

**2021 FINAL REPORT YMEP21-008**

**YUKON MINERAL EXPLORATION PROGRAM**

**Placer Module**

**McMillan and Faith Creeks**

**MAYO MINING DISTRICT, YUKON TERRITORY**

**For**

**Earth & Iron Inc.**

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NTS: 105M14

Mining District: Mayo

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## Executive Summary

The following is a final report for the YMEP (Yukon Mining Exploration Program) under YMEP21-008 for McMillan Gulch/Faith Creek properties. The property was previously funded under YMEP Grant YMEP18-018 in 2018. The property is located in central Yukon approximately 480 km by road from Whitehorse, with the start of the claims approximately 10 km east of Keno City just past the end of the Lightning Creek road. Current valid water licenses (PM17-022 and PM17-023) facilitate all planned exploration activity and any future placer mining.

Mount Hinton is a significant bedrock gold deposit (MINFILE 105M052) which lies at the headwaters of many local drainages including McMillan Gulch. Coarse placer gold, presumably from this bedrock source, has been mined from the alpine glacial till on Granite Creek by the Jim Davies operation (Van Loon and Bond, 2014), and the Earth & Iron operation (Bond and van Loon, 2018) with reported gold royalties of nearly 9000 crude ounces in the last three years.

McNeil Gulch, which lies adjacent to McMillan Gulch in the project area, has been well-documented as to the presence of placer gold values within the glacial till (LeBarge, 2007, LeBarge et al., 2002).

Exploration in 2021 on McMillan Gulch/Faith Creek included drone imagery, resistivity geophysical surveys, and drilling of paleochannel targets using the R/C (reverse circulation) drill owned by Earth & Iron Inc.

The resistivity surveys were successful in corroborating previous geophysical surveys and test pits in the area, and several new drill targets were identified. Most of the 2021 R/C drill holes recovered placer gold, including MC21-02, which returned the best gold sample (12 mg), from a depth of 24-25 m, just above bedrock.

Results of the 2021 exploration program demonstrate the possibility for an economic placer gold deposit in the project area.

The most prospective mining potential may lie where bedrock is relatively shallow, and possible bedrock gold sources are more proximal. Excavator test pitting and bulk sampling should therefore be conducted in the upstream reaches of McMillan Creek, in areas where the bedrock depth has been interpreted by the resistivity geophysics to be 8 metres or less.

It is recommended that future exploration programs also include detailed (ground or airborne) magnetic geophysical surveys, which may be able to define buried paleochannels in the valleys where resistivity surveys alone may give inconclusive results.

Additional R/C drilling should also be conducted on the many undrilled targets identified in the current and previous exploration programs.

## **Introduction**

The following is a final report for the 2021 YMEP (Yukon Mining Exploration Program) for McMillan Gulch/Faith Creek properties. The property was previously funded under YMEP Grant YMEP18-018 in 2018.

## **Location and Access**

The property is located in central Yukon approximately 480 km by road from Whitehorse (Figure 1). Access to the claims is gained from Whitehorse via Stewart Crossing on the Klondike Highway (353 km), followed by a distance of 52 km east on the Silver Trail to Mayo. From Mayo to Keno City the road runs a distance of 65 km. From that point, a 9.8 km long four-wheel drive road runs from Keno City, east-northeast along the Lightning Creek road. It continues past McNeil Gulch to the confluence of Lightning Creek with McMillan Gulch. There are several ATV trails of various quality further to Faith and Allen creeks.

## **Placer Mineral Tenure**

The Vander Claims on Faith Creek are held by Earth & Iron Mines Inc. and Dean Gray Enterprises Ltd. (P 524106 – P 524139; P 525207- P 525225). The Auliv Claims and the first tier Anni bench claims on McMillan Creek are held by Western Heavy Haul Inc. (P 524055 – P 524087 and P 524737- P 524753, respectively). Appendix 1 gives the current claim status of all claims and leases held by Earth & Iron Inc. and their affiliates in the project area.

## **Permitting**

Earth & Iron Inc. currently holds a Type B Water Use Licence (PM17-022) on Faith and Allen Creeks, which is valid until May 3, 2027. Water License PM17-023 is held on Lightning/McMillan Creek and it is valid until June 6, 2027.

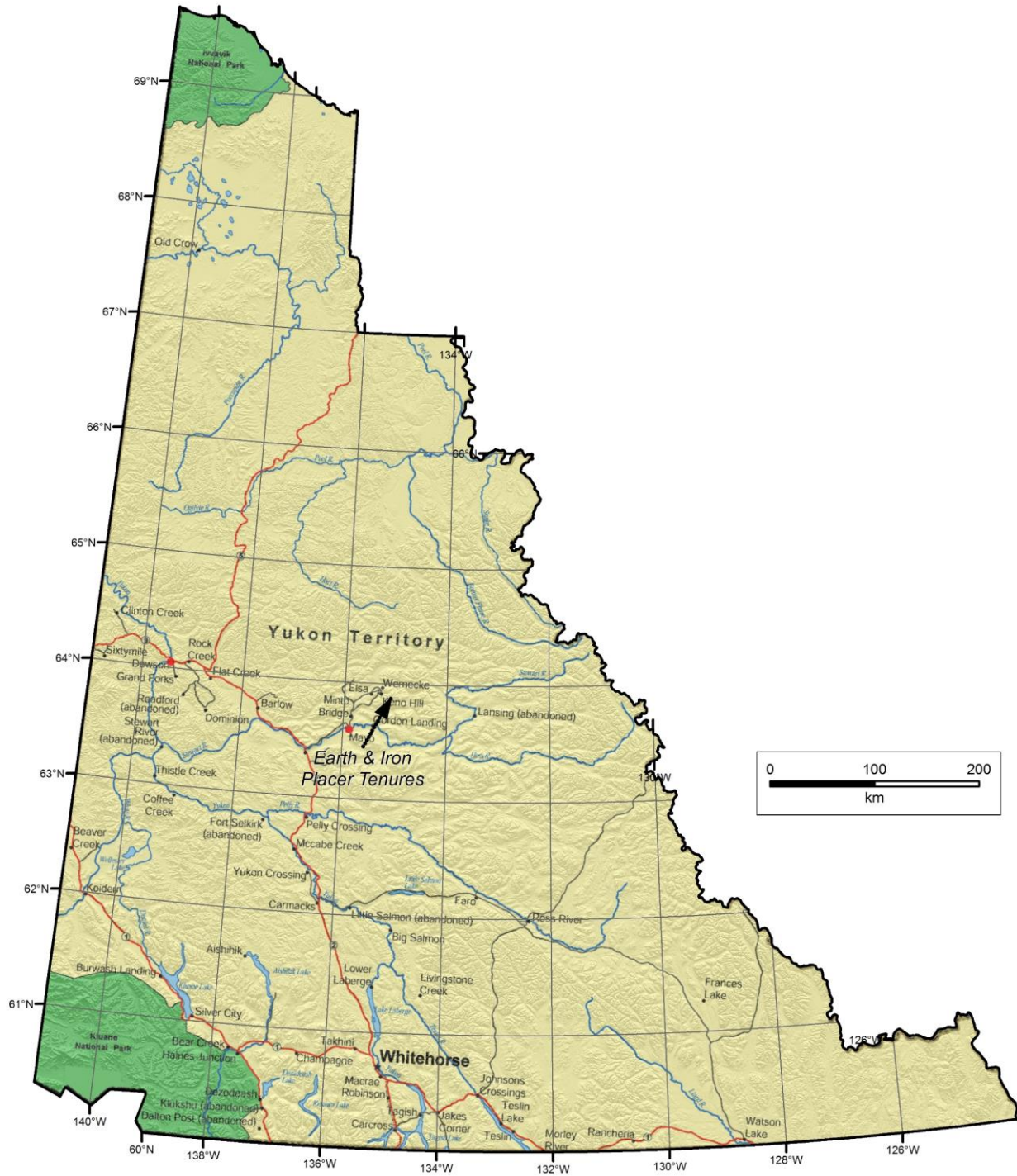


Figure 1 - General Location of Earth & Iron Placer tenures, Mayo, Yukon.



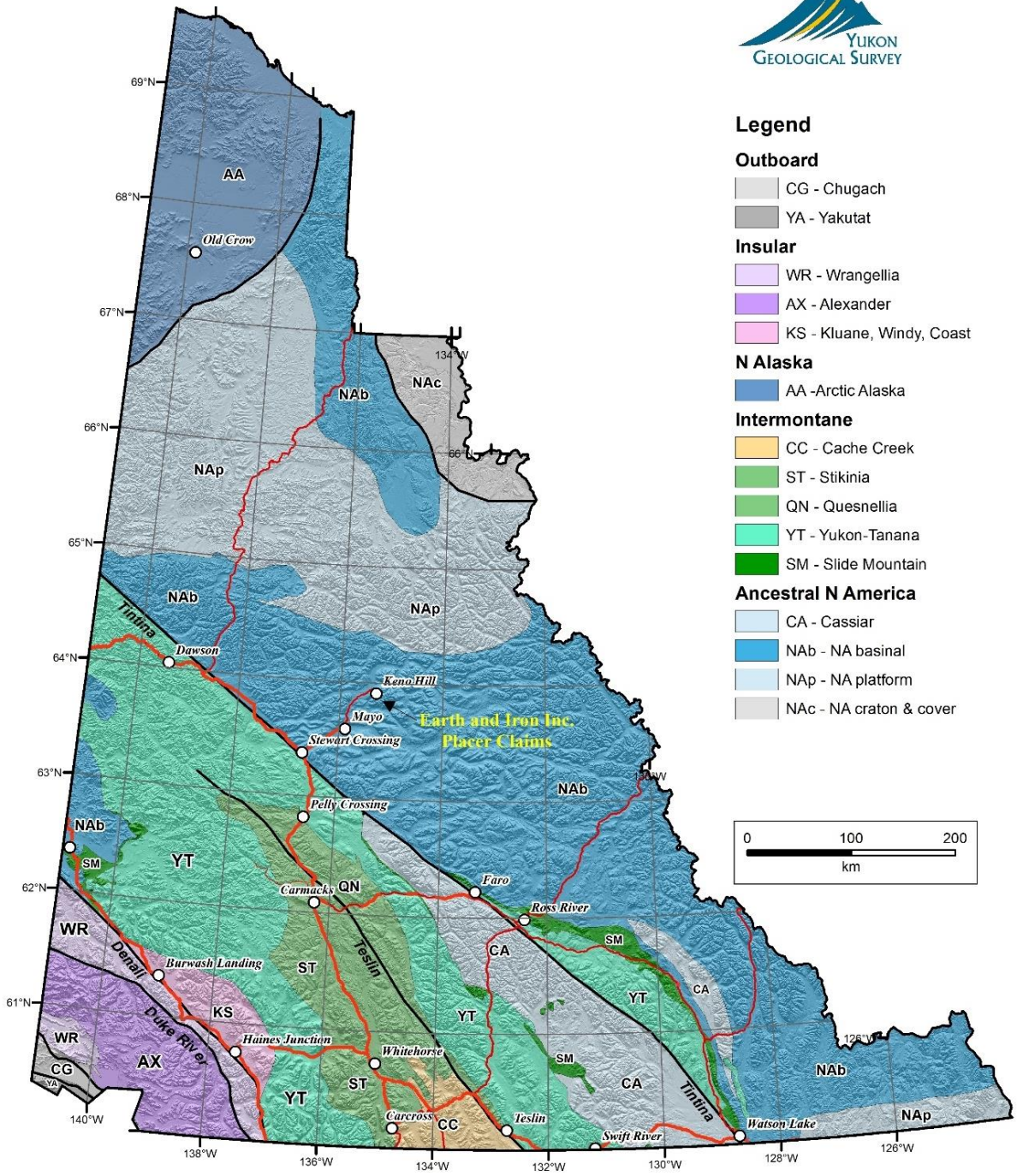


Figure 2 - Geological Map of Yukon, showing major bedrock terranes and structural elements. Modified after Yukon Geological Survey, 2020.



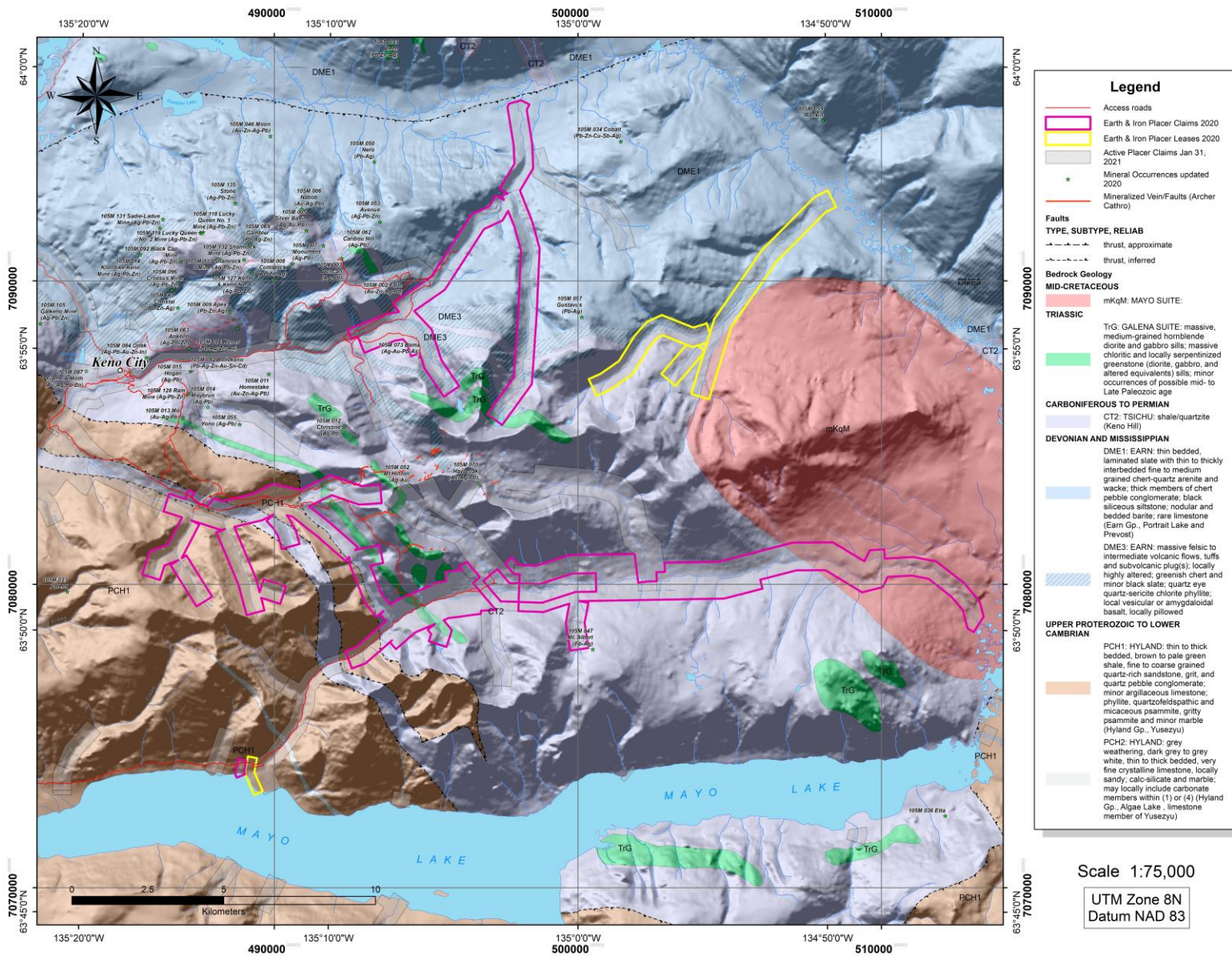


Figure 3 - Bedrock geology and mineral occurrences of Upper Duncan Creek, Lightning Creek and Granite Creek areas, Mayo Mining District, after Yukon Geological Survey, 2020. Mineralized vein-faults digitized from Wengzynowski, 2008 (EMR Assessment report 095613).



## Regional Bedrock Geology

Murphy (1997) and Roots (1997a, 1997b) mapped and described the McQuesten and Keno Hill area, and various researchers (Stephens et al., 2004; Hart et al., 2002; Colpron and Ryan, 2010) have described the tectonic setting and mineral deposits throughout the region.

Figure 2 is a geological map of Yukon, showing major bedrock terranes and structural elements. The Earth and Iron Inc. properties in the Keno Hill district lie east of the Tintina Fault, within Ancestral North America in the *Nab* (North American basinal) terrane. In that part of the western Selwyn basin, dominantly clastic sedimentary rocks were deposited in an off-shelf setting in a period from the latest Neoproterozoic to the Carboniferous (Stephens et al., 2004).

The Keno Hill district is part of the Tombstone Gold Belt (Stephens et al., 2004), a subset of the Tintina Gold Province (Hart et al., 2002). This area is characterized by a northerly-directed, fold-and-thrust belt which developed in the Late Jurassic to Early Cretaceous (Roots, 1997a, 1997b; Murphy, 1997). The Dawson, Tombstone and Robert Service thrusts are the products of this deformation across the northern part of the basin (Murphy and Roots, 1996; Roots, 1997a).

The Robert Service Thrust sheet contains Hyland Group (Late Proterozoic to Cambrian) sandstone and grit with rare limestone and minor maroon argillite, overlain by a Cambrian to Middle Devonian succession of dark coloured siltstone, limestone and chert. These strata, a component of the regional Selwyn Basin, are unconformably overlain by Upper Devonian Earn Group argillite, chert and chert pebble conglomerate (Murphy, 1997; Roots, 1997a, 1997b).

To the north, the Tombstone Thrust sheet consists of highly strained Earn Group carbonaceous phyllite, felsic meta-tuff and metaclastic rocks, succeeded by Carboniferous Keno Hill quartzite that is thickened by internal recumbent folds or thrusts in the north central part of the map area. These units host the Ag-Pb-Zn veins of the Elsa-Keno Hill camp and the Au veins of the Mount Hinton area (Roots, 1997a, 1997b).

Jurassic (?) and Cretaceous contraction produced regionally developed penetrative fabrics and folds of various scales as well as thrust faulting. A domain of intensely-developed foliation and lineation underlies the northern half of the map area, imparted during two or more phases of movement on the Tombstone Thrust (Roots, 1997a, 1997b).

Two main intrusive suites of rock were emplaced into the western Selwyn basin after the regional deformation; the McQuesten Intrusive Suite, and the Tombstone Plutonic Suite (Murphy, 1997). The Tombstone Suite was emplaced around 92 Ma, and its rocks are associated with the Tombstone Gold Belt deposits in Yukon (Brewery Creek, Dublin Gulch, Scheelite Dome and Clear Creek) as well as the Pogo, Fort Knox and Donlin Creek deposits in Alaska (Hart et al., 2002).

## Mineral Occurrences

The Roop Lakes batholith, which outcrops in the eastern part of the project area, is a late Cretaceous granite, quartz monzonite and granodiorite intrusion of the Tombstone Suite. It is widely-held to be the probable heat source for epi- and meso-thermal veins of the Elsa-Keno Hill mining camp (Roots, 1997a, 1997b).

Table 1 lists YUKON MINFILE (Yukon Geological Survey, 2020) mineral occurrences in the Keno Hill district. Most of these occurrences are polymetallic veins, consisting of silver, lead and zinc with various amounts of accessory gold. The host rock is mainly the Carboniferous Keno Hill Quartzite, however some veins are hosted in carbonaceous phyllite, felsic meta-tuff and metaclastic rocks of the Devonian Earn Group. A few mineralized polymetallic veins are hosted in the metaclastic rocks of the Late Proterozoic to Cambrian Hyland Group.

Table 1 – Selected Mineral Occurrences, Keno Hill area, from MINFILE (Yukon Geological Survey, 2020).

MINFILE NUMBER	DEPOSIT TYPE	STATUS
105M 001 KENO HILL - HISTORIC (Pb-Ag-Zn-Cd-Au-Sn)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 002 FAITH (Au-Zn-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 003 DUNCAN (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 004 GOLDEN QUEEN (Sb-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 005 SILVER BASIN (Ag-Pb-Au)	Vein Polymetallic Ag-Pb-Zn+/-Au	Prospect
105M 006 NABOB (Au-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 007 MONUMENT (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 008 COMSTOCK (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 009 APEX (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 010 VANGUARD (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 011 HOMESTAKE (Au-Zn-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 012 CHRISTINE (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Prospect
105M 013 MO (Au-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 014 MAYBRUN (Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 015 HOGAN (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 016 RUNER (Pb-Zn-Au-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 017 WERNECKE (Au-Zn-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 018 FORMO (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 020 PADDY (Pb-Ag-Zn-Au)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 021 EAGLE (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 022 FISHER (Au-Zn-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Anomaly
105M 023 PARENT	Unknown	Anomaly
105M 024 CREAM AND JEAN (Pb-Zn-Cu-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 025 NORD (As-Zn-Ag-Pb-Au)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect

MINFILE NUMBER	DEPOSIT TYPE	STATUS
105M 047 MT ALBERT (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 050 NERO (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 052 MT HINTON (Au-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 053 AVENUE	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 055 YONO (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 061 CHRISTAL (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 062 SEGSWORTH (Pb-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 063 IRON CLAD	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 069 GAMBLER (Pb-Zn-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
105M 070 HAVRENAK (Au-Ag-Pb)	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect
105M 073 BEMA (Au-Ag)	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing
105M 082 BELLEKENO (Pb-Ag-Zn-Au-Sn-Cd)	Vein Polymetallic Ag-Pb-Zn+/-Au	Producer
105M 084 ONEK (Ag-Pb-Au-Zn-In)	Vein Polymetallic Ag-Pb-Zn+/-Au	Deposit
105M 085 LUCKY QUEEN (Ag-Pb-Zn-Au)	Vein Polymetallic Ag-Pb-Zn+/-Au	Deposit
105M 087 FLAME & MOTH (Au-Ag-Pb-Zn)	Vein Polymetallic Ag-Pb-Zn+/-Au	Deposit

## Local Bedrock Geology

Figure 3 shows the bedrock geology and mineral occurrences of the Lightning Creek, Upper Duncan creek and Granite Creek area, modified from Roots, 1997b and Yukon Geological Survey, 2020. Mineralized vein/faults have been added from Wengzynowski, (2008).

Figure 4 shows the bedrock of the Lightning-McMillan and Faith creek areas in more detail. The area of the claims on Lightning Creek-McMillan Gulch is mapped as CT2 (Carboniferous to Permian Keno Hill Quartzite) and DME3 (Devonian-Mississippian Earn Group felsic to intermediate volcanic flows and tuffs). In the area of the Faith Creek claims, underlying bedrock is mapped as including the above mentioned units as well as an extensive zone of DME1 (Devonian-Mississippian Earn Group slate, wacke, conglomerate and siltstone). The headwaters of both creeks contain outcrops of the Triassic Galena Suite hornblende diorite and gabbro.

The closest mineral occurrences to the Lightning-McMillan and Faith claims include the Faith gold-zinc-silver-lead vein (MINFILE 105M002), the Gustavus lead-zinc vein (MINFILE 105M057), the Bema gold-silver vein (MINFILE 105M073) and the northern extent of the Mt. Hinton gold-silver veins (MINFILE 105M 052).

