AD07027

GroundTruth Exploration

GroundTruth Exploration Inc.

Box 70, Dawson YT, Y0B 1G0 (867) 993-5612

Geophysical Report

on the

Tenderfoot Creek Placer Property

Received Dec 30, 2015

Dawson Mining District

Claims: Tenderfoot 1-40 (P 48875- P 48914)

Owner: H.C. Mining Ltd. 100%

Prepared by: Isaac Fage

GroundTruth Exploration Inc.

Location: 63° 19.159' N, 139° 09.793' W
NTS Mapsheet: 115O/06
Surveyed on: October 30, 2015
Report Date: November 9, 2015

GroundTruth Exploration Inc.
Box 70, Dawson YT, Y0B 1G0 (867) 993-5612

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Summary

H.C. Mining Ltd. Contracted GroundTruth Exploration Inc. to conduct a High Resolution DC Resistivity survey on the Tenderfoot Creek placer property to map interpreted depth to bedrock. The Tenderfoot Creek property consists of 40 creek placer claim (Tenderfoot 1-40) and is located approximately 80km South of Dawson on Tenderfoot Creek which flows south directly into the Stewart River (figure 1).

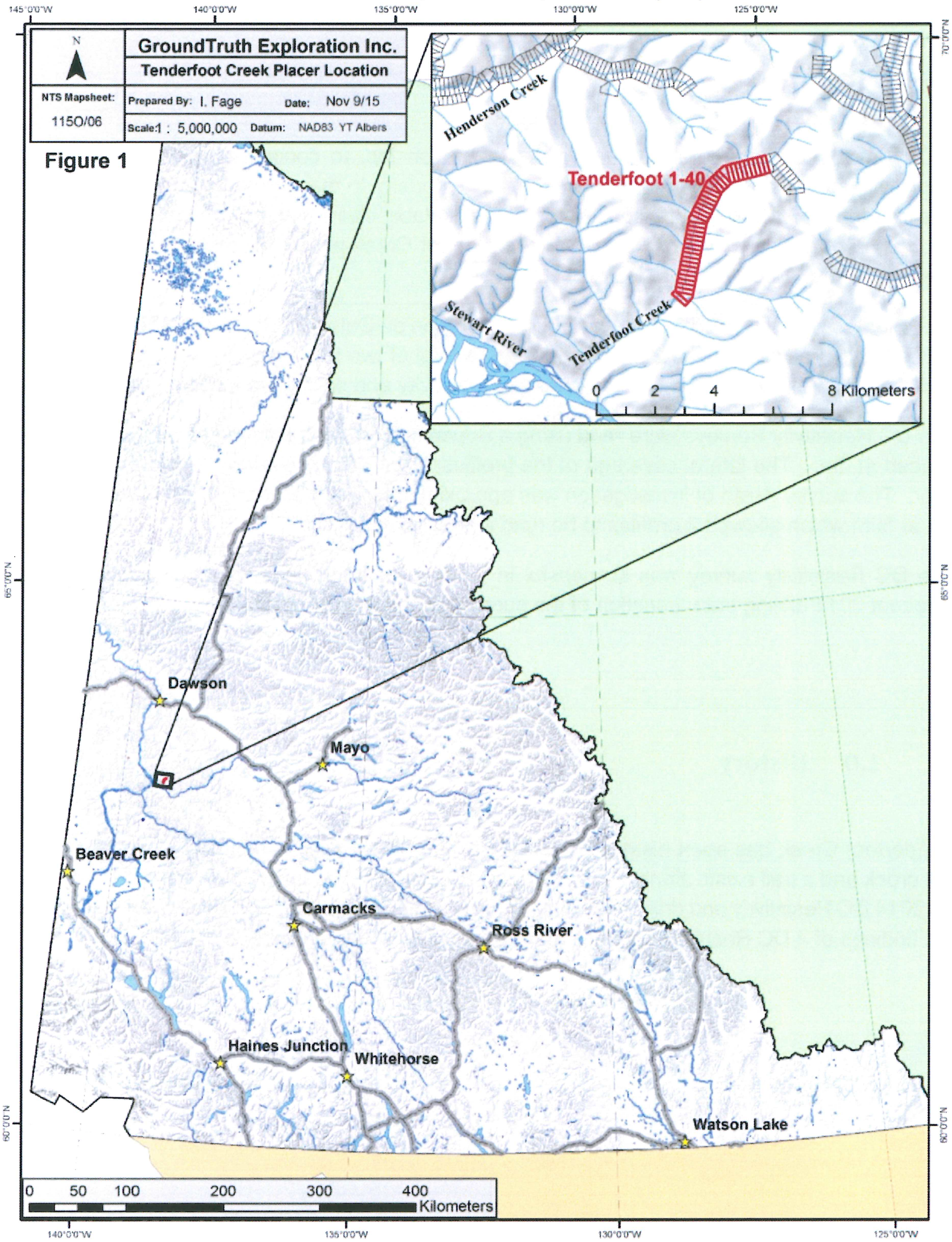
The survey was conducted by GroundTruth Exploration on October 30th, 2015. The property was accessed by helicopter based in Dawson City. A total of two DC resistivity surveys were set up and read on profiles positioned downstream of resistivity and drilling work conducted in 2014.

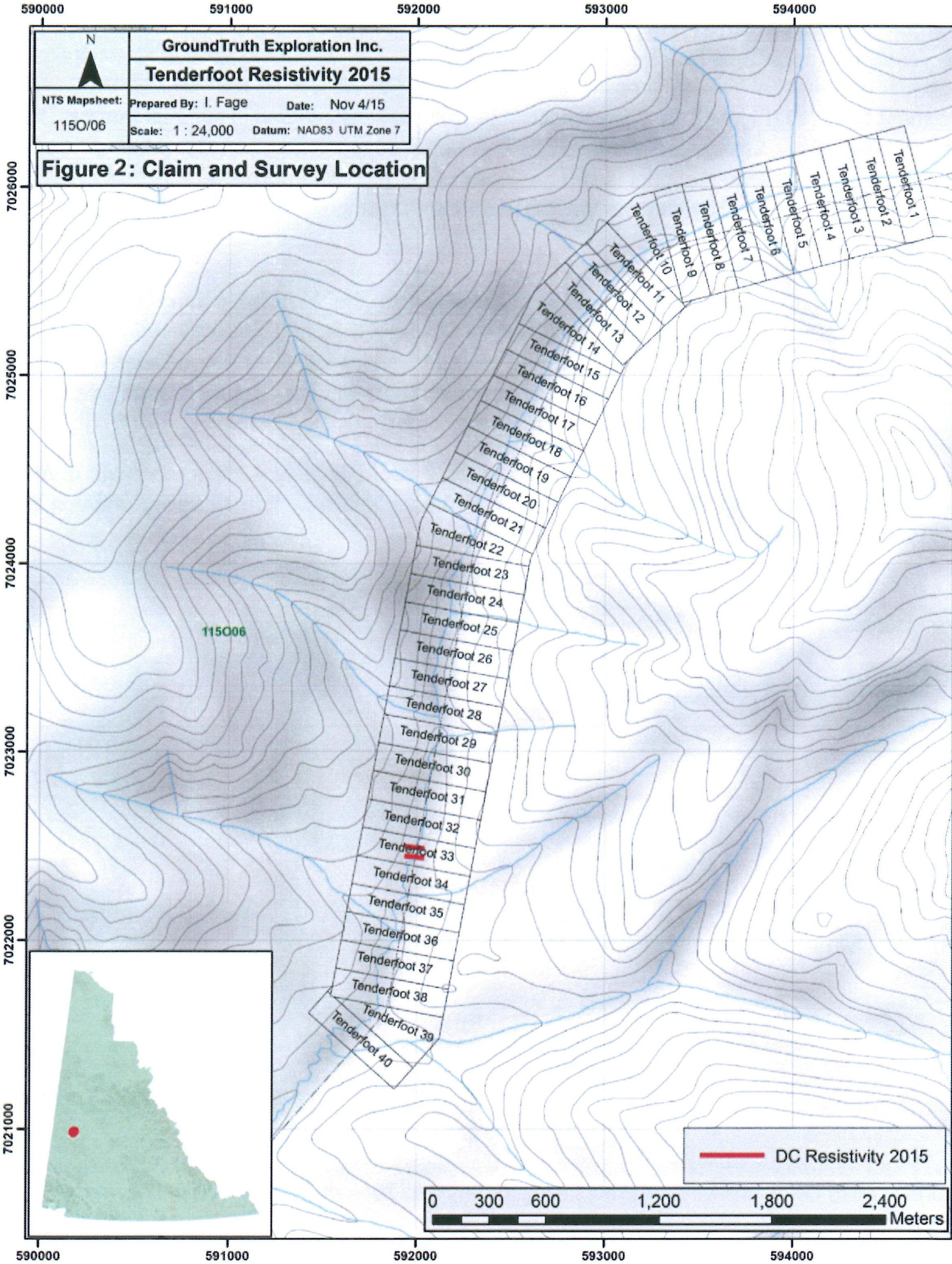
The DC Resistivity Surveys were read using a Supersting R8 resistivity meter with 56 electrodes spaced at 2m. The lateral coverage of the profiles 110m which covered the width of the valley floor. The survey depth of investigation was approximately 100ft. Resistivity profile spacing was set at 50m which allowed 2 profiles to be read in the 1 day survey.

