

2020

Bennett Creek Placer YMEP Final Report



YMEP # 20-117

NTS Map Sheet: 115P16

Location: UTM 446719 East 7070954 North NAD 83 Zone 8

Mayo Mining District, Yukon

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1.0 Introduction

This report is a summary of the 2020 Placer Target Evaluation of Bennett Creek and was funded in part under the Yukon Mineral Exploration Program (#20-117). Bennett Creek is situated in the Mayo Mining District about 3 kilometers east of Hight Creek and flows south into Minto Creek. Bennett Creek has seen little in the way of historic placer exploration but but has great potential for containing economic gold concentrations.

2.0 Location and Access

Bennett Creek is located 16 kilometers north of Mayo along the Sliver Trail Highway and 12 kilometers in on the Minto Lake/Hight Creek Road (Figure 1). An ATV can then be taken 4 kilometers up old cat road along the right limit of Bennett Creek (Figure 2).

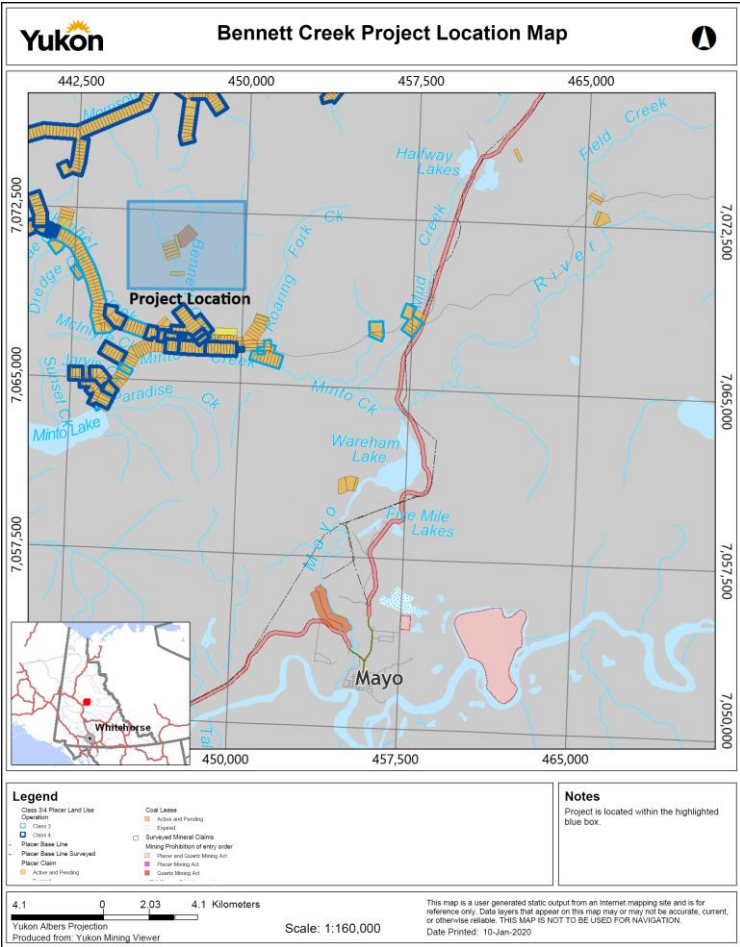


Figure 1: Project Location Map. Taken from Yukon Mining Viewer.

