

SULPHUR CREEK PLACER PROPERTY

2019 GEOPHYSICAL ASSESSMENT REPORT

on

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: February 18, 2020

Date of Work: September 10-13, 2019.

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Executive Summary

The following is an assessment report on the 2019 exploration program on the Sulphur Creek bench, 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.

The 2019 program consisted of five resistivity geophysical surveys with a combined length of 1069 metres. The resistivity surveys provided good signal response with low contact resistance. However, the presence of discontinuous permafrost and water-saturated areas complicated the interpretation of the bedrock profiles.

Nonetheless, 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.

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.

Introduction

The following is an assessment report on the 2019 geophysical exploration program 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 1150/10, 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

The 2019 exploration program was planned and conducted by William LeBarge of Geoplacer Exploration Ltd. The resistivity surveys were conducted between Sept 10 and 13, 2019, and the final report was completed on February 18, 2020.

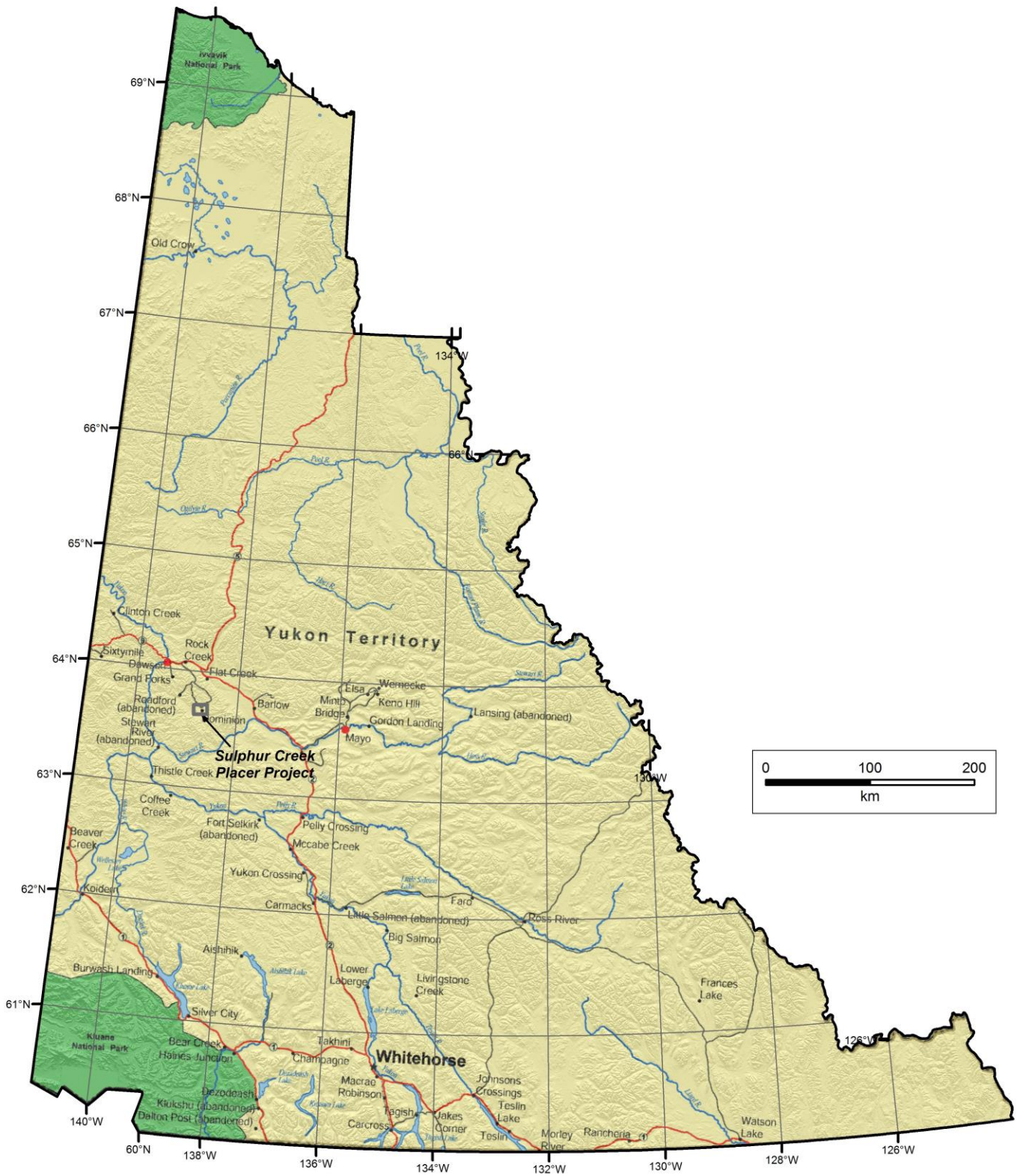


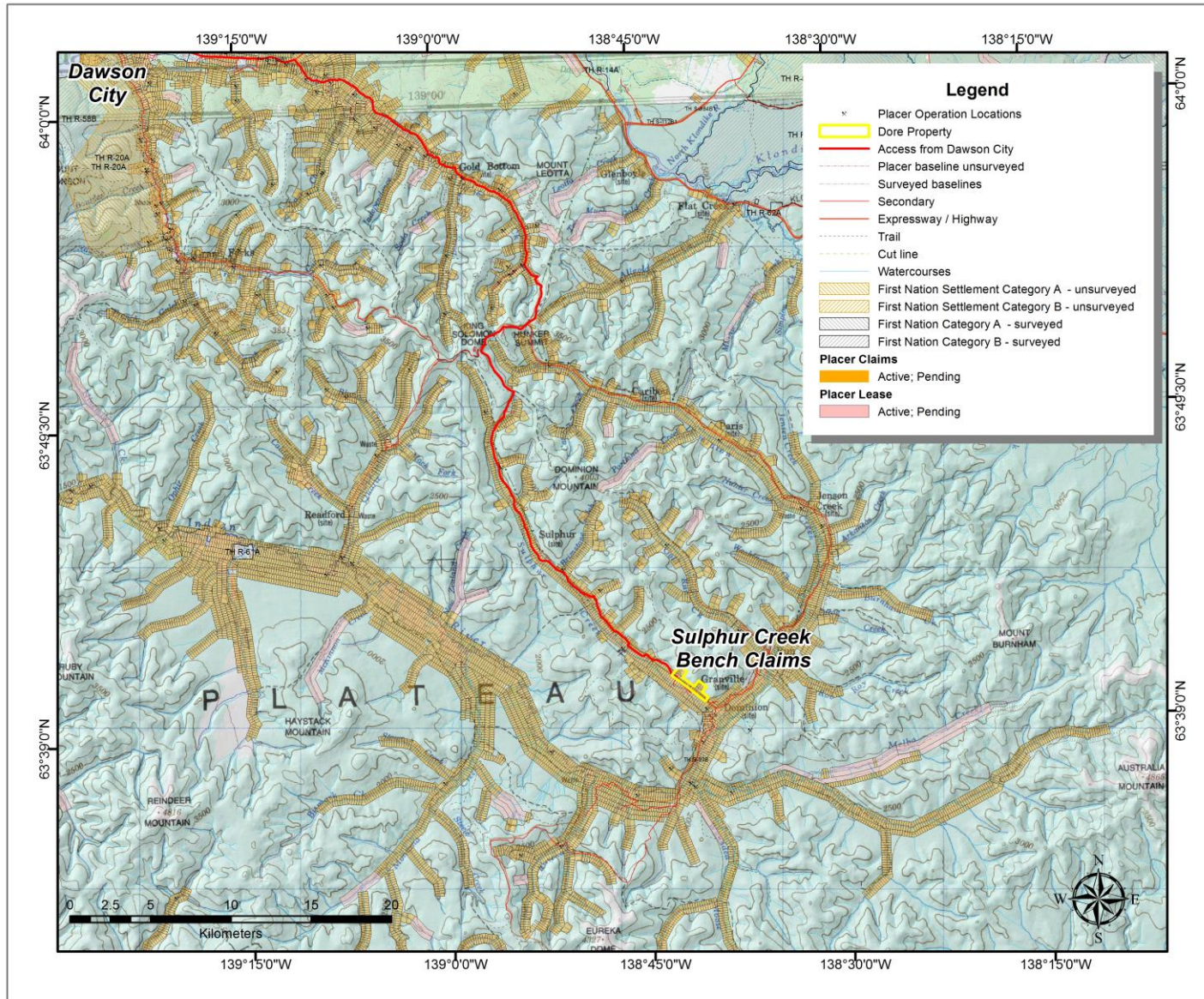
Figure 1 - General Location of Sulphur Creek Project, Yukon.

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	11/6/2020	2
Active	DORE 1	P 521160	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 2	P 521161	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 3	P 521162	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 4	P 521163	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 5	P 521164	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 6	P 521165	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 7	P 521166	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 8	P 521167	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 9	P 521168	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	DORE 10	P 521169	Geoplacer Exploration Ltd. - 100%	5/3/2019	5/6/2019	11/6/2021	2