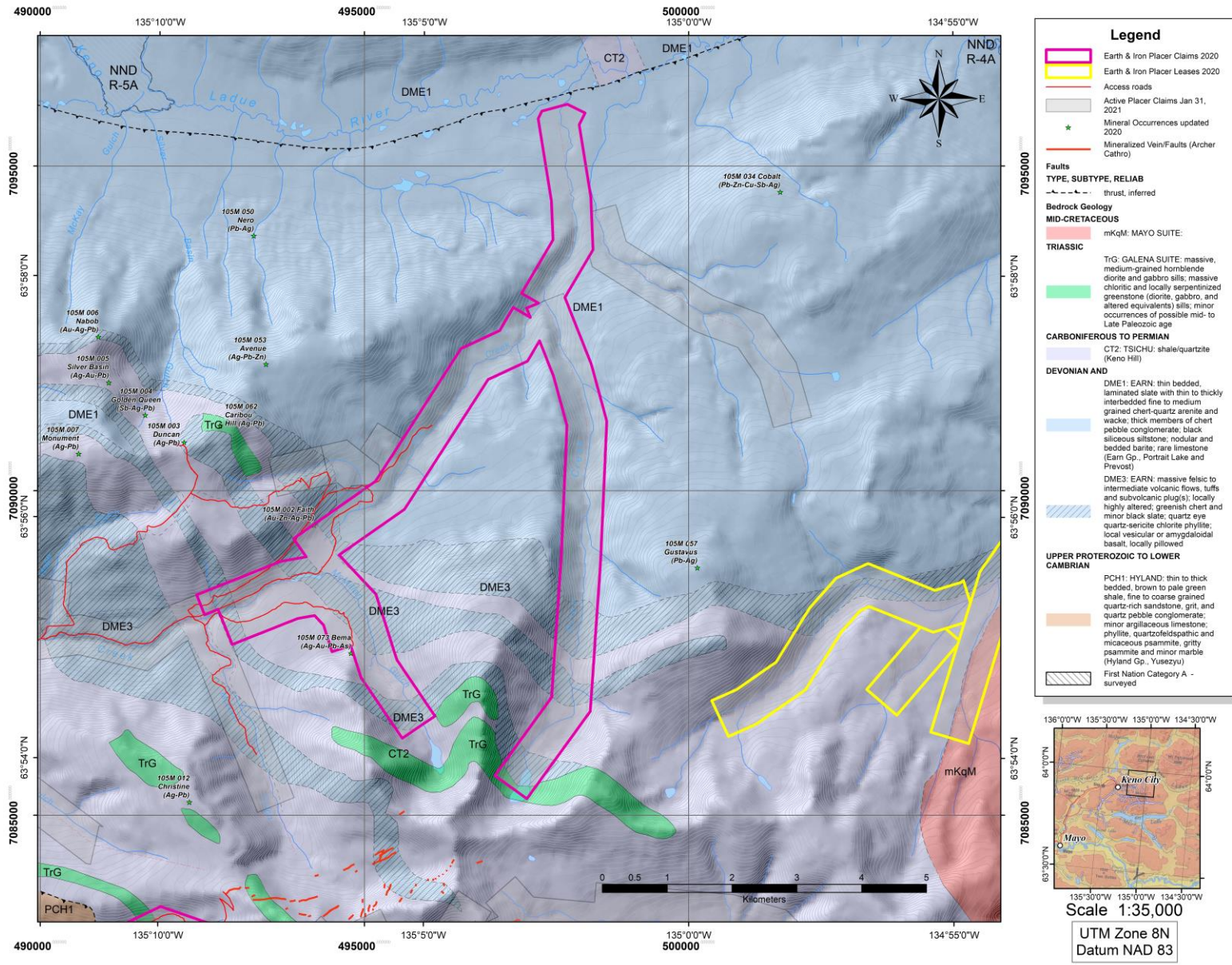


Figure 4 - Bedrock geology of the Lightning-McMillan and Faith creek area, including mineral occurrences from Yukon Minfile (Yukon Geological Survey, 2020).



## Quaternary History

In the Mayo area, a minimum of four regional glaciations and two interglacial periods have influenced the deposition and erosion of sediments over the last 2.5 million years (Duk-Rodkin et. al., 2010; LeBarge et. al., 2002; Bond, 1996, 1997; Jackson et al., 2001). Glaciations include the pre-Reid (multiple early to mid-Pleistocene glaciations), Reid (130,000 years), and McConnell (14,000 -29,600 years). Warm, interglacial periods are indicated by relict paleosols such as the pre-Reid Wounded Moose paleosol (Tarnocai and Schweger, 1991) and the Reid Diversion Creek paleosol (Bond and Lipovsky, 2010).

During their maximum extent, pre-Reid ice sheets completely covered the Mayo/Keno Hill area. Undifferentiated pre-Reid surficial materials (moraine, glaciofluvial and glaciolacustrine deposits) are thick in the lowlands of Klondike Plateau and Tintina Trench, especially in areas proximal to the terminus of the pre-Reid glaciations.

During the subsequent Reid glaciation, glacial ice advanced from cirques formed in topographic highs such as Mount Hinton and Mt. Haldane, and coalesced with Cordilleran ice lobes which were advancing up-valley into the alpine areas. This resulted in a complex overlap assemblage of local alpine glacial sediments and more regionally-derived glacial sediments.

During the most recent (McConnell) glaciation, ice once again advanced from cirques in mountainous centres, however their advance was much less extensive than during previous glaciations. In most cases, McConnell ice advanced only short distances down-valley from their origins in the valley heads, depositing terminal moraines in the upper reaches of most valleys.

Figure 5 shows glacial limits and ice-flow directions in the Mayo area, after Bond (1999). This map indicates that McConnell ice advanced up-valley into the lower reaches of Allen and to the headwaters of Faith Creek, while only local alpine ice advanced down McMillan Gulch and McNeil Gulch. Allen Creek also hosted a local alpine ice advance during the McConnell which did not meet the up-valley advance of the regional McConnell ice.

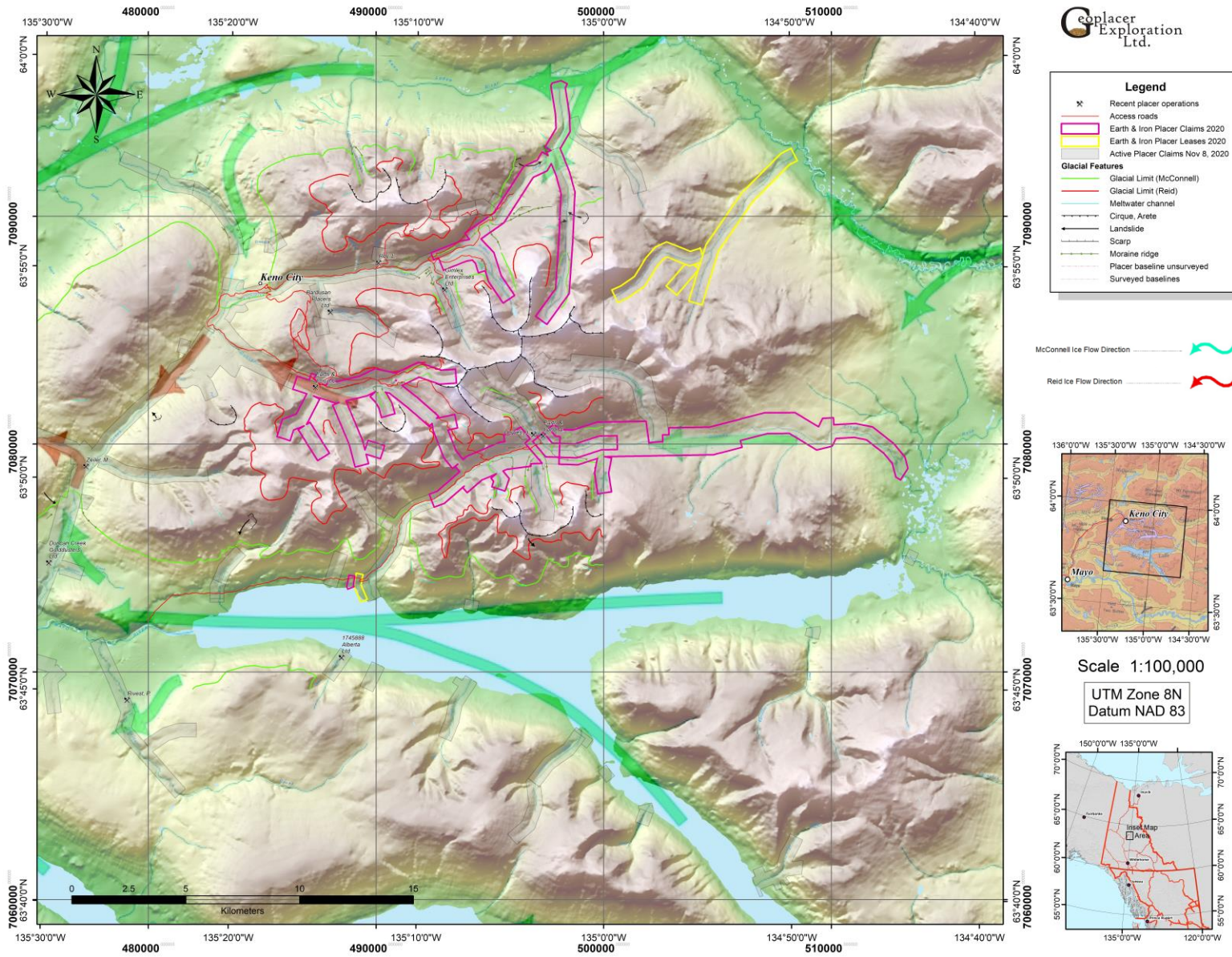


Figure 5 – 1: 100 000 scale map of glacial limits and ice-flow directions, Upper Duncan Creek, Lightning Creek and Granite Creek area, Mayo Mining District (after Bond, 1999). Recent placer operations are also shown, from Bond and van Loon, (2018).



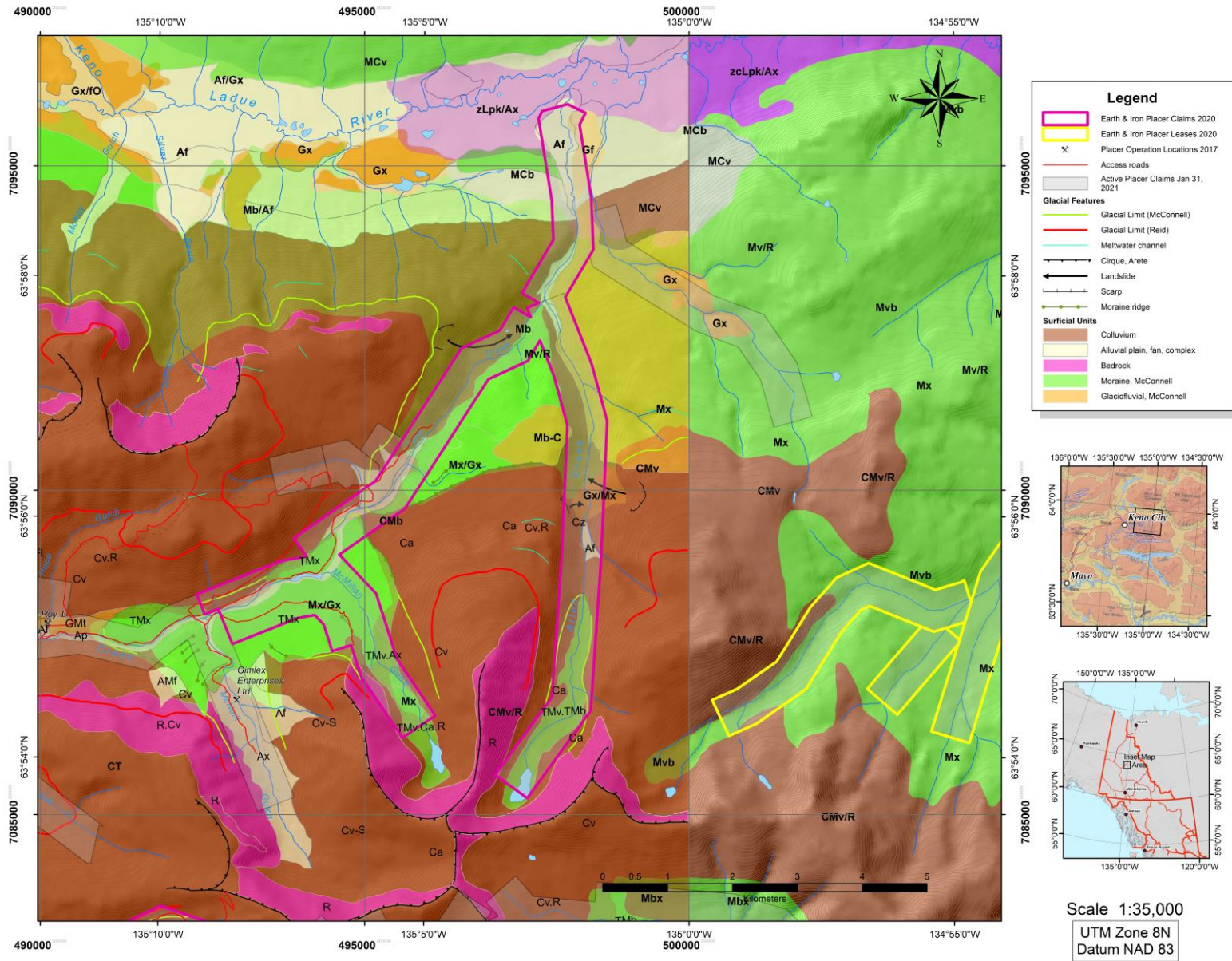


Figure 6 – 1: 35 000 scale map of surficial geology, Lightning-McMillan and Faith creeks, Mayo Mining District (after Bond, 1998).

## Surficial Geology

Figure 6 is a 1:35,000 scale surficial map of the Lightning-McMillan and Faith creek drainages (modified after Bond, 1998). Differences in units between the east and west sides of the map are attributable to the different scales of mapping which were conducted on each side.

Unconsolidated sediments in the Gustavus Range and the surrounding plateaus consist mainly of deposits from Cordilleran valley glaciers (continental ice sheet), alpine glaciers (local montane glaciers), colluvium, and minor alluvium. The surficial geology of the project area is complex, which is a result of the multiple glacial events that have occurred there over the last 1.5 million years.

The hills above the main drainages of Duncan, Upper Duncan, Lightning and Granite creeks are mantled with colluvial deposits (veneers, blankets and aprons), while glacial erratics are found in the ridge tops and uppermost slopes. These were deposited when the pre-Reid glacial ice overtopped the hills in the region (LeBarge et.al., 2002; Bond, 1998).

Within and below the Reid glacial limit (shown as the thick red line in Figure 6), remnant deposits of Reid-age till line the valley bottoms and edges, and Reid glaciofluvial outwash channels lie along valley edges and on intervalley divides between third and fourth order drainages. In the lower reaches of Upper Duncan Creek, Reid-age till lies at the surface and confines the extent of the modern alluvial plain.

McConnell-age till forms moraines in the headwaters of most local drainages including Upper Duncan Creek (Mount Hinton), McNeil Gulch, Lightning Creek-McMillan Gulch, Allen Creek and Granite Creek. Deposits of McConnell glaciofluvial outwash lie as terraces along the valleys of Lightning Creek, Duncan Creek and lower Granite Creek.

McConnell-age and younger alluvial and periglacial fans occur on the left limit of Faith Creek along the McConnell glacial limit.

Modern alluvial fans, plains and complexes occur in all valleys, but are most prominent in larger, third to fourth order drainages. In some cases, alluvial fans have formed from re-activation and reworking of older deposits such as glaciofluvial terraces and eskers of Reid to McConnell age.

Recent colluvial aprons and landslides occur along the margins of many steep-sided valleys in the area.



## Placer Exploration and Mining History

The discovery of placer gold in the Mayo district began on the Stewart River in 1883, when a party of prospectors worked from the mouth of the Stewart River to the McQuesten River (Mayo Historical Society, 1990). Between 1885 and 1886, it is estimated that up to 14,500 fine ounces (451 000 g) was recovered by hand (Mayo Historical Society, 1990).

In 1892, Ray Stewart discovered gold on the McQuesten River, and in 1895 placer gold was noted on Haggart Creek. Discovery claims were recorded on Johnson and Haggart Creeks in 1898, and around then a Swedish trio named Gustavson were hand mining at the canyon on Duncan Creek, approximately 15 km upstream from its confluence with the Mayo River. The Gustavsons mined the canyon deposit however had avoided recording their claim for fear of initiating another stampede. In 1901, some Dawson stampeders discovered their camp and the Gustavson trio lost their ground (Mayo Historical Society, 1990).

Soon the entire length of Duncan Creek was staked. Exploration in surrounding regions began shortly thereafter, and discoveries were posted on creeks flowing into Mayo Lake and in the Minto Creek region in 1903. Hight Creek was found to contain a significant quantity of gold. Rudolph Rosmusen and partners acquired an area of the bench opposite Rudolph Gulch and found the richest bench ground on the creek, yielding upwards of US\$140 000 or 6773 fine ounces (210 664 g) of gold at US\$20.67 per ounce. The amounts on these claims alone surpassed the total gold taken out of Duncan Creek in its first 14 years.

In 1920 the Hight Creek Dredging Co. attempted to dredge Hight Creek, however, this lasted only a year and a half due to the inability of the dredge to handle large boulders. Intermittent activity continued until an upsurge of mining occurred following the dramatic rise in the price of gold in the late 1970's and early 80's.

Modern methods of mining, utilizing large bulldozers and excavators have become prevalent, especially in areas that were once considered to be too deeply buried by barren glacial overburden. Although most modern mining is still concentrated on the creeks which were initially mined at the turn of the century, some new ground has been explored and mined on a few non-traditional creeks.

Gimlex Enterprises Ltd. was active on McNeil Gulch in 2017 (Bond and van Loon, 2018). No mining history could be found in Government records for Faith Creek, however field and anecdotal evidence suggests that McMillan Gulch had some limited prospecting by miners who were testing nearby McNeil Gulch and Lightning Creek.

Government placer gold royalty records prior to 1978 are incomplete, however more detail can be found in subsequent years, which are given in Table 2. This table shows that over 180,000 crude ounces have been recorded in the Mayo Mining District between 1978 and 2019.

Table 2 - Placer gold production from reported gold royalties, Mayo Mining District. Figures are in crude (raw) ounces.

STREAM or RIVER	Tributary to	2015	2016	2017	2018	2019	1978-2019
<b>Anderson</b>	Mayo Lake						938
<b>Bear (Van Bibber)</b>	McQuesten						1448
<b>Bennett</b>	Minto		2.88				3
<b>Carlson</b>	Minto						105
<b>Davidson</b>	Mayo River	912.53	147.63		103.17	60.74	4921
<b>Dawn</b>	Mayo Lake		20.77				36
<b>Dirksen</b>	Mayo Lake						31
<b>Dublin Gulch</b>	Haggart						13099
<b>Duncan</b>	Mayo River	413.44	253.41	400.28	77.85	506.26	36089
<b>Empire</b>	No Gold						1012
<b>Fifteen</b>	Haggart			1.1			1
<b>Gem</b>	Sprague						428
<b>Goodman</b>	South McQuesten						37
<b>Granite Creek</b>	Mayo Lake	1249.16	1902.14	1418.13	1052.51	3277.56	8900
<b>Haggart</b>	McQuesten	3.79			18.88		24528
<b>Hight</b>	Minto	95.86	154.56	61.25	37		40769
<b>Hope Gulch</b>	Lightning						8
<b>Jarvis</b>	Minto						17
<b>Johnson</b>	McQuesten		71.95	350	208.98	289.36	6357
<b>Ledge</b>	Mayo Lake						5815
<b>Lightning</b>	Duncan	0.83					11624
<b>McQuesten</b>	Stewart	9.24					114
<b>Minto</b>	Mayo River	199.42	594.05	406.22	474.65	753.46	3775
<b>Morrison</b>	Seattle			3.29	71.65	30.86	122
<b>Murphy's Pup</b>	South McQuesten		3.18	13.8	26.72		202
<b>Owl</b>	Mayo Lake				12.18		3654
<b>Ross</b>	South McQuesten				3.5	28.88	32
<b>Russell</b>	Macmillan						287
<b>Seattle</b>	McQuesten	83.6	136.11	217.73		22.22	668
<b>Secret</b>	Swede	41.52	4.11		45.79	72.69	836
<b>Steep</b>	Mayo Lake						709
<b>Stewart</b>	Yukon						872
<b>Swede</b>	Haggart		28.53		12.24	1.69	4389
<b>Thunder</b>	Lightning	508.06	547.28	333.58	332.84	333.26	6553
<b>Upper Duncan</b>	Duncan		109.02	105.42		107.88	322
<b>Vancouver</b>	McQuesten		13.95	16.09		124.07	1082
<b>Various Mayo Creeks</b>			7.92	111.93			1709
<b>Total Mayo District</b>		3517.45	3997.49	3438.82	2477.96	5608.93	<b>181492</b>

## Recent Placer Exploration

### McMillan/Lightning Creek

#### 2018 Exploration Program

##### Overview

Three resistivity lines totalling 0.7 km were conducted and interpreted for Earth & Iron Inc. by Allegra Webb, Selena Magel and William LeBarge, with field assistance from Steve Kramer. The surveys were conducted on July 27<sup>th</sup>, 2018. Additionally, four test pits were excavated on the Anni claims on McMillan Gulch on July 2, 2018.

##### Resistivity Survey Results

Table 3 outlines the lengths, locations and coordinates of the resistivity surveys conducted in the McMillan Gulch claims. Good data and contact resistance were obtained in most surveys due to a combination of water saturated ground and adding salt water to each electrode location to improve the conductivity to the ground. Figure 7 is a map showing the location of the 2018 surveys in the McMillan Creek area as well as the glacial features in the vicinity. The drill target locations and expected bedrock depths are plotted on the resistivity profiles in Figures 8-10.

Table 3 – Length, orientation and coordinates of 2018 resistivity surveys in McMillan Creek.

Name	Claim Number	Length (m)	Orientation	Start Point		End Point	
				Latitude	Longitude	Latitude	Longitude
RES18-AULIV13-01	Auliv 13	200	NW-SE	63.92628	-135.11611	63.92504	-135.11349
RES18-AULIV7-01	Auliv 7	200	NW-SE	63.92457	-135.13166	63.92300	-135.13045
RES18-AULIV5-01	Auliv 5	300	NW-SE	63.92335	-135.13694	63.92116	-135.13505

##### Excavator Test Pits

Table 4 details the locations of excavator test pits on McMillan Gulch, which are also shown on Figure 7.