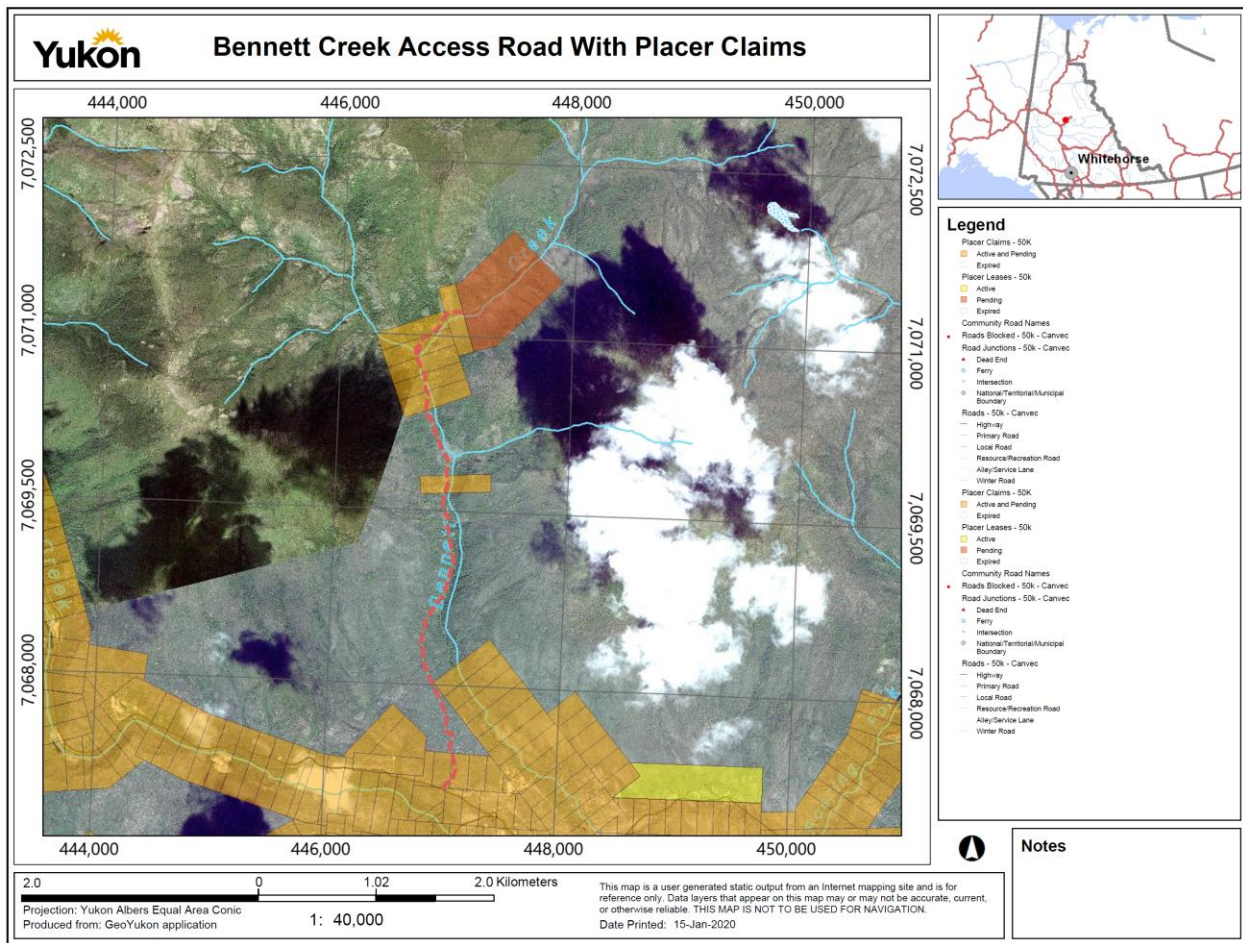


Figure 2: Bennett Creek access road (Red Dashed Line) from the Highet Creek road. Taken from GeoYukon application.

3.0 Claims List

The Bennett Creek property consists of 7 claims and 1 lease Blackberry, Lucky 2, Lucky 3, Lucky 4, Lucky 5, GOOFUS, KULTA, and Lease IM00413. The lease was later staked to claims after this program was completed. See Figure 3 and Table 1 for claim details.