Active	JON 1	P 515972	Geoplacer Exploration Ltd. - 100%	5/27/2014	5/29/2014	11/29/2020	4
Active	JON 2	P 515973	Geoplacer Exploration Ltd. - 100%	5/27/2014	5/29/2014	11/29/2020	4
Active	JON 3	P 515974	Geoplacer Exploration Ltd. - 100%	5/28/2014	5/29/2014	11/29/2020	4
Active	JON 4	P 517619	Geoplacer Exploration Ltd. - 100%	5/21/2016	5/27/2016	11/27/2020	4
Active	JON 5	P 517620	Geoplacer Exploration Ltd. - 100%	5/21/2016	5/27/2016	11/27/2020	3
Active	JON 6	P 517621	Geoplacer Exploration Ltd. - 100%	5/21/2016	5/27/2016	11/27/2020	3



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 352,000 ounces produced from Sulphur Creek between 1940 and 2015. 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. 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 #1150 133 (SULPHUR), and Minfile #1150 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 (Gold Run and Sulphur) 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 upstream of the project area is Tusk Exploration, where the stratigraphy on a right limit cut in 2017 was described by Bond and van Loon (2018). It consisted of four units: Unit 1 - a decomposed quartz-feldspar gneiss; Unit 2 - a continuous mixing zone between the weathered gneiss bedrock and the upper gravel unit; Unit 3 - a matrix-supported pebble-cobble gravel from 0.6 to 2.4 m (2.0-7.9 ft) thick that contains 60% pebbles and 40% cobbles, with rare boulders up to 0.3 m (1.0 ft) in diameter; and Unit 4 - interbedded fine-grained sand, silt, and loess. Unit 3 is interpreted as the "Ross gravel" which is an incised-valley gravel resembling the White Channel gravel, but distinctly different and significantly younger (Froese *et al.*, 2001). Up to 1.5 m (5 ft) of gravel and 0.6 m (2 ft) of bedrock was sluiced.

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.