Table 4 – 2018 Excavator test pits, McMillan Creek

2018 Test Pits, McMillan Creek						
Name	Claim Number	Latitude	Longitude	Date Examined	Description (Lithologies, Gold)	Surficial Unit (Bond, 1998)
McMillan 18-01	Anni 2	63.918516	-135.141435	July 2/18	Quartz arenite, vein quartz, diorite, 1 fine Au colour	McConnell moraine
McMillan 18-02	Anni 4	63.919123	-135.135870	July 2/18	Schist, quartzite, vein quartz, 3 fine Au colours	McConnell moraine
McMillan 18-03	Auliv 5	63.920377	-135.135829	July 2/18	Quartzite, diorite	McConnell moraine
McMillan 18-04	Anni 6	63.920358	-135.129694	July 2/18	Quartzite, conglomerate, pyrite, no Au	McConnell moraine



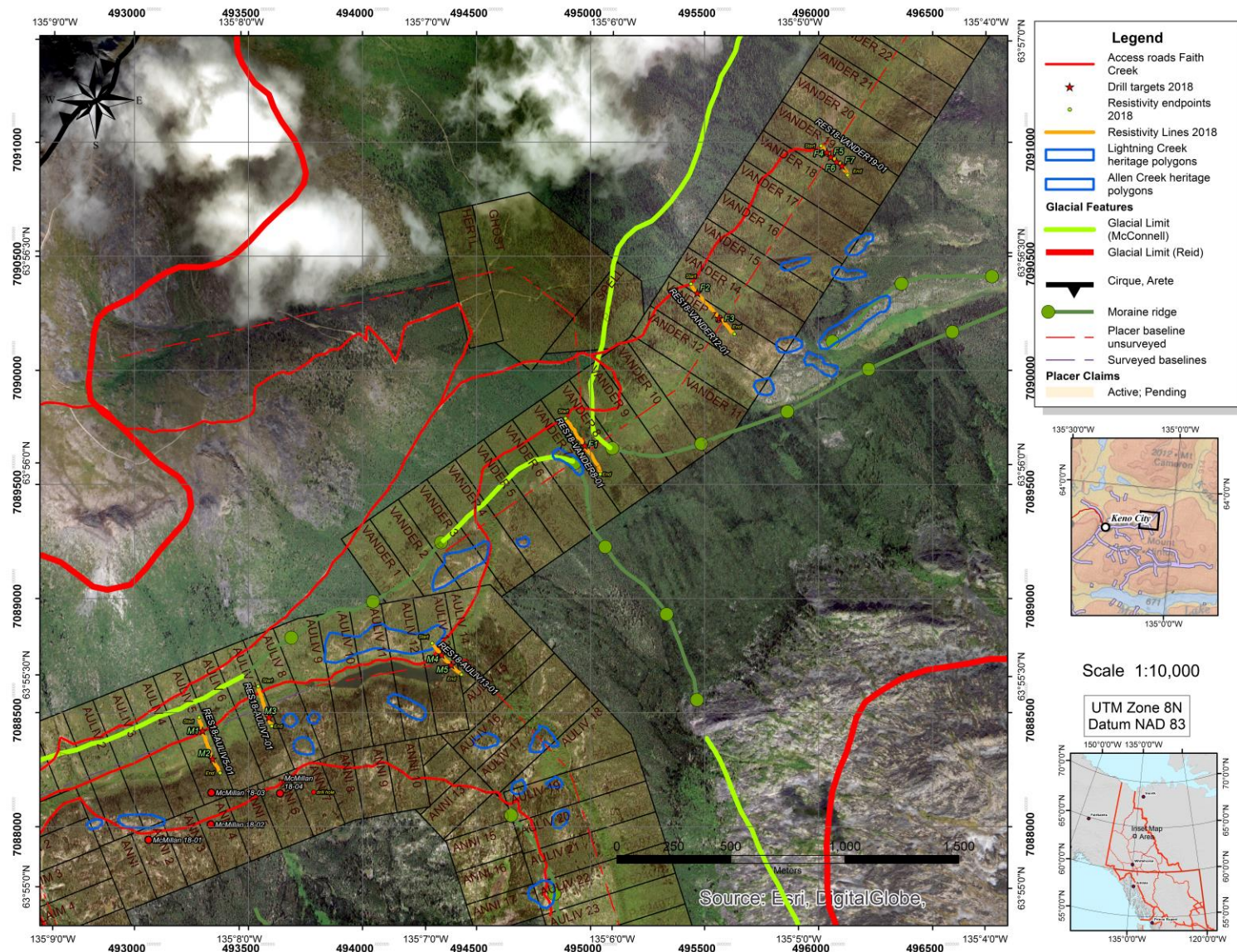


Figure 7 - Map of the Auliv claims (McMillan Creek) and Vander claims (upper Faith Creek), showing the location of 2018 resistivity surveys and major glacial features.

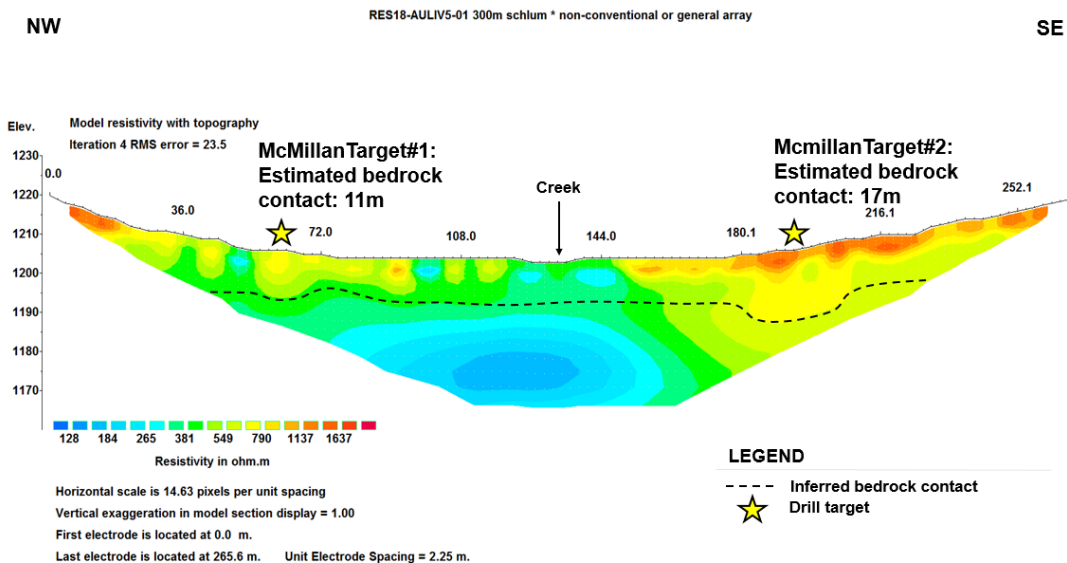


Figure 8 - Resistivity line RES18-AULIV5-01 is surveyed from northwest to southeast across the McMillan Creek valley. The profile displays a potentially undulating bedrock contact with higher surface resistivity to the sides interpreted as colluvium on the NW side and McConnell till on the SE side. In the bottom of valley, there is lower surface resistivity due to the water saturation of the ground surrounding the creek as well as the interpreted alluvial complex material. The depth of the interpreted bedrock contact ranges between 10m in the valley bottom and undulates as deep as 17m at the SE slope base. Drill targets are chosen in the depressions of the interpreted bedrock contact.

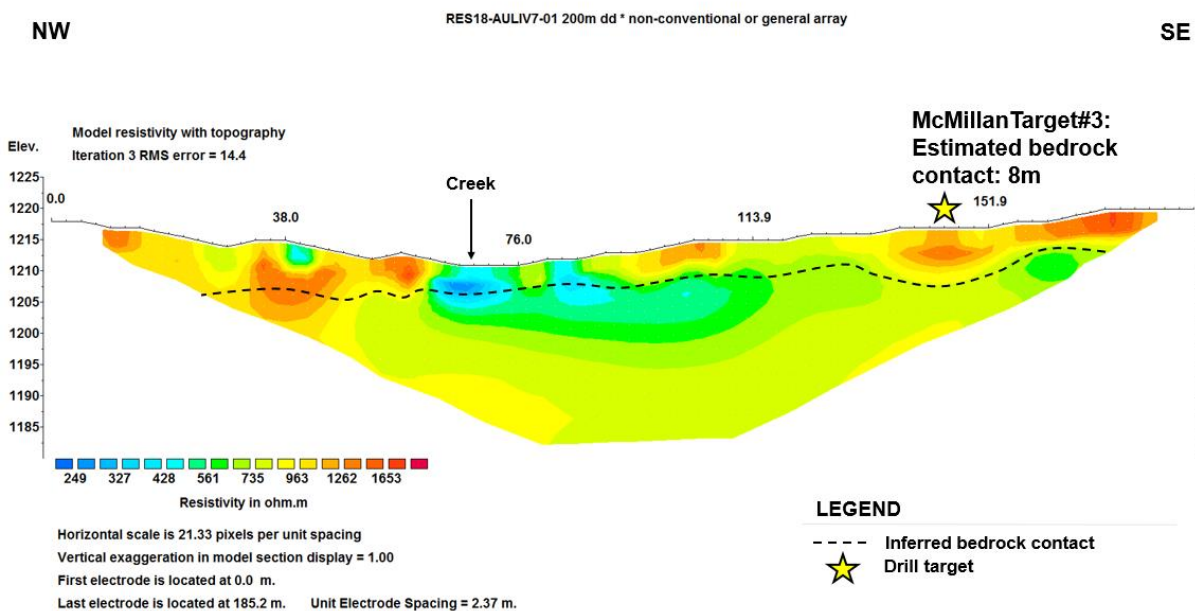


Figure 9 - Resistivity line RES18-AULIV7-01 is surveyed from northwest to southeast across the McMillan Creek valley alluvial complex material. The profile displays a shallow, undulating potential bedrock contact. In the bottom of valley there is lower surface resistivity due to the water saturation of the ground surrounding the creek. The depth of the interpreted bedrock contact ranges between 5m in the valley bottom and undulates as deep as 10m under the NW hillside. One drill target is chosen in the depression of the interpreted bedrock contact.



NW

SE

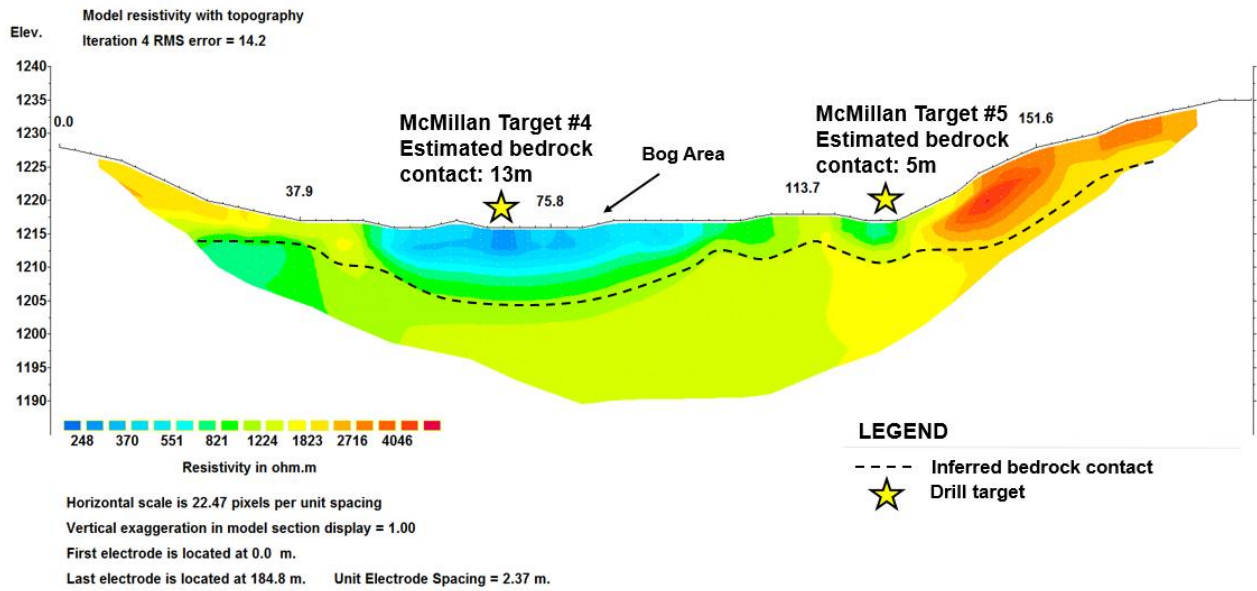


Figure 10 - Resistivity line RES18-AULIV13-01 is surveyed from northwest to southeast across the McMillan Creek valley downstream of a small lake. The profile displays a potentially undulating bedrock contact with higher surface resistivity to the SE side interpreted as McConnell till. In the bottom of valley, there is lower surface resistivity due to water saturation of the ground surrounding a bog area as well as the alluvial complex material. The depth of the interpreted bedrock contact ranges between 5m at the SE slope base and undulates as deep as 13m in the valley bottom. Drill targets are chosen in the low regions of the interpreted bedrock contact. The depressions in the bedrock could indicate paleochannels.

### Conclusions and Recommendations 2018

In 2018, a total of 5 drill targets were chosen on the profiles in locations which may be paleochannels, or depressions in the bedrock with placer gold potential. Estimated depths of the targets varied from 5 to 17 metres, as is shown in Table 5. These targets are planned to be investigated in the upcoming years by drilling or test pitting.

Table 5 - Coordinates and estimated depths of 2018 drill targets chosen in McMillan Gulch.

Target Name	Symbol on maps	Claim Name	Resistivity Line	Latitude	Longitude	Approximate depth to bedrock (m)
McMillan #1	M1	AULIV 5	RES18-AULIV5-01	63.922815	-135.13663	11
McMillan #2	M2	AULIV 5	RES18-AULIV5-01	63.921713	-135.135733	17
McMillan #3	M3	AULIV 7	RES18-AULIV7-01	63.92335	-135.130689	8
McMillan #4	M4	AULIV 13	RES18-AULIV13-01	63.925825	-135.115262	13
McMillan #5	M5	AULIV 13	RES18-AULIV13-01	63.925418	-135.114395	5

## 2019 Exploration Program

### Overview

On July 6, 2019, two 300m resistivity geophysical surveys and a drone imagery survey were conducted on the McMillan/Lightning Creek claims. The geophysical surveys were interpreted for Earth & Iron Inc. by Allegra Webb, Selena Magel and William LeBarge.

### Resistivity Survey Results

The resistivity surveys were conducted to find bedrock depths and to target potential paleochannels buried beneath the McConnell till. Good data and contact resistance were obtained in most surveys due in part to a combination of water saturated ground and the addition of salt water to each electrode location to improve the conductivity to the ground. Table 6 outlines the lengths, locations and UTM coordinates of the endpoints of the resistivity surveys conducted on the Anni claims.

Table 6 - Locations of the resistivity surveys done in 2019 in McMillan Gulch/Lightning Creek.

Name	Claim	Length (m)	Surficial Unit (Bond, 1998)	Start Point		End Point	
RES19-ANNI05-01	Anni 3-5	300	McConnell Moraine	0493452	7088085	0493188	7087986
RES19-ANNI07-01	Anni 7	300	McConnell Moraine	0493707	7088244	0493834	7088017

Three potential paleochannel drill targets were chosen based on the interpretation of the contacts on the resistivity geophysical surveys. These range in estimated depths from 20 to 27 metres, and are plotted on the resistivity profiles, shown as Figures 12 and 13.

The UTM coordinates and estimated depths of the drill targets are shown in Table 7.

Table 7 - Locations and approximate depth to bedrock of the targets identified in McMillan Gulch/Lightning Creek in 2019.

Target Name	Claim name	Resistivity line	UTM E	UTM N	Approximate depth to bedrock (m)
MC#1	Anni 4	RES19-ANNI05-01	0493337	7088037	20
MC#2	Anni 7	RES19-ANNI07-01	0493769	7088146	27
MC#3	Anni 7	RES19-ANNI07-01	0493795	7088093	25

Figure 11 is a compilation map of the surficial geology (after Bond, 1998), which outlines the location of the 2019 surveys and the interpreted drill targets.

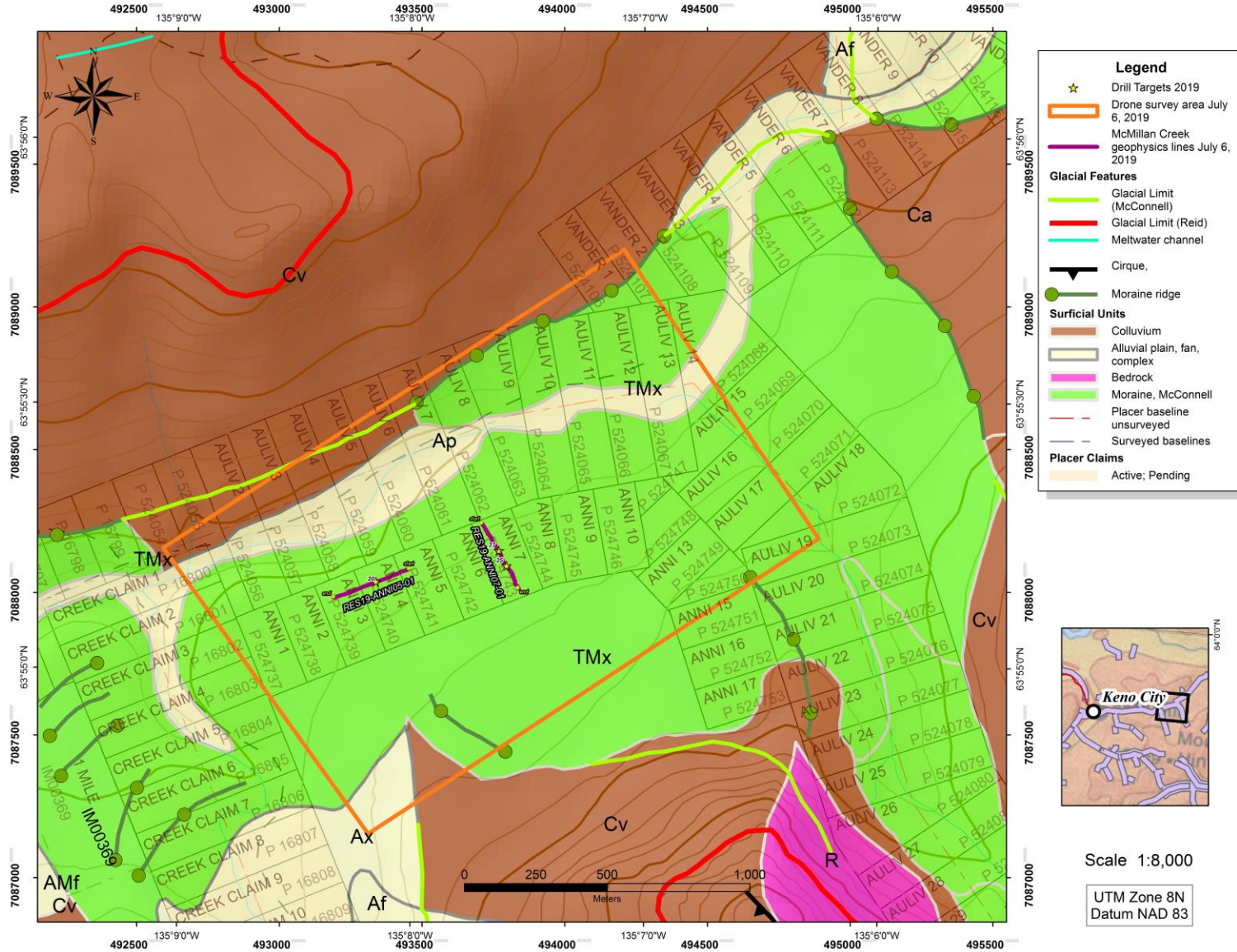


Figure 11 - Surficial geology map of McMillan Creek placer claims (map modified from YGS, 2018, and Bond, 1998) showing the area surveyed with drone imagery and the traces of the geophysical lines surveyed in 2019. The yellow stars are the drill targets identified by the geophysical surveys.



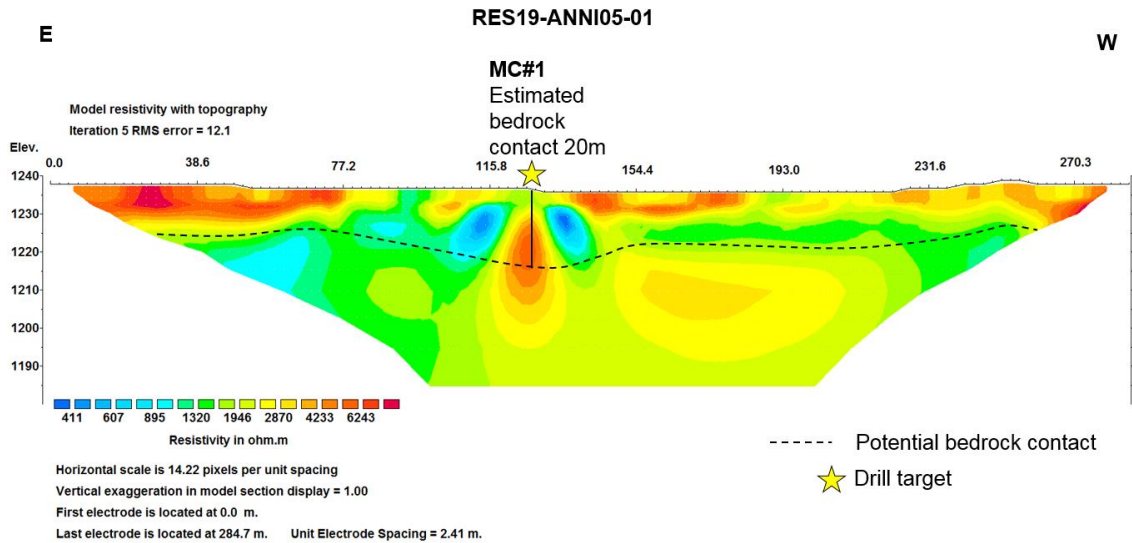


Figure 12 – RES19-ANN05-01 is a resistivity survey done east to west parallel to the main Lightning Creek Valley. The profile aimed to be parallel to a potential buried paleochannel that could host placer gold. The target identified in this profile is estimated to be 20m deep and could be a deep section in the buried paleochannel. The McConnell moraine mapped in the location was also observed in the field. The till gives a higher resistivity value reading than the bedrock below.

