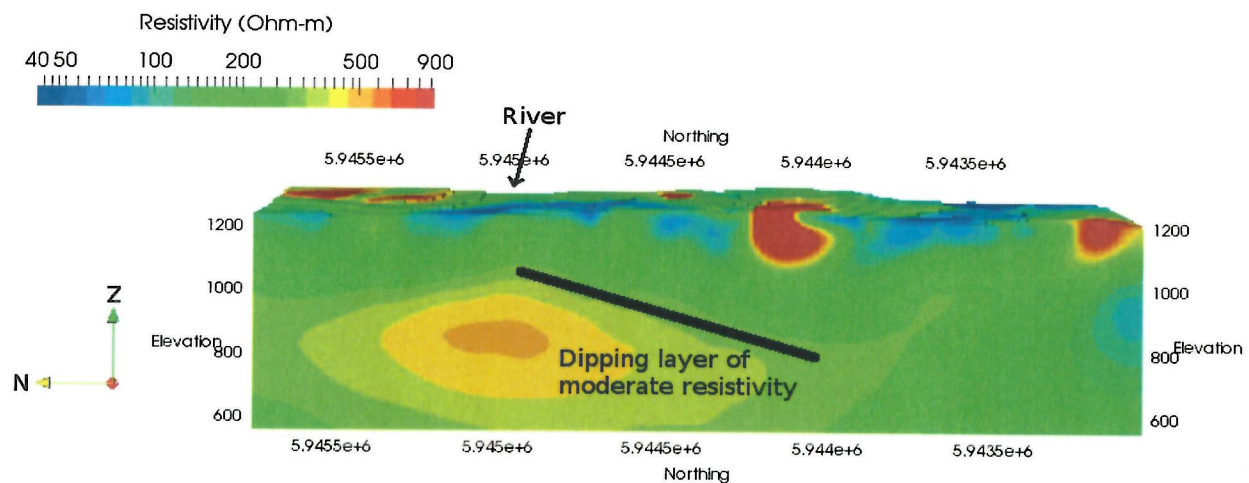


Figure 3: Simplified geology shown in geophysical results of the Volterra-3DIP survey on the Windfall Hills project. Bottom of model at 510 m elevation above sea level. Looking east.

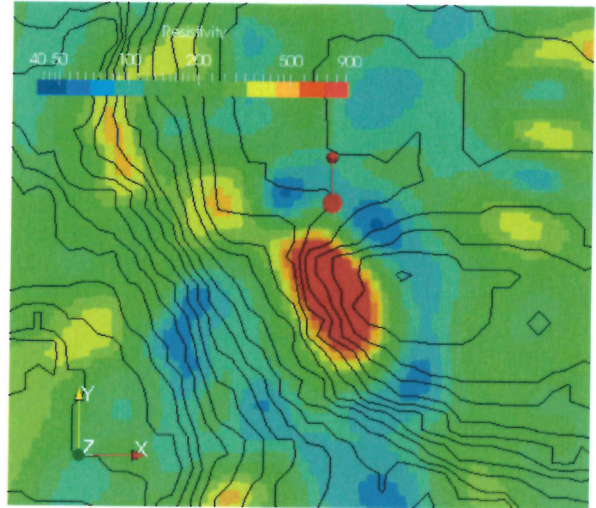
Figure 3 shows a dipping layer of moderate resistivity. The layer begins about 200 m below the surface and dips to the south at about  $15^\circ$  starting below the river. While the model seems to smooth out at this level, there should still be model resolution, so it is possible that the smoothness is a reflection of a change in rock type.



## Areas of Interest

After examination of the model results for resistivity and chargeability, four areas of interest are identified. These areas are circled in Figure 2. These areas are selected based on coincident high resistivity and high chargeability, indicating a geophysical anomaly with a promising signature. The numbering is based on the confidence in the results and how interesting the anomaly is.

Zone 1 is under the infill section of the grid where more detailed data was taken. A region of high resistivity is surrounded by a low resistivity ring as seen in Figure 4. A region of high chargeability occurs below this circular resistivity feature. This intersection of structure of high and low resistivity makes the area geophysically interesting. The geophysical results are confirmed by previous work done on the property. Shallow boreholes were drilled in 2014 close to this anomaly and showed mineralization (Report on the 2014 Drill Program on the Windfall Hills Property, Dunn and Moors, November 2014). However, the holes missed the major high resistivity anomaly identified in the Volterra-3DIP survey as shown in Figure 5.



*Figure 4: This plan map view of the Zone 1 area of interest shows a highly structured ring formation in the resistivity high (red) surrounded by a resistivity low (blue).*

Zone 2 in the southwest corner of the grid shows signs of similar structural control as Zone 1, but does not demonstrate the same ringed structure. Figure 6 shows the Zone 2 geophysical anomaly in 3D view. The high resistivity dips (along with topography) to the northwest until it intersects an area of high chargeability. While resistivity anomaly extends over a larger area, the initial investigation should focus on the region with overlapping high chargeability.

High resistivity values tend to occur on the southwest edge of the elevation contours as seen in Figure 7. In fact, in both Zones 1 and 2 have a similar pattern. The red high-resistivity anomaly occurs on the southwest side of a hill. Neither have a high chargeability body on the

hillside, but both high resistivity anomalies extend to the northwest and those extensions are coincident with a high chargeability anomaly. This lends support to the idea that Zone 1 and 2 have been formed under similar circumstances and that this could lead to similar mineralization.

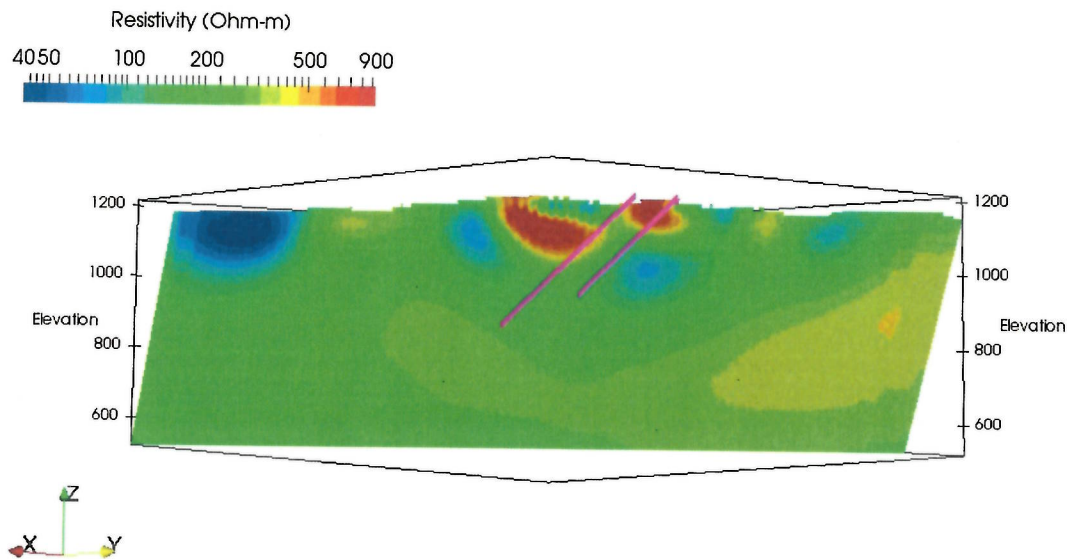


Figure 5: Traces of the 2014 drillholes WH-14-02 and WH-14-03 with a section map of the resistivity model from the 2016 Volterra-3DIP survey. The drillholes missed the ring-like resistivity anomaly. Looking southwest.

Looking at the elevation contours, one also notes the glacial retreat to the northeast. If the glaciers scraped off the edges of the elevation highs and deposited the sediment on the northeast side, then the geochemistry results could show high values offset from the anomalous materials due to the glacial till deposit.

Zone 3 to the northeast highlights a high resistivity anomaly coincident with a moderate-high chargeability anomaly. The area north of the river seems to have different structural controls than to the south. This is indicated by the lack of