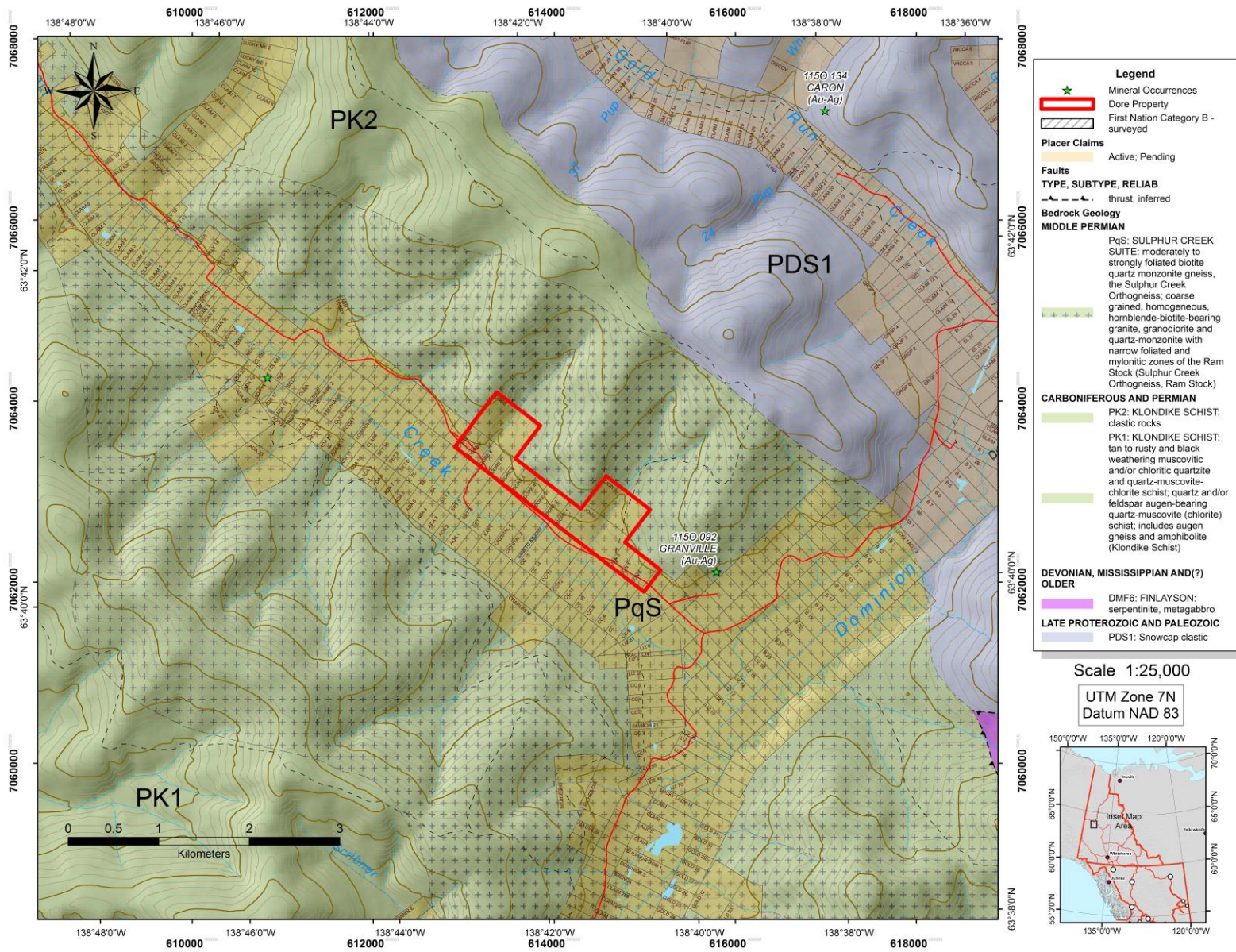


Figure 3 - Bedrock Geology of lower Sulphur Creek area, after Yukon Geological Survey (2018).

