# FINAL REPORT

# YMEP21-021

# SULPHUR CREEK BENCH PLACER PROPERTY

## Placer Claims

## JON 1-6 (P 515972-P 515974, P 517619-P 517621) and

## DORE (P 521035), DORE 1-10 (P 521160-P 521169)

## GROUPING GD 01632

**by**


William LeBarge

**Geoplacer Exploration Ltd.**


Location of property: 63°40'41"N; 138°42'15"W
NTS map sheet: 115O/10
Mining District: Dawson
Date: January 18, 2022

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## Executive Summary

The following is the final report for work conducted under YMEP grant YMEP21-021, on the Sulphur Creek placer bench property, by Geoplacer Exploration Ltd.

The property is located on a left limit bench of Sulphur Creek, 3 km upstream of its confluence with the Indian River. Access to the property can be gained by summer road from Dawson City via Hunker Creek and Sulphur Creek, a total distance from Dawson City of approximately 74 kilometres.

Sulphur Creek has consistently been one of the top ten producing creeks annually in the Yukon since placer mining began early in Klondike history. Numerous published sources show a total of over 355,000 ounces produced from Sulphur Creek between 1940 and 2019. Sulphur Creek has continued to be a significant producer of placer gold with over 1400 crude ounces recorded in royalties in 2019.

Exploration on the property in 2021 consisted of 326 ft. of auger drilling (eleven, 8-inch holes), 2.56 creek-miles of drone surveys, and 900 line-m of resistivity geophysical surveys in 6 lines.

Overall, the resistivity method worked well to define potential subsurface contacts, and bedrock was interpreted to lie between 6 metres and 10 metres below surface. However, although many of the interpreted bedrock contacts were confirmed by the auger drilling, initial problems with the drilling contractor resulted in significant uncertainty in auger holes DH21-1 to DH21-5. These holes were drilled near and along survey line RES21-Jon 1-01 across the downstream left limit tributary.

The quality of results were somewhat improved in auger holes DH21-6 to DH21-11, which were all drilled near the upstream left-limit Sulphur Creek tributary. Most of the contacts interpreted in the resistivity geophysics corresponded to contacts encountered in the auger drill holes. A significant gravel layer on bedrock was intersected in drill holes DH21-6 to DH21-11, and placer gold was recovered in drill hole DH21-7 (16 mg) and drill hole DH21-9 (4 mg).

Four drill targets were chosen from the interpreted geophysical surveys. It is recommended that additional resistivity surveys and auger drilling be conducted throughout the property, and in particular along the upstream left limit tributary in the region where it joins the Sulphur Creek valley (i.e., proximal to auger holes DH21-6, DH21-7, DH21-8, and DH21-9.)

Excavator test pitting and bulk sampling is also recommended as the depths to bedrock are within reach of a medium to large sized excavator. Should these results prove favourable, a full-scale, small to medium sized placer mining operation may be viable.

## Introduction

The following is the final report for work conducted under YMEP grant YMEP21-021, on the Sulphur Creek placer bench property, by Geoplacer Exploration Ltd.

## Location and Access

Sulphur Creek is a right limit tributary of the Indian River, located in central Yukon approximately 60 km by air south of Dawson City, Yukon (Figure 1). The Sulphur Creek bench claims are located on the left limit of Sulphur Creek approximately 3 km from its confluence with the Indian River.

The centre of the property is 63°40'41"N and 138°42'15"W, on NTS map sheet 115O/10, in the Dawson Mining District (Figure 2).

Access to the property can be gained by summer road from Dawson City. The usual 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 74 kilometres).

## Personnel and dates of work

William LeBarge of Geoplacer Exploration Ltd. conducted the resistivity surveys between August 4 and August 28, 2021. The drone survey was flown on August 11, 2021.

TMM GoldCorp Inc. was the drilling contractor. The drilling was conducted between August 10, 2021, and August 16, 2021.

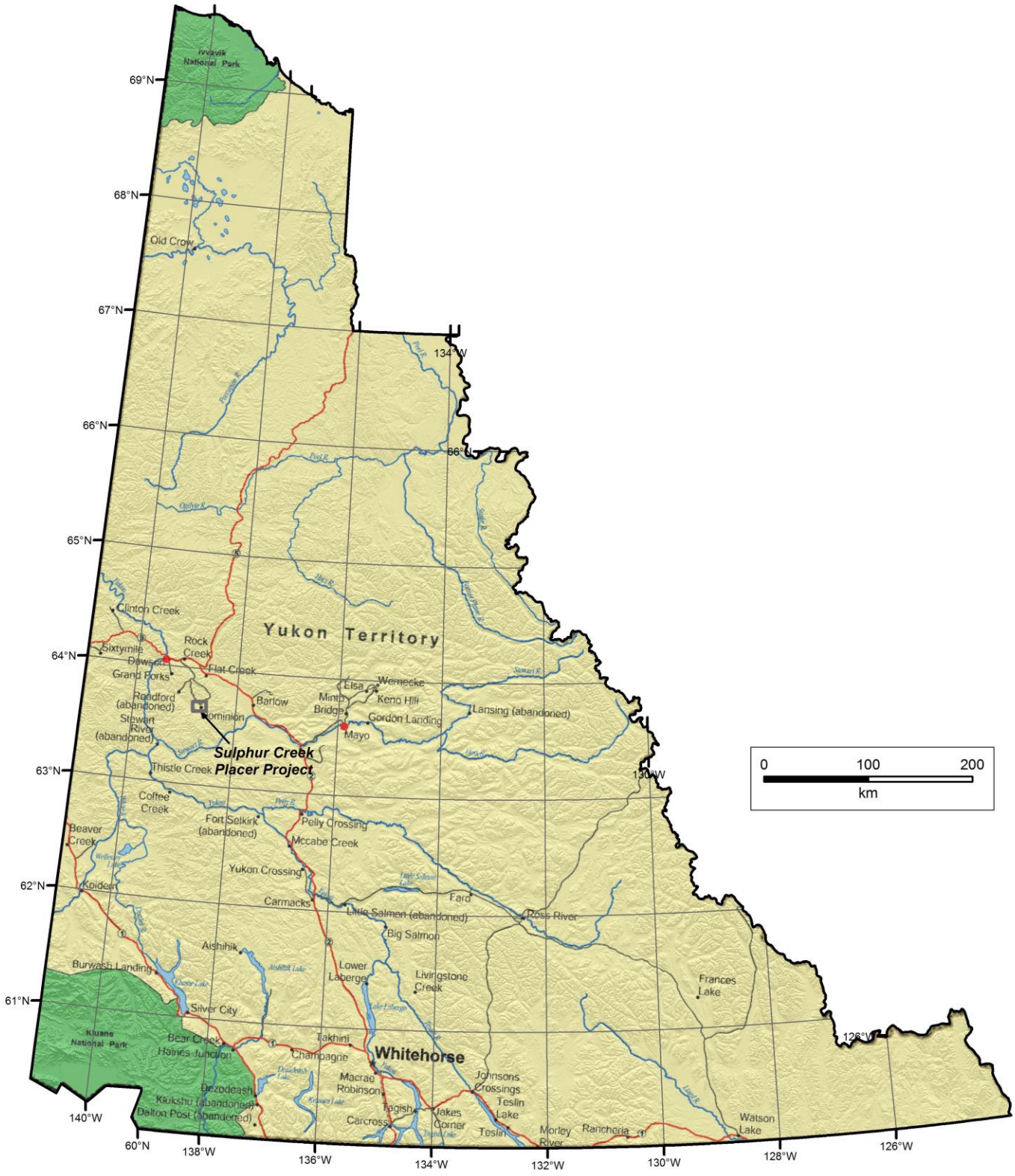


Figure 1 - General Location of Sulphur Creek Project, Yukon.

## Placer Tenure

Table 1 shows a summary of the current claim status for the Sulphur Creek bench property. These claims are all grouped under grouping GD01632.

**Table 1 – Claim status, Sulphur Creek bench property.**

| STATUS | CLAIM NAME | GRANT NUMBER | OWNER NAME | STAKING DATE | RECORDED DATE | EXPIRY DATE | EXCESS CREDIT |
|---|---|---|---|---|---|---|---|
| Active | DORE | P 521035 | Geoplacer Exploration Ltd. - 100% | 10/2/2018 | 10/2/2018 | 11/6/2022 | 6 |
| Active | DORE 1 | P 521160 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 2 | P 521161 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 3 | P 521162 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 4 | P 521163 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 5 | P 521164 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 6 | P 521165 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 7 | P 521166 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 8 | P 521167 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 9 | P 521168 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | DORE 10 | P 521169 | Geoplacer Exploration Ltd. - 100% | 5/3/2019 | 5/6/2019 | 11/6/2022 | 6 |
| Active | JON 1 | P 515972 | Geoplacer Exploration Ltd. - 100% | 5/27/2014 | 5/29/2014 | 11/29/2022 | 7 |
| Active | JON 2 | P 515973 | Geoplacer Exploration Ltd. - 100% | 5/27/2014 | 5/29/2014 | 11/29/2022 | 7 |
| Active | JON 3 | P 515974 | Geoplacer Exploration Ltd. - 100% | 5/28/2014 | 5/29/2014 | 11/29/2022 | 7 |
| Active | JON 4 | P 517619 | Geoplacer Exploration Ltd. - 100% | 5/21/2016 | 5/27/2016 | 11/27/2022 | 7 |
| Active | JON 5 | P 517620 | Geoplacer Exploration Ltd. - 100% | 5/21/2016 | 5/27/2016 | 11/27/2022 | 7 |
| Active | JON 6 | P 517621 | Geoplacer Exploration Ltd. - 100% | 5/21/2016 | 5/27/2016 | 11/27/2022 | 7 |

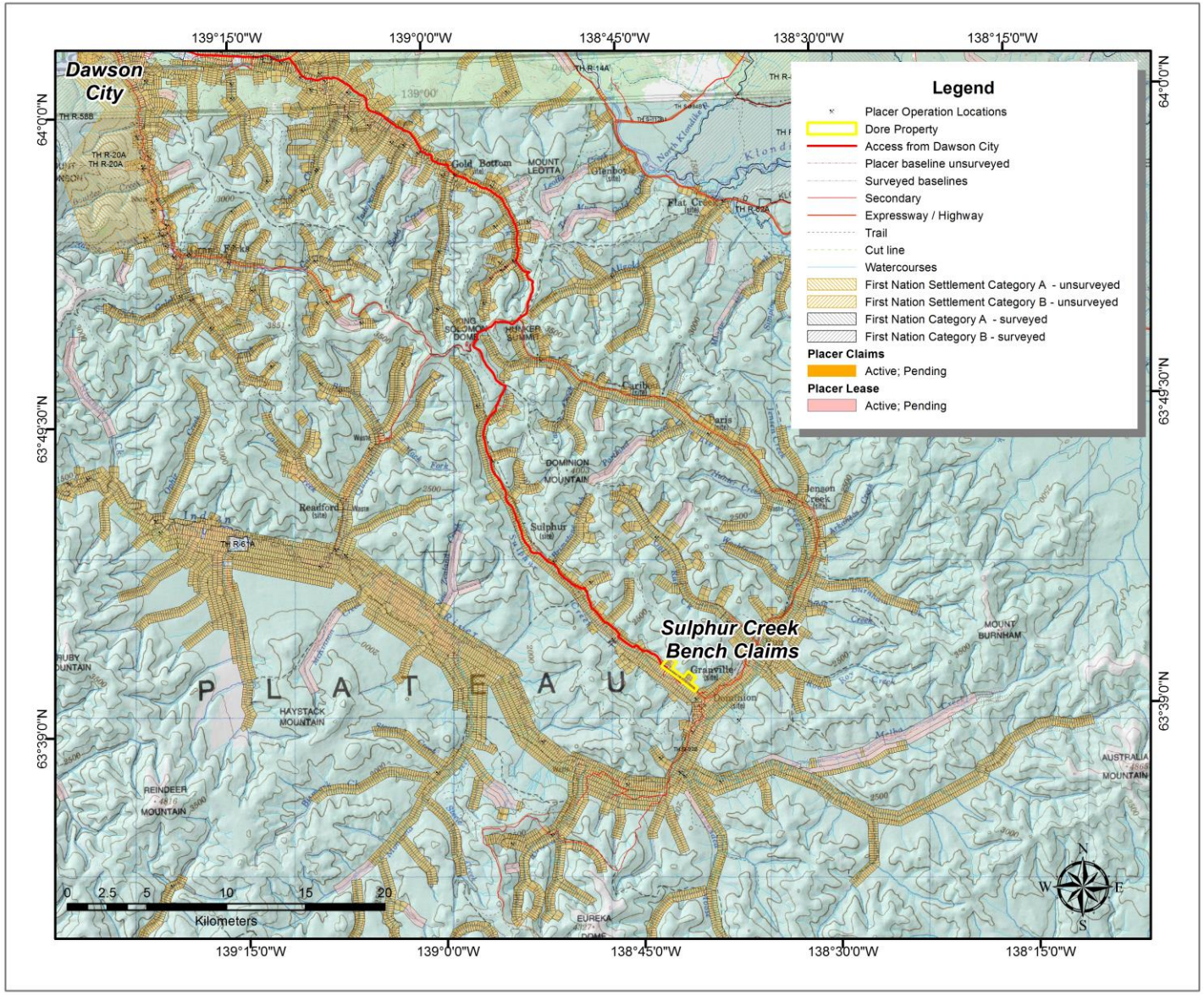


Figure 2 – Location of Sulphur Creek Bench claims and Dawson region placer tenures.

## History of Exploration and Mining – Sulphur Creek

Sulphur Creek has been mined since the beginning of the Klondike Gold Rush in 1898, first by hand methods, and then by dredging. Green (1977) notes that three dredges mined on Sulphur Creek beginning in 1936. YCGC (Yukon Consolidated Gold Corporation) Dredge #6 mined 148,000 ounces between 1936 and 1966; YCGC Dredge #8 mined 212,000 ounces between 1937 and 1966 and YCGC Dredge #9 mined 113,000 ounces between 1938 and 1966.

Mechanical mining replaced the dredges after 1966 and dozens of operations have mined on Sulphur Creek from then up to the present day. Much of the activity is documented in LeBarge (2007) with more recent mining documented in LeBarge and Welsh (2007), LeBarge and Nordling (2011), van Loon and Bond (2014), and Bond and van Loon (2018). Gold production from these sources and Yukon Government royalty records shows a total of over 355,000 ounces produced from Sulphur Creek between 1940 and 2019. This does not include the hand mining from the 40+ years previous.

The nearest active operation to the Sulphur Creek bench claims is Favron Enterprises Ltd., who mined approximately 1 km away on Sulphur Creek between 2010 and 2013, and again in 2020 (Bond and Van Loon, 2021). Just downstream from that operation is Tatra Ventures Ltd., which was active in 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).

Major units in the Klondike area include: the Snowcap (Nasina) Assemblage, the Klondike Series, the Slide Mountain (Moosehide) Assemblage, upper Cretaceous Carmacks Group volcanics/volcanoclastics, and Eocene intrusives (Figure 3). The basement unit is the Snowcap (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. Mid-Permian Sulphur Creek orthogneiss cuts the Klondike Schist extensively along Sulphur Creek. In the south and west Klondike, the Klondike Series is in contact with Late Devonian to Mississippian Simpson Range orthogneiss. Structurally overlying the Klondike and Nasina Series are greenstone and altered ultramafic of the Slide Mountain (Moosehide) Assemblage. In the east and south Klondike, upper Cretaceous andesitic volcanics and clastic sediments occur. These units are intruded by Eocene age rhyolite and diorite dykes and sills. Significant lode gold has been found throughout the Klondike and south Dawson areas (Chapman et. al., 2011 and others). The precise relationship between lode gold sources and local placer gold deposits is enigmatic and has been the subject of many scientific studies.

## Local Bedrock Geology and Mineral Occurrences

Figure 3 shows the bedrock underlying the property and throughout most of lower Sulphur Creek as Sulphur Creek orthogneiss (map unit PqS). Immediately to the east and west of this central unit, the bedrock consists of Klondike Schist (map units PK1 and PK2). Farther to the east lies Snowcap (Nasina) assemblage quartzite and schist (map unit PDS1). There are two known mineral occurrences near the Sulphur Creek bench property, Minfile #115O 133 (SULPHUR), and Minfile #115O 092 (GRANVILLE). Both are hosted in the Sulphur Creek orthogneiss (map unit PqS). Little is known about either occurrence although the area was explored extensively in the mid 1980's (Yukon Minfile 2018).

## Quaternary History

Most of the Klondike region has not been glaciated (Duk-Rodkin, 1999; Jackson et al., 2001). However, the marginal effects of a pre-Reid glaciation deposited glaciofluvial gravel along Australia Creek and Indian River. These were 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).

## Surficial Geology

Froese and Jackson (2005) show that there are surficial units of several ages and types on Sulphur Creek, seen in Figure 4. These include: CEaP/AtT (Pleistocene colluvial-aeolian sediments overlying Tertiary alluvial terrace sediments), CEaP (Pleistocene colluvial-aeolian sediments), AtP (Pleistocene alluvial terrace), ACxP (Pleistocene alluvial/colluvial complex), Ax (alluvial complex), Cx (colluvial complex), Cl (landslide) and Cb-v (colluvial blanket-veneer). In general, the AtT (Tertiary alluvial terrace) units are more prevalent downstream, whereas upstream reaches are dominated by ACxP (Pleistocene alluvial/colluvial complex) and Cx (colluvial complex). The area of the claims is mapped as Ax (Alluvial Complex) along both of the left limit tributaries, Cx along the boundary with the main Sulphur Creek valley and Cb-v (colluvial blanket-veneer) on the rising flank of the hill to the northeast.

## Placer Geology

Placer gravels in Dominion Creek and its tributaries (including Sulphur Creek) can be characterized by 5 types of deposits: Pliocene White Channel gravel; Pleistocene terraces; early Pleistocene incised-valley gravel (Ross gravel); Pleistocene Dominion Creek gravel; and creek and gulch deposits (Froese *et al*., 2001).

The nearest active operation to the project area is Favron Enterprises, who mined a cut in the main valley as well as on the left and right limits of Sulphur Creek. Up to 1.2 m of virgin pay gravel on bedrock was found within the dredge limits (Bond and Van Loon, 2021).

Downstream of the project area, Tatra Ventures Ltd. in Sulphur Creek valley in 2017 is described by Bond and van Loon (2018) as decomposed bedrock underlying 4.7 m (15.4 ft) of grey-white "Ross" gravel with planar-tabular cross-bedding, which is in turn overlain by 4.7 to 9.0 m (15-29 ft) of younger, brown, clast-rich Sulphur Creek gravel.