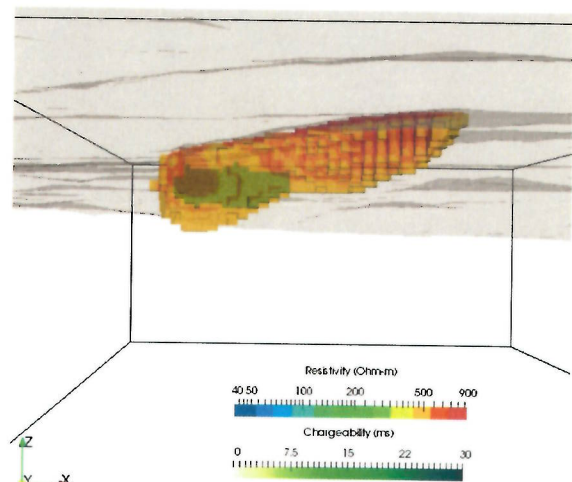
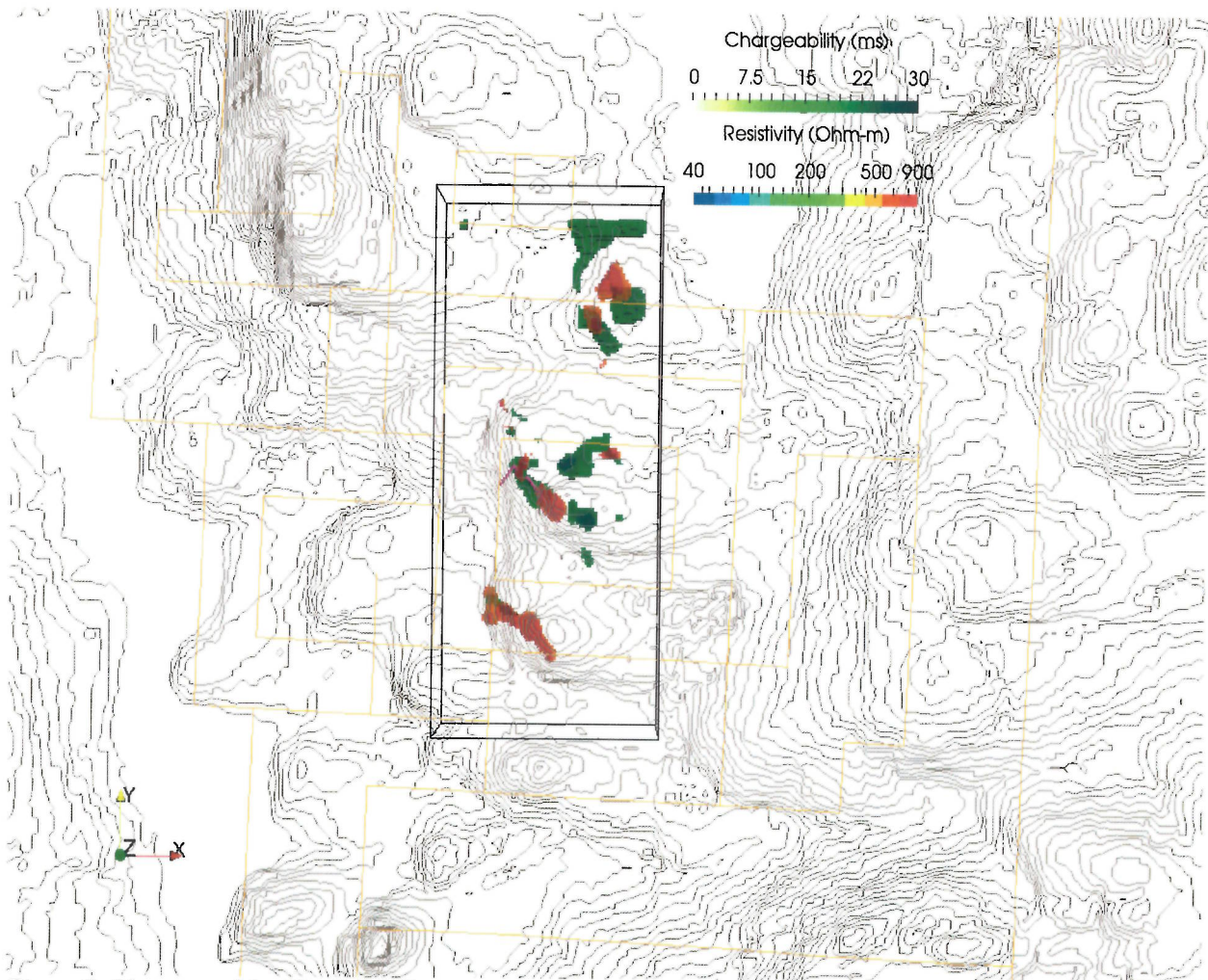


Figure 6: 3D view of Zone 2 anomaly looking north from below the ground. It can be seen that the high resistivity (threshold at 450 Ohm-m, red-orange) dips down along with the topography. A high chargeability anomaly (threshold at 18 ms, green) intersects the high resistivity to the northwest.



strong low-resistivity banding as well as the dipping layer discussed earlier. Furthermore, looking again at Figure 7, it can be seen that Zone 3, like Zones 1 and 2, lines up with an elevation high. However, while Zones 1 and 2 had a resistivity high at the southwest side of the hill not associated directly with a chargeability anomaly, Zone 3 has two coincident high resistivity and chargeability regions. To the north, there is a chargeability high which is open to the north because it is cut off by the edge of the inversion model.



*Figure 7: Plan map of the Windfall Hills project. Resistivity is thresholded above 550 Ohm-m (red) and chargeability is thresholded above 19 ms (green). The black lines outline the model. The 2014 drillholes are shown in pink and the Canarc claim boundaries are shown in orange. Notice that the red resistivity highs tend to occur on the southwest sides of the elevation contours. The map is zoomed out to show other nearby elevation highs that might also have corresponding geophysical patterns and could be areas worthy of future exploration.*

Zone 4 to the east represents an area of cautious interest. This resistivity high is not associated with a chargeability high as in the case with the other zones, but there is a moderate- high chargeability feature. Moreover, the data collected in this area had several anomalous values. After investigation, no survey error could be found that would have caused these strange data, so they were left in. However, a separate inversion was carried out without those data, and the high resistivity anomaly disappeared. The result remains inconclusive. Evidence supporting the reality of the high resistivity zone is the occurrence of soil sampling mineralization on the surface.

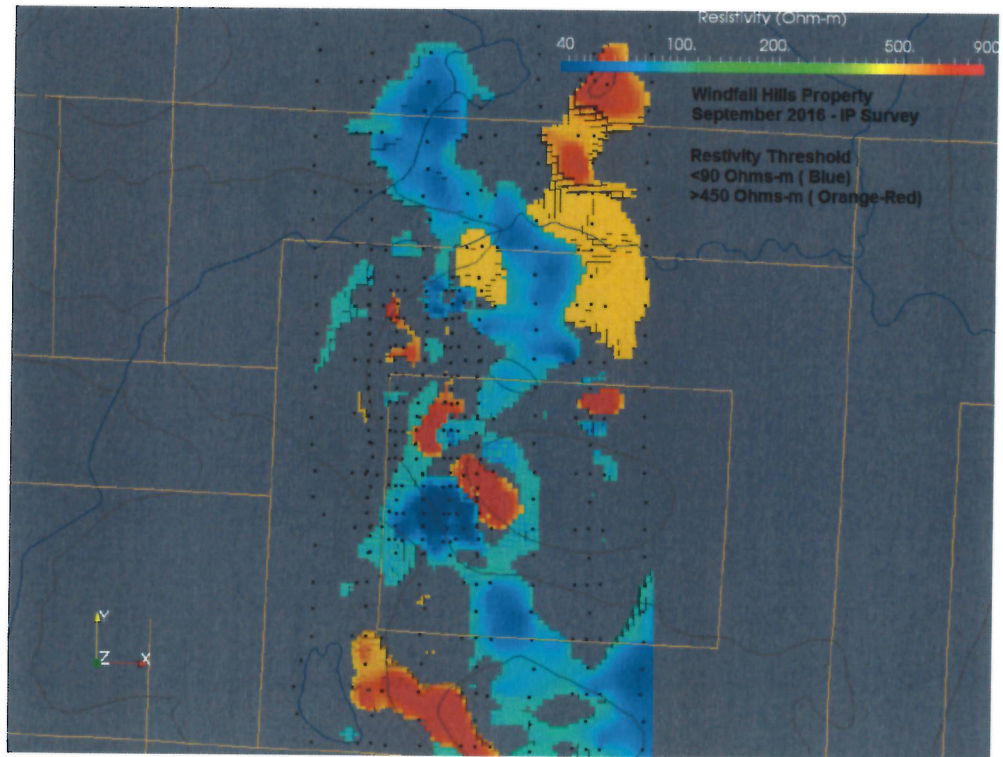
## **Further Exploration**

To better resolve the zones of interest, further geophysical work should be considered. Zone 2 to the south would benefit from another Volterra-3DIP survey. A survey with smaller line and station spacing, comparable to the infill grid, would provide detail on this southern anomaly.

Further exploration to the east/northeast would serve to better image Zones 3 and 4. At this time, high resistivity and chargeability in Zone 3 extends beyond the survey grid, so these features are not properly imaged to the north and east due to edge effects (described earlier). At the very northern edge of the grid, the high chargeability has suspicious line bias (i.e. the high resistivity blobs which occur at the end of the lines). Zone 4, too, would benefit from an extension of the survey to the east as it would add more data to confirm the existence of the high resistivity blob.

