#### 2020 FINAL REPORT

#### YUKON MINERAL EXPLORATION PROGRAM GRANT NUMBER YMEP2020-67

#### **KEYSTONE CREEK**

Mayo Mining District, YT

For

Earth & Iron Inc.

By

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Location: 63°47'5.6" N to 63°51'32" N; 135°03'49" W to 135°13'21" W NTS: 105M14 Mining District: Mayo Date: January 25, 2021

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## **Executive Summary**

The following is the final report for YMEP2020-067 on Keystone Creek, for Earth & Iron Inc. The property is located in central Yukon approximately 480 km by road from Whitehorse.

Earth & Iron Inc. currently holds two active Type B Water Use Licences on Keystone Creek, PM17-014 (expiry June 6, 2027) and PM16-081 (expiry March 1, 2027). Earth & Iron Inc. also currently hold an agreement to mine under Water License PM18-007 (expiry July 4, 2028) which is held by Frank Taylor.

Mount Hinton is the locale for a significant bedrock gold source (MINFILE 105M052) which lies at the headwaters of the local drainages including Keystone Creek and Granite Creek. Coarse nuggets of placer gold have 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.

Recent hard-rock exploration by Ryanwood Exploration and others (Swanton, 2010), has delineated several gold-in-soil geochemical anomalies above the right limit of Keystone Creek. This may indicate another bedrock source, which could supply gold to the local alluvial gravels.

The 2020 program on Keystone Creek consisted of 12 resistivity surveys, drone aerial surveys, and 291 m of R/C drilling in 18 drill holes. The drill holes for the most part correlated well to the depths anticipated by both the 2019 and the 2020 resistivity surveys.

Promising amounts of placer gold were encountered throughout the stratigraphy, with many of the best gold values on the alluvial fan found in layers above bedrock (e.g., drill holes TAY20-5, TAY20-7, TAY20-11, and TAY20-12). This is a typical situation in alluvial fan placer settings, where the gold distribution and concentration are often more controlled by changes in valley morphology and stream flow dynamics than by the reworking of sediments at the bedrock contact. Several targets within this anomalous trend remain to be evaluated, and these may merge or extend the anomalous areas once drilled.

Due to logistical and access challenges, the right limit Keystone Creek paleochannel (upstream of the alluvial fan) was only minimally evaluated in 2020. However, drill holes TAY20-16 and TAY20-18 were quite anomalous in placer gold and are a good indication of the significant placer potential of this area.

It is recommended that additional drilling and geophysical surveys be conducted both on the fan and on the right limit of Keystone Creek upstream of the alluvial fan. In addition, excavator test pitting and increasingly larger scale bulk sampling should be conducted, especially near drill holes TAY20-06, TAY20-07, TAY20-11, TAY20-12, TAY20-16, and TAY20-18.

Should the results of large-scale bulk sampling prove to be favourable, a full-scale placer mining operation centred on the Keystone Creek alluvial fan is warranted. Ongoing near-mine exploration which combines resistivity geophysics and R/C drilling should be used as a guide for the mining operation as it expands in size and scope.

### Introduction

The following is the final report on the 2020 exploration program on Keystone Creek, supported by grant #YMEP2020-067 under the Yukon Mineral Exploration Program (YMEP), Placer Module. The exploration program included drone surveys, resistivity geophysical surveys and reverse circulation (R/C) drilling.

### **Location and Access**

The property is located in central Yukon approximately 480 km by road from Whitehorse (Figure 1). The current boundaries of the property are 63°47′5.6″N to 63°51′32″N; and 135°03′49″W to 135°13′21″W.

Access 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. The turnoff to the Duncan creek road is approximately 17 km from Mayo along the Silver trail towards Keno City. The road then runs 29 km to the north (left) turnoff near the Mayo dam. The new access road runs a further 21 km, along the north shore of Mayo Lake, then along Keystone Creek from its mouth to the joint headwaters of Granite and Keystone creeks.

### **Placer Tenure**

Appendix 1 details the 143 placer claims and 1 prospecting lease owned or held under agreement by Earth & Iron Inc. and associates in the Keystone Creek drainage. The area encompassed by the claims is also shown in Figure 2.

### **Quartz Mineral Tenure**

Active quartz claims are held by several owners including Archer, Cathro & Associates (1981) Limited, Taku Gold Corp. and Shawn Ryan. Earth & Iron Inc. and its affiliates hold no quartz tenure in the area.



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



Figure 2 – Location of Keystone Creek claims and nearby placer tenures.

## Permitting

Earth & Iron Inc. currently holds two active Type B Water Use Licences on Keystone Creek; PM17-014 (expiry June 6, 2027), and PM16-081 (expiry March 1, 2027). Earth & Iron Inc. also currently hold an agreement to mine under Water License PM18-007 (expiry July 4, 2028) which is held by Frank Taylor.

### **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. 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. Highet 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 Highet Creek Dredging Co. attempted to dredge Highet 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.

Granite Creek currently has two active mining operations, the first starting in 2014 (Van Loon and Bond, 2014) with Jim Davies; then followed by Earth & Iron Inc., which began mining in 2017 (Bond and Van Loon, 2018).

Keystone Creek itself has seen little historic exploration, although abandoned log cabins and scattered areas of handworkings are evident, especially in the lower reaches. Lower Keystone Creek has been held for over 20 years by Frank Taylor, however activity to date has consisted of limited bulk testing, along with seismic surveys and some R/C drilling on the lower claims.

In 2009 and 2010, a hard rock exploration program on Keystone Creek consisted of soil and rock geochemical sampling, prospecting and diamond drilling. Most of the program was centered on the hills above the right limit of Keystone Creek (Swanton, 2010).

Table 1 shows that over 181,000 crude ounces have been recorded in the Mayo Mining District between 1978 and 2019. Placer gold royalties on Granite Creek have amounted to a total of 8900 crude ounces in just five years, from 2015 to 2019.

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

 Table 1 - Placer gold production from reported gold royalties, Mayo Mining District. Figures are in crude (raw) ounces.

## **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.

The Earth & 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 epiand meso-thermal veins of the Elsa-Keno Hill mining camp (Roots, 1997a, 1997b).

Table 2 lists YUKON MINFILE (Yukon Geological Survey, 2018) mineral occurrences in the Upper Duncan/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 2 – Selected Mineral Occurrences, Keno Hill and Upper Duncan area, from MINFILE (Yukon Geological Survey, 2018).

MINFILE NUMBER	DEPOSIT TYPE	STATUS
105M 001 KENO HILL - HISTORIC (Pb-Ag-Zn-	Vein Polymetallic Ag-Pb-Zn+/-Au	Past Producer
Cd-Au-Sn)		
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
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 of Keystone Creek area. Central to the project area is the Carboniferous to Permian Keno Hill Quartzite (map unit CT2). At the headwaters of Keystone and Granite Creeks are northwest-trending outcrops of the Triassic Galena Suite hornblende diorite and gabbro (map unit TrG). The Roop Lakes batholith (map unit mKqM) outcrops east of the project area in the downstream reaches of Granite Creek. Hyland Group metasediments (map unit PCH1) outcrop on the downstream reaches of Keystone Creek and are separated from the Keno Hill Quartzite by the Robert Service thrust fault.

The closest mineral occurrences include the Mt. Albert lead-silver vein (MINFILE 105M047), the Mount Hinton gold-silver veins (MINFILE 105M 052) and the Havrenak gold-silver lead veins (MINFILE 105M070).



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

## **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.

### **Surficial Geology**

Figure 5 is a 1:25,000 scale surficial map of the Keystone Creek drainage (modified after Bond, 1998). 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 Keystone 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, 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 mid- to lower reaches of Keystone Creek, Reid-age till lies on the left-limit, and partially confines the extent of the modern alluvial plain. This was not mapped and is not shown on the map by Bond (1998).

McConnell-age alpine till forms moraines in the headwaters of most local drainages including Keystone Creek and Granite Creek, while regionally-derived till of McConnell age covers the slopes and lower reaches of both Keystone Creek and Granite Creek. Deposits of McConnell glaciofluvial outwash lie at the mouth of Keystone Creek.

McConnell-age and younger alluvial and periglacial fans occur along the margins and at the mouths of Keystone and Granite Creek, most of which smaller than the scale of current mapping. These merge indistinctly with thin, discontinuous McConnell to modern age alluvial complexes which lie adjacent to modern stream courses.

A lacustrine deposit of McConnell age lies along Keystone Creek about 4 km from its mouth. Interglacial (pre-McConnell) paleochannels may be preserved beneath lake sediments in this area, and in areas upstream where they are likely covered in colluvium.

An alluvial fan-delta lies at the mouth of Keystone Creek where it enters Mayo Lake (Figure 4). This fan likely began as a glaciofluvial outwash deposit, which later became a fan-delta at the end of the McConnell glaciation. There appears to be at least two stages of fan development and dissection, related to changes in post-glacial base-level (LeBarge et. al, 2002).



Figure 4 - View looking west of a large alluvial fan-delta complex at the mouth of Keystone Creek. Two fan-delta terraces are preserved as remnants on either side of the incised active fan-delta (excerpt from LeBarge et. al., 2002).



Figure 5 - Surficial geology and glacial limits, Keystone Creek, modified after Bond (1998).

# **2019 Placer Exploration Program**

#### **Summary**

The 2019 placer exploration program in the project area on Keystone Creek included 23 resistivity surveys totalling 4.451 line-km, as well as 16 R/C drill holes totalling 236.5 metres. Additionally, a 25 cubic yard bulk sample was taken from a test pit on the alluvial fan on lower Keystone creek (Figure 6).