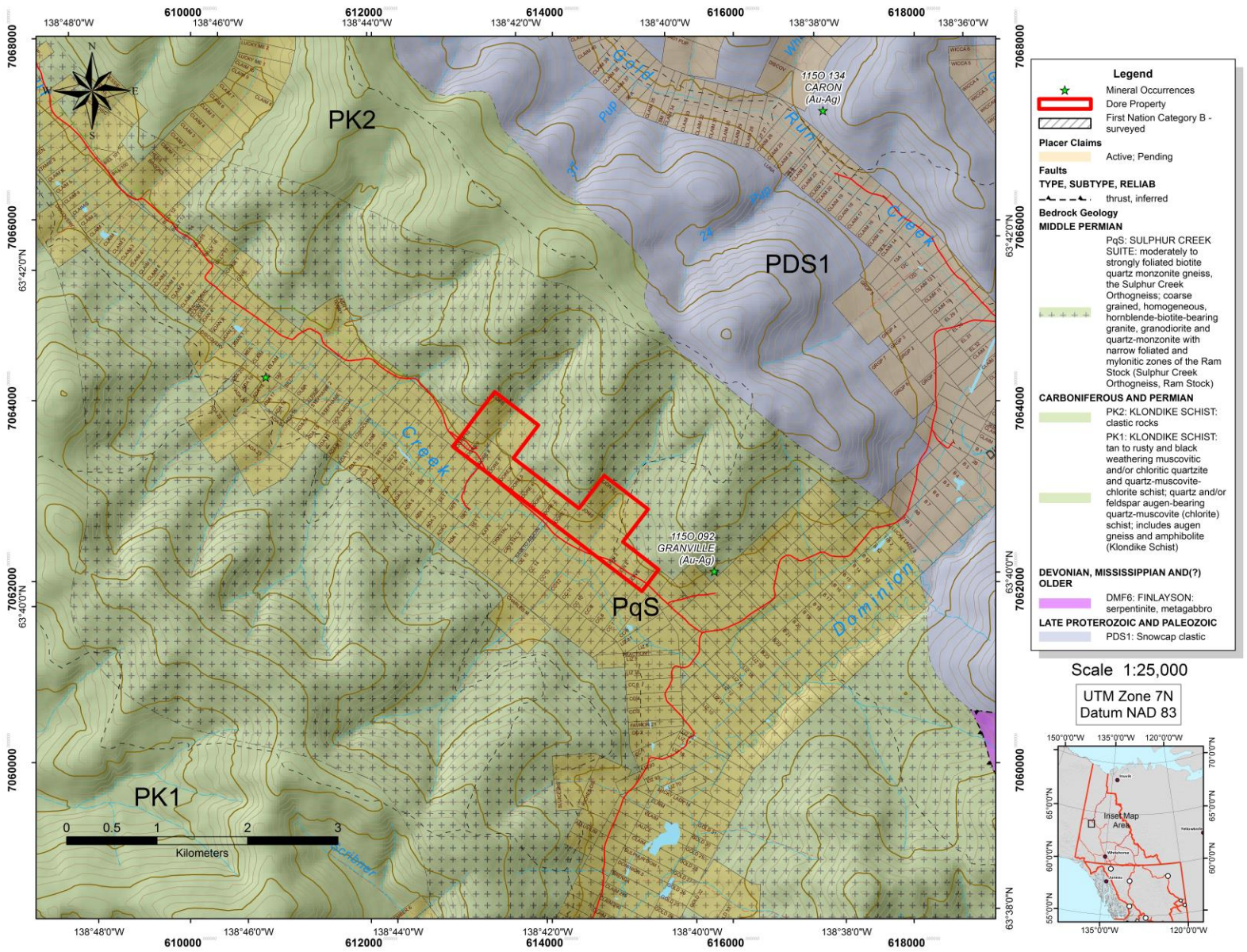


**Figure 3 - Bedrock Geology of lower Sulphur Creek area, after Yukon Geological Survey (2018).**

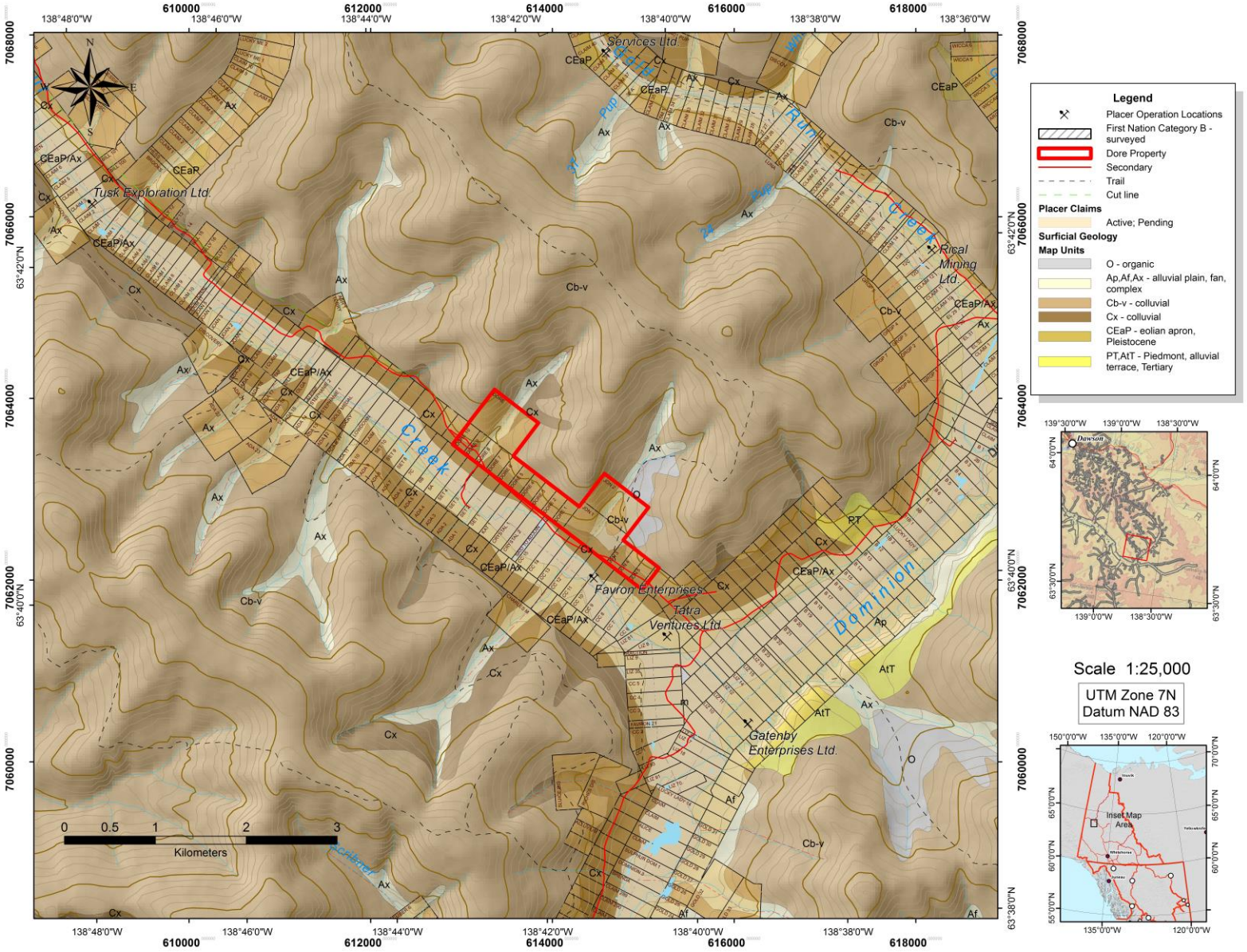


**Figure 4 - Surficial Geology, lower Sulphur Creek, after Froese and Jackson (2005).**

# Recent Exploration

## 2014 and 2015 – Resistivity Geophysical Surveys

Kryotek Arctic Innovation Inc. conducted one resistivity survey on the JON 1 placer claim in July 2014 (Coates, 2014), and two resistivity surveys on the JON 2 claim in 2015 (Coates, 2015). The surveys were conducted using a Lippmann 4-point Resistivity System. Interpreted profiles from those surveys are shown as Figures 5 to 7, and the locations of those surveys are shown on Figure 13. The coordinates of drill targets generated from these profiles are shown in Table 2.

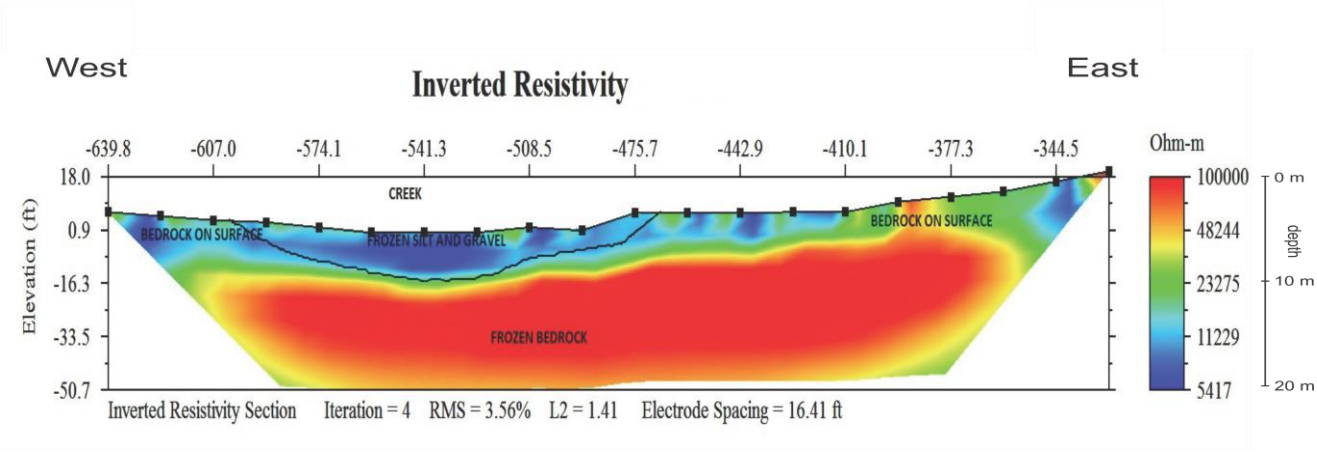


**Figure 5 - Resistivity profile JCA, Kryotek Arctic Innovation Inc., July 2014. Vertical scale shown in feet and metres. Bedrock was exposed at the surface on both ends of the profile. Permafrost was present throughout, with electrodes encountering frozen ground 20-30 cm below the surface. High resistivity bedrock was encountered at depths of 0-16 feet (0 – 5 m). Below the current creek, bedrock was interpreted at a depth of 16 feet (5 m) below the surface in a channel approximately 60 feet (20 m) wide.**

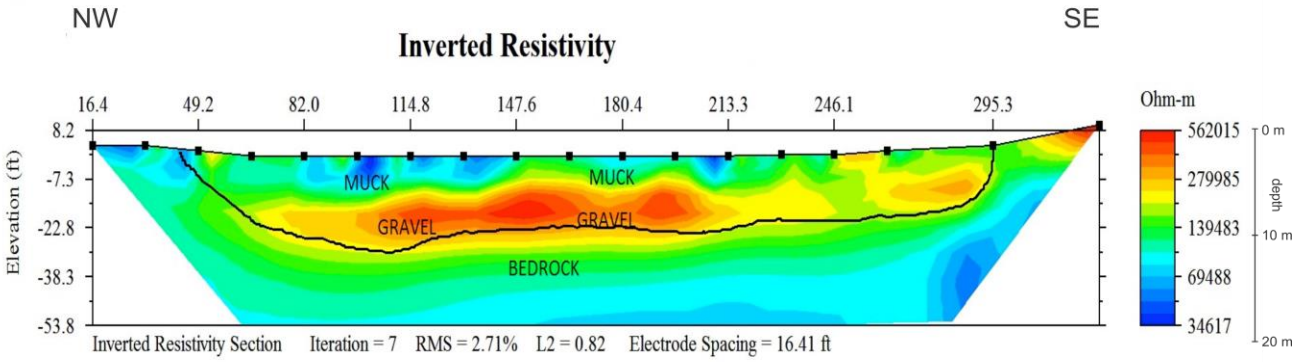


**Figure 6 - Resistivity profile JCB, Kryotek Arctic Innovation Inc., April 2015. Vertical scale shown in feet and metres. Bedrock is exposed on the surface near the start of the line in the NW. Permafrost was present throughout. Interpreted bedrock is between 15 and 20 feet (4.6 – 6.1 m) below the surface. Overlying this is interpreted to be 8-10 feet (2.4 – 3 m) of sand and gravel followed by 5-7 feet (1.5 – 2.1 m) of frozen black organic "muck".**

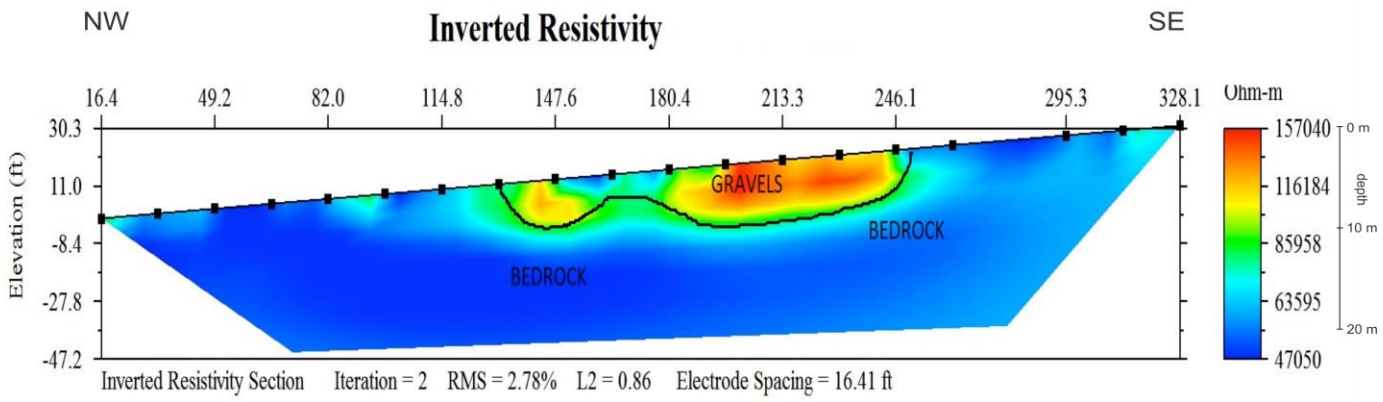


**Figure 7 - Resistivity profile JCC, Kryotek Arctic Innovation Inc., April 2015. Vertical scale shown in feet and metres. Interpretation by J. Coates shows a possible channel with depths to bedrock of 7-12 feet (2.1 – 3.7 m). Alluvial gravels are interpreted at depths of 3-12 feet (0.9 – 3.7 m) and are covered by colluvium. Permafrost was encountered throughout the survey line.**

**Table 2 - Drill targets interpreted from Resistivity Surveys in 2014 and 2015.**

| Target Name | Line | Type | Latitude DD | Longitude DD | UTM_N | UTM_E | Depth (m) |
|---|---|---|---|---|---|---|---|
| **JCA-01** | JCA | Resistivity | 63.67183 | -138.686 | 7062519 | 614500 | 5 |
| **JCB-01** | JCB | Resistivity | 63.67347 | -138.681 | 7062711 | 614746 | 6 |
| **JCB-02** | JCB | Resistivity | 63.67329 | -138.68 | 7062692 | 614786 | 5 |
| **JCC-01** | JCC | Resistivity | 63.67329 | -138.679 | 7062695 | 614844 | 4 |
| **JCC-02** | JCC | Resistivity | 63.6732 | -138.678 | 7062685 | 614864 | 5 |

## 2017 Exploration – Ground Penetrating Radar Surveys

### *General*

Five (5) ground penetrating radar lines totalling 630 metres were surveyed on the property by William LeBarge (Geoplacer Exploration Ltd.) on May 24, 2017. The full results of that work are detailed in LeBarge (2017). The locations of the surveyed lines are shown on Figure 13, the interpreted profiles are shown in Figures 8 to 12.

### *Methodology*

The ground penetrating radar survey was conducted with the "EasyRad Pro" instrument, an above-ground (non-contact) GPR with two antennas (dipole-type), having an antenna separation of 1.22 m. The instrument operated at a frequency of 100 MHz, and data was gathered in real-time on an Android tablet running the EasyRad software application. Results were saved in the proprietary EasyRad format, as well as in the universal SEG-Y format. The results of the survey were analyzed using Prism 2.1 GPR software. Survey data was corrected for distance to ground, move-out (distance between antennae), background noise and data outliers. Amplification was applied for weak signal returns (a factor occurring with increasing depth). The GPR lines were georeferenced in the field using a hand-held Garmin GPS, which recorded the tracks of the lines as well as the start and endpoints of the surveys.

### *Discussion of Results*

An average permittivity of 4 was assigned to the GPR data for the purposes of processing and interpretation. This resulted in an interpreted depth of penetration of 10.5 metres in the GPR profiles. It should be emphasized that drill hole verification of lithologies, sediment thicknesses and depths to bedrock would enable recalculation of these factors and allow a more accurate interpretation of GPR results.

Figures 8 to 12 show the interpreted GPR profiles along with the overlying topography. Overall, interpreted depths to bedrock varied between 2 metres and 10 metres.

The ground penetrating radar surveys appeared to delineate not only the bedrock contact but also the boundary between the ice-rich permafrost silt ("black muck") and underlying ice-poor sediments (possibly sand and gravel) below. Ice-rich permafrost was evident as a zone of strong reflection in each survey profile, approximately 2 metres below the surface and extending to a depth of 5 to 6 metres below the surface.

The profiles which were perpendicular to the dip of the slope (GPR17-01 to GPR17-03) showed the most variations in bedrock topography and thus had more possible paleochannel targets. There was a strong correlation between the easternmost paleochannel target on GPR17-02 and GPR17-03; and the centre paleochannel target on GPR profile GPR17-01. This distinctive paleochannel is the most prospective of all targets, and the trend of it is shown on Figure 13.

Comparison of the previously conducted resistivity surveys and the present GPR surveys also showed some similarities. For instance, the above-mentioned paleochannel which appears on GPR profiles GPR17-02, GPR17-01 and GPR17-03 may be coincident with a paleochannel identified on resistivity profile JCB. However, the GPR surveys tended to show bedrock deeper than corresponding nearby resistivity surveys.

The profiles which were surveyed down-slope (GPR17-04 and GPR17-05) showed little variation in bedrock topography. Bedrock in those profiles appeared to descend correspondingly with the overlying topography, although sediments thickened towards the valley centre.

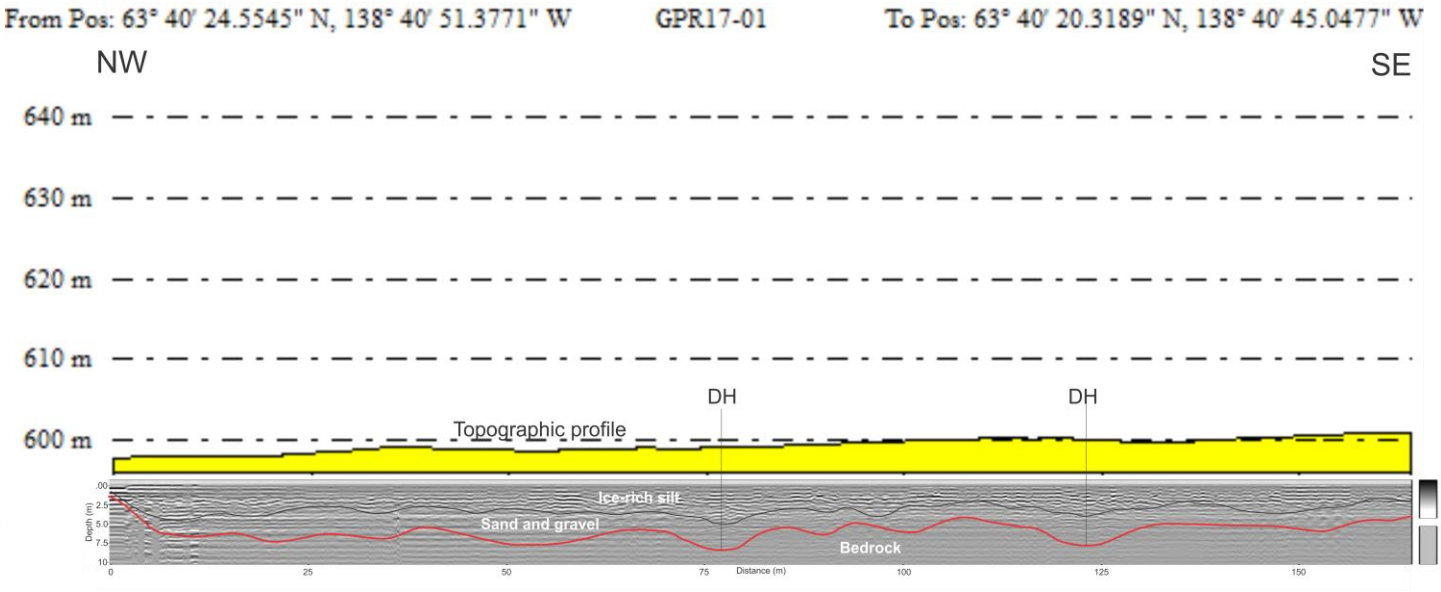


Figure 8 - Ground Penetrating Radar Line GPR17-01. Horizontal and vertical scales are 1:1. Topographic profile is shown above the radar profile, which was not topographically corrected as the topography is gentle and flat. The red line on the profile represents the interpreted bedrock contact, while the black line on the profile indicates the interpreted boundary between the permafrost/black muck and the possible sand and gravel below. Two possible drill targets are shown on the profile.

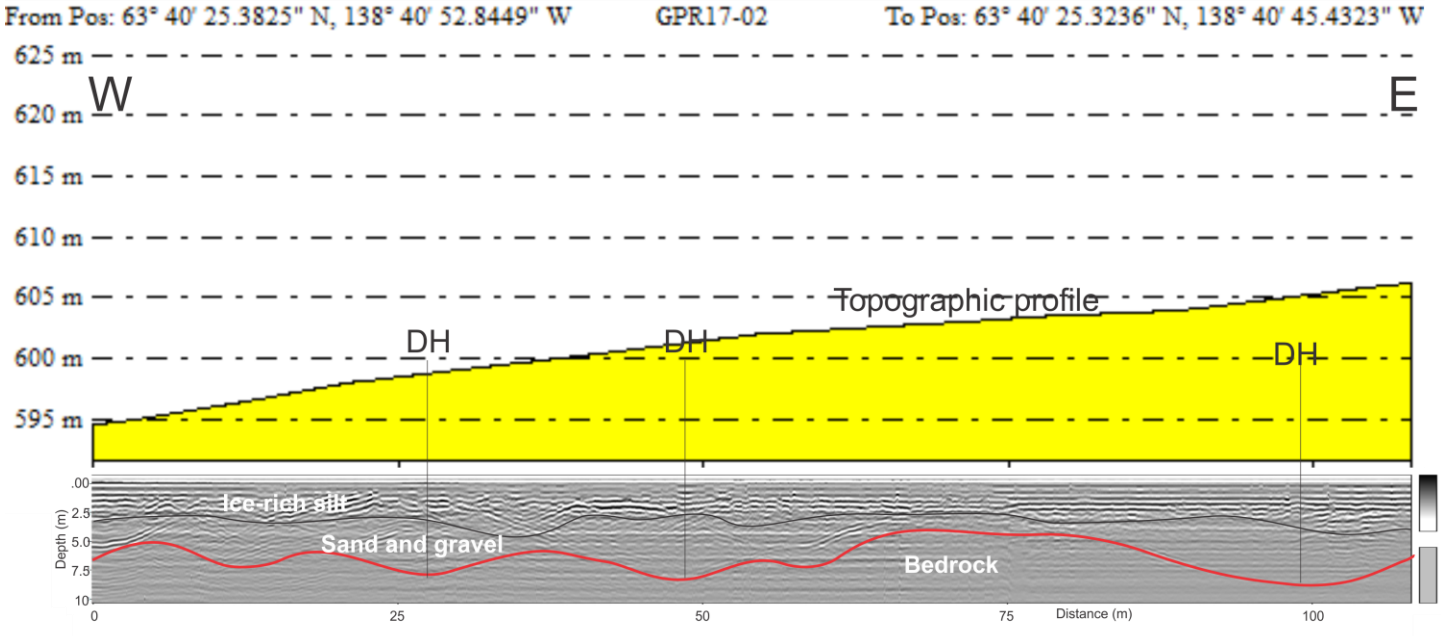


Figure 9 - Ground Penetrating Radar Line GPR17-02. Horizontal and vertical scales are 1:1. Topographic profile is shown above the radar profile, which was not topographically corrected as the topography is relatively flat. The red line on the profile represents the interpreted bedrock contact, while the black line on the profile indicates the interpreted boundary between the permafrost/black muck and the possible sand and gravel below. Three possible drill targets are shown on the profile. The easternmost target may be shallower than shown if topographically corrected.

