

# Prospecting Report

## Horseshoe Creek Tributary to Big Creek

Prospecting Leases

ID01657, ID01658

NTS Mapsheet 115P/15

NAD83 UTM 8N, 1056000N, 286789E

**Dawson Mining District**

Dates Worked – April 19, 2018 to January 19, 2019

Author: Mike Burke, BSc, P.Geol

January 19, 2019

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## Introduction

The one-mile and three-mile placer leases are located on Horseshoe Creek, a tributary of Big Creek. Horseshoe Creek was identified as having good potential to host economic deposits of gold as placer deposits. This report documents a staged exploration program to evaluate the potential of Horseshoe Creek for placer gold. Records of the creek being staked previously could not be located except for two placer claims which were located previously at the lower end of Horseshoe Creek where it enters into Big Creek.

Big Creek has recently been subjected to a new placer mining operation which has improved access into the area. The leases on Horseshoe Creek drain the north side of the Sprague Creek stock. Hard rock exploration has historically occurred on the Sprague Creek stock and surrounding area for gold. Exploration included geological mapping, soil sampling, hand trenching and diamond drilling. Skarn and intrusion hosted gold mineralization has been identified along the north margin of the Sprague Creek stock with significant gold mineralization discovered. Two placer claims were previously staked at the mouth of Horseshoe Creek but they were allowed to expire within one year of staking suggesting the claims did not receive any exploration.

The main commodity of interest is placer gold. Other commodities may be present and will be investigated if encountered. Pathfinder minerals include heavy minerals that are usually associated with placer gold plus the presence of pyrrhotite as a potential pathfinder to gold. High values of tin have also been reported in stream sediment samples in the area so cassiterite may also occur in the heavy minerals. The Mahtin (Yukon MINFILE 115P 007) hard rock occurrence consists of gold bearing pyrrhotite skarn horizons developed within Rabbitkettle limestone in contact with the Sprague Creek stock and quartz-arsenopyrite-gold veins within the stock. The best mineralized area is along the northern boundary of the Sprague Creek stock which is drained by Horseshoe Creek. If an eroded gold deposit existed along the northern periphery of the Sprague Creek stock it would have been deposited within Horseshoe Creek.

The two placer leases were explored with a staged approach. Each stage of work was contingent on positive results from the previous stage. The first phase consisted of a drone survey to identify and document previous disturbances, calculate stream gradient, aid in interpreting surficial geology and identify areas with increased potential for placer gold. The second stage consisted of a traverse of the creek with placer prospecting and sampling to identify areas with placer potential. Based on negative results from the initial prospecting and sampling program the third and fourth phases of the program were cancelled. The third phase was to consist of a program of geophysics to identify the depth of overburden, thickness of potential gold bearing gravels and depth to bedrock was planned. A fourth phase of work was planned to utilize a GT Rotary Air Blast (RAB) drill to test the potential gold bearing gravels.

## Previous work

There is no documented placer exploration on Horseshoe Creek. Two claims previously existed at the mouth of the creek however these claims were allowed to lapse within one year suggesting that no work was performed. Examination of the drone survey indicated an historical bulldozer trail existed up Horseshoe Creek. Remnants of the trail were located during the prospecting traverse and two historical bulldozer test pits were located. The pits appeared to be very shallow and did not likely reach bedrock.

The Mahtin Minfile occurrence (115P 007) occurs within the drainage of Horseshoe Creek. The Mahtin Property has been subjected to extensive exploration for hard rock gold. Exploration has consisted of soil sampling, silt sampling, trenching, prospecting, geological mapping and diamond drilling.



Figure 1 – Bulldozer test pit.

## List of Claims

Prospecting Lease #	Registered Owner
ID01657	Mike Burke – 100%
ID01658	Eileen Burke – 100%

## Location and Access

The Horseshoe Creek Placer Exploration Leases are located in the Dawson Mining District. Access to the claims is from Yukon Highway 2, the North Klondike Highway via the Clear Creek road which has recently been extended to access a new placer operation on Big Creek. The new placer camp location is approximately 3 km northwest from the mouth of Horseshoe Creek at the intersection of the Oz and Sav placer claims. The road access extends along Big Creek and gives access to Horseshoe Creek where it enters Big Creek.

The new road is only open seasonally and alternatively the leases can be accessed by helicopter from Dawson or Mayo.