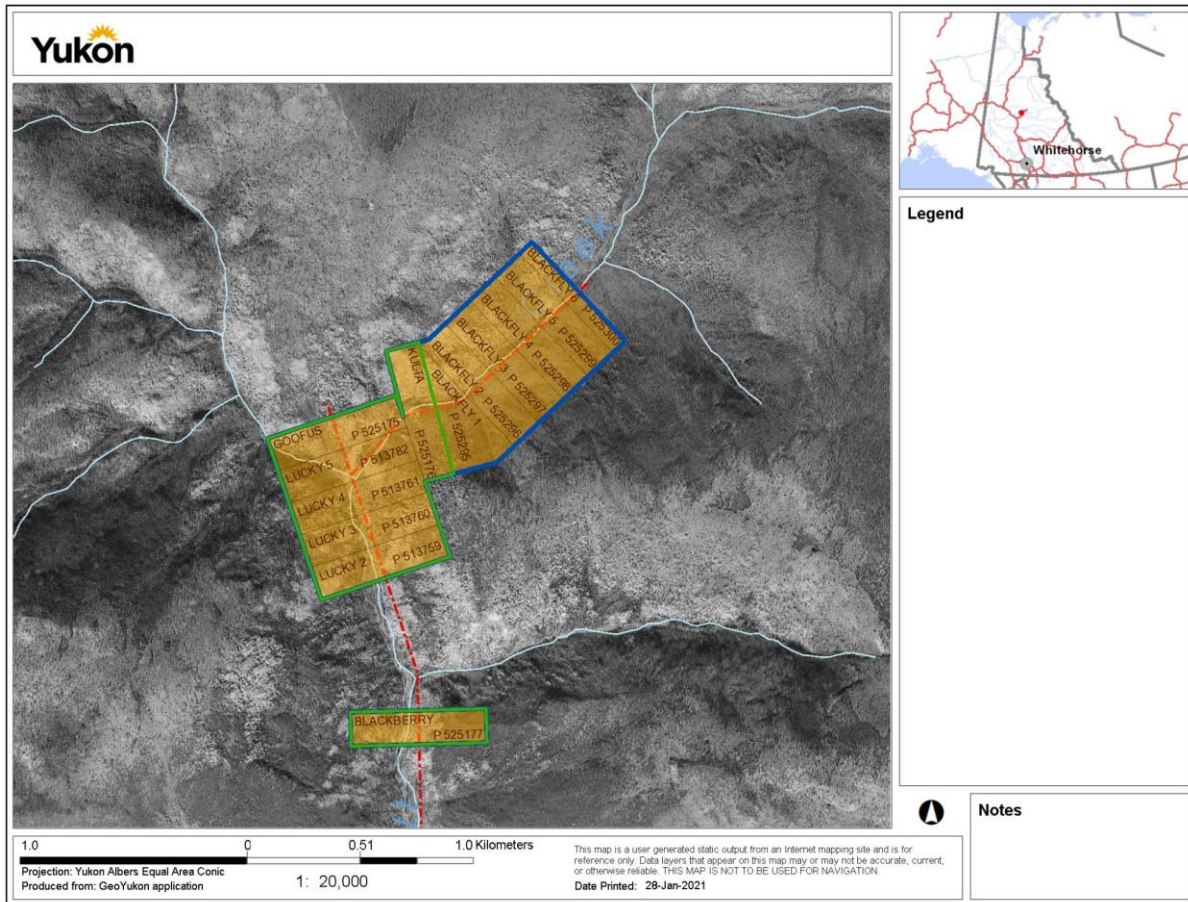


Figure 3: Bennett Creek Claims Map. Taken from GeoYukon application.

Table 1: Claims List

District	Grant Number	Claim Name	Claim Owner	Status	Lease	NTS
Mayo	P 513759	Lucky 2	Steven Wozniak - 100%	Active	IM00299	115P16
Mayo	P 513760	Lucky 3	Steven Wozniak - 100%	Active	IM00299	115P16
Mayo	P 513761	Lucky 4	Steven Wozniak - 100%	Active	IM00299	115P16
Mayo	P 513782	Lucky 5	Steven Wozniak - 100%	Active		115P16
Mayo	P 525175	Goofus	Manfred Wozniak - 100%	Active		115P16
Mayo	P 525177	Blackberry	Margrit Wozniak - 100%	Active		115P16

Mayo	P 525176	Kulta	Helena Kuikka - 100%	Active		115P16
Mayo	P 525295	Blackfly 1	Steven Wozniak - 100%	Application Pending	IM00413	115P16
Mayo	P 525296	Blackfly 2	Steven Wozniak - 100%	Application Pending	IM00413	115P16
Mayo	P 525297	Blackfly 3	Steven Wozniak - 100%	Application Pending	IM00413	115P16
Mayo	P 525298	Blackfly 4	Steven Wozniak - 100%	Application Pending	IM00413	115P16
Mayo	P 525299	Blackfly 5	Steven Wozniak - 100%	Application Pending	IM00413	115P16
Mayo	P 525300	Blackfly 6	Steven Wozniak - 100%	Application Pending	IM00413	115P16

4.0 Previous Work History

1978: During the 1978 tin reconnaissance program conducted by Cominco LTD. a sample returned a heavy mineral concentrate sample from Bennett Creek assaying 1105 ppm Sn, 875 ppm W, and 44,000 ppb Au.

1979: In 1979 the Ben quartz claims were staked by Cominco Ltd. covering Bennett Creek. A follow up geochemical program was conducted to find the source of the anomalous HMC sample from the previous year. The program failed to locate any significant Sn-W-Au mineralization but found a few more anomalies. A silt sample on the east fork returned 8100 ppb Au. A grab sample from the west fork consisting of a stringer of pyrrhotite in rusty quartzite returned 5600 ppb Au, 264 ppm Cu, and 175 ppm W.

1984-1990: A road was put in to the top of the alluvial fan sometime between 1984-1990 judging from air photos of the area.

1994: Kennecott Canada Inc. conducted a geochemical survey of the Scheelite Dome area which included Bennett Creek. The rock samples taken from the Bennett Creek drainage were anomalous in gold, arsenic, and bismuth.

1991-1996: Sometime between 1991-1996 the road up Bennett Creek was extended to the forks and a few prospect holes were dug with heavy equipment.