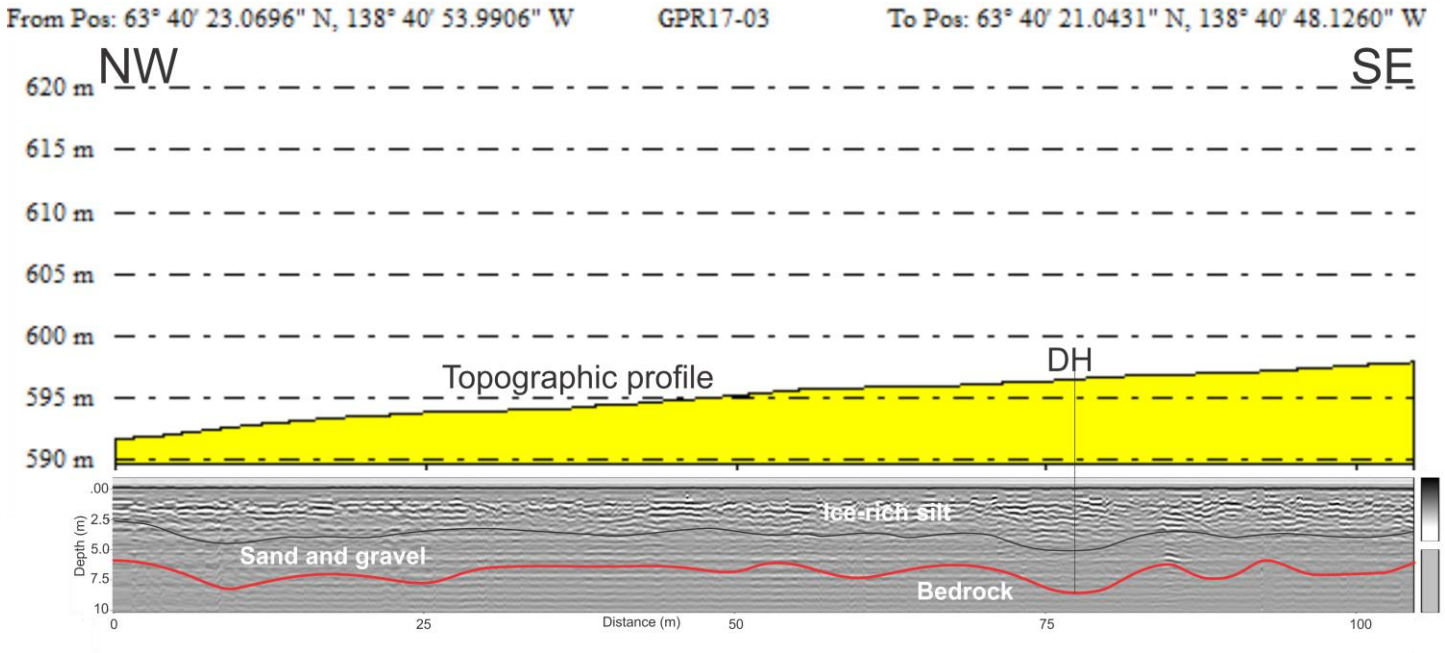


Figure 10 - Ground Penetrating Radar Line GPR17-03. Horizontal and vertical scales are 1:1. Topographic profile is shown above the radar profile, which was not topographically corrected as the topography is relatively flat. The red line on the profile represents the interpreted bedrock contact, while the black line on the profile indicates the interpreted boundary between the permafrost/black muck and the possible sand and gravel below. One possible drill target is shown on the profile.

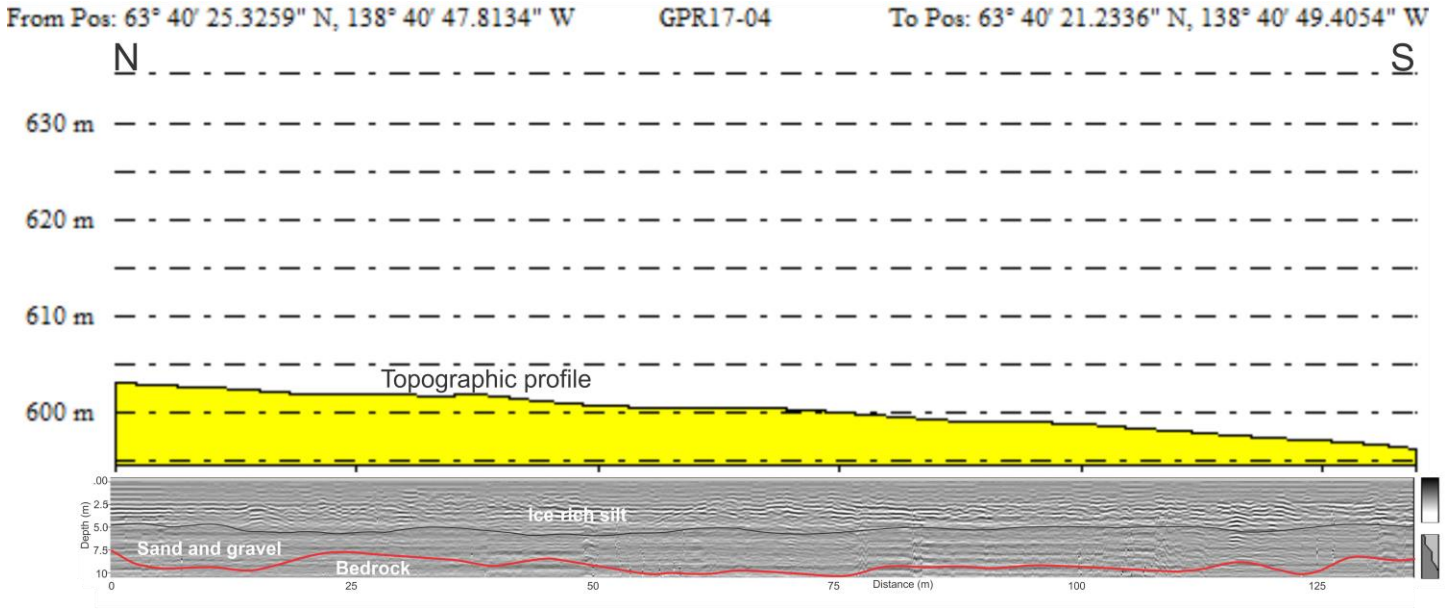


Figure 11 - Ground Penetrating Radar Line GPR17-04. Horizontal and vertical scales are 1:1. Topographic profile is shown above the radar profile, which was not topographically corrected as the topography is relatively flat. The red line on the profile represents the interpreted bedrock contact, while the black line on the profile indicates the interpreted boundary between the permafrost/black muck and the possible sand and gravel below. The bedrock is relatively flat (following topography) and no obvious drill targets are noted.

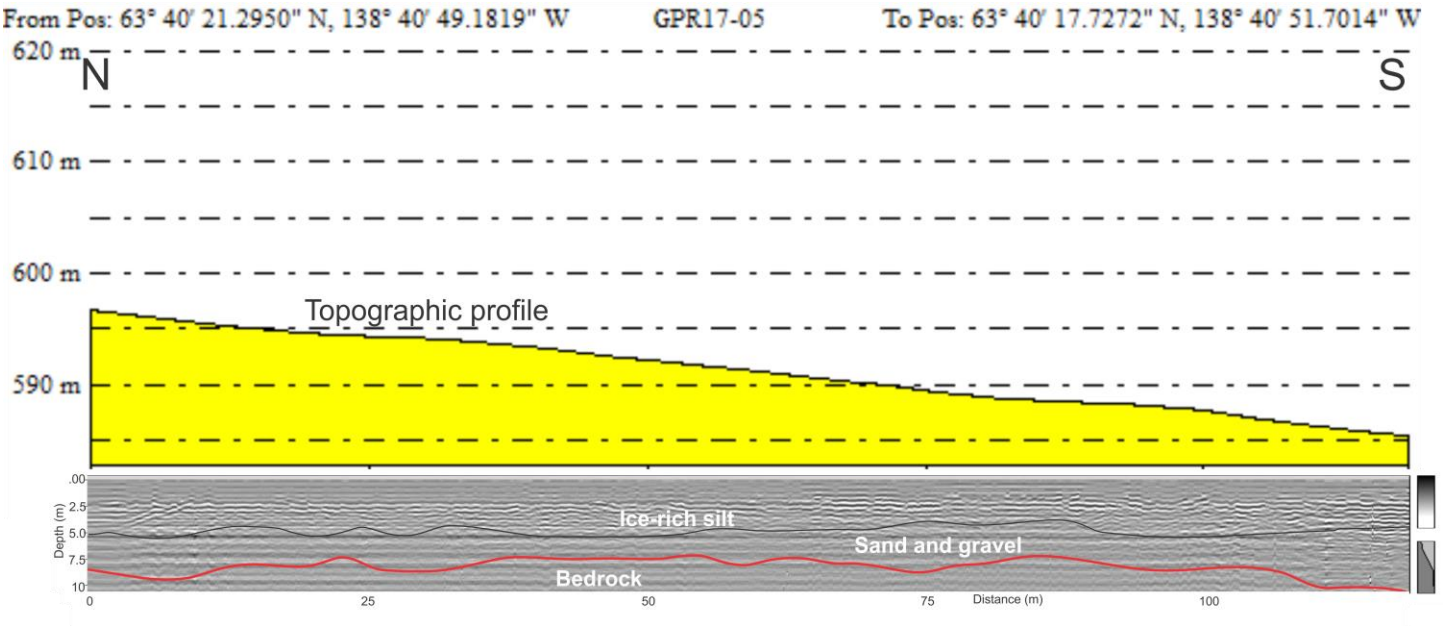


Figure 12 - Ground Penetrating Radar Line GPR17-05. Horizontal and vertical scales are 1:1. Topographic profile is shown above the radar profile, which was not topographically corrected as the topography is a gentle continuous slope. The red line on the profile represents the interpreted bedrock contact, while the black line on the profile indicates the interpreted boundary between the permafrost/black muck and the possible sand and gravel below. The bedrock is relatively flat (following topography) and no obvious drill targets are noted. Sediments appear to thicken towards the valley centre to the south.

## *Conclusions and Recommendations*

The coordinates for drill targets generated from the GPR surveys are shown in Table 3. Overall, ground penetrating radar appeared to provide good signal response and interpretable data in the project area, although it is not recommended as a stand-alone method to interpret lithologies and depths to bedrock. Confirmation of interpretations by drilling is recommended. This would verify lithologies, sediment thicknesses and depths to bedrock, which would enable recalculation of the relative permittivity and depths of penetration and result in a more accurate interpretation of initial GPR results.

Table 3 - Coordinates for drill hole targets generated from the 2017 GPR profiles.

| Target Name | Line | Type | Latitude DD | Longitude DD | UTM_N | UTM_E | Depth (m) |
|---|---|---|---|---|---|---|---|
| **GPR17-01-1** | GPR17-01 | GPR | 63.67293 | -138.68 | 7062652 | 7062652 | 7.5 |
| **GPR17-01-2** | GPR17-01 | GPR | 63.67261 | -138.68 | 7062617 | 7062617 | 7.5 |
| **GPR17-02-1** | GPR17-02 | GPR | 63.67372 | -138.681 | 7062739 | 7062739 | 8 |
| **GPR17-02-2** | GPR17-02 | GPR | 63.67373 | -138.68 | 7062740 | 7062740 | 8 |
| **GPR17-02-3** | GPR17-02 | GPR | 63.67368 | -138.679 | 7062736 | 7062736 | 9 |
| **GPR17-03-1** | GPR17-03 | GPR | 63.67265 | -138.68 | 7062620 | 7062620 | 9 |

Figure 13 is a compilation map showing drill targets generated on the JON 1 and JON 2 claims from the 2014-2015 Resistivity Surveys and the 2017 GPR surveys. A potential paleochannel is also shown.

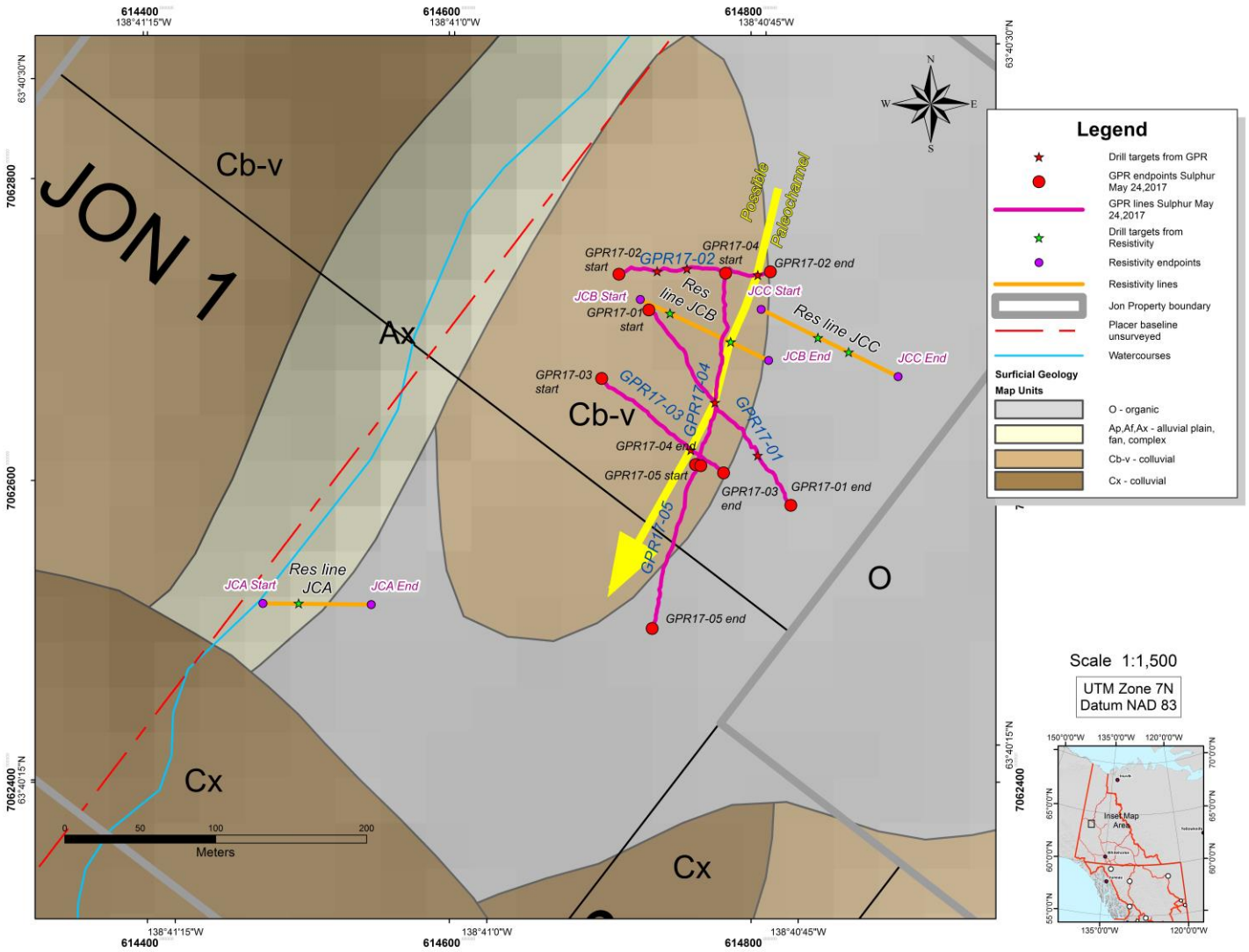


**Figure 13 - Map of Jon property showing proposed drill targets from 2014-2015 resistivity lines and 2017 ground penetrating radar lines, as well as a possible paleochannel (in yellow).**

## 2018 Exploration – Resistivity Surveys

### *General*

One resistivity line totalling 131 metres was conducted and interpreted for Midnight Permitting Ltd. by William LeBarge of Geoplacer Exploration Ltd. The survey was conducted on August 15, 2018.

### *Methodology*

The Lippmann 4-Point Light Resistivity System was used to conduct the survey. The resistivity technique injects an electrical current into the subsurface through stainless steel spikes and then measures the remaining voltage at various 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. Data was collected using Geotest software, while the inversion and data filtering was completed with RES2DINV software. Data points with poor contact resistance were exterminated and noisy data was filtered statistically with root mean squared data trimming. Two-dimensional tomograms were produced using least squares damped inversion parameters to display the resistivity properties and to display potential contacts.

The two-dimensional images were used for preliminary interpretations of bedrock structure. The images were interpreted by William LeBarge.

General principles and assumptions 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 and Disclaimer*

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 if there is permafrost present in the region. The materials are interpreted based upon local geology observed, as well as geologic knowledge of the area. Certain materials may be similar in composition and result in uncertain results. The accuracy of the information presented is not guaranteed and all mine development is the client's responsibility. William LeBarge of Geoplacer Exploration Ltd. accepts no liability for any use or application of these data by any and all authorized or unauthorized parties.

### *Results*

Contact resistivity was generally low in the survey which provided good quality data. However, the presence of discontinuously-thawed surface areas within the permafrost increased the uncertainty of the interpreted results, as those parts of the valleys which had been disturbed were usually associated with high water saturation. In these areas, contrasts between low and high resistivity values were partially or wholly a reflection of varying groundwater and permafrost conditions, rather than strictly lithological boundaries.

The geographic coordinates of the endpoints of the surveyed line are shown in Table 4. The interpreted profile is shown as Figure 14, and the line is plotted on Figure 15.

Table 4 – 2018 resistivity survey line coordinates, grant number and length, Sulphur Creek bench.

| Survey Name | Grant Number | Start Point | | End Point | | Length (m) |
|---|---|---|---|---|---|---|
| | | Latitude | Longitude | Latitude | Longitude | |
| **RES18-SBENCH-01** | ID01661 | 63.679495 | -138.710807 | 63.68047 | -138.709639 | 131 |

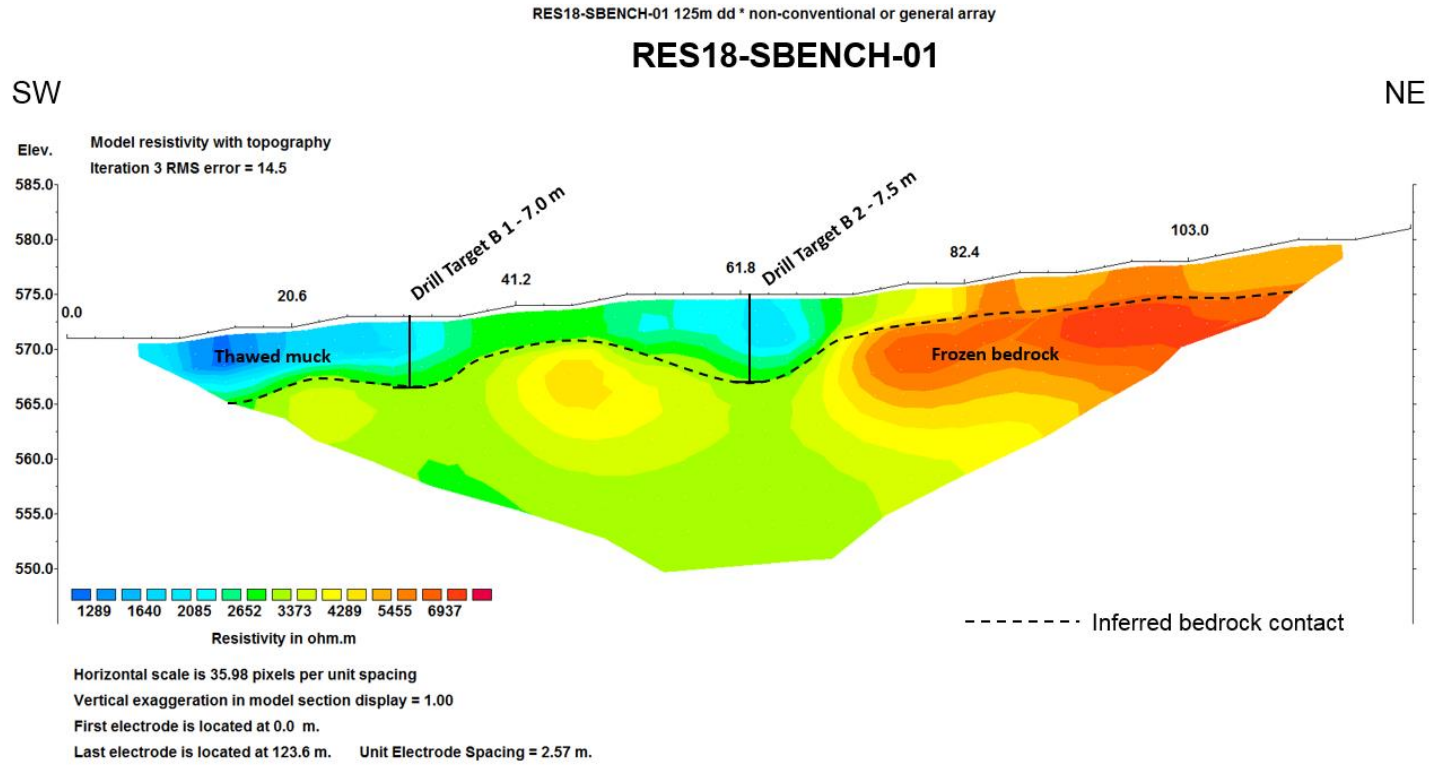


Figure 14 - Resistivity line RES18-SBENCH-01 on Sulphur Creek bench lease ID01661. Two drill targets were chosen with estimated depths of 7.0 and 7.5 metres below surface.

