

# AUSTRALIA CREEK & MELBA CREEK PLACER PROPERTY

## Assessment Report on

### Geophysical Exploration Program 2017

On

### PLACER PROSPECTING LEASES

LEASE ID	LENGTH	OWNER
ID01528	5 MILES	Sue Lancaster - 100%
ID01529	3 MILES	Fry Exploration & Mining Inc - 100%
ID01530	3 MILES	Susan P. Craig - 100%
ID01531	5 MILES	Metallic Minerals Corporation - 100%
ID01532	3 MILES	31982 Yukon Inc. - 100%
ID01533	5 MILES	Midnight Mining Services Ltd - 100%
ID01535	5 MILES	Group Ten Metals Inc. - 100%
ID01554	3 MILES	Deryk Law - 100%
ID01584	5 MILES	Jeff A. Dubois - 100%

By

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Geoplacer Exploration Ltd.

For

Sue Lancaster, Fry Exploration & Mining Inc, Susan P. Craig, Metallic Minerals Corporation, 31982 Yukon Inc., Midnight Mining Services Ltd., Group Ten Metals Inc., Deryk Law, and Jeff A. Dubois.

Location of property: 63°33'8.34"N to 63°39'43.4"N; 138°8'58.7"W to 138°39'47.3"W

NTS map sheets: 1150/09 and 1150/10

Mining District: Dawson

Date: October 16, 2017

Dates of Work: October 8 to 15, 2017.

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## Executive Summary

The following is an assessment report on the 2017 geophysical exploration program on the Australia Creek and Melba Creek placer property by William LeBarge, M.Sc., P.Geo. of Geoplacer Exploration Ltd. and Selena Magel, B.Sc., for lease owners Sue Lancaster, Fry Exploration & Mining Inc., Susan P. Craig, Metallic Minerals Corporation, 31982 Yukon Inc., Midnight Mining Services Ltd., Group Ten Metals Inc., Deryk Law and Jeff A. Dubois.

The property is located on Australia Creek and Melba Creek, upstream of the confluence with Dominion Creek. Access to the property can be gained by summer road from Dawson City via Hunker Creek and either Dominion Creek or Sulphur Creek, a total distance from Dawson City of approximately 68 kilometres.

In 2017, an exploration program was undertaken which consisted of 14 resistivity surveys. This program was successful in defining approximate bedrock contacts, as well as features which may be paleochannels.

Verification of bedrock and paleochannel depths and testing of the paleochannels for placer gold is recommended. Initially, drilling methods such as auger (6 inch or larger), R/C (Reverse circulation) or RAB (Rotary Air Blast) may be used. This should be followed up by excavator test pitting, bulk processing of alluvial gravels and finally, full scale mining, should results be favourable.

## **Introduction**

The following is an assessment report on the 2017 geophysical exploration program on the Australia Creek & Melba Creek placer property.

## **Location and Access**

Australia Creek is a right limit tributary of the Indian River, located in central Yukon approximately 70 km by air south of Dawson City, Yukon (Figure 1). Melba Creek is a right limit tributary to Australia Creek.

The extent of the current property is 63°33'8.34"N to 63°39'43.4"N; 138°8'58.7"W to 138°39'47.3"W; on NTS map sheets 1150/09 and 1150/10, in the Dawson Mining District (Figure 1, Figure 2).

Access to the property can be gained by summer road from Dawson City. The route runs from Dawson City along the Klondike Highway, then along Hunker Creek to King Solomon Dome, and down Sulphur Creek near its confluence with Indian River (approximately 68 kilometres), followed by an additional 5 km along secondary roads to the camp on Australia Creek (Figure 2).

## **Personnel and Dates of Work**

The 2017 geophysical exploration program was conducted and the results were interpreted by geologists William LeBarge of Geoplacer Exploration Ltd. and Selena Magel with additional field assistance by Nicholas McKay. The resistivity surveys were conducted and interpreted between October 8-15, 2017.

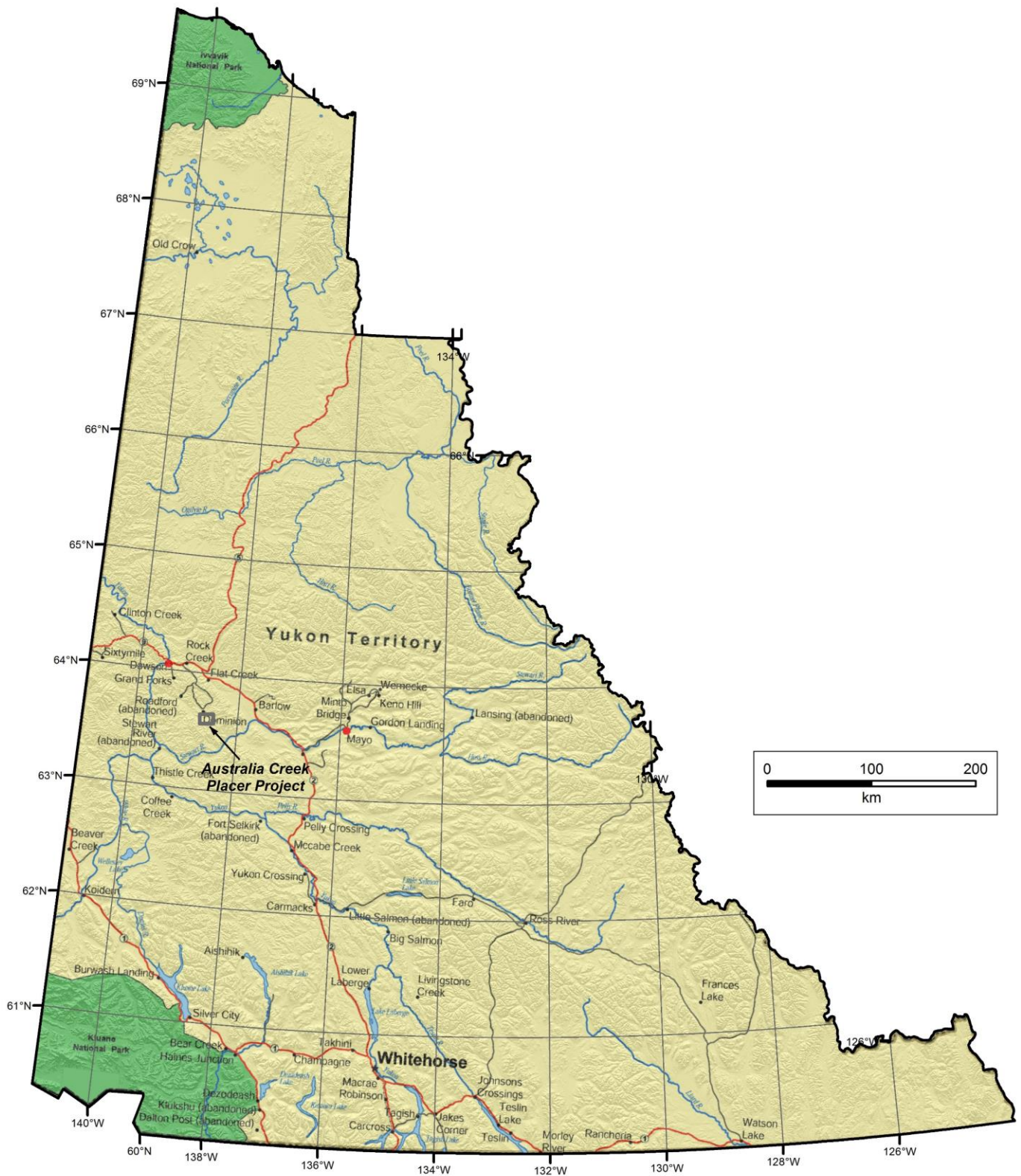


Figure 1 - General Location of Australia Creek & Melba Creek Placer Project, Yukon.

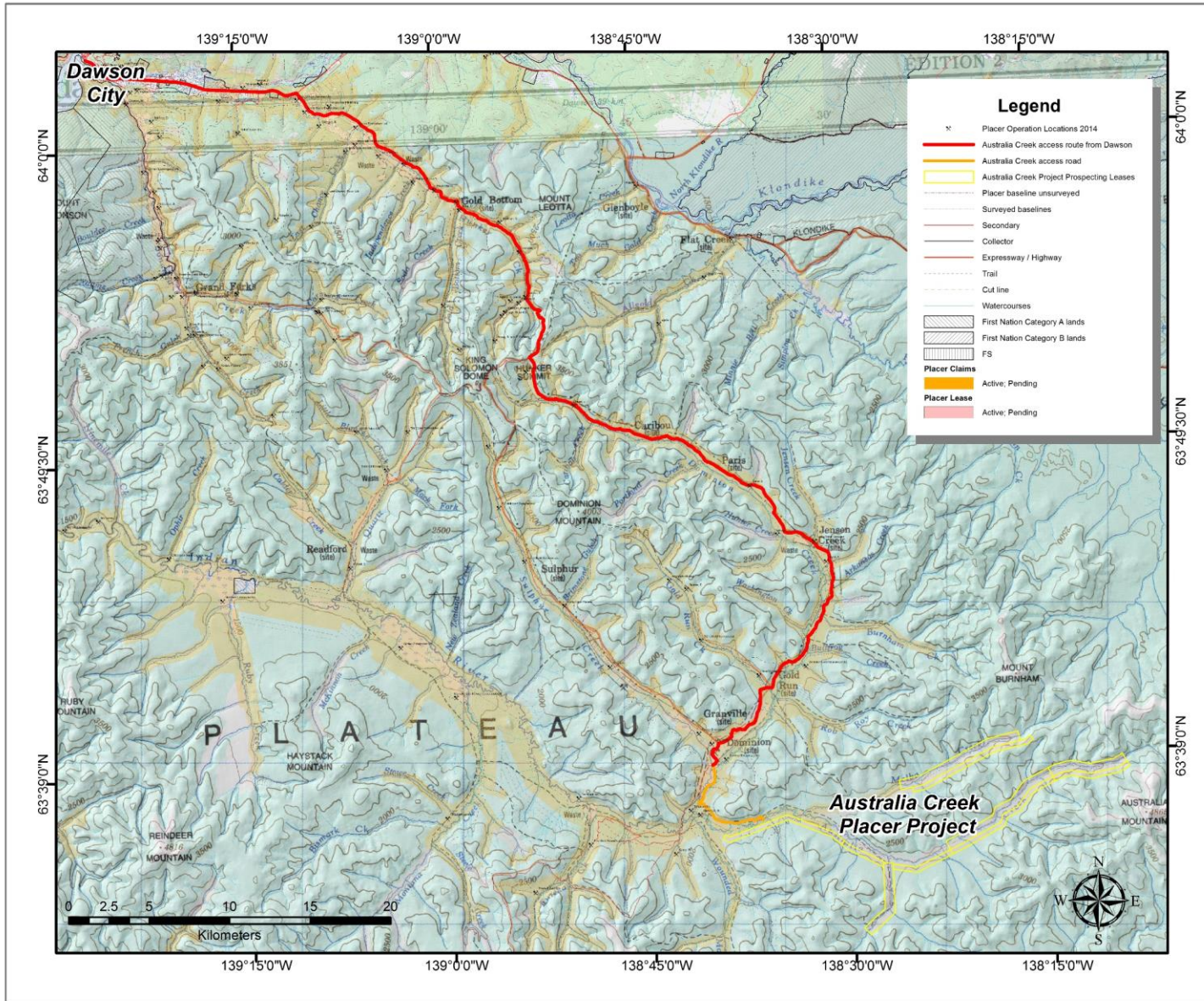


Figure 2- Location of the Australia Creek & Melba Creek Placer project with reference to Dawson City. Access route via Dominion Creek is indicated with a red line.

## Placer Tenure

The Australia Creek & Melba Creek placer property is currently held by multiple owners, shown in Table 1, below. Figure 6 shows a map of the Australia Creek & Melba Creek properties with lease ownership identified.

**Table 1 – Placer tenure and status, Australia Creek & Melba Creek property.**

GRANT NUMBER	TENURE	STATUS	LEASE LENGTH	OWNER	STAKING DATE	RECORDED DATE	EXPIRY DATE
ID01533	Placer prospecting lease	Active	5 MILES	Midnight Mining Services Ltd - 100%	12/17/2016	12/19/2016	12/19/2017
ID01530	Placer prospecting lease	Active	3 MILES	Susan P. Craig - 100%	12/17/2016	12/19/2016	12/19/2017
ID01535	Placer prospecting lease	Active	5 MILES	Group Ten Metals Inc. - 100%	12/17/2016	12/19/2016	12/19/2017
ID01555	Placer prospecting lease	Active	5 MILES	Jeff A. DuBois- 100%	4/25/2017	4/27/2017	4/27/2018
ID01528	Placer prospecting lease	Active	5 MILES	Sue Lancaster - 100%	12/17/2016	12/19/2016	12/19/2017
ID01529	Placer prospecting lease	Active	3 MILES	Fry Exploration & Mining Inc - 100%	12/18/2016	12/19/2016	12/19/2017
ID01531	Placer prospecting lease	Active	5 MILES	Metallic Minerals Corporation - 100%	12/17/2016	12/19/2016	12/19/2017
ID01554	Placer prospecting lease	Active	3 MILES	Deryk Law - 100%	4/25/2017	4/27/2017	4/27/2018
ID01532	Placer prospecting lease	Active	3 MILES	31982 Yukon Inc. - 100%	12/18/2016	12/19/2016	12/19/2017

## Regional Bedrock Geology

The project area is situated within the Yukon-Tanana terrane, an accreted pericratonic sequence that covers a large part of the northern Cordillera from northern British Columbia to east-central Alaska (Gordey and Ryan, 2005; Colpron and Nelson, 2006). The Yukon Tanana Terrane consists of Paleozoic schist and gneiss that were deformed and metamorphosed in the late Paleozoic, and intruded by several suites of Mesozoic intrusions that range in age from Jurassic to Eocene (Colpron and Nelson, 2006). The Paleozoic rocks are pervasively foliated with at least two overprinting fabrics (MacKenzie and Craw, 2010; MacKenzie et al, 2008). During Late Permian to Early Jurassic time these rocks were tectonically-stacked along thrust faults which were parallel to regional foliation. Later tensional-extensional tectonics occurred during the mid-Cretaceous, and this resulted in brittle fracture of the Paleozoic rocks, which is likely responsible for structurally-controlled gold mineralization in the south Klondike area including the White Gold exploration camp (MacKenzie et al, 2008; MacKenzie and Craw, 2010; MacKenzie and Craw, 2012).