1998: Kennecott expanded its geochemical coverage of Scheelite Dome area including Bennett Creek where a previously a coincident gold, arsenic anomaly (Heon Grid) was discovered on the hill above the west fork.

2016-2019: Bennett Creek has been prospected on and off by the author since 2016. The work consisted of digging a series of test pits near the forks 5 kilometers upstream from the mouth of the creek as well as panning the historic test pits. Multiple samples taken from the lowest portion of the test pits contained small amounts of fine-grained magnetite and 1 speck of gold per pan. The most interesting pan came from a cobble/boulder layer in a test pit on the east fork and consisted of coarse black sand, hematite (1cm in size), and 3-5 specks of gold per pan.

5.0 Geology

Regional Geology

The Bennett Creek area occurs in the metamorphosed sedimentary rocks of the western Selwyn Basin which include the Proterozoic and Paleozoic Hyland Group, Road River Group, and Earn Group. These rocks were later intruded by mid-Cretaceous granitic intrusions (Murphy et al., 1993). Subsequent northerly thrusting by the Jura-Cretaceous Dawson, Tombstone, and Robert Service thrust faults place the Hyland Group rocks against the Mississippian Shelf and Devonian to Jurassic clastic units (Murphy and Heon, 1995). The area is located on the southern limb of the southwesterly trending-southerly dipping McQuesten Anticline and within the Tombstone Strain Zone.

Property Geology

The bedrock in Bennett Creek drainage consists of massive quartzite interbedded with muscovite-chlorite phyllites, quartz biotite schists and minor boudins of marble (Hulstein et al., 1999). Brecciation is noted on the property associated with sporadically occurring quartz feldspar porphyritic dykes (Nagy, 1980). A strong east-northeast trending foliation with a gentle southeasterly dip is the most prominent fabric on the property.

Mineralization

In the Scheelite Dome area, a large gold in soil anomaly occurs in an east-west orientation and extends from the Scheelite Dome Stock in the west to Bennett Creek in the east. Mineralization consists of concordant and discordant structurally controlled metasediment-hosted quartz-sulphide veins with visible gold occurring in a few locations. Replacement mineralization also occurs in the area and consists of disseminated arsenopyrite along calcareous horizons within the metasediments (Hulstein et al., 1999).

6.0 Project Rational

A potential channel lag deposit was uncovered at the bottom of a test pit on the east fork of Bennett Creek during 2019. Although the gold values were low, this test was inconclusive since bedrock was not reached and only the top 30cm of the cobble/boulder (potential channel lag) layer was tested by panning. This zone was encouraging since the amount of black sand and hematite in the pan notably increased when this prospective layer was reached. This program focused on determining the thickness of the potential channel lag deposit and conducted bulk sampling using a small test plant.

7.0 Summary of Work

The work was performed by the author and his parents (Manfred and Margrit Wozniak). Manfred and Margrit were contracted for 6 days in June to help out with excavations and testing while the author marked out new test pit locations along the creek and cut out the access corridors for the new test pits. The author finished the program by himself through the months of July and August. See below for dates and summary of work:

April 16, 2020

Applied for a Class 1 permit for the placer claims on Bennett Creek.

May 30, 2020

Truck driver from Absolute Mechanical picked up John Deere 120c excavator from Mayo and mobed in to the bottom of Bennett Creek along the Hight Creek Road. Walked excavator in ~4km into claims.

Applied for a Schedule 3 Notice

May 13, 2020

Class 1 permit approved for the placer claims on Bennett Creek.

June 1, 2020

Applied for a Class 1 permit for the placer lease on Bennett Creek.

June 6, 2020

The Author, Manfred, and Margrit took the side by side up the creek and started working on Claim Lucky 5 digging test pit #1.

June 13, 2020

The Author, Manfred, and Margrit took side by side back up the creek. Finished excavating test pit 1. Reached 13 ft below clay horizon around 25ft total depth. Sluiced 14 buckets (10 yards) with the small test plant. Author flew drone over pit area and cut more brush out of the old trail along the claims. Saw a bear today and hid on the excavator until it left. Took concentrate home to do the final cleanup. Largest piece found was angular gold with attached quartz ~1mm size.

June 14, 2020

The Author, Manfred, and Margrit took side by side up the creek. Manfred filled in and reclaimed test pit 1. Author cut out brush from old trail up the creek from Lucky 5 passed the Goofus claim. Manfred started digging out test pit #2 on Claim GOOFUS. Ground was still frozen to surface. Planned on leaving it to thaw for several days.

June 20, 2020

The Author, Manfred, and Margrit took side by side up the creek. Walked excavator back down to pit #1 area. Started digging pit #3 which is at the bottom of a historic pit.

