

**Assessment Report:
High Resolution DC Resistivity Surveys**

Sunshine Creek Placer Lease
Tenure Holder: Hector Barrientos



Placer Lease: IW00413

Whitehorse Mining District



NTS: 115J/15

Latitude: 62° 47.27' N

Longitude: -138° 31.34' W



All Work Performed On: 21, August 2014
Date of Report: Dec 19, 2014
AUTHOR OF REPORT: Isaac Fage

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1 Introduction

The 2014 field program undertaken on Sunshine Creek consists of a High Resolution DC Resistivity survey to test the depth and quality of the overburden at Sunshine creek, a placer gold target located in the Dawson Range of the Yukon Territory, Canada.

The High Resolution DC Resistivity survey consists of two 249m long traverse crossing Sunshine Creek.

All work was undertaken by GroundTruth Exploration Inc.

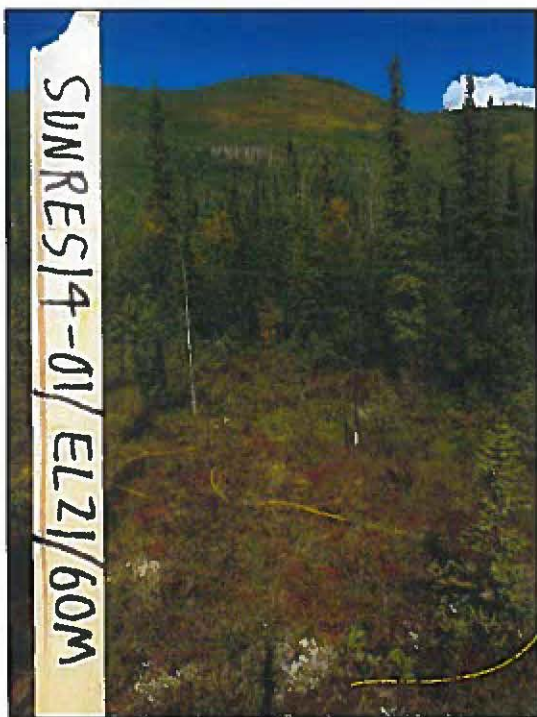
2 Summary

No work has been previously been reported on Sunshine Creek. There is, however, some evidence of old stripping of trees between electrodes 42 and 65 on SUNRES14-02.

Significant gold-in-soil anomalies have been discovered in the hills within the watershed of Sunshine Creek, which indicate a strong possibility for placer gold at this location.

3 Location and Access

The Sunshine Creek placer lease IW00413 is located on Sunshine Creek at the junction with Isaac Creek. It is 100km west of Pelly Crossing and 150km south of Dawson City. (figure 1)



It falls within the Whitehorse Mining District on NTS mapsheet 115/J15.

The property is accessed by helicopter from Dawson City.

4 Property Description

The Sunshine Creek placer lease is a 3 mile long Placer Lease

5 Physiography

The Sunshine Creek placer property is in an unglaciated, east flowing creek located in the Klondike Plateau region of Canada's Boreal Cordillera ecozone. Due to its location in Canada's discontinuous permafrost zone, permafrost is distributed unevenly throughout the property. The valley bottoms and northern slopes have thick

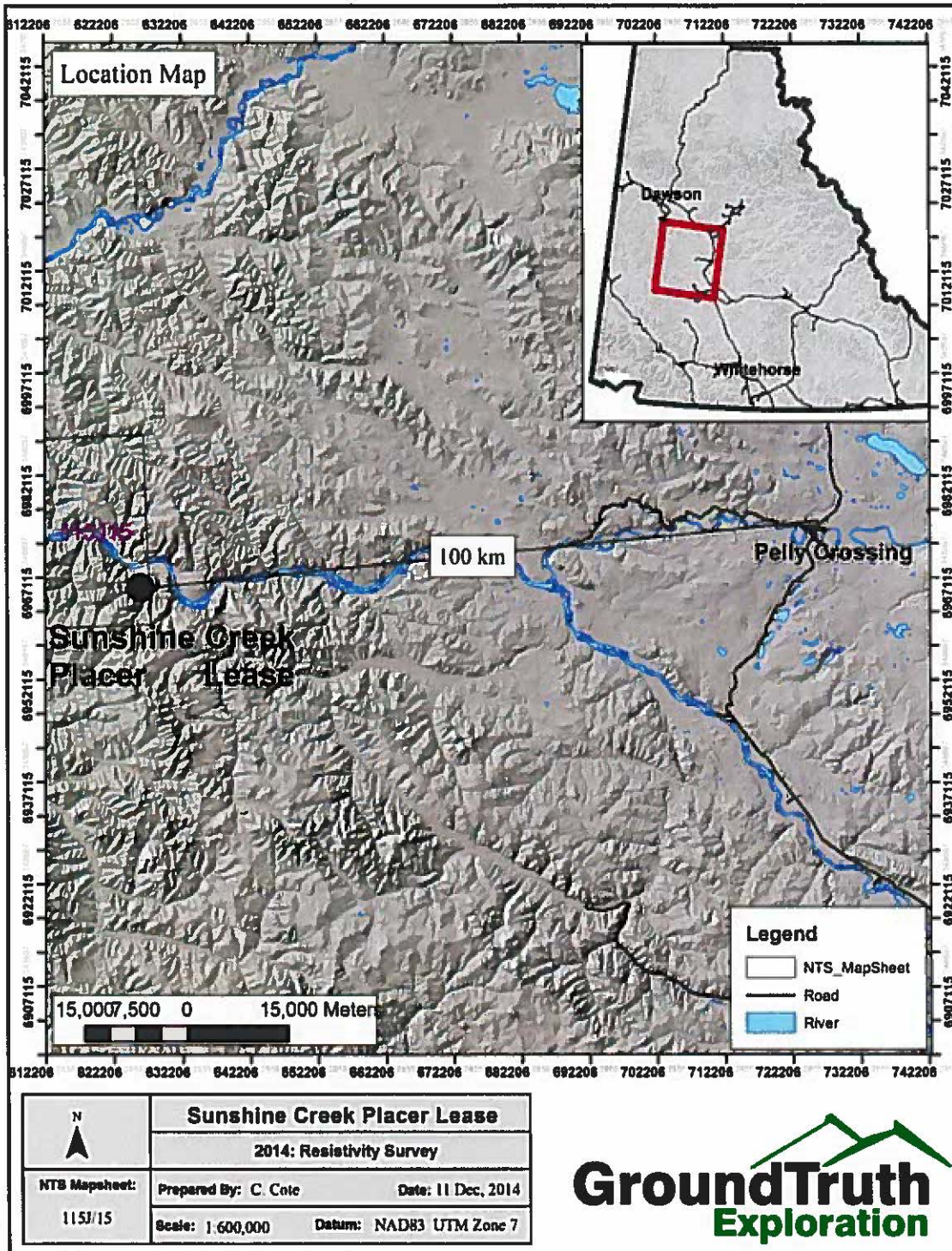
moss mats, black spruce, and alder thickets over ice rich permafrost, while southern slopes are generally more sparsely vegetated with ground leaf cover and white spruce, aspen and birch forests.