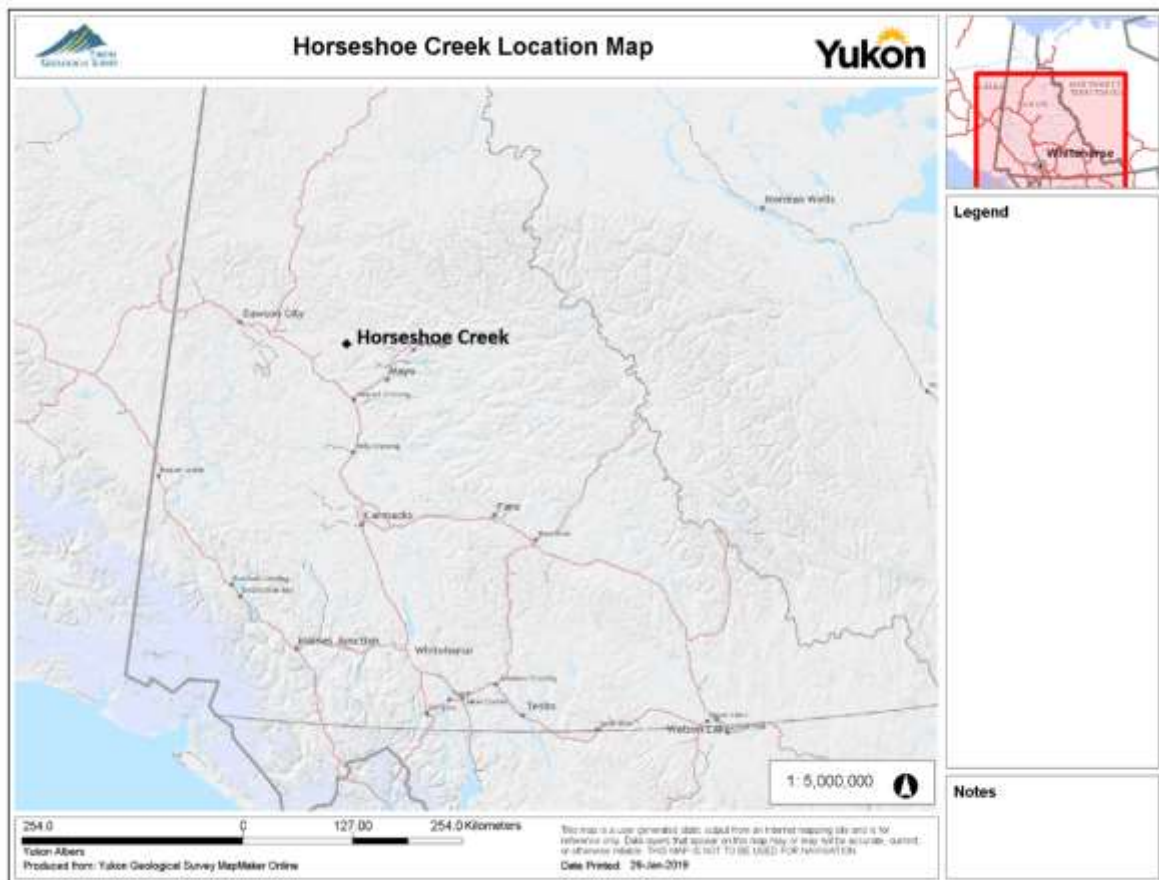


Figure 2 – Horseshoe Creek Location Map.

## GEOLOGY

### Quaternary and Glacial History

The Yukon has been subjected to several major episodes of glaciation, generally known as the pre-Reid (early Pleistocene), Reid (middle Pleistocene), and McConnell (late Pleistocene) glaciations.

In the central Yukon, each subsequent glaciation was progressively less extensive. The Mayo area was completely glaciated during the pre-Reid and Reid glaciations, but only partly glaciated by the McConnell ice sheet. The pre-Reid glaciation consisted of multiple episodes, the earliest being at least >2.58 Ma (Froese, 1997). Only the Reid (approximately 300 000 years ago) and the McConnell (approximately 20 000 years ago) glaciations have left significant surficial deposits in the Mayo area.

While the timing of the interglacial prior to the Reid is uncertain, the Koy-Yukon interglacial prior to the McConnell glaciation lasted approximately 170 000 years (Berger, 1994). The modern (Holocene) interglacial began approximately 11 000 years ago.

The build-up of ice in the Yukon consisted of glaciers originating from multiple accumulation zones in the Ogilvie, Selwyn, Pelly, Cassiar, and St. Elias Mountains. Ice from these centres combined as they followed the trend of major drainages and flowed toward the central plateau region. Ice from the Selwyn Mountains was largely responsible for glaciating the Stewart Plateau, south of, and including the Stewart River valley. Ice from the Ogilvie and Wernecke mountains glaciated the McQuesten drainage system and the Mayo Lake valley. Local alpine ice developed in the Gustavus Range and mixed with Cordilleran ice in the Duncan, Lightning and Granite creek valleys during the Reid and pre-Reid glaciations

Open File 2001-35, Mayo Area Placer Activity Map and Bulletin 13, Placer Gold Deposits of the Mayo District have many details on the surficial geological setting and of creeks hosting placer gold in the area around Horseshoe Creek.

The area of Horseshoe Creek has only been subjected to Pre-Reid glaciation and not to the Reid or McConnell glaciations which impact much of the Mayo area. The presence of only one glacial event increases the likelihood of an eroded placer deposit to remain intact in the area of Horseshoe Creek.

### Placer Geology (from Bulletin 13, Placer Gold Deposits of the Mayo District)

#### Little South Klondike River tributaries

Tributaries with placer exploration history in the Little Klondike River drainage basin include Josephine, Big (Horseshoe Creek is a tributary to Big), Hobo, Arizona, Sprague and Gem creeks. Placer production has occurred in Hobo, Arizona and Gem creeks. Josephine and Big creek drain the east side of West Ridge, which is also shared by Left Clear Creek on the west side. Previous testing on Josephine Creek has been unsuccessful. Depths to bedrock along the lower reaches are from 2.1 to 2.7 metres and probably increase near the head of the drainage (Kreft, 1993), which is consistent with the glacial history. Local alpine glaciers developed at the headwaters during the McConnell and Reid glaciations, but their extent was limited to the upper-half of the creek (Bond, 1997b). Many small Tombstone Suite intrusions outcrop within the headwaters of these two drainages and provide favourable source rocks for gold. RGS data for Josephine and Big creeks show gold values >95th in both creeks and arsenic values also exceeded the 95th percentile. A stream sediment sample on Josephine Creek from the Mayo placer project returned a gold value of 355 ppb, the second highest gold value from the Mayo area sampling. Arsenic concentrations equaled 532 ppm, this is the fourth highest overall arsenic value. Prospects appear to have been tested in the lower reaches. The upper half of the creeks may be more promising where Reid glaciers overrode and possibly buried pre-existing placers. Hobo and Gem creeks both have headwaters that originate within the Red Mountain stock, and in breccia zones northeast of the summit. Mining has occurred on both creeks but more extensively on Gem Creek where small-scale placer mining occurred over a 12-year period (Kreft, 1993). Hobo Creek has been prospected but the only mining has taken place near the mouth of Arizona Creek (Kreft, 1993). The alluvial deposits in that area consisted of 1 m of muck overlying 2 to 2.5 m of gravel (Kreft, 1993). The placer potential of Hobo Creek is favourable considering the bedrock setting at its headwaters. Economic grades may occur higher up in the drainage. The stream sediment geochemistry for Hobo Creek is anomalous in both gold and arsenic. Other creeks that have source areas on Red Mountain include tributaries to Ballard and Sprague creeks; these too have placer potential. Arizona Creek lies 7 km west of Red Mountain and has a history of placer production. The ground is relatively shallow (approximately 4 m to bedrock) and is underlain by