June 21, 2020

The Author, Manfred, and Margrit took side by side up the creek. Walked excavator back up to pit #2 on Claim Goofus. Dug down to 16ft and sluiced 10 buckets (7.0 yards). Took the concentrate home to be cleaned.

June 23, 2020

Class 1 permit approved for Lease IM00413

June 27, 2020

The Author, Manfred, and Margrit took side by side up the creek. Walked excavator back down to pit #3 and sluiced 12 buckets (9 yards) starting from the base of the historic pit and then filled it back in. The author cut brush up to the end of the old trail on the east fork and marked location for test pit #4.

June 28, 2020

The author was alone today. Took the ATV up the creek. Walked the excavator up to the placer lease and started digging test pit #4.

June 29, 2020

The author took the ATV up the creek and continued excavating test pit #4. The ground became too soft to support the excavator and the hole started sloughing and filling with water. Took a test pan from the bottom of the hole but no presence of black sand or gold. Filled in test pit #4 and reclaimed the area for the rest of the day.

July 24, 2020

The author took the ATV up the creek. Walked the excavator down from the lease to the KULTA claim. Dug test pit #5. Primarily clay rich colluvium with a blue clay layer at 1.5 m depth. No

bedrock or gravels reached. Took a few pans but only recovered 1 small speck of gold. Filled test pit back in.

August 26, 2020

The author took the ATV up the creek. Walked the excavator down to claim Lucky 5 and starting digging test pit #6 near the mouth of the west fork. The material was mainly colluvium with more rounded sediment near the bottom of the hole. Took a few pans from the material at the bottom of the pit which contained minor black sand and a few very small specks of gold. Too much water to continue digging so the pit was filled back in.

8.0 Sampling and Processing

The material was tested using a homebuilt test plant with a wet grizzly hopper and a 2-stage sluice box with water supplied by a 3-inch Honda pump. The test plant was fed using a John Deere 120C excavator with a 0.75 cubic yard bucket. After the material was sluiced, the concentrate was collected in a 5-gallon bucket and taken to Mayo for further processing. The sluice box was then thoroughly cleaned and reassembled. In mayo, the concentrate was cleaned by careful panning and the gold was transferred to Ziplock bags. The gold was weighed using a scale accurate to 0.1 grams.



Figure 4: Home Built Test Plant.

9.0 Test Pit Descriptions and Results

The test pits were mainly focused on the east fork of Bennett Creek with the last test pit near the mouth of the west fork. See Figure 5 for locations.