## Local Bedrock Geology

There are five major units in the Klondike area; the Nasina Series, the Klondike Series, the Moosehide Assemblage, early Tertiary volcanics/volcanoclastics, and Tertiary intrusives (Figure 3). The basement unit is the Nasina Series, consisting of metamorphosed schist and quartzite. It is overlain by the Klondike Series, a dominantly quartzofeldspathic schist of Early Permian (280 m.y.) age. Significant lode gold has been found throughout the Klondike and south Dawson areas (Chapman et. al., 2011). In the south and west portions of the project area, the Klondike Series is in contact with a Late Devonian to Mississippian orthogneiss.

Structurally overlying the Klondike and Nasina Series are greenstone and altered ultramafic of the Moosehide Assemblage. In the east and south, early Tertiary andesitic volcanics and clastic sediments occur. These units are intruded by diabase to rhyolite Tertiary dykes and sills.

## Quaternary History

Australia Creek is a mature tributary to the Indian River, situated in a broad valley within the unglaciated Klondike Plateau. Most of the Klondike region has not been glaciated (Duk-Rodkin, 1999; Jackson et al., 2001). However, the Australia Creek drainage was subjected to the marginal effects of a pre-Reid glaciation, which deposited glaciofluvial gravel sourced from meltwater channels which breached the divide in the headwaters to the east. There is no evidence that glacial ice advanced into the drainage, although the pre-Reid glaciofluvial terraces covered pre-existing Tertiary White Channel gravels. These are especially evident in downstream reaches above Indian River (Froese and Jackson, 2005 a, b).

## Surficial Geology

The Australia Creek drainage is dominated by colluvium on the upper slopes and ridges, variably-buried Tertiary to Late Pleistocene alluvial terraces in mid-slope reaches and Late Pleistocene to modern alluvial fans, stream complexes and gulch deposits in the lowermost points of the valley (Froese and Jackson, 2005a, b). Recent stream action has reworked and redeposited the Tertiary (White Channel) bench gravels which lie along both the sides of the main valley (LeBarge, 2007). Figure 4 shows the surficial geology near the leases.

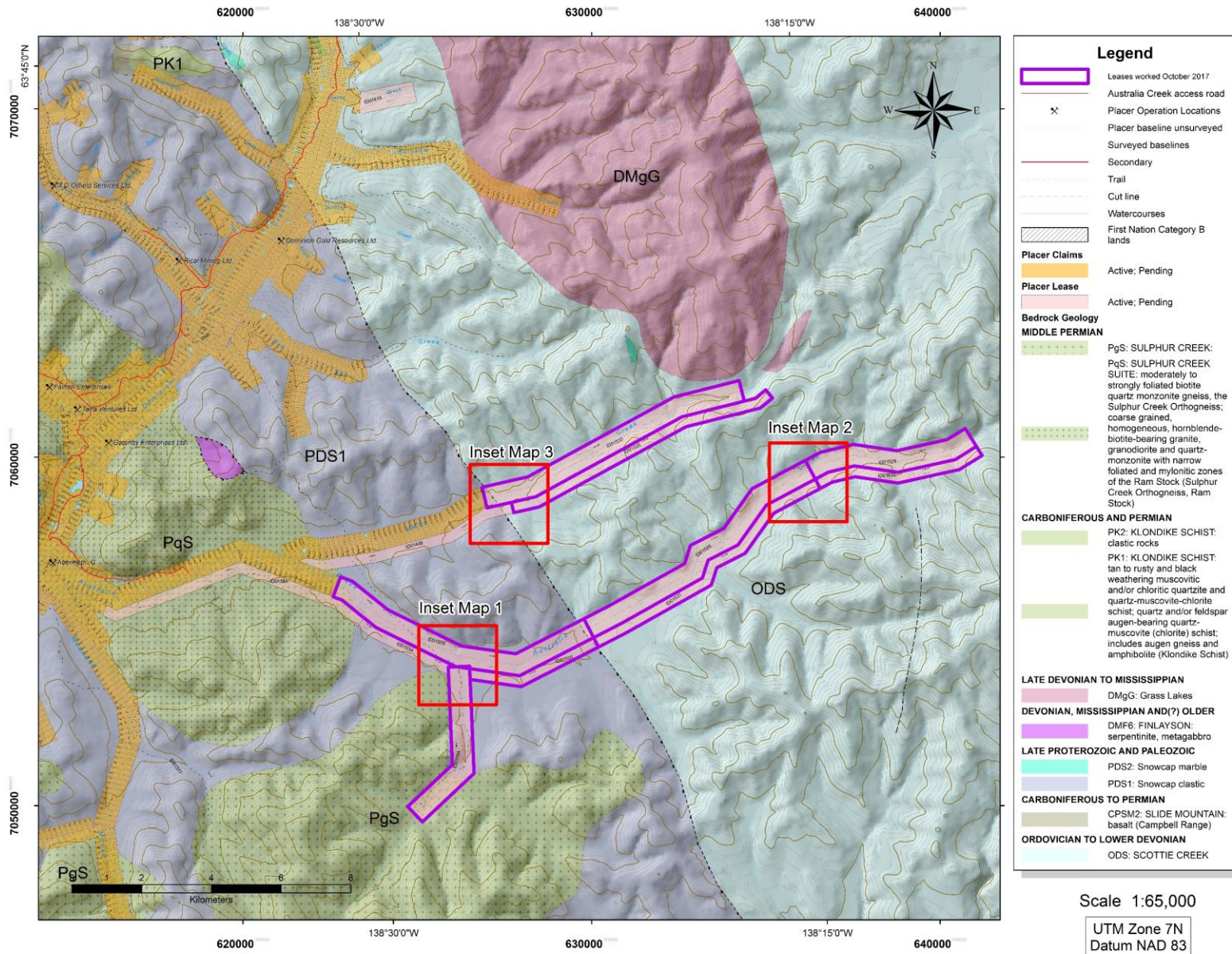


Figure 3- Bedrock geology of the Australia Creek & Melba Creek area (modified from YGS 2016). The explored leases are outlined in purple, and the areas of geophysical interest are outlined in red. Inset maps to follow in figures 6, 7, 8.

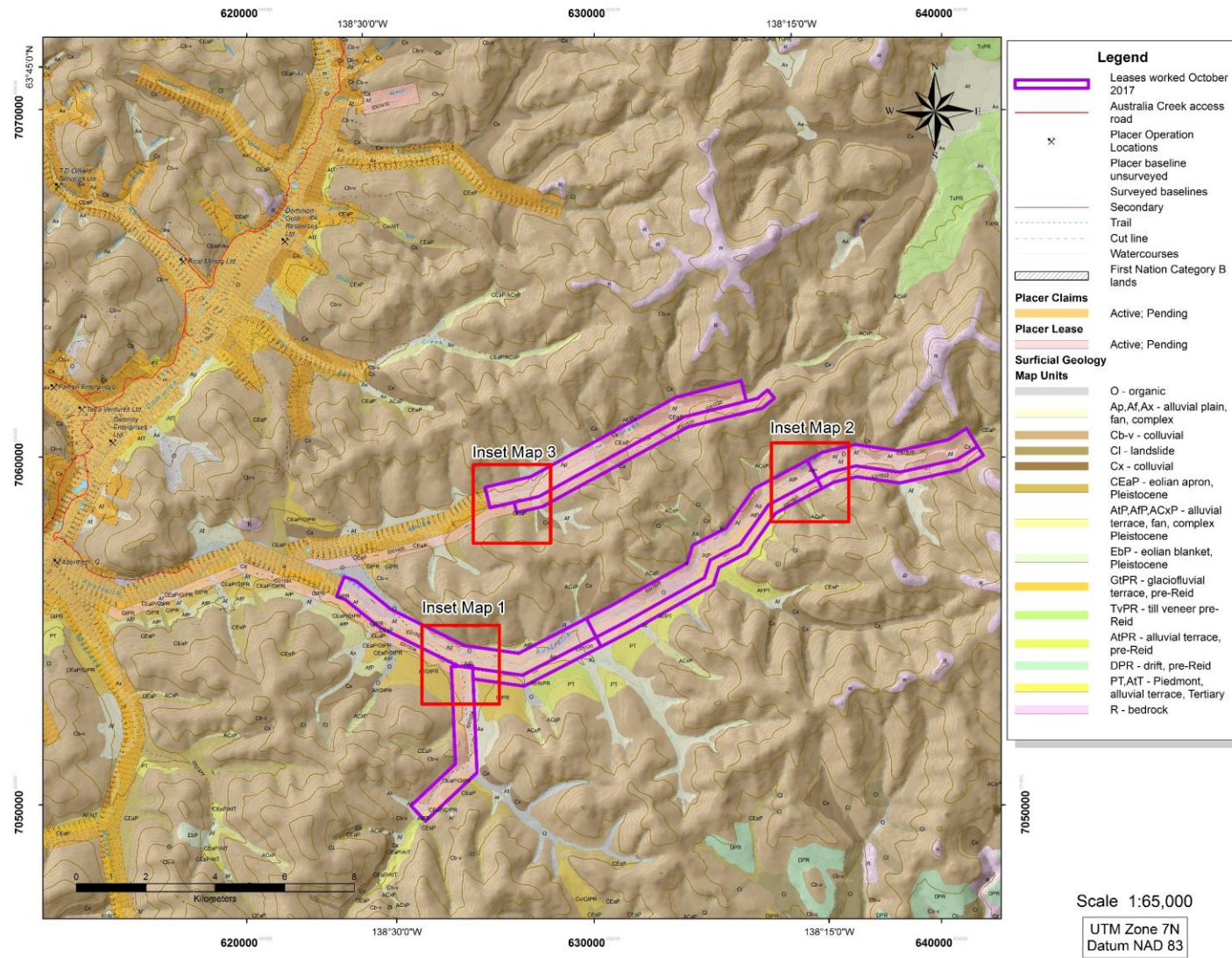


Figure 4- Surficial geology of the Australia Creek & Melba Creek area (modified from Froese and Jackson, 2005a, b). The explored leases are outlined in purple, and the areas of geophysical interest are outlined in red. Inset maps to follow in figures 6, 7, 8.

## 2017 Placer Exploration Program

### Overview

A total of 14 resistivity lines were conducted for various lease owners by William Lebarge and Selena Magel, with assistance of Nicholas McKay. The surveys were conducted on October 8-13, 2017 in the Australia Creek & Melba Creek lease areas in Dawson Mining District, YT. The Lippmann 4-Point Light Resistivity System was used to conduct the surveys. The software program RES2INV was used to invert the data and for processing. Figure 5 shows the prospecting leases and their ownership.

### Methodology

Electrical Resistivity was used in the Australia Creek & Melba Creek property to define the contact between bedrock and overburden. Resistivity was chosen as a geophysical tool due to its low impact nature, ease of mobility, depth penetration and ability to display bedrock contacts in ideal circumstances. Resistivity surveys were calibrated with existing drill holes completed in 1988 with bedrock depths sampled in the local area. Calibrating the surveys to a known bedrock depth allows to extrapolate that data for the further resistivity surveys. The Lippmann 4-Point Light equipment allows for a maximum length of 300m and 60m depth penetration. Line lengths of 200-300m were surveyed.

The resistivity technique used injects an electrical current into the subsurface through stainless steel electrodes and measures the remaining voltage at calculated distances away from the injection point. Ground materials have different resistances to the current, and give data points in a cross section of the subsurface. With the data points, a tomogram or pseudo section can be created representing changes of resistivity in the ground. Topography information is collected with a Garmin GPS at the location of each electrode to create a topographic profile of the survey line.

Data was collected in the field using Geotest software on a field laptop, while the inversion and data filtering is completed with RES2DINV software. Data points with poor contact resistance are exterminated and noisy data is filtered statistically with root mean squared data trimming. Two dimensional tomograms are produced using both least squares damped and robust inversion parameters to display the resistivity properties and to further clarify proposed contacts.



Photo 1: Setup including Lippmann 4 Point Light resistivity meter and field laptop.