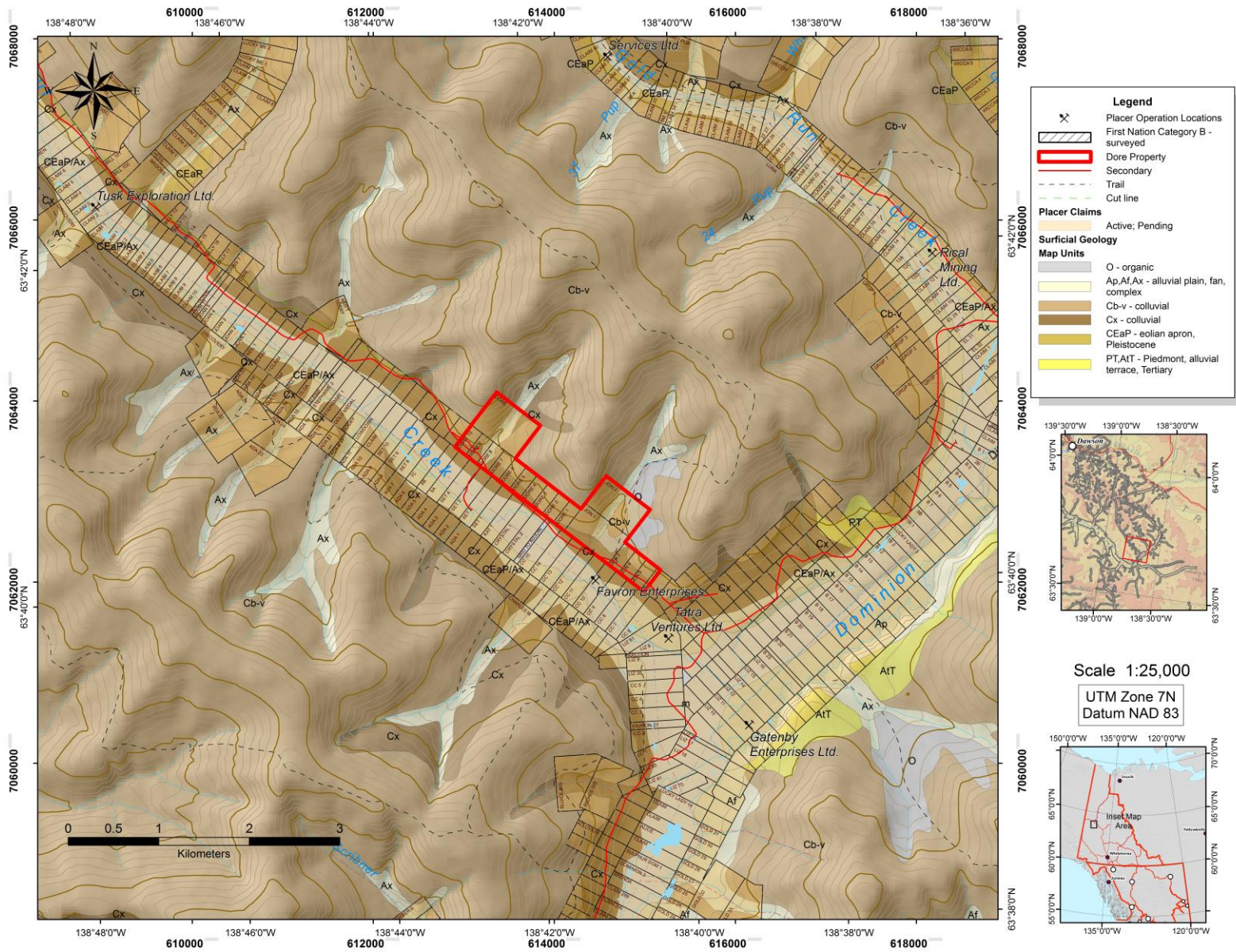


Figure 4 - Surficial Geology, lower Sulphur Creek, after Froese and Jackson (2005).

2019 Placer Exploration Program

Resistivity Surveys

Introduction

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:

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 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 2. The interpreted profiles are shown as Figures 5-10, and the lines are plotted on Figure 11.

Table 2 – 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

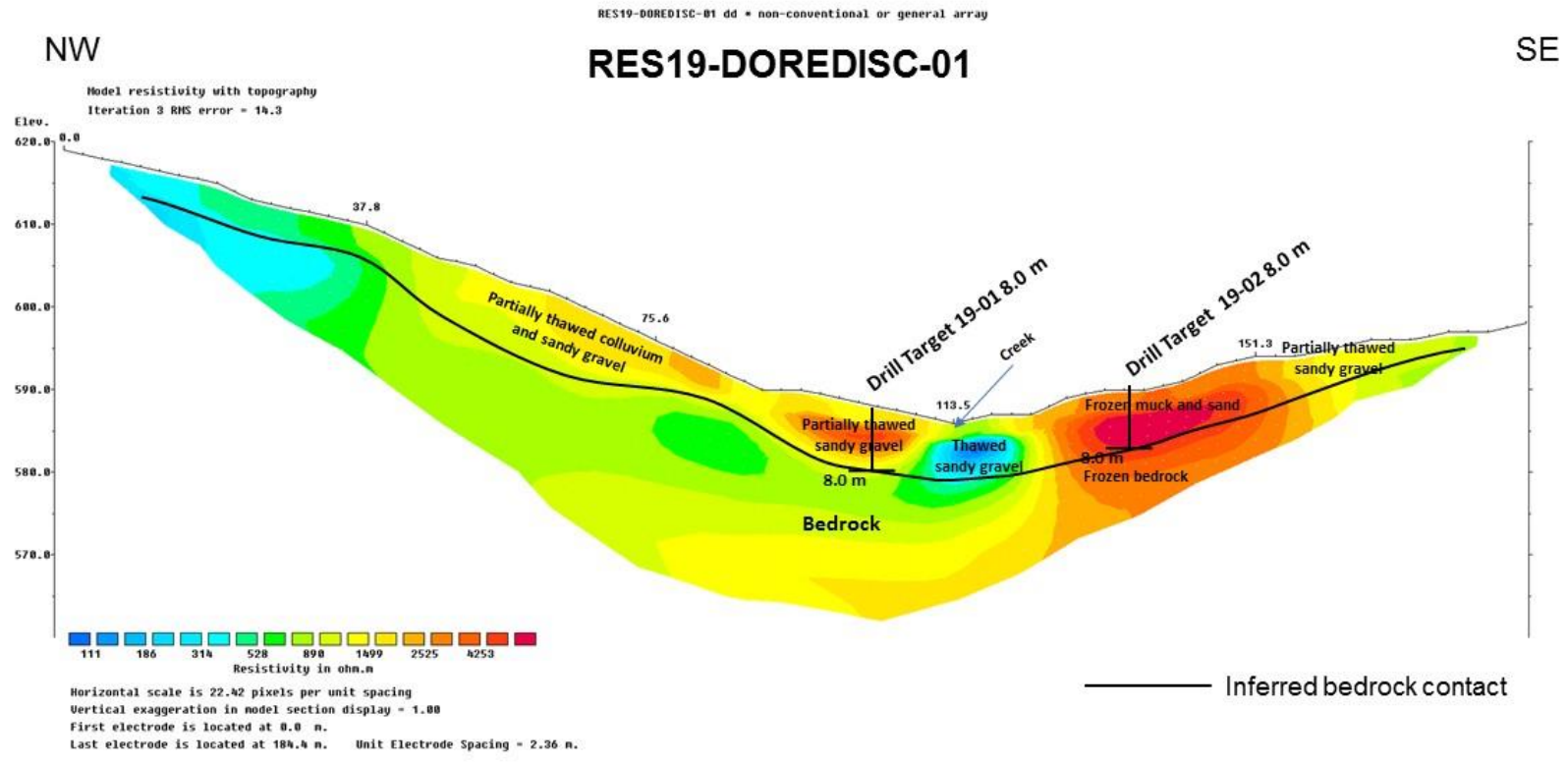


Figure 5 – Resistivity line RES19-DOREDISC-01 on Sulphur Creek tributary grant P 521035. Two drill targets were chosen with estimated depths of 8 metres to bedrock below surface.