## *Conclusions and Recommendations*

The interpreted resistivity profile is shown as Figure 14. The survey appears to delineate a bedrock contact approximately 4 to 8 metres below the surface. Detailed analysis of the resistivity profile appears to show two potential drill targets on paleochannels along the undulating bedrock profile.

Figure 15 is a surficial map showing the proposed drill targets on the bench lease generated from the resistivity survey. Coordinates for the drill targets are shown in Table 5 below.

Table 5 - Coordinates for the drill hole targets generated from the 2018 Resistivity profile.

| Target Name | Survey Line | Grant Number | Latitude DD | Longitude DD | Approximate Depth to bedrock (m) |
|---|---|---|---|---|---|
| **B1** | RES18-SBENCH-01 | ID01661 | 63.679748 | -138.710385 | 7.0 |
| **B2** | RES18-SBENCH-01 | ID01661 | 63.679989 | -138.710143 | 7.5 |

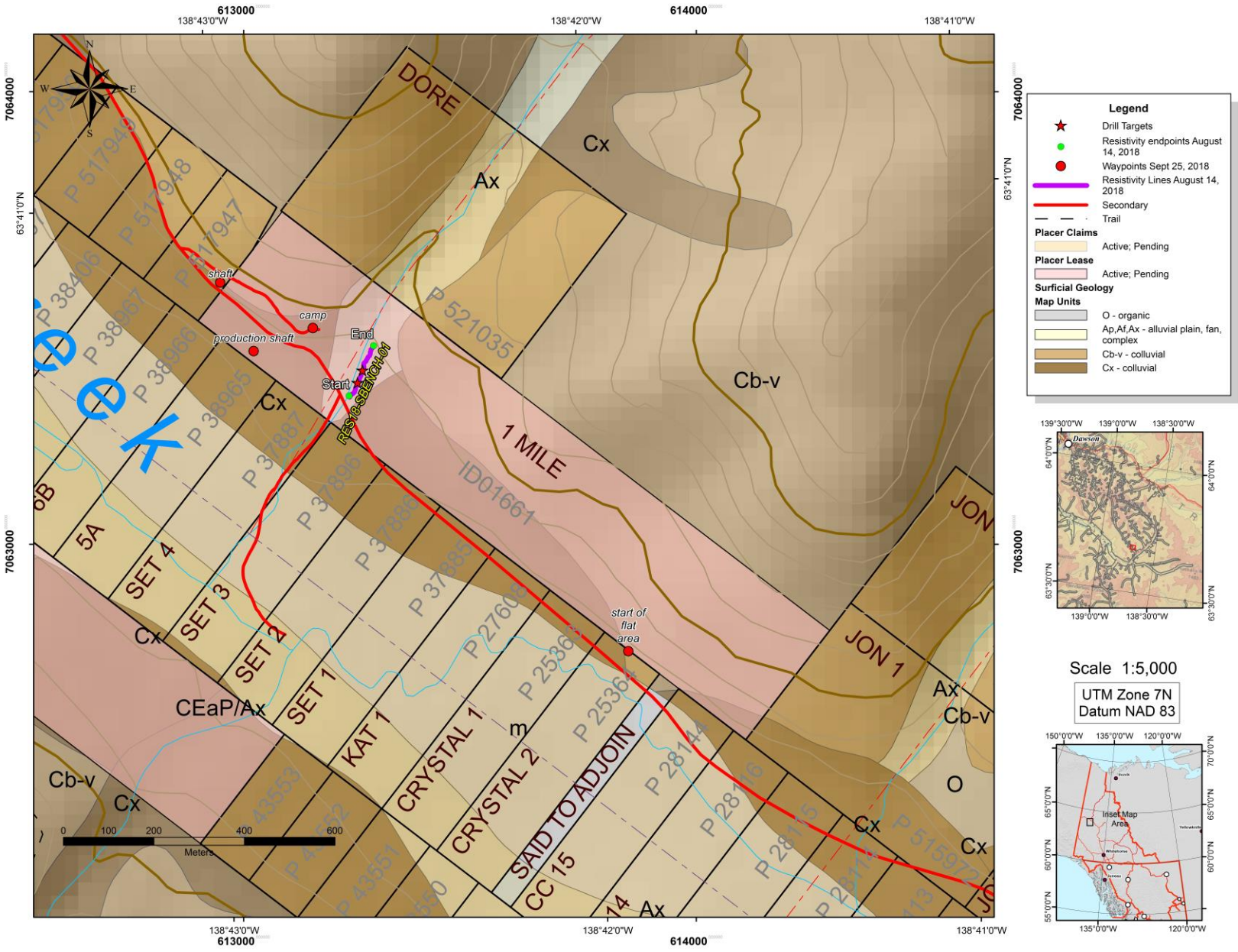


Figure 15 - Surficial Geology map (after Froese and Jackson, 2005) of lease ID01661 showing resistivity survey RES18-SBENCH-01 and proposed drill targets.

## 2019 Exploration – Resistivity Surveys

### *General*

Five resistivity lines totalling 1069 metres were conducted and interpreted by William LeBarge of Geoplacer Exploration Ltd. The surveys were conducted from September 10 to September 13, 2019.

### *Methodology*

The Lippmann 4-Point Light Resistivity System was used to conduct the survey. The resistivity technique injects an electrical current into the subsurface through stainless steel spikes and then measures the remaining voltage at various 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. Data was collected using Geotest software, while the inversion and data filtering was completed with RES2DINV software. Data points with poor contact resistance were exterminated and noisy data was filtered statistically with root mean squared data trimming. Two-dimensional tomograms were produced using least squares damped inversion parameters to display the resistivity properties and to display potential contacts.

The two-dimensional images were used for preliminary interpretations of bedrock structure. The images were interpreted by William LeBarge.

General principles and assumptions of electrical resistivity are:

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

### *Limitations and Disclaimer*

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 if there is permafrost present in the region. The materials are interpreted based upon local geology observed, as well as geologic knowledge of the area. Certain materials may be similar in composition and result in uncertain results. The accuracy of the information presented is not guaranteed and all mine development is the client's responsibility. William LeBarge of Geoplacer Exploration Ltd. accepts no liability for any use or application of these data by any and all authorized or unauthorized parties.

### *Results*

Contact resistivity was generally low in the survey which provided good quality data. However, the presence of discontinuously thawed surface areas within the permafrost increased the uncertainty of the interpreted results, as those parts of the valleys which had been disturbed were usually associated with high water saturation. In these areas, contrasts between low and high resistivity values were partially or wholly a reflection of varying groundwater and permafrost conditions, rather than strictly lithological boundaries. The use of IP in conjunction with Resistivity appears to have been particularly useful in the interpretation of profile RES19-JON3-01.

The geographic coordinates of the endpoints of the surveyed lines are shown in Table 6. The interpreted profiles are shown as Figures 16-21, and the lines are plotted on Figure 22.

**Table 6 – 2019 resistivity survey line coordinates, grant number and lengths, Sulphur Creek bench.**

| Survey Name | Grant Number | Start Point | | End Point | | Length (m) |
|---|---|---|---|---|---|---|
| | | Latitude | Longitude | Latitude | Longitude | |
| **RES19-JON4-01** | P 517619 | 63° 40' 4.38 N | 138° 40' 42.43" W | 63° 40' 8.01" N | 138° 40' 31.8" W | 212 |
| **RES19-JON1-01** | P 515972 | 63° 40' 12.01" N | 138° 41' 6.33" W | 63° 40' 16.6" N | 138° 41' 15.65" W | 210 |
| **RES19-JON1-02** | P 515972 | 63° 40' 11.66" N | 138° 41' 7.4" W | 63° 40' 17.5" N | 138° 41' 0.413" W | 213 |
| **RES19-JON3-01** | P 515974 | 63° 40' 8.34" N | 138° 40' 54.04" W | 63° 40' 13.39" N | 138° 40' 45.16" W | 218 |
| **RES19-DOREDISC-01** | P 521035 | 63° 40' 57.22" N | 138° 42' 36.18" W | 63° 40' 52.63" N | 138° 42' 27.13" W | 217 |

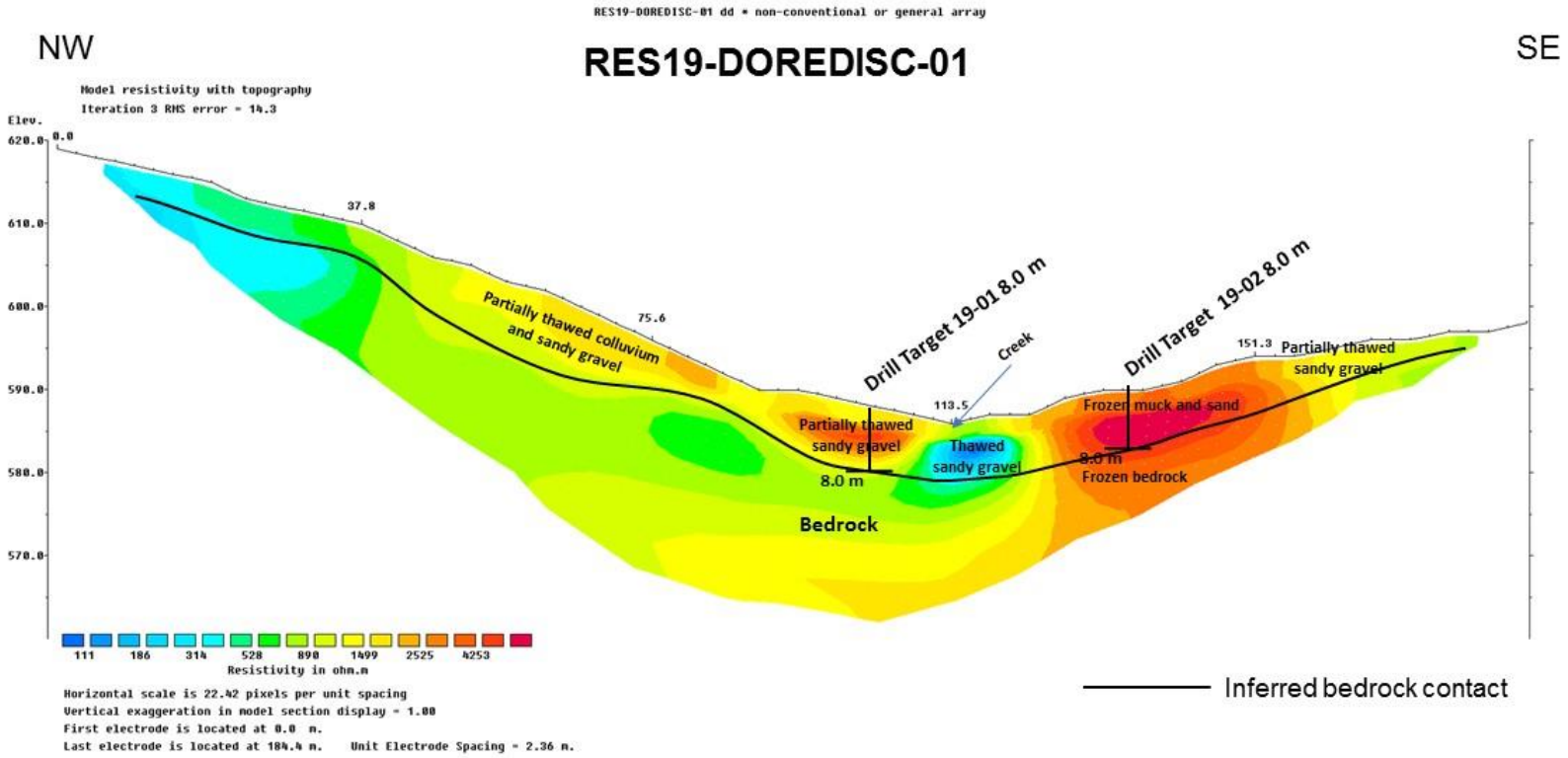


**Figure 16 – Resistivity line RES19-DOREDISC-01 on Sulphur Creek tributary grant P 521035. Two drill targets were chosen with estimated depths of 8 metres to bedrock below surface.**

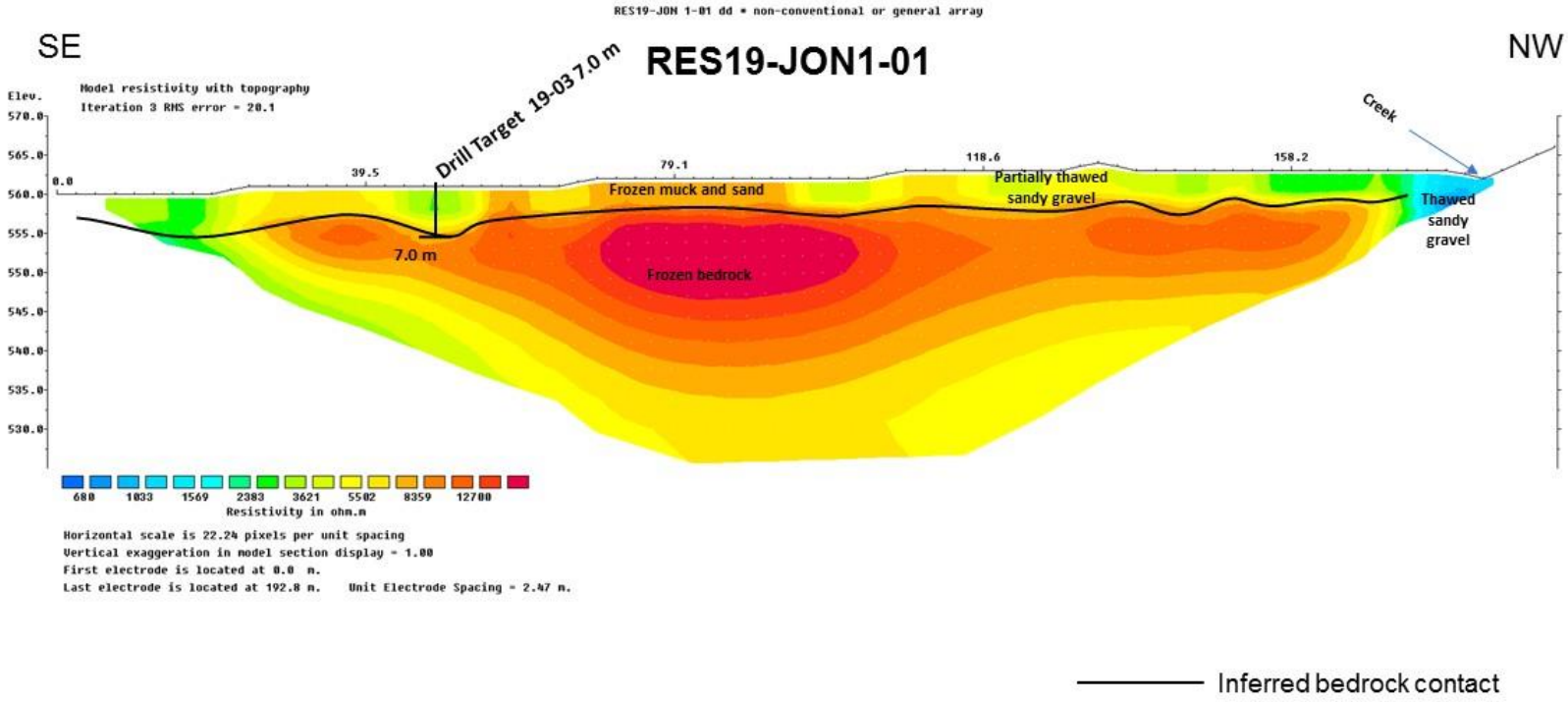


**Figure 17 - Resistivity line RES19-JON1-01 on Sulphur Creek bench. One drill target has been chosen with an estimated depth of 7 metres to bedrock below surface.**

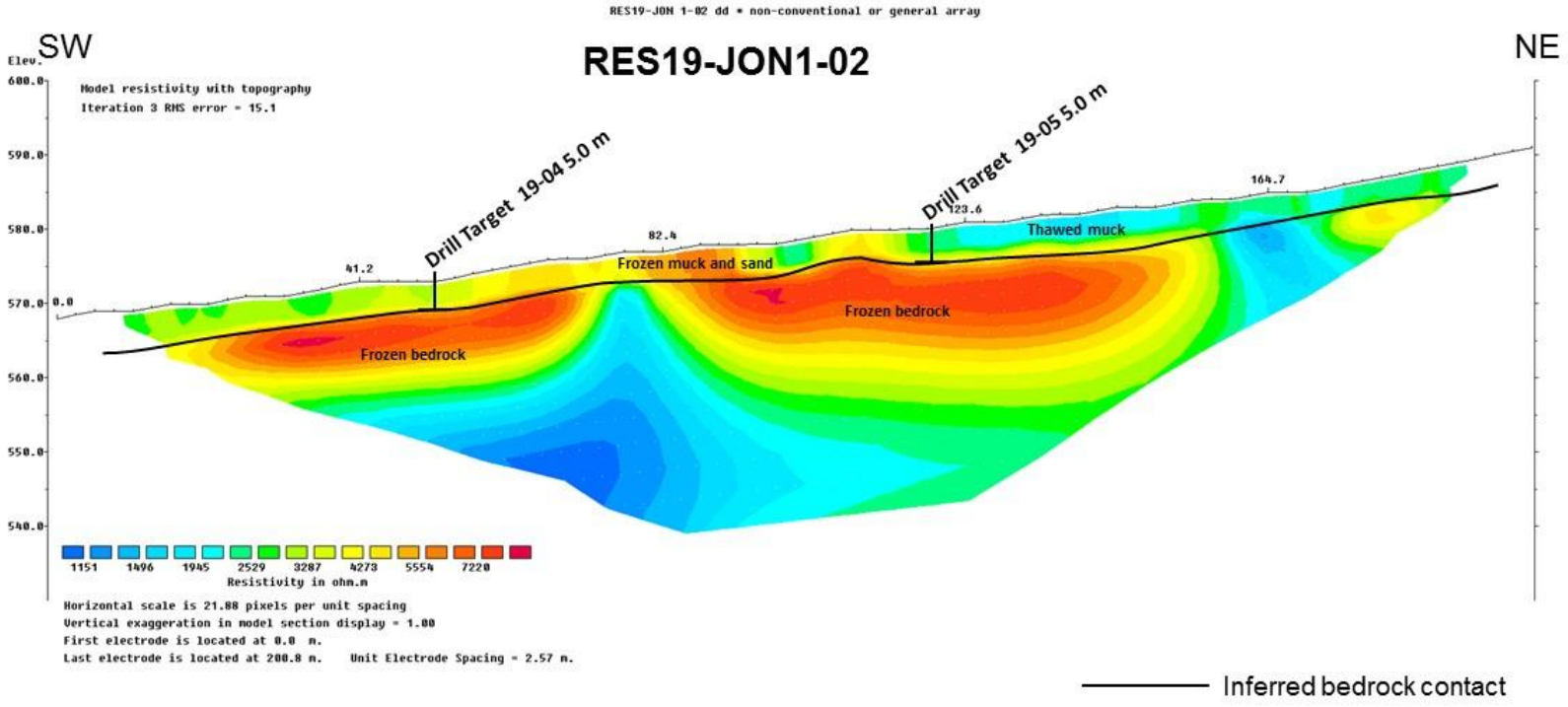


Figure 18 - Resistivity line RES19-JON1-02 on Sulphur Creek bench. Two drill targets have been chosen with estimated depths of 5 metres to bedrock below surface.