The DC Resistivity survey was successful in profiling bedrock depth and correlates well with adjacent 2014 drilling data. Location of the surveys is shown on Figure 2.

1.0 History

Tenderfoot Creek has seen historic exploration work. Road access has been established onto the creek and a trail exists along it. H.C. Mining Ltd. provided GroundTruth with a summary report on 2014 DC Resistivity and drilling done by Kryotek Arctic Innovation Inc. This report summarized the findings of 4 DC Resistivity profiles and 13 drillholes on the property.


145°0'0"W
140°0'0"W
135°0'0"W
130°0'0"W
125°0'0"W
70°0'0"N
65°0'0"N
60°0'0"N
N
GroundTruth Exploration Inc.
Tenderfoot Creek Placer Location
NTS Mapsheet:
115O/06
Prepared By: I. Fage
Date: Nov 9/15
Scale:1 : 5,000,000
Datum: NAD83 YT Albers
Figure 1
Henderson Creek
Tenderfoot 1-40
Stewart River
Tenderfoot Creek
0 2 4 8 Kilometers
Dawson
Mayo
Beaver Creek
Carmacks
Ross River
Haines Junction
Whitehorse
Watson Lake
0 50 100 200 300 400 Kilometers


GroundTruth Exploration Inc.
Tenderfoot Resistivity 2015
NTS Mapsheet: 115O/06
Prepared By: I. Fage
Date: Nov 4/15
Scale: 1 : 24,000
Datum: NAD83 UTM Zone 7
Figure 2: Claim and Survey Location
N
590000
591000
592000
593000
594000
7026000
7025000
7024000
7023000
7022000
7021000
115O06
Tenderfoot 1
Tenderfoot 2
Tenderfoot 3
Tenderfoot 4
Tenderfoot 5
Tenderfoot 6
Tenderfoot 7
Tenderfoot 8
Tenderfoot 9
Tenderfoot 10
Tenderfoot 11
Tenderfoot 12
Tenderfoot 13
Tenderfoot 14
Tenderfoot 15
Tenderfoot 16
Tenderfoot 17
Tenderfoot 18
Tenderfoot 19
Tenderfoot 20
Tenderfoot 21
Tenderfoot 22
Tenderfoot 23
Tenderfoot 24
Tenderfoot 25
Tenderfoot 26
Tenderfoot 27
Tenderfoot 28
Tenderfoot 29
Tenderfoot 30
Tenderfoot 31
Tenderfoot 32
Tenderfoot 33
Tenderfoot 34
Tenderfoot 35
Tenderfoot 36
Tenderfoot 37
Tenderfoot 38
Tenderfoot 39
Tenderfoot 40
DC Resistivity 2015
0 300 600 1,200 1,800 2,400
Meters

1.1 Location and Access

The Tenderfoot property is located 80km South of Dawson City within the Stewart River drainage system in west-central Yukon Territory. It is centered at **63° 19.159' N, 139° 09.793' W**, on NTS mapsheet 115O/06 (Figure 1-2). It is accessible by from Dawson by road in summer months. The 2015 DC Resistivity survey was accessed by helicopter, based in Dawson City which proved to be more efficient for time and cost to run the 2 profile survey. The helicopter used was a Trans North Helicopters Astar D2 which stayed onsite during the survey.

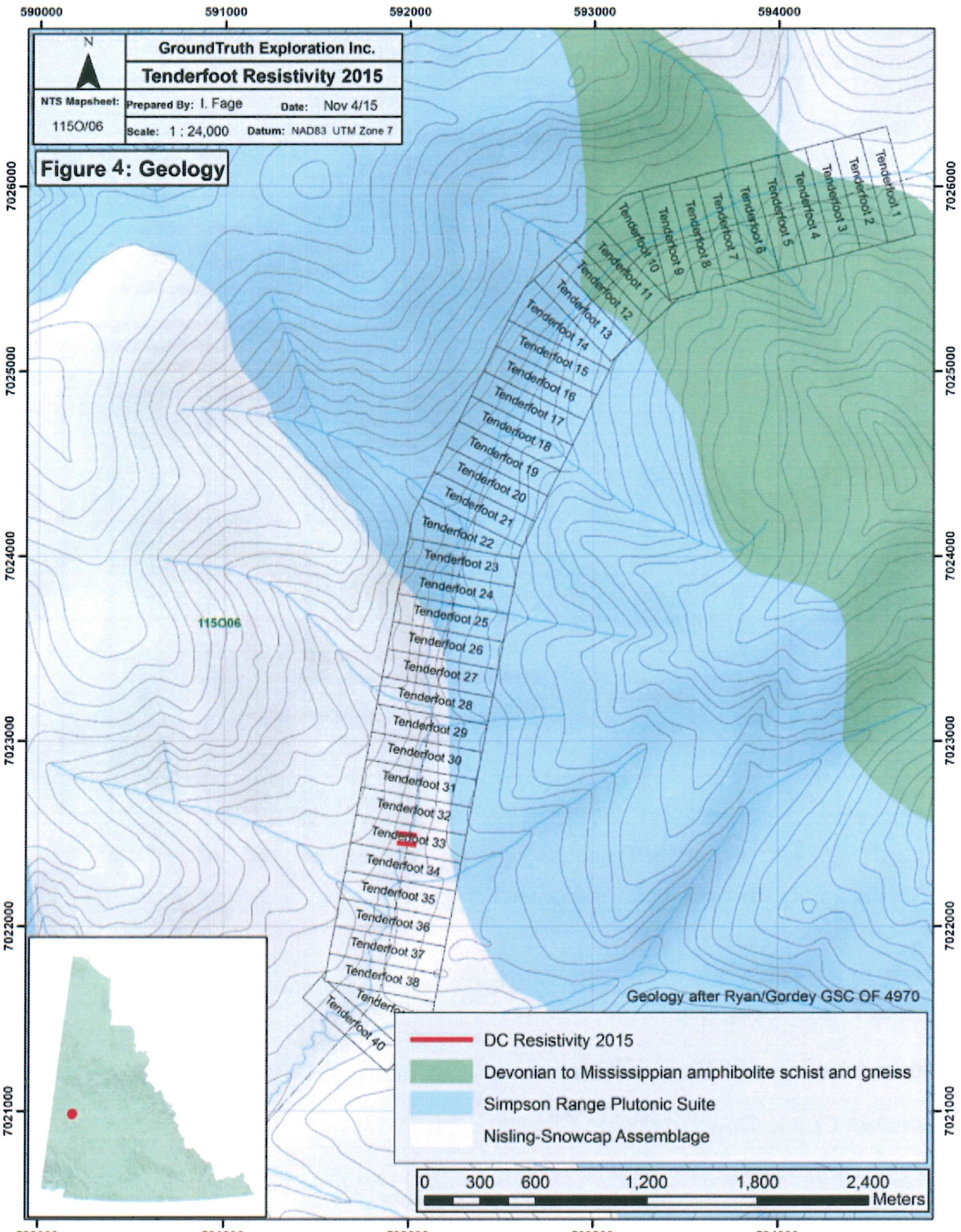
1.2 Physiology and Geology

The Tenderfoot Creek placer property is located within the Yukon-Tanana Terrane. The landscape is composed broad valleys bordered by moderately sloped, tree covered hills ranging in elevations from 1200 to 5000 feet. The area experiences typical climatic conditions for central Yukon Territory with short, warm and dry summers and cold winters. Temperatures range from **0˚C to -50˚C in the winter and 0˚C to +30˚C in the summer**.