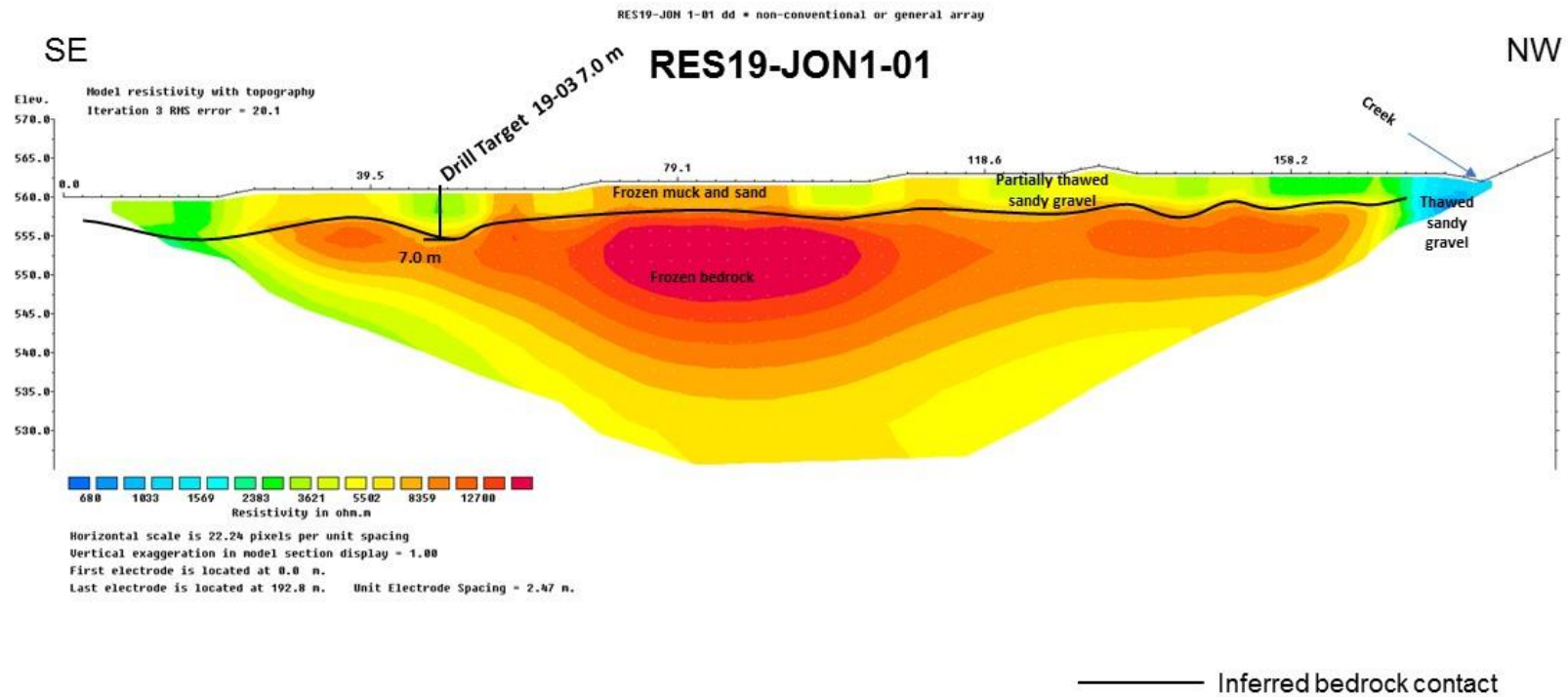


Figure 6 - Resistivity line RES19-JON1-01 on Sulphur Creek bench. One drill target has been chosen with an estimated depth of 7 metres to bedrock below surface.