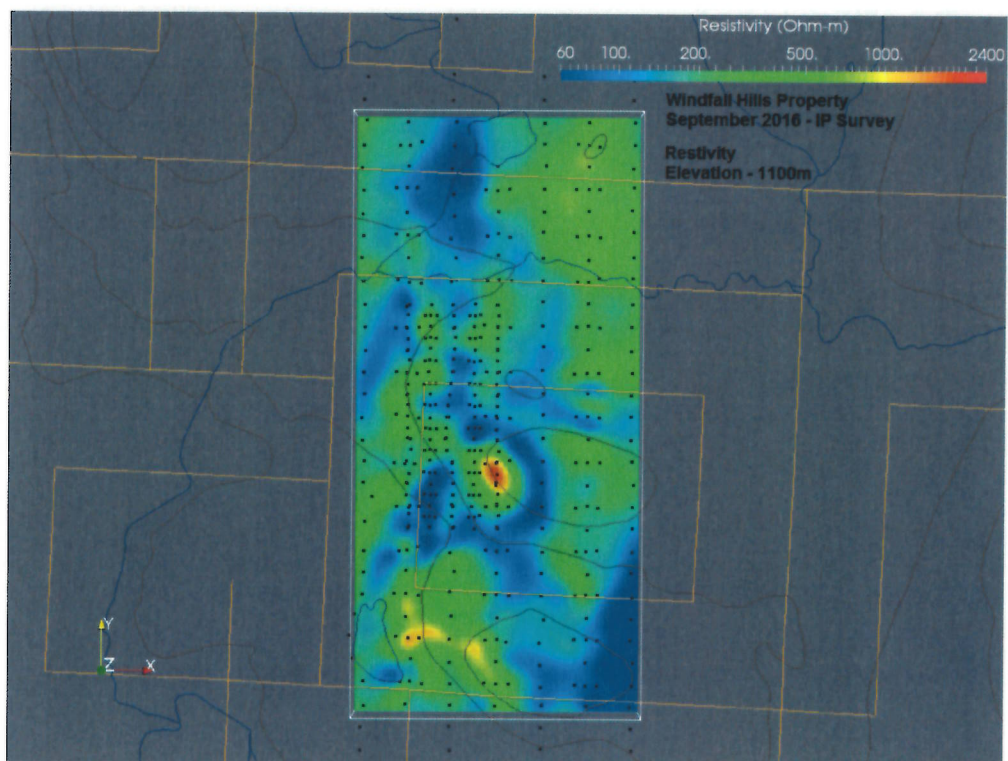
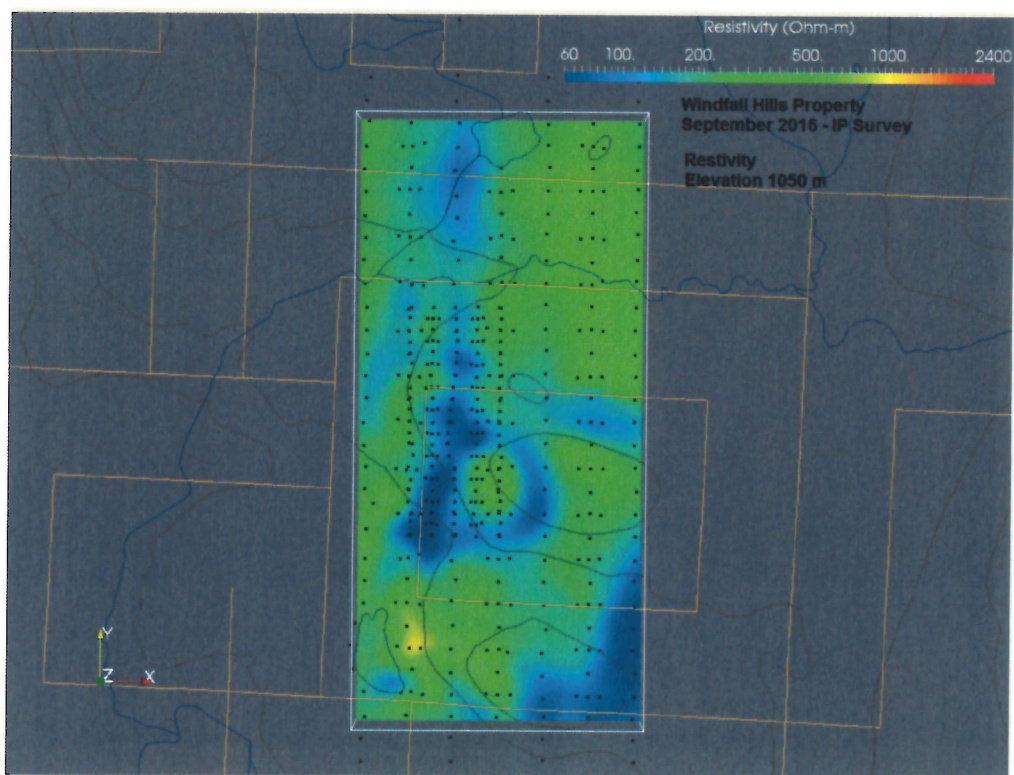
Finally, because topography highs tend to be associated with geophysical anomalies, it may be worthwhile to do exploration work on other topography highs on the claim.

**Windfall Hills: Resistivity Threshold <90 Ohms and > 450 Ohms**

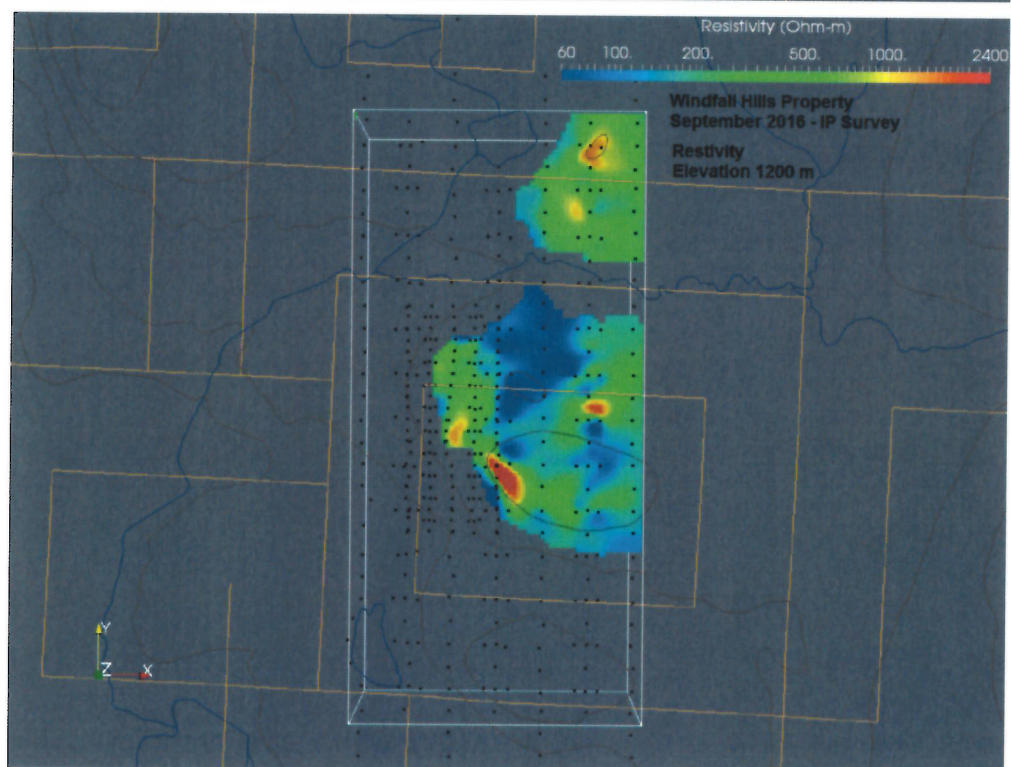
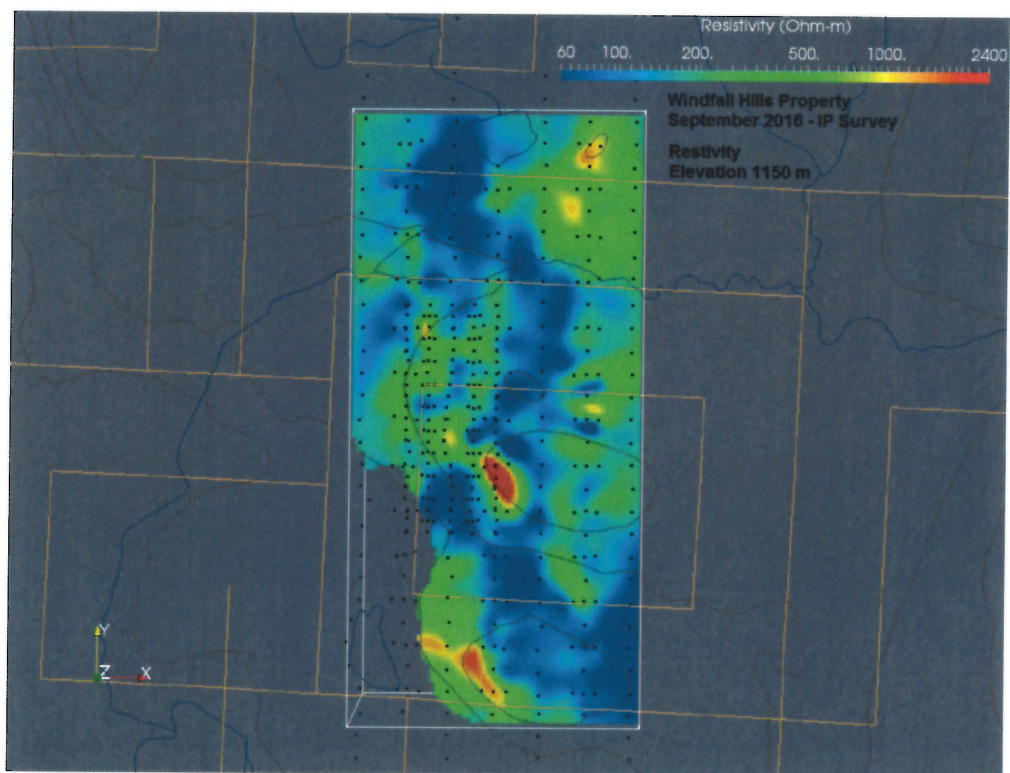