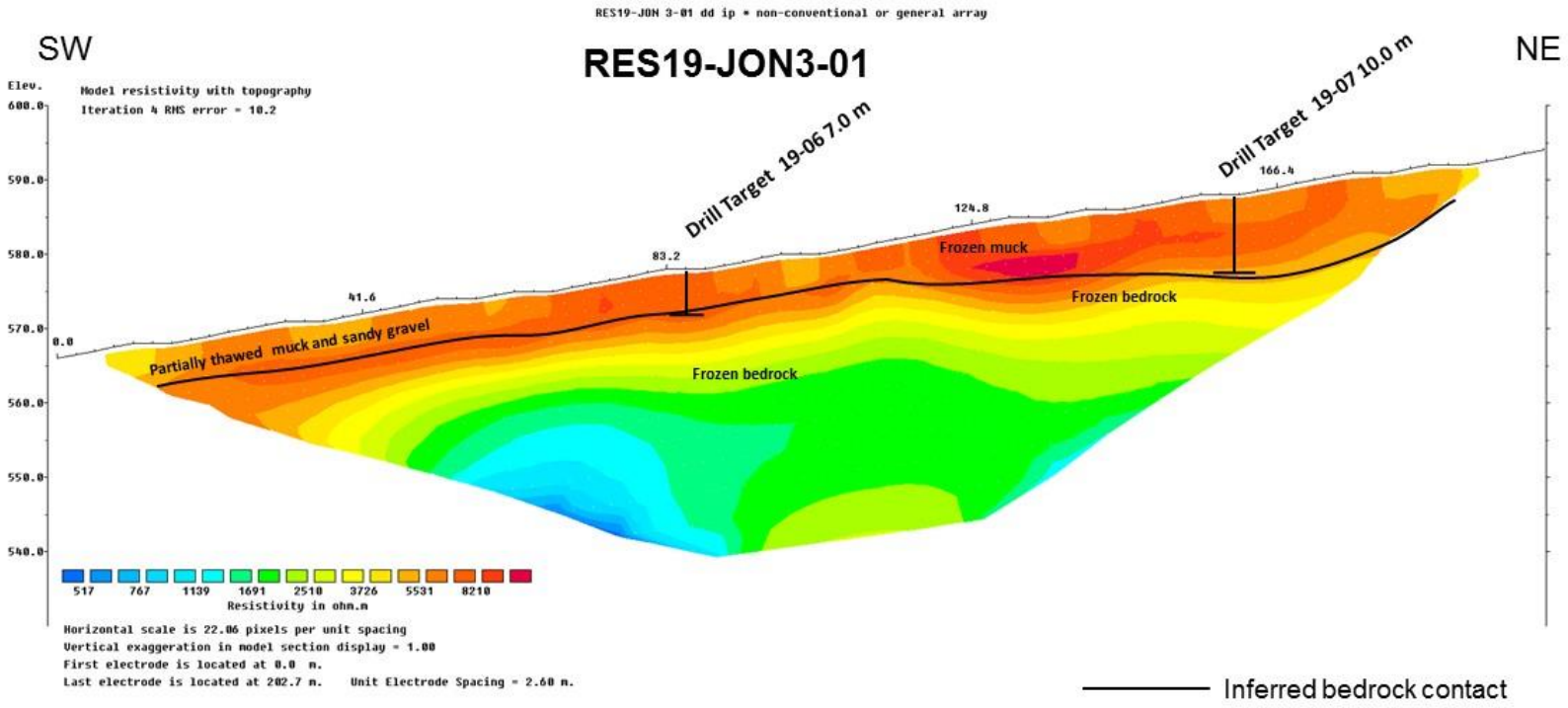


**Figure 19 - Resistivity line RES19-JON3-01 on Sulphur Creek bench. Two drill targets have been chosen with estimated depths of 7 and 10 metres to bedrock below surface.**

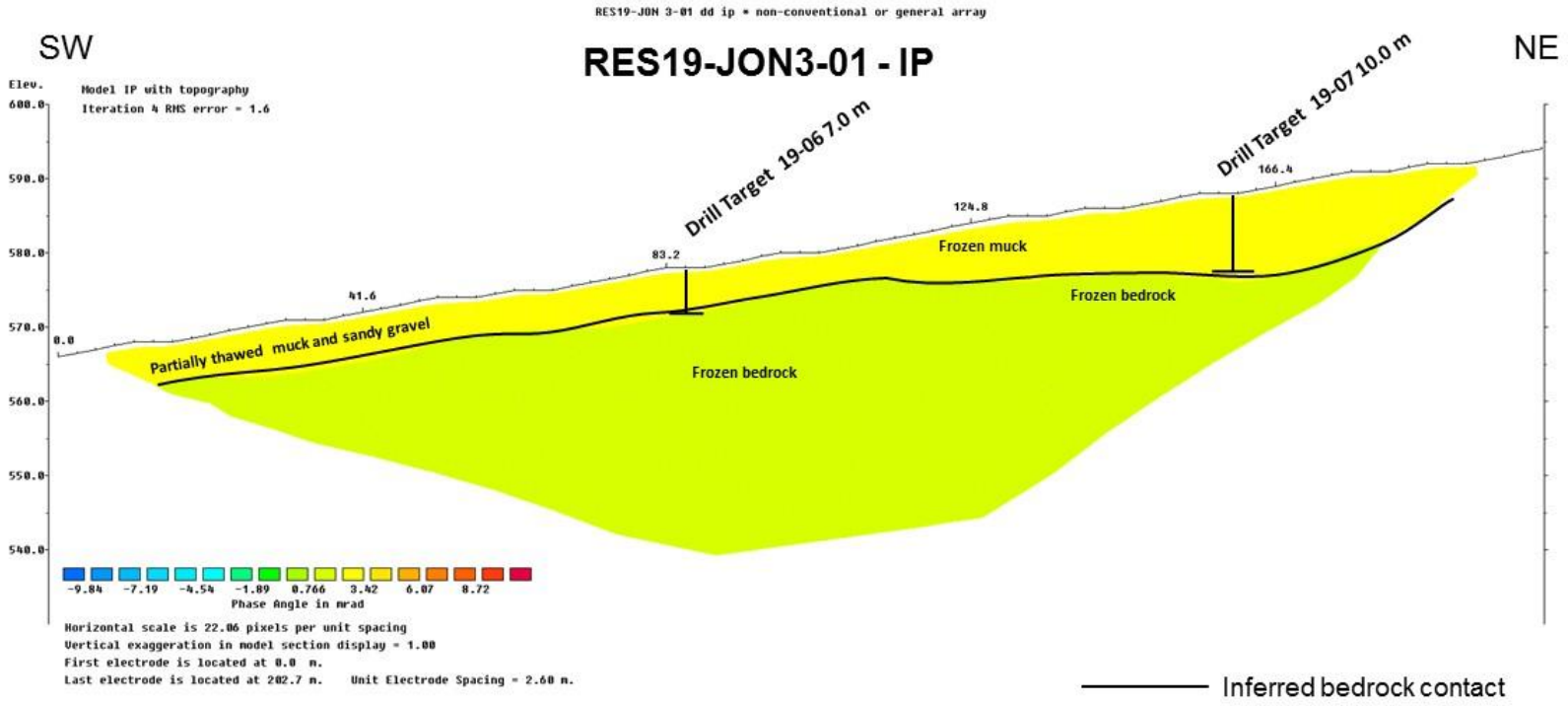


**Figure 20 - Resistivity line RES19-JON3-01 also included a simultaneous IP survey. The interpreted bedrock contact is more clearly defined, and assisted in choosing two drill targets with estimated depths of 7 and 10 metres to bedrock below surface.**

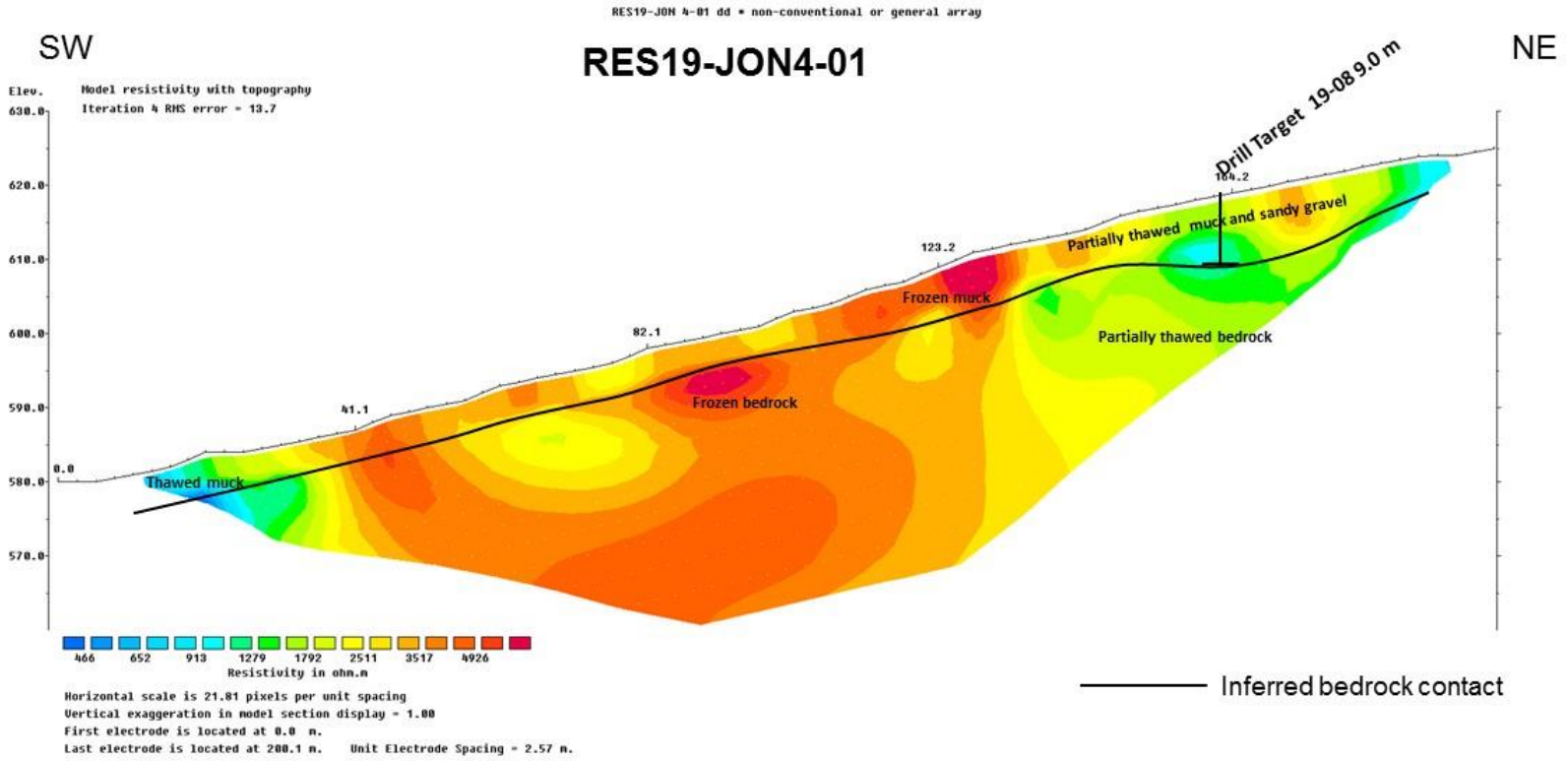


**Figure 21 - Resistivity line RES19-JON14-01 on Sulphur Creek bench. One drill target has been chosen with an estimated depth of 9 metres to bedrock below surface.**

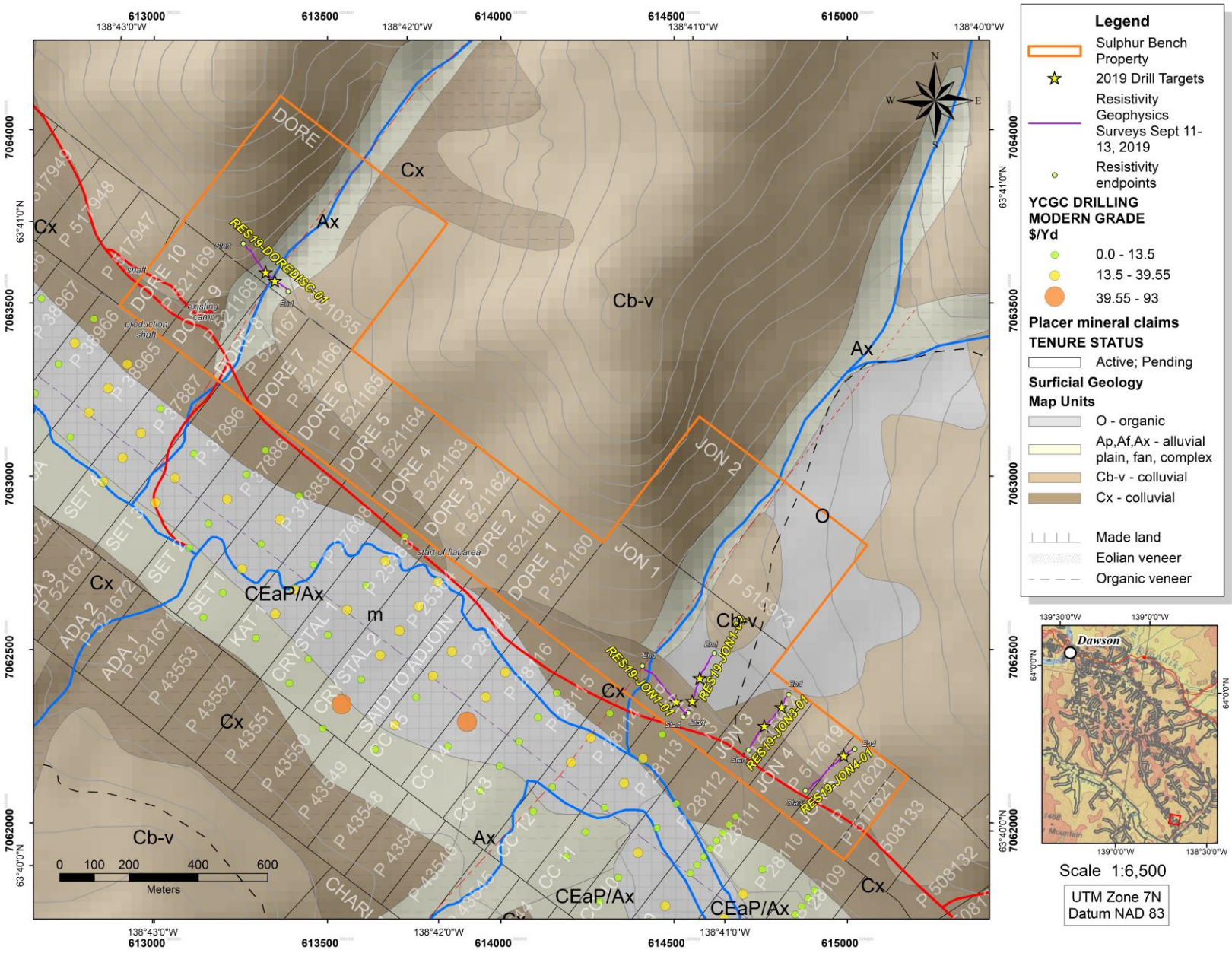


**Figure 22 – Surficial map of Sulphur Bench property (after Froese and Jackson, 2005) showing resistivity surveys and drill targets from the 2019 program, as well as nearby historic YCGC drill holes.**

## *Conclusions and Recommendations*

The surveys appear to delineate a bedrock contact varying between 5 and 10 metres below the surface, as well as the presence of several thawed areas on surface which are either disturbed areas such as trails, or creeks which flow through low points on the surface. Several potential drill targets were chosen on the profiles, which were mainly selected at low points in bedrock which may represent buried paleochannels.

Figure 22 is a surficial map showing the surficial geology, resistivity lines and proposed drill targets. Coordinates for the drill targets are shown in Table 7 below.

**Table 7 - Coordinates for the drill hole targets generated from the 2019 Resistivity profiles.**

| Target Name | Survey Line | Latitude | Longitude | Approximate Depth to bedrock (m) |
|---|---|---|---|---|
| **19-01** | RES19-DOREDISC-01 | 63° 40' 54.497" N | 138° 42' 31.725" W | 8 |
| **19-02** | RES19-DOREDISC-01 | 63° 40' 53.663" N | 138° 42' 29.887" W | 8 |
| **19-03** | RES19-JON1-01 | 63° 40' 13.114" N | 138° 41' 8.878" W | 7 |
| **19-04** | RES19-JON1-02 | 63° 40' 13.118" N | 138° 41' 5.500" W | 5 |
| **19-05** | RES19-JON1-02 | 63° 40' 15.240" N | 138° 41' 3.708" W | 5 |
| **19-06** | RES19-JON3-01 | 63° 40' 10.562" N | 138° 40' 50.552" W | 7 |
| **19-07** | RES19-JON3-01 | 63° 40' 12.247" N | 138° 40' 46.799" W | 10 |
| **19-08** | RES19-JON4-01 | 63° 40' 7.520" N | 138° 40' 34.108" W | 9 |

A cursory examination of the drill targets shows that there appears to be a trend of potential paleochannels running along the bench, parallel to the main Sulphur Creek valley. This potential trend should be investigated further, beginning with auger drill testing (6-inch or larger size) of the chosen drill targets. This should be followed up by excavator test-pitting and bulk processing of prospective alluvial gravels. Further geophysical surveys and drilling should be conducted to determine the extent of any gold-bearing paleochannels on the bench.

## Rationale for 2021 Placer Exploration Program

Sulphur Creek has consistently been one of the top ten producing creeks annually in the Yukon since placer mining began early in Klondike history. Green (1977) notes that three YCGC dredges mined on Sulphur Creek beginning in 1936. The closest to the Sulphur Bench property were Dredge #6 (148,000 ounces between 1936 and 1966) and Dredge #8 (212,000 ounces between 1937 and 1966). Numerous published sources and Yukon Government royalty records show a total of over 355,000 ounces produced from Sulphur Creek between 1940 and 2019. Although recent production has diminished, Sulphur Creek has continued to be a significant producer of placer gold with over 1400 crude ounces recorded in royalties in 2019 (Yukon Government royalty records).

All of the paying tributaries of Sulphur Creek are on the left limit, including Green Gulch, Meadow Gulch, Friday Gulch, and Brimstone Gulch. It is likely that most, if not all, of the bedrock sources of gold in Sulphur Creek originate from the hills on this side of the valley. And although many of the major left-limit tributaries have been explored and mined extensively, development of these areas has often been more the result of tracing pay gravels from the main valley into these tributary valleys, and less about targeted methodical exploration programs in the valleys themselves.

YCGC drilling programs defined the main pay areas on Sulphur Creek which were later mined by the dredges (nearby holes are shown on Figure 22), but several areas which had good gold drill results were left unmined due to the thickness of muck and other factors (Van Loon, 2017). However, as Bond and Van Loon (2018) state: “potential exists in the side pay and in the underexplored prospect of several terrace levels present in the left limit of Sulphur Creek”.

In fact, the left limit of Sulphur Creek has a complex interplay of stratigraphy which is often obscured by thick muck and colluvial deposits. For example, on Meadow Gulch, three types of gravel deposits have been exposed, including stream gravel, a low-level creek terrace and an alluvial fan gravel (Bond and Van Loon, 2018). Left-limit tributary Brimstone Gulch, upstream of the project area, is described as having a substantial bench on its right limit that extends into the left limit of the Sulphur Creek valley (Bond and Van Loon, 2018).

The gold recovered from Brimstone Gulch is coarser-grained than Sulphur Creek valley gold, and it has a different purity (780 fine). Adjacent Sulphur Creek valley gold has a fineness of 820. This is strong evidence that a significant bedrock gold source exists somewhere on the left limit of Sulphur Creek. On the LAND 1-11 left-limit placer bench claims just upstream of the DORE project claims, several auger drillholes were drilled in 2016. Promising gold values of 48 mg, 22 mg and 12 mg were encountered in three of the holes (Kreft, 2017).

In the project area, geophysical surveys on the DORE and JON bench claims in 2019 identified a series of drill targets running parallel to the main Sulphur Creek valley. These targets may be paleochannels which reflect a buried left-limit Sulphur Creek terrace, similar to those found upstream on Sulphur Creek at the mouths of Meadow Gulch and Brimstone Gulch. Additional evidence of exploration potential is demonstrated by the presence of drill targets and potential paleochannels (from 2014-2017 geophysical surveys) on both of the unnamed left-limit tributaries which adjoin the bench claims on the property. There are also historic old-timer’s workings including exploratory shafts along both of these creeks.

# 2021 Placer Exploration Program

## Overview

Exploration in 2021 consisted of 326 ft. of auger drilling (eleven, 8-inch holes), 2.56 creek-miles of drone surveys, and 900 line-m of resistivity geophysical surveys in 6 lines. Figure 23 is a satellite photo which shows the locations of the exploration work conducted in 2021 under YMEP21-021.

## Auger Drilling

TMM GoldCorp Inc. was contracted to drill a series of 8-inch auger drill holes on the property. The drill was mounted on an FN110 Nodwell, with an additional FN110 Nodwell used for drill steel and sampling support. Eleven holes were drilled in three separate drill lines. Drill samples were measured for volume and processed using a Devlin Gold Vortex Sluice Box. Final gold weights were measured with a digital scale. Table 8 shows the coordinates, depths and gold results of the auger drill holes conducted on the claims in 2021. Drill logs are included in Appendix 1.