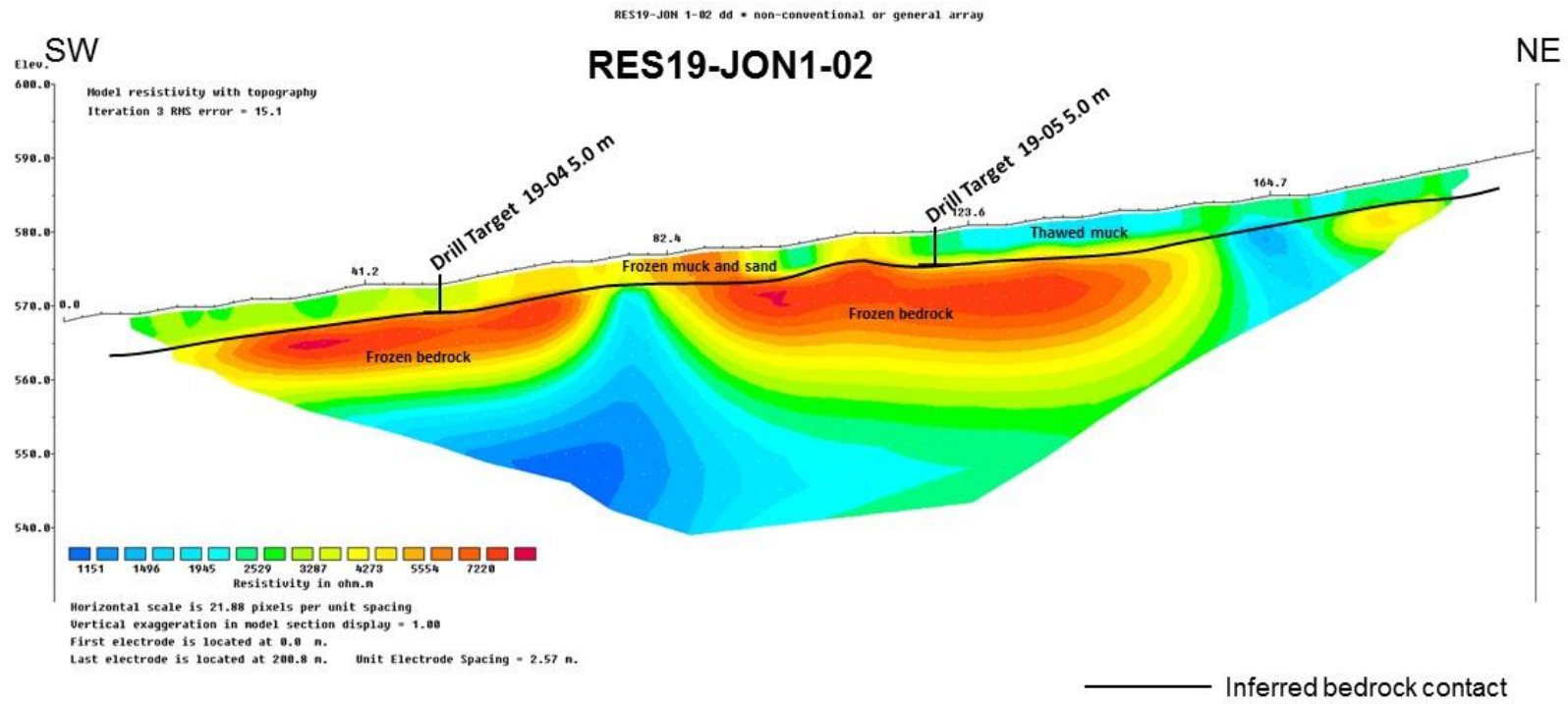


Figure 7 - Resistivity line RES19-JON1-02 on Sulphur Creek bench. Two drill targets have been chosen with estimated depths of 5 metres to bedrock below surface.

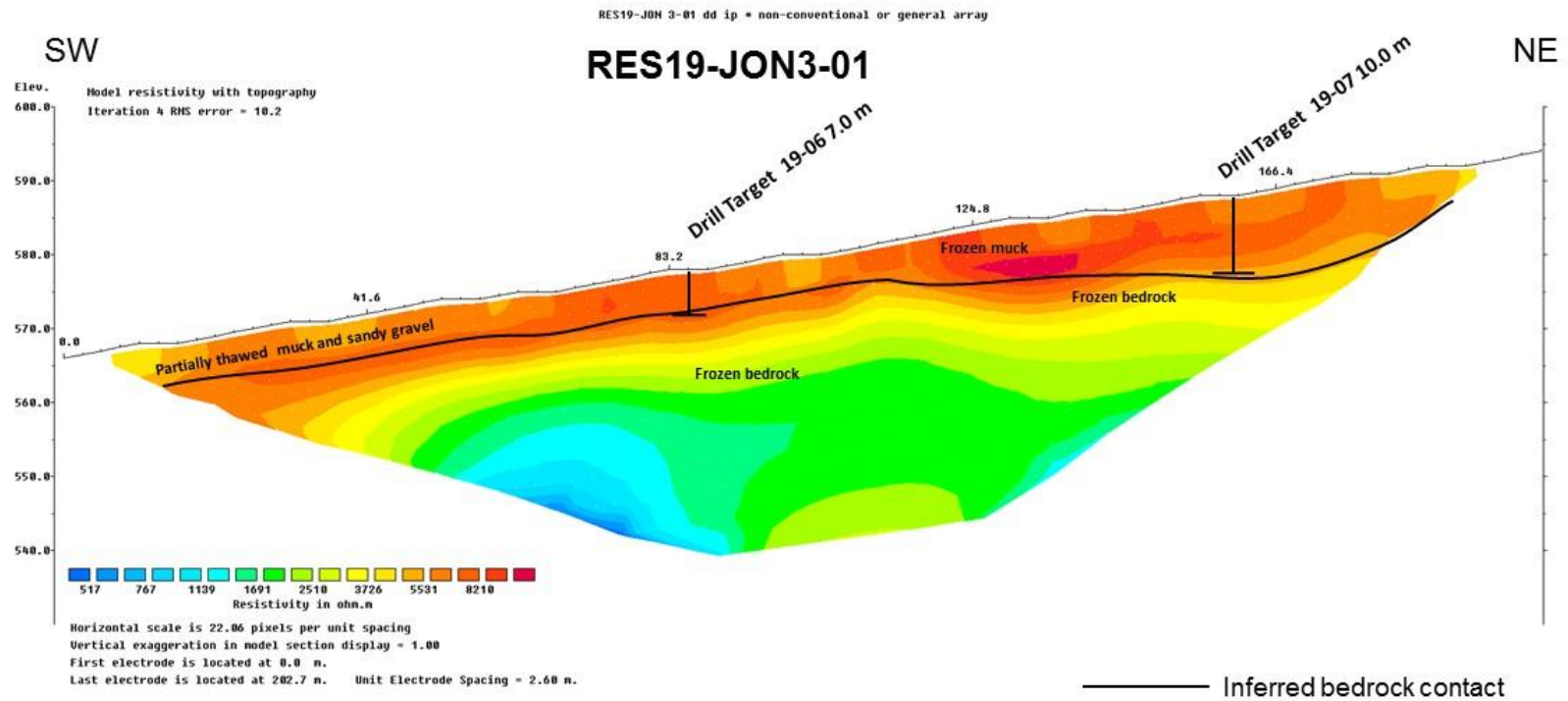


Figure 8 - Resistivity line RES19-JON3-01 on Sulphur Creek bench. Two drill targets have been chosen with estimated depths of 7 and 10 metres to bedrock below surface.