## Windfall Hills: Resistivity Maps at 1050 m and 1100 m elevation

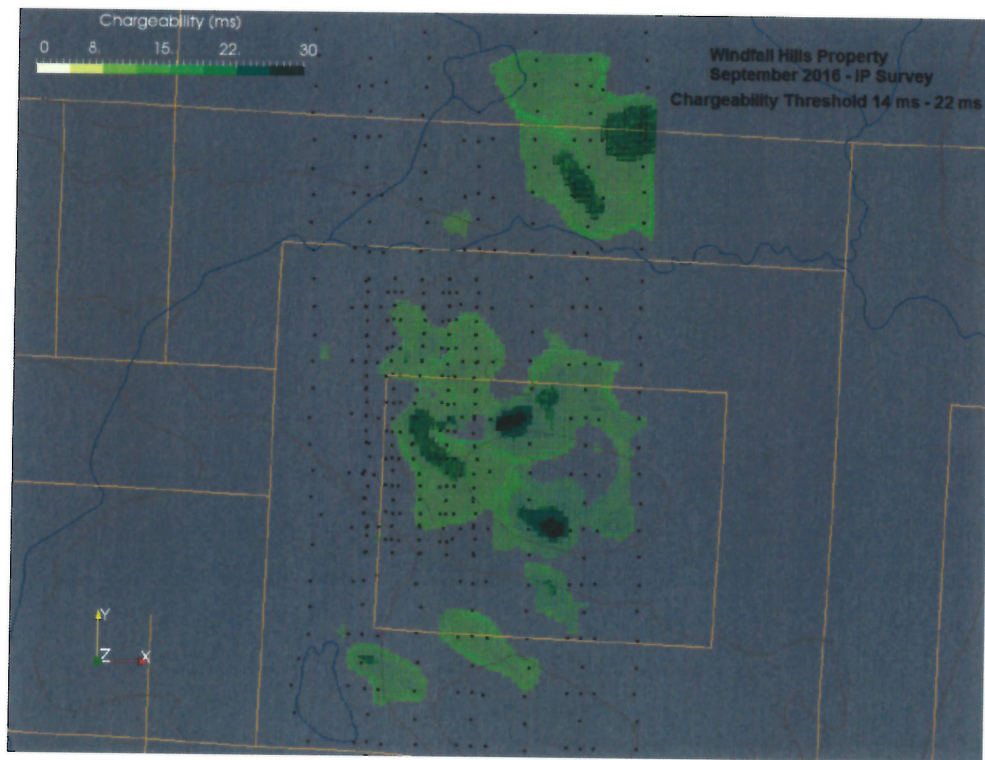


## Windfall Hills: Resistivity Maps at 1150 m and 1200 m elevation

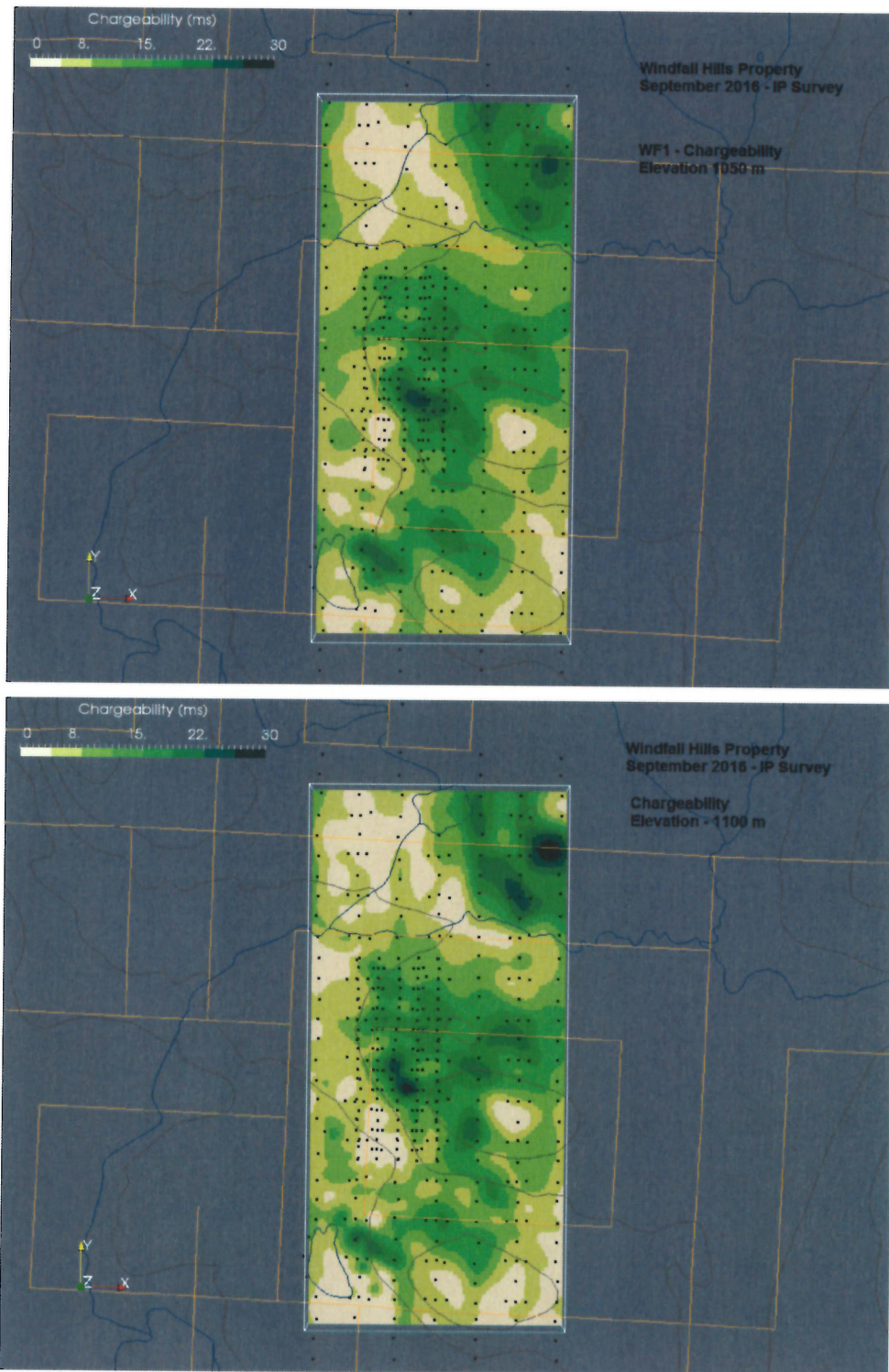