**Table 8 – Auger drilling coordinates, depths and gold results, Sulphur Bench property, 2021.**

| Drill Hole | Grant number | Driller's Notes | Total Depth (ft) | Thickness of gravel (ft) | Driller's estimate bedrock @(ft) | Au mg | Calc. grade oz/yd$^3$ | UTM E Zone 7 | UTM N Zone 7 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **DH 21-1** | P 515972 | DL1H01 | 27 | unknown | 24 | 0 | | 614447 | 7062381 | bedrock contact uncertain |
| **DH 21-2** | P 515972 | DL1H02 | 28 | unknown | 22 | 0 | | 614482 | 7062354 | bedrock contact uncertain |
| **DH 21-3** | P 515972 | DL1H03 | 22 | unknown | 22 | 0 | | 614504 | 7062346 | bedrock contact uncertain |
| **DH 21-4** | P 515972 | DL1H04 | 15 | unknown | 0 | 0 | | 614531 | 7062334 | bedrock not reached |
| **DH 21-5** | P 515972 | DL1H05 | 33 | 10 | 27 | 1 | | 614373 | 7062424 | |
| **DH 21-6** | P 521167 | DL2H01 | 37 | 10 | 33 | 1 | | 613150 | 7063313 | |
| **DH 21-7** | P 521169 | DL2H02 | 29 | 4 | 19 | 16 | 0.008 | 613015 | 7063431 | |
| **DH 21-8** | P 521168 | DL2H03 | 27 | 6 | 20 | 2 | | 613053 | 7063404 | |
| **DH 21-9** | P 521168 | DL2H04 | 27 | 5 | 23 | 4 | 0.003 | 613104 | 7063349 | |
| **DH 21-10** | P 521167 | DL3H01 | 37 | 3 | 33 | 1 | | 613234 | 7063365 | |
| **DH 21-11** | P 521168 | DL3H02 | 36 | 4 | 28 | 2 | | 613205 | 7063412 | |

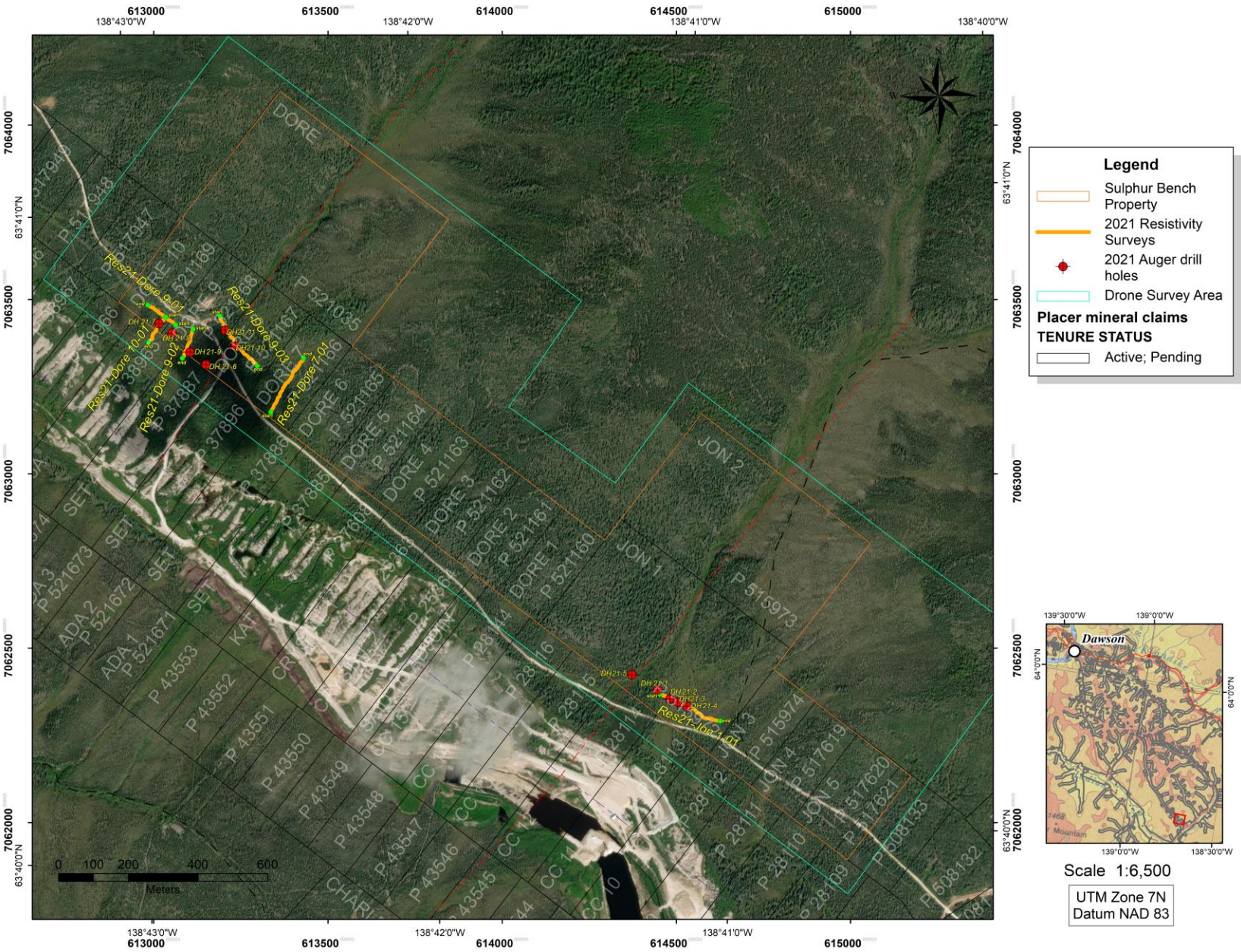


Figure 23 - Satellite map showing work conducted in 2021 including drone survey area, auger drill holes and resistivity surveys.

## Resistivity Geophysical Surveys

### *General*

Six resistivity lines totalling 900 metres were conducted and interpreted by William LeBarge of Geoplacer Exploration Ltd. The surveys were conducted from August 4 to August 28, 2021.

### *Methodology*

The Lippmann 4-Point Light Resistivity System was used to conduct the surveys. The resistivity technique injects an electrical current into the subsurface through stainless steel spikes and then measures the remaining voltage at various 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. Data was collected using Geotest software, while the inversion and data filtering was completed with RES2DINV software. Data points with poor contact resistance were exterminated and noisy data was filtered statistically with root mean squared data trimming. Two-dimensional tomograms were produced using least squares damped inversion parameters to display the resistivity properties and to display potential contacts. The images were interpreted by William LeBarge.

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### *Limitations and Disclaimer*

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### *Results*

Contact resistivity was generally low in the surveys which provided good quality data. However, the presence of discontinuously thawed surface areas within the permafrost increased the uncertainty of the interpreted results, as those parts of the valleys which had been disturbed were usually associated with high water saturation. In these areas, contrasts between low and high resistivity values were partially or wholly a reflection of varying groundwater and permafrost conditions, rather than strictly lithological boundaries.

The geographic coordinates of the endpoints of the surveyed lines are shown in Table 9. The interpreted profiles are shown as Figures 24-30, and the lines are plotted on Figure 23.

**Table 9 – 2021 resistivity survey line coordinates, grant numbers and lengths, Sulphur Creek bench.**

| Survey Name | Start Point Zone 7 | | End Point Zone 7 | | Length (m) |
|---|---|---|---|---|---|
| | UTM E | UTM N | UTM E | UTM N | |
| **RES21-DORE 7-01** | 613336 | 7063177 | 613430 | 7063332 | 200 |
| **RES21-DORE 9-01** | 613063 | 7063427 | 612976 | 7063478 | 100 |
| **RES21-DORE 9-02** | 613113 | 7063415 | 613082 | 7063331 | 100 |
| **RES21-DORE 9-03** | 613189 | 7063453 | 613297 | 7063309 | 200 |
| **RES21-DORE 10-01** | 613034 | 7063450 | 612985 | 7063377 | 100 |
| **RES21-JON 1-01** | 614452 | 7062368 | 614627 | 7062291 | 200 |

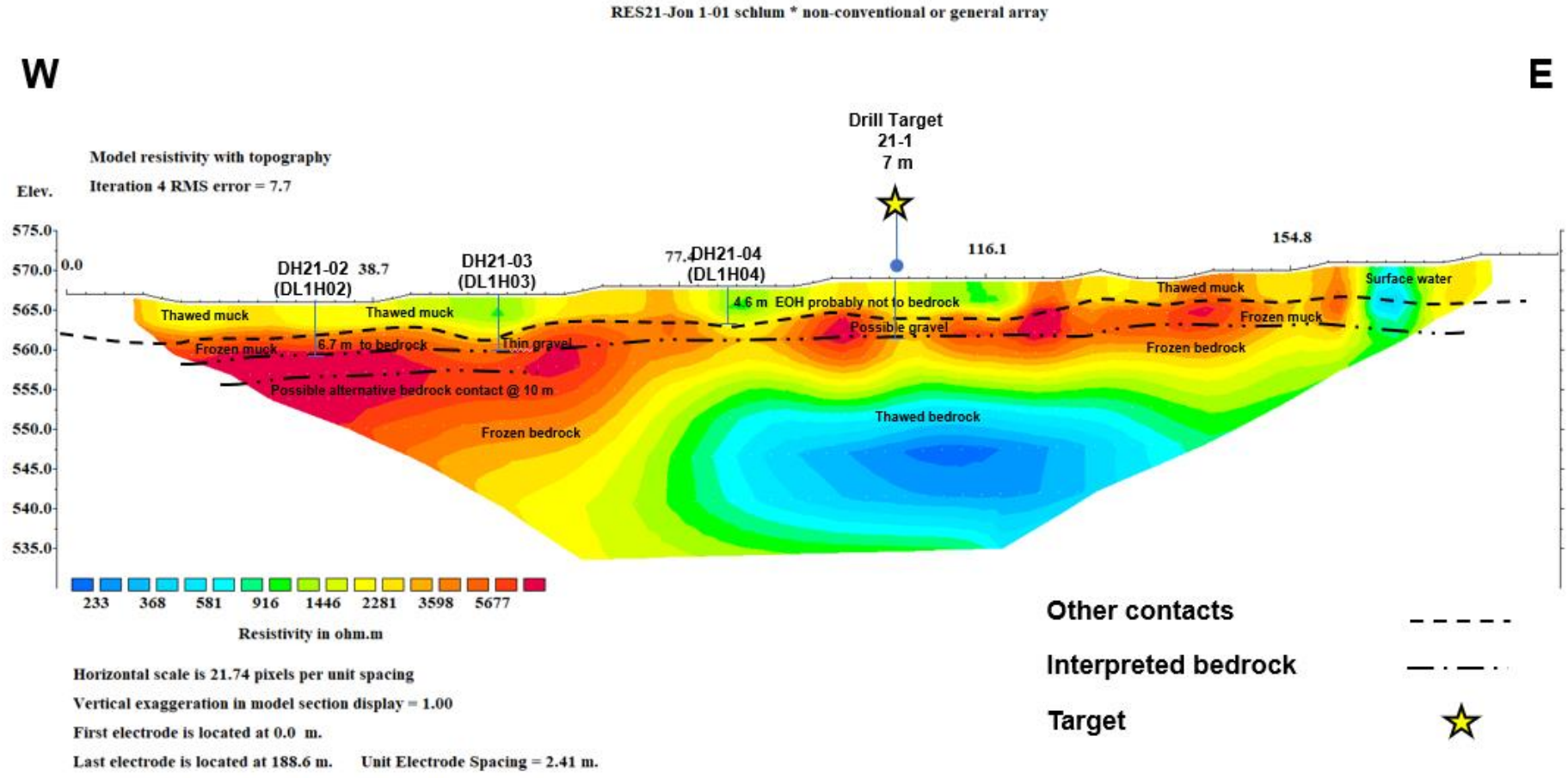


Figure 24 - Resistivity line RES21-Jon 1-01 was surveyed across the southernmost left-limit tributary on the property. Bedrock was interpreted to be approximately 7 metres from surface however it may be deeper on the western extent, where a distinctive contact lies at approximately 10 m depth. The auger drill was experiencing technical problems and at least one hole (DH21-04) did not reach bedrock on this drill line. An additional drill target is proposed.

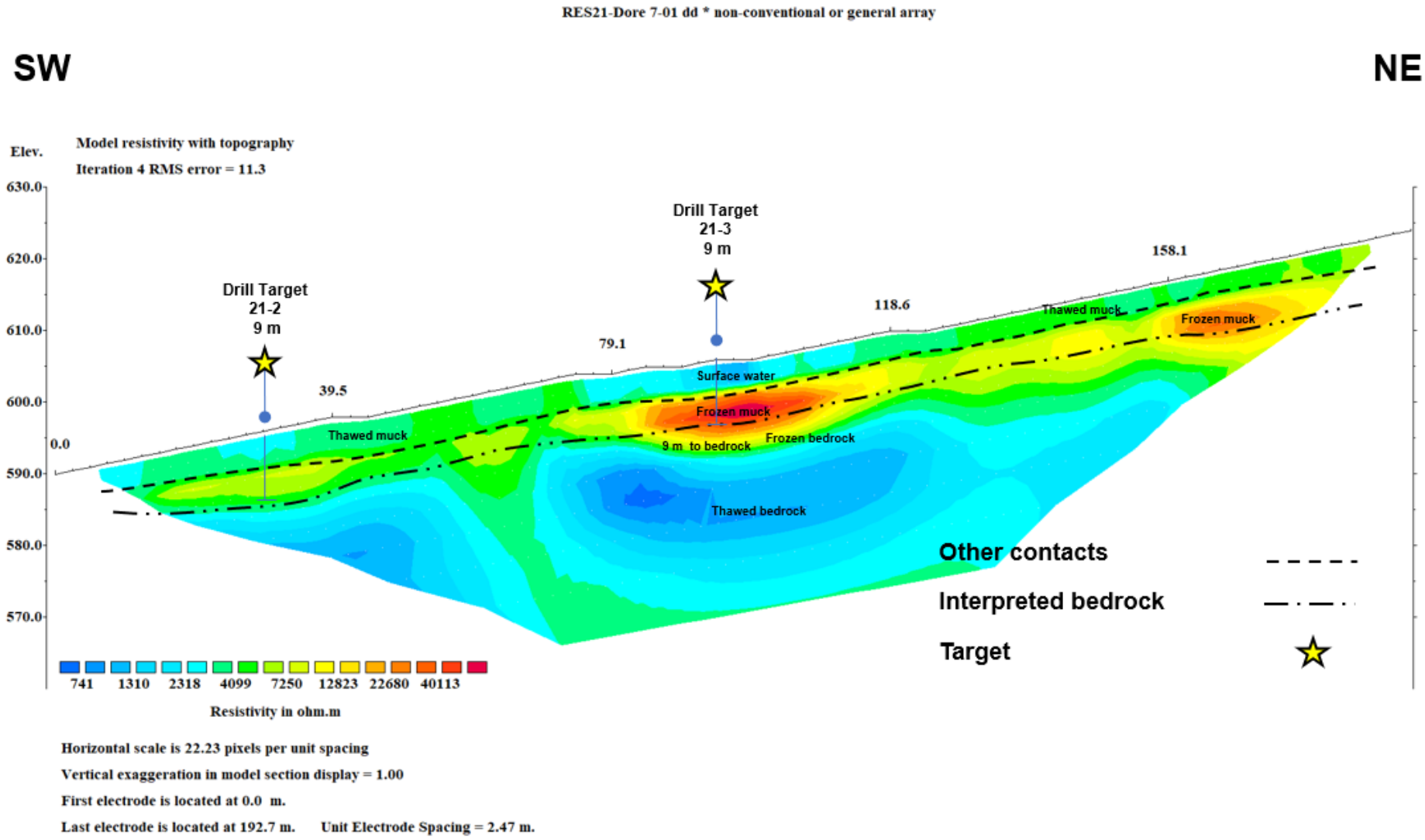


Figure 25 - Resistivity Line RES21 Dore 7-01 was surveyed across the left-limit bench near the upstream tributary of the property. Bedrock is interpreted at 9 metres from surface and two drill targets have been chosen on the profile.

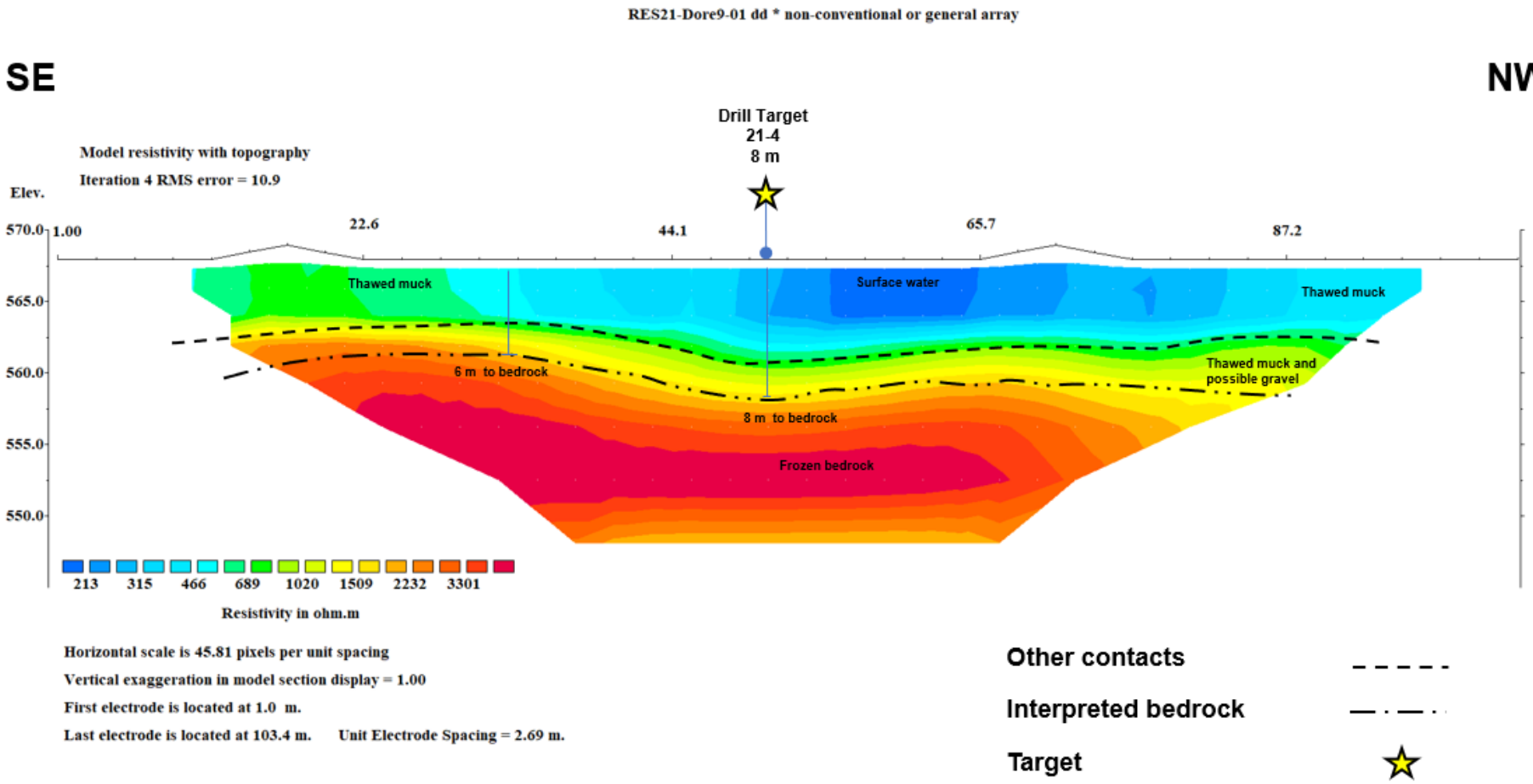


Figure 26 - Resistivity Line RES21-Dore 9-01 was surveyed across an old access road below the Sulphur Creek Road. Bedrock is interpreted between 6 and 8 metres from surface and one drill target has been chosen.

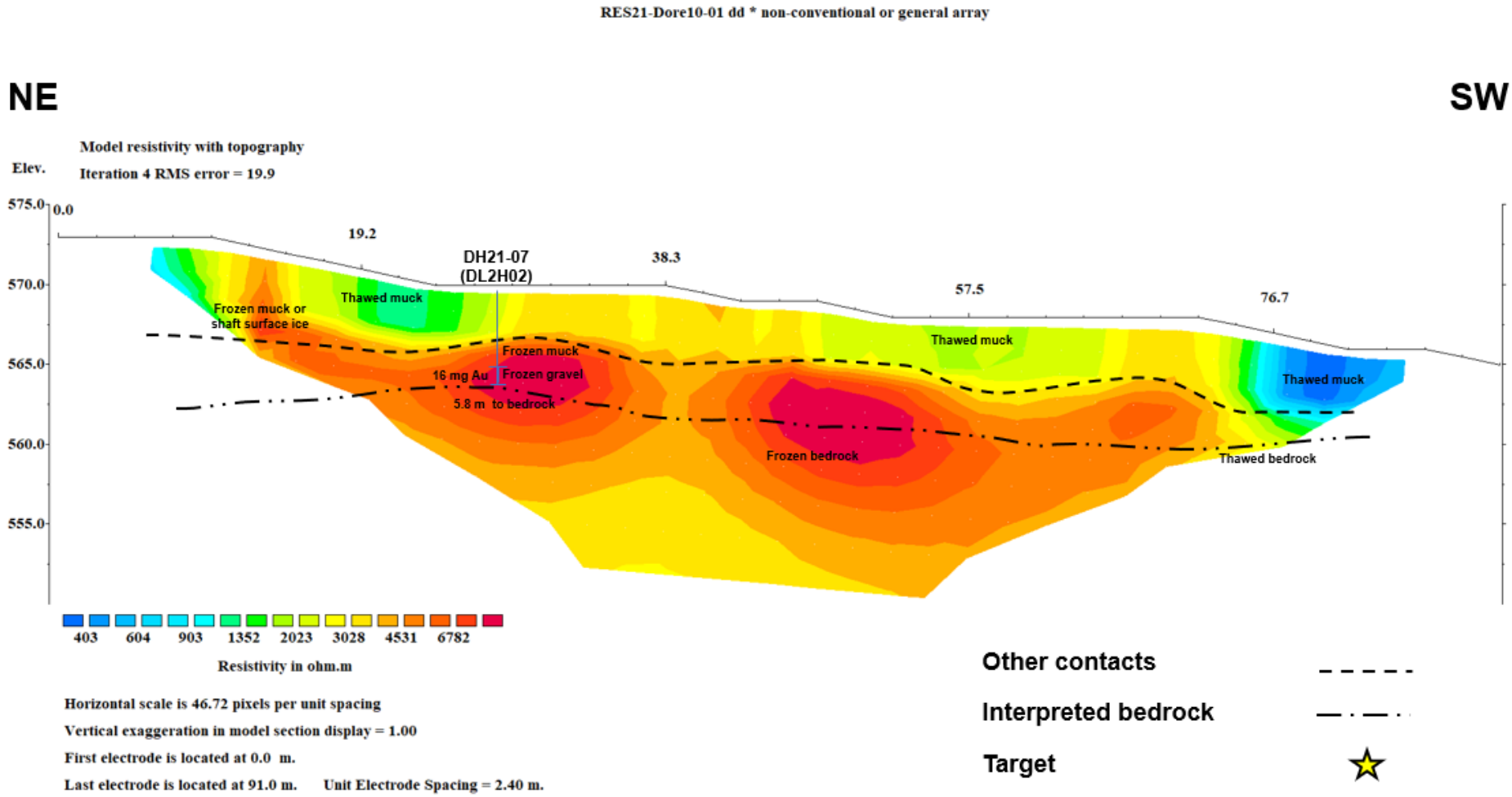


Figure 27 - Resistivity Line RES21-Dore 10-01 was surveyed across a historic shaft and other underground workings within the southern boundary of the Dore 10 claim. Auger drill hole DH21-07 was drilled along this line near the location of the historic shaft. Bedrock was encountered at 5.8 m from surface and 16 mg of gold was recovered from the drill sample.