rocks of the Cambrian Gull Lake Formation (Kreft, 1993, Murphy and Héon, 1996). The drainage does not contain any reported intrusives or intrusion-altered metasedimentary rocks. Placer gold in Arizona Creek may have originated from veins related to the Red Mountain stock. The distinct north-northwest lineation of bedrock is likely bedding rather than structural control according to Murphy and Héon (1996). Structural control would have suggested a breccia-related gold source. Stream sediment geochemistry did not indicate any anomalous gold, arsenic or antimony values.

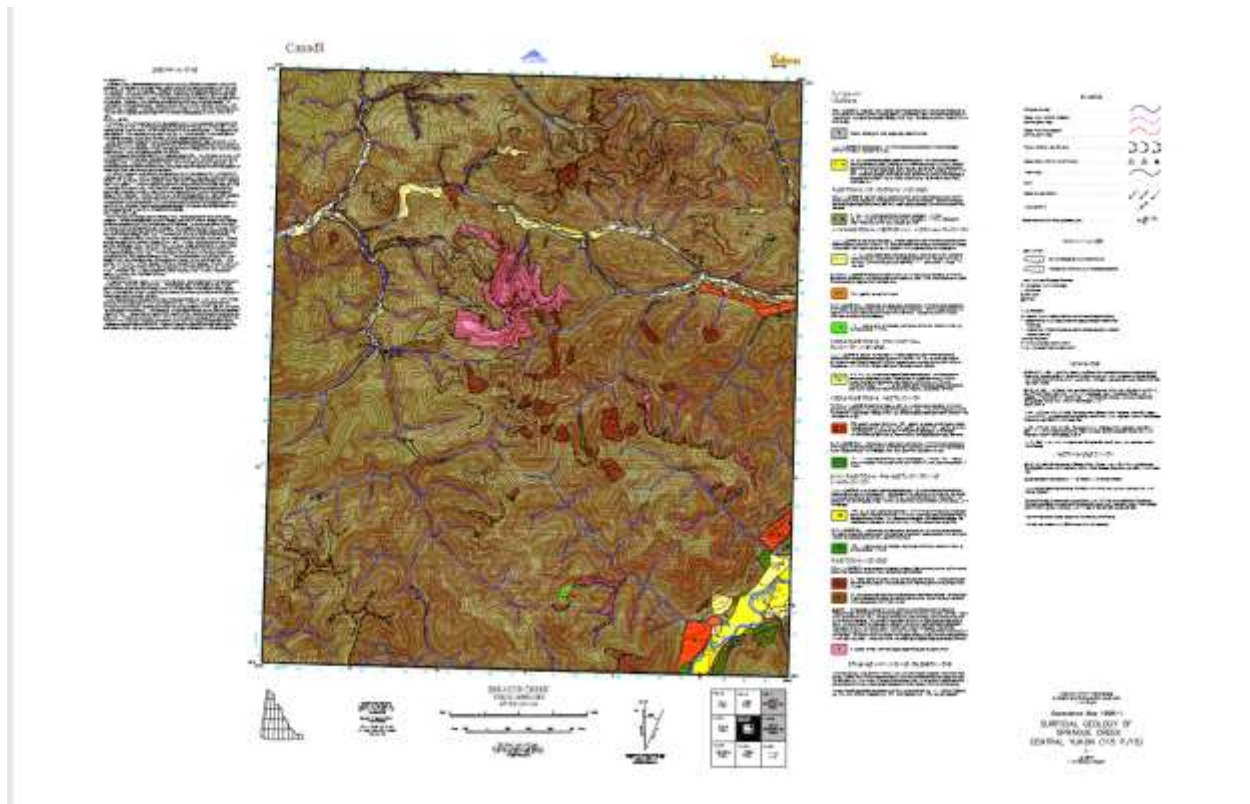


Figure 3 – Surficial Geology of Sprague Creek.

### Bedrock Geology

The Mahtin property and Horseshoe Creek Placer Project area is situated within the Selwyn basin, composed of off-shelf deep water clastics, bound to the north by the Dawson Fault, to the northeast by carbonate shelf rocks of the Mackenzie Platform, and to the southwest by the Tintina Fault. Tectonically, the Selwyn Basin existed as a passive margin setting during the Cambrian through to the Devonian. The inner miogeocline developed as a carbonate shelf. Deeper water facies, consisting of shales, mudstones, siltstones and cherts were deposited offshore to the southwest. The passive margin setting was interrupted intermittently by periods of extension. This resulted in the development of secondary rift basins such as the Misty Creek embayment. These pulses of rifting were accompanied by episodes of mafic and more minor felsic volcanism.

Extension throughout the Silurian and Devonian resulted in horst and graben development, bounding the basin to the southwest by uplift of the Cassiar Platform carbonates and volcanoclastics. By the mid-Devonian, tectonism associated with a back arc setting terminated the passive margin phase of sedimentation. Marine transgression from rifting and/or wrench faulting resulted in a deep marine basin

from the middle to late Devonian. Regional uplift and erosion of Hyland and Road River group rocks in the west caused an influx of marine, turbiditic, chert-rich clastic sediments to spread south and east from their uplifted source and blanket all existing facies (Earn group). Numerous SEDEX deposits of barite and sulphides are found in Earn Group rocks throughout the Selwyn Basin.