The two-dimensional images are used for preliminary interpretations of bedrock structure. The images were interpreted by William Lebarge and Selena Magel. The preliminary interpretations include areas of permafrost, water saturated material, as well as solid bedrock and overburden. By comparing resistivity pseudo sections to known drill hole data, surficial and bedrock maps, interpretations can be confirmed and extrapolated to other areas. The presence of permafrost in the area further complicate and alters the properties detected by the geophysical instruments.

Although interpretations of the pseudo sections depend on the experience of the interpreters and the local geology, general principles of electrical resistivity are:

1. Low resistivity can indicate thawed and water saturated areas, as well as fine grained material.
2. Very high resistivity values can be due to ice rich material and frozen or highly disturbed ground.
3. Dry gravels, cobbles and boulders generally have high resistivity values.
4. The contrasts between values is more important in determining contacts than the absolute values found with resistivity data.

### **Limitations of Resistivity Data**

The interpreted sections provide an estimate of the conditions beneath the surface to the depths conducted and are within the accuracy of the system and methods. The data becomes more uncertain with depth and are more accurate toward the surface and is further complicated with permafrost present in the region. The materials are interpreted based upon drill hole data and local geology observed, as well as geologic knowledge of the area. Subsurface material may be similar in composition, resulting in uncertain results.

### **Geophysical Disclaimer**

Information of the subsurface shown in the following images was found to establish controls for the project in the future. The accuracy of the information presented is not guaranteed, and is not to be the sole plan for the construction of a project. It is the client's responsibility to plan to review information prior to development and to conduct testing or site investigation required for development to make their decision as to all subsurface conditions.

William LeBarge of Geoplacer Exploration Ltd. and Selena Magel accept no liability for any use or application by any and all authorized or unauthorized parties.

This report is intended as a preliminary guide for further exploration and more detailed investigation of the ground conditions is necessary for more complete results.

## General Results

A total of 14 resistivity surveys were conducted in the Australia Creek & Melba Creek placer exploration area. Table 2 outlines the lengths and location of these lines. Very good contact resistance was obtained during the surveys, so few data points were filtered and removed during processing. The excellent contact resistance was attributed to moist ground conditions and soft silt on the ground surface. Extensive permafrost in the survey area make results of the resistivity surveys uncertain. The permafrost is expected to be more continuous on north facing slopes, and discontinuous on south facing slopes and valleys with high water saturation. The thawed ground on the south facing slope is demonstrated in Figure 13.

Table 2- Resistivity line names, lengths and start and end locations of resistivity lines conducted in the Australia Creek & Melba Creek placer leases.

Resistivity Lines- Australia Creek, October 2017										
Date	Line Name	Length (m)	Start Point				End Point			
			Latitude	Longitude	y	x	Latitude	Longitude	y	x
2017-10-08	RES17-AUSP-01	300	63.59089	-138.45676	7053936.08	626185.66	63.59039	-138.45121	7053891.41	626463.28
2017-10-08	RES17-AUSLL-01	300	63.59034	-138.44990	7053888.21	626528.70	63.58957	-138.44434	7053813.22	626807.92
2017-10-09	RES17-AUS-01	300	63.59340	-138.46198	7054205.73	625916.01	63.59573	-138.45961	7054469.00	626022.91
2017-10-09	RES17-AUS-02	200	63.59230	-138.45941	7054087.66	626048.44	63.59405	-138.45793	7054285.51	626113.86
2017-10-10	RES17-AUS-03	300	63.63769	-138.25226	7059566.80	636103.62	63.63979	-138.25525	7059794.96	635945.66
2017-10-10	RES17-AUS-04	200	63.63760	-138.25218	7059557.22	636108.40	63.63611	-138.25045	7059394.47	636200.95
2017-10-10	RES17-AUSLL-02	300	63.63476	-138.25065	7059244.49	636197.76	63.63238	-138.24804	7058984.42	636338.16
2017-10-11	RES17-AUSLL-03	200	63.63510	-138.24891	7059285.97	636282.32	63.63349	-138.24777	7059108.87	636346.14
2017-10-11	RES17-AUSLL-04	300	63.63616	-138.24268	7059416.81	636585.47	63.63336	-138.24259	7059104.97	636603.59
2017-10-11	RES17-AUS-05	300	63.63662	-138.24370	7059466.27	636532.82	63.63835	-138.24849	7059648.17	636287.11
2017-10-12	RES17-MEL-01	300	63.63407	-138.41969	7058818.73	627830.49	63.63535	-138.41480	7058970.31	628066.63
2017-10-12	RES17-MEL-02	200	63.63407	-138.41969	7058818.73	627830.49	63.63565	-138.42109	7058991.05	627753.91
2017-10-12	RES17-MELLL-01	300	63.63317	-138.41970	7058718.21	627833.69	63.63054	-138.42010	7058424.64	627825.71
2017-10-13	RES17-MELLL-02	200	63.63135	-138.41893	7058517.18	627879.95	63.63170	-138.41500	7058563.45	628073.01

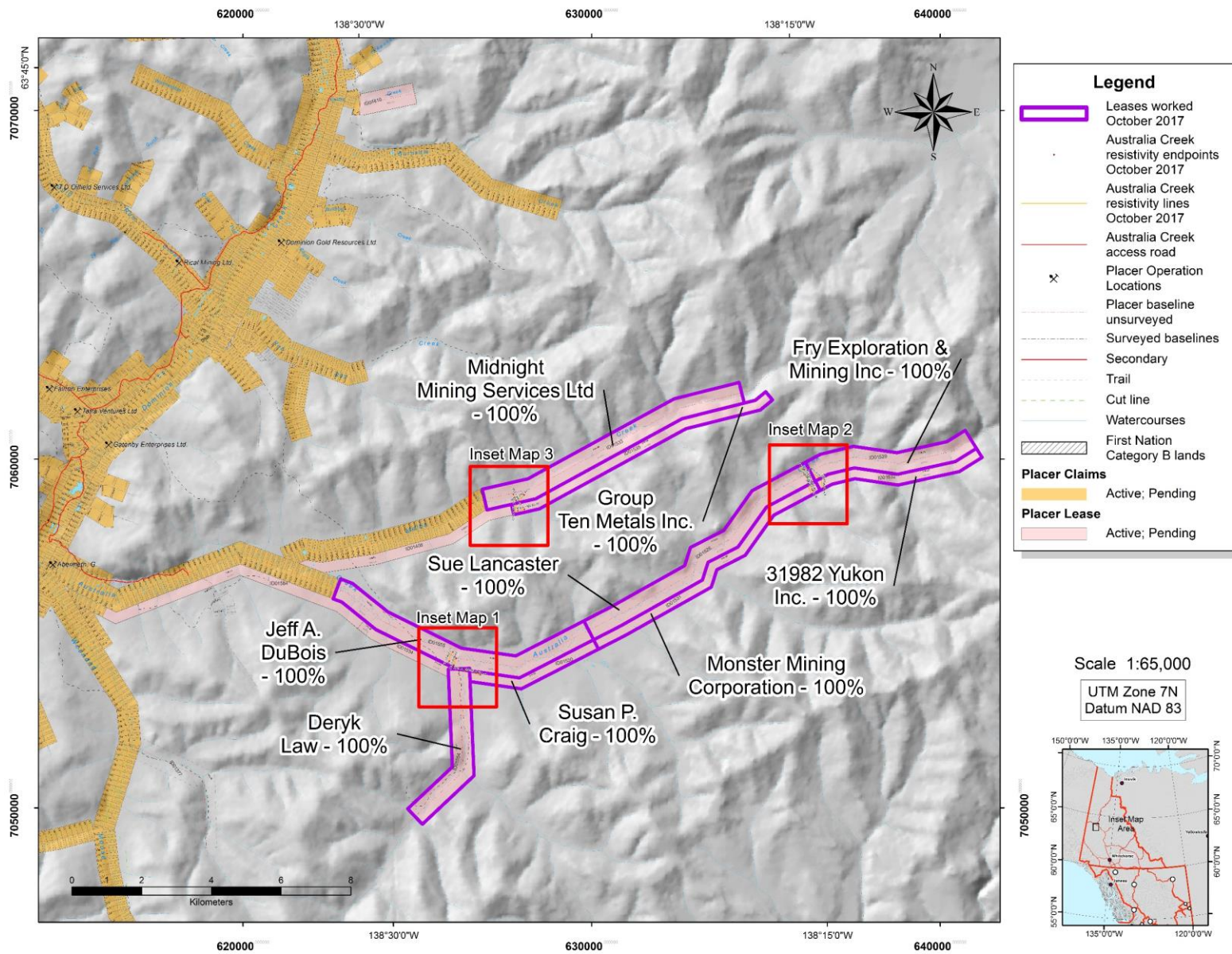


Figure 5- Location and ownership map outlining ownership of leases in purple and outlining 3 areas of geophysical interest in red. Inset maps to follow (YGS 2016).

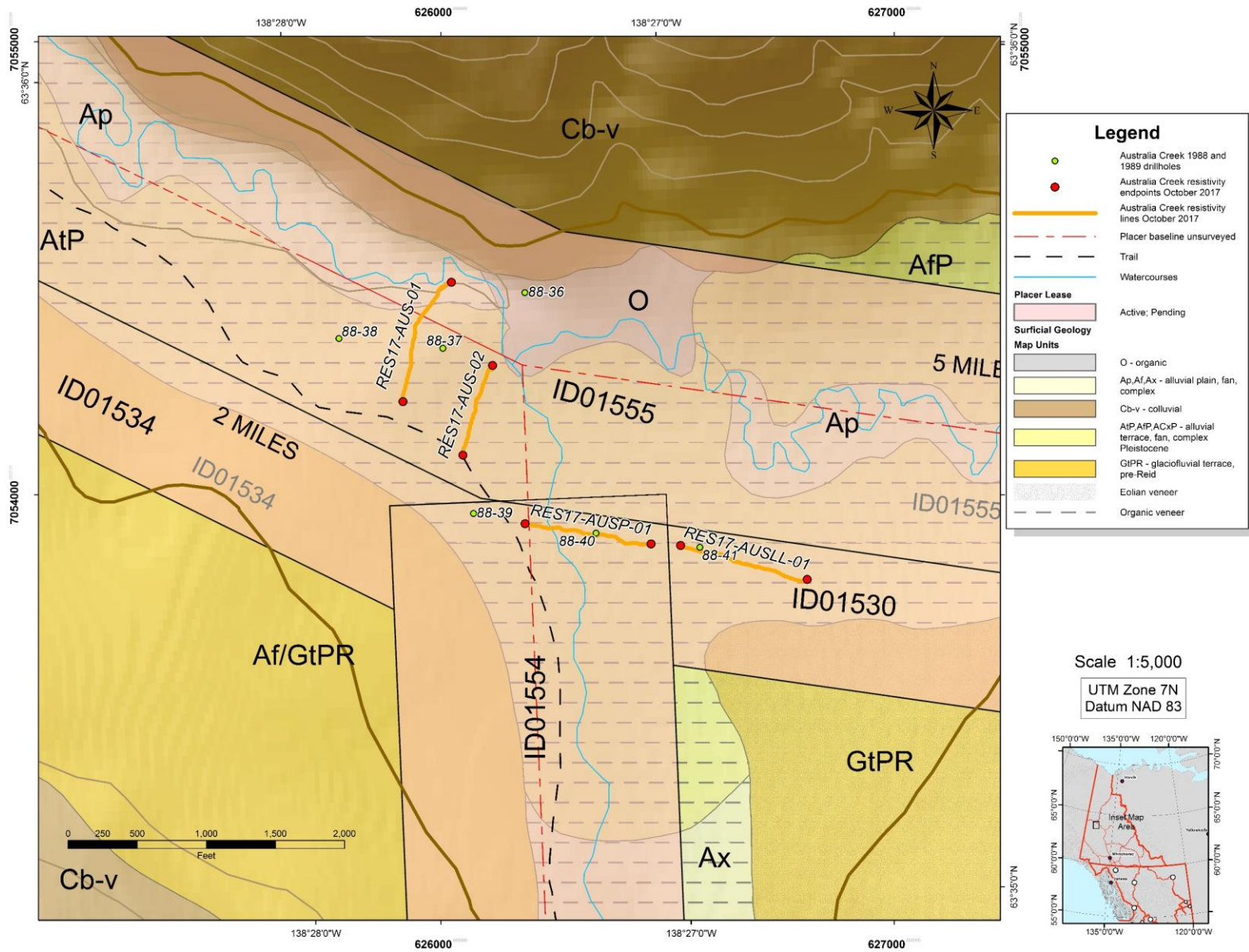


Figure 6- Inset map 1. Local surficial geology map showing locations of resistivity lines RES17-AUS-01, RES17-AUS-02, RES17-AUSP-01, and RES17-AUSLL-01. Adapted from Froese and Jackson 2005b.