#### **Results**

The coordinates of the endpoints of the resistivity surveys are shown in Table 3, and the coordinates and depths of the drill holes and the test pit are shown in Table 4.

Table 3 – Coordi	nates and l	engths of	2019	Resistivity	Lines,	Keystone	Creek.
------------------	-------------	-----------	------	-------------	--------	----------	--------

Resistivity Line	Star	Start Point End Point		Length (m)	
	Latitude	Longitude	Latitude	Longitude	
RES19-CC05-01	63.79214234	-135.2099553	63.79258812	-135.2133992	217
RES19-CC06-01	63.79289052	-135.2102915	63.79298642	-135.2120841	112
RES19-CC07-01	63.79394886	-135.2073225	63.7950199	-135.2095516	174
RES19-CC09-01	63.79753644	-135.2073427	63.79575031	-135.2045323	267
RES19-CC11-01	63.79848119	-135.2005391	63.79937208	-135.2034939	193
RES19-ROB-01	63.79873152	-135.1995804	63.79961761	-135.2024045	184
RES19-ROB-02	63.79987224	-135.1992053	63.79863137	-135.1972338	199
RES19-CC12-01	63.80110876	-135.1972064	63.79979366	-135.195128	202
RES19-CC31-01	63.82380259	-135.1660329	63.82359746	-135.1679461	109
RES19-CC31-02	63.82325119	-135.1662123	63.82466681	-135.167389	180
RES19-KEST01-01	63.82509373	-135.1533636	63.82678216	-135.1536656	213
RES19-KEST02-01	63.82566505	-135.1504131	63.82661904	-135.1516103	133
RES19-KEST03-01	63.82638161	-135.1474382	63.82797425	-135.148591	201
RES19-KEST04-01	63.82598973	-135.1444853	63.82807068	-135.1455526	265
RES19-KEST07-01	63.83045981	-135.137045	63.82940728	-135.1400668	215

Resistivity Line	Start	t Point	End	Length (m)	
	Latitude	Longitude	Latitude	Longitude	
RES19-KEST08-01	63.83111865	-135.1341245	63.82984417	-135.1322796	188
RES19-KEST13-01	63.83695102	-135.1256166	63.83772996	-135.123214	176
RES19-KEST13-02	63.83613427	-135.1241795	63.83769853	-135.1255798	210
RES19-KEST14-01	63.83726177	-135.1211177	63.83550034	-135.1177517	275
RES19-KEST15-01	63.83693047	-135.1190683	63.83565628	-135.1232106	263
RES19-KEST15-02	63.83798278	-135.119085	63.83689635	-135.1170365	182
RES19-KEST19-01	63.83939303	-135.1078485	63.84061939	-135.1084903	154
RES19-KEST23-01	63.84243405	-135.095687	63.84215021	-135.0982324	139



Figure 6 - Over 3 g of gold was recovered from the 25 cubic yard bulk sample on the Keystone Creek alluvial fan.

Table 4 - Coordinates and depths of 2019 drill holes and test pits, Keystone Creek.

Drill Hole	Claim Location	Latitude	Longitude	Depth (m)	Comments
KEY19-01	Keystone 26	63.84396602	-135.0866726	29	
KEY19-02	Keystone 20	63.84072904	-135.1048473	23	
KEY19-03	Keystone 20	63.84050695	-135.105744	25	
KEY19-04	Keystone 26	63.84361198	-135.0863749	21	
Tay19-01	Creek Claim 7	63.794596	-135.2088248	17	
Tay19-02	Creek Claim 7	63.79450344	-135.208587	11	
Tay19-03	Creek Claim 6	63.79342666	-135.2101638	14	3 g nugget
Tay19-04	Creek Claim 6	63.79339242	-135.2102022	11	18 mg chunky gold
Tay19-05	Creek Claim 6	63.79318501	-135.2102854	13	
Tay19-06	Creek Claim 7	63.7943042	-135.2079389	7	
Tay19-07	Creek Claim 7	63.794392	-135.2080501	10	
Tay19-08	Creek Claim 6	63.79348429	-135.2087459	5	
Tay19-09	Creek Claim 5	63.7922966	-135.2113648	17.5	
Tay19-10	Creek Claim 5	63.79226782	-135.2110001	12	
Tay19-11	Creek Claim 5	63.79231551	-135.2117958	11	
Tay19-12	Creek Claim 5	63.79222669	-135.2107291	10	
Fan Test Pit	Creek Claim 6	63.79335358	-135.2100987	11	3.14 g (0.101 oz.troy) in 25 cubic yards

Interpretation of the resistivity surveys resulted in a total of 40 drill targets being identified. The coordinates and interpreted depths of those targets are shown in Table 5.

Table F. Coordinates and intermeted	dowthe of duill	towards identified from	2010	aumous Kaustana Craak
Table 5- Coordinates and interpreted	ueptils of unit	targets identified from	2019 (ESISTIAL	surveys, Reystone Creek.

Resistivity Line	Target Name	Latitude	Longitude	Depth to bedrock (m)	Claim Location
RES19-CC06-01	2019-К41	63.79292269	-135.2105942	7	CREEK CLAIM 6
RES19-CC07-01	2019-КЗЗ	63.79428641	-135.2079214	5	CREEK CLAIM 7
RES19-CC07-01	2019-К32	63.79439185	-135.2081642	10	CREEK CLAIM 7
RES19-CC07-01	2019-К31	63.79446301	-135.2085128	8	CREEK CLAIM 7
RES19-CC07-01	2019-К30	63.79460372	-135.2088492	14	CREEK CLAIM 7
RES19-CC09-01	2019-K35	63.79602184	-135.2049352	15	CREEK CLAIM 9
RES19-CC09-01	2019-K34	63.79665269	-135.2055686	19	CREEK CLAIM 9
RES19-CC11-01	2019-K37	63.79872727	-135.2012542	18	CREEK CLAIM 11
RES19-CC11-01	2019-КЗб	63.79914342	-135.2029162	15	CREEK CLAIM 11
RES19-ROB-01	2019-К40	63.79888766	-135.2000009	13	ROB
RES19-ROB-01	2019-К39	63.79909366	-135.2005638	15	ROB
RES19-ROB-02	2019-K43	63.79922549	-135.1982172	6	ROB
RES19-ROB-02	2019-K42	63.79933368	-135.1984013	10	ROB
RES19-ROB-01	2019-K38	63.79948019	-135.2016379	15	ROB
RES19-CC12-01	2019-К44	63.8003881	-135.1960707	12	CREEK CLAIM 12
RES19-CC12-01	2019-К43	63.80066462	-135.1963913	15	CREEK CLAIM 12
RES19-CC31-01	2019-К29	63.82375255	-135.1665372	10	CREEK CLAIM 31
RES19-KEST01-01	2019-К28	63.8258001	-135.1536344	13	KEYSTONE 1
RES19-KEST02-01	2019-K27	63.82601658	-135.150912	14	KEYSTONE 2
RES19-KEST04-01	2019-К23	63.8268595	-135.1443759	12	KEYSTONE 4
RES19-KEST03-01	2019-К25	63.82686178	-135.1480572	11	KEYSTONE 3

Resistivity Line	Target Name	Latitude	Longitude	Depth to bedrock (m)	Claim Location
RES19-KEST03-01	2019-К26	63.82717082	-135.1481574	14	KEYSTONE 3
RES19-KEST04-01	2019-K24	63.82757016	-135.144847	13	KEYSTONE 4
RES18-KEST07-01	2019-K20	63.82956686	-135.1362418	11	KEYSTONE 7
RES19-KEST07-01	2019-K22	63.82971192	-135.1391955	18	KEYSTONE 7
RES19-KEST07-01	2019-K21	63.8298835	-135.1385305	14	KEYSTONE 7
RES18-KEST8-01	2019-K19	63.83032014	-135.1348364	11	KEYSTONE 8
RES19-KEST08-01	2019-K18	63.83082582	-135.1336948	13	KEYSTONE 8
RES18-KEST11-03	2019-K17	63.83283416	-135.1293542	20	KEYSTONE 11
RES18-KEST11-03	2019-K16	63.83312733	-135.1292838	15	KEYSTONE 11
RES18-KEST12-01	2019-K14	63.83378339	-135.1281973	13	KEYSTONE 12
RES18-KEST11-02	2019-K15	63.83380976	-135.1286514	9	KEYSTONE 11
RES18-KEST11-01	2019-K13	63.83429436	-135.1278642	7	KEYSTONE 11
RES19-KEST14-01	2019-K10	63.83617433	-135.1191418	20	KEYSTONE 14
RES19-KEST15-01	2019-K12	63.83617612	-135.1208738	19	KEYSTONE 15
RES19-KEST14-01	2019-K11	63.83646593	-135.1199377	19	KEYSTONE 14
RES19-KEST15-02	2019-K9	63.83729145	-135.1179995	16	KEYSTONE 15
RES19-KEST19-01	2019-K8	63.84013214	-135.1083037	22	KEYSTONE 19
RES19-KEST23-01	2019-K7	63.84219226	-135.0975862	10	KEYSTONE 23
RES19-KEST23-01	2019-Кб	63.84236859	-135.0964069	14	KEYSTONE 23

Several of the 2019 resistivity surveys illustrate the probable presence of the right-limit paleochannel on Keystone Creek. Resistivity profiles RES19-CC12-01 and RES19-ROB-02 are key examples, and these are shown on Figures 7 and 8 following.