# Windfall Hills: Chargeability Threshold 14 ms – 22ms

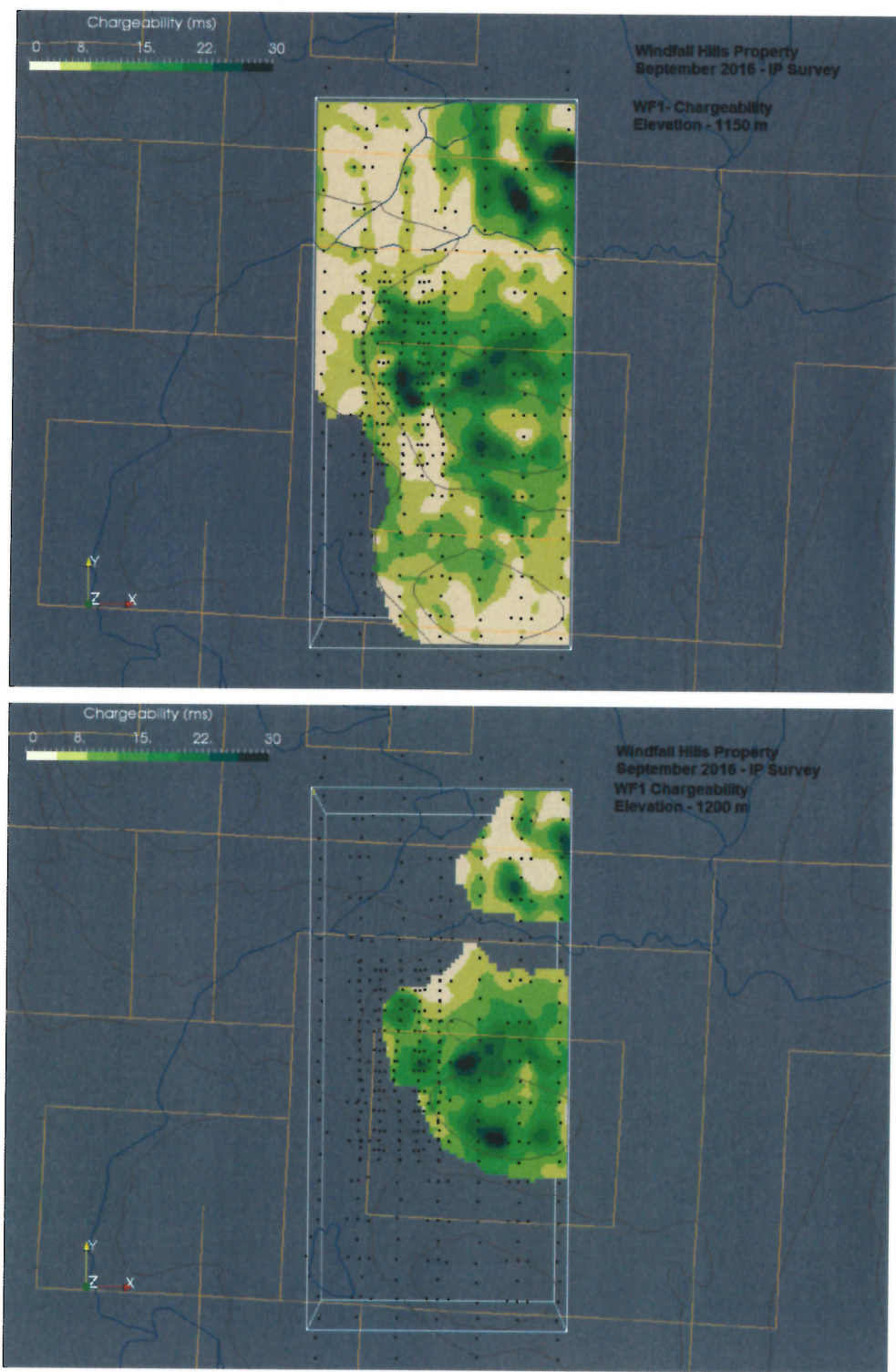


## Windfall Hills: Chargeability Maps 1050 m and 1100 m Elevation

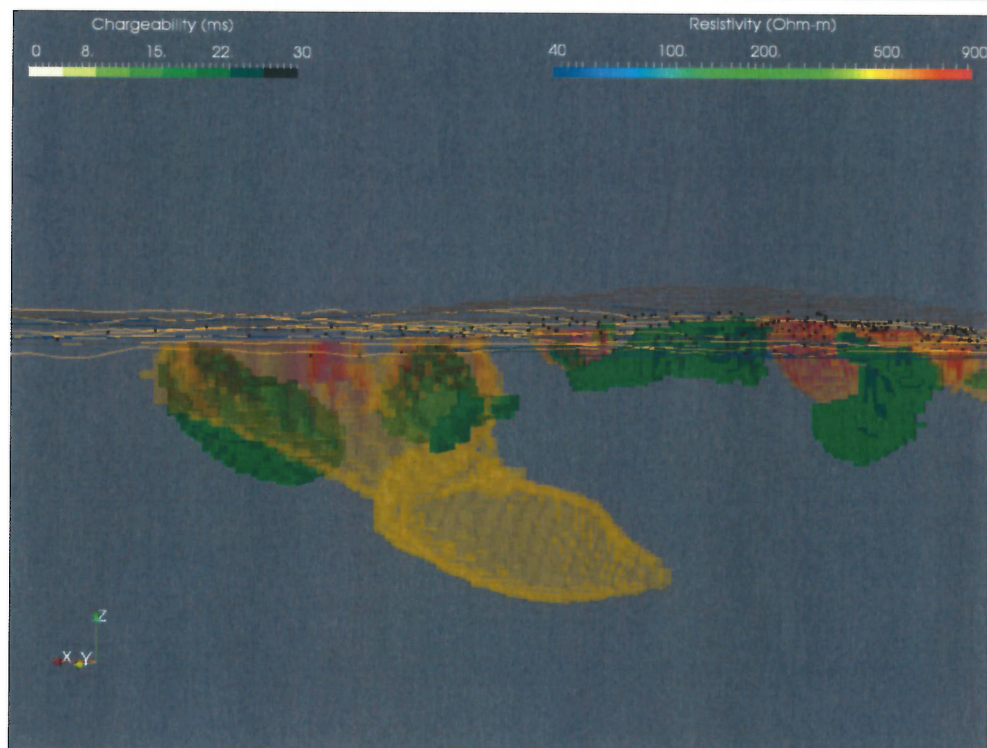
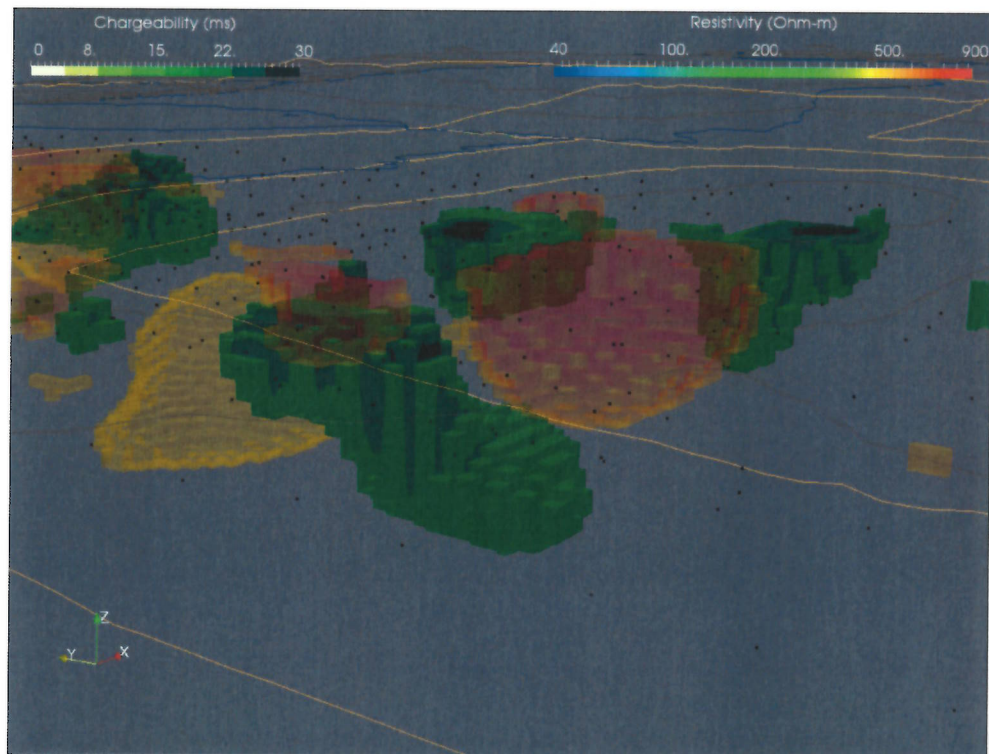