6 Climate

The interior intermontane plateau receive about 400 mm of annual precipitation. Snowfall accounts for 35 to 60% of all precipitation. Winters are long and cold, with January mean temperatures between -15°C and -27°C . Summers are warm but short, with July mean temperatures between 12°C and 15°C .

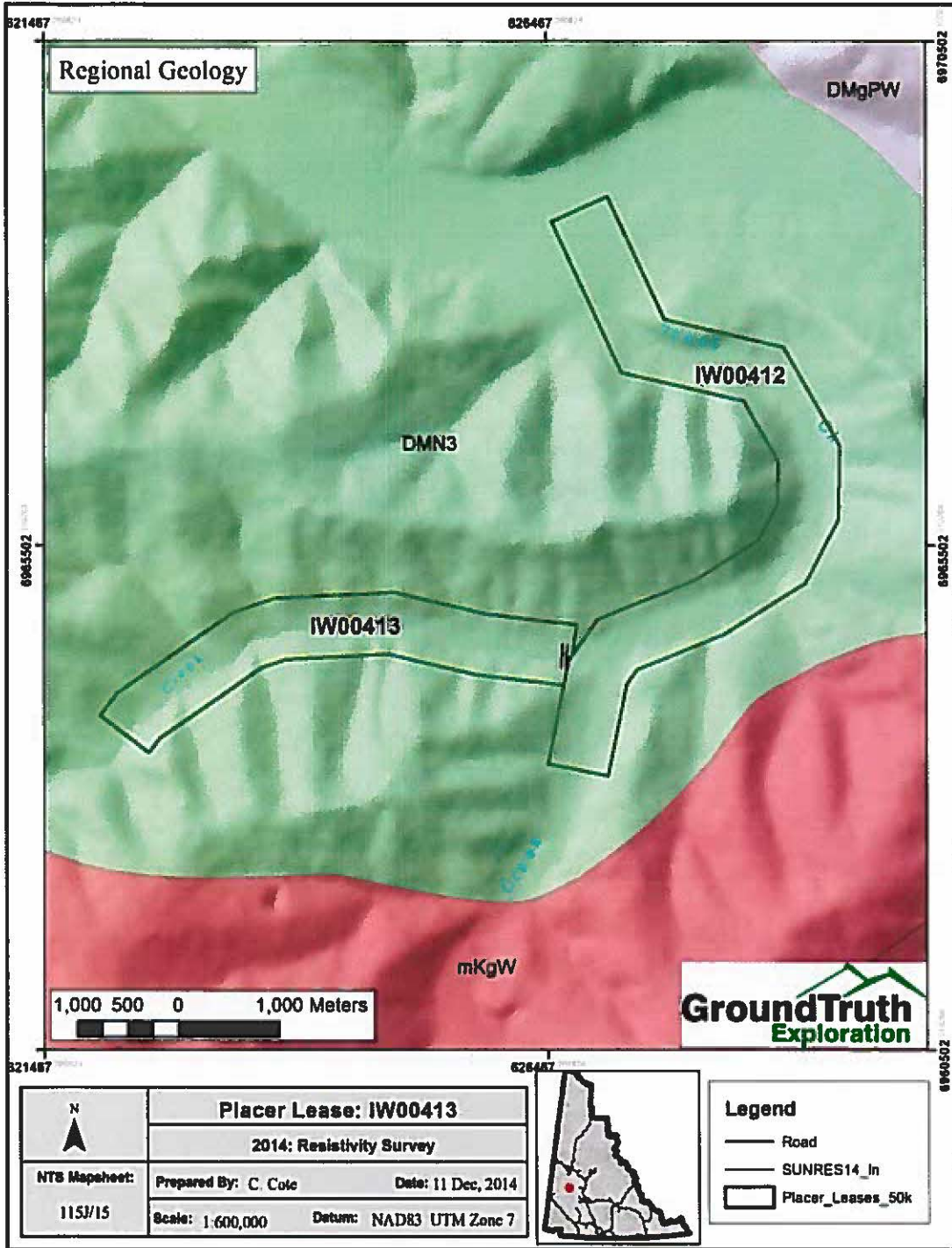
(http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_boreal_cordillera_ecozone.pdf)