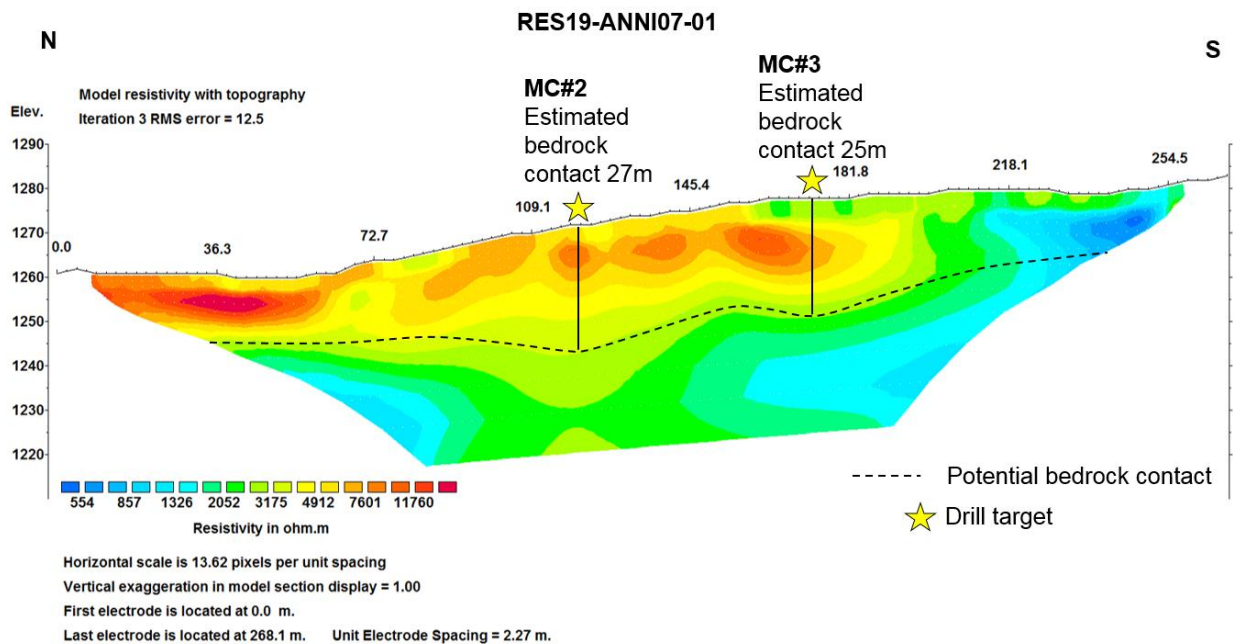


Figure 13 - RES19-ANNI07-01 is a resistivity survey conducted from north to south across the bench claim of Lightning Creek perpendicular to the main valley. The survey was to target high buried paleochannels that could be host to placer gold. The bedrock contact interpreted in this profile is gently undulating. The two drill targets chosen in this section are in the deepest parts of the bedrock and are estimated to be 25 and 27m deep. The McConnell aged moraine is mapped here and was observed in the field. This till gives a higher resistivity reading than the bedrock below.

## *Drone Imagery*

### *Results*

The drone image is shown in Figure 14. An area with dimensions of 1.1 km by 1.8 km was surveyed, totalling 1.4 creek-miles of survey. A high-resolution image was produced which can be used as a base map for some of the Auliv 1-14 and Anni 1-14 placer claims.

### *Conclusions and Recommendations 2019*

Resistivity geophysical surveys are a low-impact method of placer exploration which is highly portable, fast and relatively cost-effective. However, the methodology may reflect permafrost and groundwater conditions which do not directly correlate to lithological contacts. In this respect, results are dramatically improved if other data such as drill holes, test pits or bedrock outcrops are used to corroborate interpreted results. During the surveys, few bedrock outcrops were observed in the survey areas and no drill holes with known depths were present in the McMillan - Lightning Creek area.

Throughout the surveys, high surface resistivity values corresponded with interpreted McConnell glacial till, permafrost, or colluvial blankets and slide material units on the ground surface. Low surface resistivity units were associated with water-saturated ground surrounding the creeks or bogs in the region. The resistivity values in the medium range are interpreted as possible paleochannel material such as sands and gravel.

A total of 3 drill targets were chosen on the profiles in locations which may be paleochannels, or depressions in the bedrock with placer gold potential. Estimated depths of the targets varied from 20 to 27 metres below surface.

Further exploration is warranted throughout the entirety of the claims in McMillan, Faith, and Allen Creeks. This should include additional UAV drone imagery, additional resistivity geophysical surveys and drilling of paleochannel targets using either auger, R/C (reverse circulation) and/or RAB (rotary air blast) methods. High value targets should then be explored by excavator test pitting and/or shafting, detailed sampling and processing of gravel for gold content.

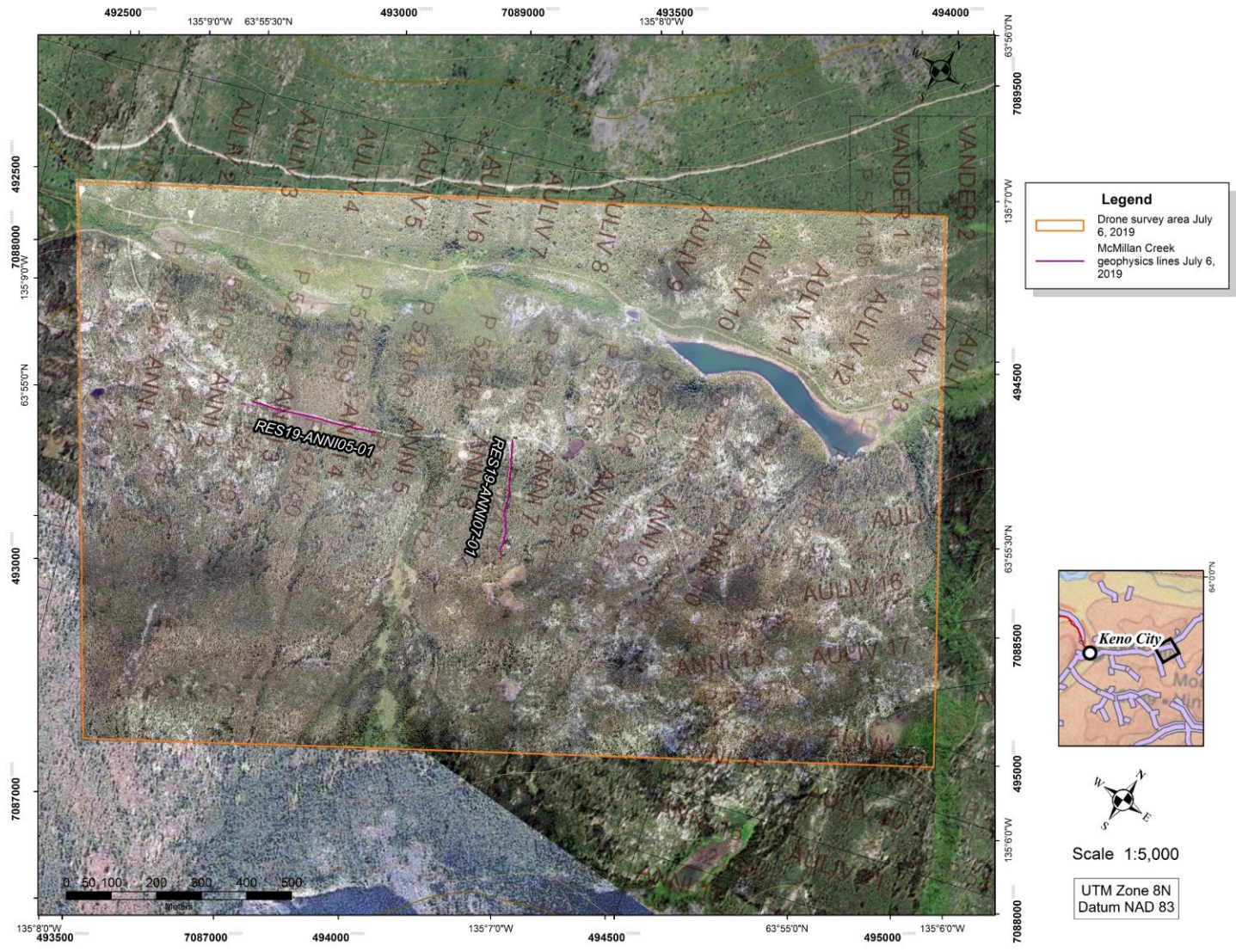


Figure 14 - Drone survey image of project area, showing traces of geophysical surveys conducted in July 2019.



## Faith Creek

### 2018 Exploration Program

#### Overview

Six resistivity lines totalling 1.4 km were conducted and interpreted for Earth & Iron Inc. by Allegra Webb, Selena Magel and William LeBarge, with field assistance from Steve Kramer. The surveys were conducted between July 12- September 6<sup>th</sup>, 2018 in the Faith Creek claims and leases in Mayo Mining District, YT.

#### Resistivity Survey Results

Table 8 outlines the lengths, locations and coordinates of the resistivity surveys conducted in the Faith Creek claims and leases. Good data and contact resistance were obtained in most surveys due to a combination of water saturated ground and adding salt water to each electrode location to improve the conductivity to the ground. Extensive permafrost in some survey areas increased the uncertainty of the interpreted results. Permafrost was more continuous on north facing slopes and was discontinuous on south-facing slopes and in parts of the valleys with high water saturation. In these areas, contrasts between low and high resistivity values may have been partially or wholly a reflection of varying groundwater and permafrost conditions rather than strictly lithological boundaries, however there is enough information to identify drill targets for further exploration.

Figure 7 shows the location of the 2018 resistivity surveys on the Vander claims. Figure 18 shows the location of the 2018 resistivity surveys on the Faith Creek prospecting lease. The drill target locations and expected bedrock depths are plotted on the pseudosection resistivity profiles (Figures 15-17 and 19-21) and the coordinates of these targets are shown in Table 9.

Table 8 – Resistivity lines surveyed on Faith Creek in 2018.

Faith Creek 2018 Surveys							
Name	Claim	Length (m)	Date Surveyed	Start Point		End Point	
				Latitude	Longitude	Latitude	Longitude
RES18-VANDER8-01	Vander 8	300	July 29/2018	63.93513	-135.10422	63.93294	-135.10111
RES18-VANDER12-01	Vander 14	300	July 30/2018	63.94043	-135.09302	63.93846	-135.08913
RES18-VANDER19-01	Vander 19	200	July 30/2018	63.94586	-135.08140	63.94471	-135.07903
RES18-FAITH3MILE-01	3 Mile Lease	200	September 6/2018	63.96356	-135.04708	63.96484	-135.04996
RES18-FAITH3MILE-02	3 Mile Lease	240	September 6/2018	63.96383	-135.04769	63.96214	-135.05067
RES18-FAITH3MILE-03	3 Mile Lease	160	September 6/2018	63.96319	-135.04811	63.96407	-135.05053
<b>2018 Total</b>		<b>1400</b>					

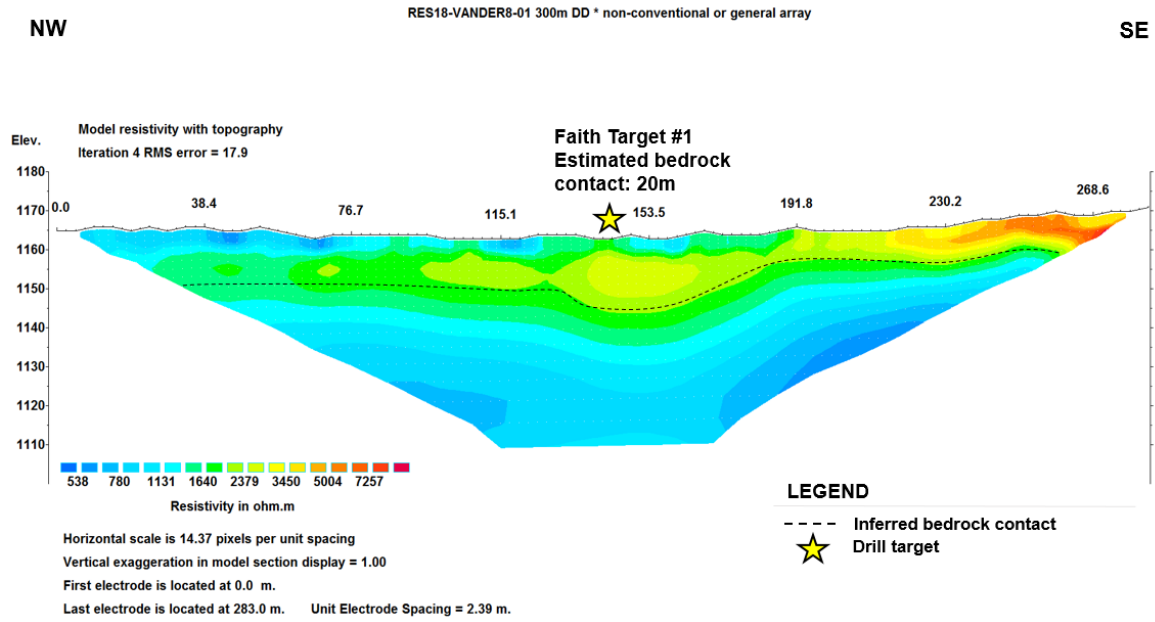


Figure 15 -Resistivity line RES18-VANDER8-01 is surveyed from northwest to southeast across the Faith Creek valley. The profile displays a potentially undulating bedrock contact with higher surface resistivity to the SE side interpreted as colluvium. The survey was conducted between two mapped McConnell glacial limits. Due to lack of McConnell glaciation, older Reid glacial material may remain un-scoured. The depth of the interpreted bedrock contact ranges between 12m and undulates as deep as 20m in the bottom of the valley.

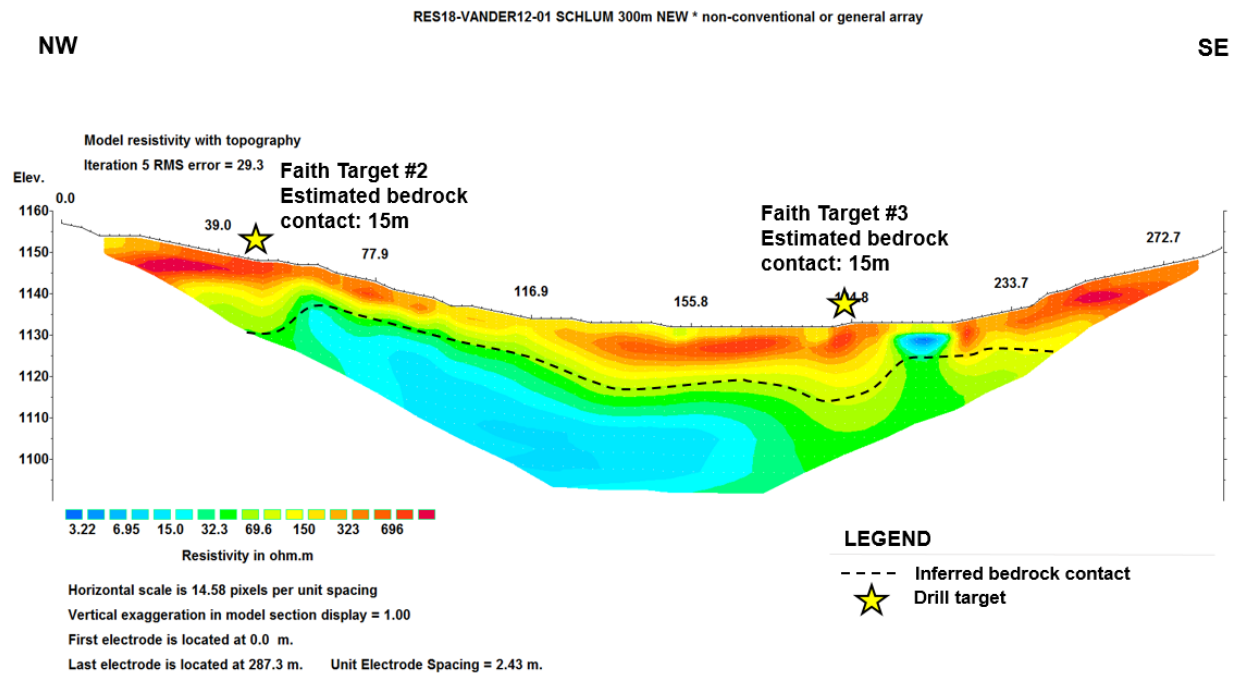


Figure 16 -Resistivity line RES18-VANDER12-01 is surveyed from northwest to southeast across the Faith Creek valley. The profile displays a potentially undulating bedrock contact with the surface resistivity interpreted as alluvial fan material. The depth of the interpreted bedrock contact ranges between 7m and undulates as deep as 15m. Drill targets are chosen in the depressions of the interpreted bedrock contact. The depressions in the bedrock could indicate paleochannels, giving these areas a higher placer gold potential.

NW

SE

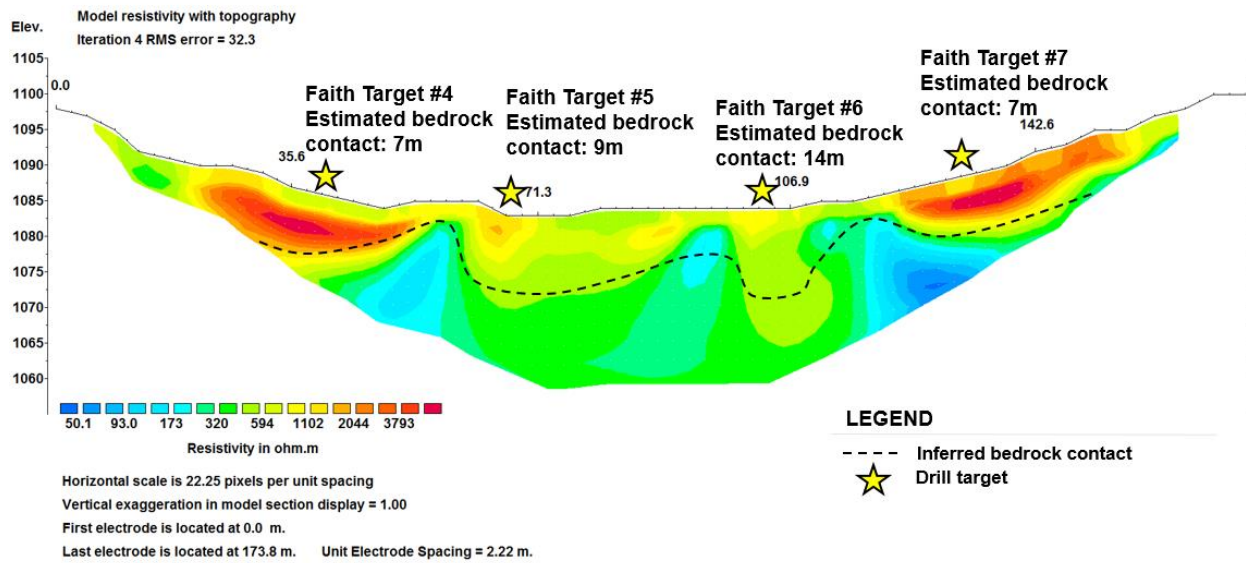


Figure 17 -Resistivity line RES18-VANDER19-01 is surveyed from northwest to southeast across the Faith Creek valley. The profile displays a potentially undulating bedrock contact with higher surface resistivity to the sides interpreted as colluvium on the NW side and McConnell till on the SE side. The depth of the interpreted bedrock contact ranges between 7m and undulates as deep as 14m in the bottom of the valley. Drill targets are chosen in the depressions of the interpreted bedrock contact. The depressions in the bedrock could indicate a paleochannel in the valley with reworked sediment, giving these areas a higher placer gold potential.

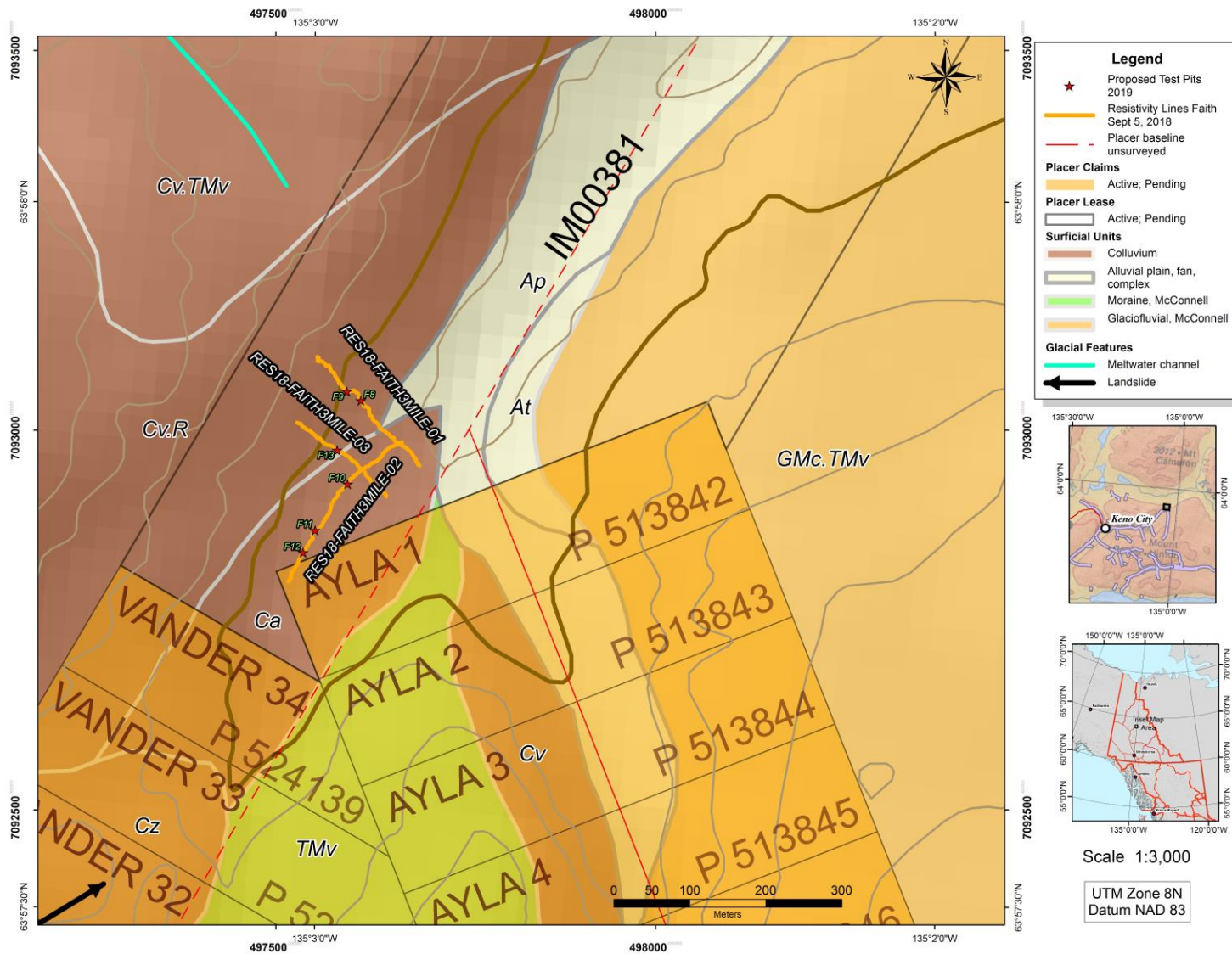


Figure 18 - Map of Lower Faith/Allen creeks showing the location of 2018 resistivity surveys and test pits/drill targets, as well as major glacial and surficial features (after Bond, 1998).