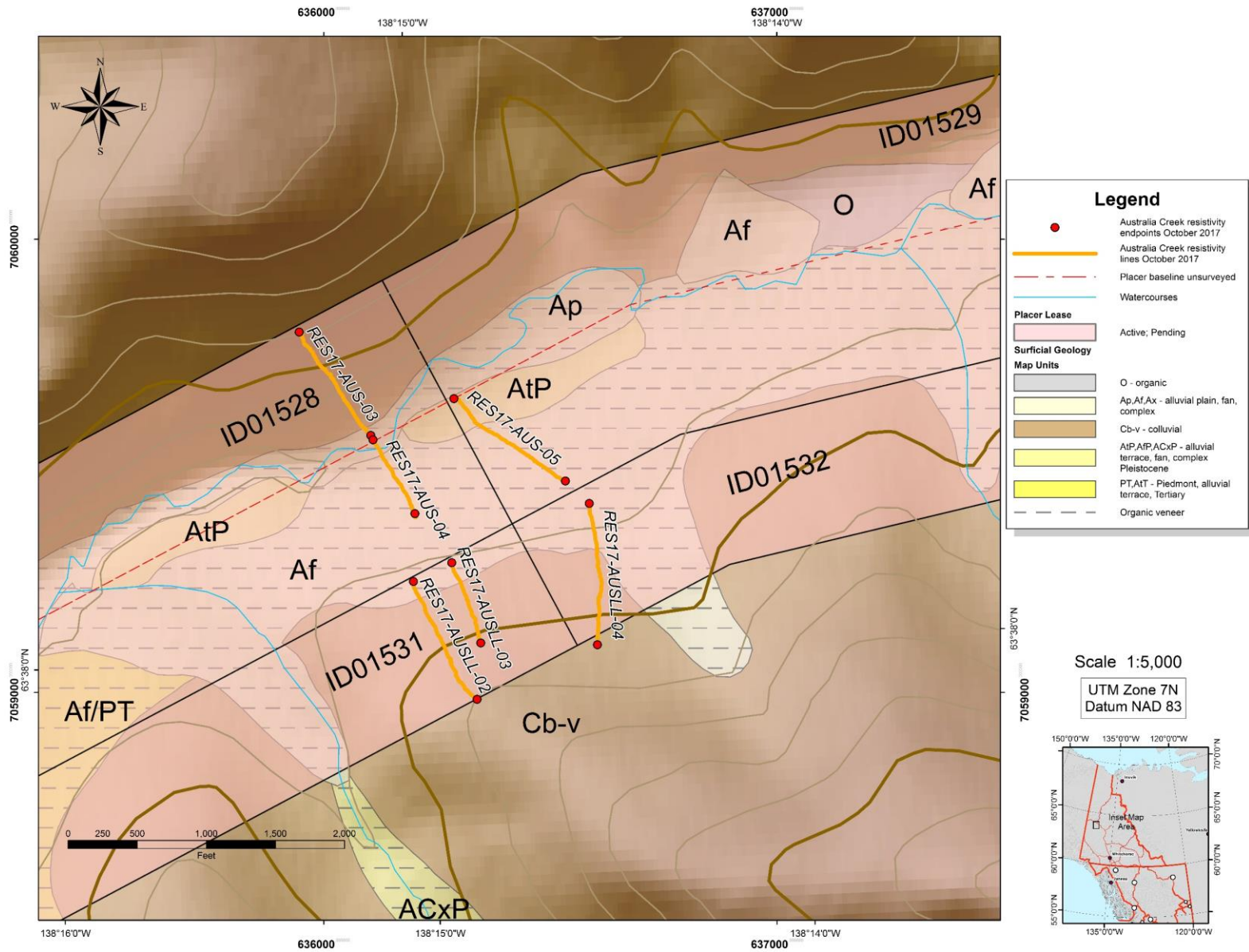


Figure 7- Inset map 2. Local surficial map showing locations of resistivity lines RES17-AUS-03, RES17-AUS-04, RES17-AUS-05, RES17-AUSLL-02, RES17-AUSLL-03, and RES17-AUSLL-04. Adapted from Froese and Jackson 2005b.

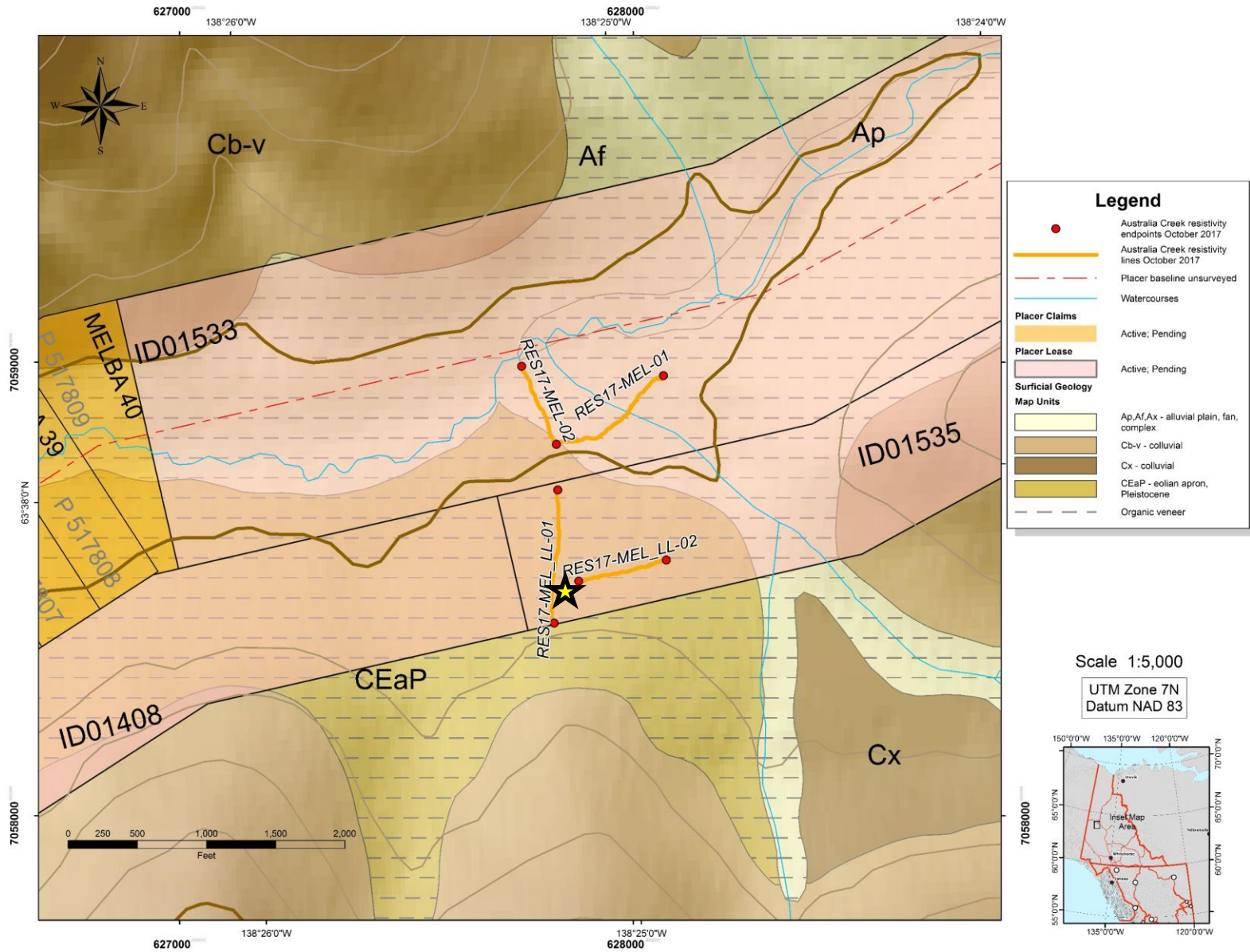


Figure 8- Inset map 3. Local surficial geology map showing locations of resistivity lines RES17-MEL-01, RES17-MEL-02, RES17-MEL\_LL-01, and RES17-MEL\_LL-02. The yellow star indicates a target area for further exploration. Adapted from Froese and Jackson 2005b.

RES17-AUS-01 300m \* non-conventional or general array

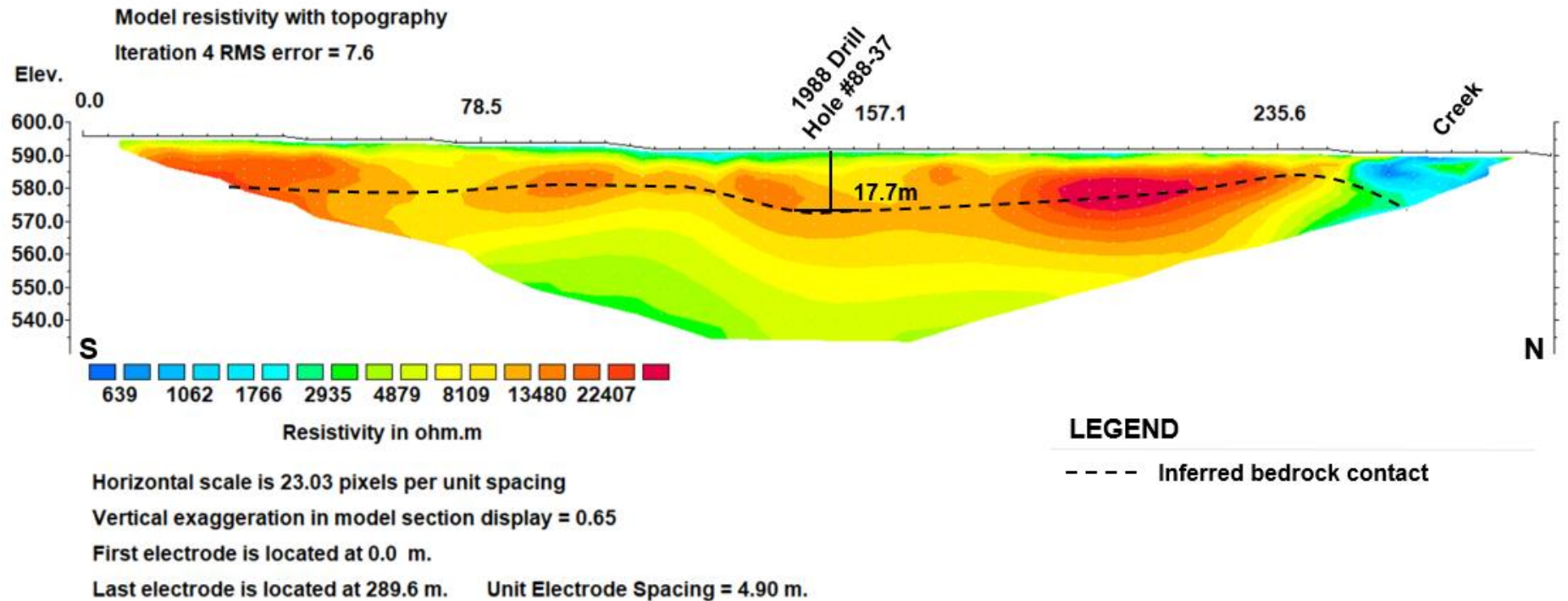


Figure 9- Line RES17-AUS-01 (Figure 6). The expected stratigraphy around the resistivity line is Pleistocene alluvial terrace material with an organic veneer on the south side of this line and alluvial plain material on the north end of the line (Froese and Jackson, 2005) overlying the Late Proterozoic and Paleozoic Snowcap Assemblage bedrock, a quartz-mica schist (YGS, 2016). This resistivity line crosses a drill hole from 1988 which intercepted gravel at 3m and bedrock at 17.7m (Tomlinson, 1989). The black muck appears as a thin unit of low resistivity (blue) across the surface of the section. The bedrock contact is interpreted to be slightly undulating across the main valley. The main Australia Creek is located at the end of this line and shows as low resistivity in the section.