The 2015 resistivity survey location on the property is approximately 4 miles upstream from its junction with the Stewart River. Tenderfoot Creek has a relatively narrow valley channel that ranges from 100m-200m width on the valley floor.

Figure 3: 2015 DC Resistivity profiles (110m length) with 2014 drill holes on satellite imagery

Tenderfoot Creek is underlain by a series of metamorphic units. The downstream portion of the property including the 2015 resistivity survey location sits on the Nisling-Snowcap assemblage, which is mapped to include quartzite, and felsic orthogneess. The upper portion of the property is underlain by a sequence of Simpson Plutonic Suite and amphibolite schist-gneiss. See Figure 4.



The host bedrock of quartzite / orthogneiss is highly resistive and typically ranges from 1,000 – 100,000 ohm/m while sand/gravel overburden is expected to be conductive with typical resistivity values expected to ranging < 1,000 ohm/m. Permafrost in overburden is expected to range from 500 -100,000 ohm/m. An observable resistivity contrast is expected in to occur between the alluvial gravel and quartzite/orthogneiss bedrock interface. See Figure 5 below.

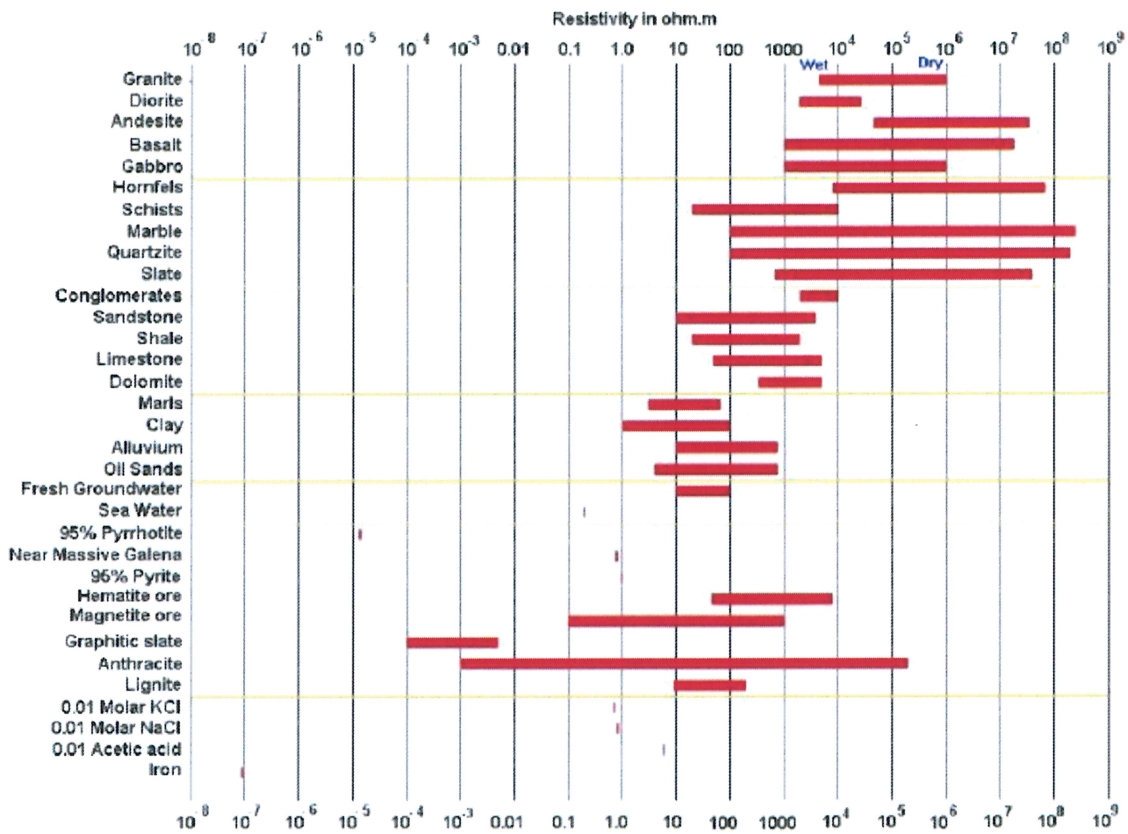


Figure 1.5. The resistivity of rocks, soils and minerals.

1.3 Property Tenure

Tenderfoot Creek Placer Property

Claims: Tenderfoot 1-40 (P 48875- P 48914)

Location: Tenderfoot Creek, Dawson Mining District

Owner: H. C. Mining Ltd., 100%

Expiry: October 30/2015 (renewed)

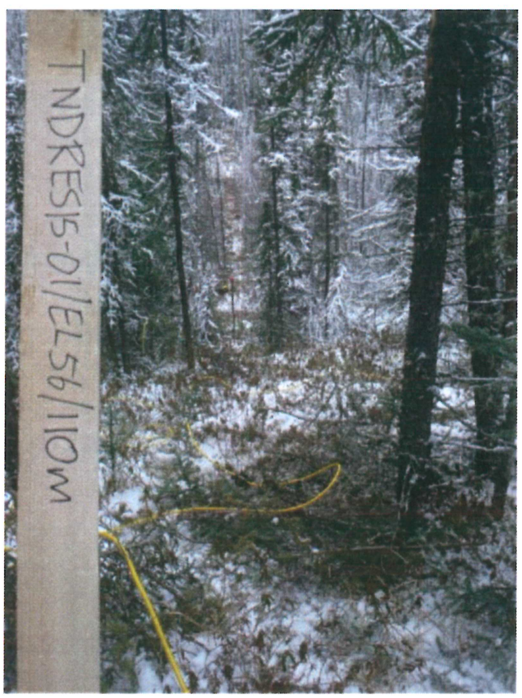
2.0 Survey description and Procedures

2.1 DC Resistivity Survey Overview

GroundTruth Exploration Inc., of Dawson YT conducted the resistivity survey on this lease on October 30/15. The crew accessed the lease from Dawson with an Astar helicopter. The resistivity profiles were positioned downstream as a continuation of the 2014 Resistivity/drilling work. The 2015 resistivity cross creek profiles were spaced 50m apart. The goal of this survey was to extend downstream coverage from the known existing data and utilize the adjacent drillholes to validate the interpretation for the length of resistivity coverage. Agreement between the 2015 resistivity profiles was very good and correlates well with the upstream drillholes.

The DC Resistivity survey was completed using Advanced Geoscience Inc., Supersting instrument (Instrument specs in appendix) .The instrument is placed at a center point of the traverse with 23 electrodes on either side. Electrodes were spaced at 2m which covered the width of the valley floor. The Supersting gathered apparent Resistivity using the Inverse Schlumberger array.

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



Field Photo on Electrode 56 on line 1 (East limit looking towards creek)

2.2 Field Survey Operating Procedures

- A crew of 4 was deployed 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 2m spacing with measuring tape
- Electrodes are hammered to a depth of 20cm (or 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, Resistivity survey is Read.
- Operator surveys the traverse using DGPS and marks the traverse with pickets every 10 electrodes.

2.3 Data Processing

The collected resistivity data is downloaded in the field after each 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. The same process is done with the IP data. 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 at electrode stations is collected. All instrument raw data from the DGPS and SuperSting are archived. An ESRI shape file is created containing the traverse points collected.