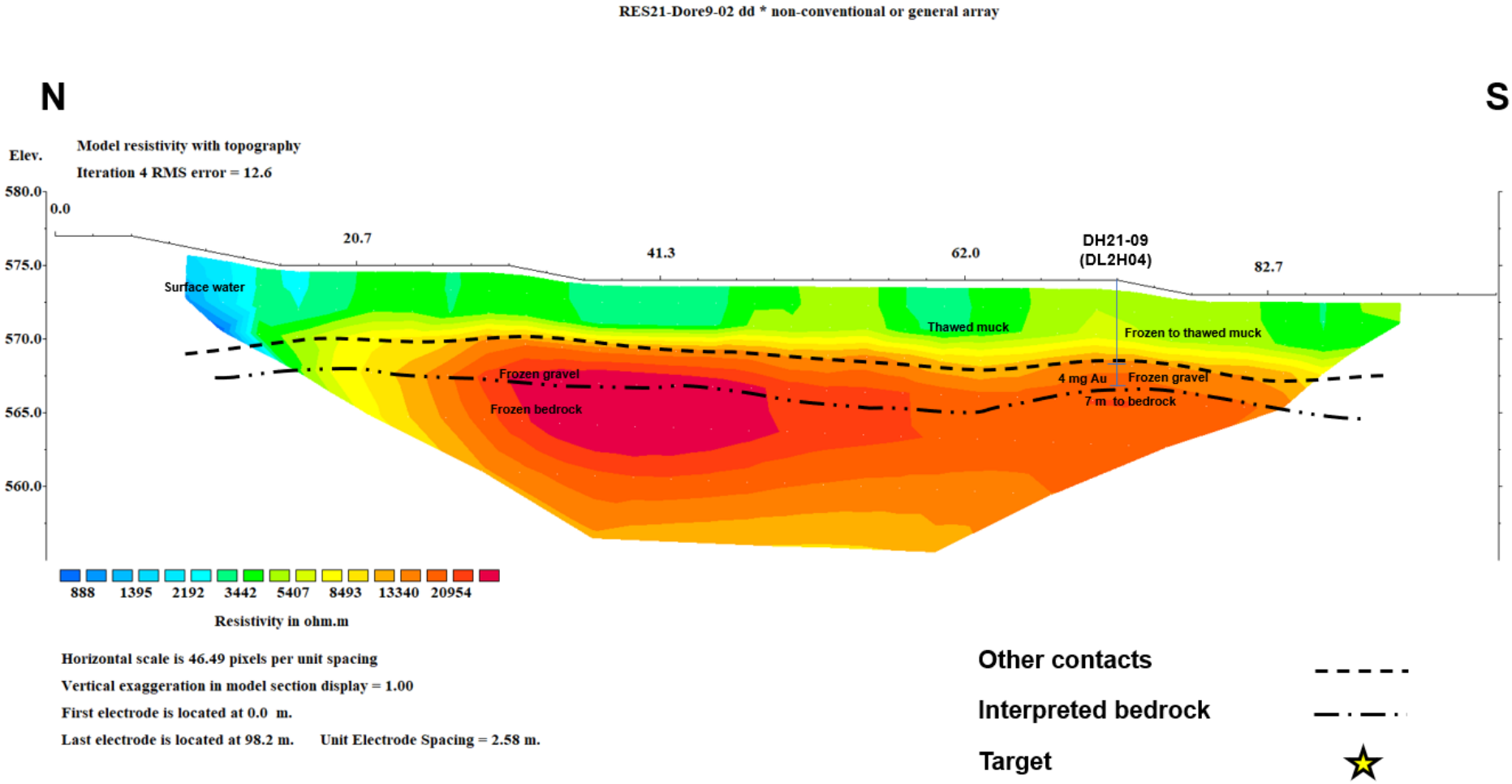


Figure 28 - Resistivity Line RES21-Dore 9-02 was surveyed southwest of the Sulphur Creek Road. Auger drill hole DH21-09 was drilled on this line and reached bedrock at 7 metres from surface. Drill samples recovered 4 mg of gold from 5 feet of frozen gravel at the bedrock contact.

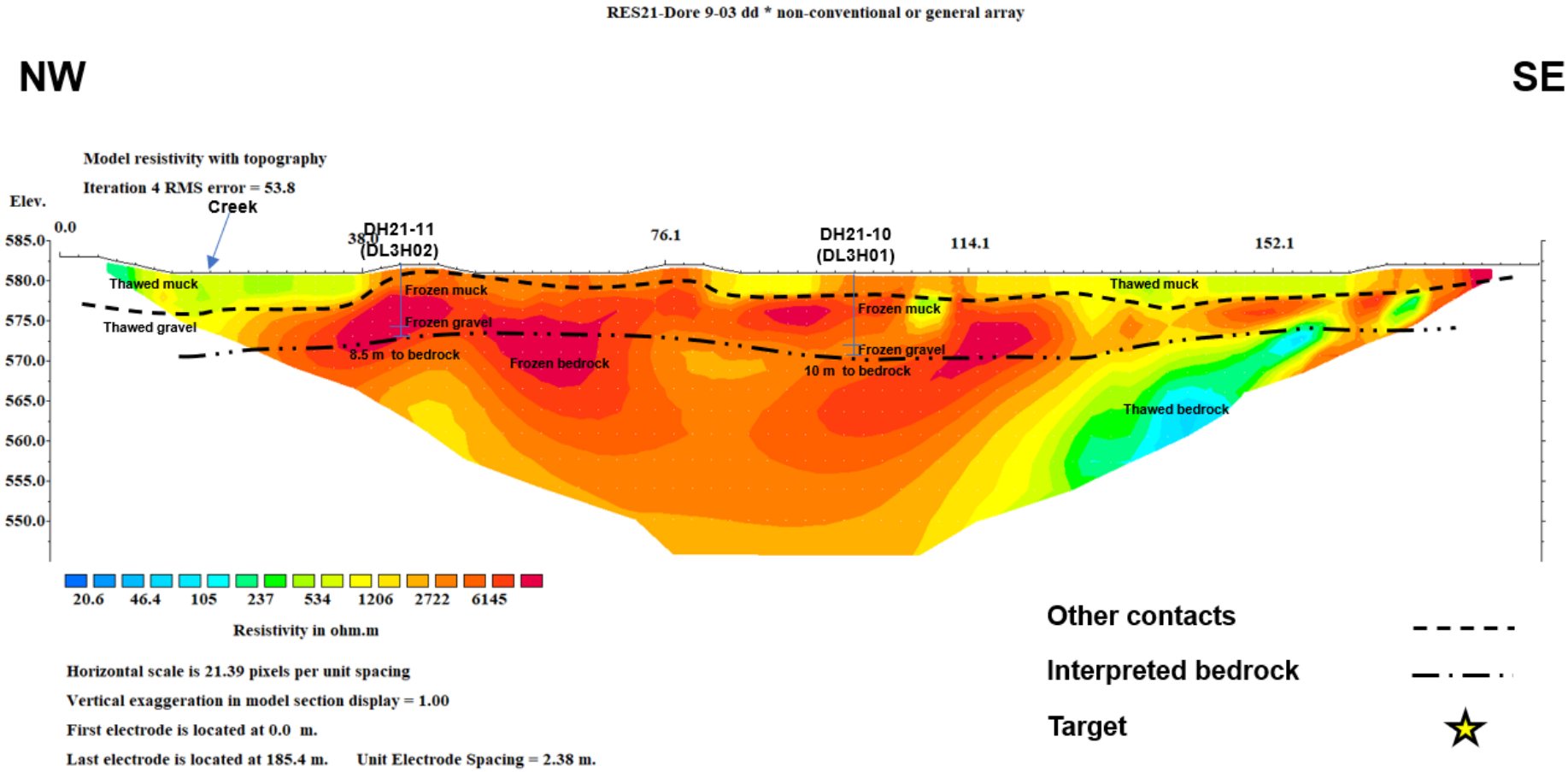


Figure 29 - Resistivity Line RES21-Dore 9-03 was surveyed on the left limit of the northernmost left-limit tributary on the Sulphur Bench property. Two auger drill holes were drilled along this line, and these reached bedrock at 8.5 metres and 10 metres from surface. A 4 ft. thick gravel layer was encountered at the bedrock contact.

## Drone Surveys

### *Overview*

High-resolution satellite imagery and recent airphoto coverage are not available for many parts of the Yukon. Much of the imagery available online is unusable due to its low resolution, the presence of cloud cover, or it is simply outdated and no longer representative of the current infrastructure or geomorphology. Therefore, to aid in exploration and mine planning, a program consisting of 2.56 creek-miles of aerial imaging surveys was conducted on the Sulphur bench property on August 11, 2021. The processed orthomosiac image is included as Appendix 2.

### *Personnel and Methodology*

The aerial imaging survey was conducted and processed by William LeBarge of Geoplacer Exploration Ltd.

The type of drone used is a DJI Mavic 2 Pro, which has a high-resolution Hasselblad camera with a 1 inch photo sensor. Flight planning was done with the Pix4D capture program, and at least 80% overlap of photos was planned between photos within a flight line and between flight lines. Initial processing of the aerial survey was done in the field to check for integrity and data quality.

Final processing of air photos began with image editing software to normalize any extreme contrasts or unusual color balancing needed within the photo sets. A georeferenced orthophoto mosaic was then generated using proprietary software.

### *Interpretation*

The high-resolution imagery obtained by the drone allowed for identification of landforms, old roads and trails and previous workings which would not have been visible with existing available public online satellite imagery. This will be useful in mine planning and access construction for later phases of exploration of the property.

## Conclusions and Recommendations

Overall, the resistivity method worked well to define potential subsurface contacts, and bedrock was interpreted to lie between 6 metres and 10 metres below surface. However, although many of the interpreted bedrock contacts were confirmed by the auger drilling, initial problems with the drilling contractor resulted in significant uncertainty in auger holes DH21-1 to DH21-5. These holes were drilled near and along survey line RES21-Jon 1-01 across the downstream left limit tributary.

The quality of results were somewhat improved in auger holes DH21-6 to DH21-11, which were all drilled near the upstream left-limit Sulphur Creek tributary. Most of the contacts interpreted in the resistivity geophysics corresponded to contacts encountered in the auger drill holes. A significant gravel layer on bedrock was intersected in drill holes DH21-6 to DH21-11, and placer gold was recovered in drill hole DH21-7 (16 mg) and drill hole DH21-9 (4 mg).

Table 10 shows four drill targets which were chosen from the interpreted geophysical surveys. It is recommended that additional resistivity surveys and auger drilling be conducted throughout the property, and in particular along the upstream left limit tributary in the region where it joins the Sulphur Creek valley (i.e., proximal to auger holes DH21-6, DH21-7, DH21-8 and DH21-9.). This area can be seen in Figure 23.

**Table 10 - Drill targets from resistivity surveys, Sulphur Bench property.**

| Drill Target | Grant Number | Resistivity Line | Depth of target (m) | UTM E Zone 7 | UTM N Zone 7 |
|---|---|---|---|---|---|
| **21-1** | P 515972 | RES21-JON1-01 | 7 | 614551 | 7062326 |
| **21-2** | P 521166 | RES21-DORE7-01 | 9 | 613349 | 7063202 |
| **21-3** | P 521166 | RES21-DORE7-01 | 9 | 613378 | 7063257 |
| **21-4** | P 521169 | RES21-DORE9-01 | 8 | 613025 | 7063456 |

Excavator test pitting and bulk sampling is also recommended as the depths to bedrock are within reach of a medium to large sized excavator. Should these results prove favourable, a full-scale, small to medium sized placer mining operation may be viable.

## Statement of Expenses, 2021 Placer Exploration Program

Table 11 – Statement of Expenses, 2021 Placer Exploration, Sulphur Creek Placer Property

| 2021 Exploration Expenses, Sulphur Creek Bench Project | Rate | Subtotal | GST | Total |
|---|---|---|---|---|
| **Drone aerial surveys, 2.56 miles** | 2.56 creek-miles@$1000/mile | $2,560.00 | $128.00 | $2,688.00 |
| **Resistivity geophysical surveys - Geoplacer Exploration Ltd.** | 0.9 km @$12000/line km | $10,800.00 | $540.00 | $11,340.00 |
| **Mob/demob from Whitehorse, 2 trips** | 1300 km @ 0.61/km | $1,586.00 | $79.30 | $1,665.30 |
| **Field Allowance, 9 days** | 9 person-days@$100/day | $900.00 | n/a | $900.00 |
| **Auger drilling, as per contractor invoice** | 11 holes totalling 326ft | $9,523.00 | $476.15 | $9,999.15 |
| **Interpretation of results and Final YMEP report - Geoplacer Exploration Ltd.** | 4 days@$550/day | $2,200.00 | $110.00 | $2,310.00 |
| | | | | |
| **Grand Total** | | $27,569.00 | $1,333.45 | $28,902.45 |

# 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.
6. I am the owner of the Sulphur Creek claims for which exploration work is documented in this report.

Dated this 19th day of January, 2022

William LeBarge, P. Geo.

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## Appendix 1 – Auger Drill Logs

Yukon

☐ Placer lease
☐ Placer renewal # _____

# PLACER DRILL LOG

Submit to district mining recorder with required renewal application form and a detailed map showing drill locations on claim(s) or lease.

| | | |
|---|---|---|
| Date: 2021 / 9 / 7 (YYYY/MM/DD)<br>Time: 17:20 hr | Driller<br>Mark Prins | Driller contact info<br>3169 Third Ave Whitehorse YT Y1A 1G4 |
| Type of drill<br>8 inch continious flight auger | **Inside diameter of drill (minimum 1.75"):** **Rates do not apply to Prospecting Leases.*<br>By hand to bedrock: ☐ Min. 1.75" @ $8/foot*<br>By mechanical means to bedrock: ☐ Less than 4" @ $15/foot* ◉ More than 4" @ $50/foot* | |
| Geographic description<br>LL Bench Sulpher Creek | Prospecting lease number* / List ALL grant numbers where drilling took place (attach additional pages if required) P5251169,P521168,P521167,P515972 | |

| Drill hole location/ID # | Total footage (6' min. depth or to bedrock) | Breakdown of materials encountered by foot (i.e. sand, gravel, bedrock) | Other comments and GPS points (GPS points – DMS) |
|---|---|---|---|
| DL1H01 | 27.00 | 0-24 PF Silt, 24-27 Bedrock | 63.67060 N 138.68697 W |
| DL1H02 | 28.00 | 0-22 PF Silt, 22-28 Bedrock | 63.67035 N, 138.68628 W |
| DL1H03 | 22.00 | 0-18 PF Silt, 18-22 Bedrock | 63.67027 N, 138.68582 W |
| DL1H04 | 23.00 | 0-15 PF Silt, 15-23 Bedrock | 63.67013 N, 138.68526 W |
| DL1H05 | 33.00 | 0-17 PF Silt, 17-27 Gravel, 27-33 Bedrock | 63.67104 N, 138.68831 W |
| DL2H01 | 37.00 | 0-23 PF Silt, 23-33 Gravel, 33-37 Bedrock | 63.67938 N, 138.71242 W |
| DL2H02 | 29.00 | 0-15 PF Silt, 15-19 Gravel, 19-29 Bedrock | 63.68053 N, 138.71506 W |
| DL2H03 | 27.00 | 0-14 PF Silt, 14-20 Gravel, 20-27 Bedrock | 63.68024 N, 138.71440 W |
| DL2H04 | 27.00 | 0-12 PF Silt, 12-18 Ice- silt, 18-23 Gravel, 23-27 Bedrock | 63.67979 N, 138.71330 W |
| DL3H01 | 37.00 | 0-30 PF Silt, 30-33 Gravel, 33-37 Bedrock | 63.67983 N, 138.71059 W |
| DH3H02 | 36.00 | 0-24 PF Silt, 24-28 Gravel, 28-36 Bedrock | 63.68018 N, 138.71101 |
| | | | |
| **Total** | 326.00 | | |

Signature (driller or representative): _____ Date: YYYY/MM/DD

SIGNATURE REQUIRED



Print Clear

Grade: Ø  Pay Depth: Ø  Burden Depth: 24'

Log Built By: M. PRINS  Date: 2021-08-22  Signature: MP


# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE  PROPERTY: DORE  Hole No. 01

START DATE: 2021-08-11  COMP. DATE: 2021-08-22  Logged By: M. PRINS

LOCATION 63.67060°  N 138.68697°  W  Driller: M. PRINS

COLLAR EL. 1838'  BEDROCK EL. 1814'  WT: PF

Spud: 8:25  Time Off: 10:20

MUD RUBBER M. PRINS  DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F | 0-1 ORGANIC MAT<br>1-24' HIGH MOISTURE SILTS - VARIETY OF COLORS - GREEN GRAY → BLACK ON BEDROCK CONTACT. SOME ORGANICS. | | | | | | | |
| | | | F | | | | | | | | |
| | | 1 | S | 24' BEDROCK CONTACT - GREEN CHLORITE SCHIST. | 3' | 0" | .5807 FT³ | 1.0471 FT³ | Ø | Ø | Ø |
| | | | | 27' TOTAL DEPTH.<br>1 PAIL TOTAL<br>HOLE WENT WET ON BEDROCK<br>NO RETURN.<br>PROCESS NOTES<br>MOSTLY MUD - VERY LITTLE ROCK<br>NO MUDBOXES - NO ROCK COLLECTED<br>NO IMAGES. | | | | | | | |

Drill Type: 8" AUGER  Hole No: 01 DH21-1  Latitude 63 67060°

Wash Plant: VORTEX DROP RIFFLE  Line No: DL 1  Longitude 138. 68697°

Grade: Ø Pay Depth: Ø Burden Depth: 22'

Log Built By: M. PRINS Date: 2021-08-23 Signature: M.P.

# DRILL LOG


Page 1 of 1

PROJECT: BILL LEBARGE PROPERTY: DORE Hole No. 02

START DATE: 2021-08-11 COMP. DATE: 2021-08-22 Logged By: M. PRINS

LOCATION 63.67035° N 138.68628° W Driller: M. PRINS

COLLAR EL. 1842' BEDROCK EL. 1820' WT: F.F.

Spud: 10:20 Time Off: 12:25

MUD RUBBER M. PRINS DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F | 0-1 ORGANIC MAT<br>1-22' MOISTURE RICH SILT WITH ORGANIC LAYERS. STARTS OUT BROWN / PEAT GOING THROUGH TO A BLACK COLOR @ THE BEDROCK CONTACT. - HOLE WENT WET @ BEDROCK CONTACT. | | | | | | | |
| | | 1 | W/S | 22' BEDROCK CONTACT POOR TO NO RETURN. | 6' | 11 | .589ft³ | 2.094ft³ | Ø | Ø | Ø |
| | | | | 28' TOTAL DEPTH.<br>1 PAIL TOTAL<br>PROCESS NOTES<br>NO MUDBOARD - NO IMAGES - MOSTLY MUD VERY LITTLE ROCK | | | | | | | |

Drill Type: 8" AUGER Hole No: 02 DH21-2 Latitude 63.67035°

Wash Plant: VORTEX DROP RIFFLE Line No: DL1 Longitude 138.68628°

Grade: TR | Pay Depth: 0 | Burden Depth: 22'

Log Built By: M PRINS | Date: 2021-08-23 | Signature: MPP

# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 03

START DATE: 2021-08-11 | COMP. DATE: 2021-08-23 | Logged By: M. PRINS

LOCATION 63.67027° N 138.68582° W | Driller: M. PRINS

COLLAR EL. 1829' | BEDROCK EL. 1811' | WT: P.F.