RES17-AUS-02 200m \* non-conventional or general array

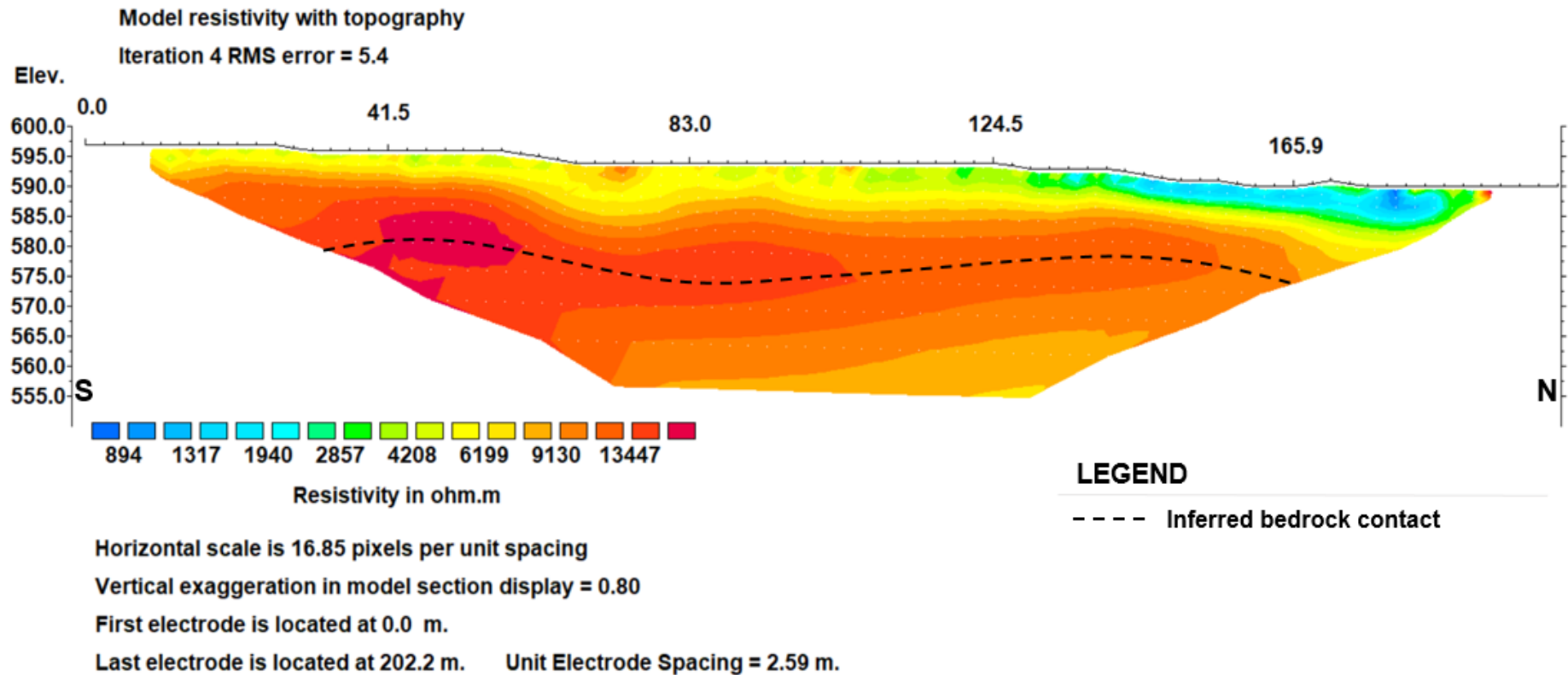


Figure 10- Line RES17-AUS-02 (Figure 6). At this line location, Pleistocene alluvial terrace is present with an organic veneer (Froese and Jackson, 2005) overlying the L. Proterozoic and Paleozoic Snowcap assemblage, a quartz-mica schist (YGS, 2016). The interpreted bedrock contact appears slightly undulating approximately 15-20m from surface across the valley and there appears to be a thawed area (blue) of low resistivity toward the main Australia Creek.

RES17-AUSP-01 300m \* non-conventional or general array

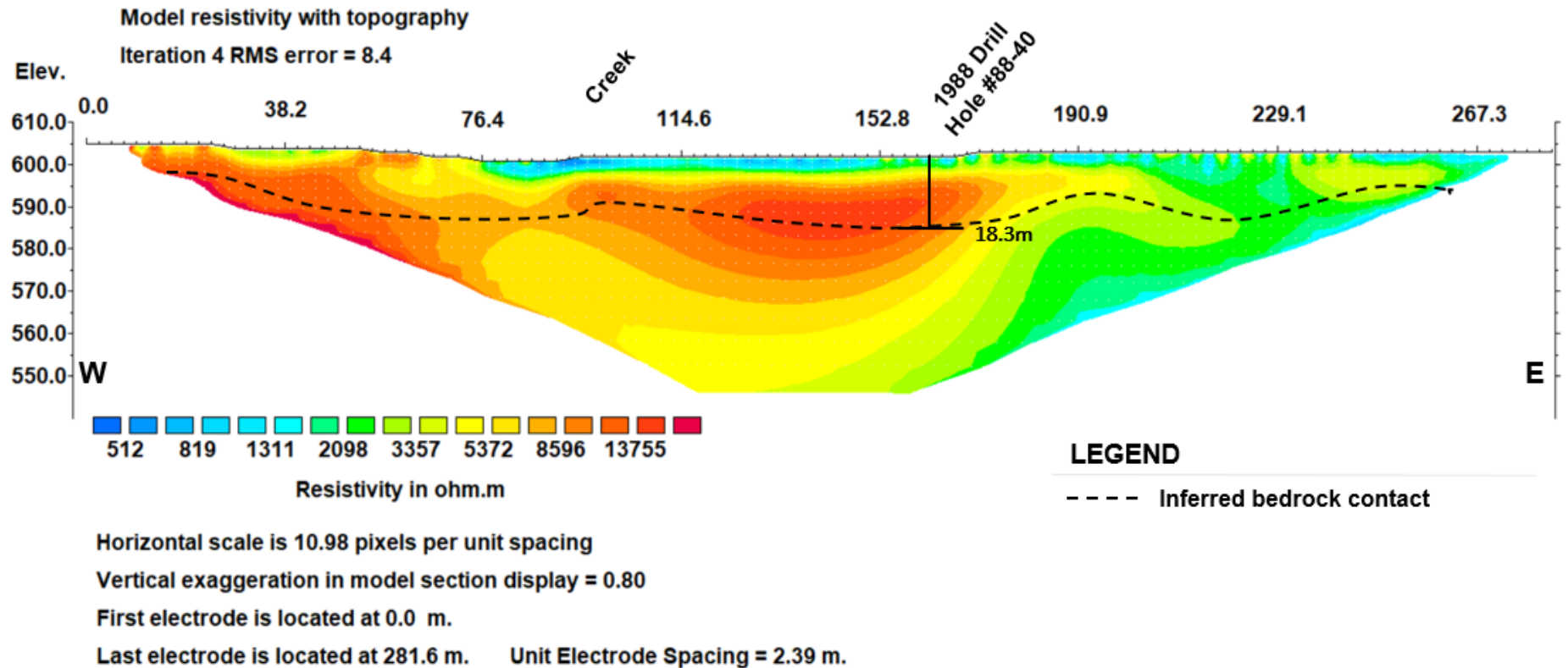
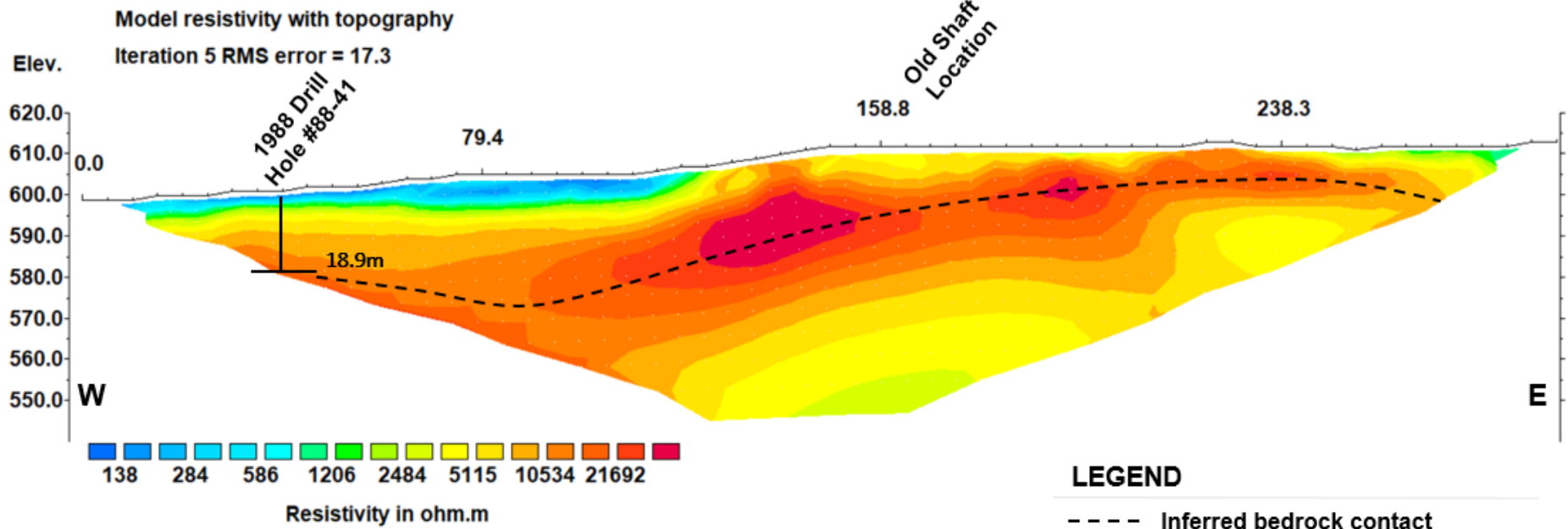


Figure 11- Line RES17-AUSP-01 (Figure 6). At this line location, Pleistocene alluvial terrace with an organic veneer (Froese and Jackson, 2005) overlies the quartz-mica schist Snowcap assemblage (YGS, 2016). A drill hole from 1988 is crossed by this line and intercepted gravels at 5m and bedrock at 18.3m (Tomlinson, 1989). The black muck appears as a thin unit of low resistivity (blue) at the surface. The interpreted bedrock contact appears to undulate across this tributary of Australia Creek. The intercepted creek is shown with low resistivity and appears to have a surrounding thawed section.

RES17-AUSLL-01 300m \* non-conventional or general array



Horizontal scale is 22.83 pixels per unit spacing  
 Vertical exaggeration in model section display = 0.80  
 First electrode is located at 0.0 m.  
 Last electrode is located at 292.9 m. Unit Electrode Spacing = 4.96 m.

Figure 12- Line RES17-AUSLL-01 (Figure 6). This resistivity section crosses both an abandoned shaft with an unknown depth and a 1988 drill hole that intercepts gravels at 3m, and bedrock at 18.9m (Tomlinson, 1989). The black muck is shown as a thin layer of low resistivity at the surface. The topographically high locations had observed gravels and sand. Pleistocene alluvial terrace material with an organic veneer (Froese and Jackson, 2005) overlies the Snowcap assemblage, a quartz-mica schist (YGS, 2016). The high resistivity zones in this section can be attributed to gravels observed in the field and existing drill hole, while the low resistivity areas are interpreted as water saturated organics and fine-grained material.

RES17-AUS-03 300m \* non-conventional or general array

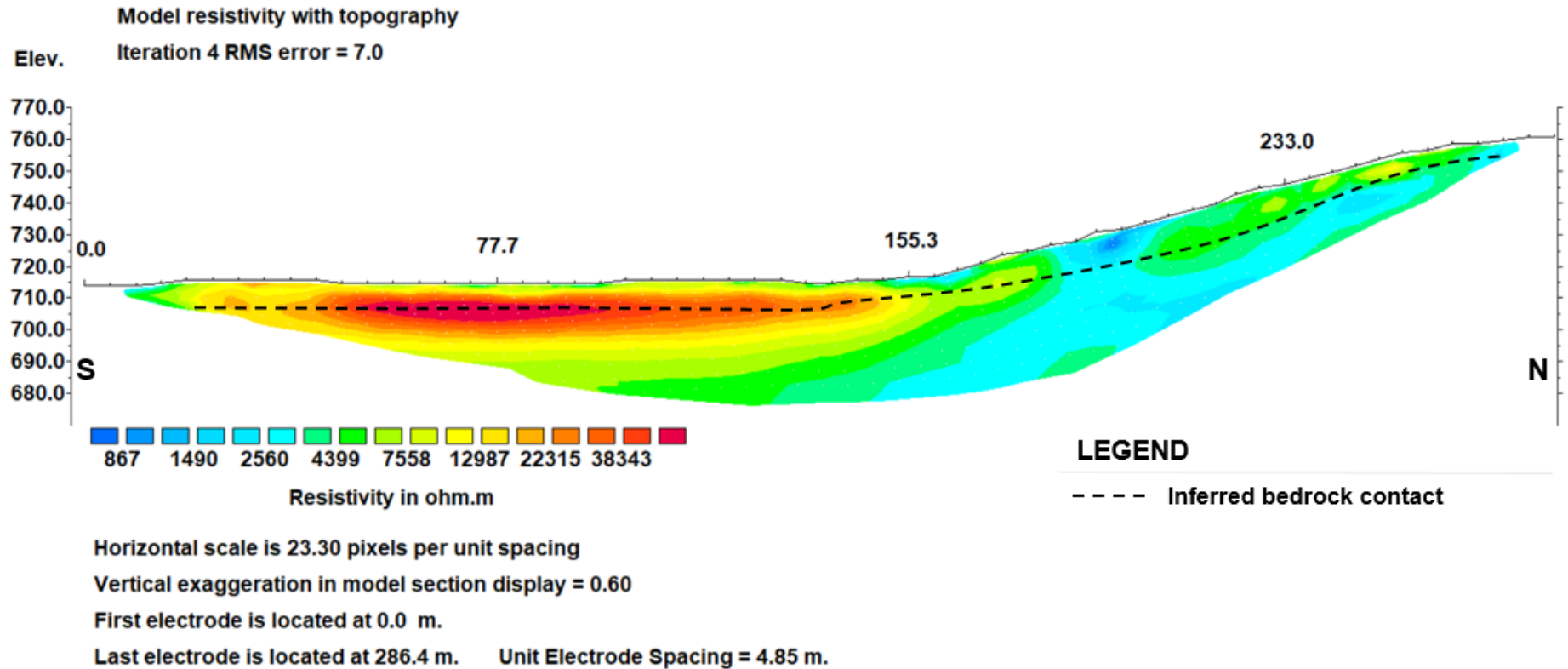


Figure 13- Line RES17-AUS-03 (Figure 7). This resistivity line crosses the contact between alluvial plain with an organic veneer (south side) and colluvial blanket-veneer (north side) (Froese and Jackson, 2005). Both surficial units overly the Scottie Creek formation, a quartz psammite of Ordovician age (YGS, 2016). The bedrock contact is interpreted as relatively shallow at approximately 6m and mostly flat following topography in the area.