SE







Figure 8 - Resistivity profile RES19-ROB-02 was surveyed across the uppermost apex of the Keystone alluvial fan, just downstream of RES19-CC12-01. The right-limit paleochannel appears to occur at a depth of 10 m from surface.

NW



Figure 10 - The right-limit paleochannel was exposed in a road cut upstream of the Keystone alluvial fan, just outside of the mapped McConnell regional glacial limit. Rounded, well-sorted cobble-boulder gravel was overlain by thick organic-rich silt.



Figure 9 - Drill hole Tay19-03 was collared at the apex of the Keystone Creek alluvial fan, and may have intersected the paleochannel. Approximately 3.2 g of gold was recovered from the interval 8 to 10 m, including a 3 gram nugget.





## **Rationale for 2020 Exploration Program**

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 Keystone Creek and Granite Creek.

Additionally, recent hard-rock exploration by Ryanwood Exploration and others (Swanton, 2010), has delineated several gold-in-soil geochemical anomalies (shown on Figures 5 and 11) above the right limit of Keystone Creek. This may indicate another bedrock source, which could supply gold to the local alluvial gravels.

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 glacially-induced erosion and deposition dating back to the first pre-Reid glaciation in the early Pleistocene. Bedrock gold would be released into surrounding regions 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.

In fact, coarse nuggets of placer gold have 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).

However, the most prospective sediments for placer gold are those that have had several episodes of reworking, winnowing and concentration in the form of interglacial paleochannels, where sediment influx is adequately offset and accommodation space is reduced by fluvial concentration processes. Fieldwork in 2018 and 2019, as well as resistivity surveys in 2019, illustrate that a right-limit paleochannel does in fact exist on Keystone Creek (see Figures 7 to 10). This paleochannel is likely pre-McConnell in age, and appears to be mainly preserved upstream of the McConnell regional glacial limit, which advanced upstream from Mayo Lake.

The potential for economic concentrations of placer gold at the apex of alluvial fans and fan-deltas is well-documented, and many significant placer mining operations have operated on other Mayo Lake fan-deltas, including Owl Creek, Anderson Creek and Ledge Creek (LeBarge et. al., 2002). The alluvial fan at the mouth of Keystone Creek lies in an identical geological setting to these other Mayo Lake alluvial fan-deltas, however it has yet to be explored in any significant way.

Thus, there are two main exploration targets for the 2020 season.

- 1) A buried, pre-McConnell alluvial paleochannel on the right limit of Keystone Creek, and
- 2) The apex of the alluvial fan-delta on lower Keystone Creek where it enters Mayo Lake.

# **2020 Exploration Program**

#### **Overview**

The 2020 exploration program consisted of 0.7 creek-miles of drone surveys, 2.49 line-km of resistivity geophysical surveys, and 18 R/C drill holes totalling 291 m.

### **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, Allegra Webb and William LeBarge. General principles and assumptions:

- 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, Allegra Webb 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 orthomosiac can be imported into mapping software and combined with other data.

#### **Results**

The drone survey was useful in additional geologic interpretation of the lower fan area on Keystone creek, providing detailed topographical information which was used to understand the complicated fan feature. The area of the drone survey is shown in Figure 12. The image is used as a base map for Figures 12 to 14 and is included in Appendix 3.

Table 6 outlines the locations of the 2020 resistivity surveys. Figures 12, 13 and 14 show the location of the surveys, and Figures 15 to 25 show the resistivity profiles and their interpreted depths along with identified targets. A number of new drill targets were identified from the resistivity profiles, some of which were drilled in the 2020 drilling program. There are 17 targets that remain, and these are plotted on Figures 12 to 14 and shown on Table 8. These targets are generally picked in low areas of the interpreted bedrock profiles that could be interpreted as paleochannels.

There were 18 R/C drill holes totalling 291 m completed at the lower end of Keystone creek in the fan area, as well as upstream on the right limit. The drill holes are plotted on Figures 12-14 and their coordinates are shown in Table 7.

Resistivity Line	Start Point		End Point		Length (m)
	Latitude	Longitude	Latitude	Longitude	
RES20-CC05-01	63.79200375	-135.2176945	63.79215929	-135.210752	362
RES20-CC05-02	63.79259221	-135.2138178	63.79261577	-135.21059	164
RES20-CC06-01	63.7936017	-135.2121306	63.79299882	-135.209314	177
RES20-CC07-01	63.79527441	-135.2106447	63.79407802	-135.20961	156
RES20-CC08-01	63.79586939	-135.2066124	63.7945998	-135.204714	174
RES20-CC08-02	63.79554979	-135.207852	63.79433307	-135.205979	170
RES20-CC09-01	63.79611965	-135.2039831	63.79481365	-135.208537	287
RES20-CC09-02	63.79618908	-135.2054636	63.7952256	-135.203726	142
RES20-CC09-03	63.79654197	-135.2047539	63.79531157	-135.202911	178
RES20-CC13-01	63.80087484	-135.1952103	63.80171561	-135.19541	101
RES20-CC13-02	63.80151442	-135.1944307	63.80231781	-135.194794	97
RES20-KATHY-01	63.80222723	-135.193272	63.8006383	-135.196071	241

Table 6 - 2020 resistivity geophysics lines on the Keystone creek property.

#### Table 7 - 2020 R/C drill hole coordinates, Keystone creek.

Drill Hole	Depth (m)	<b>Claim Location</b>	<b>Resistivity Line</b>	Latitude	Longitude
TAY20-1	14	Creek Claim 6	RES19-CC06-01	63.79289	-135.210
TAY20-2	16	Creek Claim 6	RES20-CC06-01	63.79340	-135.210
TAY20-3	15	Creek Claim 6	RES20-CC06-01	63.79347	-135.211
TAY20-4	23	Creek Claim 6	RES20-C05-02	63.79267	-135.211
TAY20-5	21	Creek Claim 6	RES20-C05-02	63.79264	-135.212
TAY20-6	13	Creek Claim 6	RES20-CC06-01	63.79299	-135.21
TAY20-7	18	Creek Claim 6	RES20-CC06-01	63.79295	-135.209
TAY20-8	13	Creek Claim 9	RES20-CC09-02	63.79554	-135.204
TAY20-9	16	Creek Claim 9	RES20-CC09-02	63.7956	-135.204
TAY20-10	16	Creek Claim 9	RES20-CC09-02	63.79572	-135.205
TAY20-11	13	Creek Claim 9	N/A	63.79573	-135.205
TAY20-12	13	Creek Claim 9	N/A	63.79566	-135.205
TAY20-13	12	Creek Claim 8	RES20-CC08-01	63.79512	-135.206
TAY20-14	12	Creek Claim 8	RES20-CC08-01	63.79527	-135.206
TAY20-15	21	ROB	RES19-ROB-01	63.79871	-135.2
TAY20-16	20	ROB	N/A	63.79872	-135.199
TAY20-17	17	Creek Claim 13	RES20-CC13-01	63.80122	-135.195
TAY20-18	18	Creek Claim 15	N/A	63.80346	-135.19

#### Table 8 - 2020 Remaining Drill Target Coordinates, Keystone creek.

Target Name	<b>Claim Location</b>	<b>Resistivity Line</b>	Target Depth (m)	Latitude	Longitude
2020-K01	Creek Claim 5	RES20-CC05-01	17	63.792046	-135.216479
2020-К02	Creek Claim 5	RES20-CC05-01	19	63.792046	-135.215155
2020-К03	Creek Claim 5	RES20-CC05-01	15	63.792094	-135.2137
2020-К04	Creek Claim 6	RES20-CC05-02	12	63.792647	-135.211166
2020-K05	Creek Claim 7	RES20-CC07-01	8	63.794978	-135.210321
2020-K06	Creek Claim 7	RES20-CC07-01	10	63.794479	-135.209759
2020-К07	Creek Claim 8	RES20-CC08-01	11	63.79519	-135.205781
2020-К08	Creek Claim 8	RES20-CC08-02	12	63.795101	-135.20732
2020-К09	Creek Claim 8	RES20-CC08-02	6	63.79497	-135.207052
2020-K10	Creek Claim 8	RES20-CC08-02	7	63.794841	-135.206852
2020-K11	Creek Claim 8	RES20-CC09-01	12	63.795196	-135.206999
2020-K12	Creek Claim 8	RES20-CC09-01	18	63.79494	-135.207808
2020-K13	Creek Claim 9	RES20-CC09-03	9	63.796183	-135.20429
2020-K14	Creek Claim 9	RES20-CC09-03	8	63.795851	-135.203838
2020-K15	Creek Claim 13	RES20-CC13-02	14	63.801801	-135.194549
2020-K16	Creek Claim 13	RES20-KATHY-01	12	63.801463	-135.194614
2020-K17	Creek Claim 13	RES20-KATHY-01	14	63.801308	-135.194849



Figure 12 - Lower Keystone Creek showing drone survey area, active placer claims, resistivity lines and R/C drill holes conducted in 2020. Inset maps on following pages.







Figure 14 - Inset map 2 showing resistivity lines and drill holes conducted on the Keystone alluvial fan in 2020. Sept 2020 drone image is used as the base map.



Figure 15 - RES20-CC05-01 is surveyed from NW to SE across the right limit of the Keystone fan. The profile is view looking upstream. The bedrock profile interpreted has an undulating surface and there are 3 drill targets chosen with depths of 17m, 19m and 15m. Using results from near by drill holes the expected surficial units encountered in the targets would be modern fan gravels overlaying brown silt dominant layer, over top of gravel on bedrock.