Northeasterly directed compression during the Mesozoic deformed Selwyn Basin rocks forming a thrust and fold belt. During the period from the Jurassic to the early-mid Cretaceous, large scale thrust faulting, open to tight similar folds, imbricate fault zones and an axial planar slaty cleavage developed throughout the Selwyn Basin. The more competent chert units deformed as tight to isoclinal folds, accommodating a significant amount of shortening, with detachment surfaces forming in the less competent units. Three principal thrust faults developed in western and central Selwyn Basin. These faults are, from south to north and oldest to youngest, the Robert Service Thrust, the Tombstone Thrust and the Dawson Thrust. These faults are more than 200 km long and are believed to root in a detachment in the Paleozoic Hyland Group. Throughout much of the Selwyn Basin, regional metamorphic grade reached lower greenschist facies during the Mesozoic.

Following the compressive deformation that ceased in the early-mid Cretaceous, a period of widespread mid-Cretaceous granitic magmatism intruded deformed rocks of the miogeocline. The Selwyn Plutonic Suite of granitoid intrusives were emplaced along a northwest trending belt within the Selwyn Basin. The granitoids are mainly granitic in composition and are associated with tin, tungsten, molybdenum and gold mineralization. Mineralized systems at Red Mountain to the north and Clear Creek to the west of Mahtin are all associated with Tombstone Suite intrusions. Recent age dating by J. Mortensen at the University of British Columbia, dates the Sprague Creek Stock in the northwest part of the map area at  $91.0 \pm 0.2$  Ma and the Red Mountain Stock to the north at  $92.3 \pm 0.8$  Ma.

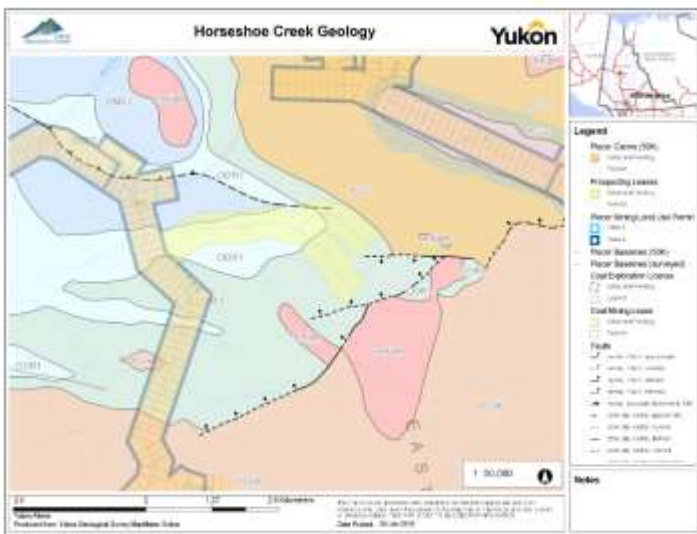


Figure 4 – Bedrock Geology

### Local Geology

No bedrock was observed during the prospecting traverses. Boulders in the creeks consisted mainly of a mix of Rabbitkettle silty limestone and granodiorite boulders. Geological maps indicate the area is



underlain by rocks of the Selwyn Basin intruded by the Sprague Creek Stock of the Mayo Suite Intrusives. Bedrock in the lower reaches of Horseshoe Creek is mapped as Road River cherts and shales while the upper reaches are underlain by limestones of the Rabbit Kettle Formation.

## 2018 Exploration Program

### Methodology

A UAV Drone survey was flown over the entirety of the two placer leases. A report on the drone survey is appended to this report. Subsequent to the drone survey a prospecting trip was conducted to the project. One day was spent travelling to the property, two days were spent prospecting, one day was spent travelling back from the property to Whitehorse.

Prospecting was conducted on foot up the creek to areas interpreted from drone surveying to be prospective for gold deposition. The creek was narrow and in many areas inaccessible or had poor conditions to collect a quality sample. Final site selection was determined in the field. Samples were collected from boulder traps or the active portions of the stream. The author was accompanied by Jeff Bond, Placer Geologist for the Yukon Geological Survey. Once a site was selected for surveying mud/sand/silt and gravel were shovelled through a “Le Trap” sluice box. The Le Trap sluicebox allows for a larger volume of material to be processed by shovelling material through the Le Trap. After the sample (2.5 to 5 gallons average) has been processed through the Le Trap, the heavy material collected in the riffles is then subjected to final cleaning by gold panning. The resultant samples were examined with a hand lens for gold and other heavy minerals.



Figure 5 – Le Trap sluice at the location of Sample 2.

## Sample Descriptions and Results

### Test Pit 1 – 63°55'24"N;136°54'11"W

2.5 gallons of mud/silt/sand and gravel were collected from within the stream channel. The creek was approximately 3 meters wide at the collection point. The sample was collected from behind large boulder traps.

The sample recovered 2 flecks of gold, one was 0.2 by 0.3 mm with a minor amount of "body" and rounded edges, the other was a smaller fleck. The concentrate lacked significant heavy metals with the exception of a minor amount of arsenopyrite.

### Test Pit 2 – 63°55'35"N;136°52'34"W

Approximately 50 metres up a small pup flowing from the south into Horseshoe Creek was tested. Five gallons of sand/silt/gravel material was collected from behind an approximate 1 by 2 metre glacial boulder. Rocks and boulders in the creek consisted mainly of rounded glacially derived material.

The sample recovered no gold, very minor heavy minerals were recovered with only a trace of arsenopyrite.

### Test Pit 3 – 63°55'40"N;136°51'03"W

Two gold pans of material were collected upslope from the confluence of the creeks covered by the two placer leases. The area had evidence of prior excavation by bulldozer. The material consisted of glacial till on a small bench.

