## **YMEP REPORT**

# 2020 REVERSE CIRCULATION DRILL PROGRAM on the LAURA CREEK PROJECT

Laura Creek, Dawson Mining District, Yukon Territory

> YMEP No. 20-119 Applicant: Daniel Ferraro

Author: D. Ferraro, HBSc Date: January, 2021 Claims: Lease ID01709 Owner: Daniel Ferraro NTS Mapsheet: 116B01 UTM Coordinates: E632430, N7102655 (NAD83, Zone 7) Dates of drilling: June 17<sup>th</sup> to June 20<sup>th</sup>, 2020

### TABLE OF CONTENTS

1.0	Summary	4				
2.0	Introduction	6				
3.0	Property Location and Access	6				
4.0	Claim Description	7				
5.0	Property History	8				
6.0	Geology					
	6.1 Bedrock Geology	13				
	6.2 Glacial Geology	17				
	6.3 Surficial Geology	19				
7.0	2019 Resistivity Survey	22				
8.0	2020 Reverse Circulation Drill Program					
	8.1 Summary of Drill Program	25				
	8.2 Daily Log and Personnel	25				
	8.3 Drill and Sample Methodology	28				
	8.4 Sluicing Methodology	29				
	8.5 Drill Results	31				
9.0	Discussion	37				
10.0	Conclusion and Recommendations	41				
Refe	erences	42				
Stat	tatement of Expenditures43					
Cert	ificates of Qualifications	44				

## Figures, Photos, and Tables

Figure 1: Laura Creek location map	6
Figure 2: Placer lease map	7
Figure 3: Undocumented historical workings	11
Figure 4: Jones' 2014 and 2015 shaft locations	12
Figure 5: Regional bedrock geology	13
Figure 6: Geology of the Brewery Creek Mine area	16
Figure 7: Brewery Creek Mine deposits	17
Figure 8: Yukon-wide glacial limits	18
Figure 9: Brewery Creek area glacial limits	18
Figure 10: Laura Creek surficial geology profile	20
Figure 11: YGS Surficial Geology of Laura Creek area	21
Figure 12: 2019 Resistivity Survey line locations	23
Figure 13: Resistivity Survey Line 1	24
Figure 14: Resistivity Survey Line 2	24
Figure 15: 2020 drill hole locations	27
Figure 16: Gold grain size classification with weight estimations	31

## TABLE OF CONTENTS (CONTINUED)

Figure 17: Cross section of drillholes LC-20-001 to LC-20-006	
Figure 18: Cross section of drillholes LC-20-007 to LC-20-009	40
0	
Photo 1: RC drill in Laura Creek valley	28
Photo 2: Sluicing setup	29
Photo 3: Breaking up clay before sluicing	
Photo 4: Drill fence across the Laura Creek valley	32
Photo 5: Sluicing results of LC-20-004	33
Photo 6: Sluicing results of LC-20-005	33
Photo 7: Sluicing results of LC-20-006	34
Photo 8: Sluicing results of LC-20-008	35
Photo 9: Clay with altered shale in LC-20-009	
Photo 10: Pyritic shale bedrock in LC-20-009	
Table 1: Summary of drill hole locations	25
Table 2: Daily log and personnel	
Table 3: Summary of results	31

## Appendices

Appendix I: RC Drill Logs	45
Appendix II: YMEP Final Submission Form	50

#### 1.0 SUMMARY

In June of 2020 a reverse circulation (RC) drill program was conducted on Laura Creek in the Dawson Mining District, Yukon Territory. Nine holes totalling 350 ft (106.68m) were drilled to test for placer gold potential. This program was funded in part by the Yukon Mineral Exploration Program (YMEP).

Laura Creek is a ~10 km long creek located in the Dawson Mining District, NTS mapsheet 116B01, approximately 55km east of Dawson City, YT. Its headwaters are located within the Brewery Creek minesite and it drains into a channel of Klondike River. The creek is covered by a 4.4 mile (7.1 km) placer lease (counted as 5 miles for assessment purposes). The lease, number ID01709, is held by Daniel Ferraro. It was recorded October 5<sup>th</sup>, 2018 and expires October 5<sup>th</sup>, 2021.

Laura Creek is accessible by paved and gravel roads from the junction of the North Klondike and Dempster Highways. The upper portions of Laura Creek can be accessed via the Brewery Creek Mine road (North Forks). The lower portion can be accessed via the Ditch Road which runs along the Klondike River valley.

The Brewery Creek area is located between Yukon's richest historical and currently producing placer districts. The Klondike gold fields are located 40 km west of Laura Creek and have produced over 20 million ounces of gold since its discovery in 1896 and remains the top producing placer district in the Yukon. The Mayo – McQuesten placer mining district is the second most productive placer district in the Yukon and is situated only 60 km south - east of Laura Creek.

The Brewery Creek area has been subjected to significant historical hard rock exploration in the past 30 years. Anomalous gold concentrations were first discovered in stream sediment samples conducted by the Geological Survey of Canada in the mid 1980's. The hard rock source of gold was later discovered by Noranda Exploration in 1987 and was subsequently mined by Viceroy Resources Corp. from 1996 to 2002. The Brewery Creek Mine recovered 266,537 ounces of gold from near surface oxide deposits during this period. Golden Predator Mining Corporation (GPMC), now owner of the deposit, has demonstrated the deposit still contains an indicated oxide resource of 765,000 ounces gold, inferred oxide resource of 440,000 ounces gold, and inferred sulphide resource of 270,000 ounces gold.

Although some historical evidence has been found, the first documented placer exploration on Laura Creek was conducted by Clayton Jones in spring of 2014, which consisted of sinking a shaft to bedrock and sluicing the gravels. The program revealed a 3.5 ft. thick, weakly auriferous gravel on top of the bedrock at a depth of approximately 32 ft. The 28 ft. of frozen overburden consists of 21 feet of organic muck and 7 feet of gravel. A 2.07 cubic yard bulk sample of the bottom 3.5 ft. of gravel and bedrock yielded a total of 0.6 grams of gold.

In 2015, Jones tested the lower end of Laura Creek for its placer potential and confirmed the continuity of placer gold downstream from the 2014 discovery shaft, located 3 km upstream. The vertical shaft dimensions were approx. 29' X 3' X 3'. The entire stratigraphy was frozen with 20.5 ft. of alternating units of organic muck and gravel overlying 7.5ft. of auriferous disorganized cobble boulder gravel resting on an irregular decomposed bedrock (mineralized limestone surface) at 28 ft. The bottom of the shaft was expanded into a 4.5' X 4' X 5' chamber. A total of 12 ft. of horizontal drift with approximate dimension of 4.5' high and 3' wide were completed. A total of 0.365 grams of gold was recovered from 5.4 cubic yards of chamber and drift material. This equates to an average of 0.068 grams gold per loose cubic yard of the lower 3.5 ft gravel and 1 ft of bedrock. A 1 cubic yard of test from the upper 5 ft of gravel resting on the pay gravel (18.5 – 23.5 ft) contained anomalous course gold.

The two isolated shafts completed on Laura Creek to date, separated by 3 km, have shown course placer gold exists throughout the length of the Laura Creek valley. The average grade of gravels encountered in the shafts were determined to be not economic for bulk mining of the entire valley bottom; however, there is a strong *(continued next page)* 

#### 1.0 SUMMARY (CONTINUED)

possibility both of these shafts did not intersect channelized paleo deposits that are narrower and contain higher grades.

In 2019, a resistivity survey (2 lines, 500m total length) was conducted in the vicinity of the 2014 shaft as well as a broad area of the valley to aid in delineating drill targets. Line 1 (200m) was conducted across the creek about 50m northeast of Jones' 2014 shaft. This was done for calibration purposes and to determine if a more suitable drill target was present along this profile. Line 2 (300m) was conducted ~300m southwest of Line 1 in a much broader valley where 2 tributaries drain into Laura Creek. This area allowed for more consistent responses and better contact resistance, likely due to the increase in water-saturated ground as well as the longer line length. A large portion of the line is within the alluvial plain of the 2 tributaries to the northwest.

In 2020, an RC drill program was conducted on Laura Creek from June 17<sup>th</sup> to June 20<sup>th</sup>. Nine vertical holes were drilled totalling 350 ft. The first 6 holes were drilled in a fence formation 50m upstream of RES L1, 120m upstream of the Jones 2014 shaft. They were drilled along a 145 degree azimuth line (perpendicular to the creek valley) and spaced ~12m apart. The remining 3 holes were drilled 400m downstream of the first 6. They were drilled along RES L2, into three targets generated of the resistivity survey.