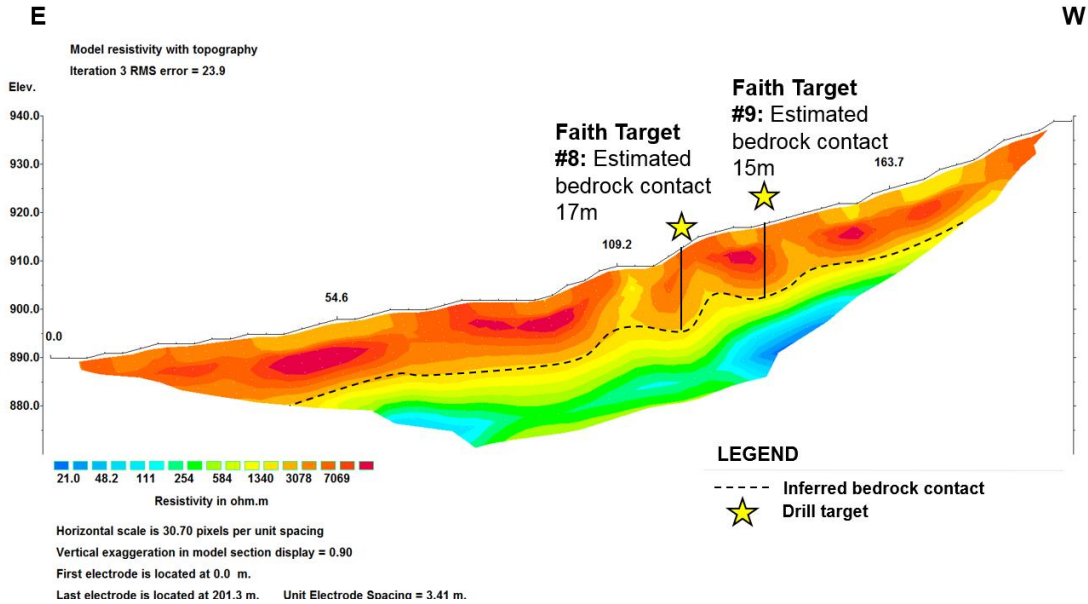


Figure 19 - RES18-FAITH3MILE-01 is surveyed east to west on the left limit of Faith Creek at the confluence with Allen Creek. The survey is located on the bench of Faith Creek and the surficial material is mapped as colluvium. The high resistivity unit at the surface could represent the colluvium. The inferred bedrock contact undulates between 12 to 17m at the deepest. Drill targets have been chosen in the deepest undulations in the proposed bedrock and could represent paleochannels.

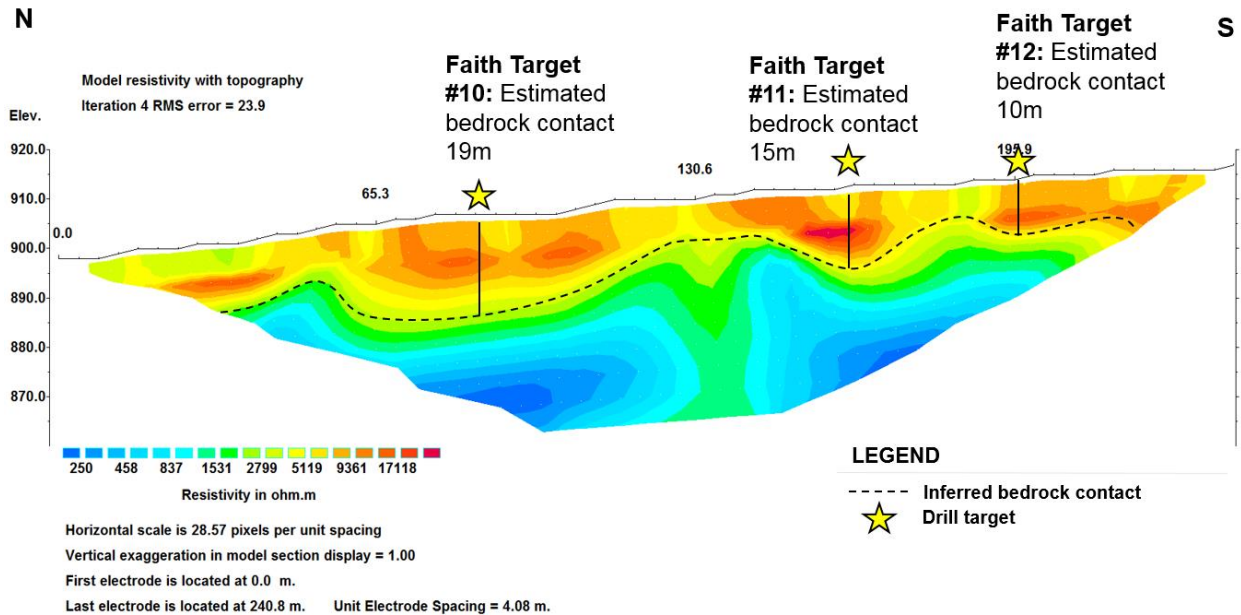


Figure 20 - RES18-FAITH3MILE-02 is surveyed approximately parallel to the main Faith Creek valley and oriented north to south. The high resistivity unit at the surface represents the colluvium that is mapped in this area, and this survey is located along a relatively steep slope. The inferred bedrock contact is undulating and varies between 19m at the deepest and 9m at the shallowest areas. Drill targets have been chosen in the deep areas of the bedrock undulations. The deep areas in this survey could represent deep areas along a paleochannel on the bench of Faith Creek and may have acted as natural riffles, making these deep areas a placer gold target.



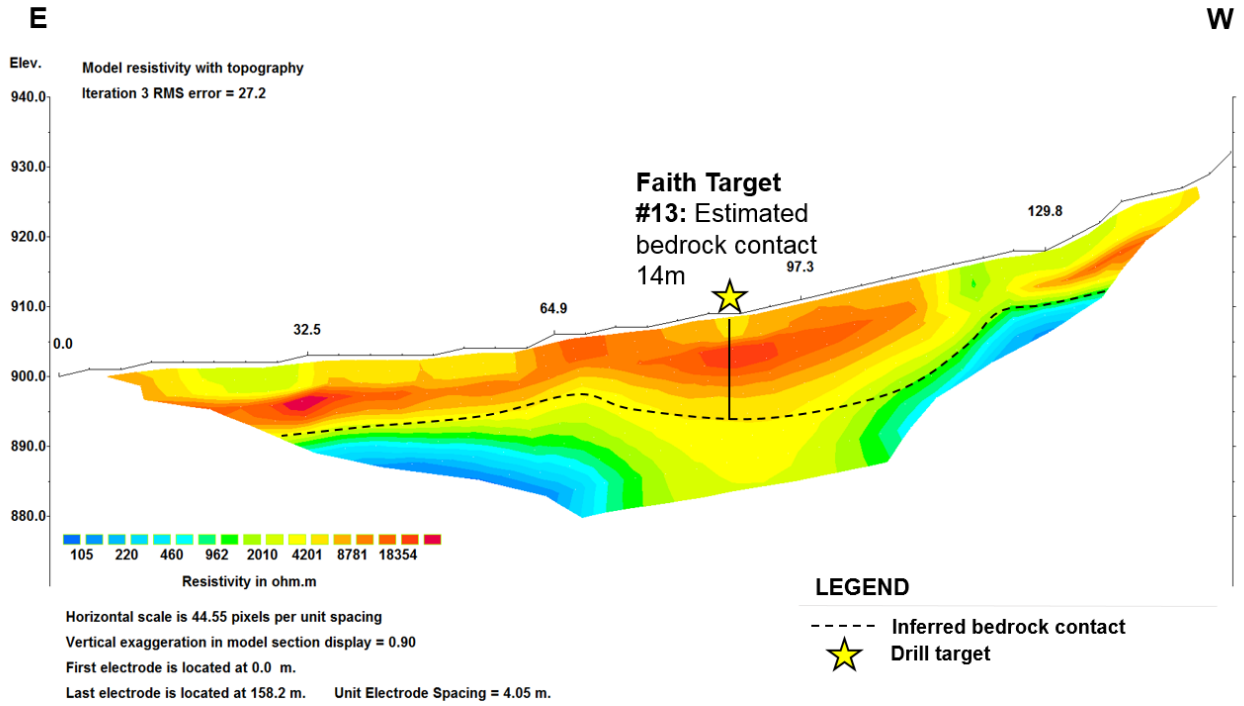


Figure 21 - RES18-FAITH3MILE-03 is located on the left limit of Faith Creek at the confluence with Allen Creek. The survey runs perpendicular to the main Faith Creek valley over mapped colluvium. The inferred bedrock contact is gently undulating to a maximum depth of 14m. The drill target is chosen in the largest bedrock depression, and may be a paleochannel with reworked sediment, making this a placer gold potential target.

Table 9 - Coordinates and estimated depths of 2018 drill targets chosen on Faith Creek.

Target Name	Symbol on maps	Claim Name	Resistivity Line	Latitude	Longitude	Approximate depth to bedrock (m)
Faith #1	F1	VANDER 8	RES18-VANDER8-01	63.934065	-135.102503	20
Faith #2	F2	VANDER 12	RES18-VANDER12-01	63.940065	-135.092454	15
Faith #3	F3	VANDER 12	RES18-VANDER12-01	63.93908	-135.090503	15
Faith #4	F4	VANDER 19	RES18-VANDER19-01	63.945615	-135.080878	7
Faith #5	F5	VANDER 19	RES18-VANDER19-01	63.945431	-135.080528	9
Faith #6	F6	VANDER 19	RES18-VANDER19-01	63.945242	-135.079993	14
Faith #7	F7	VANDER 19	RES18-VANDER19-01	63.945085	-135.079519	7
Faith #8	F8	IM00381	RES18-FAITH3MILE-01	63.96432	-135.048764	17
Faith #9	F9	IM00381	RES18-FAITH3MILE-01	63.964426	-135.049142	15
Faith #10	F10	IM00381	RES18-FAITH3MILE-02	63.963331	-135.049119	19
Faith #11	F11	IM00381	RES18-FAITH3MILE-02	63.962784	-135.049989	15
Faith #12	F12	IM00381	RES18-FAITH3MILE-02	63.962522	-135.050318	10
Faith #13	F13	IM00381	RES18-FAITH3MILE-03	63.96373	-135.0494	14

### *Conclusions and Recommendations 2018*

Thirteen drill targets were identified in Faith Creek in 2018, and depths of the targets varied from 7 to 20 metres below surface (Table 9). Resistivity geophysical surveys are an effective, extremely low-impact method of placer exploration, but results are dramatically improved if other data such as drill holes, test pits or bedrock outcrops are used to corroborate interpreted results. During the surveys, few bedrock outcrops were observed in the survey areas and no drill holes with known depths were present in the Faith Creek area. High surface resistivity values corresponded with interpreted McConnell glacial till, permafrost, or colluvial blankets and slide material units on the ground surface. Low surface resistivity units were associated with water-saturated ground surrounding the creeks or bogs in the region. The resistivity values in the medium range are interpreted as possible paleochannel material such as sands and gravel.

## 2019 Exploration Program

### *Overview*

A 300m resistivity line was conducted and interpreted for Earth & Iron Inc. by Allegra Webb, Selena Magel and William LeBarge. A drone imagery survey was also conducted to view the apexes of the two alluvial fans that are mapped in the target area. The surveys were conducted on August 9, 2019 in a prospecting lease IM00381 on Faith Creek in Mayo Mining District, YT.

### *Drone imagery*

The drone used is a DJI Phantom 4 Pro. The images are collected by flying the drone in a grid shape over the desired area to be mapped. Once the flying is complete, the images are imported into a processing software called Pix4D. The program creates an orthomosaic, point cloud, digital surface and terrain models, contour lines and a Google Earth .kml file. The orthomosaic can be imported into a mapping software and combined with other data.

### *Resistivity Survey Results*

Table 10 outlines the length, location and coordinates of the resistivity survey conducted on the Faith 3 mile lease. Good data and contact resistance were obtained in most surveys due to a combination of water saturated ground and adding salt water to each electrode location to improve the conductivity to the ground.

Figure 22 displays placer prospecting lease IM00381 along with the drone survey image, resistivity survey location and the outline of the surficial units mapped in the area.

Figure 23 is a map of surficial geology (after Bond, 1998), which also outlines the location of the 2019 survey and the interpreted drill target. The drill target location and expected bedrock depths are plotted on the pseudosection resistivity profile (Figure 24) and shown in Table 11.

The resistivity survey was conducted to target the apex of the alluvial fan mapped in the area as well as to investigate bedrock depths beneath the glaciofluvial unit. The drill target in the center of the profile is interpreted as a paleochannel that lies on or near bedrock. This area has good placer gold potential as alluvial fan apexes are zones of placer gold accumulation. The glaciofluvial material is also a good target for further exploration as these terraces can also host placer gold especially near bedrock.

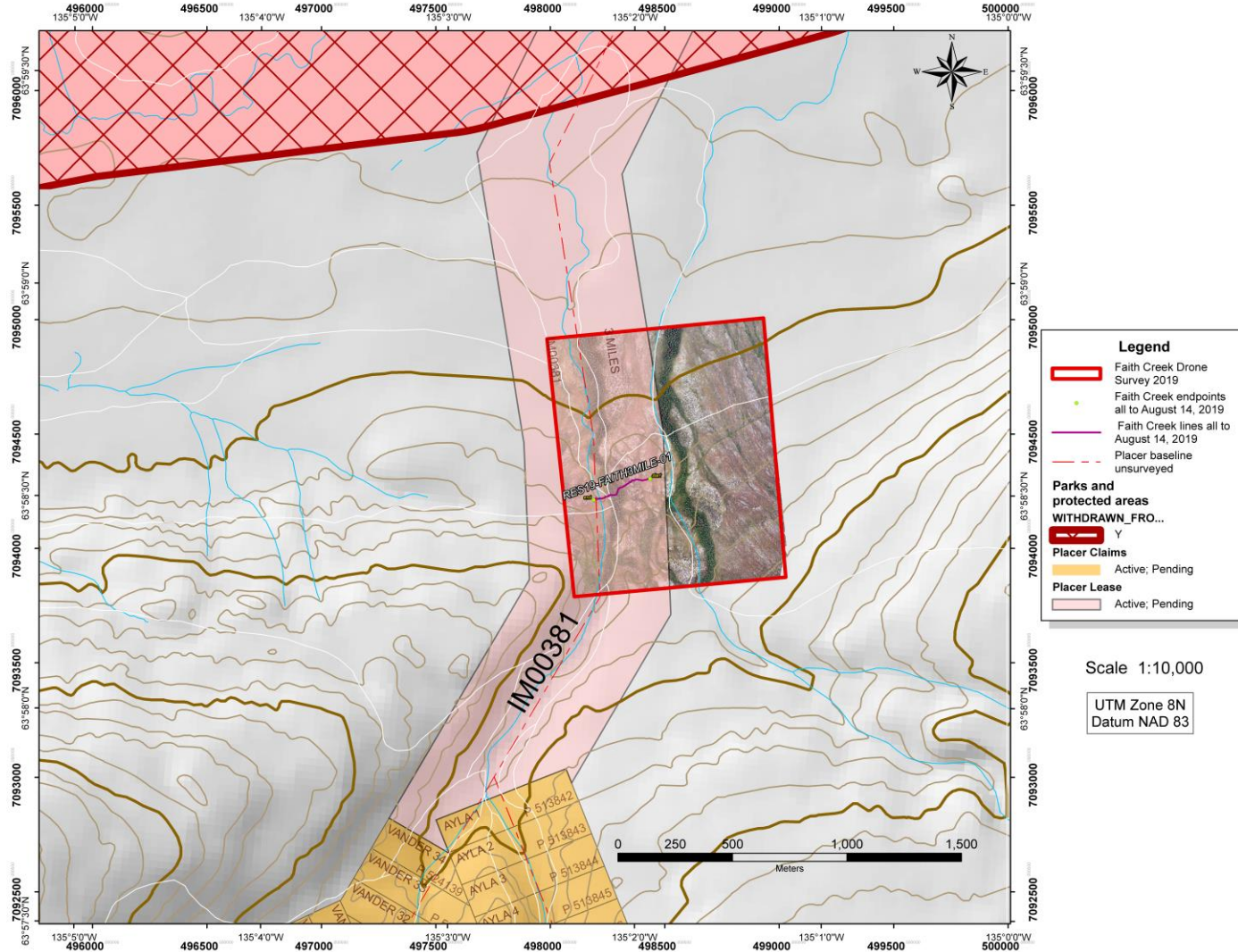


Figure 22 – Location of survey line RES19-FAITH3MILE-01, including the drone imagery area which is outlined in red. The surficial features are outlined in white. The survey appears to cross the apex of one mapped alluvial fan (modified from YGS, 2018 and Bond, 1998).



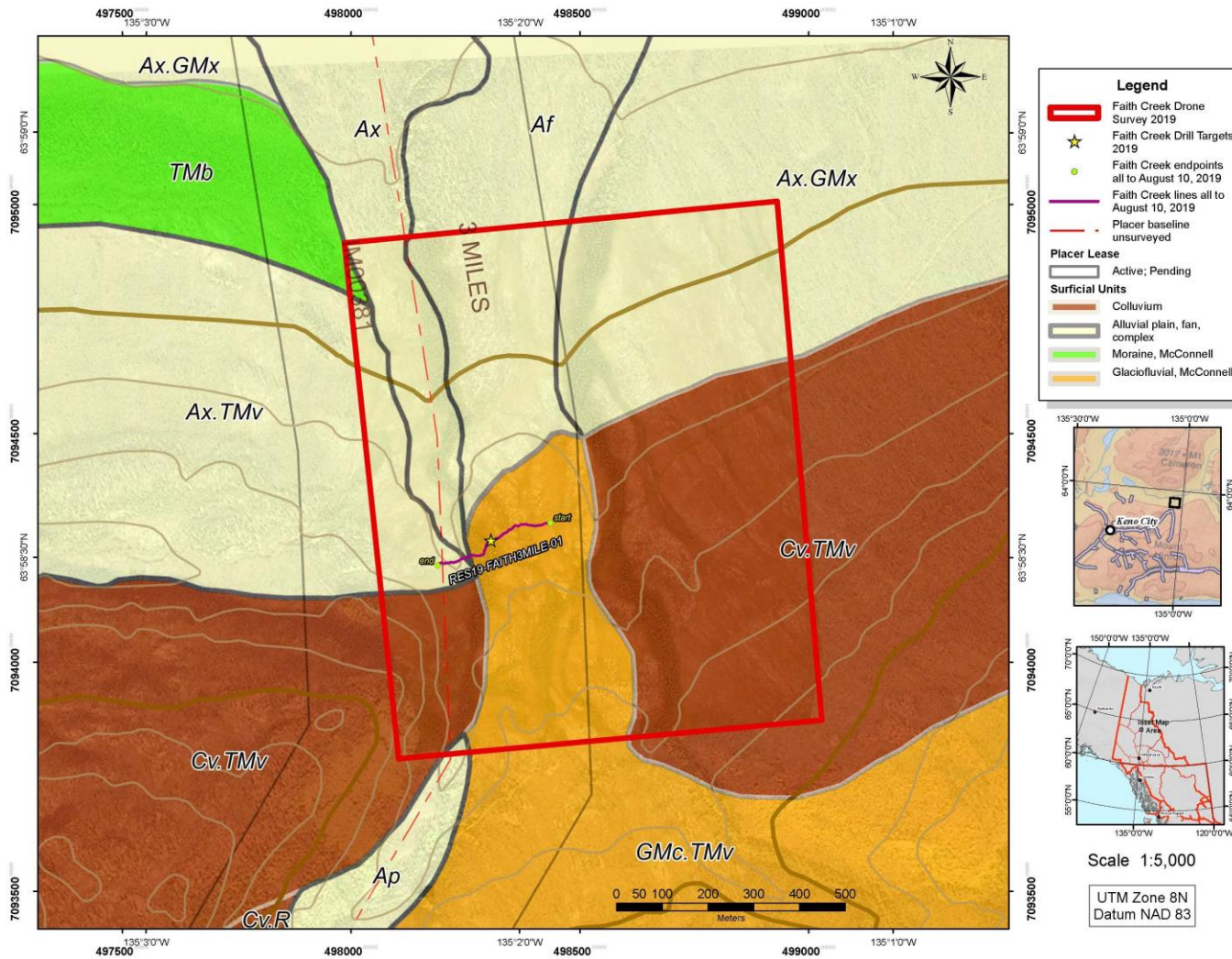


Figure 23 - Surficial geology map of Faith Creek placer prospecting lease IM00381 (map modified from YGS, 2018 and Bond, 1998). The red polygon outlines the area surveyed with drone imagery, and the purple line is where the resistivity survey was conducted. The yellow star is the drill target identified by the geophysical survey. The survey aimed to target the apex of two alluvial fans, a prospective zone for placer gold deposits.

Table 10 -Resistivity line name, length, surficial units covered, and location of start and end points.

Name	Lease Name	Length (m)	Date Surveyed	Surficial Unit (Bond, 1998)	Start Point	End Point
RES19-FAITH3MILE-01	IM00381	300	August 9/2019	Alluvial Plain, Glaciofluvial	63.97568 -135.032	63.97485 -135.037

Table 11 – Coordinates and depth of drill target chosen from resistivity profile RES19-FAITH3MILE-01.

Target Name	Lease Name	Resistivity Line	Latitude	Longitude	Approximate depth to bedrock (m)
FC#1	IM00381	RES19-FAITH3MILE-01	63.97533791	-135.0346151	10

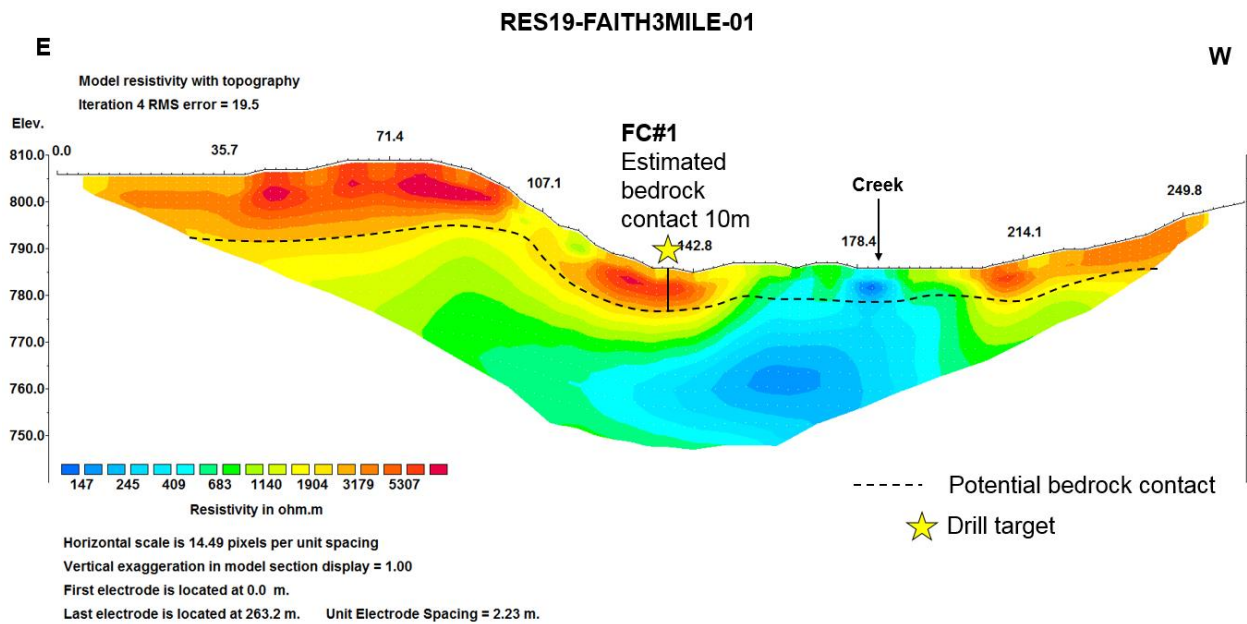


Figure 24 –RES19-FAITH3MILE-01 is a resistivity survey done from east to west across the main Faith Creek. The profile aimed to cross the apex of the alluvial fan material mapped in the area. The shallow interpreted bedrock contact to the left side of the profile, is potentially close to surface bedrock due to an observed bedrock outcrop down stream. High resistivity on the profile is interpreted as glaciofluvial material with sand and gravels that is also mapped in the area. Low resistivity is mainly surrounding the creek and is due to water saturated ground. The inferred bedrock contact is undulating and varies between 4m and 15m. The drill target is chosen in the bedrock depression, and may be a paleochannel with reworked sediment, making this a placer gold potential target.