No gold was detected in either pan and no heavy minerals were identified.

### Test Pit 4 and 5 – 63°55'53"N;136°50'52"W

Two samples each consisting of 2.5 gallons of sand/silt/gravel were collected upstream in Horseshoe Creek beyond the confluence of the creek covered by the 1 mile lease. Samples were collected from within the stream which was approximately 2 metres wide at this point. Samples were collected from behind boulder traps in the active portion of the stream bed.

No gold was detected in either sample, very few heavy minerals were observed only very minor pyrite and arsenopyrite. Notably less heavy minerals than samples collected downstream.

A previous disturbance consisting of a large 10m by 5m bulldozer pit was noted at the confluence of the creeks. This was likely subject to previous placer testing however no evidence beyond the pit itself could be found of any previous activity.

### Test Pit 6 – 63°55'20"N;136°54'19"W

Collected a 5 gallon sample of silt/sand/gravel slightly downstream of the start of the 3 mile lease on Horseshoe Creek. The sample was collected to confirm the presence of gold in the lower part of Horseshoe Creek.

One small speck of gold was recovered, very little heavy minerals trace arsenopyrite.

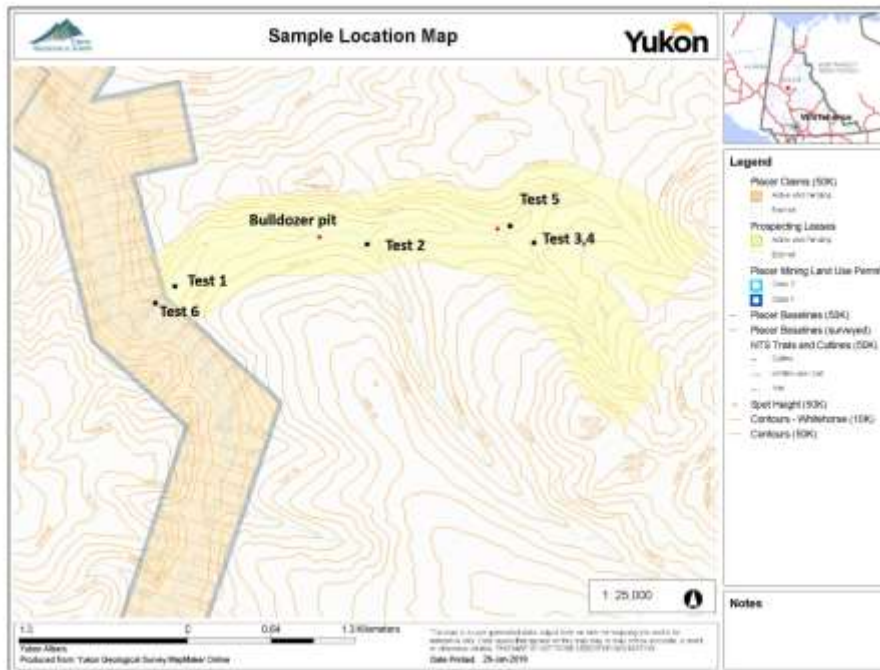


Figure 6 – Sample Locations

Given the very disappointing test results a single pan was collected from the main channel of Big Creek downstream of where Horseshoe Creek enters it. From a single pan approximately 3 small specks of gold were noted, significantly more than from the much larger samples that were collected from Horseshoe Creek.

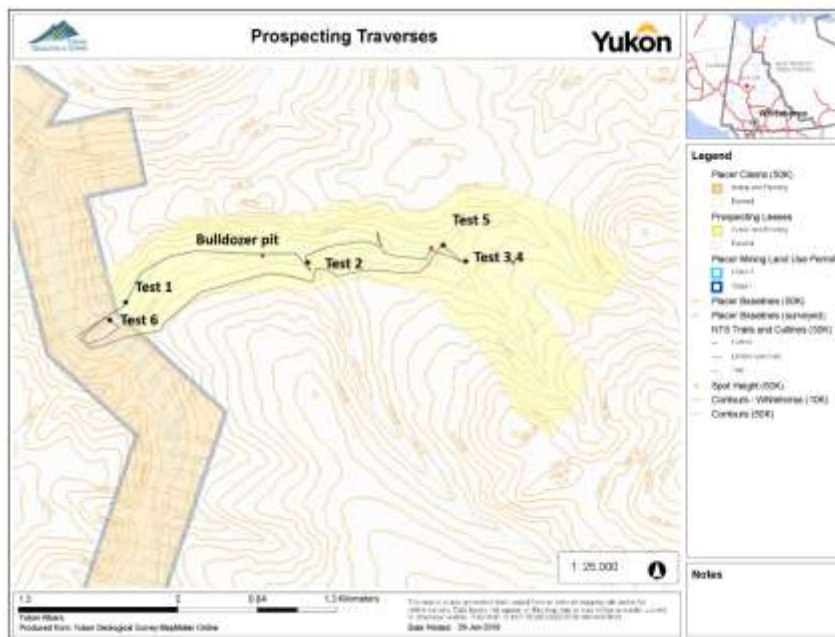


Figure 7 – Prospecting Traverses.

## Interpretation and Conclusions

The results from the six test pit sample sites on Big Creek proved to be very disappointing. Minor amounts of gold were recovered in pits 1 and 6 in the lower section of the drainage. Samples taken further up the drainage contained no gold and significantly less heavy minerals. Heavy mineral content of all samples was low and the only minerals noted were arsenopyrite and pyrite.