RES17-AUS-04 200m \* non-conventional or general array

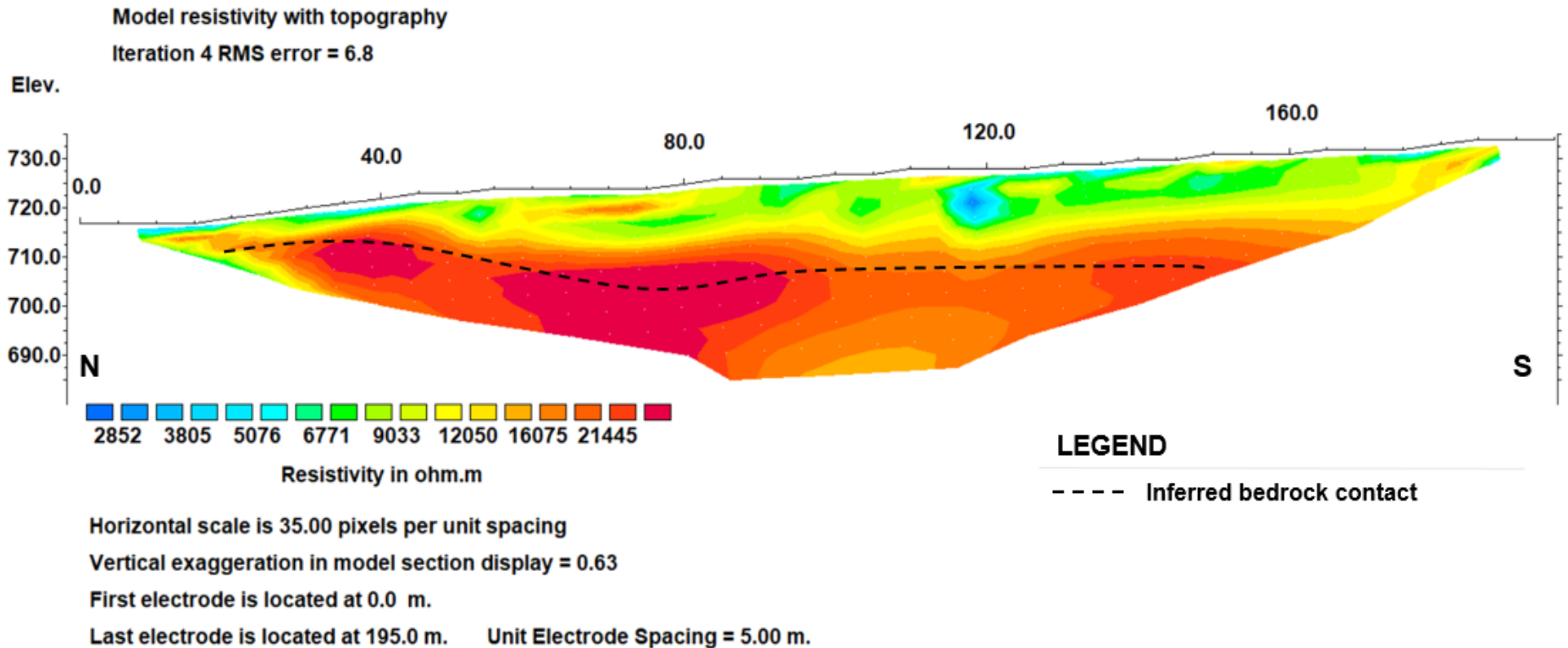
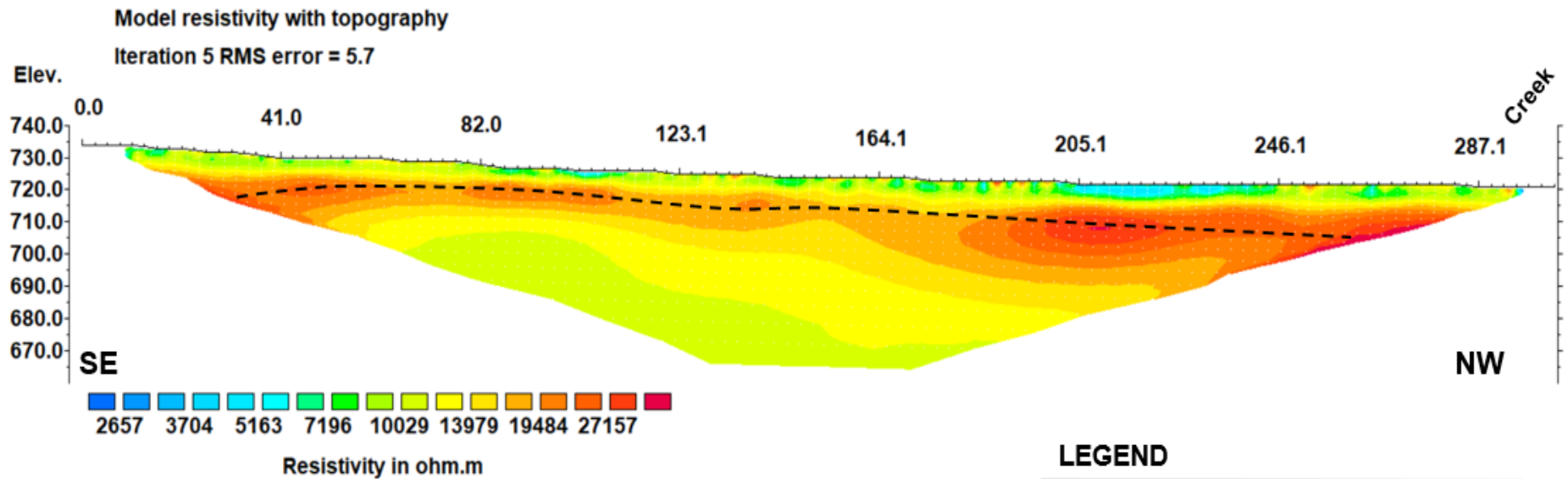


Figure 14- Line RES17-AUS-04 (Figure 7). Surficial geology in the line location is alluvial fan material with organic material (Froese and Jackson, 2005) overlying Ordovician Scottie Creek Formation bedrock, a quartz psammite (YGS, 2016). The bedrock contact appears slightly undulates between 10-20m deep up the side of the Australia Creek valley. The high resistivity zones on the surface perhaps display permafrost while the low resistivity areas on the surface could indicate thawed ground. There appears to be a bedrock depression 80m along the line that could be a target for further exploration.

RES17-AUS-05 300m \* non-conventional or general array



**LEGEND**

--- Inferred bedrock contact

Horizontal scale is 11.52 pixels per unit spacing

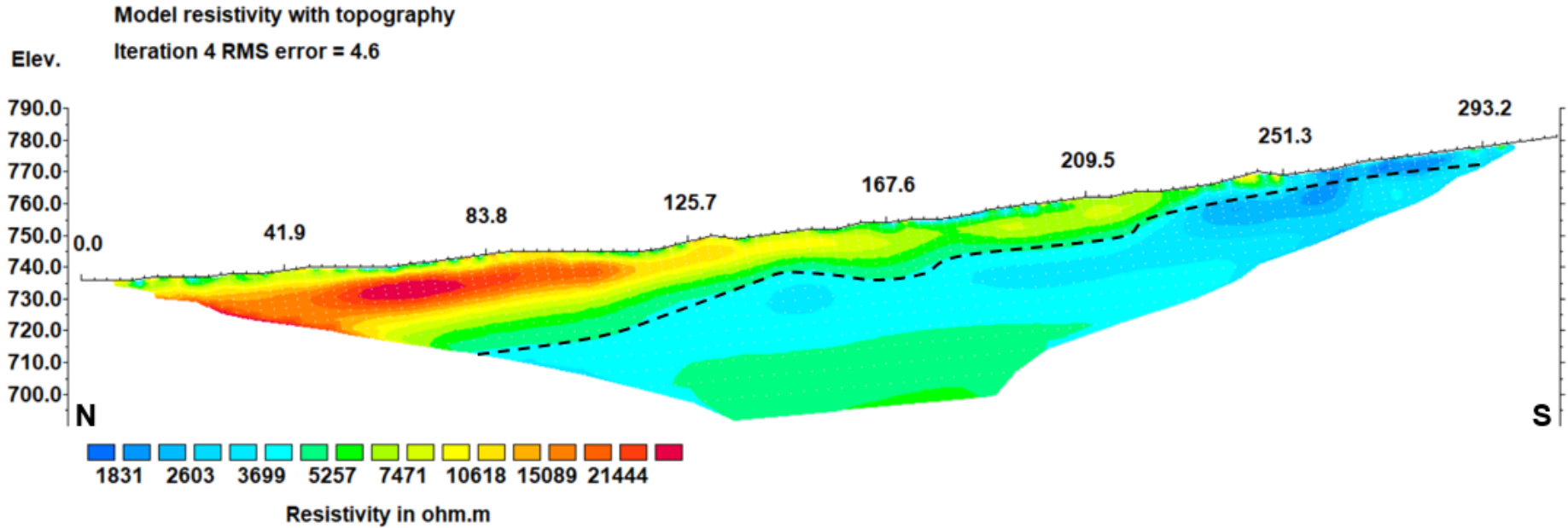
Vertical exaggeration in model section display = 0.62

First electrode is located at 0.0 m.

Last electrode is located at 302.5 m. Unit Electrode Spacing = 2.56 m.

Figure 15- Line RES17-AUS-05 (Figure 7). In the line location, the surficial geology is alluvial fan material on the SE side, and alluvial terrace material on the NW side of the line (Froese and Jackson, 2005). Both surficial units overly the Ordovician Scottie Creek Formation, a quartz psammite (YGS, 2016). The bedrock contact is interpreted as relatively shallow-reaching depths of only ~10m. The surface of the resistivity section shows to be variable- potentially zones of thawed and frozen ground. The surface was water saturated in the last 200m of this line and shows as low resistivity in the section.

RES17-AUSLL-04 300m \* non-conventional or general array



Horizontal scale is 11.51 pixels per unit spacing

Vertical exaggeration in model section display = 0.65

First electrode is located at 0.0 m.

Last electrode is located at 309.0 m. Unit Electrode Spacing = 2.62 m.

Figure 16- Line RES17-AUSLL-04 (Figure 7). This resistivity line crosses the contact between alluvial fan in the north, and colluvial blanket-veneer in the south end (Froese and Jackson, 2005). Both surficial units overly the Scottie Creek formation, a quartz psammite of Ordovician age (YGS, 2016). The bedrock contact is interpreted as undulating between 5-30m along the topography. The high resistivity zone in the north is interpreted as permafrost on the northern facing slope.

RES17-AUSLL-02 300m \* non-conventional or general array

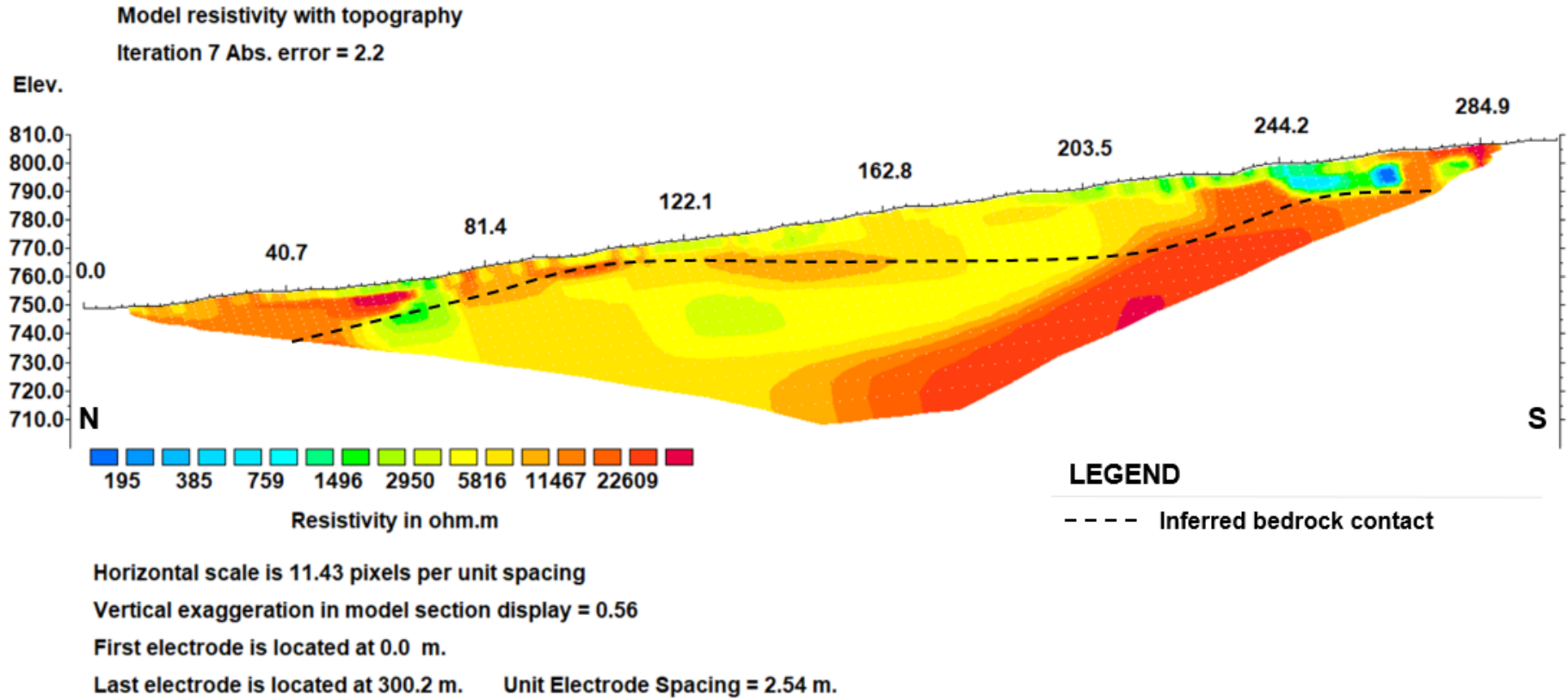


Figure 17- Line RES17-AUSLL-02 (Figure 7). This resistivity line crosses the contact between alluvial fan in the north, and colluvial blanket-veneer in the south end (Froese and Jackson, 2005). Both surficial units overly the Scottie Creek formation, a quartz psammite of Ordovician age (YGS, 2016). The bedrock contact is interpreted as undulating between 5-25m along the topography showing variable depths to bedrock as well as highly variable surface resistivities- perhaps indicating thawed and frozen zones of discontinuous permafrost.