Figure 16 - RES20-CC05-02 is surveyed from NW to SE across the right limit of the Keystone fan. The profile is viewed looking upstream. The bedrock contact is interpreted slightly undulating with a drill target and 2 drill holes. The drill holes TAY20-05 and TAY20-04 reaching bedrock at 17m and 19m respectively. Both drill holes drilled into decomposed bedrock for a few meters meaning the depth to bedrock was shallower than the total depth of the hole.

#### RES20-CC06-01



Figure 17 - RES20-CC06-01 is surveyed from N to S on the right limit of the Keystone fan, downstream of the fan apex. There are 4 drill holes from 2020 (TAY20-03, 02, 06 and 07). They reached depths of 15, 16, 11 and 19m respectively. TAY20-02 has a good gold zone from 11-15m with coarse colours in the layer overlying bedrock. Holes TAY20-06 has coarse grains and flakes of placer gold from 6-10m. TAY20-07 has good placer gold values from 0-8m with small nuggets found in the samples. Bedrock was very soft in this hole and may have been hit at 9m deep.
NW

RES20-CC07-01



Figure 18 - RES20-CC07-01 is surveyed from NW to SE. There are 2 drill targets picked on this line that are 8m and 10m deep.

**RES20-CC08-01** 





Figure 19 - RES20-CC08-01 is surveyed from NW to SE and has 2 drill holes on it (TAY20-13 and 14). TAY20-14 has the highest placer gold values in the 2m above bedrock, with fine colours throughout the drill hole. Drill hole TAY20-13 had a few fine colours throughout with no obvious gold zone. There is an additional target chosen on this line with an estimated depth of 11m.

NW

**RES20-CC08-02** 



Figure 20 - RES20-CC08-02 is surveyed from NW to SE. The survey line has 3 drill targets chosen on it with depths of 12, 6 and 7m deep. There are 2 targets chosen in the modern creek valley, and an additional target picked on the right limit of Keystone Creek. This target may align with the right limit channel targeted in this exploration program.

SE

NE

**RES20-CC09-01** 



Figure 21 - RES20-CC09-01 is surveyed along the right limit of Keystone Creek. The line is oriented parallel to the creek to try and identify any inflection points in the paleochannel. There are 2 targets chosen near the end of the line where the paleochannel may have changed rates of flow and pay be a host to placer gold. The targets are 12m and 18m deep to bedrock.

RES20-CC09-02



Figure 22 - RES20-CC09-02 is surveyed from NW to SE and has 4 drill holes on it from 2020 (TAY20-11, 10, 9 and 8). The drill holes reached bedrock depths of 11m, 10m, 14m, and 11m respectively. Drill hole TAY20-11 has the highest values of gold throughout from fine colours to grains from 0-11m. Bedrock is black graphitic schist. TAY20-10 has gold in the 1m above bedrock and at surface in the modern creek gravels.

NW

Model resistivity with topography Iteration 4 RMS error = 44.0 Elev. 750.0<sub>1</sub> 745.0 2020-K13 740.0 9m Estimated 133.2 735.0 0.0 bedrock 2020-K14 730.0 33.3 8m Estimated 725.0 bedrock 99.9 66.6 720.0 715.0 710.0 705.0 4.93 14.4 42.1 123 359 1050 3068 8965 Potential bedrock contact Resistivity in ohm.m ☆ Drill target Horizontal scale is 22.89 pixels per unit spacing Vertical exaggeration in model section display = 1.00 First electrode is located at 0.0 m. Last electrode is located at 162.3 m. Unit Electrode Spacing = 2.08 m.

**RES20-CC09-03** 

SE

Figure 23 - RES20-CC09-03 is surveyed from NW to SE and has 2 drill targets chosen along the survey line. The depths of the targets are 9m and 8m. The target on the right limit may line up with the other right limit channel targets on Keystone Creek.

NW

S

### RES20-CC13-01

Ν



Figure 24 - RES20-CC13-01 is a short, detailed resistivity survey that doesn't appear to reach bedrock. This survey was done on the right limit bench paleochannel area of Keystone Creek but did not have any additional targets chosen on it.



Figure 25 - RES20-CC13-02 is a short, detailed resistivity survey done on the right limit paleochannel area of Keystone Creek. The profile appears to barely reach bedrock in this area; however, a target was chosen in a low spot of the slightly undulating bedrock contact identified. The drill target is 14m deep to bedrock.

#### NE

### RES20-KATHY-01

SW



Figure 26 - RES20-KATHY-01 is surveyed from NE to SW parallel to Keystone Creek along the right limit paleochannel target area. There are 3 drill targets identified along this survey and one was drilled (TAY20-17). TAY20-17 hit bedrock at 17m and had coarse to fine colours throughout. There is a layer of gravel with garnets and abundant pyrite, this layer may be a paleochannel on the right limit of Keystone Creek. The remaining drill targets are estimated at 12m and 14m and may be bedrock inflection points in the right limit channel.





## **Conclusions and Recommendations**

The 2020 program began with R/C drilling of targets at or near the apex of the alluvial fan which were chosen from previous (2019) geophysical surveys. Drill holes TAY20-01 to TAY20-14, located in this area, ranged from 12 m to 23 m in depth.

Four more R/C drill holes (TAY20-15 to TAY20-18) were collared upstream of the apex of the alluvial fan, and these ranged from 17 m to 21 m in depth.

Favourable gold results were found in sampling many of these R/C drill holes (see drill logs in Appendix 2), and an additional 12 resistivity surveys were completed to further investigate the target areas (Figures 15–26).

The new geophysical surveys identified several additional drill targets, some of which were drilled and some of which remain (Table 8, Figures 12-14 and Figure 27). The remaining drill targets vary in depth from 6 to 19 m from surface.

Overall, the 291 m of R/C drilling in 18 holes correlated well to the depths anticipated by both the 2019 and the 2020 resistivity surveys.

Promising amounts of placer gold were encountered throughout the stratigraphy, with many of the best gold values on the alluvial fan found in layers above bedrock (as seen in drill holes TAY20-5, TAY20-7, TAY20-11, and TAY20-12). This is a typical situation in alluvial fan placer settings, where the gold distribution and concentration are often more controlled by changes in valley morphology and stream flow dynamics than by the reworking of sediments at the bedrock contact.

Figure 27 shows the Keystone alluvial fan area with the 2019 and 2020 resistivity lines, as well as the areas that are significantly anomalous in gold from the 2019 and 2020 drilling results. Several targets within this anomalous trend remain to be evaluated, and these may merge or extend the anomalous areas once drilled.

Due to logistical and access challenges, the right limit Keystone Creek paleochannel (upstream of the alluvial fan) was only minimally evaluated in 2020. However, drill holes TAY20-16 and TAY20-18 were quite anomalous in placer gold and are a good indication of the significant placer potential of this area.

It is recommended that additional drilling and geophysical surveys be conducted both on the fan and on the right limit of Keystone Creek upstream of the alluvial fan. In addition, excavator test pitting and increasingly larger scale bulk sampling should be conducted, especially near drill holes TAY20-06, TAY20-07, TAY20-11, TAY20-12, TAY20-16, and TAY20-18.

Should the results of large-scale bulk sampling prove to be favourable, a full-scale placer mining operation centred on the Keystone Creek alluvial fan is warranted. Ongoing near-mine exploration which combines resistivity geophysics and R/C drilling should be used as a guide for the mining operation as it expands in size and scope.

# **Statement of Costs – 2020 Exploration Program**

2020 Keystone Creek YMEP expenses	Rate	Subtotal	GST	Total
Drilling, Reverse Circulation of targets, 18 holes	291m @\$260/m	\$75 <i>,</i> 660.00	\$3,783.00	\$79,443.00
Access construction, Caterpillar Bulldozer D7	10 hr @\$220/hr	\$2,200.00	\$110.00	\$2,310.00
Access construction, Caterpillar Excavator 345B	10hr @\$250/hr	\$2,500.00	\$125.00	\$2,625.00
Drill Rig Moves	30 hr @\$250/hr	\$7,500.00	\$375.00	\$7,875.00
Compressor rental	17 days @ \$300/day	\$5,100.00	\$255.00	\$5,355.00
Processing of drill samples for placer gold	2 people x 5 days @\$400/day	\$4,000.00	\$200.00	\$4,200.00
Drone Imagery Survey	5.32 creek miles@\$1000/mile	\$700.00	\$35.00	\$735.00
Resistivity geophysical surveys - contractor rates for 5 days	2.49km @\$12,000/line km	\$29,880.00	\$1,494.00	\$31,374.00
Geoplacer Exploration Ltd Geological mapping, targeting and supervision of drilling and geophysical program, report writing	15 days@\$550/day	\$8,250.00	\$412.50	\$8,662.50
Camp costs (YMEP rates)	82 person days@\$100/day	\$8,200.00	\$410.00	\$8,610.00
Report Writing	2 people x 3 days @ \$400/day	\$2,400.00	\$120.00	\$2,520.00
Total		\$146,390.00	\$7,319.50	\$153,709.50

# **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 16<sup>th</sup> day of January, 2021

William LeBarge, P. Geo.

William LeBarge

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 16<sup>th</sup> day of January, 2021

Selena Magel, G. I. T.

SeleraMagel

### Allegra Webb

I, Allegra Webb of Box 27, Site 7, RR#1, Okotoks, AB, DO HEREBY CERTIFY THAT:

- 1. I am a graduate of the University of Calgary (B.Sc., 2020, Geophysics).
- 2. I have practiced Geology and geophysics since May 2018.
- 3. I have conducted and interpreted over 40 km of resistivity surveys since the summer of 2018.