The Mahtin (Yukon MINFILE 115P 007) hard rock occurrence consists of gold bearing pyrrhotite skarn horizons developed within Rabbitkettle limestone in contact with the Sprague Creek stock and quartz-arsenopyrite-gold veins within the stock. The best mineralized area is along the northern boundary of the Sprague Creek stock which is drained by Horseshoe Creek. If an eroded gold deposit existed along the northern periphery of the Sprague Creek stock it would have been deposited within Horseshoe Creek. The hypothesis that the gold skarn mineralization at the head of Horseshoe Creek was shedding placer gold into the creek was not proven.

No visible gold has been reported at the Mahtin occurrence although significant grades have been encountered at various showings. Given the nature of the skarn mineralization perhaps the deposit style is not conducive to producing gold of a size to generate placer deposits. More distal styles of intrusion related mineralization may be better generators of placer gold.

Although the sampling technique and prospecting strategy at this stage did not sample gravels at the bedrock gravel interface it was concluded that if the Mahtin gold occurrence was generating gold it would have been detected in the samples that were taken. Given the poor results the decision to not proceed with a geophysical program to generate drill targets was suspended. Although the possibility for a buried placer deposit was not eliminated with this program it was decided that the investment in further geophysics and drilling was not justified at this time.

## References

- LeBarge, W.P., Bond, J.D. and Hein, F.J., 2002. Placer gold deposits of the Mayo area, central Yukon. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 13, 209 p.
- Murphy, D.C. and Héon, D., 1996. Geological map of Sprague Creek area, western Selwyn Basin, Yukon, (115P/15), 1:50 000 scale map with marginal notes.
- Murphy, D.C. and Héon, D., 1994. Geological overview of Sprague Creek map area, western Selwyn Basin. In: Yukon Exploration and Geology 1993, Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 29-46
- Yukon MINFILE, 1997. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.

## **Appendix 1**

### **UAV Aerial Photogrammetry Survey**

#### **Horseshoe Creek**

Three + One Mile Placer Lease

Placer Lease: ID01657 / ID01658

Tenure Holder: Mike and Eileen Burke 100%

#### **Dawson Mining District**

NTS: 115P/15

Latitude: **63° 55.65' N**

Longitude: **-136° 52.45' W**

All Work Performed On: April 20, 2018

Date of Report: Aug 19, 2018

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## 1 Introduction

GroundTruth Exploration Inc. conducted an aerial drone survey on two Mahtin placer leases held by Mike and Eileen Burke, ID01657 / ID01658. The full extent of the lease was imaged with high resolution imagery and topography to establish exploration targets and plan a follow up program.

All work was undertaken by GroundTruth Exploration Inc.

## 2 Location and Access

Placer lease ID01657 covers the three-mile component, while ID01658 represents the one-mile lease in the Mahtin drainage basin. The area can be accessed by Big Creek Road, but the survey crew was delivered by helicopter. The surveys for both placer leases were conducted concurrently.