RES17-AUSLL-03 200m \* non-conventional or general array

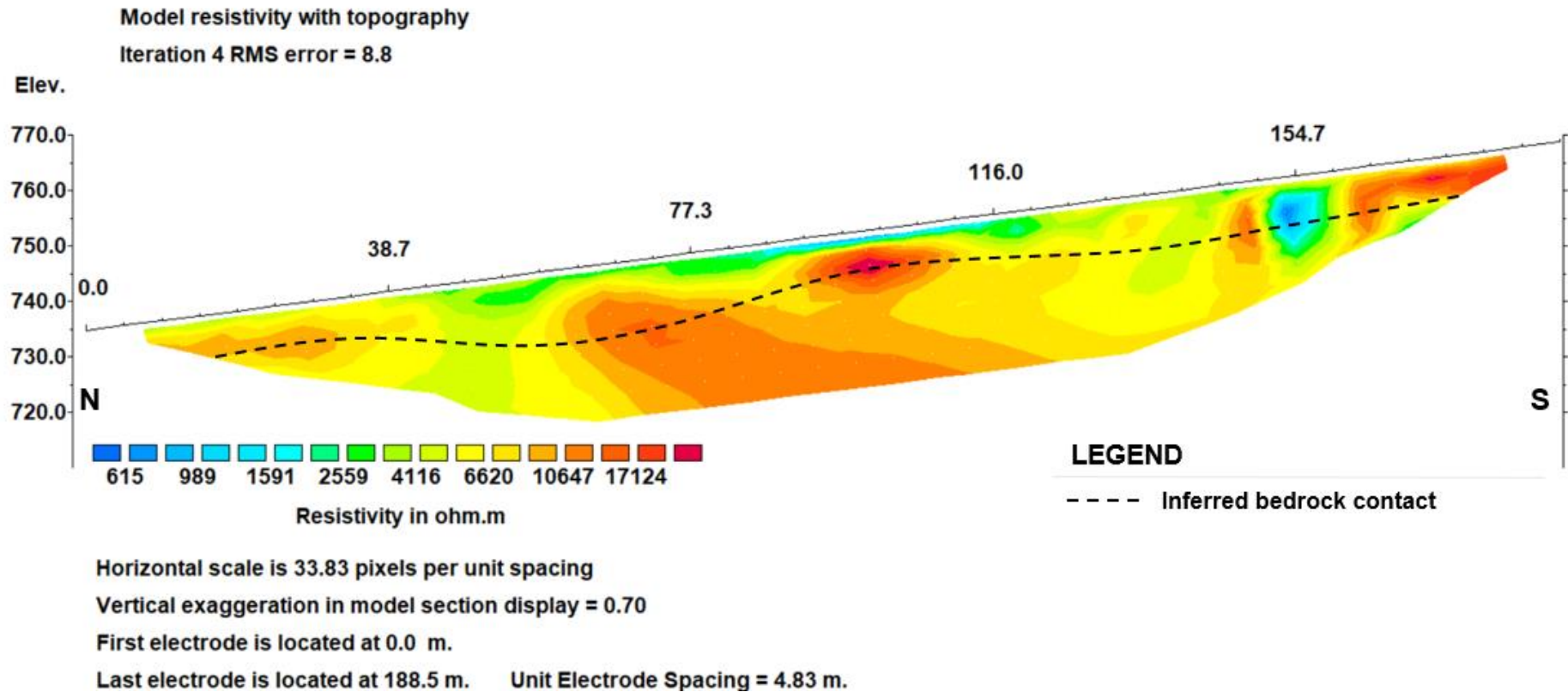


Figure 18- Line RES17-AUSLL-03 (Figure 7). This resistivity line crosses the contact between alluvial fan in the north, and colluvial blanket-veneer in the south end (Froese and Jackson, 2005). Both surficial units overly the Scottie Creek formation, a quartz psammite of Ordovician age (YGS, 2016). The bedrock contact is interpreted as undulating along the topography and shows very variable depths to bedrock as well as highly variable surface resistivities- perhaps indicating thawed and frozen zones of discontinuous permafrost.

RES17-MELLL-01 300m \* non-conventional or general array

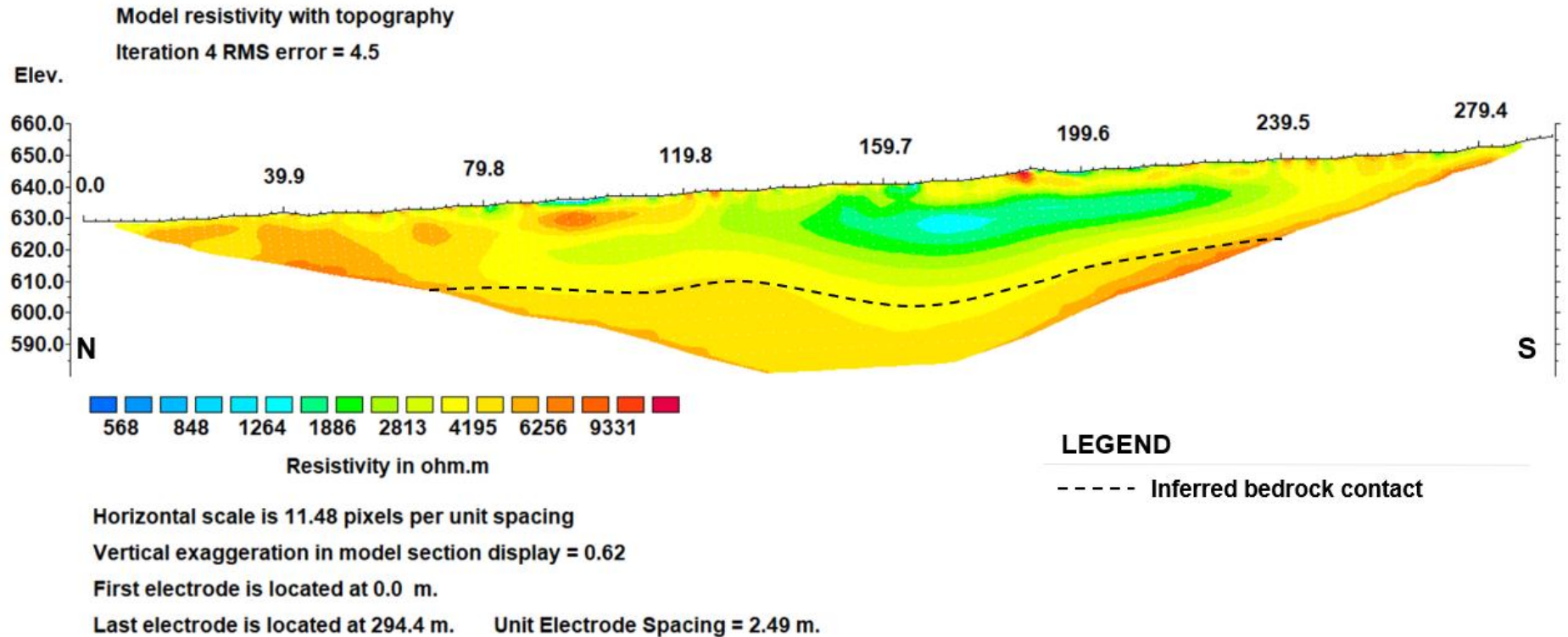


Figure 19- Line RES17-MEL\_LL-01 (Figure 8). The surficial geology in the area is a Pleistocene aeolian silt apron with an organic veneer overlying alluvial fan material (Froese and Jackson, 2005). The bedrock is Ordovician Scottie Creek Formation, a quartz psammite (YGS, 2016). The interpreted bedrock contact here is relatively deep with the depth reaching 35m with undulations. The deepest undulation at 160m from the start point is a target for further exploration.

RES17-MELLL-02 200m \* non-conventional or general array

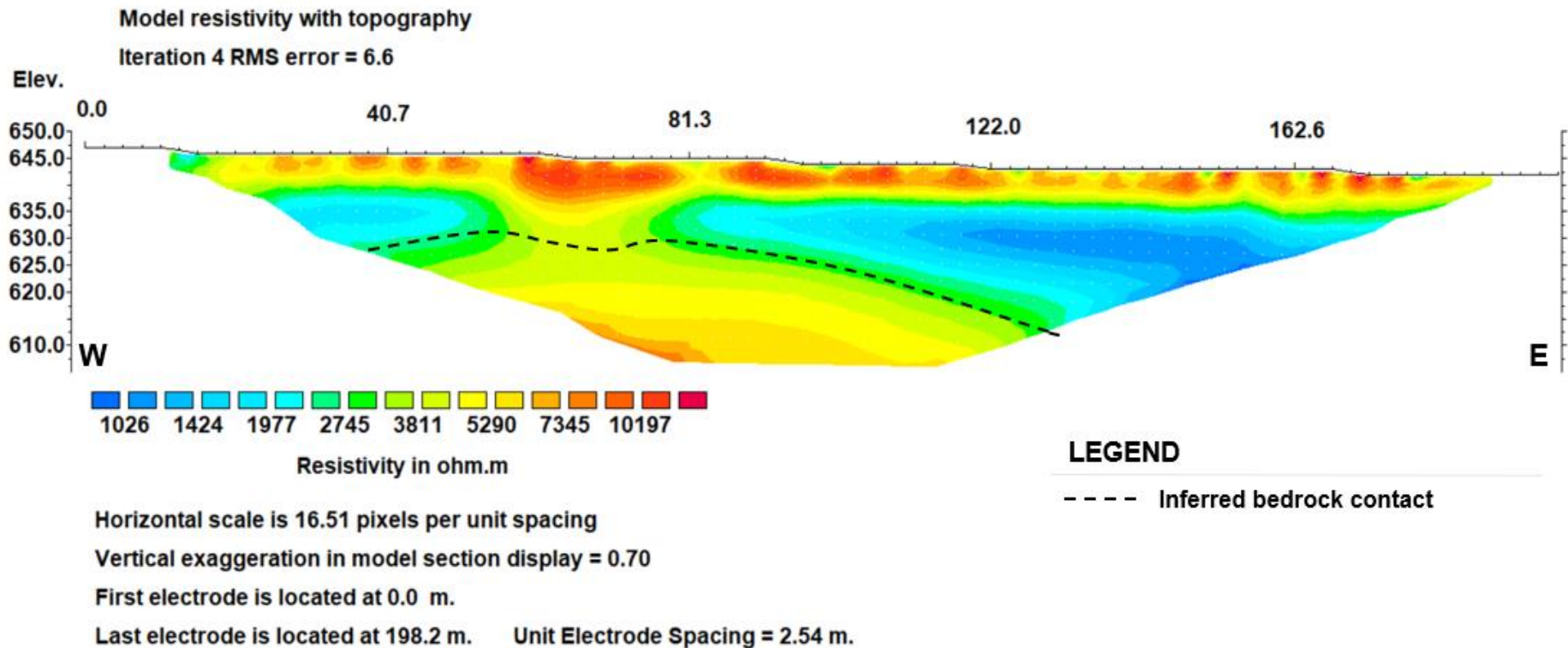


Figure 20- Line RES17-MEL\_LL-02 (Figure 8). The surficial geology in the area is a Pleistocene aeolian silt apron with an organic veneer overlying alluvial fan material (Froese and Jackson, 2005). The bedrock is Ordovician Scottie Creek Formation, a quartz psammite (YGS, 2016). The interpreted bedrock contact here is relatively deep with undulations and a zone of high resistivity in the middle-perhaps deeper permafrost. The surface of the resistivity section displays high values, also interpreted as permafrost.