Figure 1: Location Map



7 GEOLOGICAL SETTING

Figure 2: Geology and Placer Leases



7.1 Geological Legend

DEVONIAN, MISSISSIPPIAN AND(?) OLDER



DMN: NASINA

graphitic quartzite and muscovite quartz-rich schist (1), (3)-(5), and(?) (6) with interspersed marble (2) and probable correlative successions (7) - (9)

3. quartzite, micaceous quartzite, quartz muscovite (+/-chlorite; +/- feldspar augen) schist, and minor metaconglomerate and metagrit as in (1), but may locally include significant Nisling Assemblage

The Lease is underlain by a Devonian to Mississippian Nasina assemblage (DMN3) composed primarily of quartzite, micaceous quartzite, quartz schist, and minor metaconglomerate and metagrit.

8 Work Performed

8.1 Geophysics: High Resolution DC Resistivity Survey

Figure 3: DC Resistivity Survey Location - Airphoto

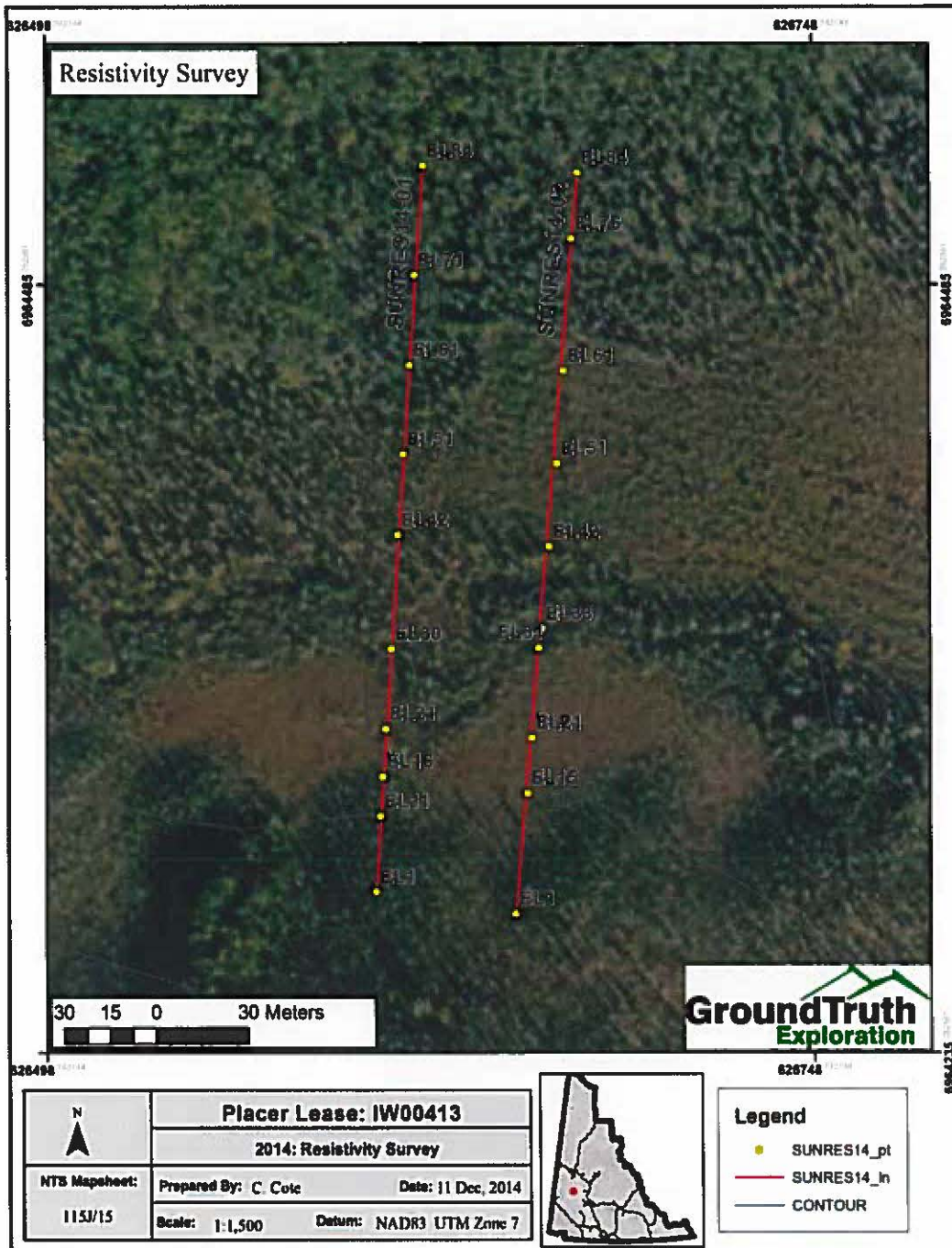
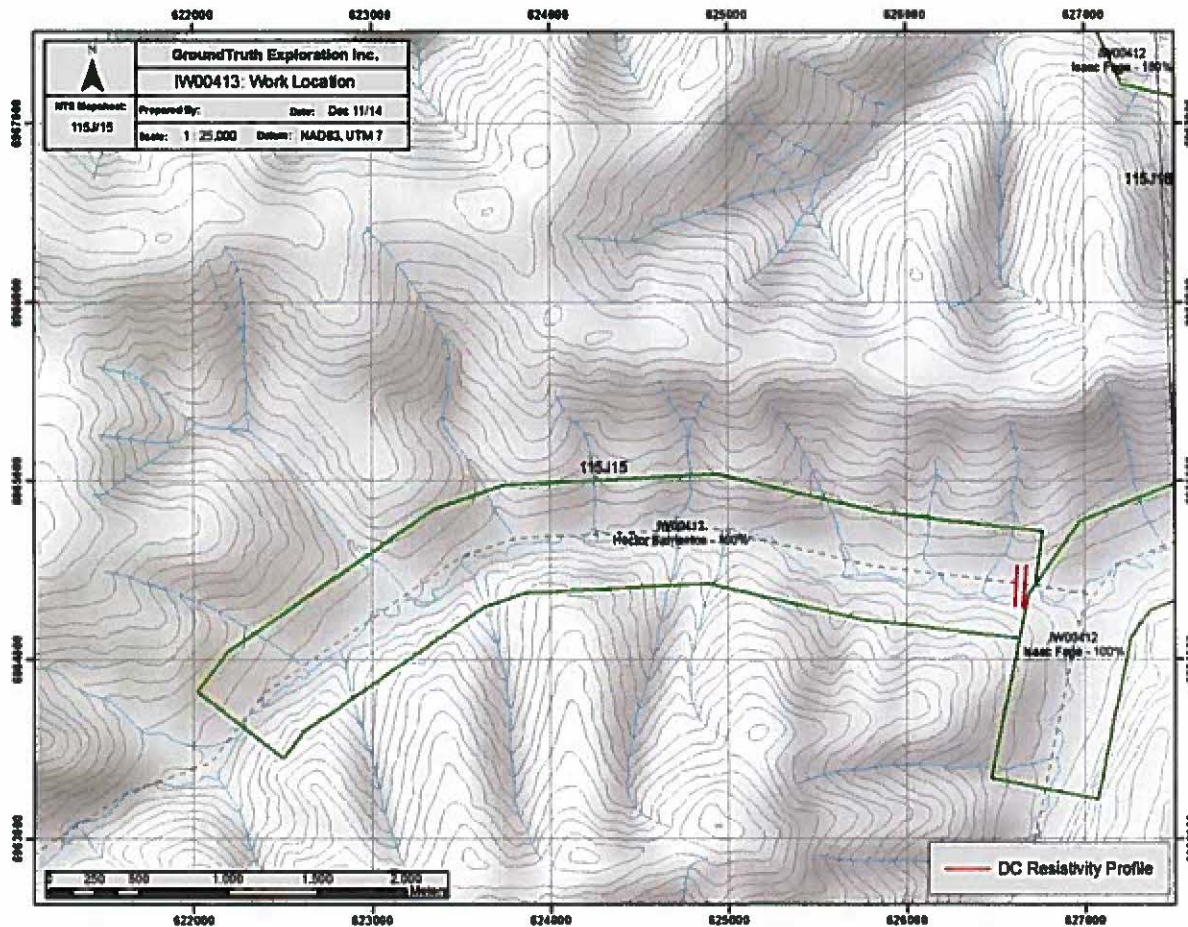