The 2020 RC drill program at Laura Creek was successful in locating at least 1 potential economic placer gold zone as well as identifying an area of increased gold. In the 6-hole fence area, holes LC-20-004 to 006 showed increased gold concentrations, with hole 005 (15m from Laura Creek) showing the highest content of gold. While this amount of gold is unlikely to weigh more than 5mg, from a hole of this size (6"), it is at least significant. The intention of this fence was to locate a high-grade paystreak, improve upon the results of Jones' 2014 shaft and providing a focussed target for a test pit. Unfortunately, a definitive paystreak was not located, however one can at least say that grades are better in the left limit of the creek valley and likely best ~15m from the creek (+/-6m).

Of the holes drilled in the broad area of the lower creek valley, LC-20-008 had by far the most significant gold content (1 large grain 3.25mm x 2mm). This hole was drilled in an area between a tributary flowing from the northwest and Laura Creek. It is possible the gold may be sourced from this tributary, however the poor results from LC-20-007 may discourage this notion. Due to the limited drill holes in this area, and the broadness of the valley floor here (~250m wide), few conclusions can be drawn as to what may lie between drill holes. A few scenarios are possible: a high-grade paystreak relating to Laura Creek, gold sourced from the northwest tributary, or a broader placer deposit sourced from upper Laura Creek but affected by the alluvial processes of the tributaries.

Recommendations for future work include a test pit in the vicinity of hole LC-20-008. This would be done by a larger backhoe and require a Class 2 or 3 permit. There is about 3-5' of permafrost in this area which should be manageable with a ripper attachment. A drill program should also be conducted in the lower Laura Creek area, upstream of the 2015 shaft. This would be similar to the 6-hole fence done in 2020 - a systematic coverage of the valley, perpendicular to the creek.

Due to other work commitments, the lease was unable to be broken into claims after the 2020 drilling. A shorter program is planned for 2021 in order to satisfy the lease requirements, after which claims will be staked. Due to the success of the 2019 resistivity survey in identifying depths to bedrock and overburden contents, a similar survey is being considered for lower Laura Creek in advance of a potential 2022 drill program.

The 2020 drill program and prior work done by Jones proved the presence of coarse gold in Laura Creek. Defining a resource in upper and lower Laura Creek could transform the Brewery Creek area into an entirely new placer district. The author would like to thank the YMEP program and the YGS. Funding and advice were greatly appreciated and essential throughout this process.

#### 2.0 INTRODUCTION

This document is written to fulfill the requirements of the Yukon Mineral Exploration Program (YMEP) grant application submitted in March, 2020 for a placer exploration program on Laura Creek, Dawson Mining District, Yukon. The lease is held by Daniel Ferraro of Dawson City, YT.

#### 3.0 PROPERTY LOCATION AND ACCESS

Laura Creek is located approximately 55 kilometers east of Dawson City, Yukon Territory on NTS mapsheet 116B01 (Figure 1). It drains the western extension of the Brewery Creek gold mine that was operated by Viceroy Resources Corporation from 1996 to 2002. Laura Creek is accessible by paved and gravel roads from the junction of the North Klondike and Dempster Highways. The upper portions of Laura Creek can be accessed via the Brewery Creek Mine road. A trail has been permitted by Land Use from the Brewery Creek mine road to the middle of the lease for access. The lower portion can be accessed via the Ditch Road which forks from the Brewery Creek Mine road (Figure 2).



Figure 1: General location of Laura Creek/Brewery Creek area.

#### 4.0 CLAIM DESCRIPTION

Laura Creek is a ~10 km long creek located in the Dawson Mining District, NTS mapsheet 116B01. Its headwaters are located within the Brewery Creek minesite and it drains into the Klondike River. The creek is covered by a 4.4 mile (7.1 km) placer lease (counted as 5 miles for assessment purposes). The lease, number ID01709, is held by Daniel Ferraro. It was recorded October 5<sup>th</sup>, 2018 and expires October 5<sup>th</sup>, 2021. Figure 2 displays the lease map.



Figure 2: Map of the Laura Creek placer lease

#### 5.0 PROPERTY HISTORY

The Brewery Creek area is located between Yukon's richest historical and currently producing placer districts. The Klondike gold fields are located 40 km west of Laura Creek and have produced over 20 million ounces of gold since its discovery in 1896 and remains the top producing placer district in the Yukon (if including Indian River) with over 30,000 crude ounces of gold produced in 2018 (Bond, 2019).

The Klondike placer district includes the Fortymile, Sixtymile, Klondike, Indian, Moosehorn, and Lower Stewart placer areas. The majority of this area was unglaciated during the Quaternary time period (> 1.8 ma to present), as is the Brewery Creek area, and it is believed to be a significant contributing factor for such rich gold deposits. Some of the creeks in the Klondike goldfields were fifteen times richer in gold than those in California, and richer still than those in South Africa (Wiki). For example, in just two years, \$18 million (at 2013 prices) worth of gold was brought up from just one claim on the Eldorado Creek (Wiki).

The Mayo – McQuesten placer mining district is the second most productive placer district in the Yukon and is situated only 60 km south - east of Laura Creek. This district includes Clear Creek placer area and the Dublin Gulch placer deposit near the town of Mayo, Yukon Territory. This placer district differs from the Klondike district and Brewery Creek mine area, as it was subjected to various degrees of glaciation during the Quaternary time period; however the source of gold resembles the mid cretaceous intrusion related quartz vein hosted gold at the Brewery Creek deposit, compared to that of the Klondike's quartz veins in Palaeozoic meta-sediments (Klondike schists).

#### Brewery Creek Mine

The Brewery Creek area has been subjected to significant historical hard rock exploration in the past 25 years. Anomalous gold concentrations were first discovered in stream sediment samples conducted by the Geological Survey of Canada (GSC) in the mid 1980's. The hard rock source of gold was later discovered by Noranda Exploration in 1987 and was subsequently mined by Viceroy Resources Corp. from 1996 to 2002 (YGS, 2008). During this period the Brewery Creek Mine recovered 266,537 oz. of gold from near surface oxide deposits and Golden Predator Mining Corporation (GPMC), now owner of the deposit, has demonstrated the deposit contains an indicated oxide resource total of 765,000 ounces gold in 21,140,000 tonnes of material at 1.13 g/t Au and inferred oxide resource total of 440,000 ounces gold in 14,120,000 tonnes of material at 0.97 g/t Au (GPMC website, Jan 2020).

To date the Brewery Creek property has been explored for shallow oxide gold deposits as it is much easier to extract the gold from the oxide ore compared to deeper seated sulphide ore. Sulphide ore at depth has seen limited exploration to date and has strong potential to host a large low grade bulk tonnage gold deposit similar to the 32 million oz. gold Donlin Creek deposit in south western Alaska, USA. Despite the limited sulphide ore exploration, GPMC has demonstrated inferred sulphide resources totalling 270,000 ounces of contained gold in 8,570,000 tonnes of material at 0.99 g/t Au (GPMC website, Jan 2020).

#### Placer Exploration History on Laura Creek

The first known placer exploration on Laura Creek was conducted by Clayton Jones in spring of 2014, which consisted of sinking a shaft to bedrock and sluicing the gravels. The program revealed a 3.5 ft. thick, weakly auriferous gravel on top of the bedrock at a depth of approximately 32 ft. The 28 ft. of frozen overburden consists of 21 feet of organic muck and 7 feet of gravel. A 2.07 cubic yard bulk sample of the bottom 3.5 ft. of gravel and bedrock yielded a total of 0.6 grams of gold. The gold was recovered using a standard 4.5 ft. long sluice box. The gold was surprisingly coarse with grains mainly flattened, tabular and smooth. The largest gold grain was 7mm (<3.5 mesh) in length and weighed 0.2 grams. The approximate grade of the gravel unit encountered is CDN 10.07/cubic yard at CDN yight an estimated finesse of 80%. The actual gold content is believed to be significantly higher (10 – 20% more) as elevated clay content made sluicing difficult and resulted in poor gold recovery.

After completion of the 2014 shaft and while staking the lower end of Laura Creek, historic placer workings were discovered (Figure 3). The old workings discovered on Laura Creek are undocumented and remain a mystery. The working included three old pits/shafts located approximately 1 mile up the Laura Creek valley. The pits ranged from 8X8ft to 3x3ft and were spaced approximately 3 - 5 meters along the width of the valley floor. The pits were all caved in and filled with water and one contained wood cribbing at the top. It is unclear if bedrock was reached but all shafts penetrated the organic layer as moss covered gravel piles existed beside the pits. The largest tree growing on top of the gravel piles was estimated to be 70 years old (number of growth rings at the base). Several artifacts were discovered including a couple of rusted out buckets and what appeared to be the remains of a rusted stove.