**Windfall Hills: Chargeability Maps 1150 m and 1200 m Elevation**

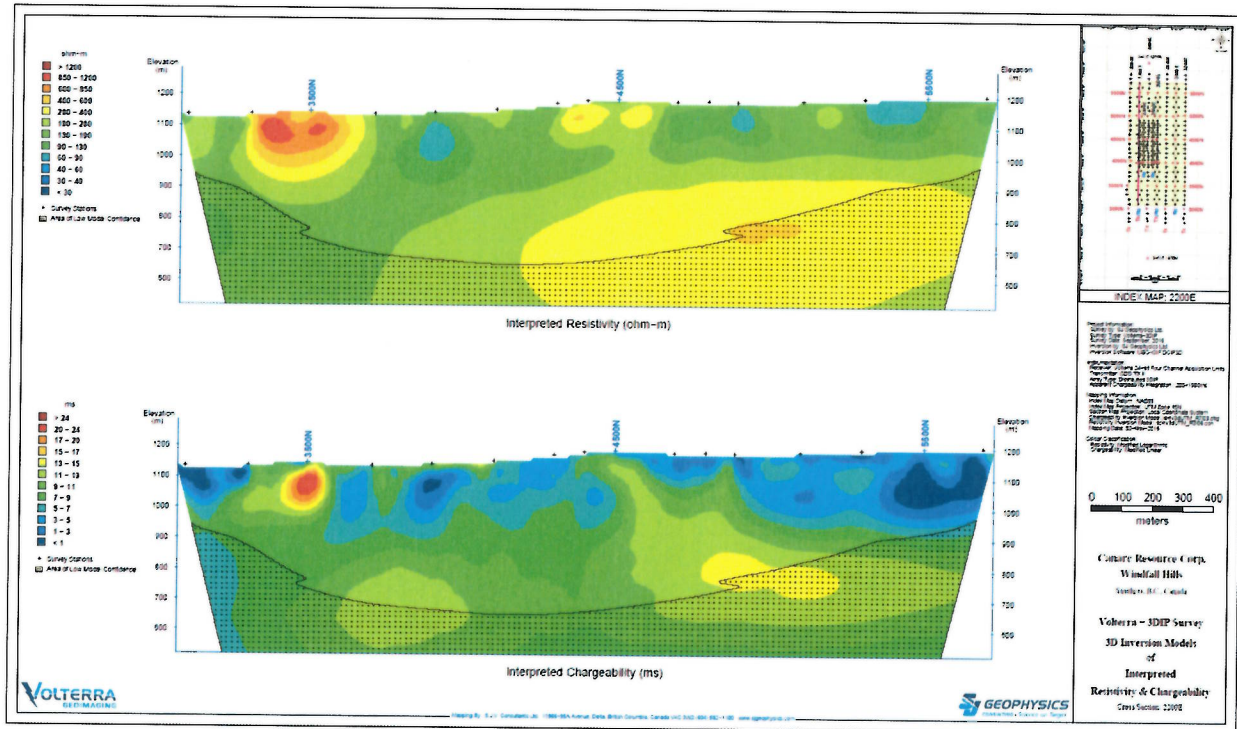
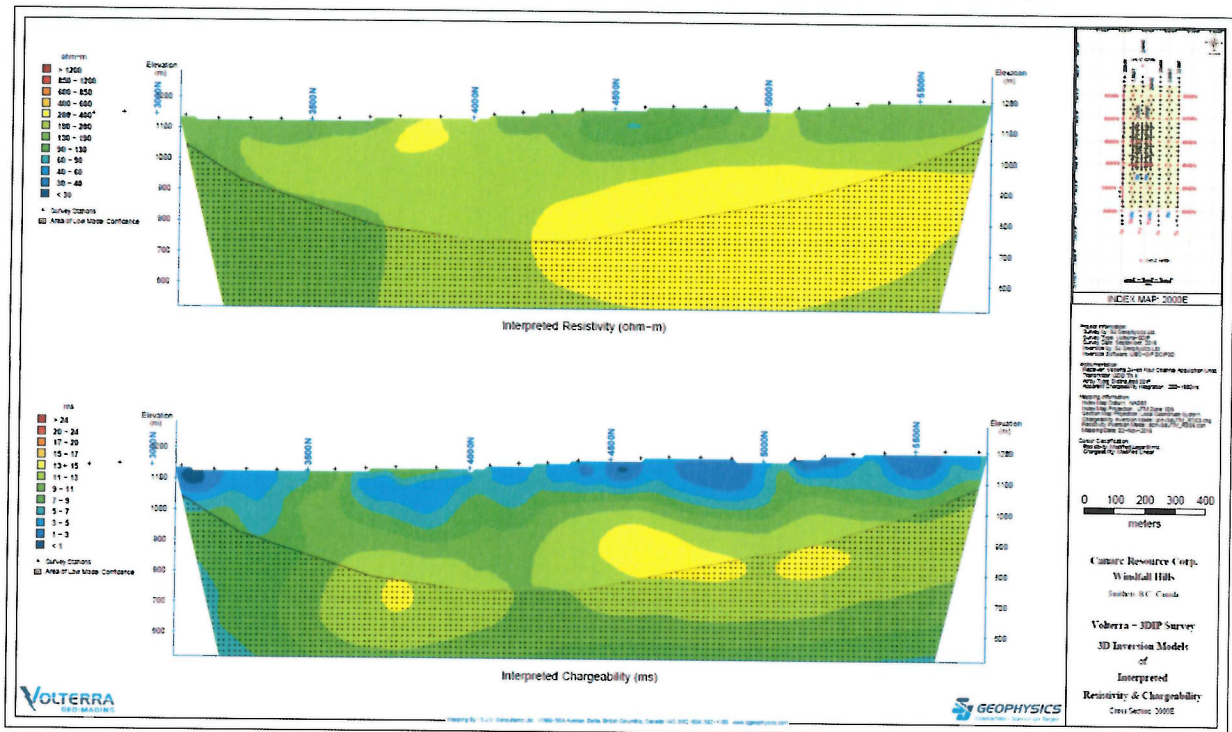


## Windfall Hills: 3D Images – Chargeability and Resistivity

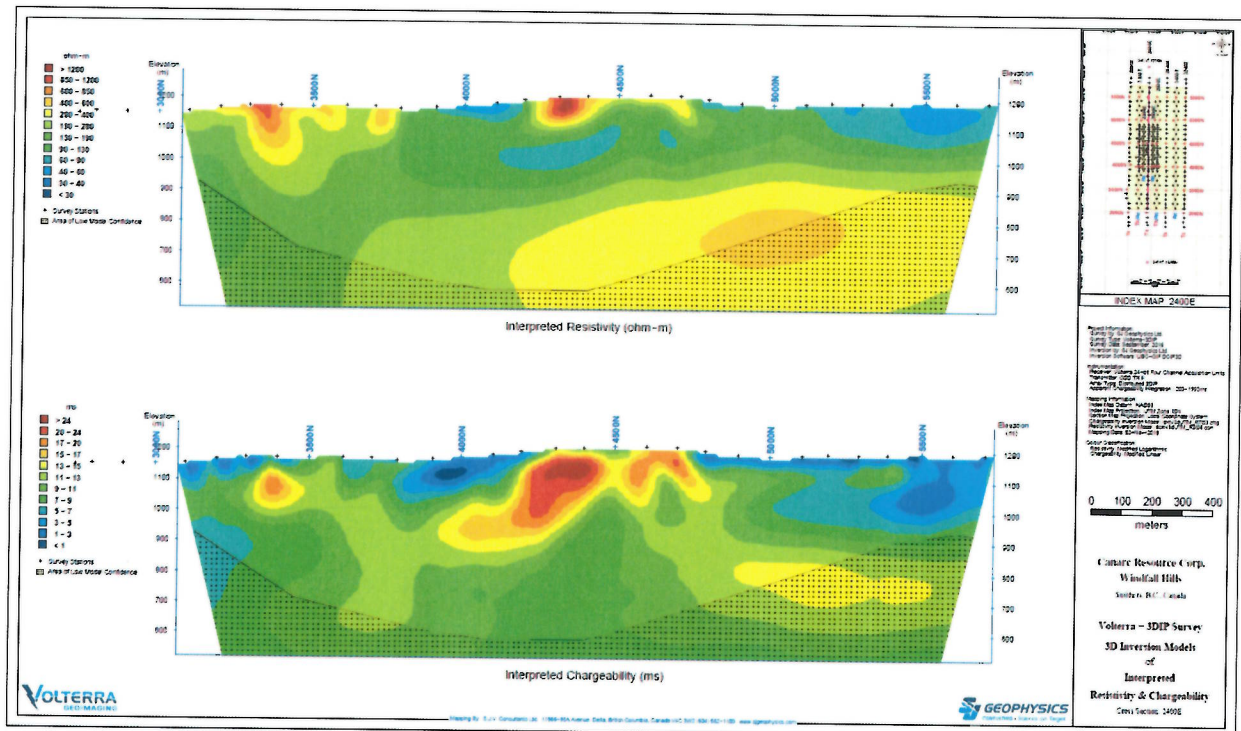
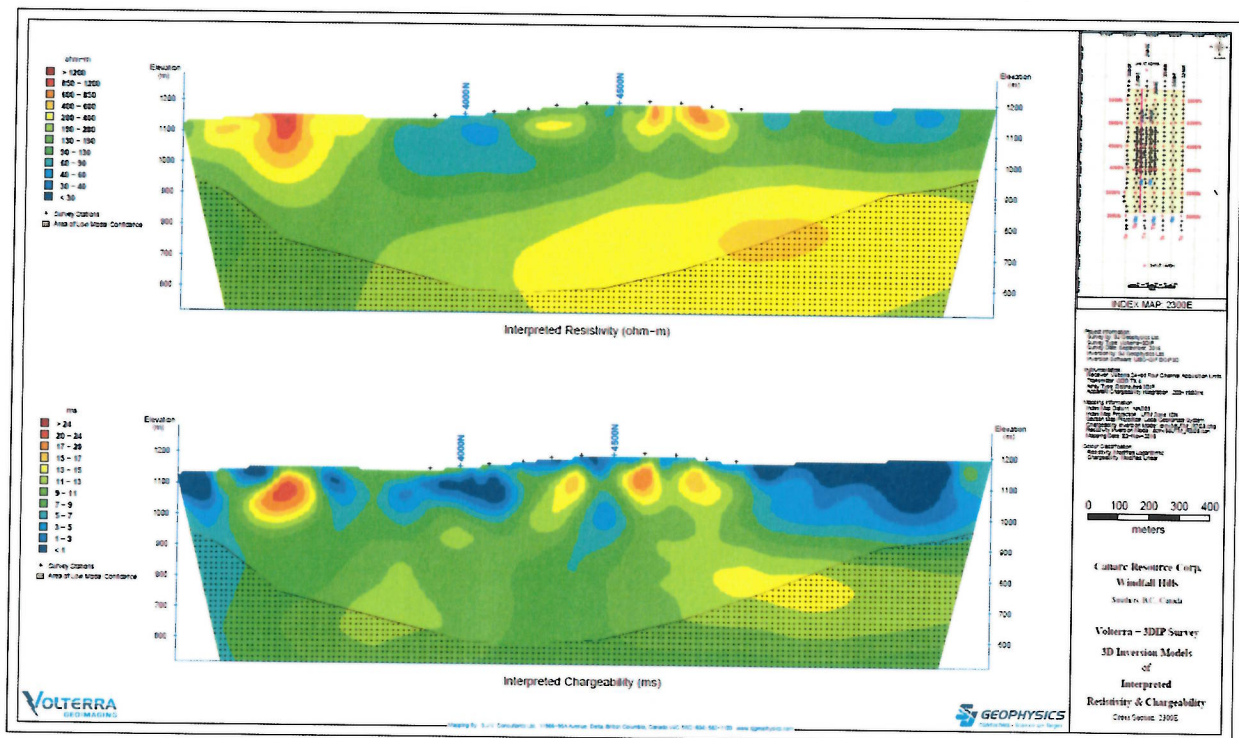