Figure 4: DC Resistivity Survey Location



8.1.1 Introduction

The purpose of the survey is to define the depth to bedrock and outline various overburden units such as muck, sand, gravel, and permafrost.

Two 249m traverses were surveyed at a bearing of 4°Tn (figure 5).

8.1.2 Personnel

The survey was conducted by the following GroundTruth Exploration personnel:

- | | |
|----------------------|--|
| 1. Matthew Emmett | Lead Geophysical Operator and Crew Chief |
| 2. Kyle Boggild | Geo Technician |
| 3. Janna Stecyck | Geo Technician |
| 4. Hector Barrientos | Geo Technician |

8.1.3 Survey Summary

The line-brushing and High Resolution DC (“HRDC”) Resistivity (“Res”) survey was conducted on the 21 August, 2014 on Placer Lease IW00413.

Each line was surveyed using the Schlumberger Inverse array. This array is a sounding array optimized to delineate horizontal structures and has the best overall signal-to-noise ratio and the most lateral coverage. It is an ideal array for finding depths to stratigraphic layers such as muck, sand, gravel and bedrock.

The resistivity traverse was surveyed using Advanced Geosciences SuperSting Resistivity Meter. A high resolution system consisting of 84 electrodes, spaced at 3m for this survey. This gives a horizontal resolution of 1.5m and a potential depth of investigation of 45m at the center of the array.

The traverse location was surveyed with a ProMark3 differential GPS units and post processed using GNSS Solutions to obtain accurate horizontal and vertical position.

8.1.4 Field Survey Operating Procedures:

- A crew of 5 is utilized to run survey.
- The midpoint of a traverse is located and the line is sighted-in using a DGPS.
- Minimal brush is cut along line to sight pickets and lay cables
- Crew places electrode at 3m spacing with measuring tape
- Electrodes are hammered to a depth of 30cm (10% of electrode spacing)
- Cables are laid and attached to the electrodes
- Contact resistance test is conducted
- Calcium Chloride (25% solution) added to all electrodes >2k ohms. CRT reread.
- Extra electrodes added to high CR electrodes. CRT reread.
- With satisfactory Contact Resistance, Survey is Read.
- Operator surveys the traverse using DGPS and marks the traverse with pickets every 10 electrodes.

8.1.5 Data Processing

The collected data is downloaded in the field after every array and checked for integrity. This allows any field errors to be identified before moving the equipment. The RES data is processed daily by the lead operator using EarthImager2D software provided by Advanced Geosciences Inc. Resistivity data-misfits are removed and the cleaned data-set is inverted. Terrain corrections collected using a differential GPS are applied to the inversions. The DGPS data is processed using GNSS Solutions software. A .csv is created containing the DGPS traverse points collected. All instrument raw data from the DGPS and SuperSting are archived.