It is postulated that the shaft was sunk around the time the historical Yukon ditch was being constructed. The Yukon ditch was a water canal diverting water from the south Klondike River to the North Klondike River and provided additional water to the hydroelectric plant when the North Klondike water supply could not keep up with the demand. The construction of the ditch was financed by the Yukon Consolidated Gold Corporation and commenced around 1928 and finished in 1937. It is hypothesized that gold was encountered from the ditch excavations at the mouth of the Laura Creek drainage. Workers subsequently followed up by minimal test shafts upstream in search of richer and shallower ground. It is unclear why there are 3 pits/shafts in one locality and whether bedrock was reached. Either the pits were abandoned half way through for whatever reason or gold was encountered in the first one and the additional shafts were sunk nearby to find the richer pay streaks.

In 2015, Jones tested the lower end of Laura Creek for its placer potential and confirmed the continuity of placer gold downstream from the 2014 discovery shaft, located 3 km upstream. The vertical shaft dimensions were approx. 29' X 3' X 3'. The entire stratigraphy was frozen with 20.5 ft. of alternating units of organic muck and gravel overlying 7.5ft. of auriferous disorganized cobble boulder gravel resting on an irregular decomposed bedrock (mineralized

limestone surface) at 28 ft. The bottom of the shaft was expanded into a 4.5' X 4' X 5' chamber. A total of 12 ft. of horizontal drift with approximate dimension of 4.5' high and 3' wide were completed. A total of approximately 16 cubic yards of material was excavated from the shaft.

A total of 7.4 cubic yards of gravel was sluiced using a portable 4 ft long High Banker Keen sluice box powered by a gas powered 3" water pump. The specific location of the gravel, volume of gravel processed, and weight of gold recovered was recorded for later grade calculation. A total of 0.365 grams of gold was recovered from 5.4 cubic yards of chamber and drift material. This equates to an average of 0.068 gram gold or \$ 2.36 per loose cubic yard (assuming \$1350/Oz Au @ 80 Percent Purity) of the lower 3.5 ft gravel and 1 ft of bedrock. A 1 cubic yard of test from the upper 5 ft of gravel resting on the pay gravel (18.5 – 23.5 ft) contained anomalous course gold.

The two isolated shafts completed on Laura Creek to date, separated by 3 km, have shown course placer gold exists throughout the length of the Laura Creek valley (Figure 4). Jones (2015) determined that the average grade of gravels encountered in the shafts are not economic for bulk mining of the entire valley bottom, however; there is a strong possibility both of these shafts did not intersect channelized paleo deposits that are narrower and contain higher grades. A few drill holes, strategically placed across the valley, will quickly and cost effectively, determine if a richer paleo channel exists along the valley bottom.

#### Figure 3: Undocumented workings (from Jones, 2015)

**A.)** shows historic artifacts observed at the shaft site **B.)** shows small 3'X3' shaft with log cribbing at top (assumed to be initial test shaft) **C.)** shows larger 6'X6' (assumed to be second follow up or production shaft).**D.)** shows the old steam powered shovel that the Yukon Consolidated Gold Corporation used to excavate the water canal (ditch) in the 1930's. This shovel is located 3 km east of the Laura creek mouth, at the intake of the old canal.



Figure 4: The two shafts done by C. Jones in relation to the Brewery Creek minesite (Jones, 2015).



#### 6.0 GEOLOGY

#### 6.1 Bedrock Geology

Laura Creek is located in the Selwyn Basin stratigraphic package. The Selwyn Basin is located within the mineral-rich Tintina Gold Belt; a 2000km x 400km belt of mineralization stretching from Fairbanks, AK to Watson Lake, YT. It hosts world class deposits such as 32 M Oz. Donlin Creek, 5 M Oz. Fort Knox, 4 M Oz. Dublin Gulch, 2 M Oz. Coffee Creek, and past-producing Brewery Creek mine (0.27 M Oz with additional 0.57 M Oz resource) where Laura Creek is situated (Figure 5).



Figure 5: Regional geology (modified from Lindsey, 2006)

Laura Creek drains Ordovician-Mississippian sediments primarily consisting on the Road River and Earn Group that have been intruded by several phases of the mid-Cretaceous aged Tombstone Suite granites. The drainage represents a thrust fault separating the Devonian Earn Group sediments and Silurian to Devonian Road River Group. The Road River Group consists of black shale, chert, and limestone. This group is composed of two formations: the basal, darkweathering Duo Lake Formation and the overlying tan to orange-weathering Steel Formation. The Earn Group is the remnants of a regional marine transgression event. This group can be divided into two units separated by an unconformity: the Lower to Middle Devonian Portrait Lake chert and shale unit and the overlying Upper Devonian to Mississippian coarse clastic Prevost Formation. These sedimentary packages are intruded by mid-Cretaceous felsic sills and dykes that intruded along a mid-Cretaceous thrust fault (Figure 6). The majority of the Brewery Creek gold is hosted in Tombstone Suite quartz monzonite dykes and sills that range from 5 to 100m wide and surrounding meta-sediments. It is structurally controlled by an east west thrust fault. The gold exists as very fine (micron size) particles within the fine disseminated arsenopyrite and pyrite mineral grains. A total of 8 main oxide deposits are located along a 12 km east west mineralized corridor. Laura Creek directly drains the Pacific, Blue, Moosehead, Canadian, Foster, and Kokanee open pits of the western extension of the mineralized corridor (Figure 7).

This type of gold mineralization and deposit style is known as an intrusive-related gold system (IRGS). Donlin Creek, Fort Knox, and Dublin Gulch are also intrusive-related and share many similar characteristics to Brewery Creek. The creeks and rivers that drain Donlin Creek contain numerous placer gold deposits including Crooked Creek, Lewis Gulch, and Snow Gulch. The Dublin Gulch area also hosts numerous placer operations including Secret Creek, Swede Creek, Haggart Creek and Fisher Gulch.



Figure 6: Geology of the Brewery Creek Mine area (modified from Lindsey, 2006)



Figure 7: Brewery Creek Mine deposits (www.goldenpredator.com)

#### 6.2 Glacial Geology

There have been several glacial advances in the Yukon during the Pleistocene (1.8 ma – 10 Ka) and these be can be divided in to three episodes commonly known as the Pre-Reid, Reid, and McConnell, in order of oldest to most recent (Figure 8).

The Pre-Reid glacial episode occurred in the early Pleistocene, approximately 2.6 Ma to 200 Ka (LeBarge, 1996). The Pre-Reid was the most extensive episode, advancing up the Tintina Trench as far as Dawson City, Yukon. Glacial outwash and gravels (known as the Klondike gravels) from the Pre-Reid glacier covered portions of the gold rich Tertiary (5 – 2 ma) White Channel gravels in the Hunker and Bonanza Creeks of the Klondike gold fields. The Reid Glaciation episode included multiple glacial advances that persisted from 200 to 20 Ka. The Reid glaciation was less extensive than the Pre-Reid glaciation. The most recent McConnell glaciation was the least extensive and occurred between 20 and 10 Ka (LeBarge, 1996). The glacial deposits of the McConnell glaciation are easily observed in air photos and in the field as they have been subjected to limited colluvial and alluvial processes over the past 10 Ka. Interpretations of glacial deposits from the Pre-Reid glacial episode are much more difficult due to the long time period of weathering.

The lower end of Laura Creek is situated at the fringe of un glaciated terrain and the maximum extent of the Pre-Reid glaciation. Based on the stratigraphy observed in C. Jones' 2014 shaft, it is believed the Pre-Reid ice sheet inundated the Laura Creek drainage.

#### **Brewery Creek Mine Area**



Figures 8 and 9: Yukon-wide glacial limits (modified from Lowey, 2004) and Brewery Creek area glacial limits map (produced by Jones, 2015 from YGS map maker online)

#### 6.3 Surficial Geology

Laura Creek is situated at the fringe of un-glaciated terrain and the maximum extent of the Pre-Reid glaciation (Figure 9). Prior work by Jones (2015) detailed the extent of glaciation:

"The maximum extent of the Pre-Reid ice sheet can be observed near a bench-like formation scarred into the left limit of the Laura Creek valley. The right limit of the lower end of Laura Creek contains a Pre-Reid glaciofluvial outwash terrace with limited outcrop exposure. The left limit of Laura Creek also contains glaciofluvial gravels which appear to be conforming to a bedrock terrace. The outwash gravels resemble braided river deposits and are similar to the Klondike valley fill (dredge tailings). The gravel is poorly sorted sandy cobble boulder gravel. The clasts are rounded and derived from the local geology. Towards the end of the valley, outcrop becomes pervasive along either side of Laura Creek. There appears to be some landsides and slumping along the left limit near the confluence with the Klondike Valley." (Figure 10)

The majority of the lower Laura Creek drainage experienced a major forest fire approximately 20 years ago. The majority of the forest is burnt along the valley bottom and the dead trees have since fallen to the ground. There are local pockets of evergreen forest that survived the forest fire, in particularly straddling the margins of the creek. The valley floor contains a thick spongy moss mat. The valley bottom is wide with a flat surface width ranging from 50 – 200 m wide. The middle portion of the lease block consists of a wide, moderate to gentle sloping, valley walls while the lower potion contains a narrower, steep walled valley. Figure 11 displays YGS-mapped surficial geology.