Representative photographs are collected along each traverse with the field picket visible in the photo to reference conditions on the ground.

The final inversions are symbolized with a gradient color ramp to accentuate features of interest and then interpreted with markups to indicate depth to bedrock.

3.0 Survey Results

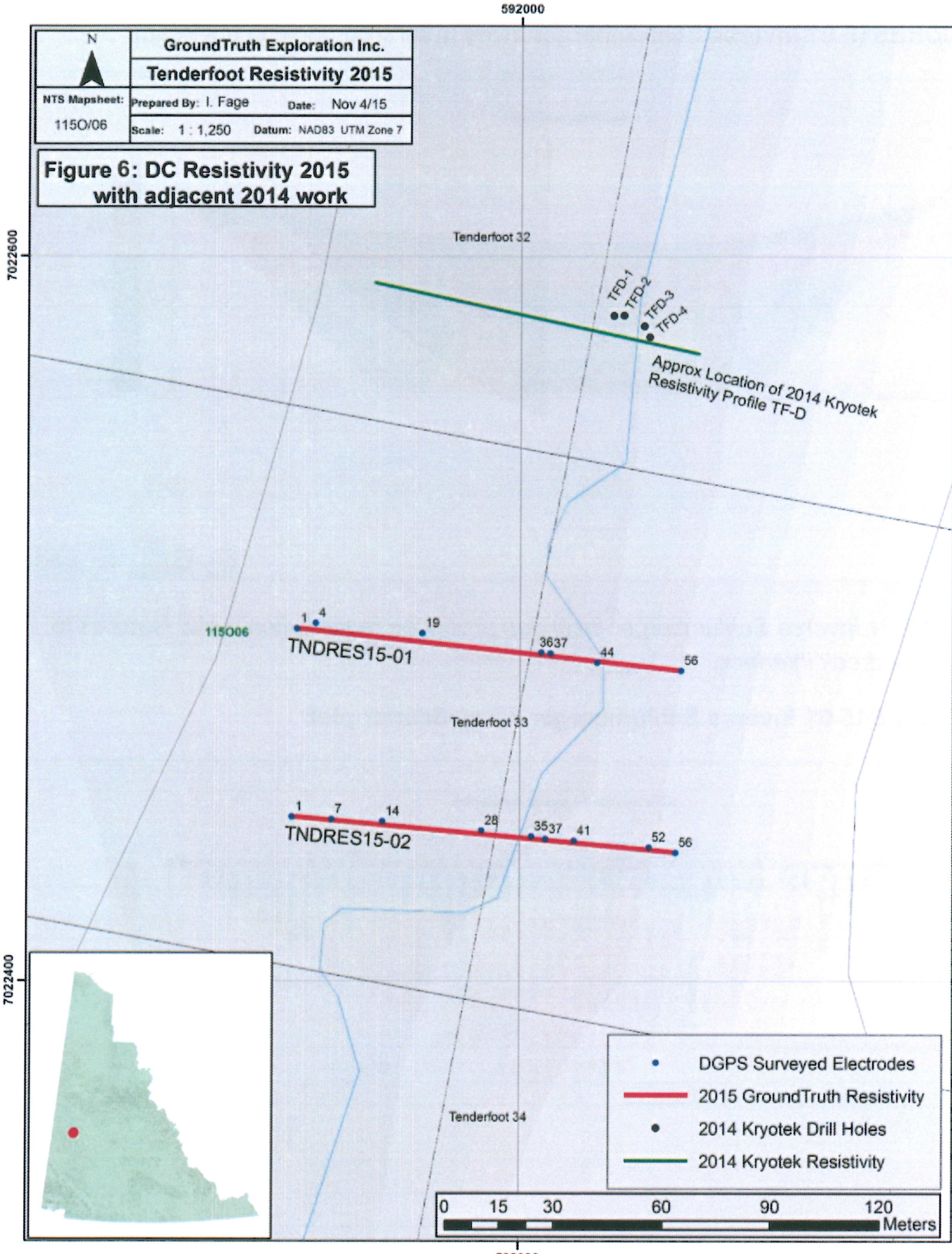
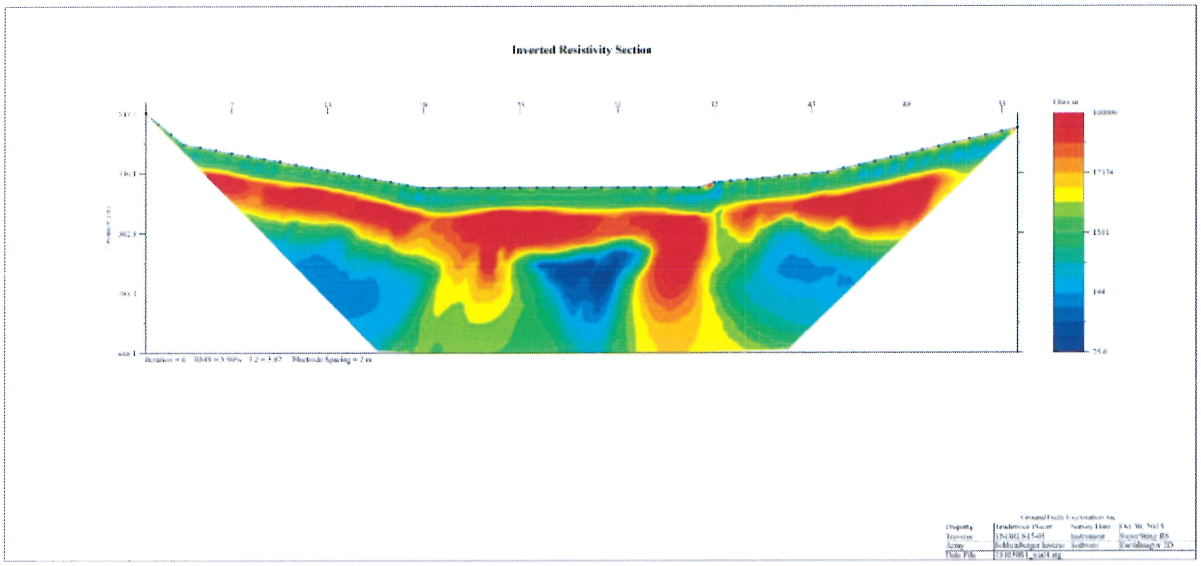


Figure 6: Location of 2015 DC Resistivity Survey (red line) with 2014 drill hole locations (white points), overlaid on sat imagery. Looking West

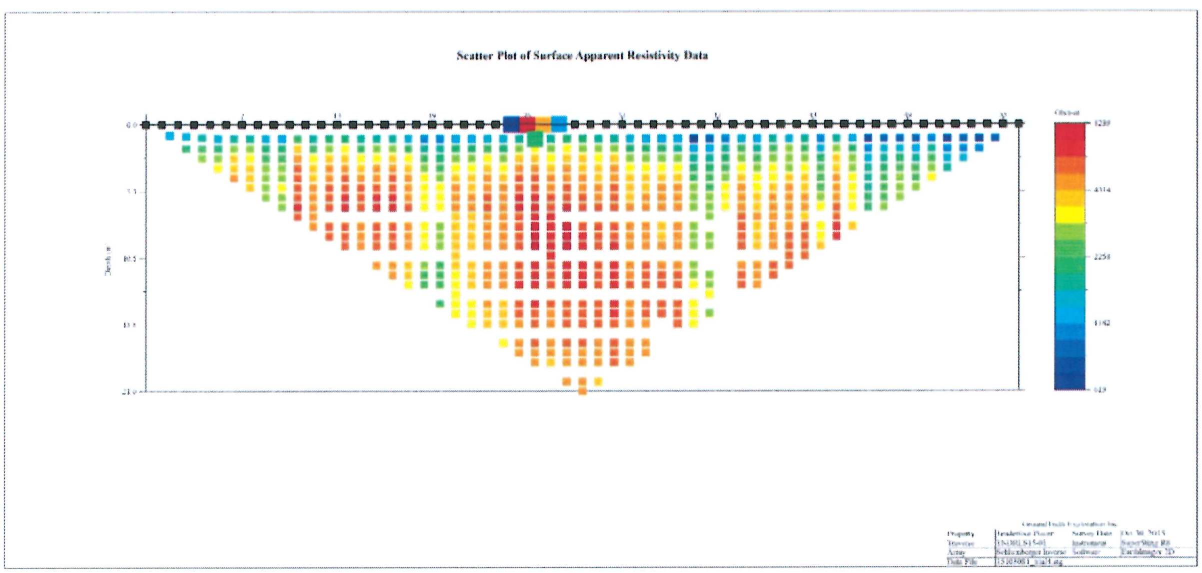
Inversion Results:

Figure 7: TNDRES15-01 Inverse Schlumberger array Inversion (looking upstream)



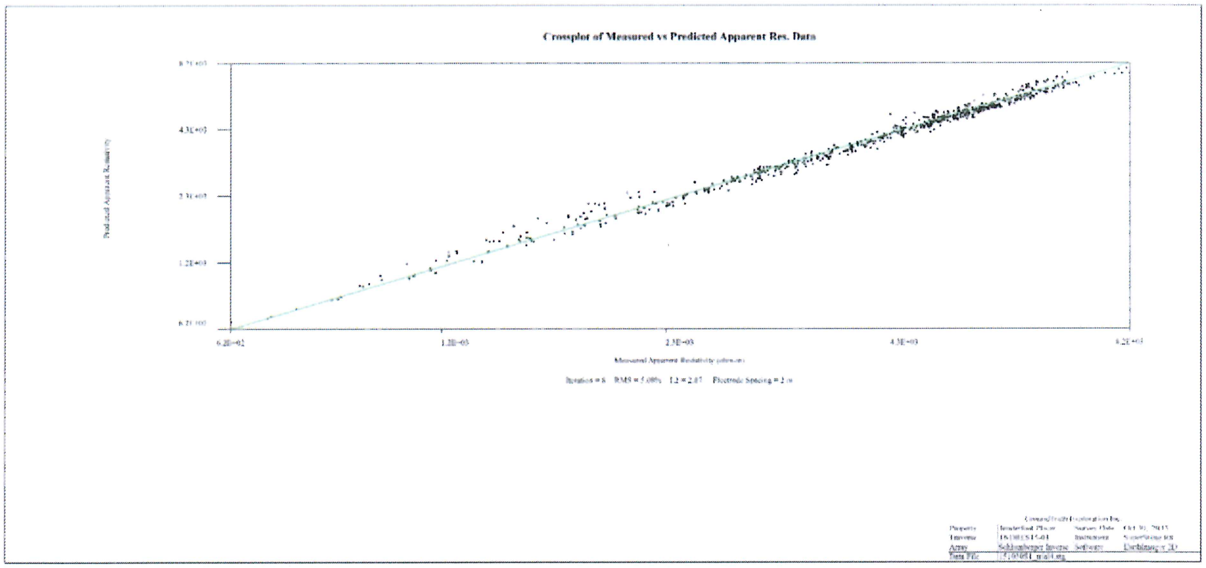
The TNDRES15-01 Inverse Schlumberger inversion produced realistic horizontal features to interpret gravel/bedrock interface.

Figure 8: TNDRES15-01 Inverse Schlumberger Array Scatter plot



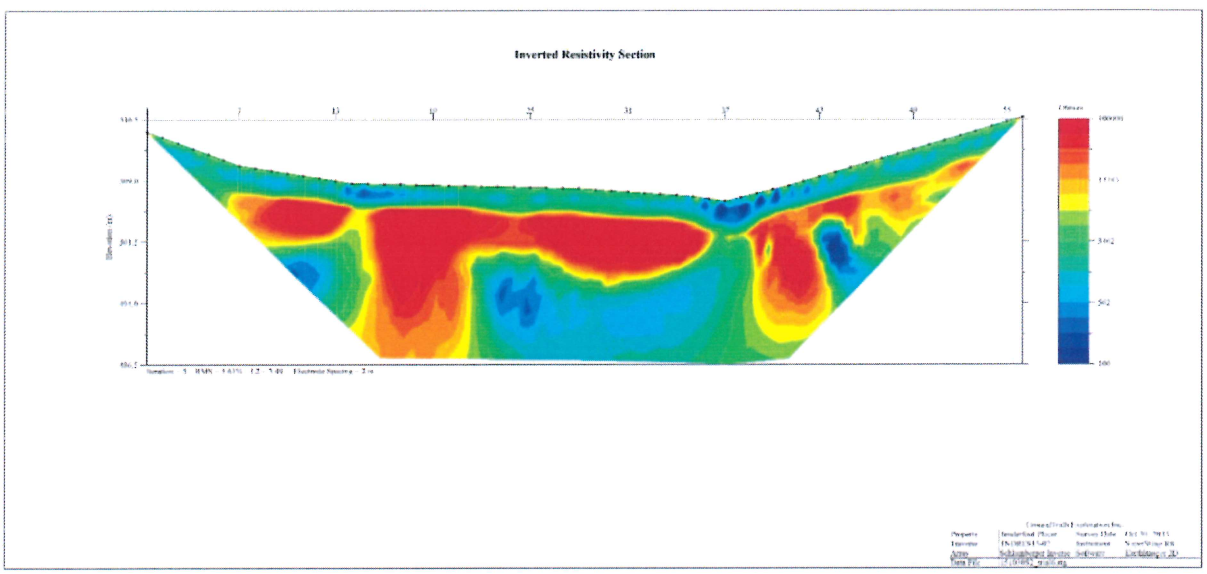
Data density is robust, with few rejected readings. Data quality is very good.

Figure 9: TNDRES15-01 Inverse Schlumberger Array Inversion Model Crossplot



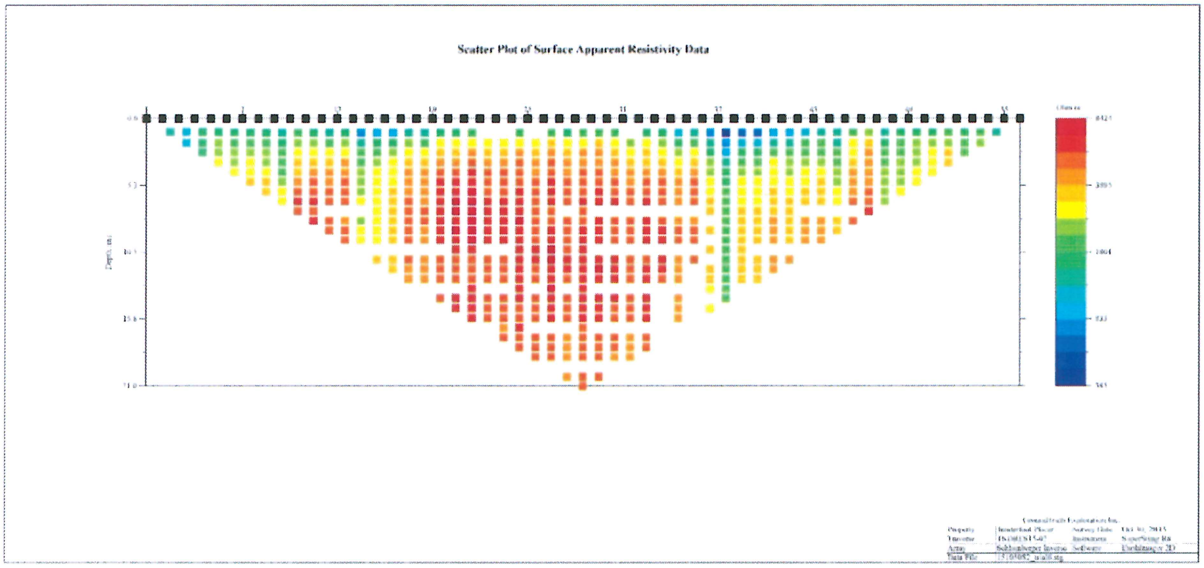
The inversion model fits the data very well with an RMS of 5.08% on the final inversion.