A .csv file is created containing the traverse points collected.

8.1.6 Survey Results

Inversions of the results are provided.

8.1.7 Figures

Figure 5: SUNRES14-01 Inverted Resistivity

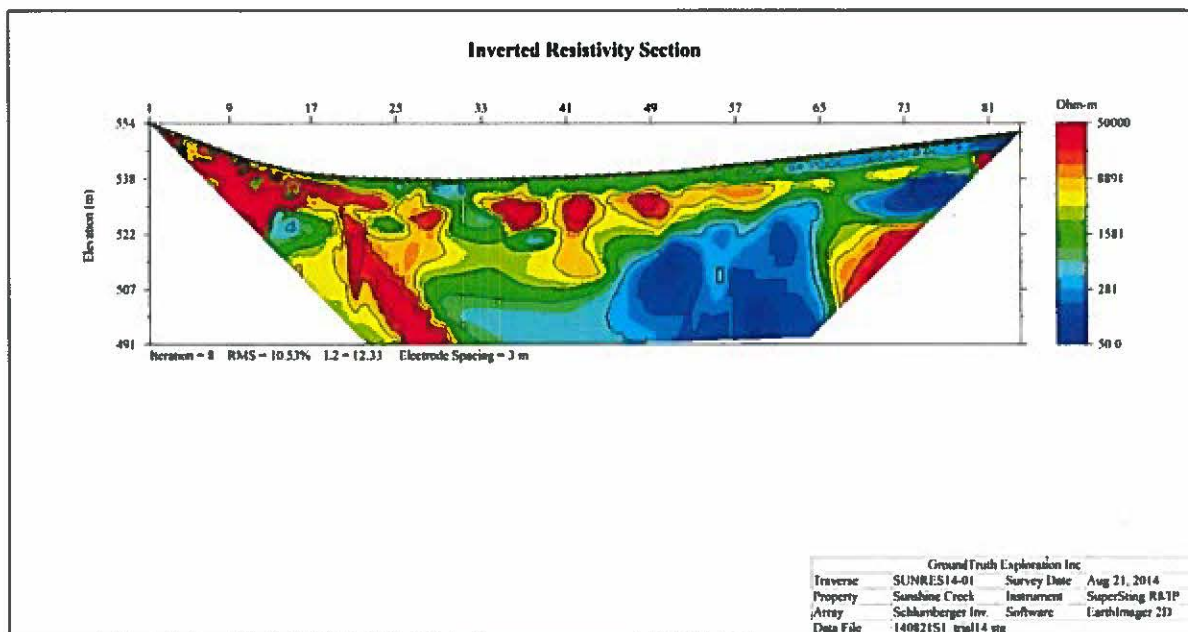


Figure 6: SUNRES14-02 Inverted Resistivity

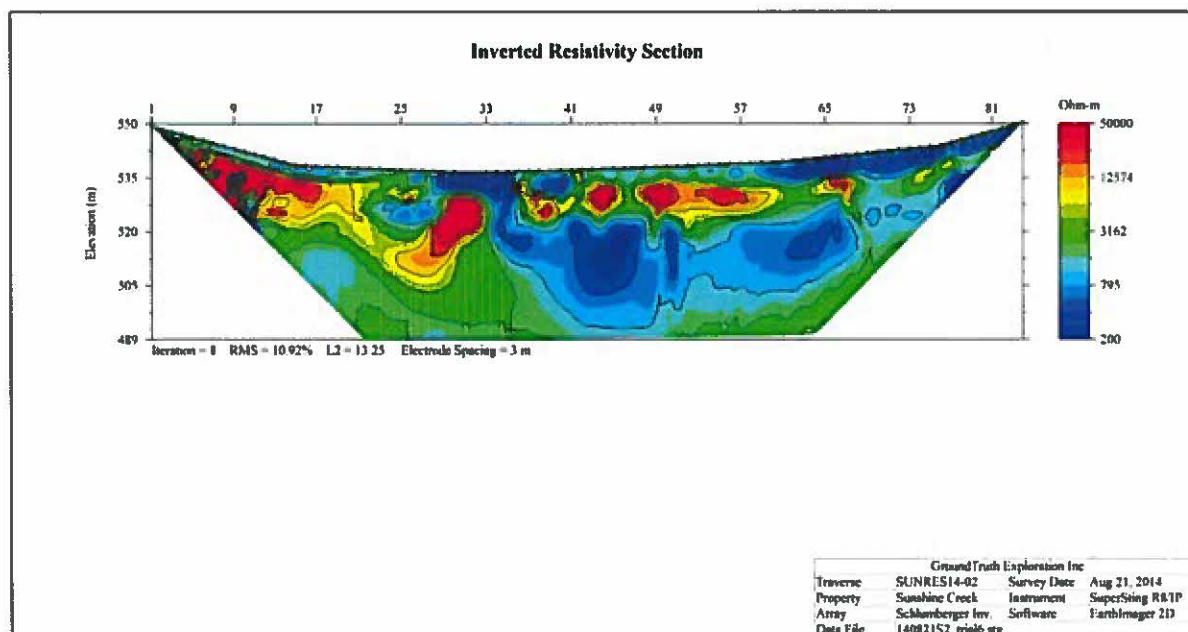


Figure 7: SUNRES14-01 Inverted Resistivity Interpretation

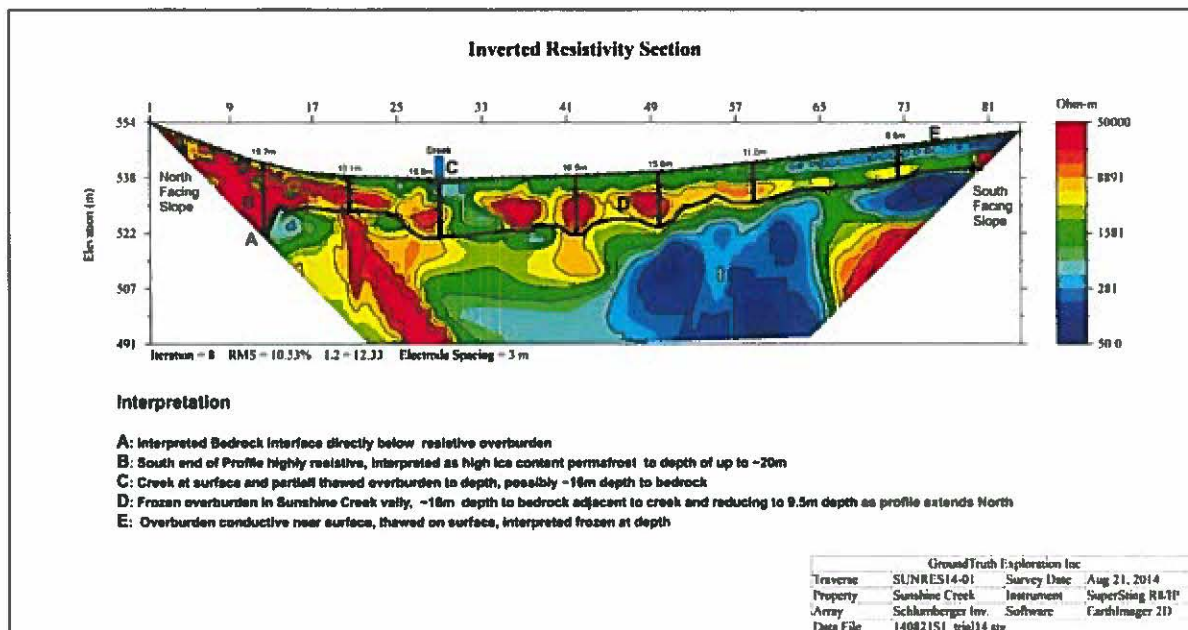
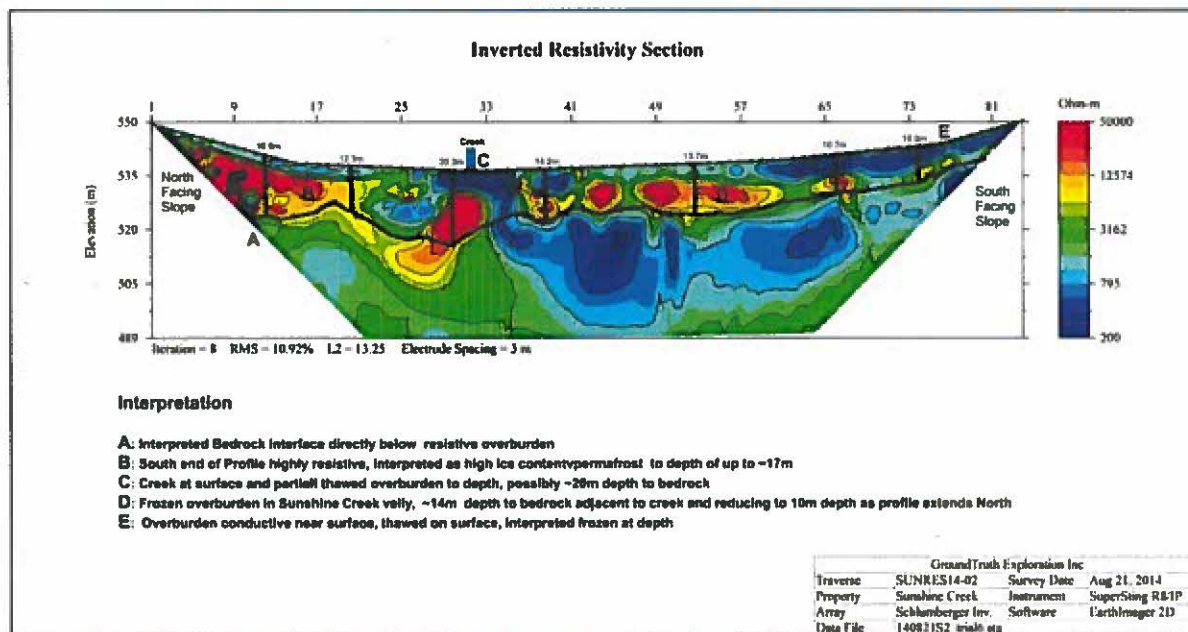


Figure 8: SUNRES14-02 Inverted Resistivity Interpretation



9 Conclusion and Recommendations

DC Resistivity has been an effective survey to delineate the interpreted interface of conductive surface muck and resistive gravels. Bedrock is interpreted to be below the resistive gravel bodies. Additional survey work such as GPR to support the DC Resistivity interpretation is recommended. The geophysical interpretations will require groundtruthing by means of drilling or test pits to be validated and test for gold presence/grade.

10 Statement of Costs


Geophysical Work Performed On: 21 August, 2014

Report Written on: 19 December, 2014

10.1 Claims:

All work was undertaken on Placer Lease IW00413.