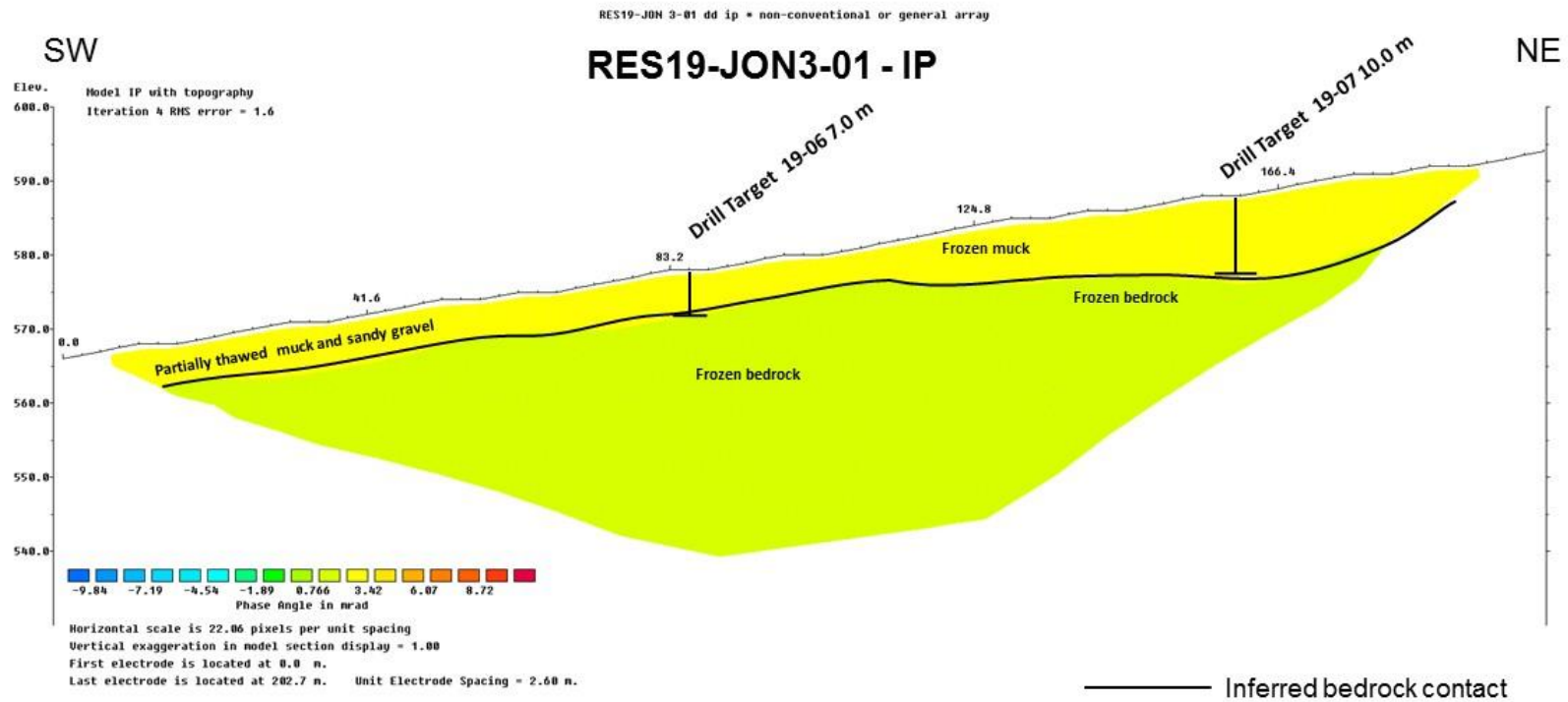


Figure 9 - Resistivity line RES19-JON3-01 also included a simultaneous IP survey. The interpreted bedrock contact is more clearly defined, and assisted in choosing two drill targets with estimated depths of 7 and 10 metres to bedrock below surface.

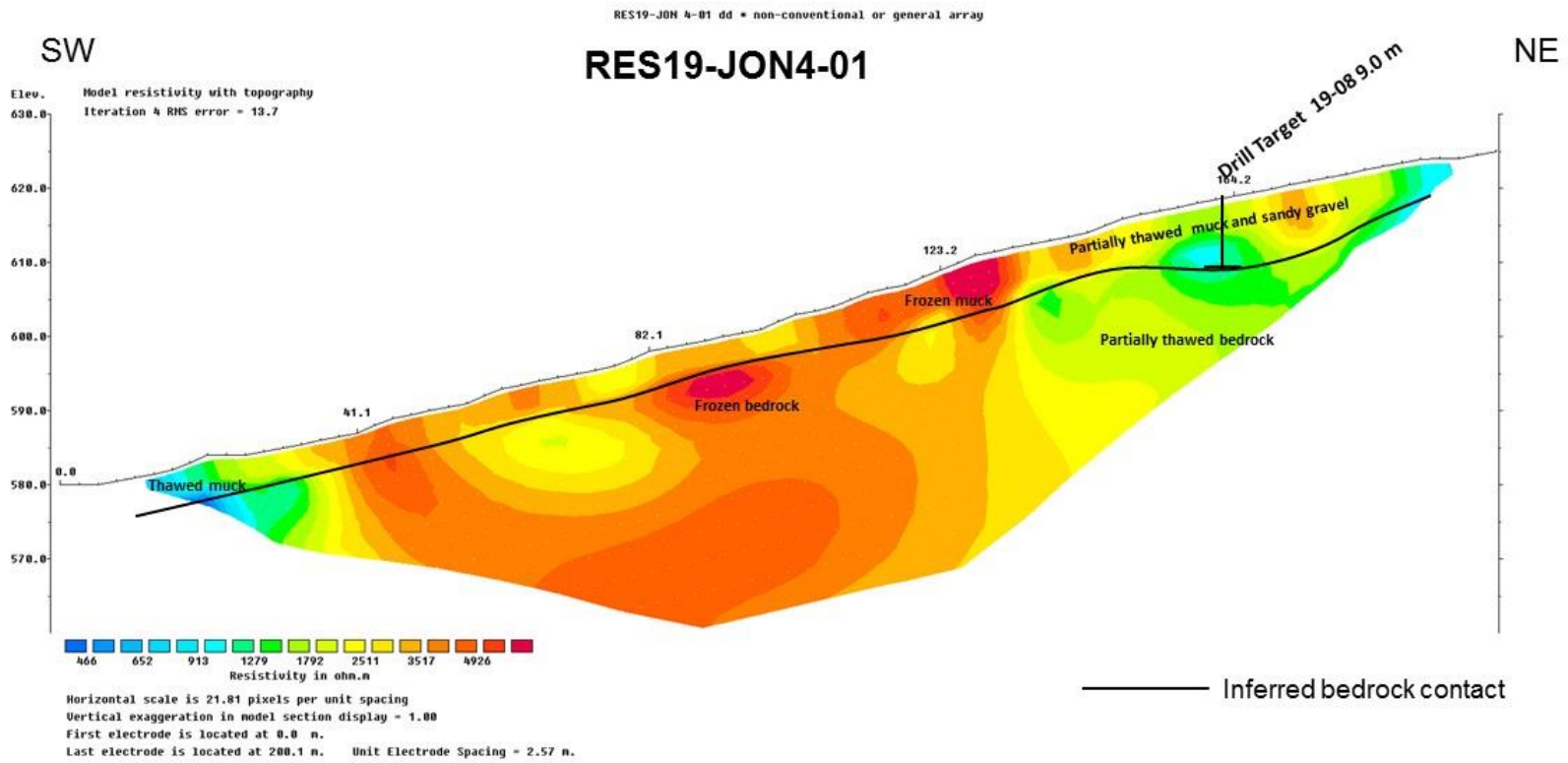


Figure 10 - Resistivity line RES19-JON14-01 on Sulphur Creek bench. One drill target has been chosen with an estimated depth of 9 metres to bedrock below surface.