Figure 10: TNDRES15-02 Inverse Schlumberger Array Inversion (looking upstream)



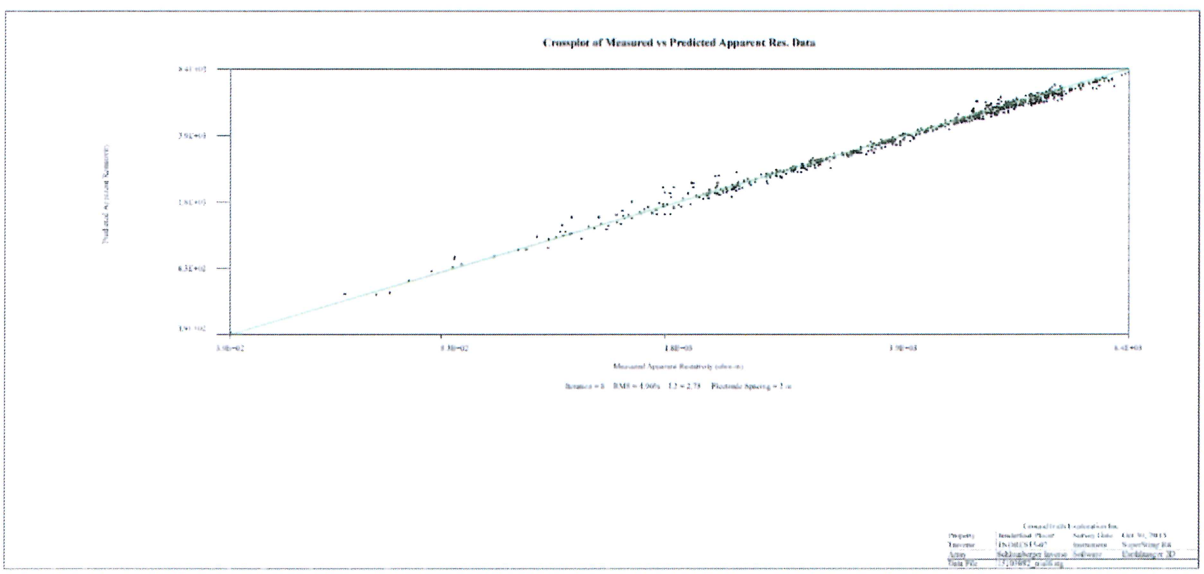
The TNDRES15-01 Inverse Schlumberger inversion also clearly defined the overburden-bedrock interface. Overburden is more conductive in the creek area likely due to water saturation and ground thawing to depth.

Figure 11: TNDRES15-02 Inverse Schlumberger Array Scatterplot:



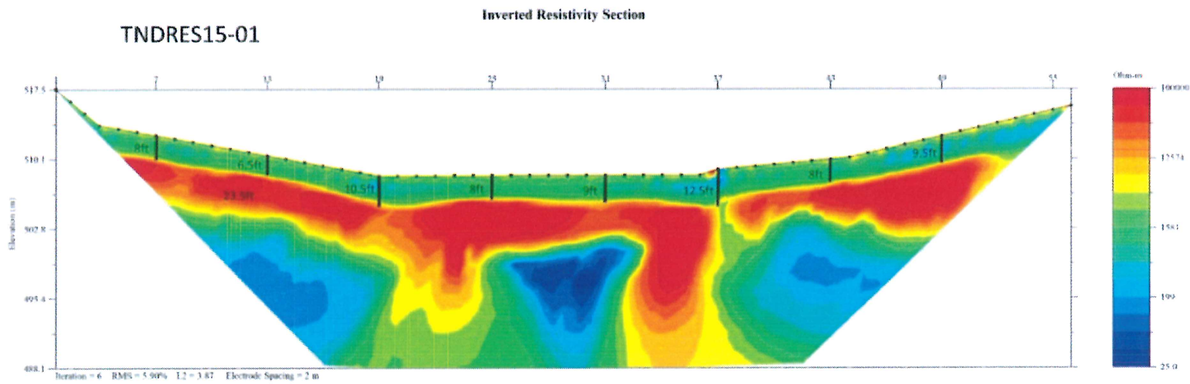
Nearly all data points retained for inversion model.

Figure 12: TNDRES15-02 Inverse Schlumberger Array Inversion Model Crossplot:



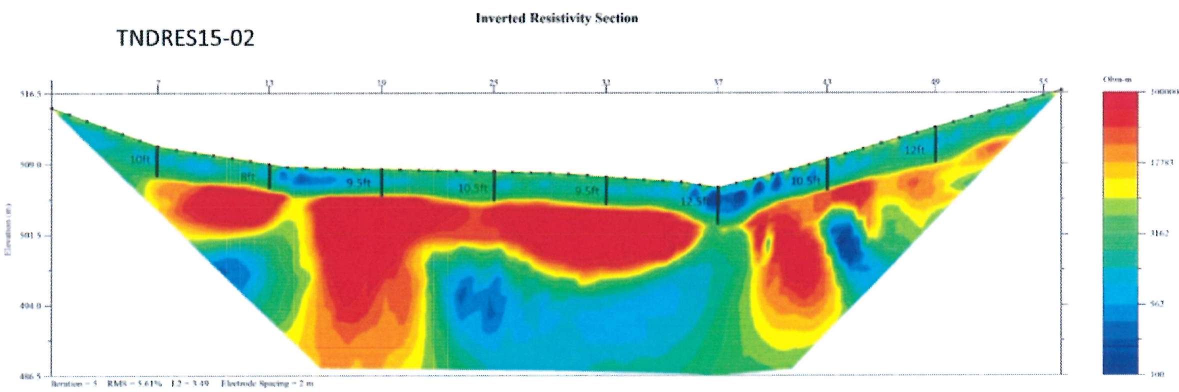
TNDRES15-02 Array final inversion with an RMS of 4.96%. Inversion model fits the data well.