10.2 Expenses:



Sunshine Creek DC Resistivity Survey Invoice: August 21, 2014

Overview:
 Ground Truth Exploration Surveyed (2) High Resolution DC Resistivity profiles (250m length, ~45m depth) on the Sunshine Creek Placer Lease (W00413). A crew of 4 was required to run survey, 4 man days were required to conduct the survey. The survey was run on Aug 21st, 2014. Data processing and interpretation was done in Oct/Nov, 2014.

IP Survey Cost Breakdown:		Total	Description
Manpower			
Geophysical Operator @ \$450/day	\$ 450.00	\$ 450.00	1 Lead Operator man day
Field Assistants @ \$350/day	\$ 350.00	\$ 1,050.00	3 Technician man days
Food/Camp			
Food @ \$50/ man day	\$ 50.00	\$ 200.00	4 man days food
Camp @ \$35/ man day	\$ 35.00	\$ 140.00	4 man days camp
Data Management and Processing Services			
Final Inversions/Interp @ \$75/hr - 10 hours	\$ 75.00	\$ 750.00	Chad C. Inversions/Interp, 1. Page Report
Download/QC, merge DGPs, Prelim Inversions @ \$60/hr	\$ 60.00	\$ 60.00	1/2 day on Survey Days
Survey Equipment			
IP/Resistivity Meter: Supersting 8 Channel meter w/cables, electrodes	\$ 600.00	\$ 600.00	1 Survey Day
Precision GPS: Ashtech Promark 100 @ Differential GPS	\$ 75.00	\$ 75.00	1 Survey Day
Field Laptop w/Inversion software for nightly download and review @ \$80/day	\$ 80.00	\$ 80.00	1 Survey Day
Iridium Sat Phone @ \$35/day	\$ 35.00	\$ 35.00	1 Survey Day
Satellite Internet @ \$25/day	\$ 25.00	\$ 25.00	1 Survey Day
Chainsaws @ \$30/day	\$ 30.00	\$ 30.00	1 Survey Day
Radios/ Garmin GPS @ \$5/day	\$ 5.00	\$ 20.00	4 man days Radios/GPS
Consumables Supplies			
Stainless Electrodes: wear & tear- 2 per profile, \$6 ea	\$ 12.00	\$ 24.00	4 electrodes *2 profiles
Calcium Chloride: 4kg per profile, \$2/kg	\$ 8.00	\$ 16.00	4 kg NaCl *2 profiles
Pickets, 9 per profile, \$1/picket	\$ 9.00	\$ 18.00	9 pickets *2 profiles
Spray paint: 1/2 can per profile, \$10/can	\$ 5.00	\$ 10.00	1/2 can paint *2 profiles
		Total Invoice :	\$ 3,573.00

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 Dec 19/14

11 References

Regional Geology: Gordey, S.P. and Makepeace, A.J. (comp.) 1999: Yukon bedrock geology in Yukon digital geology, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1(D)

Airborne Geophysics: Lowe, C., Miles, W., and Kung, R. and Makepeace, A.J. 2003: Aeromagnetic data over the Yukon Territory in Yukon digital geology, Version 2.0, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File 1749 and Yukon Geological Survey Open File 2003-9(D)

Regional Stream Geochemistry: Heon, D. (compiler), Yukon Regional Geochemical Database 2003, http://www.geology.gov.yk.ca/databases_gis.html

Yukon Minfile Occurrences: <http://data.geology.gov.yk.ca/>

Yukon Terranes: Colpron, M. and Nelson, J.L., 2011. A Digital Atlas of Terranes for the Northern Cordillera. Accessed online from Yukon Geological Survey (www.geology.gov.yk.ca), September 23, 2011

Mineral Titles: Yukon Mining Recorder, Mining Claims Database – www.yukonminingrecorder.ca

Topographic data: NR Canada, CanVec Topographic Database- www.geogratis.ca

Additional review of various published scientific and reporting papers on the geology and mineral deposits of the region for indirect reference.

12 Qualification

I, Isaac Fage have been president of GroundTruth Exploration in Dawson City since May 2010. I have worked continuously in Mineral Exploration since 2004. I hold an advanced diploma in Remote Sensing from the Centre of Geographic Sciences in Lawrencetown, Nova Scotia.

I have overseen the survey work described in this report on Placer Lease IW00412.

Dated this ____ of December, 2014 in Dawson, YT.

Respectfully submitted

Isaac Fage

13 Appendix A: RES Equipment Specifications

SuperSting R1/IP technical specification

Measurement modes	Apparent resistivity, resistance, self potential (SP), induced polarization (IP), battery voltage
Measurement range	+/- 10V
Measuring resolution	Max 30 nV, depends on voltage level
Screen resolution	4 digits in engineering notation
Output current	1mA – 2 A continuous, measured to high accuracy
Output voltage	800 Vp-p, actual electrode voltage depends on transmitted current and ground resistivity
Output power	200 W
Input gain ranging	Automatic, always uses full dynamic range of receiver
Input impedance	>20 M Ω
SP compensation	Automatic cancellation of SP voltages during resistivity measurement. Constant and linearly varying SP cancels completely.
Type of IP measurement	Time domain chargeability (M), six time slots measured and stored in memory
IP current transmission	ON+, OFF, ON-, OFF
IP time cycles	0.5, 1, 2, 4 and 8 seconds (combined resistivity/IP mode)
Measure cycles	Running average of measurement displayed after each cycle. Automatic cycle stop when reading errors fall below user set limit or user set max cycles are done.
Resistivity time cycles	Basic measure time is 0.4, 0.8, 1.2, 3.6, 7.2 or 14.4 seconds as selected by user via keyboard, autoranging and commutation adds about 1.4 s.
Signal processing	Continuous averaging after each complete cycle. Noise errors calculated and displayed as percentage of reading. Reading displayed as resistance ($\Delta V/I$) and apparent resistivity (Ωm). Resistivity is calculated using user entered electrode array coordinates.
Noise suppression	Better than 100 dB at $f > 20$ Hz Better than 120 dB at power line frequencies (16 2/3, 20, 50 and 60 Hz) for measure cycles of 1.2 s and above
Total accuracy	Better than 1% of reading in most cases (lab measurements). Field measurement accuracy depends on ground noise and resistivity. Instrument will calculate and display running estimate of measuring accuracy.
System calibration	Calibration is done digitally by the microprocessor based on correction values stored in memory.