Figure 11: 1:20,000 scale map of surficial geology centered on Laura Creek (modified from YGS, 2019 and LeBarge, 2019).

#### 7.0 2019 RESISTIVITY SURVEY

On September 22, 2019 a resistivity survey was done on 2 lines (200m and 300m) over Laura Creek (Figure 12). The survey was conducted by William LeBarge of GeoPlacer Exploration and the author of this report.

Line 1 (200m) was conducted across the creek about 50m northeast of Jones' 2014 shaft. This was done for calibration purposes and to determine if a more suitable drill target was present along this profile. Two drill targets were chosen on Line 1 with an approximate depth to bedrock being 25 feet (Figure 13). The 2014 shaft had a depth of 31 feet to bedrock. Target L1-1 is within a bog displaying low resistivity. This may correspond to a depression in bedrock. Target L1-2 is within a moderate resistivity response (closest to the 2014 shaft) which may correspond to a gravel paleochannel.

Line 2 (300m) was conducted ~300m southwest of Line 1 in a much broader valley where 2 tributaries drain into Laura Creek. This area allowed for more consistent responses and better contact resistance, likely due to the increase in water-saturated ground as well as the longer line length. A large portion of the line is within the alluvial plain of the 2 tributaries to the northwest.

Three drill targets were identified on Line 2 (Figure 14). Target L2-1 has an interpreted depth to bedrock of 25 ft. It is within a low-resistivity bog area and may signify somewhat of a bedrock ledge. Target L2-2 has an interpreted depth to bedrock of 32 ft. A higher resistivity zone (interpreted as frozen muck) indicates a depression in the bedrock in this area. Target L2-3 is probably the most attractive, as a moderate resistivity response here indicates potential paleochannel gravels. Interpreted depth to bedrock is 34 ft here.



Figure 12: Line locations from the 2019 resistivity survey (LeBarge, 2019).



Figure 13: RES19-LAURA-01 is a 200m resistivity survey conducted from NW to SE in the Laura Creek valley. Thawed areas show up as low resistivity while frozen areas appear as higher resistivity. Two possible drill targets are shown with depths to approximately 25 feet (LeBarge, 2019).



Figure 14: RES19-LAURA-02 is a 300m resistivity survey conducted from NW to SE in the Laura Creek valley. Thawed areas show up as low resistivity while frozen areas appear as higher resistivity. Three possible drill targets are shown with depths from 25 feet to 34 feet (LeBarge, 2019).

24

NW

#### 8.0 2020 REVERSE CIRCULATION DRILL PROGRAM

#### 8.1 Summary of Drilling

A reverse circulation (RC) drill program was conducted on Laura Creek from June 17<sup>th</sup> to June 20<sup>th</sup>, 2020. Nine vertical holes were drilled totalling 350 ft (see Figure 15 for collar locations and Table 1 for UTM coordinates). The first 6 holes were drilled in a fence formation 50m upstream of RES L1, 120m upstream of the Jones 2014 shaft. They were drilled along a 145 degree azimuth line (perpendicular to the creek valley) and spaced ~12m apart.

The remining 3 holes were drilled 400m downstream of the first 6. They were drilled along RES L2, into each target as recommended by LeBarge, 2019 (refer back to Figure 14).

Hole ID	Easting	Northing	Elevation (m)	Dip	Depth (ft)	Date	Location Description
LC-20-001	632519	7102739	631	-90	35	17-Jun-20	NW edge of valley
LC-20-002	632526	7102730	631	-90	35	17-Jun-20	12m from 001 at 145°
LC-20-003	632536	7102718	630	-90	45	18-Jun-20	12m from 002 at 145°
LC-20-004	632540	7102711	630	-90	40	18-Jun-20	10m from 003 at 145°
LC-20-005	632552	7102697	630	-90	40	18-Jun-20	14m from 004 at 145°
LC-20-006	632560	7102689	630	-90	35	19-Jun-20	12m from 005 at 145°, 3m from creek
LC-20-007	632145	7102499	621	-90	45	19-Jun-20	RES target L2-1
LC-20-008	632197	7102477	614	-90	35	19-Jun-20	RES target L2-2
LC-20-009	632231	7102458	613	-90	40	20-Jun-20	RES target L2-3

**Table 1**: Summary of drill holes

#### 8.2 Personnel and Daily Log

Work was begun on the property June 2<sup>nd</sup>, 2020 (see Table 2 for daily log). This work involved trail and site preparation, spotting holes, and mobilizing equipment. A Bobcat E60 was used to aid in site preparation and access.

The drill arrived June 16<sup>th</sup> and was mobilized into the creek the next day. Drilling was completed June 20<sup>th</sup>, however close to exiting the valley the Nodwell track rig and drill got stuck in a boggy area. Attempts were made by hand to dig out the drill but were unsuccessful. Despite the weather holding out well for the majority of the program, the Dawson area was hit with record rainfall the next day, which continued for the next few days. The Bobcat had to be remobilized, and eventually the drill was extracted on June 24<sup>th</sup>.

Due to other work commitments, samples were not able to be processed until the end of summer. Each hole took approximately 1 day to sluice, and sluicing was completed October 1<sup>st</sup>.

		D.		Bobcat	Drill	
Date	Activity	Ferraro	Helper	operator	crew	Totals
2020-06-02	Trail/site prep	1				1
2020-06-04	Trail/site prep	1				1
2020-06-08	Trail/site prep	1				1
2020-06-10	Trail/site prep	1				1
2020-06-11	Trail/site prep	1				1
2020-06-12	Trail/site prep, mobilize Bobcat	1		1		2
2020-06-13	Trail/site prep, Bobcat work	1		1		2
2020-06-14	Trail/site prep	1				1
2020-06-15	Trail/site prep, Bobcat	1		1		2
2020-06-16	Trail/site prep, drill arrives	1	1		3	5
	Mob drill in, drill holes 1-2, mob					
2020-06-17	out Bobcat	1	1	1	3	6
2020-06-18	Drill holes 3-5	1	1		3	5
2020-06-19	Drill holes 6-8	1	1		3	5
	Drill hole 9, begin mobe out, get					
2020-06-20	drill stuck	1	1		3	5
2020-06-21	Attempt extraction, pouring rain	1			3	4
2020-06-22	Still pouring rain	1			3	4
	Remobilize Bobcat, attempt					
2020-06-23	extraction	1	1	1	3	6
	Demobilize drill, cart out rest of					
2020-06-24	samples	1	1	1	3	6
2020-09-23	Sluicing	1				1
2020-09-24	Sluicing	1				1
2020-09-25	Sluicing	1				1
2020-09-26	Sluicing	1				1
2020-09-27	Sluicing	1				1
2020-09-28	Sluicing	1				1
2020-09-29	Sluicing	1				1
2020-09-30	Sluicing	1				1
2020-10-01	Sluicing	1				1
			Total n	nan days		67

 Table 2: Daily log and personnel summary



#### 8.3 Drill and Sample Methodology

Holes were drilled with a reverse circulation (RC) drill towed by a Nodwell track unit (Photo 1). This system was chosen over more commonly-used auger drilling due to the permafrost and large glacial till cobbles encountered in prior shafting programs. Holes had a 6.125-inch bore size, and were cased for their entire length, typically ending at least 5 ft into bedrock.

The method of drilling utilized typical RC overburden drilling equipment and techniques. A hammer with shouldered drill bit is loaded into the first piece of casing. When fired, the shoulder prevents the hammer from advancing beyond the casing, the so the casing advances with the hammer. An interchanger and dual-walled drill rods are attached to the hammer which all rotate inside of the casing. As compressed air is pushed down the annulus of the rod string, the hammer fires and the exhausting air pushes the overburden material around the hammer and into the casing. A ring ~4 ft above the hammer prevents the material from travelling higher up the casing, forcing it through the interchanger and up through the center of the rod string. At the top of the rod string, the material travels into a discharge assembly, though a hose and into the cyclone where the sample is separated from the high-speed air. At the end of each 5 ft run, additional lengths of rod and casing are threaded on and drilling resumes.

