Assessment Report:
High Resolution DC Resistivity Surveys

Isaac Creek Placer Lease
Tenure holder: Isaac Fage

Placer Lease: IW00412

Whitehorse Mining District

NTS: 115J/15
Latitude: 62.787939° N  Longitude: -138.517346° W

All Work Performed On: 22-23, August 2014
Date of Report: Dec 11, 2014
AUTHOR OF REPORT: Isaac Fage
Table of Contents

1 INTRODUCTION .................................................................................................................. 4

2 SUMMARY .......................................................................................................................... 4

3 LOCATION AND ACCESS .................................................................................................. 4

4 PROPERTY DESCRIPTION ................................................................................................. 4

5 PHYSIOGRAPHY ................................................................................................................ 4

6 CLIMATE ........................................................................................................................... 5

7 GEOLOGICAL SETTING ..................................................................................................... 7

7.1 GEOLOGICAL LEGEND ................................................................................................. 8

8 WORK PERFORMED .......................................................................................................... 9

8.1 GEOPHYSICS: HIGH RESOLUTION DC RESISTIVITY SURVEY .................................. 9

8.1.1 Introduction ............................................................................................................... 10

8.1.2 Personnel .................................................................................................................. 10

8.1.3 Survey Summary ....................................................................................................... 11

8.1.4 Field Survey Operating Procedures: ....................................................................... 11

8.1.5 Data Processing ........................................................................................................ 11

8.1.6 Survey Results .......................................................................................................... 11

8.1.7 Figures ....................................................................................................................... 12

9 Conclusion and RECOMMENDATION ............................................................................. 14

10 STATEMENT OF COSTS .................................................................................................. 16

10.1 CLAIMS: ...................................................................................................................... 16

10.2 EXPENSES: ................................................................................................................ 17

11 REFERENCES ................................................................................................................... 18

12 QUALIFICATION .............................................................................................................. 18

13 APPENDIX A: RES EQUIPMENT SPECIFICATIONS ...................................................... 19

14 APPENDIX C: RES/IP SURVEY THEORY ...................................................................... 21
Table of Figures

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Map</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Geology and Placer Lease</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Resistivity Survey Location</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>ISCRE14-01 Inverted Resistivity</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>ISCRE14-02 Inverted Resistivity</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>ISCRE14-03 Inverted Resistivity</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>ISCRE14-04 Inverted Resistivity</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>ISCRE14-01 Resistivity Interpretation</td>
<td>125</td>
</tr>
<tr>
<td>9</td>
<td>ISCRE14-02 Resistivity Interpretation</td>
<td>125</td>
</tr>
<tr>
<td>10</td>
<td>ISCRE14-03 Resistivity Interpretation</td>
<td>126</td>
</tr>
<tr>
<td>11</td>
<td>ISCRE14-04 Resistivity Interpretation</td>
<td>126</td>
</tr>
</tbody>
</table>
1 Introduction
The 2014 field program undertaken on Isaac Creek consists of a High Resolution DC Resistivity survey to test the depth and quality of the overburden at Isaac creek, a placer gold target located White Gold camp.

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

All work was undertaken by GroundTruth Exploration Inc.

2 Summary
No work has been previously been reported on Isaac 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 Isaac Creek, which indicate a strong possibility for placer gold at this location.

3 Location and Access
The Isaac Creek placer lease IW00412 is located on Isaac 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 Isaac Creek placer lease is a 5 mile long Placer Lease

5 Physiography
The Isaac Creek placer property is in an unglaciated, North 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)
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)

DMN2
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: Resistivity Location
Figure 3a: Resistivity Location

8.1.1 Introduction
The purpose of the survey is to map out depth of overburden horizons (muck/gravel) and depth to bedrock as an initial evaluation for potential of mineable placer gold deposits.

Four 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 Stecyk  
   Geo Technician

4. Hector Barrientos  
   Geo Technician
8.1.3 Survey Summary
The High Resolution DC ("HRDC") Resistivity ("Res") survey was conducted on the 22-23 August, 2014 on Placer Lease IW00412.