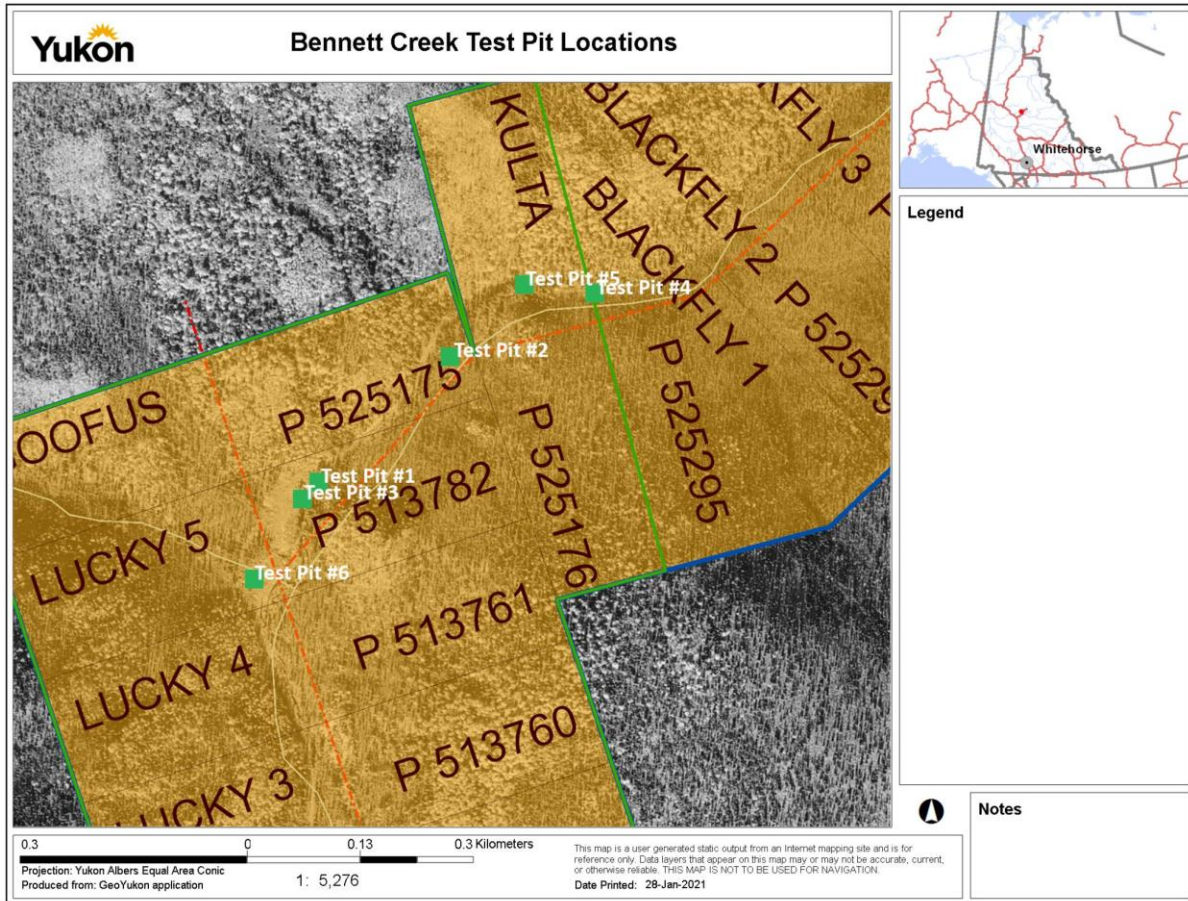


Figure 5: Bennett Creek Test Pit Locations. Taken from GeoYukon application.

Test Pit #1

Location: UTM E 446734 N 7070958

Dimensions: L 6.0 m x W 4.0 m x D 7.6 m

Permafrost: No

Ground Water Depth: 3.7 m

Bedrock Depth: Bedrock not reached

Material Description:

From surface there is 10 to 25 cm of organics overlying 3.7 metres of sub angular to angular clasts 2-10cm in diameter which is clast supported with a sandy clay matrix and has the occasional sub rounded rock up to 30 cm in diameter. Below this is 10 cm of blue clay overlying 5-10 cm of rusty gravel. Below this is 3.5 m of graded bedding with sub angular to sub rounded gravel with a clay matrix at the top to clast supported cobble and boulders near the bottom. This material is compacted and was difficult to dig with the excavator.

Amount sluiced: 10 yards.

Gold: Not enough to weight but estimated between 20 and 30 mg per 10 yards = 2-3 mg per yard.

1 piece with quartz attached.

Heavy Minerals: Black sand with hematite up to 1cm in size.

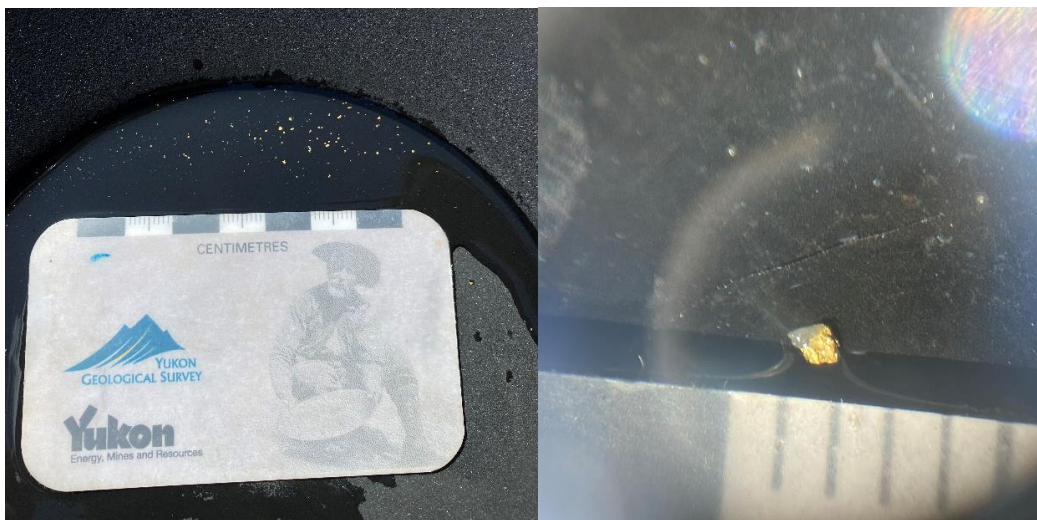


Figure 6: Gold from Test Pit #1 (left) and gold with quartz attached (right).



Figure 7: Test Pit #1 with the blue clay and oxidized gravel.



Figure 8: Test Pit #1 with the coarse material layer visible at the bottom of the hole.