## Windfall Hills: Cross Section 2000E & 2200 E – Chargeability & Resistivity

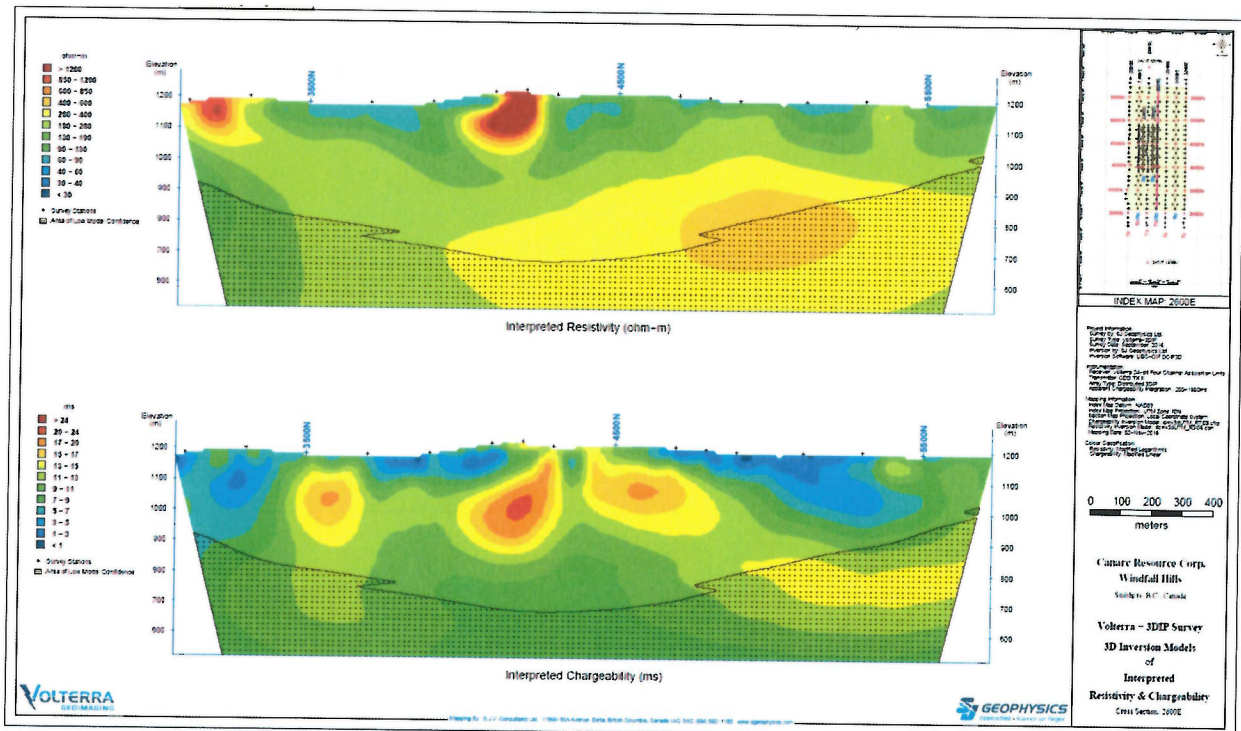
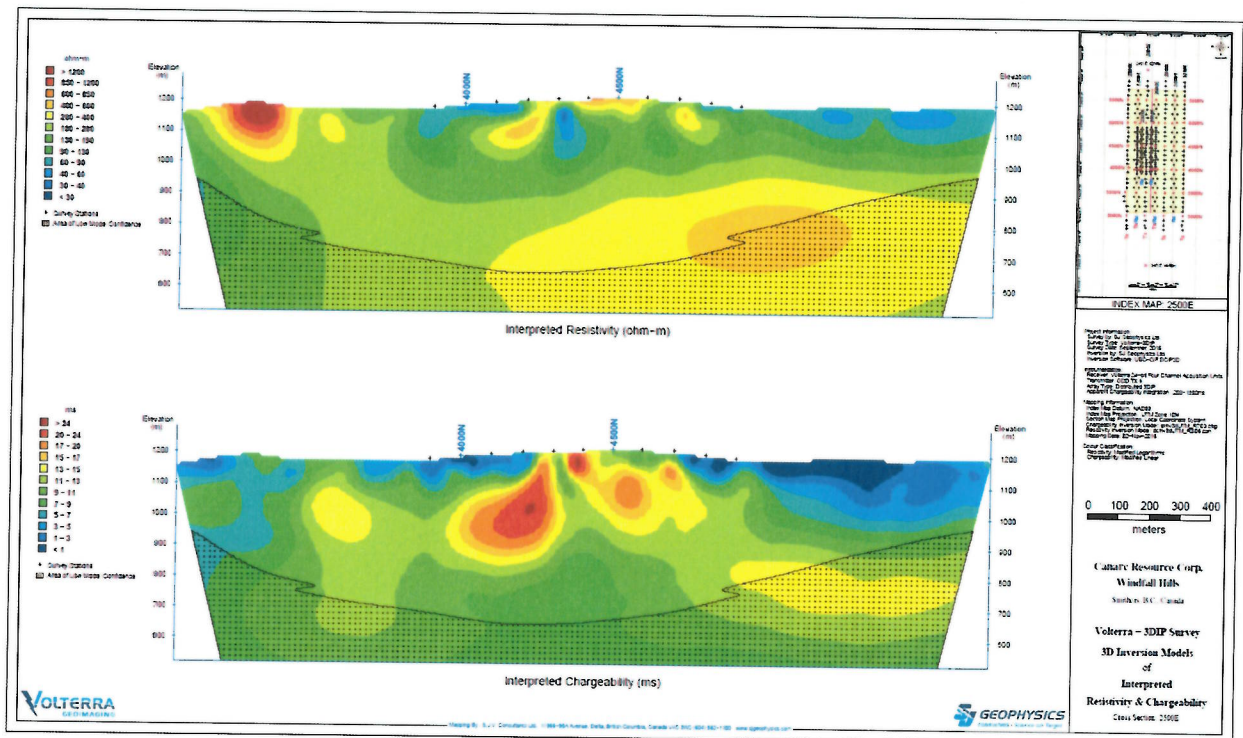