Figure 13: Interpreted depth to bedrock on TND15-01



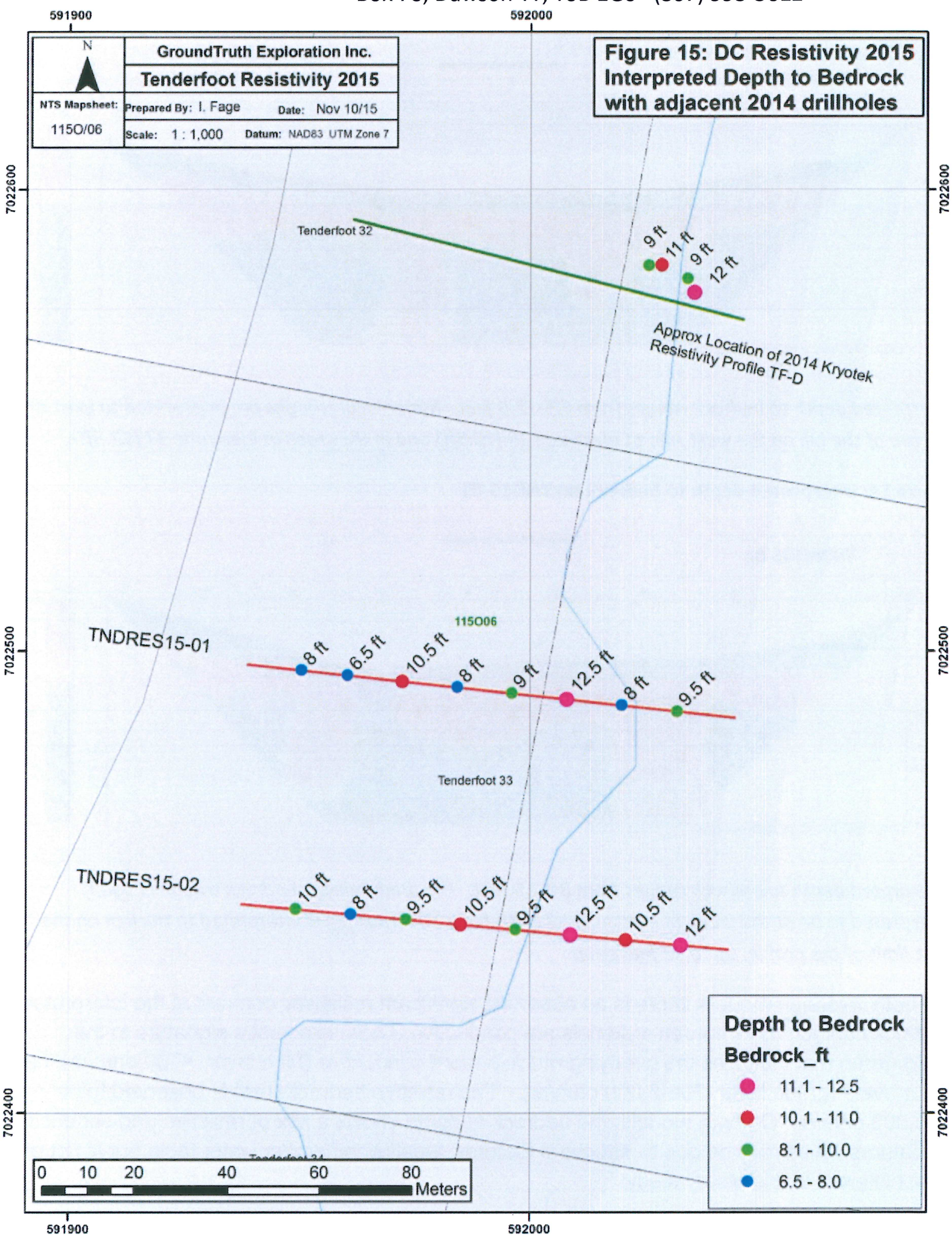
Interpreted depth to bedrock ranges from 6.5-12.5 feet. Minor local troughs are interpreted to exist at the toe of the hill on the west side at electrode 19 (10.5ft) and in the creek at electrode 37 (12.5ft).

Figure 14: Interpreted depth to bedrock on TND15-01



Interpreted depth to bedrock ranges from 8-12.5 feet. The predominant bedrock trough is again interpreted to be at the creek at electrode 37 (12.5 feet). Overburden is interpreted to thicken on the east limit of the profile, up to 12 feet deep.

On both inversion models, there is an observed significant resistivity contrast at the interpreted bedrock contact. Overburden materials are conductive. There is a subtle signature in the overburden that indicates the overlying muck is more conductive (blue layer: <700 ohm/m) than the gravels (green layer: 700-3,000 ohm/m). The resistive bedrock (red) is observed to be +30,000 ohm/m. On both models, the bedrock at depth shows a mix of resistive and conductive signatures which may be due to structural features, weathering and/or water table but is not of direct interest to this placer study.


591900
592000
7022600
7022500
7022400
N
GroundTruth Exploration Inc.
Tenderfoot Resistivity 2015
NTS Mapsheet:
115O/06
Prepared By: I. Fage
Date: Nov 10/15
Scale: 1 : 1,000
Datum: NAD83 UTM Zone 7
Figure 15: DC Resistivity 2015
Interpreted Depth to Bedrock
with adjacent 2014 drillholes
Tenderfoot 32
9 ft
11 ft
9 ft
12 ft
Approx Location of 2014 Kryotek
Resistivity Profile TF-D
115O06
TNDRES15-01
8 ft
6.5 ft
10.5 ft
8 ft
9 ft
12.5 ft
8 ft
9.5 ft
Tenderfoot 33
TNDRES15-02
10 ft
8 ft
9.5 ft
10.5 ft
9.5 ft
12.5 ft
10.5 ft
12 ft
Depth to Bedrock
Bedrock_ft
11.1 - 12.5
10.1 - 11.0
8.1 - 10.0
6.5 - 8.0
0 10 20 40 60 80
Meters

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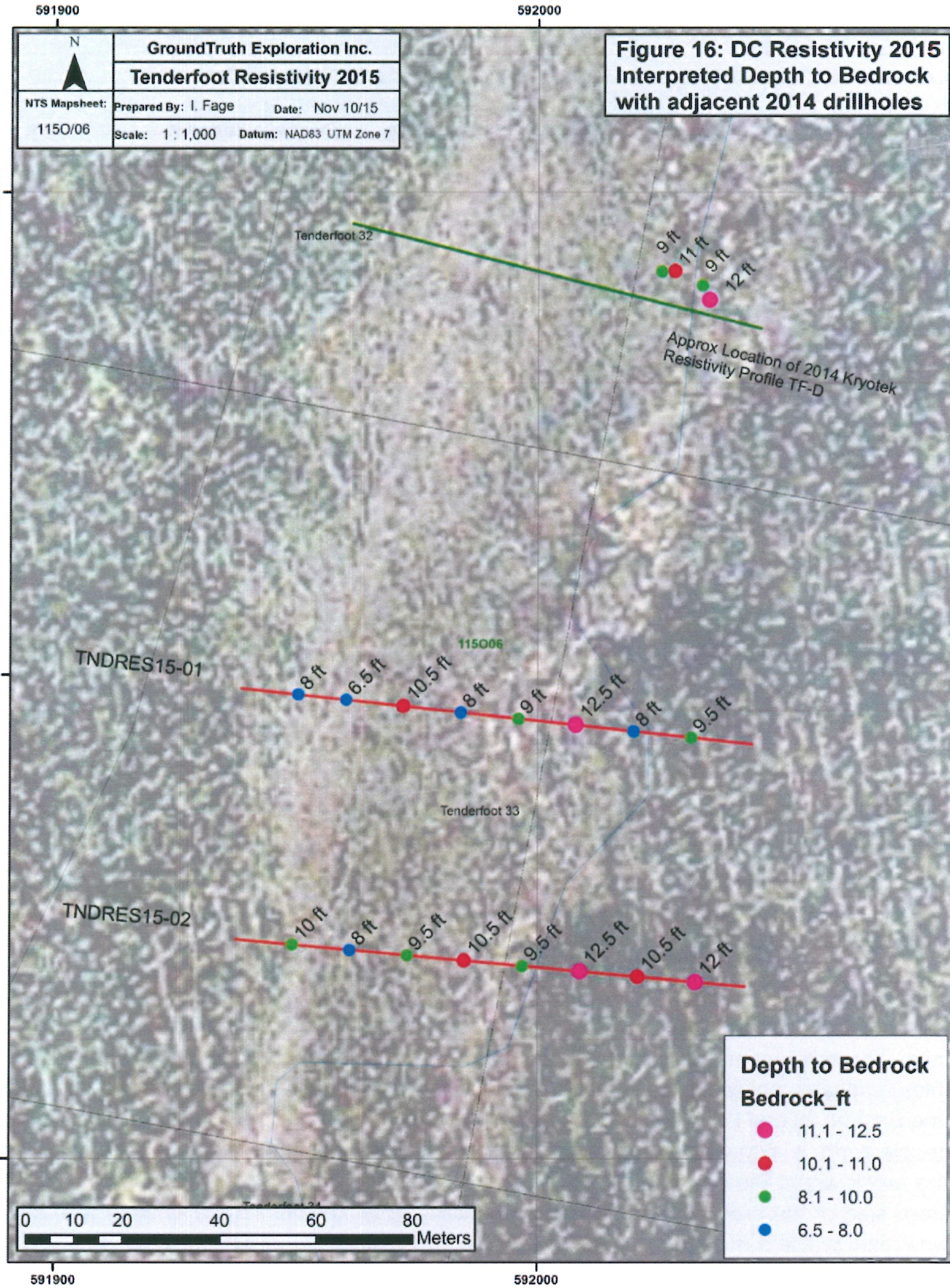


Coordinates for interpreted depths to bedrock along 2015 DC Resistivity profiles:

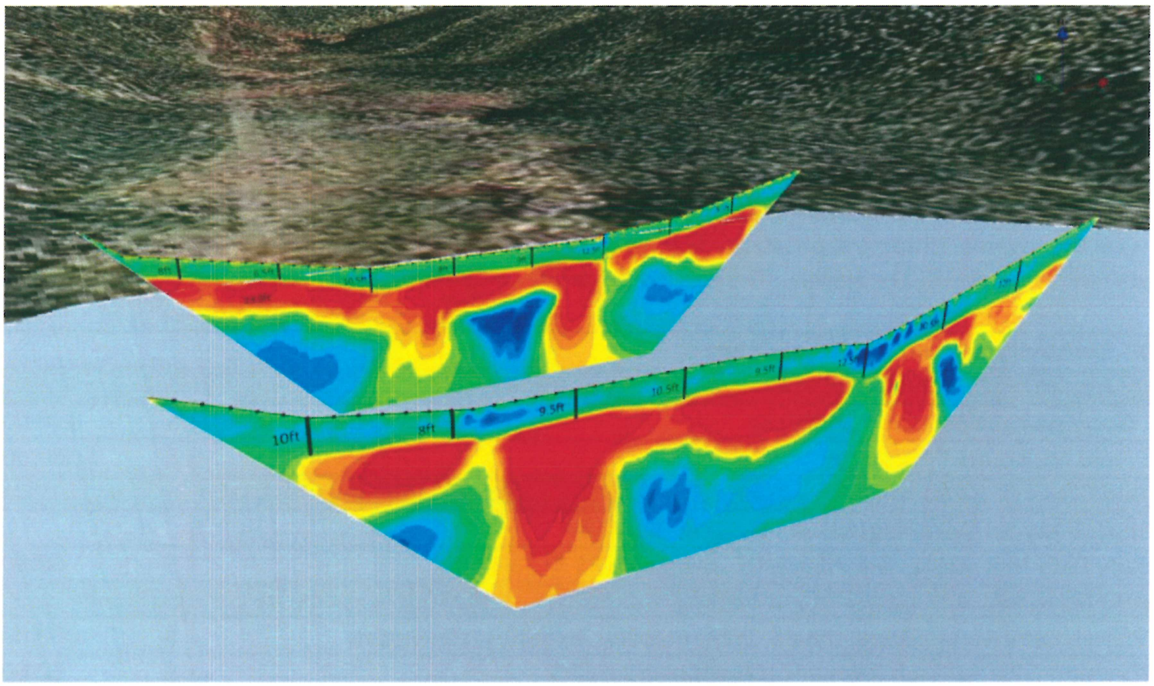
Profile ID	Electrode ID	Easting	Northing	Depth to Bedrock
TNDRES15-01	7	591950	7022496	8.0
TNDRES15-01	13	591960	7022495	6.5
TNDRES15-01	19	591972	7022494	10.5
TNDRES15-01	25	591984	7022492	8.0
TNDRES15-01	31	591996	7022491	9.0
TNDRES15-01	37	592008	7022490	12.5
TNDRES15-01	43	592020	7022488	8.0
TNDRES15-01	49	592032	7022487	9.5
TNDRES15-02	7	591949	7022444	10.0
TNDRES15-02	13	591961	7022443	8.0
TNDRES15-02	19	591973	7022442	9.5
TNDRES15-02	25	591985	7022441	10.5
TNDRES15-02	31	591997	7022440	9.5
TNDRES15-02	37	592009	7022439	12.5
TNDRES15-02	43	592021	7022438	10.5
TNDRES15-02	49	592033	7022436	12.0

Summary:

This survey generated reliable resistivity data. Due to the narrow with of the valley and shallow depth of bedrock, very close spaced electrode spacings such as the 2m spacing used here are appropriate to map the near surface in detail while attaining full cross valley coverage. The Inverse Schlumberger array is a suitable sounding array and performed well on this property as shown by the good model fit (low RMS) and coherently mapped bedrock interface.

It was useful to have drillhole data in the area of the survey to support the interpreted resistivity depths. The subtle primary bedrock depression identified in the creek zone (electrode 37 on both profiles) is of reasonably high confidence. The downstream profile indicated slightly greater depth on the Eastern side of the creek which was not identified on the upstream profile. Looking at this in google earth, it is observed that the upstream profile lies on a small hump on the eastern side of the creek where the downstream profile sits on the edge a small surface depression on the eastern side of the creek. Overburden may realistically be deeper on the eastern limit of the downstream profile due material slumping into the depression.

Figure 17: TND2015-01/02 Interpreted Resistivity with Sat Image-50k topo 3D model



The 3d model shows reasonably good agreement between the 50m spaced profiles. It is useful to note that the CanVec 1:50,000 topography from which the ground surface was made does not agree with the DGPS surveyed electrode locations. The 50k topo exaggerates the actual width of the valley floor which can be seen in the above figure. The hill on both sides of the valley climbs more steeply on the resistivity profile than the topo contours suggest. The primary interpreted bedrock depressions near the creek are observed as continuous features between both surveys.

4.0 Project Expenses

DC Resistivity Survey by GroundTruth Exploration Inc.: October 30, 2015

Tenderfoot Creek- DC Resistivity Invoice

GroundTruth Exploration

Overview:		
GroundTruth Exploration conducted a 1 day DC Resistivity survey on the Tenderfoot creek property on Oct 30, 2015. Two profiles were surveyed on the property using a Supersting R8 Resistivity system with 56 electrodes. Electrode spacing was 2m and the survey was run using the Inverse Schlumberger array. The crew mobilized using an Astar D2 which stayed out with the crew during the survey. The resistivity survey was conducted with a team of 4.		
DC Resistivity Survey Cost Breakdown:		
Wages:		
1 Geophysical Operator * $450/day	$	450.00
3 Field Assistants * $350/day	$	1,050.00
Data Management and Processing Services		
GIS/Job Layout/Mapping/Results Plotting @ $75/hr		
Daily Data Processing: Download/QC, merge DGPS @ $60/hr	$	60.00
Survey Equipment:		
IP/Resistivity Meter: Supersting 8 Channel meter w/cables, electrodes	$	600.00
Precision GPS: Ashtech Promark 100 differential GPS	$	50.00
Iridium Sat Phone @ $35/day	$	35.00
Chainsaw 1 * $50/day	$	50.00
Radios + Garmin GPS: 4 * $5/day	$	20.00
Consumable Supplies:		
Electrodes: wear & tear- 2 per profile, $6 ea , NaCl 4kg/profile, $2/kg	$	20.00
Report Preparation:		
I. Fage - Interpretation and report - 6 hours @ $60/hr	$	360.00
Printing and Binding - 2 copies @ $20/copy	$	40.00
Helicopter:		
Trans North Astar D2: 1.3 hours on Oct 30/15. Ticket # 60459	$	2,223.00

I. Fage, Nov 7/15

Total Invoice:	**$**	***4,958.00***

GroundTruth Exploration Inc.
Box 70, Dawson YT, Y0B 1G0 (867) 993-5612

5.0 Statement of Qualifications

I, Isaac Fage have been president of GroundTruth Exploration in Dawson City since May 2010. I have overseen the collection of 300,000 + soil samples, numerous geophysical, UAV drone and drill programs across numerous projects in Yukon Territory. 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 the Tenderfoot Creek placer property.

Dated this 10th day of November, 2015 in Dawson, YT.

Respectfully submitted

Isaac Fage

6.0 Conclusions and recommendations

The survey conducted produced a high confidence interpretation of the subsurface. DC Resistivity performs well on this property and can be utilized to efficiently focus drilling targets on a continuation of this zone or other areas on the property. There is good resistivity contrast present between the resistive host bedrock and moderately conductive overburden on Tenderfoot Creek. Running DC Resistivity in the fall is the most advantageous time of year to generate reliable results, as the near surface ground has had the most time to thaw. In future, utilizing a UAV drone to map high resolution imagery and topography could be effectively used to interpret the valley surficial geology for placer potential, interpret in conjunction with geophysics and drilling data and efficiently plan exploration and mining. Follow up work is at the discretion of the property owner.