Each line was surveyed using the Inverse Schlumber 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 4 was 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 below.
8.1.7 Figures

Figure 4: ISRES14-01 Inverted Resistivity

Figure 5: ISRES14-02 Inverted Resistivity
Figure 6: ISCRE14-03 Inverted Resistivity

Figure 7: ISCRE14-04 Inverted Resistivity
8.1.8 Interpretation

**Figure 8: ISCRES14-01 Inverted Resistivity Interpretation**

![Inverted Resistivity Section](image)

Interpretation:

A: Interpreted Bedrock Interface directly below highly resistive overburden
B: North facing slope of creek, highly resistive - interpreted as high ice permafrost to depth of ~20m
C: Creek at surface and thawed overburden to depth, possibly 15m depth to bedrock
D: Generally frozen overburden on south side of creek, 15m to 21m depth to bedrock
E: Conductive, unfrozen overburden on South facing slope of drainage

**Figure 9: ISCRES14-2 Inverted Resistivity Interpretation**

![Inverted Resistivity Section](image)

Interpretation:

A: Interpreted Bedrock Interface directly below highly resistive overburden
B: North facing slope of creek, highly resistive - interpreted as high to moderate ice permafrost to depth of ~17m
C: Creek at surface and thawed overburden to depth, possibly 12m depth to bedrock, thawed at surface for 30m along profile
D: Generally frozen overburden on North side of creek, 26.8m to 18.8m interpreted depth to bedrock, possible deep channel of 20m at electrode 43
E: Conductive, unfrozen overburden on South facing slope of drainage
**Figure 10: ISCRES14-3 Inverted Resistivity Interpretation**

![Inverted Resistivity Section](image)

**Interpretation**

A: Interpreted Bedrock Interface directly below high resistive overburden
B: North facing slope of creek, highly resistive - Interpreted as high to moderate ice permafrost to depth of ~20m
C: Creek at surface and thawed overburden to depth, possibly 10-15m depth to bedrock, thawed at surface for 2m along profile
D: Generally frozen overburden on South side of creek, 28m +/- 5m; interpreted depth to bedrock, presence deep channel of 24m +/- at electrode 42
E: Conductive, unfrozen overburden on South facing slope of drainage

**Figure 11: ISCRES14-4 Inverted Resistivity Interpretation**

![Inverted Resistivity Section](image)

**Interpretation**

A: Interpreted Bedrock Interface directly below resistive overburden
B: South side of Profile moderately resistive, interpreted as moderate ice content permafrost in Isaac Creek drainage (parallel to profile) to depth of ~28m
C: Creek at surface and thawed overburden to depth, possibly 10-15m depth to bedrock, thawed at surface for 2m along profile
D: Generally frozen overburden on North side of creek, variable 28m to 38m; interpreted depth to bedrock, interpreted significant depth from electrode 62-64 where Sunshine creek merges with larger Isaac Creek drainage.
E: Conductive near surface, thawed on surface, interpreted frozen at depth

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Box 70, DAWSON, YT Y0B 1G0 Page 15
9 Conclusion and Recommendation
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: 22-23 August, 2014

Report Written on: 11 December, 2014

10.1 Claims:
All work was undertaken on Placer Lease IW00412.
# Expenses:

## Isaac Creek DC Resistivity Survey

### Invoice: August 22-23, 2014

**Survey Details:**
Ground Truth Exploration surveyed 4 high resolution DC Resistivity profiles (150m length, 45m depth) on the Isaac Creek Pegmatite (PMDH113). A crew of 4 was deployed to run survey. 6 man days were required to conduct the survey. The survey was run on Aug 22nd-23rd, 2014. Data processing and interpretation was completed in Oct/Nov. 2014.

### Survey Cost (5 man days)

<table>
<thead>
<tr>
<th>Description</th>
<th>Hourly Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geophysical Operator @ 150/hr day</td>
<td>$400.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Field Assistant @ 100/30/day</td>
<td>$250.00</td>
<td>$750.00</td>
</tr>
<tr>
<td><strong>Total Geophysical</strong></td>
<td>$650.00</td>
<td>$1350.00</td>
</tr>
<tr>
<td>Field camp</td>
<td>$20.00</td>
<td>$400.00</td>
</tr>
<tr>
<td>Camp @ 515/m east day</td>
<td>$20.00</td>
<td>$100.00</td>
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<tr>
<td><strong>Total Field Camp</strong></td>
<td>$40.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Site Preparation and Protection Costs</td>
<td>$75.00</td>
<td>$300.00</td>
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<tr>
<td><strong>Total Site Prep</strong></td>
<td>$75.00</td>
<td>$300.00</td>
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<tr>
<td><strong>Total Survey</strong></td>
<td>$725.00</td>
<td>$1950.00</td>
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</table>