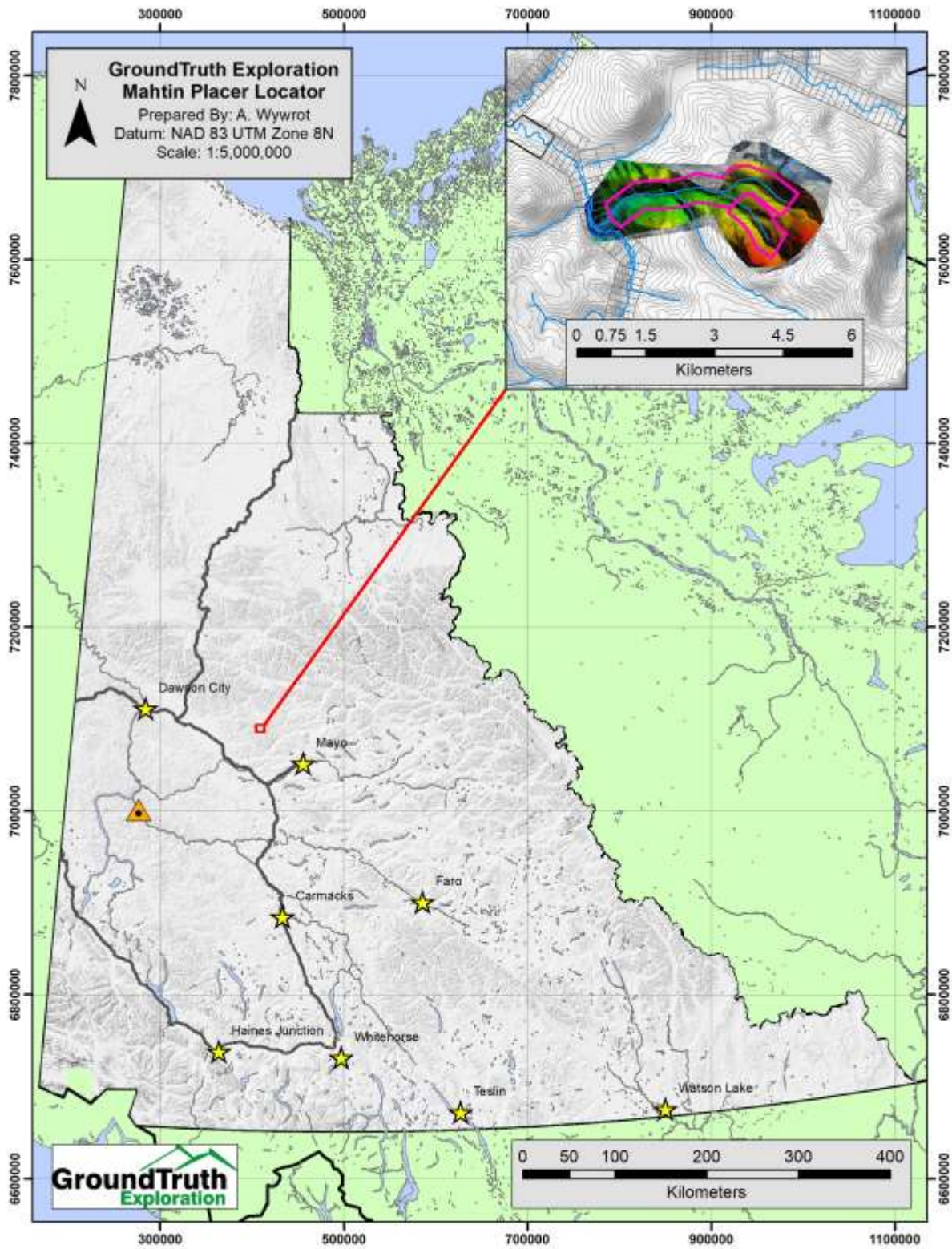
## 3 Physiography

The lease is located in an unglaciated zone in the Stewart Plateau region of Canada's Boreal Cordillera ecozone. Due to its location in Canada's discontinuous permafrost zone, permafrost is distributed unevenly throughout the property. The valley bottoms and northern slopes have thick moss mats, black spruce, and alder thickets over ice rich permafrost, while southern slopes are generally more sparsely vegetated with ground leaf cover and white spruce, aspen and birch forests.

## 4 Climate

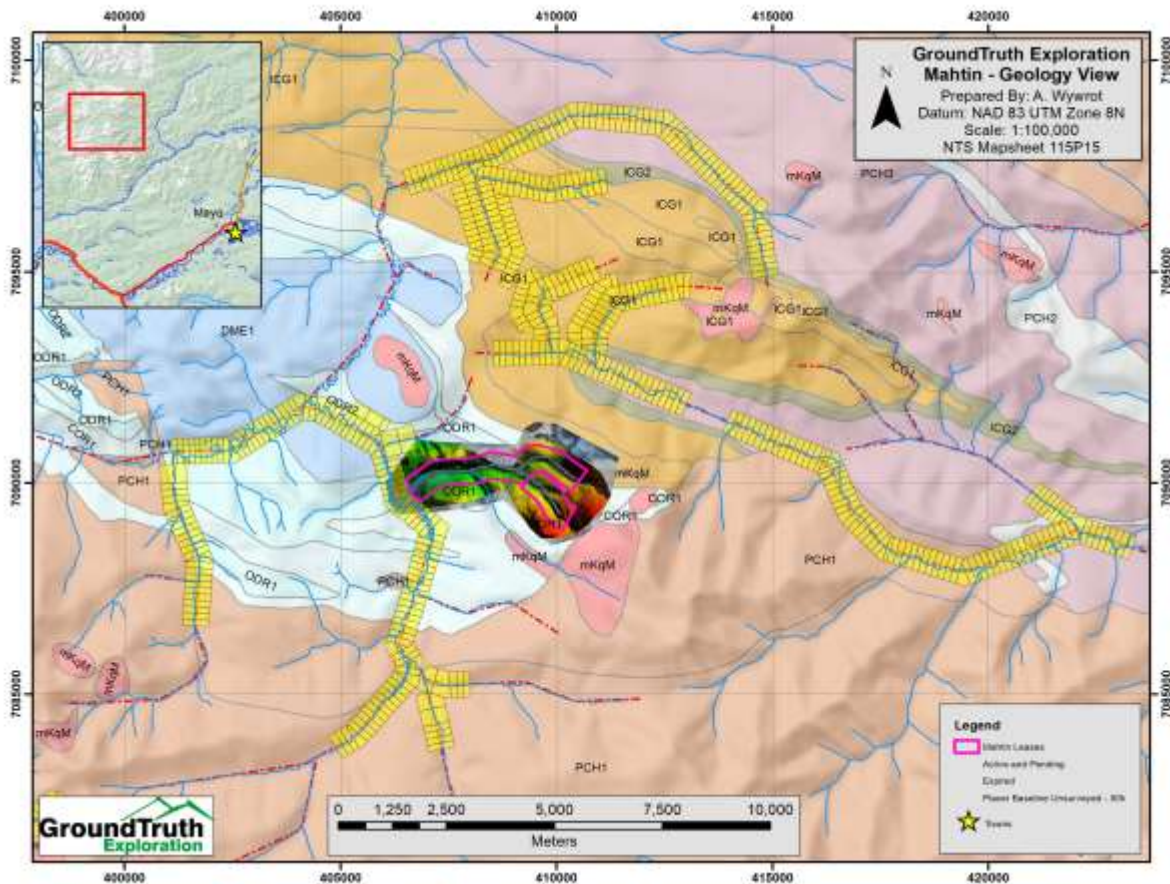
The interior intermontane plateau receive about 400 mm of annual precipitation. Snowfall accounts for 35 to 60% of all precipitation. Winters are long and cold, with January mean temperatures between -15°C and -27°C. Summers are warm but short, with July mean temperatures between 12°C and 15°C.

([http://www.emr.gov.yk.ca/oilandgas/pdf/bmp\\_boreal\\_cordillera\\_ecozone.pdf](http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_boreal_cordillera_ecozone.pdf))





## 5 GEOLOGICAL SETTING



### 5.1 Geological Description

The Lease is underlain by sedimentary units deposited from the Cambrian through the Silurian periods. Regionally, they are coded as COR1 and ODR 1, and are mostly composed of chert, limestone, and shale.

## 6 Work Performed

The 2017 UAV survey consisted of a one day survey staffed with a lead UAV operator and assistant UAV operator (spotter). A total of 12 flights were run to cover the lease area.

Photogrammetry: UAV High Resolution Imagery/Elevation Survey

The Drone survey lines and spatial resolution are approved by client prior to survey in accordance with Transport Canada UAV operating permit regulations. Typical flight time is approximately 35 minutes per flight and the operator plans accordingly with available time on ground to determine the number of flights possible per day.