## Windfall Hills: Cross Section 2300E & 2400 E – Chargeability & Resistivity

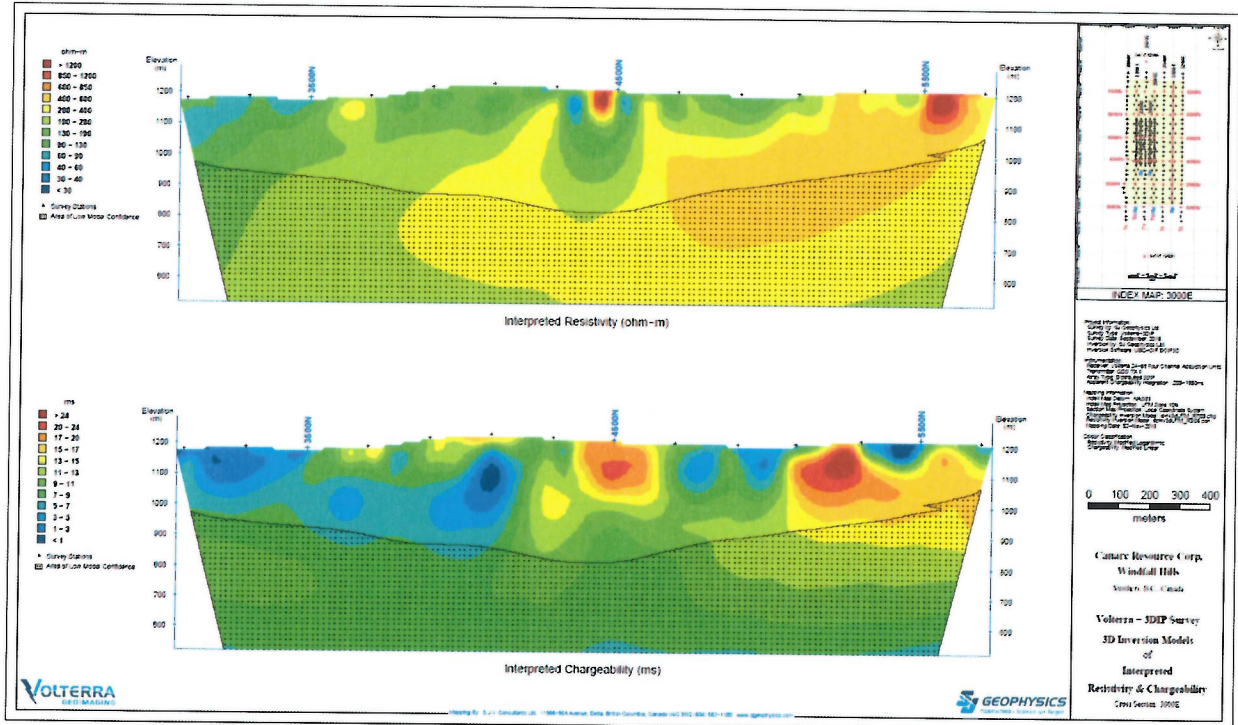
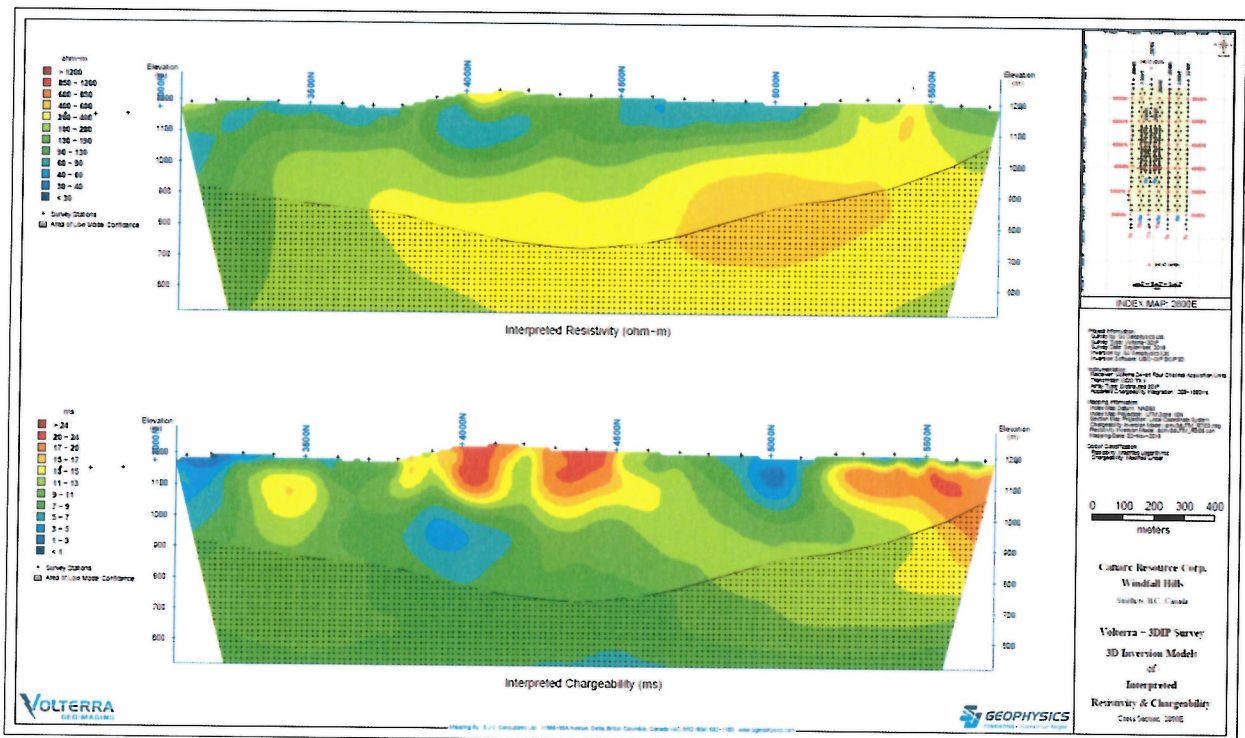




# Windfall Hills: Cross Section 2500E & 2600 E – Chargeability & Resistivity

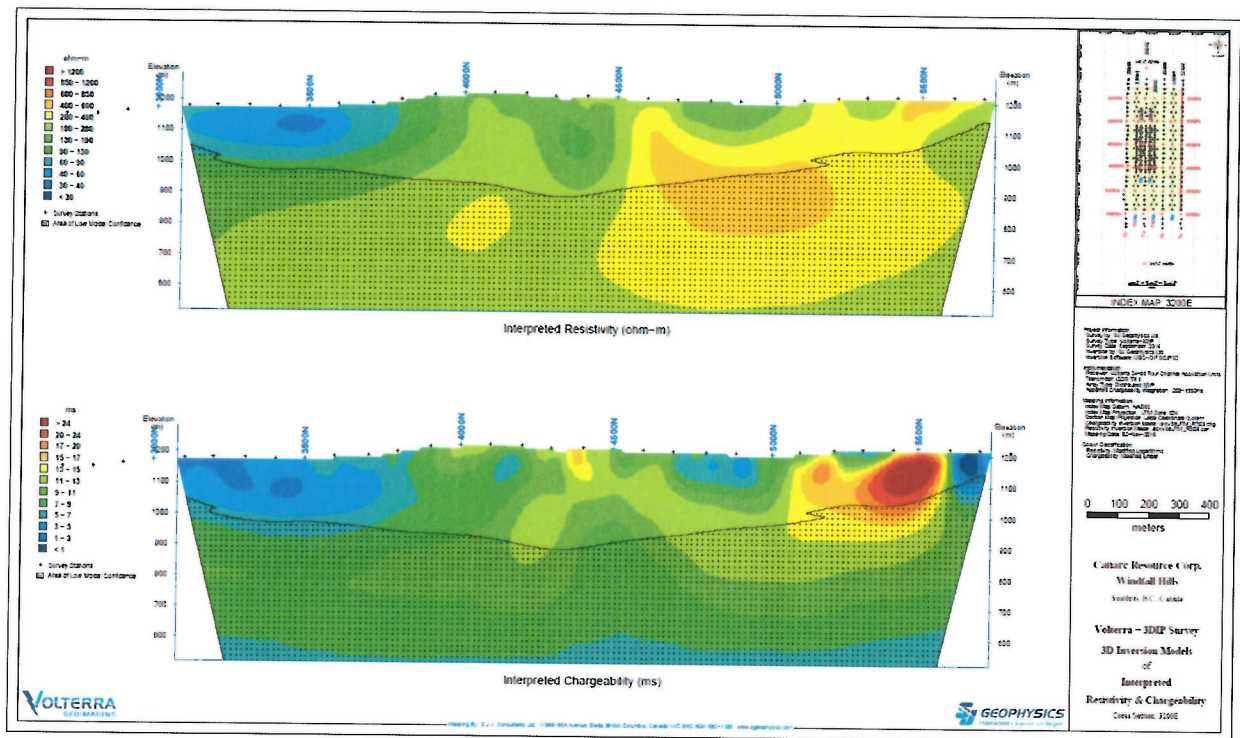


## Windfall Hills: Cross Section 2800E & 3000 E – Chargeability & Resistivity





## Windfall Hills: Cross Section 3200 E – Chargeability & Resistivity



## Appendix D

### Authors' Statements of Qualifications

I, Garry D Biles, Professional Engineer, President & Chief Operating Officer of Canarc Resource Corp, Suite 301-700 West Pender Street, Vancouver, BC, V6C 1G8 certify that:

1. I graduated from the Technical University of Nova Scotia in 1972 with a Bachelor of Engineering degree.
2. I am a registered Professional Engineer with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (Reg. #21703).
3. I have practiced continuously as a professional engineer for 42 years in senior management positions at numerous operating mines throughout Canada and Central America and in executive position with Canarc since 2007.
4. In my current position with Canarc, which I have occupied since 2008, my duties include responsibility and oversight for ongoing exploration work on the Windfall Hills property including the 2011 geochemical sampling program, the 2014 diamond drilling program and the recently completed Volterra-3DIP survey, which is the subject of this submission.
5. I have reviewed and discussed the results of this Volterra-3DIP survey and met with SJ Geophysics personnel for interpretation of the results and take responsibility for the accuracy and substance this report.
6. As of the date of this certificate, to the best of my knowledge, information and belief the material facts in this report accurately reflect the results obtained in the Volterra-3DIP Survey. The report contains all scientific and technical information that is required to be disclosed to make the report not misleading.
7. I am not independent of the issuer.

Signed: December 14, 2016



Garry Biles, P.Eng



## ***Statement of Qualifications***

***Syd (Sipke) Visser***

I, Syd J. Visser, of 5159 Station Road, the city of Surrey, Province of British Columbia, hereby certify that:

- 1) I am a graduate from the University of British Columbia, 1981, where I obtained a Bachelor of Science (Honours) degree in Geology and Geophysics.
- 2) I am a graduate from Haileybury School of Mines, 1971.
- 3) I have been engaged in mineral exploration since 1968 acquiring and interpreting various geophysical techniques, including Induced Polarization (IP).
- 4) I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
- 5) I have reviewed Trisha Roberson's (employee of S.J.V. Consultants Ltd.) memorandum "Interpretation of Volterra-3DIP survey at Windfall Hills, BC".

Signed by: \_\_\_\_\_

Syd Visser  
B.Sc. Geology/Geophysics, P.Geo.

Date: DECEMBER 19, 2016

## ***Statement of Qualifications***

### ***Trisha Roberson***

I, Trisha Roberson, of the city of Vancouver, Province of British Columbia, hereby certify that:

- 1) I graduated from the University of British Columbia in 2013 with a Bachelor of Science degree majoring in honours Physics and Philosophy.
- 2) I graduated from the California Institute of Technology in 2015 with a Master of Science in Geophysics.
- 3) I have been working full time in mineral and oil exploration since 2015.
- 4) I have no interest in Canarc Resources Corp. or in any property within the scope of this memorandum, nor do I expect to receive any.

Signed by: 

Trisha Roberson, M. Sc. (Geophysics)

Date: Dec 12 2016