### Equipment Costs (1 day)

<table>
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<tr>
<th>Description</th>
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<th>Description</th>
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</thead>
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<tr>
<td>Geophysical Equipment - Supporting &amp; Channel magnet w/ transducers, electrodes</td>
<td>$600.00</td>
<td>$1800.00</td>
</tr>
<tr>
<td>Pre-visit GPS, Asbestos Prep &amp; Handout, differential GPS</td>
<td>$75.00</td>
<td>$75.00</td>
</tr>
<tr>
<td>Post-laying &amp; Inversion software for nightly downloads and review @ 200/5 day</td>
<td>$50.00</td>
<td>$50.00</td>
</tr>
<tr>
<td>Return Jet Plane @ $300/day</td>
<td>$25.00</td>
<td>$75.00</td>
</tr>
<tr>
<td>Satellite @ $300/6y</td>
<td>$29.30</td>
<td>$175.80</td>
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<tr>
<td>Chargeout @ $300/day</td>
<td>$65.00</td>
<td>$650.00</td>
</tr>
<tr>
<td>Receipt Survey GPS @ $150/day</td>
<td>$3.40</td>
<td>$51.00</td>
</tr>
<tr>
<td><strong>Total Equipment</strong></td>
<td>$102.70</td>
<td>$1758.00</td>
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</table>

### Supplies

<table>
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<tr>
<th>Description</th>
<th>Hourly Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Electides: wear &amp; tear - 2 per profile, 36 ea</td>
<td>$17.00</td>
<td>$480.00</td>
</tr>
<tr>
<td>Calcium Chloride: 4kg per profile, 15/d</td>
<td>$8.00</td>
<td>$120.00</td>
</tr>
<tr>
<td>pencils, 3 per profile, 15/pencil</td>
<td>$9.92</td>
<td>$148.83</td>
</tr>
<tr>
<td>Spray paint: 1/2 point per profile, 5/10/liter</td>
<td>$5.00</td>
<td>$200.00</td>
</tr>
</tbody>
</table>

**Total Invoice:** $4,545.00

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*Box 70, DAWSON, YT Y0B 1GO*
11 References


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


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 MΩ

SP compensation
- Automatic cancellation of SP voltages during resistivity measurement. Constant and linearly varying SP cancels completely.

Type of IP measurement
- Time domain chargability (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
- 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 (Ω/m) and apparent resistivity (Ωm).

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.
<table>
<thead>
<tr>
<th>Supported manual</th>
<th>Resistance, Schlumberger, Wenner, dipole-dipole, pole-dipole, pole-pole, SP-absolute, SP-gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system</td>
<td>Stored in re-programmable flash memory. New version can be downloaded from our web site and stored in the flash memory.</td>
</tr>
<tr>
<td>Data storage</td>
<td>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</td>
</tr>
<tr>
<td>Data display</td>
<td>Apparent resistivity (Ohmmeter), injected current (mAmp) and measured voltage (mVolt) are displayed and stored in memory for each measurement</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>The memory can store 24,468 measurements in Resistivity Mode and 14,966 measurements in combined Resistivity/IP Mode</td>
</tr>
<tr>
<td>Data transmission</td>
<td>RS-232C channel available to dump data from the instrument to a Windows type computer on user command.</td>
</tr>
<tr>
<td>Automatic multi-electrodes</td>
<td>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.</td>
</tr>
<tr>
<td>Manual measurements</td>
<td>The instrument has four banana pole screws for connecting current and potential electrodes during manual measurements</td>
</tr>
<tr>
<td>User controls</td>
<td>20 key tactile, weather proof keyboard with alpha numeric entry keys and function keys. On/off switch. Measure button. LCD night light switch (push to light).</td>
</tr>
<tr>
<td>Display</td>
<td>Graphics LCD display (16 lines x 30 characters) with night light.</td>
</tr>
<tr>
<td>Power supply, field</td>
<td>12V or 2x12 V DC external power (one or two 12 V batteries), connector on front panel.</td>
</tr>
<tr>
<td>Power supply, office</td>
<td>DC power supply</td>
</tr>
<tr>
<td>Operating time</td>
<td>Depends on survey conditions and size of battery used. Internal circuitry in auto mode adjusts current to save energy</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-5 to +50°C</td>
</tr>
<tr>
<td>Weight</td>
<td>10.9 kg (24 lb.)</td>
</tr>
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</table>
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 by 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.

![Schlumberger Array "Inverted" geometry](image)

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 in 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.