Test Pit #2

Location: UTM E 446883 N 7071115

Dimensions: L 6.0 m x W 2.5 m x D 4.9 m

Permafrost: Ground was frozen but could have been seasonal frost. Melted quickly after letting it sit for a few days.

Ground Water Depth: 0.5 m

Bedrock Depth: Bedrock not reached

Material Description:

From surface there is 10 to 25 cm of organics and 5-10cm of blue clay overlying 5 cm of oxidized gravel. Underneath that there is 4.8 metres of sub angular to sub rounded clasts 2-70cm in diameter. The material is clast supported with a clay sand matrix. There is some crude imbrication with a direction down Bennett Creek. Near the bottom of the section fingers of dark clay rich till occur sporadically. See Figure 10.

Amount sluiced: 7 yards.

Gold: 100 mg from 7 yards = 14.3 mg per yard. Largest piece was 1mm x 2mm in size.

Heavy Minerals: Black sand, hematite, garnet, and galena.



Figure 9: Gold from Test Pit #2



Figure 10: Test Pit #2.

Test Pit #3

Location: UTM E 446713 N 7070939

Dimensions: L 3.0 m x W 2.0 m x D 3.0 m

Permafrost: No

Ground Water Depth: 0.5 m

Bedrock Depth: Bedrock not reached

Material Description:

The material consists of 3.0 m of sub angular to sub rounded clasts 10-50cm in diameter. The material is clast supported and has a matrix of sand.

Amount Sluiced: 9 yards.

Gold: No gold recovered.

Heavy Minerals: Black sand.



Figure 11: Test Pit #3.

Test Pit #4

Location: UTM E 447052 N 7071196

Dimensions: L 3.0 m x W 2.0 m x D 4.0 m

Permafrost: No

Ground Water Depth: 1.5 m

Bedrock Depth: Bedrock not reached

Material Description:

The material at surface consists of 10 to 25 cm of organics overlying 1.5 m of clay. Underneath the clay is 2.4 m of sub angular to sub rounded clasts 2-30cm in diameter. The material is matrix supported with a matrix of clay sand. Abundant ground water under the clay layer.

Amount Panned: 3 pans

Gold: 1 small speck per pan

Heavy Minerals: Black sand.



Figure 12: Test Pit #4

Test Pit #5

Location: UTM E 446969 N 7071200

Dimensions: L 3.0 m x W 1.5 m x D 4.0 m

Permafrost: No

Ground Water Depth: 1.5 m

Bedrock Depth: Bedrock not reached

Material Description:

The material at surface consists of 10 to 25 cm of organics overlying 1.0 m of greenish brown clay with angular clasts. Underneath the greenish brown clay is 5-10 cm of blue clay and 5 -10 cm of oxidized gravel. Underneath the blue clay and oxidized gravel is 2.7 m of greenish clay with sub angular and sub rounded clasts 2-30cm in diameter.

Amount Panned: 2 pans

Gold: 1 small speck per pan

Heavy Minerals: Minor amounts of black sand.



Figure 13: Test Pit #5.

Test Pit #6

Location: UTM E 446662 N 7070841

Dimensions: L 3.0 m x W 2 m x D 6.0 m

Permafrost: No

Ground Water Depth: 3.0 m

Bedrock Depth: Bedrock not reached

Material Description:

The material at surface consists of 10 to 25 cm of organics overlying 4 m of angular clasts (slide rock) with a clay sand matrix. Underneath this layer is 1.8 m of angular and sub rounded clasts 2 to 10 cm in diameter which is clast supported and has a sandy clay matrix. Abundant ground water.

Amount Panned: 3 pans

Gold: 2 small specks per pan

Heavy Minerals: Minor amounts of black sand.



Figure 14: Test Pit #6.

10.0 Conclusions and Discussion

Bennett Creek has seen little in the way of placer exploration but has great potential for containing economic gold concentrations. This program was successful in identifying gold bearing gravels. Although the gold recovered during this program was generally low, the testing was inconclusive since bedrock was not reached in any of the test pits. The highest gold concentration was from test pit #2 which was 14 mg per cubic yard. The presence of increased heavy mineral concentration within this gravel indicates that the concentration on bedrock has the potential to be considerably higher. The thickness of the coarse sediments observed in test pit #1 and test pit #2 could not be determined due to excessive ground water inundating the pits. The graded bedding seen in test pit #1 indicates a decrease in depositional energy ending with the blue clay layer seen in test pits 1, 2, and 5. This decrease in depositional energy may correlate with the waning period of the last glaciation as the alpine glaciers receded. The majority of material above the blue clay layer is interpreted as colluvium deposited from the erosion of the steep valley walls. The colluvium has been reworked by the creek in some areas (test pit 1, 3) which would account for the rounded sediment within this unit. The thick accumulations of sediment within this drainage could have preserved the Bennett Creek paleo-channel as well as any gold concentrations.