Dated this 16<sup>th</sup> day of January, 2021

Allegra Webb

Allegra hlib

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# Appendix 1 – Placer Claims and Leases, Keystone Property

TENURE	CLAIM NAME	GRANT	OWNER	STAKING	RECORDED	EXPIRY
Activo	CoDisc 1		Farth & Iron Minos Inc. 100%	DATE	DATE	DATE
Active	CoDisc 1	P 515954	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	CODISC 2	P 013955	Editif & Iron Willes Inc 100%	6/10/1079	6/20/1079	0/2/2021
Active		P 02230	Frank Taylor - 100%	6/19/19/8	0/20/1978	9/3/2021
Active		P 02237		6/19/19/8	6/20/1978	9/3/2021
Active	Creek Claim 3	P 02238	Frank Taylor - 100%	6/19/19/8	6/20/1978	9/3/2021
Active	Creek Claim 4	P 02239	Frank Taylor - 100%	6/19/19/8	6/20/19/8	9/3/2021
Active	Creek Claim 5	P 02240	Frank Taylor - 100%	6/19/19/8	6/20/19/8	9/3/2021
Active	Creek Claim 6	P 02241	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 7	P 02242	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 8	P 02243	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 9	P 02244	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 10	P 02245	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 11	P 02246	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 12	P 02247	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 13	P 02248	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 14	P 02249	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 15	P 02250	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 16	P 02251	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 17	P 02252	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 18	P 02253	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 19	P 02254	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 20	P 02255	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 21	P 02256	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 22	P 02257	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 23	P 02258	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 24	P 02259	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 25	P 02260	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 26	P 02261	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 27	P 02262	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 28	P 02263	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 29	P 02264	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 30	P 02265	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 31	P 02266	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 32	P 02267	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 33	P 02268	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 34	P 02269	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021
Active	Creek Claim 35	P 02270	Frank Taylor - 100%	6/19/1978	6/20/1978	9/3/2021

TENURE	CLAIM NAME	GRANT	OWNER	STAKING	RECORDED	EXPIRY
Activo	Discovery	NUMBER	Frank Taylor 100%		DATE	DATE
Activo	lako	P 42340	Frank Taylor - 100%	0/7/1990	0/19/1990	9/3/2021
Active	Jake Kathu	P 42020	Frank Taylor - 100%	0/30/1990	9/3/1990	9/3/2021
Active	Kauly	P 42829	Frank Taylor - 100%	8/30/1998	9/3/1998	9/3/2021
Active	Key 1	P 513776	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key 2	P 513///	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key 3	P 513/78	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key 4	P 513779	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key 5	P 513780	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key 6	P 513781	Earth & Iron Mines Inc 100%	11/1/2016	11/4/2016	11/30/2021
Active	Key Left 1	P 513966	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 2	P 513967	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 3	P 513968	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 4	P 513969	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 5	P 513970	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 6	P 513971	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 7	P 513972	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 8	P 513973	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 9	P 513974	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 10	P 513975	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 11	P 513976	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 12	P 513977	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 13	P 513978	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 14	P 513979	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 15	P 513980	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 16	P 513981	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 17	P 513982	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 18	P 513983	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 19	P 513984	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 20	P 513985	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 21	P 513986	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Left 22	P 513987	Earth & Iron Mines Inc 100%	7/20/2017	7/24/2017	11/30/2021
Active	Key Right 1	P 513988	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 2	P 513989	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 3	P 513990	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 4	P 513991	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 5	P 513992	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 6	P 513993	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 7	P 513994	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021

TENURE	CLAIM NAME	GRANT	OWNER	STAKING	RECORDED	EXPIRY
		NUMBER		DATE	DATE	DATE
Active	Key Right 8	P 513995	Earth & Iron Mines Inc 100%	//21/201/	//24/201/	11/30/2021
Active	Key Right 9	P 513996	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 10	P 513997	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 11	P 513998	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 12	P 513999	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 13	P 514000	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 14	P 524001	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 15	P 524002	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 16	P 524003	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 17	P 524004	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 18	P 524005	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 19	P 524006	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 20	P 524007	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 21	P 524008	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Key Right 22	P 524009	Earth & Iron Mines Inc 100%	7/21/2017	7/24/2017	11/30/2021
Active	Keystone 1	P 514863	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 2	P 514864	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 3	P 514865	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 4	P 514866	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 5	P 514867	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 6	P 514868	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 7	P 514869	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 8	P 514870	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 9	P 514871	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 10	P 514872	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 11	P 514873	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 12	P 514874	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 13	P 514875	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 14	P 514876	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 15	P 514877	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 16	P 514878	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 17	P 514879	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 18	P 514880	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 19	P 514881	Earth & Iron Mines Inc 100%	6/8/2016	6/10/2016	11/30/2021
Active	Keystone 20	P 514882	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 21	P 514883	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 22	P 514884	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 23	P 514885	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021

TENURE	CLAIM NAME	GRANT NUMBER	OWNER	STAKING DATE	RECORDED DATE	EXPIRY DATE
Active	Keystone 24	P 514886	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 25	P 514887	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 26	P 514888	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 27	P 514889	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 28	P 514890	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 29	P 514891	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 30	P 514892	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 31	P 514893	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Keystone 32	P 514894	Earth & Iron Mines Inc 100%	6/9/2016	6/10/2016	11/30/2021
Active	Lake 1	P 524422	Stuart Gray - 100%	5/19/2018	5/29/2018	5/29/2023
Active	Lake 2	P 524423	Earth & Iron Inc 100%	5/19/2018	5/29/2018	5/29/2023
Active	Rob	P 42830	Frank Taylor - 100%	8/30/1998	9/3/1998	9/3/2021
Active	Τ1	P 524088	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 2	P 524089	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 3	P 524090	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 4	P 524091	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 5	P 524092	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 6	P 524093	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 7	P 524094	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 8	P 524095	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т9	P 524096	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 10	P 524097	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	T 11	P 524098	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	T 12	P 524099	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 13	P 524100	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	T 14	P 524101	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	T 15	P 524102	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 16	P 524103	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	Т 17	P 524104	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
Active	T 18	P 524105	Earth & Iron Mines Inc 100%	7/14/2017	7/18/2017	11/30/2021
	Prospecting Lease					
Pending	1 mile lease	IM00404	Frank Taylor - 100%	6/28/2019	7/8/2019	7/8/2021

Appendix 2 – Keystone Creek Drill Logs



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

Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek Claim 6 DRILL HOLE NAME Tay20-01 DATE DRILLED **TOTAL DEPTH REACHED** DATE PROCESSED 13-Jul-20 11-Jul-20 14m DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY geos HELPER Allan Dutchak TYPE OF DRILL RC METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** grey dusty gravely silt with some mag 0-2 12 dry quartz no gold magnetite 2-3 15 grey gravel with silt dry no gold magnetite 3-4 35 grey-brown gravel and silt dry no gold dark sand with silt, little magnetite 4-5 35 dry gravel, coarse sand no gold ang pyrite 5-6 9 coarse black sand with silt, clay dry (bedrock??) none grey-black silt and clay rich, lots of ang pyrite 6-7 17 dry not much gravel, some sand no gold dark grey-black silty and gravel lots of pyrite 7-9 36 drv chips no gold dark grey-black silty and gravel lots of pyrite 59 9-11 dry chips no gold dark grey-black silty and gravel lots of pyrite 11-14 85 dry chips no gold



11-12

18

EARTH & IRON INC. Signature Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek Claim 6 DRILL HOLE NAME Tay20-02 DATE DRILLED 12-Jul-20 **TOTAL DEPTH REACHED** 16m DATE PROCESSED 13-Jul-20 DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY geos HELPER Allan Dutchak RC TYPE OF DRILL METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** pyrite, Hem, brown silt with some rounded 0-2 10 magnetite Ν gravel no gold pyrite, Hem, brown silt with some rounded 9 2-3 Ν magnetite gravel 1 FC pyrite, Hem, grey powdery silt with ang 10 3-4 magnetite Ν gravel 2 FC mag, pyrite, hem 4-5 16 brown silty gravel with sand Ν no gold Grey brownsilty gravel with lots of pyrite 5-6 17 Ν fine sand 1FC pyrite, scheelite 6-7 19 grey silty gravel Ν no gold grey silty small amount of pyrite, scheelite 7-8 20 Ν gravel 1FC grey brown silty/clay with Pyrite, scheelite 8-9 14 Ν small gravel no gold black clay rich layer some pyrite, scheelite 9-10 21 Ν gravels 1MC dark brown silty with small pyrite, scheelite 10-11 12 Ν

no gold

flake

1 med-coarse

Υ

amounts of gravel

rounded)

dark brown silty with small amounts of gravel (some

12-13	24	Black silty gravel with clay	Pyrite, sheelite 2MC		Y
13-14	21	Black silty gravel with clay	Pyrite, magnetite		Y
		, , , , , , , , , , , , , , , , , , , ,	2MC, 5FC		
14-15	17	Brown gravel with silt and	pyrite, mag	Possibly Paleo	v
14-15	17	rounded gravels	1MC, 3FC	channel	T
15-16	8	Wet grey brown clay with coarse gravel	Abundant pyrite	Possibly Close to bedrock	N
		course Brater	no gold		



11-12

12-13

29

27

EARTH & IRON INC. Signature Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek Claim 6 DRILL HOLE NAME TAY20-03 DATE DRILLED **TOTAL DEPTH REACHED** 14-Jul-20 13-Jul-20 15m DATE PROCESSED DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY geos HELPER Allan Dutchak RC TYPE OF DRILL METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** pyrite, mag, brown gravel with coarse sand 0-2 10 scheelite Ν (rounded) no gold brown (some rounded) gravel 8 2-3 Ν with silt no gold pyrite, mag, Brown (rounded) gravel with 3-4 7 Ν scheelite silt no gold lots of pyrite 4-5 14 grey silt with gravel Ν no gold lots of pyrite 5-6 16 grey silt with gravel Ν no gold lots of pyrite 6-7 14 grey silt with gravel Ν no gold lots of pyrite, 7-8 12 light grey silt with gravel some hematite Ν no gold lots of pyrite 8-9 17 grey gravel with silt Ν no gold lots of pyrite grey clay with lots of gravel 9-10 32 some fine mag wet Ν no gold pyrite, magnetite 21 Ν 10-11 grey gravel with silt

1MC

1SC

magnetite,

hematite small

amount of pyrite

Ν

Ν

grey gravel (rounded-angular)

coarse sand some silt with

with silt

gravel

			no gold	
13-14	32	brown sand gravel with silt (no coarse sand)	mag, some pyrite 1SC	Ν
14-15	22	grey gravels with coarse sand	fine magnetite	Ν



EARTH & IRON INC. District VT C . . . . .