A 5-gallon pail was placed under the cyclone. The pail was lined with a large polymer sample bag to prevent contamination from previous samples and to allow some pails to be re-used. Each 5-foot interval filled 2 pails. The pails were then transported off the creek to another location for processing.



Photo 1: RC STX Mk1 drill in the vicinity of LS-20-003.

#### 8.4 Sluicing Methodology

Due to time constraints samples were brought to Dawson City and processed on private property in late September, 2020. A Keen A52 sluice box was used to process the samples (see Photo 2 for sluice setup). This sluice is 10" wide and 51" long and has 6" black rubber mat followed by a customized layering of (from the bottom up): green ribbed miner's carpet, blue 3M miner's moss, a coarse woven wire screen, and clamped on Keen riffles. The sluice was equipped with a Keen Highbanker hopper. The hopper opening is 18"x18" and has spray bars incorporated into the design. There is a 0.5" metal classifier at the base of the hopper. A second Keen sluice box of the same dimensions was set up below the first for quality control. This sluice only had green ribbed miner's carpet with clamped on riffles over it. Occasionally this lower sluiced was cleaned out before the upper sluice to test if gold was making it through the system. No gold was ever recovered from cleanups of the lower sluice.



Photo 2: Sluice setup used to process the 2020 drill samples.

A 2" Honda GX 6.5 HP gas-powered water pump was used to pump water to the sluice. The desired water flow was regulated both by the pump and the valve on the hopper which allows excess water to pass out through a garden hose. The sluice was set at an angle of 8 to 10 degrees, adjusting for water flow.

Samples were dumped from the poly bags into a clean 5-gallon bucket. The sample bags were then thoroughly washed out into the sluice. Sample was then shoveled or poured at a

controlled rate into the hopper, allowing the material to wash over the riffles without clogging the system.

Thick, sticky clay was encountered in some samples. To prevent unbroken balls of clay from running through the sluice without dissolving, water was added to the bucket of sample. A power drill with paint mixer was then used to mix the sample into a slurry before slowly pouring it through the hopper.

Cleanup was done at varying intervals. In some cases, the entire hole was sluiced before cleanup, and in other cases multiple cleanups were done for one hole. Cleanup was done by washing all parts of the sluice(s) into a 2'x3' Rubbermaid tote with a garden hose. Moss and carpet were tapped and sprayed clean into the tote, as well as soaked once fines were settled. Excess water was poured out of the tote, and the concentrate was then carefully washed into a large gold pan. A manageable amount of concentrate was then separated into a smaller gold pan and panned out. Gold grains were counted and photographed in the pan, then recovered by a sucker bottle. The contents of the sucker bottle were then poured into plastic vials and labelled by hole.



**Photo 3:** Using a paint mixer to break up clay balls before running through the sluice.

#### 8.5 Drill Results

The 2020 RC drill program was successful in recovering gold from every drill hole (see Table 2 for a summary of sluicing results, see Appendix I for drill logs). Although many of the holes yielded insignificant gold concentrations ('flyspeck' or 'flour' gold grains), at least 3 holes displayed notable-sized gold grains and one hole yielded a 'clinker'. Although a milligram-accuracy scale could not be accessed at the time of this report writing, results can be quantified by size and a weight estimation can be made (see Figure 16).

Hole ID	Visual Results	Estimated Weight
LC-20-001	3 flyspecks	>0 mg
LC-20-002	1 colour (0.25-0.5mm), 1 flyspeck	1 mg
LC-20-003	2 flyspecks	>0 mg
LC-20-004	2 larger colours (0.5mm), 1 colour (0.25mm), 5 flyspecks	2 mg
LC-20-005	8 colours (0.25-0.5mm), 13 flyspecks	5 mg
LC-20-006	1 colour (0.5mm), 5 flyspecks	1 mg
LC-20-007	1 flyspeck	0 mg
LC-20-008	1 clinker (3.25mmx2mm), 2 flyspecks	>25 mg
LC-20-009	1 colour (0.5mm), 12 flyspecks	1 mg

#### Table 3: Summary of results

Color Category	Abbreviati on	Mass (mg)	Description
Micro- flyspeck	Mf	0.03 (30 = 1 mg)	Cannot see 30cm away, must squint close-up; fine dust; flat and flaky
Flyspeck	F	0.1 (10 = 1mg)	Specks visible 30cm away; flat or flaky
A Colour	А	1-2	~1mm diameter, ball-point pen sized
B Colour	В	2-5	Up to ~2mm, elongate or spherical in 3 dimensions
CColour	с	5-25	Up to 3mm, smaller than pea grain, clunk sound
Nugget	Nug	+25, weigh	Heft in hand

Figure 16: Gold grain size classification with weight estimations (Modified from McFarlane, 2015).

#### LC-20-001

This is the first hole along the fence covering the valley floor. It was drilled 4m from the edge of the valley, which is marked by a steep slope of shale bedrock (Photo 4). The hole encountered permafrost from 3 to 6 ft, with minor organics continuing to 17ft. Brown silt and gravel was observed to 22 ft, at which point the material was dominantly shale and some granite till pebbles. Bedrock interface was difficult to discern. It was expected to be shallow due to the proximity to the valley wall. Weathered bedrock began around 27 ft but solid bedrock (dark shale) was not encountered until 33 ft. Sluicing only produced 3 flyspecks of gold.



**Photo 4:** Fence of 6 drill holes across the Laura Creek valley. Photo is taken from collar LC-20-006 and looking northwest towards LC-20-001.

#### LC-20-002

This hole was drilled 12m from 001. Abundant silt and clay were encountered at 20 ft with some rounded till. Weathered bedrock began at 28 ft, and solid bedrock was encountered at 32 ft. Sluicing produced 1 larger colour (0.25-0.5mm) and 1 flyspeck of gold.

#### LC-20-003

Hole 3 was drilled another 12m from 002. It displayed a similar profile but with a notable increased depth to bedrock. Weathered bedrock with clay was encountered around 34 ft, but solid bedrock did not occur until 41 ft. Despite this potential gold trap, only 2 flyspecks of gold were yielded by sluicing.

#### <u>LC-20-004</u>

Hole LC-20-004 was drilled 10m from 003. This hole marks the beginning of more notable visual gold results. Gravels, silt and clay were encountered from 20 to 32 ft. At 32 ft weathered bedrock and silt was encountered with solid bedrock occurring at 37 ft. Sluicing produced 3 colours 0.25-0.5mm in size and 5 flyspecks of gold (Photo 5).

#### LC-20-005

This hole was drilled 14m from 004. At 20 ft the hole encountered rounded till/river rock, clay, and silt. Weathered bedrock began at 32 ft with solid bedrock at 37 ft. This hole at the best

sluicing results of the 6-hole fence, yielding 8 colours 0.25-0.5mm in size and 13 flyspecks of gold (Photo 6).



Photo 5: Sluicing results of LC-20-004.



Photo 6: Sluicing results of LC-20-005.

#### LC-20-006

Hole LC-20-006 was drilled 12m from 005, and 3m from Laura Creek which is located at the southern edge of the valley in this area. This hole displayed considerably less clay and rounded till or river gravel than the previous holes and had a much shallower depth to bedrock. Weathered bedrock began around 28 ft, and solid bedrock was encountered at 32 ft. Sluicing produced 1 larger colour around 0.5mm in size and 5 flyspecks of gold (Photo 7).



Photo 7: Sluicing results of LC-20-006.

#### LC-20-007

This hole was drilled 450m downstream of the 6-hole fence, into the first of three targets on RES L2 (refer back to Figure 14, target L2-1). The survey shows a resistivity low here, indicating a bog. Upon revisiting the area, the low is likely due to the close proximity to a tributary of Laura Creek. This tributary was approximately 1-2m wide in this area, quite deep and had significant water flow. The hole did not display any permafrost likely due to the creek. A significant amount of clay was encountered from 20 to 30 ft. Weathered bedrock began appearing around 32 ft but clay persisted to 35 ft. Solid, dark shale bedrock was encountered at 41 ft. Sluicing only produced 1 flyspeck of gold.