11.0 Recommendations

Further exploration and bulk sampling of Bennett Creek should be completed to determine economic potential of the gold present within this drainage. A bedrock drain should be constructed to lower the water table on the east fork so bedrock can be reached in future exploration programs. An excavator with a longer reach could be used for this endeavor. Alternatively, RC or sonic drilling could be used to quickly determine bedrock depth and gold content without doing major excavations. Additional testing is recommended on the west and east forks as well as the canyon below the forks on claims Lucky 2-4.

12.0 Expenditures

Table 2: Expenditures

Item	Amount	Hours	Days	Sub Total
Daily field expenses	\$100/day/person	-	12	\$1,200.00
Wages				
Technician	\$350 per day	-	6	\$2,100.00
Prospector	\$350 per day	-	6	\$2,100.00
Equipment				
John Deere 120C Excavator	75% of commercial rate x \$140/hr = \$105/hr	36	-	\$3,780.00
Excavator Mob	\$708.75	-	-	\$708.75
Personal truck	\$50 per day	-	10	\$500.00
Transport Trailer	\$16 per day	-	10	\$160.00
ATV	\$40 per day	-	10	\$400.00
3" Honda Pump	\$13 per day	-	3	\$39.00
Total				\$10,987.75

13.0 References

Hulstein, R., Zuran, R., Carlson, G.G. and Fields, M., 1999, The Scheelite Dome gold project, central Yukon. *In: Yukon Exploration and Geology 1998*, C.F. Roots and D.S. Emond (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 243-248.

Murphy, D. C. and Heon, D., 1995, Geology and Mineral Occurrences of Seattle Creek Map Area (NTS 115P/16), Western Selwyn Basin; in Exploration and Geological Service Division, Yukon, Indian and Northern Affairs Canada, p. 59-71.

Murphy, D. C., 1997, Geology of the McQuesten River region, northern McQuesten and Mayo map areas, Yukon Territory (115P/14,15,16; 105M/13,14). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 6, 122 p.

Nagy, L. J., 1980, Geological and Geochemical Report on the Ben Claims 1-80, Cominco LTD; Assessment report 090555.

14.0 Statement of Qualifications

I, Steven Wozniak am a geologist in the Yukon mineral exploration industry.

I am the author of the technical report titled “Bennett Creek Placer YMEP Final Report”

I am a graduate of Mount Royal University, Canada, with a Bachelor of Science Degree in Geology.

I have actively engaged in the mineral exploration industry since 2011.

Dated this 29th day of January, 2021

A handwritten signature in black ink that reads "Steven Wozniak". The signature is written in a cursive, flowing style.

Steven Wozniak BSc.

Appendix I – Receipts



40 MacDonald Road
 Whitehorse, Yukon
 Y1A 4L2
 PH: 867-633-3834
 Email: accounts@absoluteservices.ca
 70922 4497 RT0001

DATE: 2020-06-01
 Invoice #: 1410
 CLERK: Tyanna Harder
 PO#:

SOLD TO:

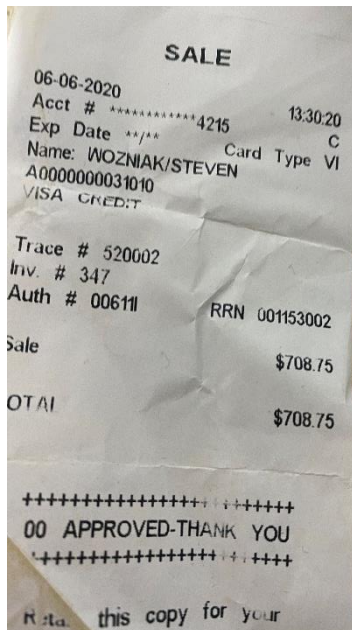
Steven Wozniak
 BC

Phone # 403-702-2347

Page 1 of 1

MAKE:	SERIAL:	MILEAGE:
MODEL:	LICENSE:	UNIT:
YEAR:	KM/HOURS: KM/HOUR	

Part Number	Description	Qty	Price	Total	Discount
Field Repair		3.00	225.00	675.00	
2020-05-30 Technician	3.00				
-Move 120 John Deere backhoe					



SIGNATURE: _____

Sub Total	\$675.00
GST5%	\$33.75
Total	\$708.75
Paid	\$0.00
Balance	\$708.75

THANK YOU

WE APPRECIATE YOUR BUSINESS.