Signature

IRON	T: (780) 900 2	306	Date		
		DRILL SAMPLE PROCESS	SING LOG		
CLAIM NAME	Creek Claim 6		DRILL HOLE NAME	TAY20-04	
DATE DRILLED	15-Jul-20	TOTAL DEPTH REACHED	23m	DATE PROCESSED	16-Jul-20
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	geos
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	LeTrap
DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
			GOLD DESCRIPTION		
0-2	22	grey brown silty with gravel-	pyrite, magnetite	4	N
			no gold		
2-3	15	medium grey silt with sand and gravel	magnetite, scheelite 2 SC		N
3-4	10	light grey-tan gravel with silt some sand	magnetite, scheelite 1MC, 3FC	dry, diorite, quartzite	Y
4-5	18	light grey silt with gravel	magnetite, scheelite 1SC	diorite, quartzite, orange quartz	N
5-6	22	dark grey silt with small amount of gravel	pyrite, magnetite	-	N
6-7	33	medium grey gravel with silt	pyrite, magnetite		N
7-8	34	grey brown gravel with silt	1SC pyrite, magnetite, hem 2SC		N
8-9	22	grey brown silt not much gravel	fine mag. no gold	-	N
9-10	43	dark silt small coarse sand, grit	fine magnetite	Wet, lakesed?, loess, very well sorted, rotten smell	N
10-11	50	dark silt small coarse sand, grit	minor pyrite	-	N
		silt with fine sand (small			
11-16	80	amount) well sorted	no gold		N

16-17	22	grey gravel with coarse sand	pyrite, scheelite		N
17-18	36	grey gravel with coarse sand	pyrite-lots 2MC		N
18-19	19	grey gravel with coarse sand	lots of pyrite, possibly galena no gold		N
19-20	46	transition to tan silty clay	lots of pyrite no gold	dry, schist rich,bedrock?	N
20-21	46	tan silty clay with small gravels	lots of pyrite no gold	dry	Ν
21-22	43	tan silty clay with small gravels	lots of pyrite no gold	damp	Ν
22-23	36	powdery with some grit	lots of pyrite	dry	Ν



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

Date

		DRILL SAMPLE PROCE	SSING LOG		
CLAIM NAME	Creek Claim 6		DRILL HOLE NAME	TAY20-05	
DATE DRILLED	17-Iul-20	TOTAL DEPTH REACHED	21m	DATE PROCESSED	July 18 2020
DRILLER	Mark Bayne		 115mm	COMPLETED BY	
HEIPER	Allan Dutchak		RC	MFTHOD	leTran
DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
0-2	18	brown sand with rounded gravels, silt	magnetite, pyrite	dry	N
2-3	16	grey brown gravel and silt	magnetite, pyrite 3FC	dry	N
3-4	28	powdery grey qtz chips and gravel	magnetite, pyrite, scheelite	dry, boulder	N
4-5	22	grey gravel, powdery	magnetite, pyrite, scheelite	dry, boulder diorite	N
			3FC		
5-6	22	grey tan gravel with some rock chips and silt	magnetite, pyrite, scheelite	dry	N
			1FC		
6-7	36	brown silty dark grey brown	magnetite, pyrite	damp	N
7-12	85	brown well sorted silt	pyrite, magnetite	damp	N
			no gold		
12-15	50	grey well sorted silt	pyrite, magnetite	wet sample, pyrite in	N
			no gold	graphite schist	
			lots of pyrite,		
15-16	8	grey gravel and silt	mag, Hem		N
			no gold		

			1	
16-17	20	grey gravel and silt	pyrite, magnetite, Hem, scheelite no gold	N
17-18	18	tan and grey silt with schist, bit of gravel	no gold	N
		tan nowder with some grey		
18-19	40	silty powder and schist rock	pyrite, magnetite	N
		chips	no gold	
			rusty pyrite,	
19-20	18	grey powder silty schist chips	magnetite no gold	
20.21	6	grey powder silty sand with	rusty pyrite	
20-21	0	chips and grit	no gold	



DRILLER

HELPER

11-12

12-13

3/4 bag

3/4 bag

brown sand and gravels

Bedrock

EARTH & IRON INC. Signature Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek Claim 6 DRILL HOLE NAME TAY20-06 DATE DRILLED **TOTAL DEPTH REACHED** DATE PROCESSEI 17-Jul-20 16-Jul-20 13m Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY Mark & Allan Allan Dutchak TYPE OF DRILL RC METHOD LeTrap FINAL CONCENTRATE SAMPLE ON FILE DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS (Y/N) **GOLD DESCRIPTION** 0-2 1/3 bag overburden and organic Ν no gold 2-3 1/4 bag dark gravels and sand Ν no gold 3-4 1/4 bag dark gravels and sand Ν 1SC pyrite 4-5 1/4 bag wet silt and gravels (clay like) Ν 1FC 5-6 1/3 bag wet silt and gravels (clay like) Ν no gold 6-7 1/2 bag damp silt and gravels Υ 1 med-flake pyrite dark silty sand and gravles 7-8 1/2 bag 2 med-flakes, 2 7mg Υ (rounded) small grains dark silty sand and gravles Ν 8-9 1/2 bag (rounded) no gold dark silty sand and gravles 9-10 3/4 bag Υ (rounded) 2LC, 2SC 10-11 3/4 bag brown sand and gravels Ν

2SC

2SC

no gold

Ν

Ν

Bedrock





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

IRON	T: (780) 900 2	306	Date		
CLAIM NAME	Creek Claim 6		DRILL HOLE NAME	TAY20-07	_
DATE DRILLED	18-Jul-20	TOTAL DEPTH REACHED	18m	DATE PROCESSED	20-Jul-20
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	geos
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	LeTrap
DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
0-3	3	brown clay and silt with gravel	1 chunky- medium, 1FC	rusty creek gravels	Y
3-4	5	brown tan gravel with coarse sand	pyrite 1CC, 1FC	rusty creek gravels	Y
4-5	3	grey brown gravels with sand	pyrite, magnetite	grey-not rusty	Y
		and some silt	1 round small piece	31mg	
5-6	10	grey gravels with silty sand	pyrite, Mag, hem	chunky pyrite	N
			no gold		
6-7	10	blue clay brown silt with	pyrite, Mag, hem		N
			no gold		
7-8	18	brown gravel	pyrite, Mag, hem	schisty colour	v
	10	biowngraver	1FC, 1small flat nugget	40mg	
8-9	17	brown gravel some grey silt	some pyrite, mag	schisty	N
			no gold		
9-10	18	schist gravel with silt tan	rusty, weathered, pyrite	wet. Likely Bedrock around 10-11m	N
10-11	18	tan-pink schist	small amount of pyrite and mag	wet	N
11-12	36	tan dry schist gravel	small amount of pyrite and mag no gold	-	N

12-13	18	tan schist sand with gravel	no gold	wet	N
13-14	26	orange silt with gravels minor sand	pyrite, magnetite no gold	dry	Ν
14-15	32	orange silty sandy gravels	pyrite, magnetite no gold		Ν
15-18	80	orange tan silty with gravels	pyrite, magnetite no gold		Ν







EARTH & IRON INC.