## *Conclusions and Recommendations 2019*

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

Throughout the survey, high surface resistivity values corresponded with interpreted McConnell glacial till, permafrost, or colluvial blankets and slide material units on the ground surface. Low surface resistivity units were associated with water-saturated ground surrounding the creeks or bogs in the region. The resistivity values in the medium range are interpreted as possible paleochannel material such as sands and gravel.

One drill target was chosen on the profile in a location which may be a paleochannel, or a depression in the bedrock with placer gold potential. The drill target has an estimated depth to bedrock at 10m on the Faith Creek lease.

Further exploration is warranted throughout the entirety of the Faith Creek property. This should include additional drone imagery, additional resistivity geophysical surveys and drilling of paleochannel targets using either R/C (reverse circulation) and/or RAB (rotary air blast) methods. High value targets should then be explored by excavator test pitting and/or shafting, detailed sampling and processing of gravel for gold content.

## Rationale for 2021 Placer Exploration

Favourable geology, extensive regional exploration history and relatively close proximity to existing access define the significant potential to develop economic placer gold deposits in the McMillan/Lightning and Faith Creek drainages. Current valid water licenses (PM17-022 and PM17-023) facilitate all planned exploration activity.

Mount Hinton is the locale for a significant bedrock gold source (MINFILE 105M052) which consists of a series of mineralized vein-faults hosted in both the Triassic Galena Suite Gabbro and the Carboniferous Keno Hill Quartzite (Roots, 1997a, 1997b). This deposit lies at the headwaters of the local drainages including Granite Creek, McNeil Gulch and McMillan Gulch.

Surficial mapping by Bond (1998) and placer studies by LeBarge et.al. (2002) describe the project area as having been subjected to several episodes of glaciation, which induced cycles of erosion and deposition dating back to the first pre-Reid glaciation in the early Pleistocene. Bedrock gold would be released into surrounding drainages in a complex process of physical and chemical weathering, slope and mass-movement transport, entrapment in glacial ice and/or movement in flowing water, and finally deposition into glacial, glaciofluvial and alluvial sediments.

Coarse placer gold has been mined from the alpine glacial till on Granite Creek by the Jim Davies operation (Van Loon and Bond, 2014), and the Earth & Iron operation (Bond and van Loon, 2018) with reported gold royalties of nearly 9000 crude ounces in the last three years. This type of setting, where economic gold is found in glacial till deposits, has been documented in other areas such as the Cariboo in British Columbia (Eyles and Kocsis, 1989) and Mt. Nansen in central Yukon (LeBarge, 1995). In 2020, gold-bearing till was mined on Josephine Creek in the Clear Creek area (Bond and Van Loon, 2021). McNeil Gulch, which lies adjacent to the McMillan Gulch in the project area, has been well-documented as to the presence of placer gold values within the glacial till (LeBarge, 2007, LeBarge et al., 2002). Gimlex Enterprises Ltd. actively explored McNeil Gulch from 2015 to 2017 (Bond and van Loon, 2018).

Geophysical resistivity surveys and associated fieldwork in 2018 and 2019 on McMillan/Lightning and Faith creeks has defined 22 drill targets, which were chosen on the profiles in locations which may be paleochannels, or depressions in the bedrock with placer gold potential. On Faith Creek, depths of the targets varied from 7 to 20 metres below surface. On McMillan/Lightning Creek, estimated depths of the targets varied from 5 to 27 metres. All of these are easily reachable with the R/C drill system employed by Earth & Iron Inc., and many of these targets are also within the range of a medium to large sized excavator.

Thus, there are three main exploration target types for the 2021 season.

- 1) Buried, pre-McConnell interglacial paleochannels in the valleys of McMillan, Lightning and Faith Creeks,
- 2) Gold-bearing McConnell or older glacial till and glaciofluvial gravels in the upper reaches of McMillan Gulch, and
- 3) Recent alluvial gravels on McMillan and Faith creeks which may have upgraded placer gold concentrations from local gold-bearing glacial till deposits.



# 2021 Exploration Program

## Overview

A program of drone aerial surveys, resistivity surveys, access construction, and reverse circulation drilling was performed between July 12 and August 29, 2021.

## Personnel

This project was conducted with supervision and planning by Selena Magel (Earth & Iron Inc.) and William LeBarge (Geoplacer Exploration Ltd.) with field assistance from Shaye Cowling of Earth & Iron Inc. Drilling was conducted by an R/C drill operator and a helper, along with assistance from a machine operator for access construction and drill moves.

## Resistivity Geophysics Methodology

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 data quality 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 are used for preliminary interpretations of bedrock structure. The images were interpreted by Selena Magel.

### 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 with 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 and Selena Magel accept no liability for any use or application by any and all authorized or unauthorized parties.

## Reverse Circulation Drill Sampling Methodology

Each meter of RC drilling is sampled for lithology, heavy minerals, and gold content. Samples are collected from the RC drill into sample bags. The samples are collected per meter. Each sample is measured by volume, and described visually for lithology. The descriptions are recorded in a drill log along with the volume. The samples are then run through a

Letrap sluice, the concentrate is panned and the concentrate material is described again to notice any patterns in heavy mineral composition. Heavy minerals are noted such as magnetite, ilmenite, rutile, garnets, scheelite etc. The gold is also noted, described, and weighed if weighable.

## Drone Imagery Methodology

The drone used is a DJI Phantom 4 Pro. The images are collected by flying the drone in a grid shape over the desired area to be mapped. Once the flying is complete, the images are imported into a processing software called Pix4D. The program creates an orthomosaic, point cloud, digital surface and terrain models, contour lines and a Google Earth .kml file. The orthomosaic can be imported into a mapping software and combined with other data.

## Overall Results

Three drone surveys were conducted over the project area. The total drone survey area was 4.46 square km. The drone image is presented in Appendix 2.

Eight resistivity geophysical surveys were conducted on Faith and McMillan Creeks, with lengths totalling 1600m. The coordinates and lengths of the individual surveys are shown in Table 12. From interpretation of the surveys, a total of 12 drill targets were identified. These are shown in Table 13.

Table 12 – Resistivity geophysical surveys conducted in 2021 in McMillan and Faith Creeks.

Resistivity Line Name	Length (m)	Date Surveyed	Start Point (UTM Zone 8)		End Point (UTM Zone 8)	
			UTM_E	UTM_N	UTM_E	UTM_N
RES21-AULIV2-01	240	12-Jul-21	492813	7088252	492885	7088019
RES21-AULIV4-01	200	16-Jul-21	493098	7088339	493137	7088176
RES21-AULIV9-01	200	16-Jul-21	493746	7088658	493744	7088486
RES21-VANDER4-01	200	18-Jul-21	494467	7089367	494566	7089222
RES21-VANDER9-01	260	19-Jul-21	495095	7089895	495240	7089675
RES21-VANDER21-01	100	17-Jul-21	496140	7091172	496213	7091128
RES21-AULIV23-01	200	07-Aug-21	495044	7087680	495216	7087700
RES21-AULIV22-01	200	07-Aug-21	495009	7087770	495172	7087834

Table 13 –Drilling targets identified in 2021 resistivity geophysics surveys (not yet drilled), including estimated depth to bedrock, and expected units to be encountered.

Target Name	Resistivity Line	Interpreted depth to bedrock (m)	Surficial Unit expected	Location (UTM Zone 8)	
				UTM_E	UTM_N
MT21-01	RES21-AULIV9-01	20	McConnell Till, modern fluvial	493750	7088605
MT21-02	RES21-AULIV9-01	17	McConnell Till, modern fluvial	493749	7088530
MT21-03	RES21-AULIV22-01	8	McConnell Till	495031	7087784
MT21-04	RES21-AULIV22-01	15	McConnell Till	495111	7087818
MT21-05	RES21-AULIV23-01	8	McConnell Till	495094	7087689
MT21-06	RES21-AULIV23-01	12	McConnell Till	495149	7087695
FT21-01	RES21-VANDER4-01	23	McConnell Till, modern fluvial	494538	7089268
FT21-02	RES21-VANDER9-01	20	McConnell Till, modern fluvial	495152	7089819
FT21-03	RES21-VANDER9-01	35	McConnell Till, modern fluvial	495168	7089781
FT21-04	RES21-VANDER9-01	23	McConnell Till, modern fluvial	495192	7089740
FT21-05	RES21-VANDER21-01	8	McConnell Till, modern fluvial	496160	7091166
FT21-06	RES21-VANDER21-01	7	McConnell Till	496197	7091134

A total of 66 metres was drilled in four reverse circulation (R/C) drill holes. All the drill holes had some amount of placer gold present, although mostly not in weighable concentrations. The exception was MC21-02, which returned 12 mg of placer gold at the bedrock contact (from 24-25 metres). Table 14 shows the locations of the drill holes, and the drill logs are included as Appendix 3.

Table 14 - Reverse Circulation drill hole locations completed in the 2021 exploration program for McMillan Creek.

Drill Hole	Location (UTM zone 8)		Depth (m)
	UTM_E	UTM_N	
MC21-01	492857	7088126	14
MC21-02	493116	7088257	26
MC21-03	493349	7088305	14
MC21-04	493746	7088630	12

## Resistivity Profiles with Drill holes and Targets

The section following shows the interpreted resistivity survey profiles, annotated with drill targets (as shown in Table 13) and completed drill holes which were drilled on some of the identified targets. These are plotted on Figure 34, which also shows the surficial geology underlying the surveys and the drill holes.

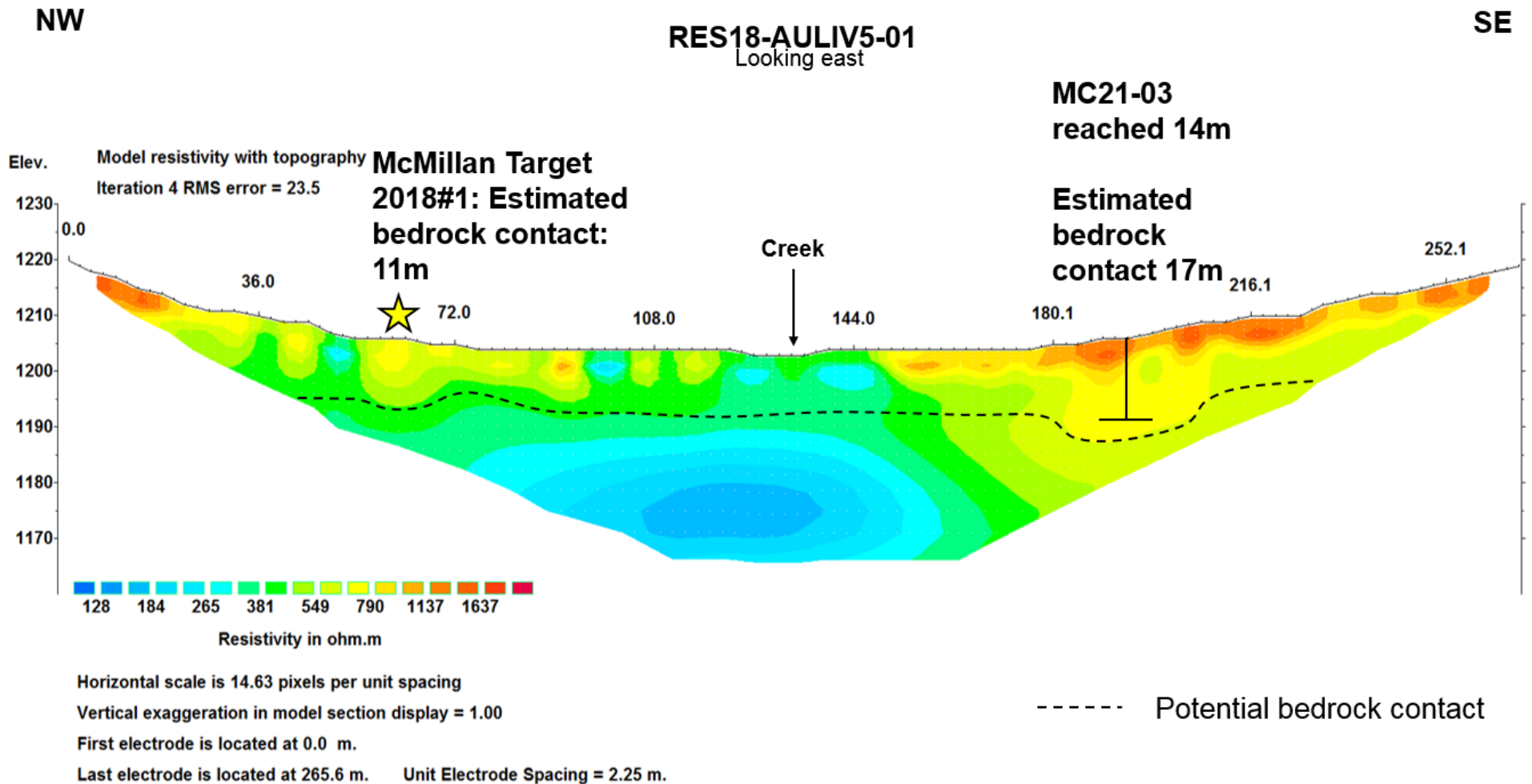


Figure 25- Drill hole MC21-03 was drilled on a target on previous resistivity survey RES18-AULIV5-01. MC21-03 reached a depth of 14 m, but failed to reach the target depth of 17 m due to high water pressure at the bottom. There was gold found in this drill hole throughout.



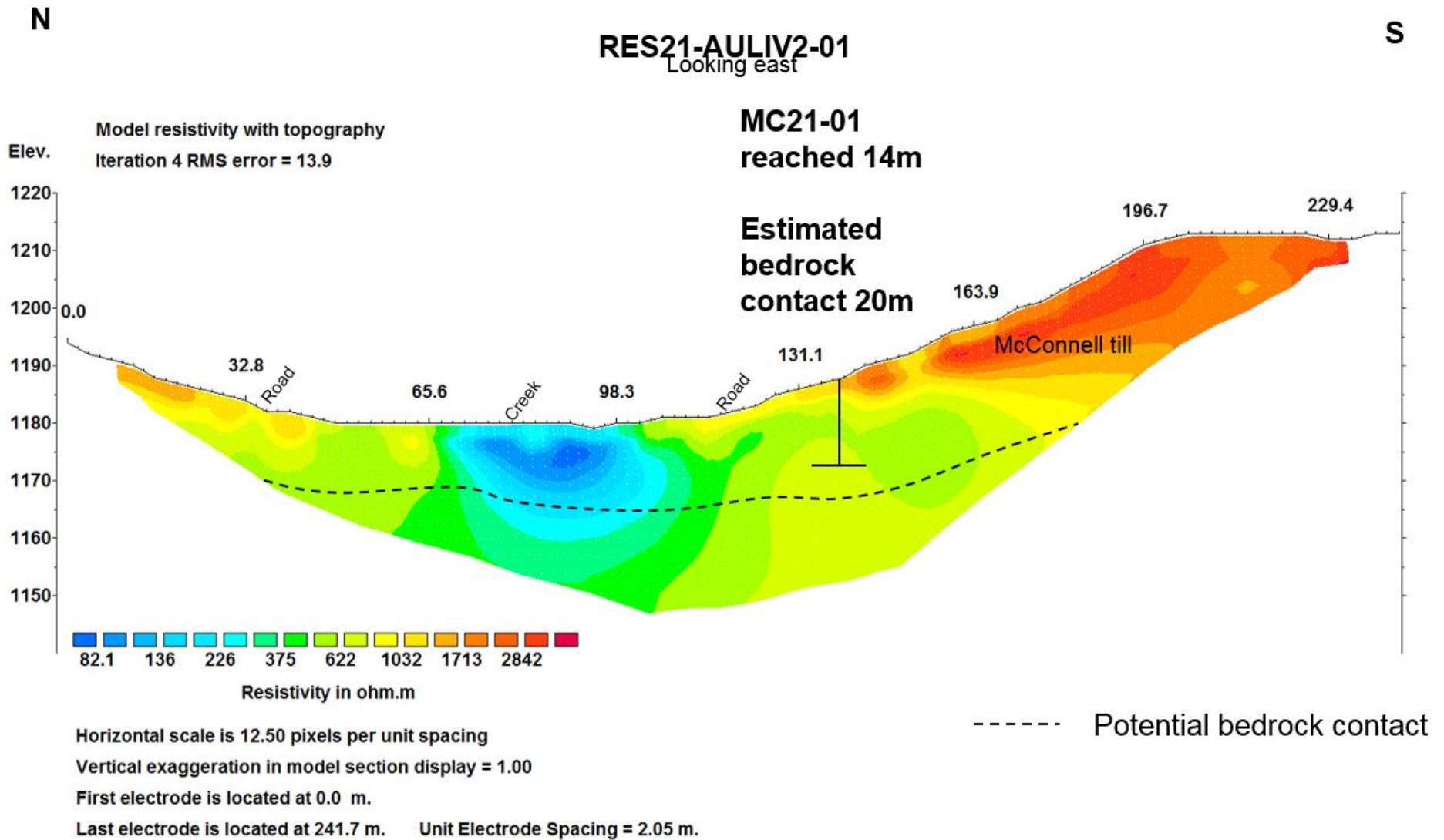


Figure 26 -RES21-AULIV2-01 was surveyed across the lower McMillan Creek valley. The moraine material showed high resistivity values (red), while the wetted area near the modern creek had lower values (blue). MC21-01 was drilled on the left limit of the creek and reached only 14 m, short of the target depth of 20 m. There was fine gold throughout this drill hole, increasing in values near the bottom. MC21-01 encountered modern creek gravels at the top, and a more clay rich gravel at depth.

N

# RES21-AULIV4-01 Looking east

S

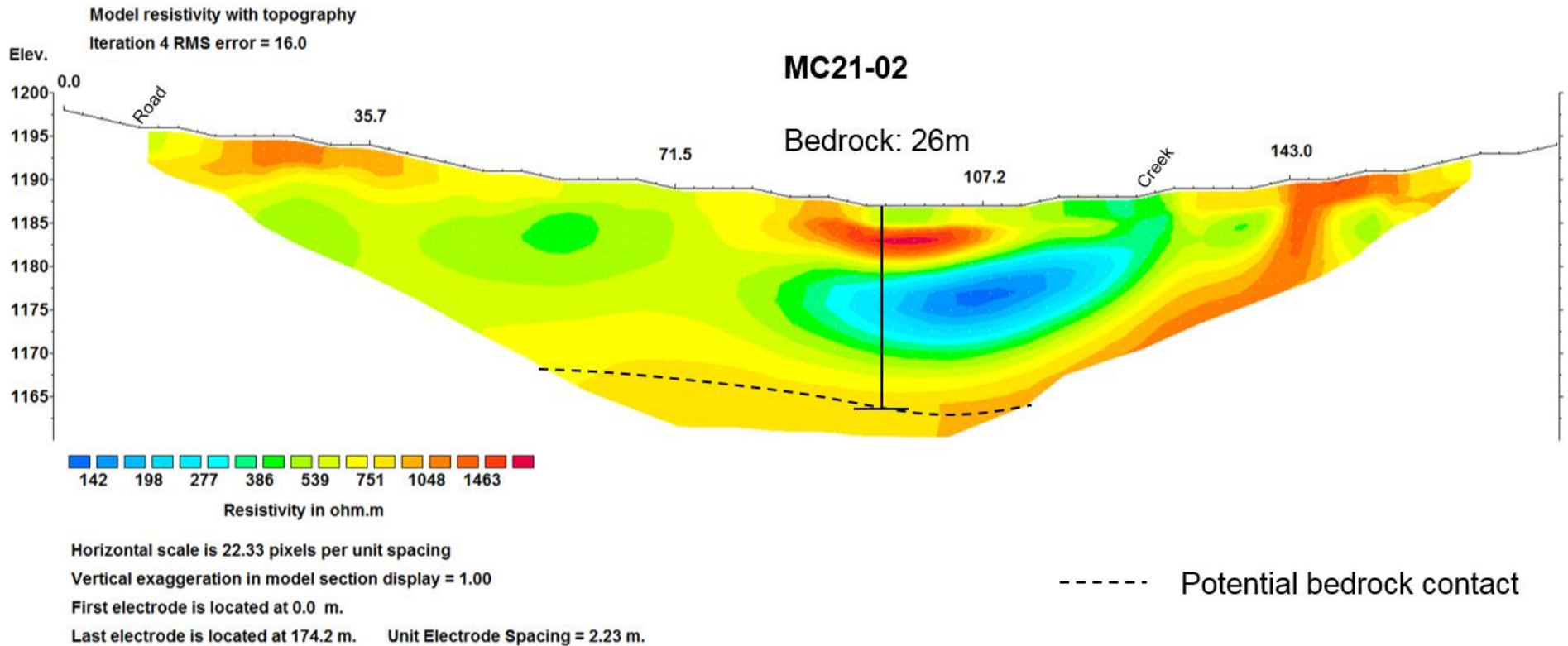


Figure 27 -RES21-AULIV4-01 was surveyed across the lower McMillan creek valley from the north to south. The resistivity profile appears to show a deep undulation in the center. Drill hole MC21-02 was completed to bedrock at 25m deep. Material in the drill hole was consistently grey schist with clay, with the best gold sample (12 mg) coming from 24-25m deep, just above bedrock.