#### LC-20-008

This hole was drilled 56m from 007 and across the aforementioned tributary (which splits and broadens to 10m wide and shallows considerably). Figure 15 shows the tributary on the east side of this hole, when in reality it is to the west. The hole was drilled into RES target L2-2 - a

higher resistivity area interpreted to be frozen muck. Permafrost was encountered to 6 ft depth. Organics disappeared at 20 ft, after which the material was mostly silt with a moderate amount of clay. Weathered bedrock was encountered at 28 ft and solid bedrock at 31 ft. This hole yielded by far the best sluicing result: a piece of gold with dimensions of 3.25mm x 2mm (Photo 8) as well as 2 flyspecks.



Photo 8: Sluicing results of LC-20-008, USB microscope photo inset upper right.

#### LC-20-009

This hole was drilled 40m from 008, into RES target L2-3. The survey indicates a small lower resistivity area followed by a higher resistivity area of interpreted frozen muck. This lower resistivity zone was confirmed at site to be a boggy area. Drilling showed permafrost from 3 to 7 ft depth. This was followed by organics, till, and significant clay. At 25 ft, altered and weathered shale with clay was encountered (Photo 9), however solid bedrock was not hit until 37 ft. Bedrock in this area was notable for the significant pyrite content. Larger chips displayed quartz-calcite veining with fine grained pyrite mineralization (Photo 10). As this was one of the first holes to be sluiced, sluicing was done at multiple intervals. No gold was recovered from 15-20 ft (clay, sub-rounded pebbles, minor organics). Five flyspecks of gold were recovered from similar material at 20-25 ft. Abundant clay and altered, weathered bedrock at 25-30 ft produced 1 larger colour (0.5mm) and 7 more flyspecks of gold (total: 1 colour, 12 flyspecks). Sluicing of weathered and solid bedrock from 30 to 40 ft produced no gold, but a significant amount of pyrite.



Photo 9: Clay and altered shale at 25 ft in LC-20-009.



Photo 10: Shale bedrock with quartz-calcite veining and pyrite mineralization in LC-20-009.

#### 9.0 DISCUSSION

The 2020 RC drill program at Laura Creek was successful in locating at least 1 potential economic placer gold zone as well as identifying an area of increased gold.

#### 2014 shaft area, 6-hole fence

In the 6-hole fence area, holes LC-20-004 to 006 showed increased gold concentrations, with hole 005 (15m from Laura Creek) showing the highest content of gold. While this amount of gold is unlikely to weigh more than 5mg, from a hole of this size (6"), it is at least significant.

The intention of this fence was to locate a high-grade paystreak, improve upon the results of Jones' 2014 shaft and providing a focussed target for a test pit. Unfortunately, a definitive paystreak was not located, however one can at least say that grades are better in the left limit of the creek valley and likely best ~15m from the creek (+/-6m). Figure 17 displays a cross section of drill holes 001 to 006, with the potential paystreak indicated.

#### Tributary area

Holes LC-20-007 to 009 were drilled in a broad area of the Laura Creek valley, at the confluence of two tributaries entering from the west and northwest. The valley is up to 250m wide here, the bulk of it appearing to be covered in alluvial material from the tributaries (Figure 12 shows this well). Of the three holes, LC-20-008 had by far the most significant gold content (1 large grain 3.25mm x 2mm, plus some flour gold). This hole was drilled in an area between the tributary flowing from the northwest and Laura Creek (despite the topography map in Figure 15 indicating otherwise) and intersected significant silt, some clay, and very little till and gravel.

Hole LC-20-009 was drilled in a boggy area and intersected a significant amount of clay. Sluicing showed fine gold higher up in the overburden (20-25 ft) and more gold in a clay-rich layer at 25-30 ft. Sluicing the weathered bedrock and bedrock did not recover any gold.

The gold results and overburden profiles of these three holes suggest a few scenarios:

- 1. A high-grade paystreak relating to a paleochannel of Laura Creek (sourced from Brewery Creek deposit)
- 2. Placer gold sourced from lode mineralization above the northwest tributary
- 3. Placer gold sourced from the Brewery Creek deposit but remobilized through alluvial processes related to the tributaries
- 4. Any combination of the above

#### Potential grade

A rough grade calculation can be made from the gold recovered in LC-20-008. Note that this is purely a thought exercise; this is one isolated drill hole and requires numerous assumptions, the first being that the gold is located within the bottom yard above bedrock. Although a milligram-accuracy scale could not be sourced, the grain is likely to weight at least 25 mg. Using a volume of the drill hole over 1 yard (6.125" bore x 36" depth), the gold weight of 25 mg can

be extrapolated to 1100 mg (0.0354 troy oz) per yard. Assuming a conservative fineness of 80, this becomes 880 mg (0.0283 troy oz) per yard. At a gold price of \$2000 CAD per troy ounce, this would equate to \$56.60 CAD/yard. For reference, from his 2014 shaft Jones calculated a grade of \$10.07 CAD/yard at a gold price of \$1350/ounce. At prices of \$2000 CAD/ounce this grade becomes \$14.92 CAD/yard.

#### Accuracy of Resistivity Survey

Comparing drill results to the resistivity survey profiles shows that the survey was effective at identifying boggy areas, rough depths to bedrock, and silt/clay muck.

As the fence of holes 001 to 006 was done 50m from RES L1 and at a different azimuth, it is harder to draw many conclusions from this line. It was also indicated by LeBarge (2019) that the shorter line length of RES L1 gave a poorer relative resistivity response overall. The low resistivity response indicated to be a bog is accurate. The higher resistivity is likely due to the higher clay in holes 004 and 005. This conclusion is aided by the response and drilling on RES L2.

Holes 007 to 009 were drilled exactly into the recommended targets on RES L2, and the resistivity responses of this line were deemed satisfactory by the surveyor. Figure 18 displays the holes in cross section drawn onto the resistivity profile. The strong resistivity low (blue) at LC-20-007 can be attributed to the close proximity of the hole to a bend in the tributary entering Laura Creek form the northwest. This tributary is narrow (1-2m) but quite deep in this area. Moving along the line to the southeast shows a broader resistivity low at surface (green). This is likely the survey line crossing the tributary where it splits and broadens out to over 10m wide, becoming very shallow.

Holes LS-20-008 and 009 both drill into a higher resistivity zone (red). This response was shown to be silt and clay muck, with far less gravel and till than seen in holes 001 - 006. This is expected, as much of the overburden appears to be alluvial relating to the two tributaries coming from the west. The higher resistivity in hole 009 appears to correlate to the higher clay content of that hole compared to 008. The low resistivity zone at the top of hole 009 was indicated to be a bog, and this was confirmed on site.

Overall, the higher resistivity zones appear to be excellent indicators for depths to bedrock. The edge of the highest resistivity response is typically within 5 ft of the bedrock interface in hole 008 and 009. It can be concluded that in areas with high silt and clay contents, a resistivity survey is a very effective tool for finding depth to bedrock. But in areas with significant till and gravels, interpretation is more difficult.



Figure 18



Last electrode is located at 288.8 m. Unit Electrode Spacing = 2.45 m.

40

#### **10.0 CONCLUSION AND RECOMMENDATIONS**

Laura Creek remains a prospective and mostly untested target. Although the 2020 drill program was not able to locate a high-grade paystreak across the 6-hole fence upstream of the 2014 shaft, at least 3 of these 12m-spaced holes displayed increased gold contents, and 1 of those 3 had significantly more gold than its neighbours. This suggests the presence of an auriferous paleochannel, located ~15m from Laura Creek (+/- 6m).

The 2020 drill program was also successful in identifying a high-grade target in the broad area of the Laura Creek valley, 450m downstream of the 6-hole fence. In this area the valley floor is up to 250m wide due to the confluence of 2 tributaries entering Laura Creek from the west and northwest. One hole yielded a 3.25mm x 2mm gold grain, leading to a few possibilities: a high-grade paystreak relating to Laura Creek, gold sourced from the northwest tributary, or a broader placer deposit affected by the alluvial processes of the tributaries.

Recommendations for future work include a test pit in the vicinity of hole LC-20-008. This would be done by a larger backhoe and require a Class 2 or 3 permit. There is about 3-5' of permafrost in this area which should be manageable with a ripper attachment. This will also require upgrading the Land Use permit that allows access to this area of the creek from North Forks Road.

A drill program should be conducted in the lower Laura Creek area, upstream of the 2015 shaft. This would be similar to the 6-hole fence done in 2020 - a systematic coverage of the valley, perpendicular to the creek. Access to this area is from the Ditch Road along the Klondike River and will require an additional Land Use permit or an upgrade to the existing permit.