RES17-MEL-01 300m \* non-conventional or general array

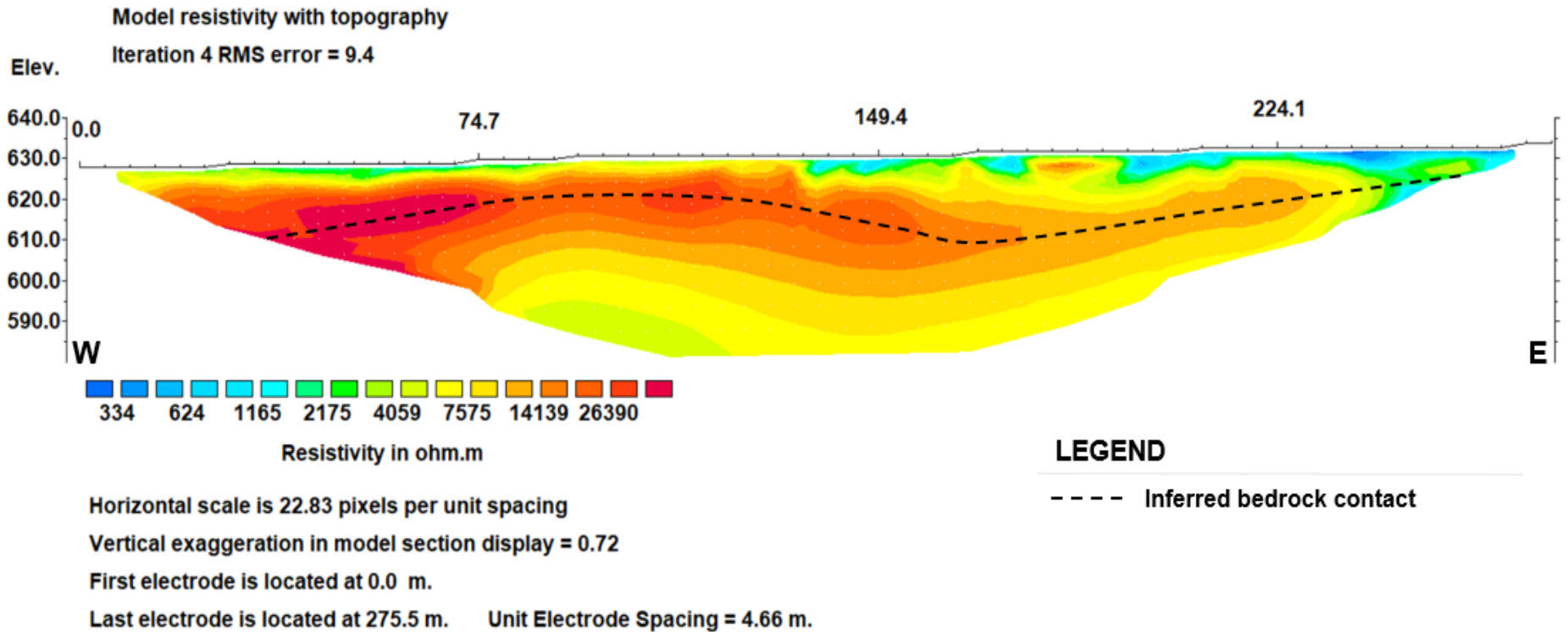


Figure 21- Line RES17-MEL-01 (Figure 8). The surficial geology at this location is alluvial fan material with an organic veneer (Froese and Jackson, 2005) overlying the Ordovician Scottie Creek Formation of quartz psammite (YGS, 2016). An undulating bedrock is interpreted between 10-20m deep. The water saturated surface is displayed with low resistivity values.

RES17-MEL-02 200m \* non-conventional or general array

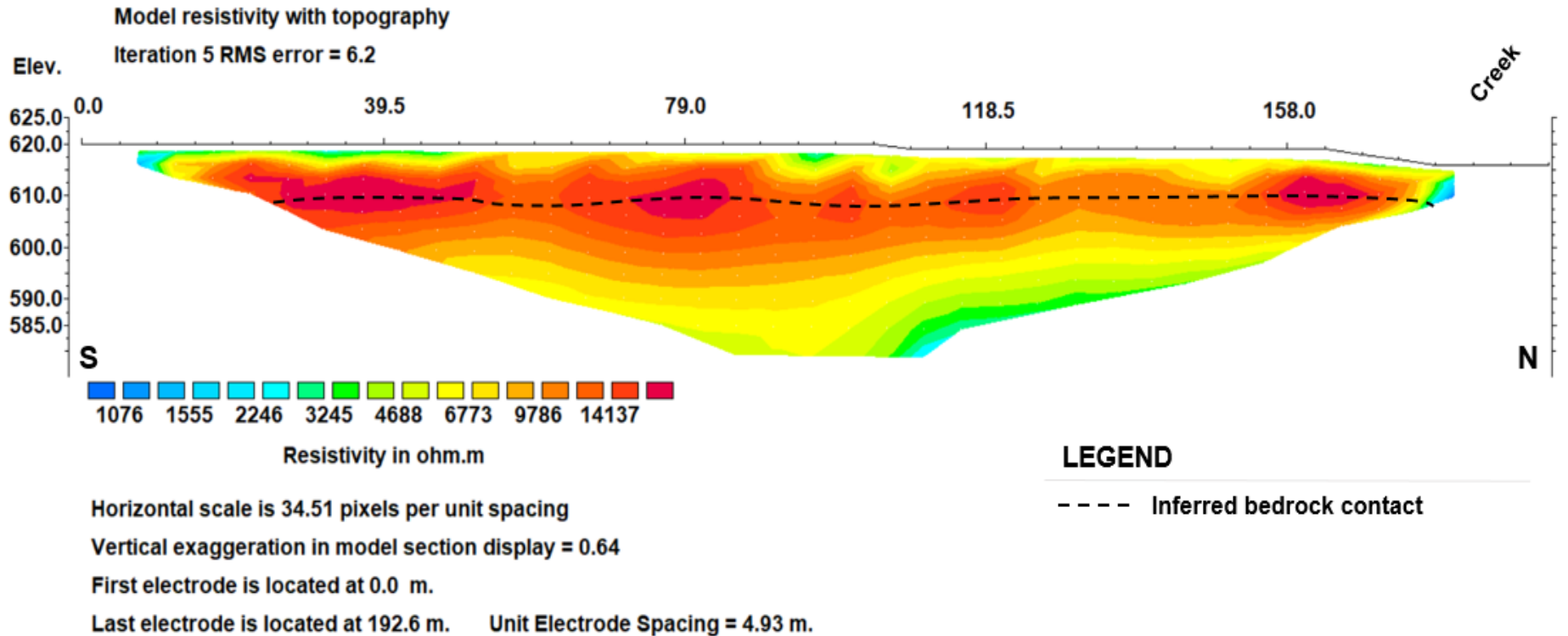


Figure 22- Line RES17-MEL-02 (Figure 8). The surficial geology at this location is alluvial fan material with an organic veneer (Froese and Jackson, 2005) overlying the Ordovician Scottie Creek Formation of quartz psammite (YGS, 2016). A relatively flat bedrock contact is interpreted at about 10m depth.

## Conclusions and Recommendations

Resistivity geophysical surveys are an effective, extremely low-impact method of placer exploration which is highly portable, fast and relatively cost-effective. However, the methodology may reflect permafrost and groundwater conditions which do not directly correlate to lithological contacts. In this respect, results are dramatically improved if other data such as drill holes, test pits or bedrock outcrops are used to corroborate interpreted results.

During the current surveys, drill holes were nearby or crossed the resistivity geophysical lines only in one area, on Australia Creek near prospecting leases ID01530, ID01554 and ID01555. No bedrock outcrops were observed in the survey areas.

When resistivity surveys are conducted on areas of dramatic topography change, the total effective depth of penetration is reduced to accommodate the topography change. An example of this occurred on line RES17-AUS-03, where effective depth of the survey was only 30 metres when usually 40 metres would be possible.

Throughout the surveys, low resistivity values corresponded with thawed, water-saturated material in valley bottoms, while high resistivity areas corresponded with permafrost on north-facing slopes (e.g. line RES17-AUS-03). Dry gravel benches on thawed mid- to upper south-facing slopes also gave a high resistivity response (e.g. line RES17-AUSLL-01).

The deepest interpreted bedrock was encountered at 35m in the Melba Creek drainage. This included resistivity profiles RES17-MEL\_LL-01 and RES17-MEL\_LL-2, and this was also the locale of a distinct bedrock feature - interpreted as a possible paleochannel as described in Figures 19 and 20. There is some indication that this feature crosses resistivity line RES17-MEL-01 (Figure 21) in the valley as well. Comparison to the surficial geology map indicates there may be a remnant buried paleochannel feature originating in the left limit tributary valley immediately upstream of these surveys.

Of the historic drill holes in the area, drill holes #88-40 and #88-41 recovered gold values of 0.86 g/m<sup>3</sup> and 1.12 g/m<sup>3</sup>, respectively (Tomlinson, 1989). Drill hole #88-40 was crossed by resistivity profile RES17-AUSP-01 on lease ID01554, while drill hole #88-41 was crossed by resistivity profile RES17-AUS\_LL-01 on lease ID01530. These are of interest for further drilling and/or test-pitting.

Overall, further exploration is warranted throughout the entirety of the prospecting leases on Australia and Melba creeks. This should consist of drilling (Auger, R/C (reverse circulation) or RAB (rotary air blast) methods) along the geophysical survey lines – both to confirm the interpreted bedrock depths, and to explore prospective paleochannel targets which have been identified. Resistivity geophysical surveys should be conducted in the western (downstream) parts of the property, where there has already been extensive drilling and test-pitting. This will further assist with calibration the lithological contacts in the upstream areas of the property. In addition, an aerial survey of the leases and claims should be conducted to create a DEM (Digital Elevation Model), which will assist in accurate geolocation of current and future exploration data. This should be followed up by excavator test pitting, bulk processing of alluvial gravels and finally, full scale mining, should results be favourable.

## Statement of Costs, 2017 Placer Exploration Program, Australia Creek

The following additional costs were incurred during the program, but are not being claimed for assessment credit.

Item	Details	
Mob/demob	William LeBarge and Selena Magel round trip	\$ 700.00
Mob/demob	Personnel	\$ 1,600.00
Camp costs	3 people x 6 days x \$75/day	\$ 1,350.00
Helicopter	5 days @ \$4000/day	\$ 20,000.00
<b>Total</b>		<b>\$ 23,650.00</b>

Table 3- Statement of costs included for assessment.

### ID01528 Sue Lancaster - 100%, 5 Miles

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-10	0.5 km	\$12,000/km	\$6000	\$300	\$6300

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

### ID01529 Fry Exploration & Mining Inc - 100%, 3 Miles

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-11	0.3 km	\$12,000/km	\$3600	\$180	\$3780

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

### ID01530 Susan P. Craig - 100%, 3 Miles

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-08	0.3 km	\$12,000/km	\$3600	\$180	\$3780

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01531 Metallic Minerals Corporation - 100%, 5 Miles**

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-10,11	0.5 km	\$12,000/km	\$6000	\$300	\$6300

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01532 31982 Yukon Inc. - 100%, 3 Miles**

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-11	0.3 km	\$12,000/km	\$3600	\$180	\$3780

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01533 Midnight Mining Services Ltd - 100%, 5 Miles**

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-12	0.5 km	\$12,000/km	\$6000	\$300	\$6300

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01535 Group Ten Metals Inc. - 100%, 5 Miles**

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-12,13	0.5 km	\$12,000/km	\$6000	\$300	\$6300

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01554 Deryk Law - 100%, 3 Miles**

Item	Date	Quantity	Rate*	Subtotal	GST	Total
Resistivity Survey	2017-10-08	0.3 km	\$12,000/km	\$3600	\$180	\$3780

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

**ID01555 Jeff A. DuBois - 100%, 5 Miles**

<b>Item</b>	<b>Date</b>	<b>Quantity</b>	<b>Rate*</b>	<b>Subtotal</b>	<b>GST</b>	<b>Total</b>
<b>Resistivity Survey</b>	2017-10-09	0.5 km	\$12,000/km	\$6000	\$300	\$6300

\*Rate includes 2 geologists and a field assistant, resistivity line deployment, interpretation and report writing and equipment rental.

## Statement of Qualifications

### William LeBarge

I, William LeBarge, of 13 Tigereye Crescent, Whitehorse, Yukon, Canada, DO HEREBY CERTIFY THAT:

1. I am a Consulting Geologist with current address at 13 Tigereye Crescent, Whitehorse, Yukon, Canada, Y1A 6G6.
2. I am a graduate of the University of Alberta (B.Sc., 1985, Geology) and the University of Calgary (M.Sc., 1993, Geology – Sedimentology)
3. I am a Practicing Member in Good Standing (#37932) of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC).
4. I have practiced my Profession as a Geologist continuously since 1985.
5. I am President and sole shareholder of Geoplacer Exploration Ltd., a Yukon Registered Company.

Dated this 16<sup>th</sup> day of October 2017

William LeBarge, P. Geo.



### Selena Magel

I, Selena Magel of 2590 Golf View Crescent, Blind Bay, British Columbia, Canada, DO HEREBY CERTIFY THAT:

1. I am a Geologist in Training with current address at 2590 Golf View Crescent, Blind Bay, British Columbia, Canada, V1E 1H2
2. I am a graduate of the University of Calgary (B.Sc., 2017, Geology).
3. I have practiced Geology since May 2017.
4. I have conducted and interpreted over 15km of resistivity lines in the summer of 2017.

Dated this 16<sup>th</sup> day of October 2017

Selena Magel



## References

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