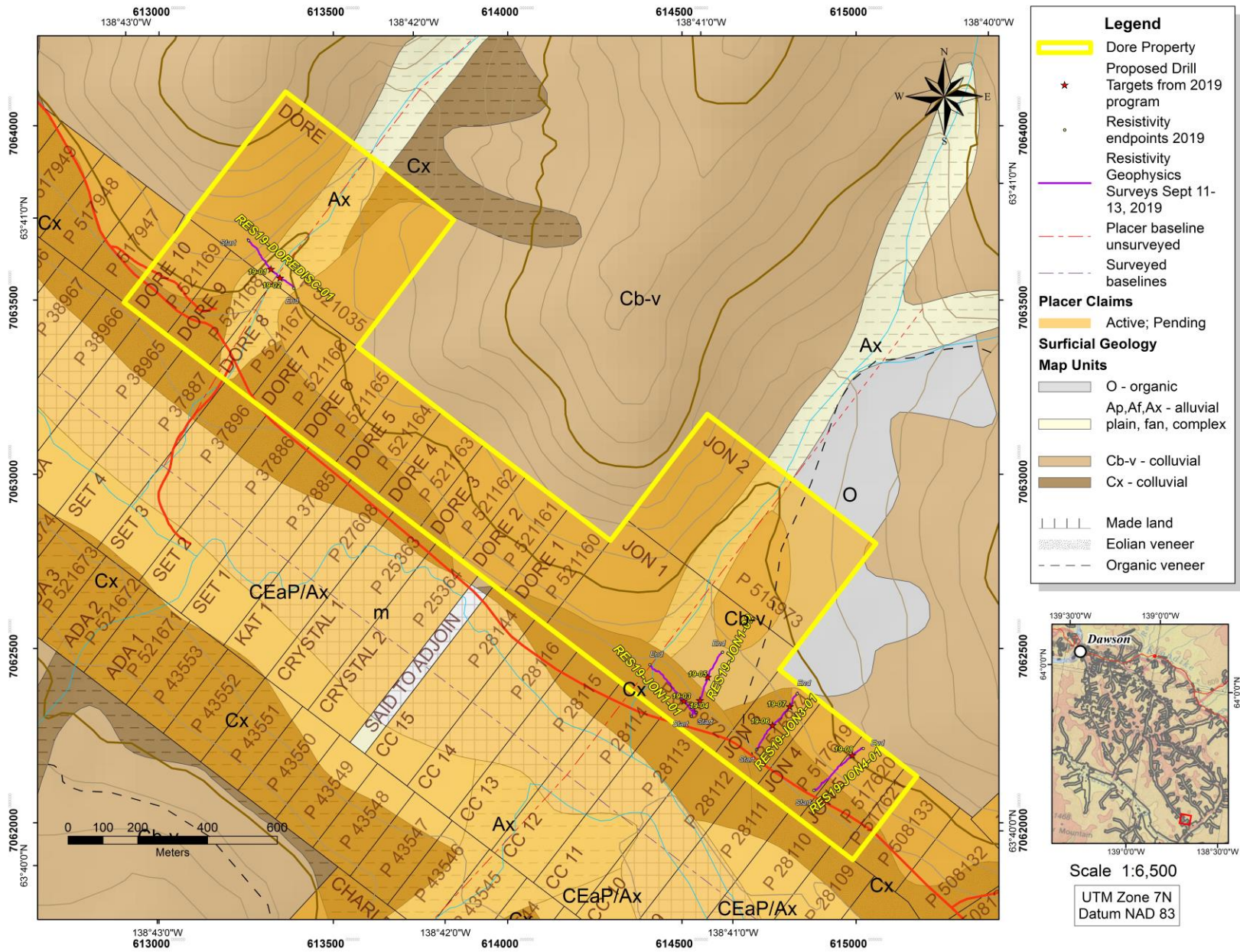


Figure 11 – Surficial map of Sulphur Bench property (after Froese and Jackson, 2005) showing resistivity surveys and drill targets from the 2019 program.

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 11 is a surficial map showing the surficial geology, resistivity lines and proposed drill targets. Coordinates for the drill targets are shown in Table 3 below.

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

Statement of Costs, 2019 Placer Exploration Program, Sulphur Creek Bench property.

Table 4 - Statement of Costs, 2019 Placer Exploration, Sulphur Creek Bench Property

2019 Placer Exploration Program Statement of Costs	Amount	Rate	Subtotal	GST	Total
Resistivity survey line data acquisition, compilation and interpretation, Sulphur Creek bench	1069 metres	\$12/m	\$12,828.00	\$641.40	\$13469.40
Mob/Demob from Whitehorse to Dawson	1060 km	0.61/km	\$646.60	\$32.33	\$678.93
Total					\$14, 148.33

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 18th day of February, 2020

William LeBarge, P. Geo.

A handwritten signature in blue ink that reads "William LeBarge". The signature is written in a cursive style with a large, stylized initial 'W'.

References

- Bond, J.D. and van Loon, S., 2018. Yukon Placer Mining Industry 2015-2017. Yukon Geological Survey, 284 p.
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