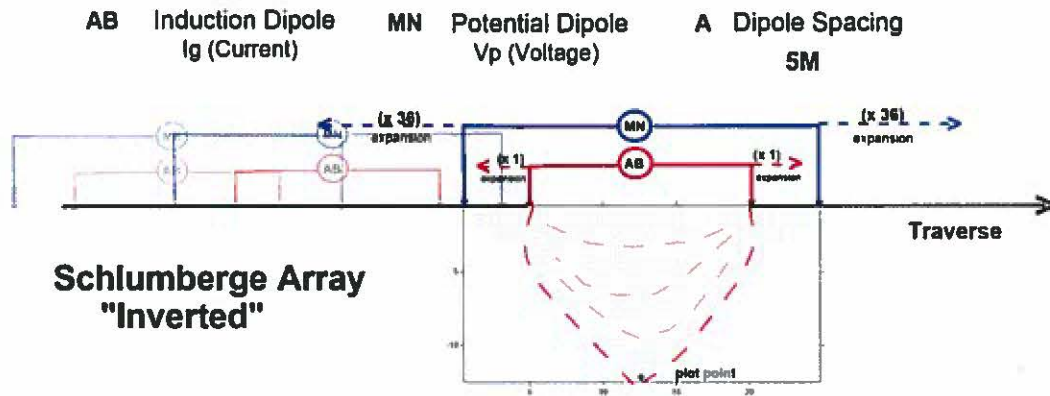
Supported manual	Resistance, Schlumberger, Wenner, dipole-dipole, pole-dipole, pole-pole, SP-absolute, SP-gradient
Operating system	Stored in re-programmable flash memory. New version can be downloaded from our web site and stored in the flash memory.
Data storage	Full resolution reading average and error are stored along with user entered coordinates and time of day for each measurement. Storage is effected automatically in a job oriented file system
Data display	Apparent resistivity (Ohmmeter), injected current (mAmp) and measured voltage (mVolt) are displayed and stored in memory for each measurement
Memory capacity	The memory can store 24,468 measurements in Resistivity Mode and 14,966 measurements in combined Resistivity/IP Mode
Data transmission	RS-232C channel available to dump data from the instrument to a Windows type computer on user command.
Automatic multi-electrodes	The SuperSting is designed to run dipole-dipole, pole-dipole, pole-pole, Wenner and Schlumberger surveys including roll-along surveys completely automatic with the Swift Dual Mode Automatic Multi-electrode system (patent 6,404,203) or with switch box and passive cables. The SuperSting can run any other array by using user programmed command files. These files are ASCII files and can be created using a regular text editor. The command files are downloaded to the SuperSting RAM memory and can at any time be recalled and run. Therefore there is no need for a fragile computer in the field.
Manual measurements	The instrument has four banana pole screws for connecting current and potential electrodes during manual measurements
User controls	20 key tactile, weather proof keyboard with alpha numeric entry keys and function keys. On/off switch. Measure button.
Display	LCD night light switch (push to light). Graphics LCD display (16 lines x 30 characters) with night light.
Power supply, field	12V or 2x12 V DC external power (one or two 12 V batteries), connector on front panel.
Power supply, office	DC power supply
Operating time	Depends on survey conditions and size of battery used. Internal circuitry in auto mode adjusts current to save energy
Operating temperature	-5 to +50°C
Weight	10.9 kg (24 lb.)

14 Appendix C: RES/IP Survey Theory

Inverse Schlumberger Array setup and survey:

Set-up

Once a designated traverse is located, 84 electrodes are put into the ground pre extending 6 x cables of 14 connections amounting to a **249M Traverse**. The **Supersting Transmitter/ Receiver (Tx/Rx)** along with power-pack and switch-box are always centrally positioned.

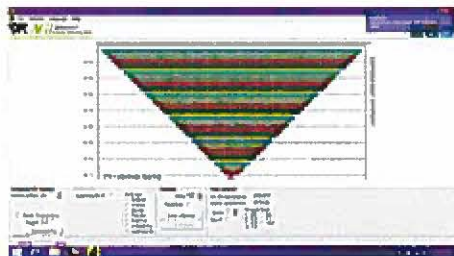


geometry

Symmetric, vertical sounding technique is reliable delineating axis of zones. Termed inverted because the original design of the Schlumberger has inducing current electrodes outside potential electrodes. Also very useful isolating narrow, weak zones.

Set-up

Once a designated traverse is located, 84 electrodes are put into the ground by extending 6 x cables each with 14 connections amounting to a **249M Traverse**. The **Supersting Transmitter/ Receiver (Tx/Rx)** along with power-pack and switch-box are always centrally positioned.



The Inverse Schlumberger Array command file is loaded in the Supersting performing:

1679 sample points, with an estimated 80:48min lapse-time, Maximum n kept at 8 (for best Signal/Noise), and Maximum dipoles of 26.