Due to other work commitments, the lease was unable to be broken into claims after the 2020 drilling. A shorter program is planned for 2021 in order to satisfy the lease requirements, after which claims will be staked. The 2019 resistivity survey was effective at identifying depths to bedrock, zones of silt and clay, and boggy areas in upper Laura Creek. This would be useful in lower Laura Creek where the valley is broader and depths to bedrock likely more variable. Jones performed a ground magnetic survey in upper Laura Creek area which displayed an increased magnetic response in the left limit of the creek, around the 2014 shaft. Performing such a survey in lower Laura Creek may be worthwhile and aid in drill targeting.

The 2020 drill program and prior work done by Jones proved the presence of coarse gold in Laura Creek. Defining a resource in upper and lower Laura Creek could transform the Brewery Creek area into an entirely new placer district.

The author would like to thank the YMEP program and the YGS. Funding and advice were greatly appreciated and essential throughout this process.

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### Laura Creek Expenditures June 2<sup>nd</sup> to October 1<sup>st</sup>, 2020

ltem	Company	Unit	Rate	Amount
	Subterra			
Drill contract	Exploration	by invoice		\$32,014.97
Field costs	67 man days	67	100	\$6,700.00
Report preparation				\$3,000.00
XL sample bags	ALX	by invoice		\$249.90
Truck fuel	AFD	by receipt		\$568.00
5-gallon pails	Home Hardware	by receipt		\$295.87
ATV plus tub trailer	Druid Exploration	18	190	\$3,591.00
Additional ATV	Druid Exploration	7	150	\$1,102.50
Saw rental	Druid Exploration	18	35	\$661.50
2nd Saw rental	Druid Exploration	7	35	\$257.25
Radios, GPS, safety gear	Druid Exploration	25	30	\$787.50
Truck rental	Druid Exploration	18	150	\$2,835.00
Bobcat mob/demob (site prep)	Druid Exploration	2	600	\$1,260.00
Bobcat mob/demob (drill recovery)	Druid Exploration	2	600	\$1,260.00
Bobcat (site prep, drill recovery)	Druid Exploration	31.5	145	\$4,795.88
Sluice box	Druid Exploration	9	30	\$283.50
2" pump	Druid Exploration	9	21	\$198.45
Drill diesel	Druid Exploration	3 drums		\$834.75
Helper/tech	Druid Exploration	7	300	\$2,205.00
Total				\$62,901.07

#### **CERTIFICATE OF QUALIFICATIONS**

I, Daniel Ferraro, of PO Box 1485 Dawson City, Yukon, Canada, certify that:

- 1. I am a graduate of Lakehead University, 2008, and a hold an H. B.Sc. Geology degree.
- 2. I am an independent geological consultant.
- 3. I am a member of the Ontario Prospectors Association (2010).
- 4. I have been employed as a geological assistant for the Ontario Geological Survey and the Geological Survey of Canada during the summers of, respectively, 2006 and 2007.
- 5. I have been working in the mineral exploration industry since 2008 consulting for Pacific North West Capital Corporation, East West Resources Corporation, Rainy Mountain Royalty Corporation, Black Panther Mining Corporation, White Tiger Mining Corporation, Trillium North Minerals Ltd., Nebu Resources Inc., Canoe Mining Ventures Corp., Harte Gold Corp., Goldstrike Resources Ltd., Goldspike Exploration Inc., Nevada Zinc Corp., Luckystrike Resources Ltd., and Golden Sky Minerals Corp.
- 6. This report was prepared by myself.
- 7. I have no personal knowledge from the date of this certificate of any material fact or change not reflected in this report.

Daniel Ferraro, HBSc.

2202. Date: Jan 19,2021.

Appendix 1: RC Drill Logs

#### 2020 Laura Creek RC Drill Collar Information

Hole ID	Easting	Northing	Elevation (m)	Datum	Dip	Depth (ft)	Date	Claim #	Drill Contractor	Rig	Bit size	Description	Visual Gold Results
LC-20-001	632519	7102739	631	NAD83, Zone 7	-90	35	17-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	6 hole fence, 145 deg azimuth, west side of valley	3 flyspecks gold
LC-20-002	632526	7102730	631	NAD83, Zone 7	-90	35	17-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	12m from 001	1 colour (0.5mm), 1 flyspeck
LC-20-003	632536	7102718	630	NAD83, Zone 7	-90	45	18-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	12m from 002	2 flyspecks
LC-20-004	632540	7102711	630	NAD83, Zone 7	-90	40	18-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	10m from 003	2 larger colours (0.5mm), 1 colour (0.25mm), 5 specks
LC-20-005	632552	7102697	630	NAD83, Zone 7	-90	40	18-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	14m from 004	8 colours (0.25-0.5mm), 13 fine colours and flyspecks
LC-20-006	632560	7102689	630	NAD83, Zone 7	-90	35	19-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	12m from 005, east side of valley, 3m from creek	1 colour (0.5mm), 5 flyspecks
LC-20-007	632145	7102499	621	NAD83, Zone 7	-90	45	19-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	IP target L2-1	1 flyspeck
LC-20-008	632197	7102477	614	NAD83, Zone 7	-90	35	19-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	IP target L2-2	1 clinker (3.25mmx2mm), 2 flyspecks
LC-20-009	632231	7102458	613	NAD83, Zone 7	-90	40	20-Jun-20	Lease ID01709	Subterra Exploration Ltd.	RC, STX Mk1	6.125 inch	IP target L2-3	1 colour (0.5mm), 12 flyspecks

## 2020 Laura Creek RC Drill Logs

Hole ID	From (ft) To (ft) Description		Sluicing Results	
LC-20-001	0	5	Loosely consolidated organics, minor coarse grained to pebble (pbl) sized gravel, some clay, permafrost starts at 3'	
LC-20-001	5	10	Same as previous, permafrost to 6'	
LC-20-001	10	15	Same as previous, no permafrost	
LC-20-001	15	20	Minor organics, silt, pbl sized, sub-rounded to sub-angular, mostly weathered black shales, minor qtz	
LC-20-001 20 25			Brown silty material to 22.5 ft. Pbl-sized shale, minor weathering, becoming more uniform, minor qtz. Some clay.	Sluiced 15-35 ft. 3
LC-20-001	25	30	Subcrop, sub-angular, very sandy, pbl-sized, uniform dark grey colour shale. Some granite till.	flyspecks of gold
LC-20-001	30	35	Bedrock at 33, bright dust from cyclone indicated bedrock, angular, dark grey fragments, shale, possible feldspar.	
LC-20-001			Total gold	3 flyspecks gold
LC-20-002	0	5	Organics, peat, small pebbles, permafrost starts at 4'	
LC-20-002	5	10	Same as previous interval, permafrost ends at 7'	
LC-20-002	10	15	Clay-rich organics, contained wood chips, full screen of material washed down to small handful of wood and coarse sandstone	
LC-20-002	20-002 15 20		Mixed overburden. Minor organics, pbl-sized, sub-angular black shale, minor qtz, some pebbles oxidized, some sub- rounded pebbles	
LC-20-002	LC-20-002 20 25		Increase in light brown silt. Some clay. More rounded rock/till.	Sluiced 15-35 ft. 1 larger
LC-20-002	25	30	As above. Silty with rounded till. Possible bedrock or subcrop at 28'. Coarse, sandy sample.	
LC-20-002	30	35	Solid bedrock at 32', black to dark grey shale, uniform colour.	
LC-20-002			Total gold	1 colour (0.25-0.5mm), 1 flyspeck
LC-20-003	0	5	Organics, wood, minor clay, sand to pebble sized. Permafrost starts at 3'.	
LC-20-003	5	10	Permafrost ends at 6'. Frozen clumps of organics, significant clay.	
LC-20-003	10	15	Organics, clay	
LC-20-003	0-003 15 20 Mixed ovb, cg to pbl, sub-rounded, weathered.			
LC-20-003	LC-20-003 20 25		Cg to pbl, sub-rounded, clay rich.	Sluiced 15-10 ft 2 tiny
LC-20-003 25 30		30	Same as previous	snecks of gold
LC-20-003	LC-20-003 30 35		Subcrop at 34'. Some clay balls.	
LC-20-003	35	40	Subcrop or bedrock? Dark shale.	
LC-20-003	40	45	Solid bedrock at 41'.	
LC-20-003			Total gold	2 flyspecks of gold