N **RES21-AULIV9-01** S  
Looking east

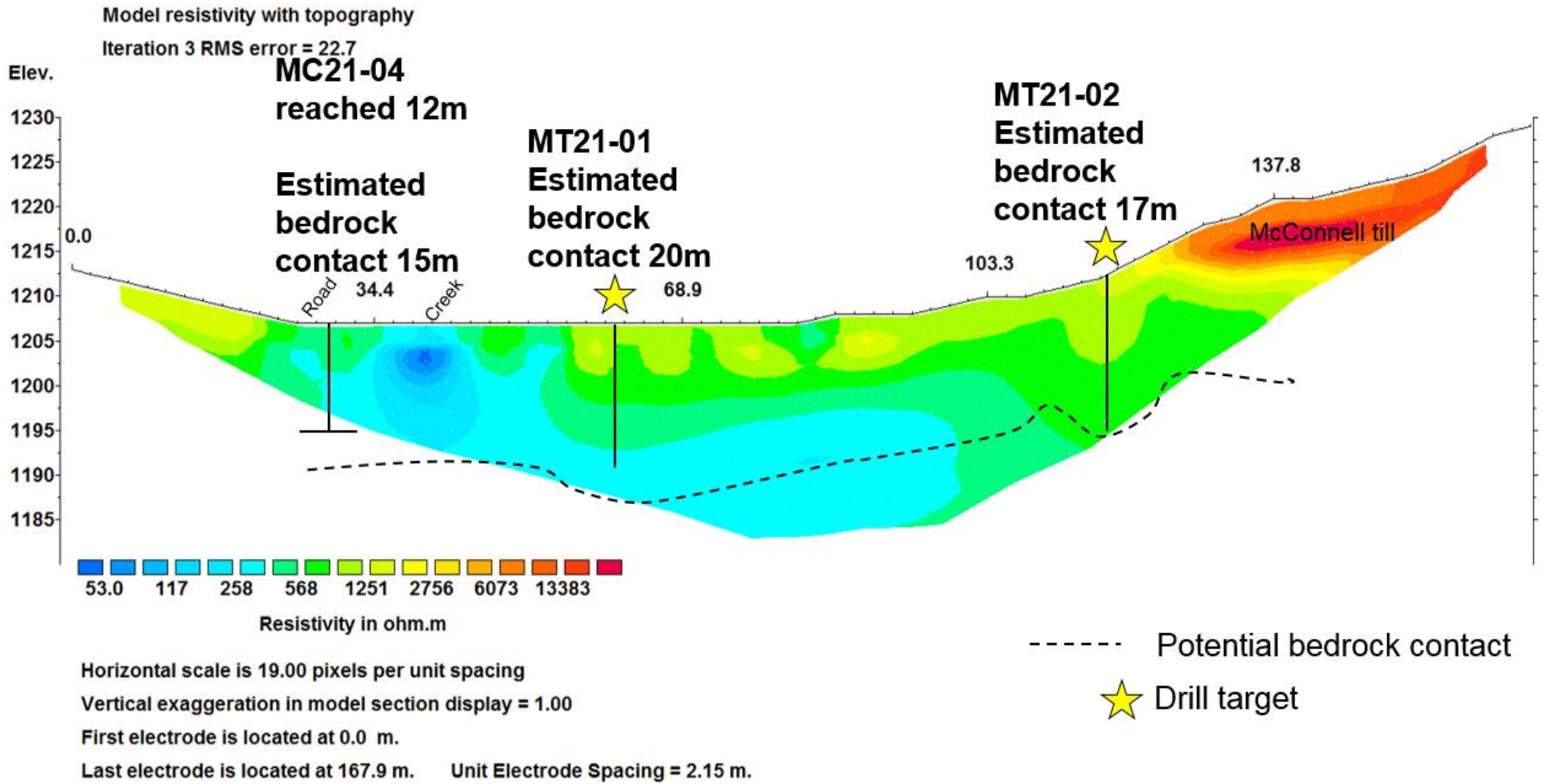


Figure 28 – RES21-AULIV9-01 was surveyed just west of the divide between McMillan and Faith Creek. MC21-04 was drilled to 12 m but failed to reach the target depth of 15 m. Some fine gold was recovered in the drill samples. Two additional drill targets were identified on this resistivity survey.

W

E

### RES21-AULIV22-01

Looking north

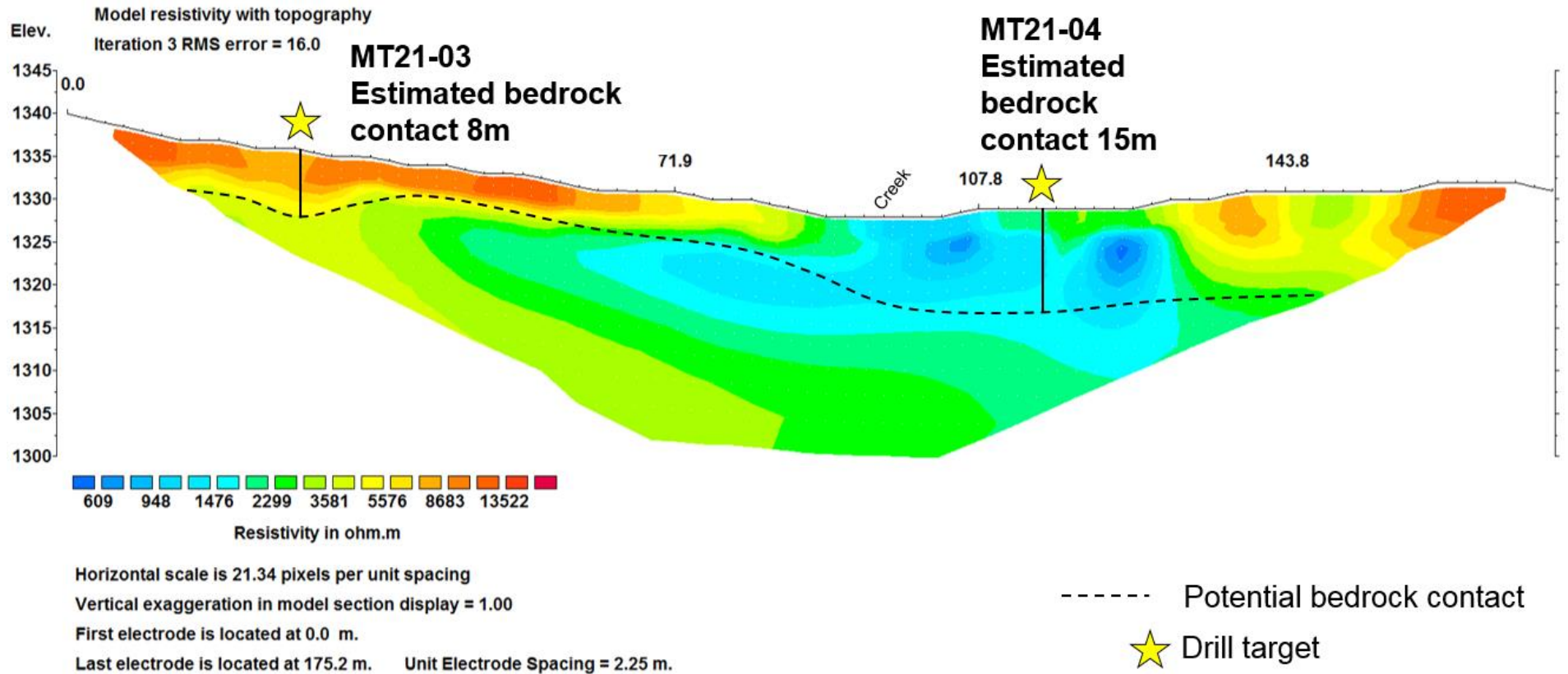


Figure 29 -RES21-AULIV22-01 was surveyed across McMillan Creek near the headwaters of the valley. Relatively shallow bedrock depths are interpreted. Two drill targets at depths of 8 m and 15 m have been identified in potential bedrock depressions.



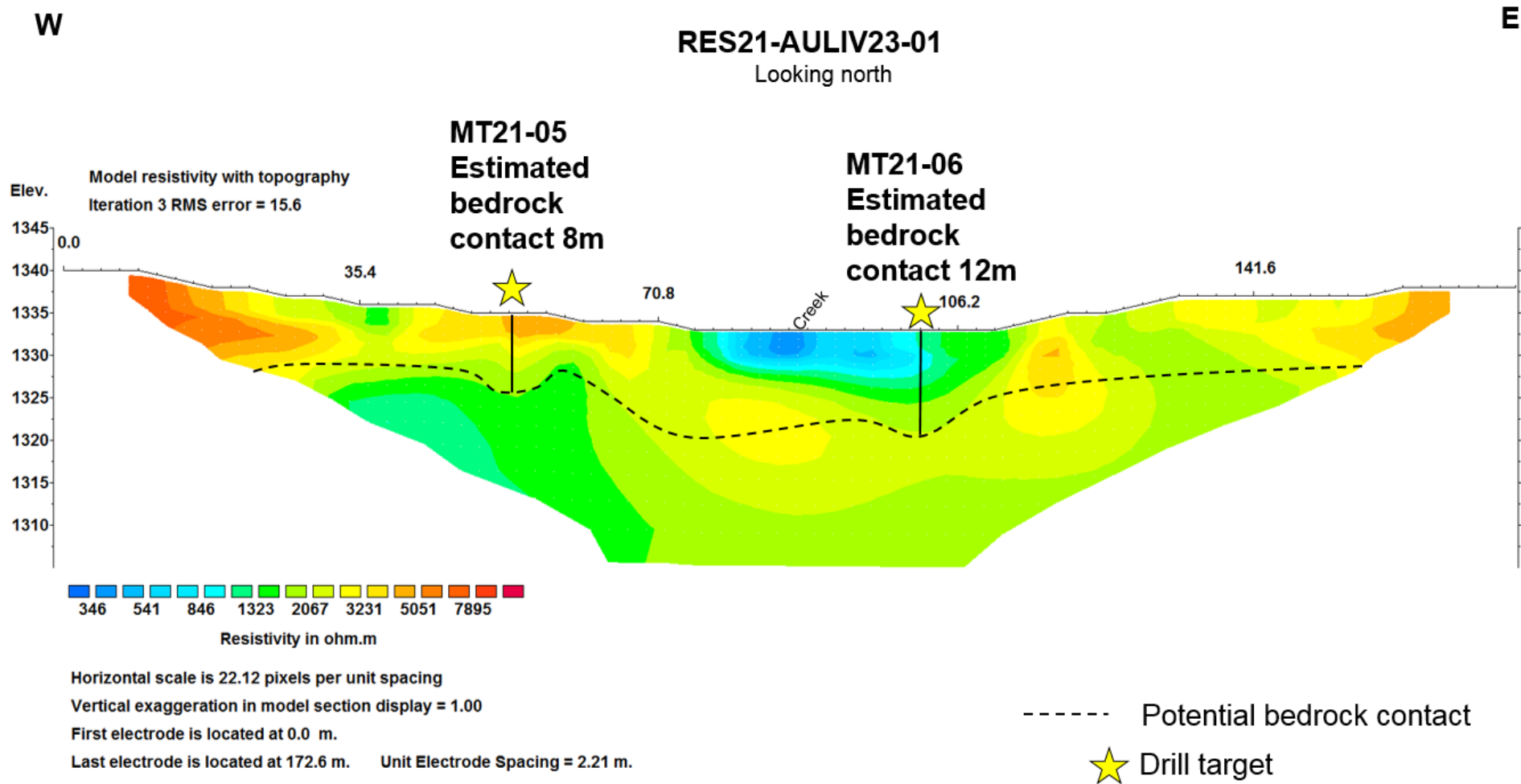


Figure 30 - RES21-AULIV23-01 was surveyed near the headwaters of McMillan Creek valley. Two drill targets at depths of 8 m and 12 m were identified in potential bedrock depressions.

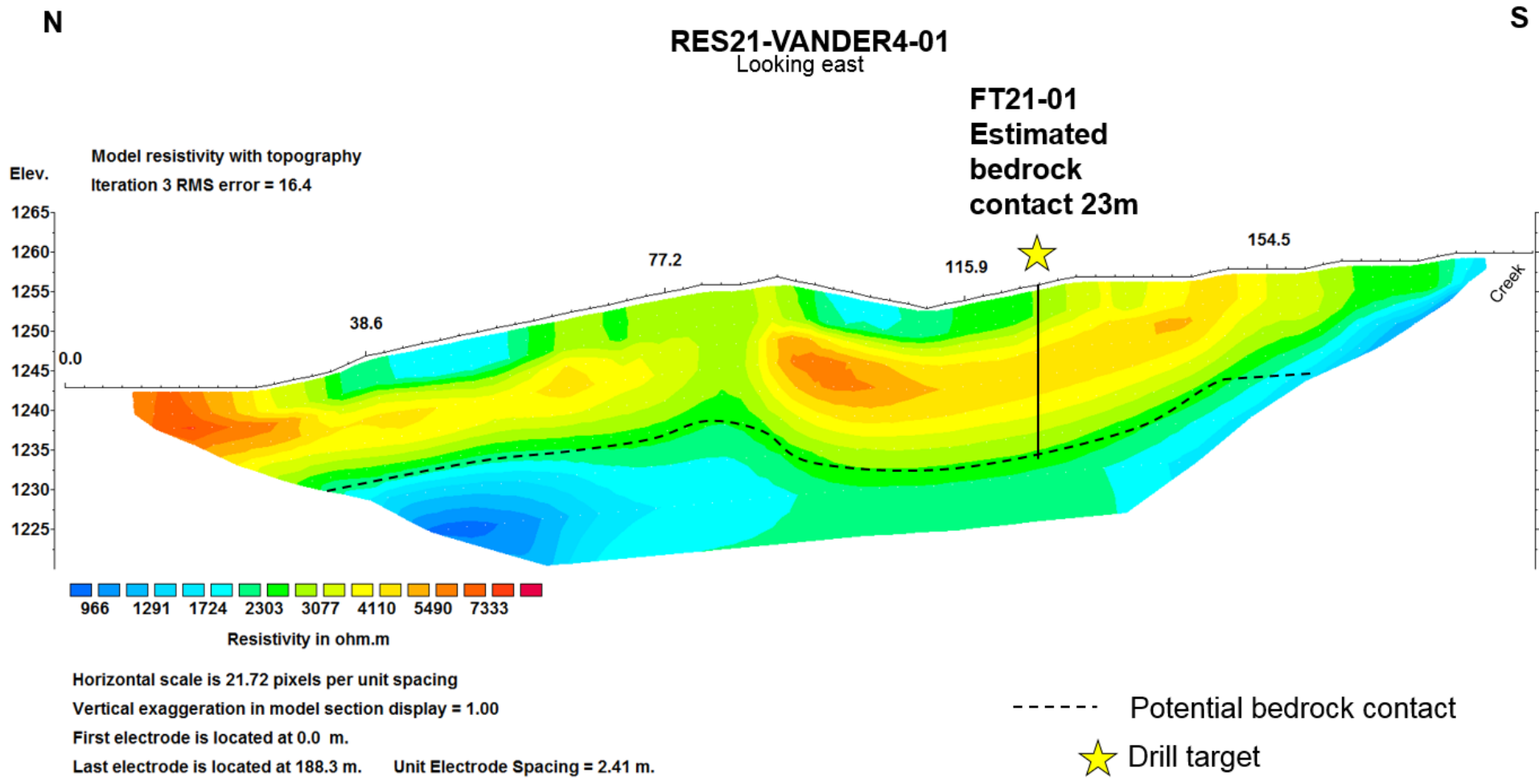


Figure 31 – RES21-VANDER4-01 was surveyed near the headwaters of Faith Creek in a large wide willow valley. One drill target was identified with an estimated depth of 23 m. The expected surficial materials are modern creek gravels, McConnell age glacial till, and schist bedrock.

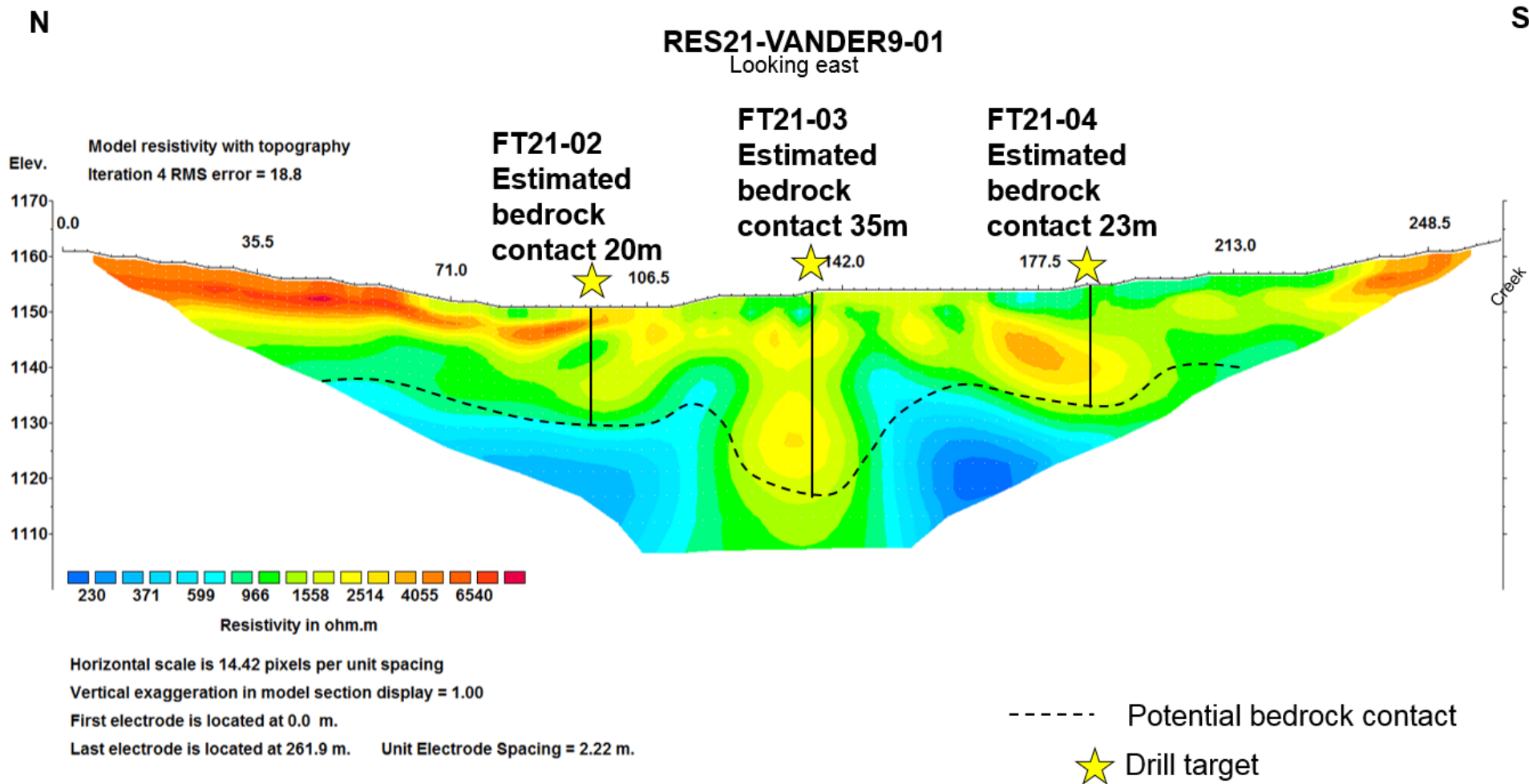


Figure 32 – RES21-VANDER9-01 was surveyed across Faith Creek in a large wide willowy valley. There are 3 drill targets identified with estimated depths of 20 m, 35 m, and 23 m. The expected surficial materials are modern creek gravels, McConnell age glacial till, and schist bedrock.

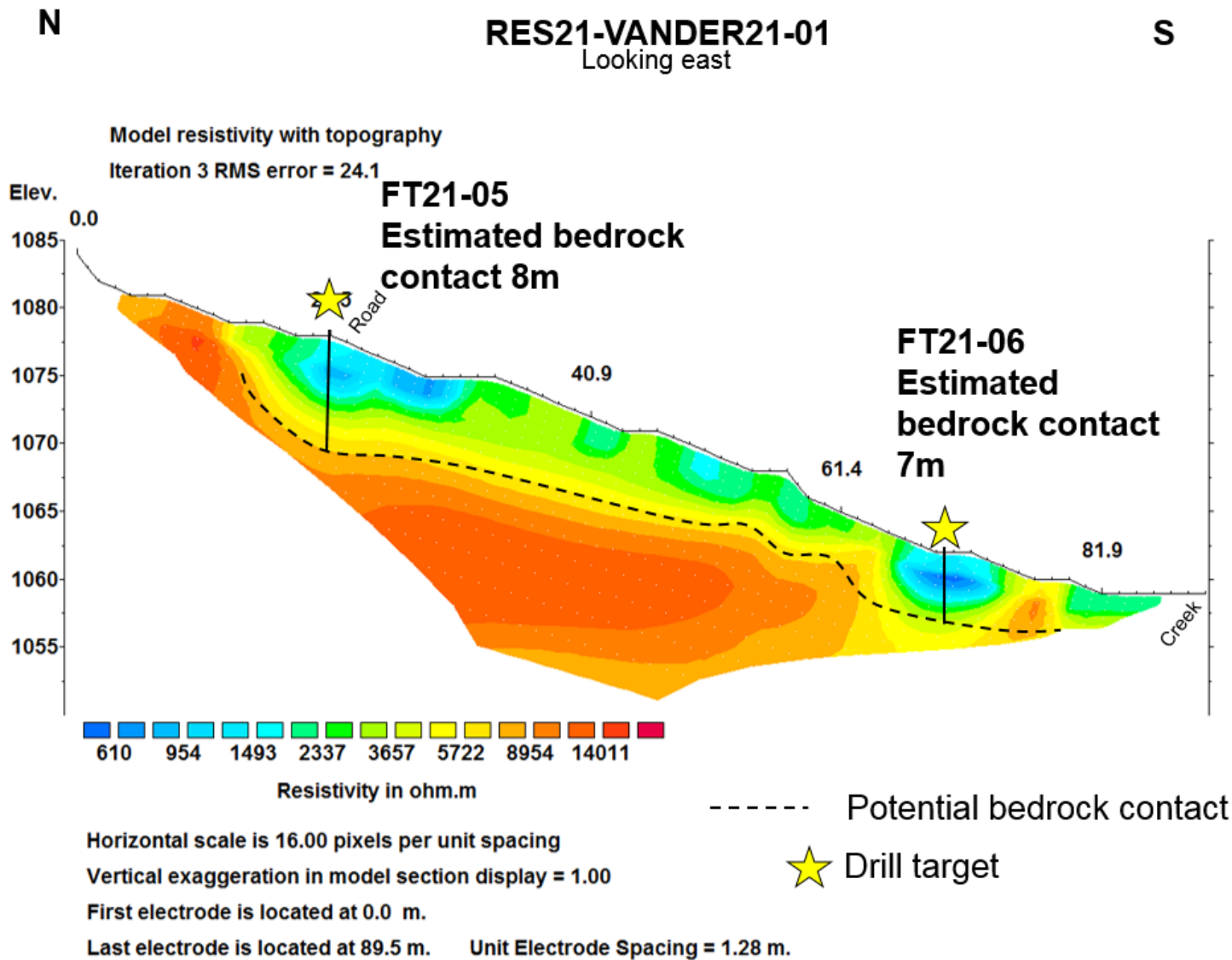


Figure 33 – RES21-VANDER21-01 was surveyed across the left limit of Faith Creek, in an area where the creek valley narrows. Two drill targets were identified, which may be side channels that are potential hosts to placer gold. The expected surficial materials are colluvium, modern creek gravels, McConnell aged glacial till, and schist bedrock. The drill targets are relatively shallow in depth, based on the interpretation of the geophysics.