Signature Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek Claim 9 DRILL HOLE NAME TAY20-08 DATE DRILLED 18-Jul-20 **TOTAL DEPTH REACHED** 18m DATE PROCESSED 20-Jul-20 DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY geos HELPER Allan Dutchak RC TYPE OF DRILL METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** small amount of brown rounded gravel with 0-2 5 pyrite, magnetite Ν coarse sand no gold rusty pyrite orange-brown rounded gravel Y 2-3 15 2 medium with coarse sand rounded grains orange-brown rounded gravel pyrite 3-4 6 Ν with coarse sand 1FC orange-brown rounded gravel pyrite 4-5 8 Ν with coarse sand 2FC orange-brown rounded gravel pyrite 4 5-6 Ν with coarse sand no gold orange-brown rounded gravel pyrite 7 6-7 Ν with coarse sand no gold tan brown rounded gravel with pyrite 7-8 11 Ν coarse sand and silt no gold tan brown rounded gravel with pyrite 8-9 18 Ν coarse sand and silt no gold pyrite, magnetite 9-10 10 tan coarse sand and gravel Ν no gold silvery black silt with coarse magnetite 10-11 29 Ν sand no gold 11-12 28 black schist with silt Ν no gold magnetite, pyrite 12-13 11 black schist with silt Ν no gold



CLAIM NAME

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

Creek claim 9

Signature

Date DRILL SAMPLE PROCESSING LOG DRILL HOLE NAME TAY20-09 TOTAL DEPTH REACHED 16m DATE PROCESSED 22-Jul-20

18-Jul-20	TOTAL DEPTH REACHED	16m	DATE PROCESSED	22-Jul-20
Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Mark Bayne
Allan Dutchak	TYPE OF DRILL	RC	METHOD	LeTrap
SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
2	organics and top soils with gravel	no gold	water from ground-creek	N
4	brown gravel with sand	2 FC	water from ground-creek	Ν
5	brown gravel with sand	no gold	water from ground-creek	Ν
17	brown gravel with sand	1 CC, 1MC, 6 FC	water from ground-creek	Y
5	brown gravel with coarse sand	1MC	water from ground-creek	Y
6	grey-brown rounded gravel with sand	2FC	water from ground-creek	N
2	brown coarse sand with gravel	no gold	water from ground-creek	N
10	coarse sand with small gravel	1 small colour	water from ground-creek	N
8	grey silt with gravel and fine sand	no gold	increase water while drilling	Ν
20	grey silt with gravel and fine sand	3 FC	Water stops	Ν
30	grey silt with small amount of gravel	2FC		Ν
30	grey silt with small amount of gravel	pyrite no gold		N
8	grey silt with small amount of gravel	pyrite no gold		N
20	blue grey wet silt	no gold	graphite schist	N
30	blue grey wet silt	no gold	graphite schist	N
	18-Jul-20   Mark Bayne   Allan Dutchak   SAMPLE SIZE (L)   2   4   5   17   5   17   5   17   5   10   8   20   30   30   8   20   30   30   8   20   30   30   30   30   30	18-Jul-20 Mark Bayne Allan DutchakTOTAL DEPTH REACHED INSIDE DIAMETER OF DRILLSAMPLE SIZE (L)LITHOLOGY DESCRIPTION2Organics and top soils with gravel4brown gravel with sand5brown gravel with sand5brown gravel with sand6grey-brown rounded gravel10coarse sand with gravel10coarse sand with gravel and fine sand20grey silt with gravel and fine sand30grey silt with small amount of gravel30brey silt with small amount of gravel30brey silt with small amount of gravel30blue grey wet silt30blue grey wet silt	18-Jul-20 TOTAL DEPTH REACHED 16m   Mark Bayne INSIDE DIAMETER OF DRILL 115mm   Allan Dutchak TYPE OF DRILL RC   SAMPLE SIZE (L) LITHOLOGY DESCRIPTION FINAL CONCENTRATE DESCRIPTION   2 organics and top soils with gravel no gold   4 brown gravel with sand -   5 brown gravel with sand -   5 brown gravel with sand -   17 brown gravel with coarse sand -   6 grey-brown rounded gravel -   7 brown coarse sand with gravel -   10 coarse sand with small gravel -   10 coarse sand with gravel and fine sand -   30 grey silt with small amount of gravel 3 FC   30 grey silt with small amount of gravel -   30 grey silt with small amount of gravel -   30 grey silt with small amount of gravel -   30 blue grey wet silt -   30 blue grey wet silt -	18-Jul-20 TOTAL DEPTH REACHED 16m DATE PROCESSED   Mark Bayne INSIDE DIAMETER OF DRILL 115mm COMPLETED BY   Allan Dutchak TYPE OF DRILL RC METHOD   SAMPLE SIZE (L) LITHOLOGY DESCRIPTION FINAL CONCENTRATE DESCRIPTION COMMENTS   2 organics and top soils with gravel mo gold ground-creek   4 brown gravel with sand 2 FC ground-creek   5 brown gravel with sand 1 CC, 1MC, 6 FC ground-creek   17 brown gravel with coarse sand water from mo gold ground-creek   6 grey-brown rounded gravel with sand ZFC ground-creek water from   10 coarse sand with small gravel ZFC ground-creek water from   10 coarse sand with small gravel Mater from mo gold ground-creek   10 coarse sand with small gravel mo gold Water stops Mater stops   30 grey silt with gravel and fine gravel 3 FC Water stops S FC S FC   30 brown coarse sand with small amount of gravel grey silt with small amount of gravel




**EARTH & IRON INC.** 

Signature

Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek claim 9 DRILL HOLE NAME TAY20-10 DATE DRILLED **TOTAL DEPTH REACHED** 23-Jul-20 21-Jul-20 16m DATE PROCESSED DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY Geos METHOD HELPER Allan Dutchak RC TYPE OF DRILL LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** 0-2 6 brown gravel and coarse sand Ν 2 FC pyrite 2-3 16 tan gravel with coarse sand Ν 3 FC pyrite 3-4 1 tan gravel with coarse sand Ν no gold not much heavies 4-5 3 tan gravel with coarse sand Ν no gold grey brown gravel and coarse not much heavies 7 5-6 Ν sand 1 FC grey brown gravel and coarse not much heavies 6-7 11 Ν sand no gold brown gravel with coarse sand not much heavies 7-8 9 Ν and silt no gold brown gravel with coarse sand not much heavies 8-9 19 Ν and silt no gold brown gravel with coarse sand pyrite, magnetite γ 9-10 16 and silt schist graphite 1 MC, 2 FC grey gravelly silt with black pyrite, magnetite graphitic schist Ν 10-11 16 rock chips bedrock no gold graphitic schist black silt with sheen 11-12 30 Ν bedrock no gold graphitic schist lots of pyrite black silt with sheen 12-13 25 Ν no gold bedrock

13-14	30	black silt with sheen	lots of pyrite no gold	graphitic schist bedrock	N
14-15	36	black silt with sheen	lots of pyrite no gold	graphitic schist bedrock	N
15-16	36	black silt with sheen	lots of pyrite no gold	graphitic schist bedrock	N
15-16	30	black silt with sheen	lots of pyrite no gold	graphitic schist bedrock	N



**EARTH & IRON INC.** 

Signature

Mayo Mining District, YT Canada T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek claim 9 DRILL HOLE NAME TAY20-11 DATE DRILLED 20-Jul-20 **TOTAL DEPTH REACHED** DATE PROCESSED 21-Jul-20 13m DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY Geos HELPER Allan Dutchak TYPE OF DRILL RC METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** 0-2 2 grey-black sand with gravel 1 small colour 8 2-3 tan coarse sand with gravel no gold 3-4 8 tan coarse sand with gravel 2 FC, 1 Small colour 7 4-5 tan coarse sand with gravel 1 medium Gr, 2 FC 5-6 8 tan coarse sand with gravel 1 small colour, 1 FC Gold was very tan coarse sand with gravel 6-7 19 unique! Silvery and silt 1 Medium, 4 FC (electrum??) 7 7-8 grey silty round gravel no gold 7 8-9 grey silty round gravel 1 FC grey silt with coarse gravel 16mg 9-10 20 1 large Gr, 1 FC 10-11 18 grey silt with coarse gravel 1 small colour 11-12 21 black schisty mud wet no gold pyrite 12-13 20 black schisty mud dry no gold





Signature

		-	0		
	Mayo Mining District, YT Canada				
DON	T: (780) 900 2	306	Date		
MINES					
		DRILL SAMPLE PROCES	SING LOG		
CLAIM NAME	Creek claim 9		DRILL HOLE NAME	TAY20-12	
		-			-
DATE DRILLED	21-Jul-20	TOTAL DEPTH REACHED	13m	DATE PROCESSED	23-Jul-20
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Geos
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	LeTrap
			FINAL CONCENTRATE		
DEPTH (m)	SAMPLE SIZE (L)	LITHOLOGY DESCRIPTION	DESCRIPTION	COMMENTS	SAMPLE ON
			GOLD DESCRIPTION		FILE (Y/N)
0-2	10	Brown gravel with coarse sand	1 MC	-	
			1 1110		
2-3	8	Brown gravel with coarse sand	1 small flake	11mg	
3-4	10	Brown gravel with coarse sand	1 CC	-	
4-5	4	Brown gravel with coarse sand	1 FC	-	
	_	Brown gravel with coarse sand			
5-6	/	and silt	no gold		
C <b>7</b>	10	Brown gravel with coarse sand			
6-7	19	and silt	nogold	1	
7 0	21	grey-brown gravel with coarse			
7-0	21	sand	no gold		
8-0	12	grey-brown gravel with coarse		25mg	
0-5	12	sand and silt	1 coarse flake	25118	
9-10	38	grey silt with coarse sand			
5 10	50		1 Large colour		
10-11	20	grey silt with coarse sand	lots of pyrite		
10 11	20		no gold		
11-12	20	grey silt with coarse sand		-	
			no gold		
12-13	20	silvery-grey silt (graphitic)	lots of pyrite		
			اسم مماما	1	1

no gold





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T: (780) 900 2306 Date DRILL SAMPLE PROCESSING LOG **CLAIM NAME** Creek claim 8 DRILL HOLE NAME TAY20-13 DATE DRILLED 24-Jul-20 **TOTAL DEPTH REACHED** DATE PROCESSED 24-Jul-20 13m DRILLER Mark Bayne **INSIDE DIAMETER OF DRILL** 115mm COMPLETED BY geos HELPER Allan Dutchak TYPE OF DRILL RC METHOD LeTrap FINAL CONCENTRATE SAMPLE ON DEPTH (m) SAMPLE SIZE (L) LITHOLOGY DESCRIPTION DESCRIPTION COMMENTS FILE (Y/N) **GOLD DESCRIPTION** abundant pyrite, 0-2 3 grey gravel with silt wet Ν mag no gold pyrite 7 2-3 grey gravel with coarse sand Ν 1 FC brown rounded gravel with 9 3-4 rounded colour Ν sand and silt 1FC orange-brown gravel with lots magnetite, pyrite 4-5 19 Ν of silt no gold brown sand with rounded magnetite 5-6 18 Ν gravel 1FC 6-7 16 brown rounded gravel Ν no gold brown gravelwith silt and 7-8 18 Ν coarse sand 3FC brown gravelwith silt and 8-9 8 Ν coarse sand no gold 9-10 19 grey silt with gravel Ν no gold bedrock 8 10-11 grey fine powder with chips Ν no gold (quartzite) bedrock schist 11-12 18 grey fine powder with chips Ν /quartzite no gold