Hole ID	From (ft)	To (ft)	Description	Sluicing Results
LC-20-004	0	5		
LC-20-004	5	10	Permafrost ends at 6'. Frozen clumps of organics, significant clay	
LC-20-004	10	15	Organics, clay	
LC-20-004	15	20	Mixed ovb, cg to pbl, sub-rounded, weathered shale	
LC-20-004	20	25	Cg to pbl-sized, sub-rounded shale, clay rich, silt	Sluiced 15-40'. 2 larger
LC-20-004	25	30	Same as previous	flakes, 1 larger colour, 5
LC-20-004	30	35	Subcrop at 32'. Increasing shale with silt.	specks
LC-20-004	35	40	Solid bedrock at 37'	
LC-20-004			Total gold	2 larger colours (0.5mm), 1 colour (0.25mm), 5 flyspecks
LC-20-005	0	5	Organics, wood, minor clay, sand to pebble sized rock chips. Permafrost starts at 2-3'.	
LC-20-005	5	10	Permafrost ends at 7', frozen clumps of organics, significant clay	
LC-20-005	10	15	Organics, clay	
LC-20-005	15	20	Mixed ovb, pebble-sized, sub-angular, black shale, minor qtz, some pebbles oxidized, some sub-rounded pebbles	Sluiced 10-40 ft. Forgot to
LC-20-005	20	25	Cg to pbl-sized, sub-rounded till and some shale, clay rich.	Good hole. 8 larger
LC-20-005	25	30	Same as previous	and specks
LC-20-005	30	35	Sandy with sub-rounded gravels. Subcrop at 32', getting into shales.	and specks.
LC-20-005	35	40	Solid bedrock at 37'	
LC-20-005			Total gold	8 colours (0.25-0.5mm), 13 fine colours and flyspecks
LC-20-006	0	5	Organics, peat, small pebbles, permafrost starts at 4'.	
LC-20-006	5	10	Same as previous interval, permafrost ends at 7'.	
LC-20-006	10	15	Minor organics, pbl sized, sub-rounded to sub-angular, mostly weathered black shales, minor qtz.	
LC-20-006	15	20	Pbl-sized shale, minor weathering, becoming more uniform, minor qtz	
LC-20-006	20	25	Same as previous interval.	Sluiced 15-35 ft. 1 larger
LC-20-006	25	30	Subcrop at 28', sub-angular, pbl-sized, uniform dark grey colour.	fleck, 5 specks.
LC-20-006	30	35	Solid bedrock at 32'. Dark shale.	
LC-20-006			Total gold	1 colour (0.5mm), 5 flyspecks

Hole ID	From (ft)	To (ft)	Description	Sluicing Results	
LC-20-007	0	5	Organics, peat, small pebbles		
LC-20-007	5	10	Same as previous interval		
LC-20-007	10	15	Same as previous interval		
LC-20-007	15	20	Mixed ovb, weathered sub-rounded ovb, some organics,		
	15	20	moderate clay content		
LC-20-007	20	25	Same as previous interval		
LC-20-007	25	30	Same as previous interval	Sluiced 15-45 ft. 1 tiny	
10.007	20	35	Starting to become more angular and more uniform in	speck	
LC-20-007	30		colour. Looks like bedrock but some clay balls.		
LC-20-007	35	40	Subcrop, sub-angular fragments of black shale		
LC-20-007	40	45	Solid bedrock at 41'. Dark shale.		
LC-20-007			Total gold	1 flyspeck	
	1				
LC-20-008	0	5	Organics, wood, minor clay, sand to pebble sized. Permafrost		
	_	-	starts at 2'.		
LC-20-008	5	10	Same as previous interval, permafrost ends at 6'.		
LC-20-008	10	15	Mixed ovb and organics		
LC-20-008	15	20	Mixed ovb, moderate clay content		
LC-20-008	20	25	Moderate clay, mostly silt	Sluiced 15-30 ft. 1 large	
LC-20-008	008 25 30		Silty brown muck to 27 or 28'. Subcrop of darker shale below this	clinker and 2 specks.	
LC-20-008	30	35	Solid bedrock at 31'. Dark shale.		
LC-20-008			Total gold	1 clinker (3.25mmx2mm), 2 flyspecks	
			1		
10-20-009	0	5	Organics, wood, minor clay, sand to pebble sized rock.		
20 20 005	Ŭ	3	Permafrost starts at 2-3'.		
LC-20-009	5	10	Same as previous interval, permafrost ends at 7'.		
LC-20-009	10	15	Increased amount of cg to pbl-sized sandstone, sub-rounded till, significant clay		
10-20-009	15	20	Mixed ovb, sub-rounded to sub-angular, weathered,		
			significant clay.	Sluiced 15-20 ft, no gold	
LC-20-009	20	25	Sme as previous interval	Sluiced 20-25 ft. 5 specks	
LC-20-009	25	30	Chemical alteration, soft, dark grey, high clay content, small fragments.	Sluiced 25-30 ft. 7 specks, 1 larger flake/colour	
	20	35	Strong chemical altered shale, dark grey, small chips, lots		
LC-20-009	30		washed away in the sieve. Subcrop.	Sluiced 30-40 ft. Tons of	
LC-20-009	35	40	Solid bedrock at 37', minor qsp alteration, abundant pyrite.	pyrite, no gold	
LC-20-009			Total gold	1 colour (0.5mm), 12 flyspecks	

Appendix 2: YMEP Final Submission Form

## YMEP FINAL SUBMISSION FORM

				Date submitted:	Jan 29, 2021	
submit by J	anuary 31st to:	YMEP- E	MR/ YTG			
		Street ac	ldress: 102-300	Main Street	YMEP@gov.y	<u>/k .c</u> a
(winter plac	cer projects may	Mailing a	Mailing address: Box 2703, K		phone: 867-4	F56-3828
submit at pre-approved date) Whiteh			rse, Yt, Y1A 2C6	1	fax: 867-667-	3198
CONTACT II	NFO			PROJECT INFO	1	
Name:	Daniel Ferraro			YMEP no:	20-119	
Address:	Box 945			Project name:	Laura Creek	
	Dawson City, YT Y0	B 1G0		Project type:	placer	
email danferraro@hotmail.com				Project module:	grassroots	
Phone:	807-708-7445					
Is the final i	report enclosed?	4	yes	hard copy		
			no 4	pdf copy		
				digital spreadshe	et of station lo	ocation data
Comment:				-		
PROJECT SL	JMMARY		+			
Total projec	ct expenditures:		\$62,901.07			
Number of	new claims since Marc	h 31st:	0			
Has an opti	on resulted since Marc	h 31?	yes	4no	in ne	gotiation
Number of	calendar field days:		18 field, 9 slui	се		
Number of	person-days of employ	ment:	7 (Druid) paid	27 (Dan)	days of unpai	d work
Total no. of samples:roc			silts		soils	other
Total length	n/volume of trenching/	shafting:				
Total numb	er of line-km of geoph	ysics				
Total meters drilled			diamond drill	106.68 RC drill	auge	r/percussion drill
Other prod	ucts (provide details):					
	This	is not an exp	ense claim form	.To request reimbu	ursement of ex	penses, please
FINANCIAL	SUMMARY	S	submit a separat	e detailed expense	e claim form.	22014 07
Total daily f	field allowance	6700		Total contractor	costs	32014.97
Total field air transportation costs (helicopter/plane)				Total excavating, equipment costs	/ heavy	7315.88
Total truck/ mileage costs 340				Total assay/analy	/ses costs	
Total wages paid 2205				Total reclamation	n costs	
		0004 70				2000
Total light e	equipment rental costs	6881.70	Total report writ	ing cost	3000	
Other (plea	se specify) drill fue	1834.75	Total staking cos	ts		
Other (plea	se specify) pails, b	ags 545.77		_		

Your feedback on any	aspect of the program:
rour recubuck on any	aspect of the program.

Drill program went as planned until last day. Drill got stuck in bog on the way out, then had torrential rain. Had to remob Bobcat, got it out eventually.

Decent gold results, particularly in hole 8. Was not able to get lease staked to claims due to work commitments. Hopefully do some light work 2021 (small test pit or mag survey), then stake to claims.

Larger program planned for 2022.

The Department of Energy, Mines and Resources may verify all statements related to and made on this form, in any previously submitted reports, interim claims and in the Summary or Technical Report which accompanies it.

I certify that;

1. I am the person, or the representative of the company or partnership, named in the Application for Funding and in the Contribution Agreement under the Yukon Mining Incentives Program.

2. I am a person who is nineteen years of age or older, and I have complied with all the requirements of the said program.

3. I hereby apply for the final payment of a contribution under the Yukon Mineral Exploration Program (YMEP) and declare the information contained within the Summary or Technical Report and this form to be true and accurate.

Date	Jan 29, 2021	
Signature of Applicant	Daniel Ferraro DN: cn-Daniel Ferraro, o.u, emai-ferraroconsulting@gmail.com, c=CA Date: 2021.01.28 18:46:49 -0700'	
Name (print)	Daniel Ferraro	