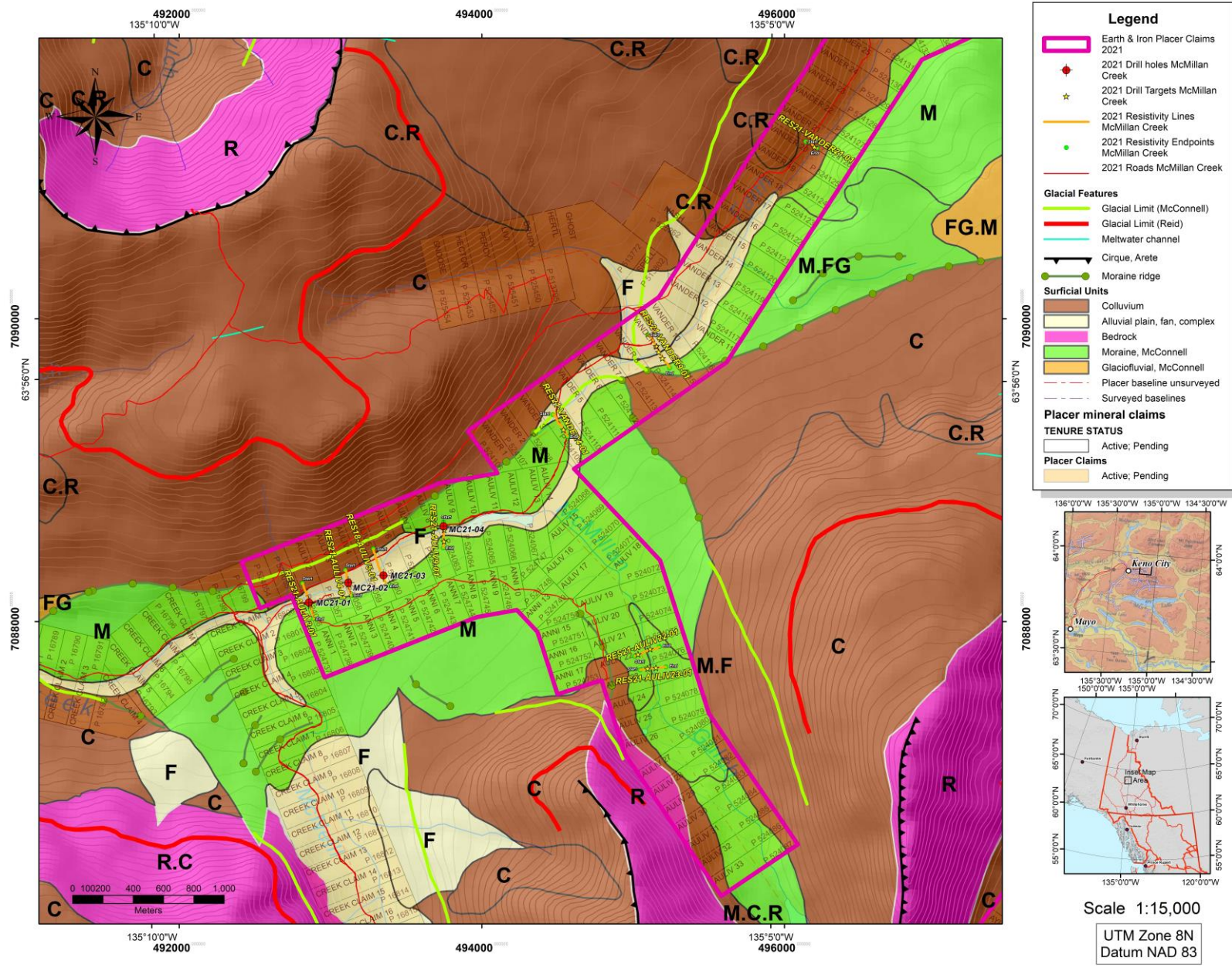


Figure 34 – Surficial map (after Bond, 1998) showing area of 2021 placer exploration on McMillan and Faith Creeks. Resistivity lines, drill holes and drill targets shown.

## Conclusions and Recommendations

The drone surveys produced clear, high-resolution base map imagery which will be vital for continued exploration of the McMillan and Faith Creek drainages.

The 2021 resistivity surveys were successful in corroborating previous geophysical surveys and test pits in the area, and several new drill targets were identified.

The 2021 R/C drill holes were useful for calibration of the resistivity surveys and corroborating interpreted depths of drill targets. Most of the drill holes recovered placer gold, however subsurface water under pressure in the lower McMillan Creek valley was a problem which affected the ability to reach bedrock in some holes.

The exception was drill hole MC21-02, which was completed to bedrock at 25 m deep. This drill hole also returned the best gold sample (12 mg), from a depth of 24-25 m, just above bedrock.

The presence of placer gold throughout most of the various surficial materials demonstrates the possibility for an economic placer gold deposit in the project area. The highest mining potential may lie in the upstream reaches of McMillan Creek where bedrock is interpreted to be 8 to 10 m in depth, and possible bedrock gold sources are more proximal.

It is recommended that future exploration programs include detailed (ground or airborne) magnetic geophysical surveys, which may be able to define buried paleochannels in the valleys where resistivity surveys alone may give inconclusive results.

Additional R/C drilling and sampling should be conducted on the many undrilled targets identified in the 2018, 2019 and 2021 exploration programs. This will help corroborate bedrock depths interpreted from previous resistivity geophysical surveys, as well as identify additional sources of placer gold within the surficial deposits.

Excavator test pitting and bulk sampling should be conducted in the upstream reaches of McMillan Creek, especially in areas where the bedrock depth is anticipated to be 8 metres or less.

Table 15 - 2021 Placer Exploration Program Expenses, McMillan/Lightning/Faith Creek.

2021 Lightning and Faith Creek YMEP expenses	Rate	Subtotal	GST	Total
<b>Drilling, Reverse Circulation of targets, 5 holes</b>	66m @\$260/m	\$17,160.00	\$858.00	\$18,018.00
<b>Access construction, Caterpillar Bulldozer D6</b>	36 hours @\$220/hr	\$7,920.00	\$396.00	\$8,316.00
<b>Drill Rig Moves</b>	10 hr @\$250/hr	\$2,500.00	\$125.00	\$2,625.00
<b>Drill Rig mob/demob</b>	36 hr @\$220/hr	\$7,920.00	\$396.00	\$8,316.00
<b>Processing of drill samples for placer gold</b>	5 days @\$400/day	\$2,000.00	\$100.00	\$2,100.00
<b>Drone Imagery Survey</b>	5.7 creek miles@\$1000/mile	\$5,700.00	\$285.00	\$5,985.00
<b>Resistivity geophysical surveys - contractor rates</b>	1.6km @\$12,000/line km	\$19,200.00	\$960.00	\$20,160.00
<b>Geoplacer Exploration Ltd.- Geological mapping, targeting and supervision of drilling and geophysical program, report writing</b>	3 days@\$550/day	\$1,650.00	\$82.50	\$1,732.50
<b>Camp costs (YMEP rates)</b>	46 person days@\$100/day	\$4,600.00	\$230.00	\$4,830.00
<b>ATV</b>	17 days @\$40/day	\$680.00	\$34.00	\$714.00
<b>Truck</b>	16 days @\$50/day	\$800.00	\$40.00	\$840.00
<b>Report Writing</b>	4 days @ \$400/day	\$1,600.00	\$80.00	\$1,680.00
<b>Total</b>		\$71,730.00	\$3,586.50	\$75,316.50

## Statements 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.

Dated this 7<sup>th</sup> day of December, 2021

William LeBarge, P. Geo.



### Selena Magel

I, Selena Magel, of 80B - 18 Azure Road, Whitehorse, Yukon, Canada, DO HEREBY CERTIFY THAT:

1. I am a Geologist in Training, registered with APEGA with current address at 80B - 18 Azure Road, Whitehorse, YT, Y1A 0L2
2. I am a graduate of the University of Calgary (B.Sc., 2017, Geology).
3. I have practiced Geology since May 2017.
4. I have conducted and interpreted over 100 km of resistivity surveys since the summer of 2017.

Dated this 7<sup>th</sup> day of December, 2021

Selena Magel, G. I. T.





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## Appendix 1 – Placer Claims in Project Area, Earth & Iron Inc. and affiliates.

GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 524737	Active	Anni 1	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524738	Active	Anni 2	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524739	Active	Anni 3	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524740	Active	Anni 4	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524741	Active	Anni 5	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524742	Active	Anni 6	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524743	Active	Anni 7	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524744	Active	Anni 8	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524745	Active	Anni 9	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524746	Active	Anni 10	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524747	Active	Anni 11	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524748	Active	Anni 12	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524749	Active	Anni 13	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524750	Active	Anni 14	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524751	Active	Anni 15	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524752	Active	Anni 16	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524753	Active	Anni 17	Western Heavy Haul Inc. - 100%	2018-07-15 9:00	2018-07-17 9:00	2021-07-17
P 524055	Active	Auliv 1	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524056	Active	Auliv 2	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524057	Active	Auliv 3	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524058	Active	Auliv 4	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524059	Active	Auliv 5	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524060	Active	Auliv 6	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524061	Active	Auliv 7	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524062	Active	Auliv 8	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10

GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 524063	Active	Auliv 9	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524064	Active	Auliv 10	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524065	Active	Auliv 11	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524066	Active	Auliv 12	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524067	Active	Auliv 13	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524068	Active	Auliv 14	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524069	Active	Auliv 15	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524070	Active	Auliv 16	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 524071	Active	Auliv 17	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524072	Active	Auliv 18	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524073	Active	Auliv 19	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524074	Active	Auliv 20	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524075	Active	Auliv 21	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524076	Active	Auliv 22	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524077	Active	Auliv 23	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524078	Active	Auliv 24	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524079	Active	Auliv 25	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524080	Active	Auliv 26	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524081	Active	Auliv 27	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524082	Active	Auliv 28	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524083	Active	Auliv 29	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524084	Active	Auliv 30	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524085	Active	Auliv 31	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524086	Active	Auliv 32	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524087	Active	Auliv 33	Western Heavy Haul Inc. - 100%	2017-06-26 9:00	2017-07-10 9:00	2022-07-10
P 524054	Active	Auliv	Western Heavy Haul Inc. - 100%	2017-06-25 9:00	2017-07-10 9:00	2022-07-10
P 513842	Active	Ayla 1	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10
P 513843	Active	Ayla 2	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10



GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 513844	Active	Ayla 3	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10
P 513845	Active	Ayla 4	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10
P 513846	Active	Ayla 5	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10
P 513847	Active	Ayla 6	Stuart Gray - 100%	2017-07-06 9:00	2017-07-10 9:00	2021-07-10
P 513848	Active	Ayla 7	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513849	Active	Ayla 8	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513850	Active	Ayla 9	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513851	Active	Ayla 10	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513852	Active	Ayla 11	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513853	Active	Ayla 12	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513854	Active	Ayla 13	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513855	Active	Ayla 14	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513856	Active	Ayla 15	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513857	Active	Ayla 16	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513858	Active	Ayla 17	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513859	Active	Ayla 18	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513860	Active	Ayla 19	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513861	Active	Ayla 20	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513862	Active	Ayla 21	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513863	Active	Ayla 22	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513864	Active	Ayla 23	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513865	Active	Ayla 24	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513866	Active	Ayla 25	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513867	Active	Ayla 26	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513868	Active	Ayla 27	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513869	Active	Ayla 28	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513870	Active	Ayla 29	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513871	Active	Ayla 30	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10

GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 513872	Active	Ayla 31	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513873	Active	Ayla 32	Stuart Gray - 100%	2017-07-09 9:00	2017-07-10 9:00	2021-07-10
P 513874	Active	Ayla 33	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513875	Active	Ayla 34	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513876	Active	Ayla 35	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513877	Active	Ayla 36	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513878	Active	Ayla 37	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513879	Active	Ayla 38	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513880	Active	Ayla 39	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513881	Active	Ayla 40	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513882	Active	Ayla 41	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513883	Active	Ayla 42	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513884	Active	Ayla 43	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513885	Active	Ayla 44	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513886	Active	Ayla 45	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513887	Active	Ayla 46	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513888	Active	Ayla 47	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513889	Active	Ayla 48	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513890	Active	Ayla 49	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513891	Active	Ayla 50	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513892	Active	Ayla 51	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 513893	Active	Ayla 52	Stuart Gray - 100%	2017-07-08 9:00	2017-07-10 9:00	2021-07-10
P 524106	Active	Vander 1	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524107	Active	Vander 2	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524108	Active	Vander 3	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524109	Active	Vander 4	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524110	Active	Vander 5	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524111	Active	Vander 6	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18

GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 524112	Active	Vander 7	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524113	Active	Vander 8	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524114	Active	Vander 9	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524115	Active	Vander 10	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524116	Active	Vander 11	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524117	Active	Vander 12	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524118	Active	Vander 13	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524119	Active	Vander 14	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524120	Active	Vander 15	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524121	Active	Vander 16	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524122	Active	Vander 17	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524123	Active	Vander 18	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524124	Active	Vander 19	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524125	Active	Vander 20	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524126	Active	Vander 21	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524127	Active	Vander 22	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524128	Active	Vander 23	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524129	Active	Vander 24	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524130	Active	Vander 25	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524131	Active	Vander 26	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524132	Active	Vander 27	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524133	Active	Vander 28	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524134	Active	Vander 29	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524135	Active	Vander 30	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524136	Active	Vander 31	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524137	Active	Vander 32	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524138	Active	Vander 33	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18
P 524139	Active	Vander 34	Earth & Iron Mines Inc. - 100%	2017-08-12 9:00	2017-08-18 9:00	2022-08-18

GRANT NUMBER	STATUS	CLAIM NAME	OWNER NAME	STAKING DATE	RECORDED DATE	EXPIRY DATE
P 525207	Pending	Vander 35	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525208	Pending	Vander 36	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525209	Pending	Vander 37	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525210	Pending	Vander 38	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525211	Pending	Vander 39	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525212	Pending	Vander 40	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525213	Pending	Vander 41	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525214	Pending	Vander 42	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525215	Pending	Vander 43	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525216	Pending	Vander 44	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525217	Pending	Vander 45	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525218	Pending	Vander 46	Dean Gray Enterprises Ltd. - 100%	2019-08-23 9:00	2019-08-27 9:00	2021-08-27
P 525219	Pending	Vander 47	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525220	Pending	Vander 48	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525221	Pending	Vander 49	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525222	Pending	Vander 50	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525223	Pending	Vander 51	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525224	Pending	Vander 52	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27
P 525225	Pending	Vander 53	Dean Gray Enterprises Ltd. - 100%	2019-08-24 9:00	2019-08-27 9:00	2021-08-27



## Appendix 2 - Drone Imagery



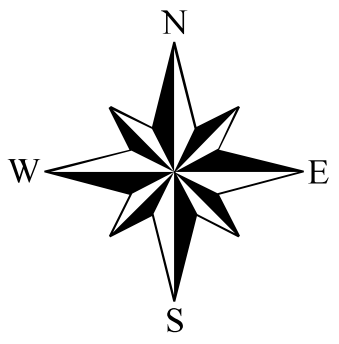
493000

494000

495000

135°8'0"W

135°6'0"W



7090000

7090000

63°56'0"N

63°56'0"N

7089000

7089000

7088000

7088000

63°55'0"N

63°55'0"N

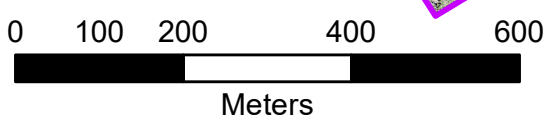
493000

494000


495000

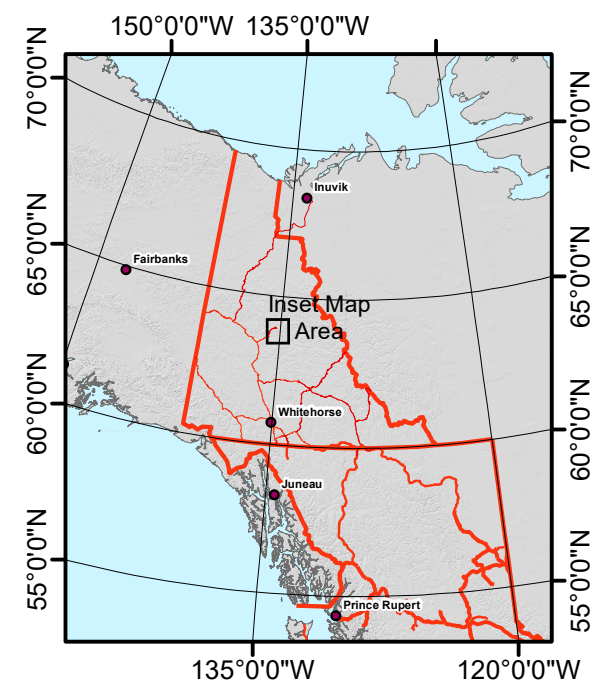
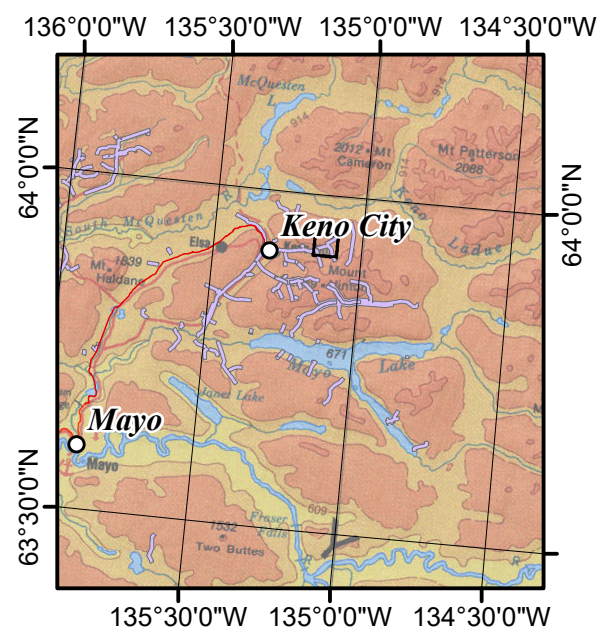
135°8'0"W

135°6'0"W



**Legend**

 Drone Area 2021



Scale 1:9,000

UTM Zone 8N  
Datum NAD 83



## Appendix 3 - Drill Logs



**EARTH & IRON INC.**  
 Mayo Mining District, YT Canada  
 T: (780) 900 2306

Signature \_\_\_\_\_  
 Date \_\_\_\_\_

**DRILL SAMPLE PROCESSING LOG**

**CLAIM NAME** AULIV 2 **DRILL HOLE NAME** MC21-01  
**DATE DRILLED** 22-Aug-21 **TOTAL DEPTH REACHED** 14m **DATE PROCESSED** 22-Aug-21  
**DRILLER** Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm **COMPLETED BY** selena  
**HELPER** Allan Dutchak **TYPE OF DRILL** RC **METHOD** Letrap/pan

DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
			GOLD DESCRIPTION		
0-3	4	Brown silty gravel with quartzite, schist	1FC, 1VFC		N
3-5	7	Brown silty gravel with quartzite, schist	1FC, 6VFC		N
5-7	5	grey brown gravel, schist, quartzite	no gold		N
7-8	7	grey brown gravel, schist, quartzite	pyrite 1FC, 5VFC		N
8-9	7	grey schist gravel	pyrite 1FC		N
9-10	10	grey clay and schist gravel			N
10-11	12	grey clay and schist gravel	4FC, 25VFC		N
11-12	10	grey schist gravel	galena, pyrite 1FC, 1VFC		N
12-13	4	grey clay and schist gravel	galena, pyrite 5VFC		N
13-14	50	grey clay and schist gravel	galena, pyrite 1MC, 1FC, 50VFC		N

Bedrock not reached, excessive water pressure



**EARTH & IRON INC.**  
 Mayo Mining District, YT Canada  
 T: (780) 900 2306

Signature \_\_\_\_\_  
 Date \_\_\_\_\_

**DRILL SAMPLE PROCESSING LOG**

<b>CLAIM NAME</b>	<u>AULIV 4</u>	<b>DRILL HOLE NAME</b>	<u>MC21-02</u>
<b>DATE DRILLED</b>	<u>23-Aug-21</u>	<b>TOTAL DEPTH REACHED</b>	<u>26m</u>
<b>DRILLER</b>	<u>Mark Bayne</u>	<b>INSIDE DIAMETER OF DRILL</b>	<u>115mm</u>
<b>HELPER</b>	<u>Allan Dutchak</u>	<b>TYPE OF DRILL</b>	<u>RC</u>
		<b>DATE PROCESSED</b>	<u>23-Aug-21</u>
		<b>COMPLETED BY</b>	<u>selena</u>
		<b>METHOD</b>	<u>Letrap/pan</u>

DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
			GOLD DESCRIPTION		
0-6	10	dark grey silt with green, black/grey schist	1FC, 3VFC		N
6-8	5	dark grey silt with green, black/grey schist	1VFC		N
8-10	7	dark grey silt with green, black/grey schist	1VFC		N
10-12	6	grey schist gravel with clay and silt	1VFC		N
12-13	20	grey clay, small amount of gravel	1FC -wiry		N
13-14	20	grey clay, small amount of gravel	pyrite no gold		N
14-15	22	grey silty clay with schist gravel	pyrite 1FC		N
15-16	24	grey silty clay with schist gravel	3FC, 6VFC		N
16-17	24	grey silty clay with schist gravel	1MC, 1VFC		N
17-18	24	grey silty clay with schist gravel	1FC		N
18-19	11	grey silty clay with schist gravel	no gold		N
19-21	28	dark grey clay with small gravel	3FC, 2VFC		N
21-22	24	dark grey clay with small gravel	1FC		N
22-23	24	dark grey clay with small gravel	1FC		N
23-24	24	dark grey clay with small gravel	1FC		N
24-25	26	grey schisty sand	1 small nugget, 3FC, 25VFC	12mg piece, very fresh and silvery with quartz. Ang	Y



25-26

5

silty sand - hard bedrock

4FC

N





**EARTH & IRON INC.**  
 Mayo Mining District, YT Canada  
 T: (780) 900 2306

Signature \_\_\_\_\_  
 Date \_\_\_\_\_

**DRILL SAMPLE PROCESSING LOG**

**CLAIM NAME** AULIV 5 **DRILL HOLE NAME** MC21-03  
**DATE DRILLED** 24-Aug-21 **TOTAL DEPTH REACHED** 14m **DATE PROCESSED** 24-Aug-21  
**DRILLER** Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm **COMPLETED BY** selena  
**HELPER** Allan Dutchak **TYPE OF DRILL** RC **METHOD** Letrap/pan

DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
			GOLD DESCRIPTION		
0-5	2	brown silty mixed gravel, stained rusty red	no gold		N
5-10	10	brown silty mixed schist gravel	pyrite 5VFC		N
10-11	6	brown silty mixed schist gravel	pyrite no gold		N
11-12	12	grey gravel and sadn, mixed schist	pyrite 4FC, 4VFC		N
12-13	20	grey mixed gravel, diorite, quartz, schist	5FC, 10VFC		N
13-14	11	grey mixed gravel, diorite, quartz, schist	1MC (wiry), 1-FC, 20VFC		N

Bedrock not reached, excessive water pressure



**EARTH & IRON INC.**  
 Mayo Mining District, YT Canada  
 T: (780) 900 2306

Signature \_\_\_\_\_  
 Date \_\_\_\_\_

**DRILL SAMPLE PROCESSING LOG**

**CLAIM NAME** AULIV 9 **DRILL HOLE NAME** MC21-04  
**DATE DRILLED** 26-Aug-21 **TOTAL DEPTH REACHED** 12m **DATE PROCESSE** 26-Aug-21  
**DRILLER** Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm **COMPLETED BY** selena  
**HELPER** Allan Dutchak **TYPE OF DRILL** RC **METHOD** Letrap/pan

DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
			GOLD DESCRIPTION		
0-5	11	Brown silty sand and gravel	no gold		N
5-6	14	brown silty sand and gravel	2FC		N
6-10	13	grey silty sand and gravel	3FC, 3VFC		N
10-11	6	grey gravel	no gold		N
11-12	7	grey gravel	1MC, 1FC		N

Bedrock not reached, excessive water pressure