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	DRILL SAMPLE PROCESSING LOG					
CLAIM NAME		_	DRILL HOLE NAME	TAY20-14		
DATE DRILLED	25-Jul-20	TOTAL DEPTH REACHED	12m	DATE PROCESSED	26-Jul-20	
DRILLER	Mark Bayne	- INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Mark and Allan	
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	Le trap	
DEPTH (m)	SAMPLE SIZE	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)	
0-2	5L	gravel brown sand	no gold	_	N	
2-3	2L	gravel brown sand	1FC	=	N	
3-4	3L	gravel brown sand	1VFC	-	Ν	
4-5	10L	gravel brown sand	4FC	-	Ν	
5-6	12L	gravel brown sand	no gold	-	Ν	
6-7	8L	heavier gravel brown sand	1SC, 3VFC	-	Ν	
7-8	20L	heavier gravel brown sand	1SC	-	Ν	
8-9	10L	gray silt with sand/gravel	1MC	-	N	
9-10	12L	black grey silt gravel	1M flake	-	Y	
10-11	30L	bedrock	pyrite 2SC	-	N	
11-12		bedrock	quartz, quartzite, pyrite	-	N	





1ayo Mining District, YT Canada : (780) 900 2306

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		DRILL SAMPLE PRO	CESSING LOG		
CLAIM NAME	ROB	-	DRILL HOLE NAME	TAY20-15	_
DATE DRILLED	27-Jul-20	TOTAL DEPTH REACHED	21m	DATE PROCESSED	28-Jul-20
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Mark and Allan
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	Le Trap
DEPTH (m)	SAMPLE SIZE	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
		GOLD DESCRIPTION			
0-2		black silty with some gravel		-	Ν
2-3		black silty with some gravel		Small handful	Ν
3-4		black silty with some gravel		samples panned. No gold. No samples through LeTrap??	Ν
4-5		black silty with some gravel			Ν
5-6		black silty with some gravel			Ν
6-7		black silty with some gravel		-	Ν
7-8	38	black silty with some gravel	no gold	-	Ν
8-9	38	dark grey silt	no gold	-	Ν
9-10	38	grey/black silty with sand and gravel	1LC	-	Y
10-11	30	grey/black silty with sand and gravel	1SC	-	Y
11-12	38	grey/black silty with sand and gravel	no gold	-	Ν
12-13	40	grey/black silty with sand and gravel	no gold	-	Ν
13-14	40	grey/black silty with sand and gravel	no gold	-	Ν
14-15	37	grey/black silty with sand and gravel	no gold	-	Ν
15-16	35	grey/black silty with sand and gravel	no gold	-	N
16-17	38	grey/black silty with sand and gravel	1SC	-	N

17-18	25	grey/black silty with sand and gravel	no gold	Ν
18-19	25	grey silty	no gold	Ν
19-20	25	grey silty dry powdery	no gold	Ν
20-21	25	grey silty dry powdery	no gold	N



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DRILL SAMPLE PROCESSING LOG						
CLAIM NAME	ROB		DRILL HOLE NAME	TAY20-16	_	
DATE DRILLED	22-Aug-20	TOTAL DEPTH REACHED	20m	DATE PROCESSED	22-Aug-20	
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Selena & Allegra	
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	Le Trap	
DEPTH (m)	SAMPLE SIZE	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION	COMMENTS	SAMPLE ON FILE	
		GOLD DESCRIPTION		(-//		
0-3	6	black gravel silt schist	pyrite, black sand		N	
		no gold				
3-4	7	black gravel silt schist	pyrite, black sand		N	
			no gold			
4-5	2	brown gravel	1MC, 1FC	mixed oxidized gravels	N	
5-6		no sample		-	N	
6-7	2	brown gravel	no gold	mixed gravels	N	
7-8	4	brown muddy gravel-diorite	no gold	wet	N	
8-9	10	brown muddy gravel-diorite	garnet, pyrite 1CC	dry	N	
9-10	22	brown muddy gravel-diorite	garnets 1CC, 1MC, 2FC	wet	Y	
10-11	11	dark grey gravel and silt	1Sm Flake, 2CC	wet	Y	
11-12	16	grey silt and gravel	no gold	damp	Ν	
12-13	25	grey silt and gravel	1CC, 4MC	dry	Y	
13-14	24	grey tan gravel and silt	8FC	dry, black graphitic schist		
14-15	16	brown gravel	1MC, 3FC, 1 sm wire piece	dry	Y	
			Abundant pyrite			
15-16	36	brown gravel	2Smflakes, 6CC, 9MC, 4FC	wet 6mg	Y	

16-17	23	grey silty gravel	pyrite 2Lgflakes, 1CC, 3FC	wet 12mg	Y
17-18	16	black schist gravel	Abundant pyrite	dry, bedrock, black graphitic schist	
18-19	40	black schist gravel	Abundant pyrite	dry, bedrock, black graphitic schist	
19-20	22	black schist gravel	Abundant pyrite	dry, bedrock, black graphitic schist	







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		DRILL SAMPLE PROC	ESSING LOG				
CLAIM NAME	ROB	_	DRILL HOLE NAME	TAY20-17	_		
	23-Aug-20	ΤΟΤΔΙ DEPTH REACHED	17m	DATE PROCESSED	23-Aug-20		
DRILLER	Mark Bayne		115mm	COMPLETED BY	Selena & Allegra		
HEIPER	Allan Dutchak		RC		Le Tran		
DEPTH (m)	SAMPLE SIZE	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)		
0-2	10	grey mixed gravel and sand schist	pyrite	damp	pic N		
2-3	10	grey mixed gravel and sand schist	pyrite no gold	damp	N		
3-4	20	grey -brown gravel and sand diorite	pyrite, non- magnetice black sand	dry	N		
4-5	21	grey -brown gravel and sand diorite	1FC	dry	N		
5-6	16	grey -brown gravel and sand diorite	pyrite, garnet no gold	dry	N		
6-7	16	grey gravel and silt (diorite, granite, schist, quartzite)	1MC	wet	pic		
7-8	18	grey rounded mixed gravels	abundant pyrite	dry	pic		
8-9	8	grey rounded mixed gravels	no gold	-	N		
9-10	16	brown mixed gravels	garnet 1FC		N		
10-11	19	light brown mixed gravels	pyrite 2FC	-	N		
11-12	16	light brown mixed gravels	1FC	-	N		
12-13	16	light brown mixed gravels	no gold	-	N		
13-14	10	light brown mixed gravels	no gold	-	N		

14-15	7	mixed gravels (quartzite)	no gold	Ν
15-16	10	mixed gravels (quartz and quartzite)	no gold	Ν
16-17	7	mixed gravels (quartz and quartzite)	no gold	Ν







CLAIM NAME

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

\_\_\_\_\_

Signature

Date

DRILL SAMPLE PROCESSING LOG

DRILL HOLE NAME

TAY20-18

DATE DRILLED	24-Aug-20	TOTAL DEPTH REACHED	18m	DATE PROCESSEI	24-Aug-20
DRILLER	Mark Bayne	INSIDE DIAMETER OF DRILL	115mm	COMPLETED BY	Mark & Allan
HELPER	Allan Dutchak	TYPE OF DRILL	RC	METHOD	Le Trap
DEPTH (m)	SAMPLE SIZE	LITHOLOGY DESCRIPTION	FINAL CONCENTRATE DESCRIPTION GOLD DESCRIPTION	COMMENTS	SAMPLE ON FILE (Y/N)
0-3	10	Back fill for road, organics	no gold	-	N
3-4	10	grey gravel and silt, mix of schist,quartzite	no gold	water in hole	N
4-5	9	brown sand with gravel	no gold	water in hole	N
5-6	5	brown sand with gravel	no gold	water in hole	N
6-7	20	bright brown sand	no gold	water in hole	Ν
7-8	20	bright brown sand	4FC	water in hole	N
8-9	20	bright brown sand	3FC	water in hole	N
9-10	30	brown sand with heavy mixed gravel	2MC,3FC		N
10-11	45	brown sand with heavy mixed gravel	1CC, 3MC, 1FC	1mg	Y
11-12	18	brown mixed gravel	1MC	_	N
12-13	20	brown sand with heavy mixed gravel	no gold	_	N
13-14	20	grey black sand and silt (schist)	no gold	_	N
14-15	28	grey black sand and silt (schist)	1CC, 1MC	1mg	Y
15-16	16	grey black sand and silt (schist)	no gold	water increased	N
16-17	20	quartzite, bedrock	abundant pyrite 2MC	-	N
17-18	3	bedrock dust, quartizite chips	pyrite no gold		N



Appendix 3 – Keystone Creek Drone Images