Spud: 1:35 | Time Off: 2:50

MUD RUBBER M. PRINS | DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0-1 ORGANIC MAT. | | | | | | | |
| | | | | 0-18' HIGH MOISTURE RICH SILT GOING FROM LIGHT GRAY THROUGH TO BLACK @ THE BEDROCK CONTACT. | | | | | | | |
| | | | | 18-22' BEDROCK - DID NOT FEEL LIKE THERE WAS A GRAVEL SEGMENT. | | | | | | | |
| | | | | 22' TOTAL DEPTH | | | | | | | |
| | | 4 | S M/B | 4 PAILS TOTAL | I | | | TR | | | |
| | | | | PROCESS NOTES | | | | | | | |
| | | | | FROM NOTES | | | | | | | |
| | | | | * NO DEFINED BEDROCK FROM MUDBOARD - FROM MUD BOARD IMAGES SCHIST - QUARTZITE - FeOx STAINED VERY ANGULAR MATERIAL NO WASHING OR SORTING. | | | | | | | |
| | | | | MUD IMAGES 830, 831. | | | | | | | |
| | | | | 80% SCHIST | | | | | | | |
| | | | | 15% QUARTZ/QUARTZITE | | | | | | | |
| | | | | 5% MUD | | | | | | | |

Drill Type: 8" AUGER | Hole No: 03 DH21-3 | Latitude 63.67027°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL1 | Longitude 138.68582°

Grade: TR | Pay Depth: 0 | Burden Depth: 15'

Log Built By: M. PRINS | Date: 2081-08-23 | Signature: MPR

# DRILL LOG


Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 04

START DATE: 2021-08-11 | COMP. DATE: 2021-08-23 | Logged By: M. PRINS

LOCATION 63.67013° N 138.68526° W | Driller: M. PRINS

COLLAR EL. 1851' | BEDROCK EL. 1836' | WT: PF

Spud: 3:45 | Time Off: NEXT DAY

MUD RUBBER M. PRINS | DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU cor. Mg | AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F | 0-1 ORGANIC MAT. | | | | | | | |
| | | | | 1-15 - HIGH MOISTURE SILT LAYERS MIXED WITH SOME ORGANICS. SOME ICE NEAR SURFACE STARTS GRAY & GOES TO BLACK @ THE BEDROCK CONTACT. | | | | | | | |
| | | | | 15' BED ROCK CONTACT - NO GRAVEL FELT BY DRILL. | | | | | | | |
| | | 7 | S | 15-23' BEDROCK - GAINS COMPETENCY AT DEPTH. | | | | TR | | | |
| | | | | TOTAL DEPTH 23' | | | | | | | |
| | | | | NOTE - ONLY RECOVERED 15' OF AUGER - LEFT 2 ROD & BIT DOWN THE HOLE, ABANDONED 7 PAILS TOTAL | | | | | | | |
| | | | | PROCESS NOTES | | | | | | | |
| | | | | NO WASHROCK - POORLY WASHED & SORTED VERY ANGULAR MATERIAL. | | | | | | | |
| | | | | BEDROCK (MAJOR MP MATERIAL) DARK SCHIST. | | | | | | | |
| | | | | 60% SCHIST | | | | | | | |
| | | | | 30% QUARTZ/QUARTZITE | | | | | | | |
| | | | | 5% PHYLLITE | | | | | | | |
| | | | | 5% GNIESS | | | | | | | |
| | | | | MUD BOARD IMAGES 828/829. | | | | | | | |

Drill Type: 8" AUGER | Hole No: 04 DH21-4 | Latitude 63.67013°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL 1 | Longitude 138.68526°

Grade: TR | Pay Depth: 16' | Burden Depth: 17'

Log Built By: M. PRINS | Date: 2021-08-24 | Signature: MP


# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 05

START DATE: 2021-08-12 | COMP. DATE: 2021-08-24 | Logged By: M. PRINS

LOCATION 63.67104° N 138.68831 W | Driller: M. PRINS

COLLAR EL. 1818 | BEDROCK EL. 1789' | WT: P. F.

Spud: 12:25 | Time Off: 2:20

MUD RUBBER M. PRINS | DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F | 0-1 ORGANIC MAT<br>1-17' HIGH MOISTURE SILTS & ORGANICS STARTING GRAY & GOING TO BLACK ON TOP OF GRAVEL | | | | | | | |
| | | | | 17' TOP OF GRAVEL | | | | | | | |
| | | 15 | M | 27' BEDROCK CONTACT | 16' | 1471" | 9.671 YD³ | 5.585 YD³ | TR | TR | TR |
| | | | M | 33' TOTAL DEPTH<br>15 PAILS TOTAL<br>PROCESS NOTES<br>BEDROCK IS KLONDIKE SCHIST WITH BANDED QUARTZ. VERY ANGULAR MATERIAL - POORLY WASHED. -SOME SORTING.<br>60% SCHIST<br>30% QUARTZ<br>5% MUD<br>5% ORGANICS<br>IMAGES- 832, 833 | | | | | | | |

Drill Type: 8" AUGER | Hole No: 05 DH21-5 | Latitude 63.67104°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL1 | Longitude 138.68831°

Grade: Ø Pay Depth: 14' Burden Depth: 23

Log Built By: M. PRINS Date: 2021-08-24 Signature: MP

# DRILL LOG


Page 1 of 1

PROJECT: BILL LEBARGE PROPERTY: DORE Hole No. 01

START DATE: 2021-08-13 COMP. DATE: 2021-08-24 Logged By: M. PRINS

LOCATION 63.67938° N 138.71242 W Driller: M. PRINS

COLLAR EL. 1888' BEDROCK EL. 1855' WT: P. F

Spud: 3:45 Time Off: 6:00 PM

MUD RUBBER M. PRINS DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0-1 ORGANK MAT<br>1-23' MOISTURE RICH ORGANK SILTS WITH SOME ORGANICS. CHANGES COLOR LIGHT ON TOP TO BLACK ON GRAVEL CONTACT. SOME SMALL ICE LENSES. | | | | | | | |
| | | | F | 23' TOP OF GRAVEL | | | | | | | |
| | | 2 | M | | 5 | 19" | 1.2444 FT³ | 1.7454 FT³ | Ø | Ø | Ø |
| | | 2 | M | 33' BEDROCK CONTACT | 5 | 16" | 1.0370 FT³ | 1.4545 FT³ | Ø | Ø | Ø |
| | | 4 | I | | 7 | 41" | 2.6944 FT³ | 3.7796 FT³ | Ø | Ø | Ø |
| | | 3 | S | | 3 | 24" | 1.5574 FT³ | 2.1847 FT³ | Ø | Ø | Ø |
| | | | I | 37' TOTAL DEPTH - 11 PAILS TOTAL | | | | | | | |

PROCESS NOTES

BEDROCK IS A ORTHO GNIESS
VERY ANGULAR MATERIAL - SUB ANGULAR GRAVEL. POORLY WASHED SOME SORTING.
30% QUARTZ/QUARTZITE CONS COLLECTED & OVERSIZE.
30% SCHIST
20% GNIESS
5% MUD
5% DIORITE

Drill Type: 8" AUGER Hole No: 01 DH21-6 Latitude 63.67938°

Wash Plant: VORTEX DROP RIFFLE Line No: DL 2 Longitude 138.71242°

Grade: .008 OZT/YD3 | Pay Depth: 4' | Burden Depth: 15'

Log Built By: M. PRINS | Date: 2021-09-17 | Signature: MP

# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 02

START DATE: 2021-08-14 | COMP. DATE: 2021-08-24 | Logged By: M. PRINS

LOCATION 63.68053° N 138.71506° W | Driller: M PRINS

COLLAR EL. 1896' | BEDROCK EL. 1877' | WT: DF

Spud: 10:20 | Time Off: 105

MUD RUBBER M PRINS | DRILLERS HELPER B-LEBARGE.

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol B.M. FT | Bank Vol FT | AU mg | AU cor. Mg | AU oz/YD3 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | F A I R | 0-1 ORGANIC MAT<br>1-15' HIGH MOISTURE SILTS WITH OCCASIONAL ICE LENS - SOME ORGANICS. | | | | | | |
| | | 3 | M E D I U M | 15' TOP OF GRAVEL | 3' | 3.1" 2.029 | TR | 3-4 AU SAMPLES | | TR |
| | | 3 | | 19' BEDROCK CONTACT | 3' | 33" 2.144 | 1.104 | V. small (5 SAMPLES) | | TR |
| | | 3 | | | 4' | 35" 2.291 | 1.394 | TR | | TR |
| | | 4 | S L O W | 29' TOTAL DEPTH.<br>13 PAILS TOTAL | 4' | 45" 2.941 | 1.394 | 16mg | 13.12mg | .008 |

PROCESS NOTES

BEDROCK IS ORTHO GNIESS, GRAVEL IS POORLY WASHED & SORTED. SUB-ANGULAR TO ANGULAR GRAVELS. CONS & OVERSIZE COLLECTED.

50% GNIESS
30% QUARTZ/QUARTZITE
10% SCHIST
5% MUD.

- DIFFULT WASH - USED CEMENT MIXER ON INDIVIDUAL PAILS TO SLURRY MATERIAL.

* NOTE: LAST SEQUENCE NOT WASHED @ TIME OF LOG CREATION. MP.

$40,841

DL 2
HOLE 2
10-13
1 Bag
2021-09-09
MP

Drill Type: 8" AUGER | Hole No: 02 DH21-7 | Latitude 63.68053°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL 2 | Longitude 138.71506°

Grade: TR | Pay Depth: 10' | Burden Depth: 14'

Log Built By: M. PRINS | Date: 2021-08-24 | Signature: MP


# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 03

START DATE: 2021-08-14 | COMP. DATE: 2021-08-24 | Logged By: M. PRINS

LOCATION 63.68024° N 138.71440° W | Driller: M. PRINS

COLLAR EL. 1890' | BEDROCK EL. 1870' | WT: P.F.

Spud: N/A | Time Off: N/A

MUD RUBBER M. PRINS | DRILLERS HELPER B. LEBARGE

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0-1' ORGANIC MAT<br>1-14' HIGH MOISTURE SILT, SOME ICE LENSES, STARTS LIGHT AND GOES TO BLACK AT THE GRAVEL CONTACT.<br>14' TOP OF GRAVEL | | | | | | | |
| | | 2 | M | 20' BEDROCK CONTACT | 5' | 10" | .720 ft³ | 1.745 ft³ | Ø | Ø | |
| | | 3 | M/S | | 6' | 27" | 1.767 ft³ | 2.094 ft³ | 14.7 mg | 4 V. small 75 | |
| | | 4 | S | 27' TOTAL DEPTH<br>9 PAILS TOTAL.<br>PROCESS NOTES<br>BEDROCK IS KLONDIKE SCHIST. POORLY WASHED NOT SORTED. SUB-ANGULAR TO ANGULAR MATERIAL.<br>40% SCHIST<br>30% ~~QUARTZ~~/QUARTZITE<br>25% GNEISS<br>5% MUD<br>CLAY RICH - DIFFUCULT WASH BY HAND. | 4' | 43" | 2.544 ft³ | 1.39 ft³ | 12.4 mg | 1 Small 75 | |

Drill Type: 8" AUGER | Hole No: 03 DH21-8 | Latitude 63.68024°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL 2 | Longitude 138.71440°

Grade: .003 OZT/YD3 | Pay Depth: 4' | Burden Depth: 21'

Log Built By: M. PRINS | Date: 2021-09-16 | Signature: MP

# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 04

START DATE: 2021-08-15 | COMP. DATE: 2021-09-16 | Logged By: M. PRINS

LOCATION 63.67979° N 138.71330 W | Driller: M. PRINS

COLLAR EL. 1876' | BEDROCK EL. 1853' | WT: DP

Spud: 1:05 | Time Off: 3:19

MUD RUBBER M. PRINS | DRILLERS HELPER B. LEBARGE

DL2
HSC 09
4 mg
2021-09-09
KP

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY - AU ASSAY - 82 Loose Vol. B. IN | Loose Vol. FT | Bank Vol. FT³ | AU cor. Mg | AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0-1 ORGANIC MAT<br>1-12' HIGH MOISTURE RICH SILT WITH ORGANICS.<br>12' ICE LENS<br>12'-16' ICE WITH BANDED LAYERS OF SILT<br>16-18' ICE - PLUGGED AUGER TOOK TIME TO CLEAR ROD.<br>18' TOP OF GRAVEL<br>23' BEDROCK CONTACT<br>27' TOTAL DEPTH<br>6 PAILS TOTAS | | | | | |
| | | 2 | | | 3 | 22" | 1.4167 | 1.0744 FT³ | TR 2FS | |
| | | 2 | | | 3 | 19" | 1.4167 | 1.0744 FT³ | TR 1 FS | |
| | | 2 | | | 3 | 15" | .9843 | 1.0744 FT³ | 4mg 3.2mg | .003 OZT/YD³ |

PROCESS NOTES.

BEDROCK IS A SCHIST
20% QUARTZ/QUARTZITE
70% SCHISTS
10% ORTHO GNIESS
SUB ANGULAR TO ANGULAR MATERIAL. POORLY WASHED & SORTED.

IMAGES: 842, 843

Drill Type: 8" AUGER | Hole No: 04 DH21-9 | Latitude 63.67979°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL2 | Longitude 138.71330°

Grade: TR | Pay Depth: 4' | Burden Depth: 30'

Log Built By: M. PRINS | Date: 2021-09-17 | Signature: MP


# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 01

START DATE: 2021-08-15 | COMP. DATE: | Logged By: M PRINS

LOCATION 63.67983° N 138.71059° W | Driller: M. PRINS

COLLAR EL. 1905' | BEDROCK EL. 1872' | WT: F.F.

Spud: N/A | Time Off: N/A

MUD RUBBER M. PRINS | DRILLERS HELPER N/A

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY AU mg | AU ASSAY AU cor. Mg | AU ASSAY AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0-1' ORGANIC MAT. | | | | | | | |
| | | | | 1-3' PEAT / ICE | | | | | | | |
| | | | | 3'-30' HIGH MOISTURE SILT - LIGHT GRAY GOING TO BLACK AT DEPTH. SOME ORGANICS THROUGHOUT. | | | | | | | |
| | | | | 30' TOP OF GRAVEL | | | | | | | |
| | | | | 33' BED ROCK CONTACT | | | | | | | |
| | | 2 | M | | 4 | 13 | .85 FT³ | 1.396 FT³ | TR | 4 VS | FS |
| | | 2 | M/S | 37' TOTAL DEPTH | 3 | 17 | 1.13 FT³ | 1.047 FT³ | ∅ | ∅ | |
| | | | | PAILS TOTAL | | | | | | | |

PROCESS NOTES

BED ROCK IS KLONDIKE SCHIST.
LOTS OF CHLORITE SCHIST - FRIABLE
SUB ANGULAR TO ANGULAR, POORLY SORTED
65% SCHIST
25% QUARTZ/QUARTZITE
10% ORTHO GNIESS.
844, 845.

Drill Type: AUGER | Hole No: 01 DH21-10 | Latitude 63.67983°

Wash Plant: VORTEX DROP RIFFLE | Line No: DL 3 | Longitude 138.71059°

Grade: TR | Pay Depth: 5' | Burden Depth: 24'

Log Built By: M. PRINS | Date: 2021-09-17 | Signature: MP


# DRILL LOG

Page 1 of 1

PROJECT: BILL LEBARGE | PROPERTY: DORE | Hole No. 02

START DATE: 2021-08-16 | COMP. DATE: 2021-09-17 | Logged By: M. PRINS

LOCATION 63.68018° N 138.71101° W | Driller: M. PRINS

COLLAR EL. 1876' | BEDROCK EL. 1848' | WT: P.F.

Spud: 11:30 | Time Off: 2:20°

MUD RUBBER M. PRINS | DRILLERS HELPER N/A

| Formation | Graphic Log | NO. BUCKETS | DRILL RATE | DESCRIPTION | FT. | ASSAY Loose Vol. B. IN | ASSAY Loose Vol. FT³ | ASSAY Bank Vol. FT³ | AU ASSAY·82 AU mg | AU cor. Mg | AU oz/YD³ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F<br>I<br>N<br>E<br>M<br>E<br>D<br>I<br>U<br>M | 0-1 ORGANIC MAT<br>1-24' MOISTURE RICH SILTS WITH SOME ICE & ORGANICS STARTS GRAY & GOES TO BLACK ON THE GRAVEL CONTACT.<br>24' TOP OF GRAVEL | | | | | | | |
| | | 3 | | 28' BEDROCK CONTACT | 6 | 24" | 1.57 | 2.09 | ∅ | | |
| | | 4 | | TOTAL DEPTH 36'<br>7 PAILS TOTAL | 6 | 27" | 1.767 | 2.09 | TR | 1 mm 3 VS | FB |

PROCESS NOTES

BEDROCK IS ORTHO GNIESS
POORLY WASHED & SORTED
SUB ANGULAR TO ANGULAR MATERIAL.
50% ORTHO GNIESS
40% SCHIST
10% QUARTZ/QUARTZITE
IMAGES: 846, 847.

Drill Type: 8" AUGER | Hole No: 02 | DH21-11 | Latitude 63.68018°

Wash Plant: Vortex Drop Riffle | Line No: DL 3 | Longitude 138.71101°

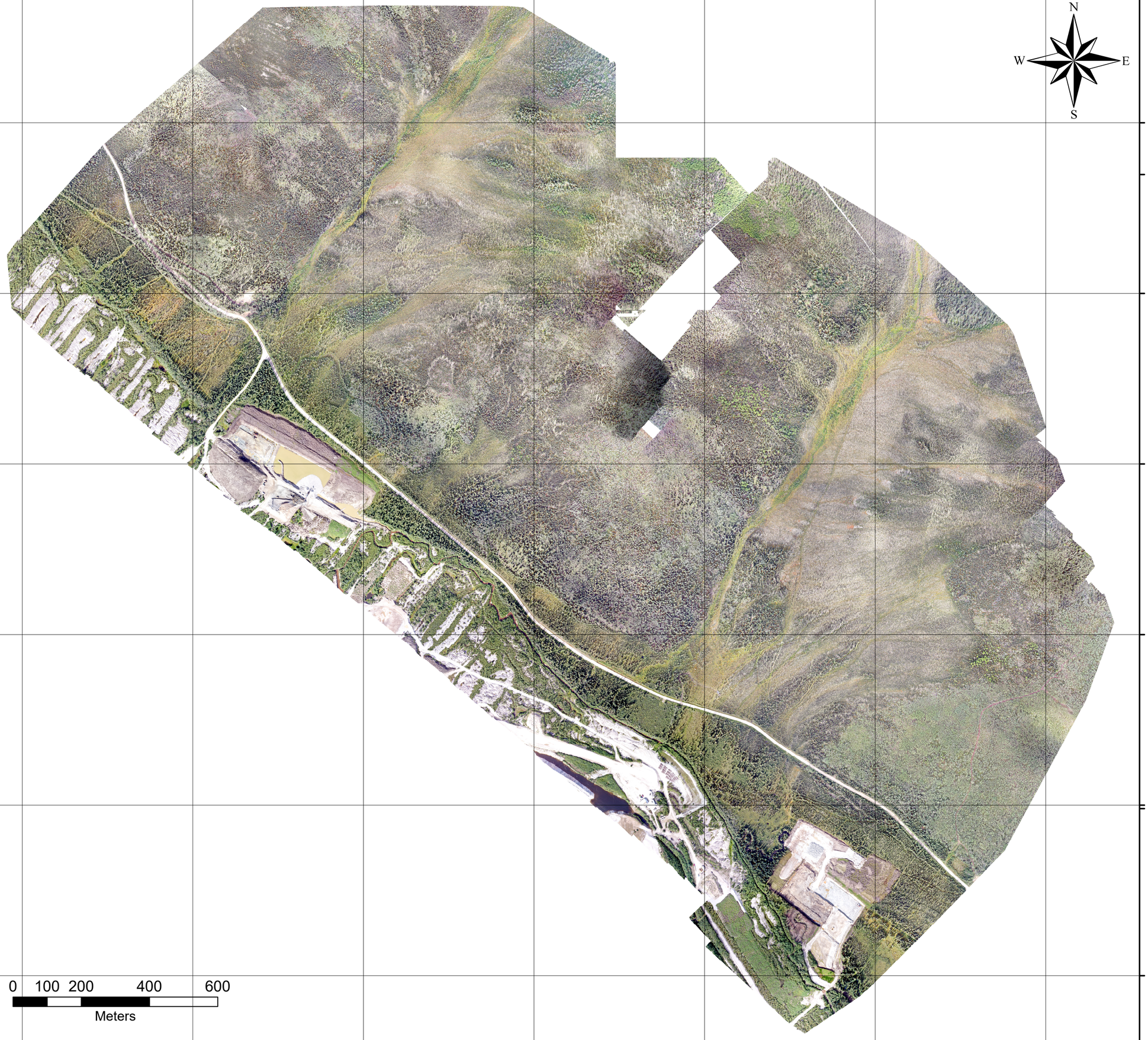
## Appendix 2 – Drone Aerial Survey

612500 000000 | 613000 000000 | 613500 000000 | 614000 000000 | 614500 000000 | 615000 000000 | 615500 000000

138°43'0"W | 138°42'0"W | 138°41'0"W | 138°40'0"W

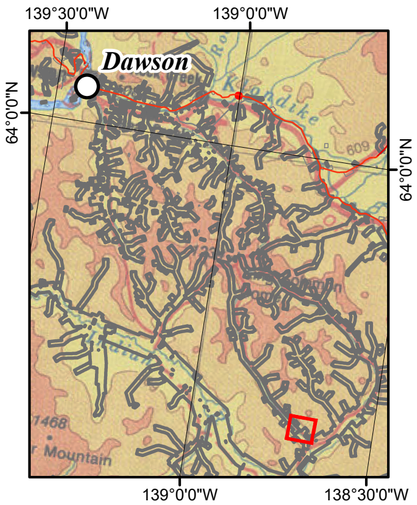
7064000 | 7063500 | 7063000 | 7062500 | 7062000 | 7061500

63°41'0"N | 63°40'0"N



N
W E
S

0 100 200 400 600
Meters




Scale 1:8,000

UTM Zone 7N
Datum NAD 83