### **6.1.1 Personnel and Equipment**

The Drone survey is typically conducted by one trained operator and one spotter. The lead operator is responsible for coordinating efficient operation of survey and ensuring optimal data quality, the spotter is responsible for maintaining visual contact with the drone, monitoring the radio, and looking for flight path conflicts.

The following equipment is used for the completion of the survey:

UAV Drone:	Ebee UAV 'Drone' with internal GPS and radio link
Camera:	Cannon 16 megapixel camera
Base Station:	Panasonic Toughbook laptop with radio link
Power Generation:	1000watt Honda generator (for battery charging)
GPS units:	2x Promark3 GPS receivers (if GCPs are collected)
Radios:	VHF radio with aircraft frequencies
Processing:	Laptop computer with adequate RAM
Software:	Emotion software for flight planning/monitoring Postflight Pix4D for image Orthorectification

### **6.1.2 Operating Procedure**

The survey is completed in the field according to the following procedure:

- Survey is planned using Emotion software prior to departing for field.
- Spatial resolution, footprint, number of planned flights and launch location is determined.
- Operator arrives onsite and sets up base station, UAV unit and ensures adequate launch and landing path is available.
- Prior to launch, operator calls out on Aircraft frequencies to notify Drone survey in progress. Through duration of survey, operator calls out every 5 minutes to notify aircraft of survey in progress.
- Operator Hand launches aircraft and flies survey as planned with number of required flights and maintains visual contact with the UAV
- Data is downloaded from drone after each flight and inspected for quality.
- After survey, all imagery and drone data files are Orthorectified using Postflight Pix4D software package.

### **6.1.3 Data Processing**

The collected data is downloaded in the field after every flight and checked for integrity. This allows any low quality imagery to be identified and resurveyed while onsite. The drone imagery data is processed every evening by the lead operator in the field using Postflight Pix4D software. The initial orthorectified image product is generated by an automated process. This image is then cleaned up manually within the Postflight software by visually checking for low quality portions of the image and selecting another overlapping image for that location. The final cleaned image and DEM product is the result of this manual QC process. The final Image and DEM are georeferenced

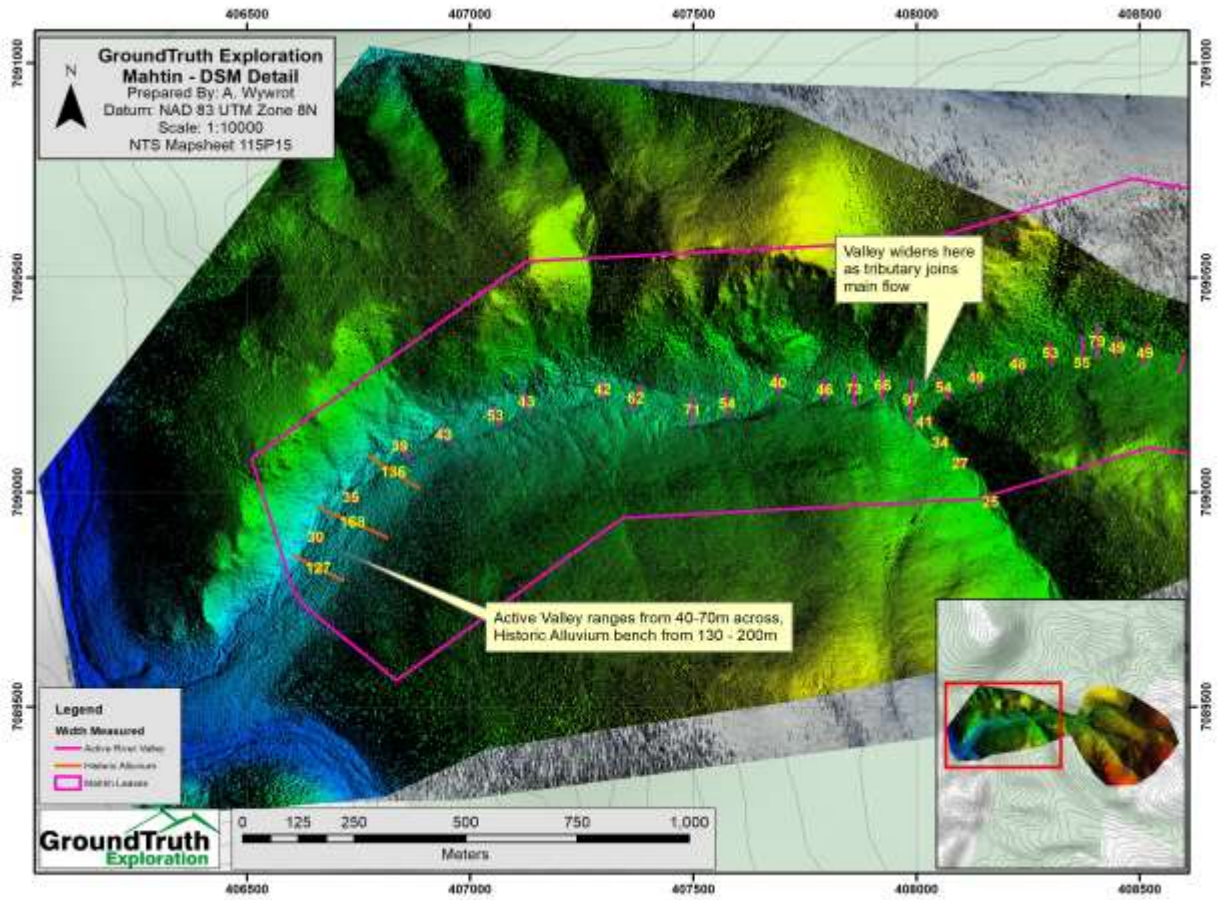
to NAD83 UTM projection. A final QC report is generated automatically with the final cleaned product.

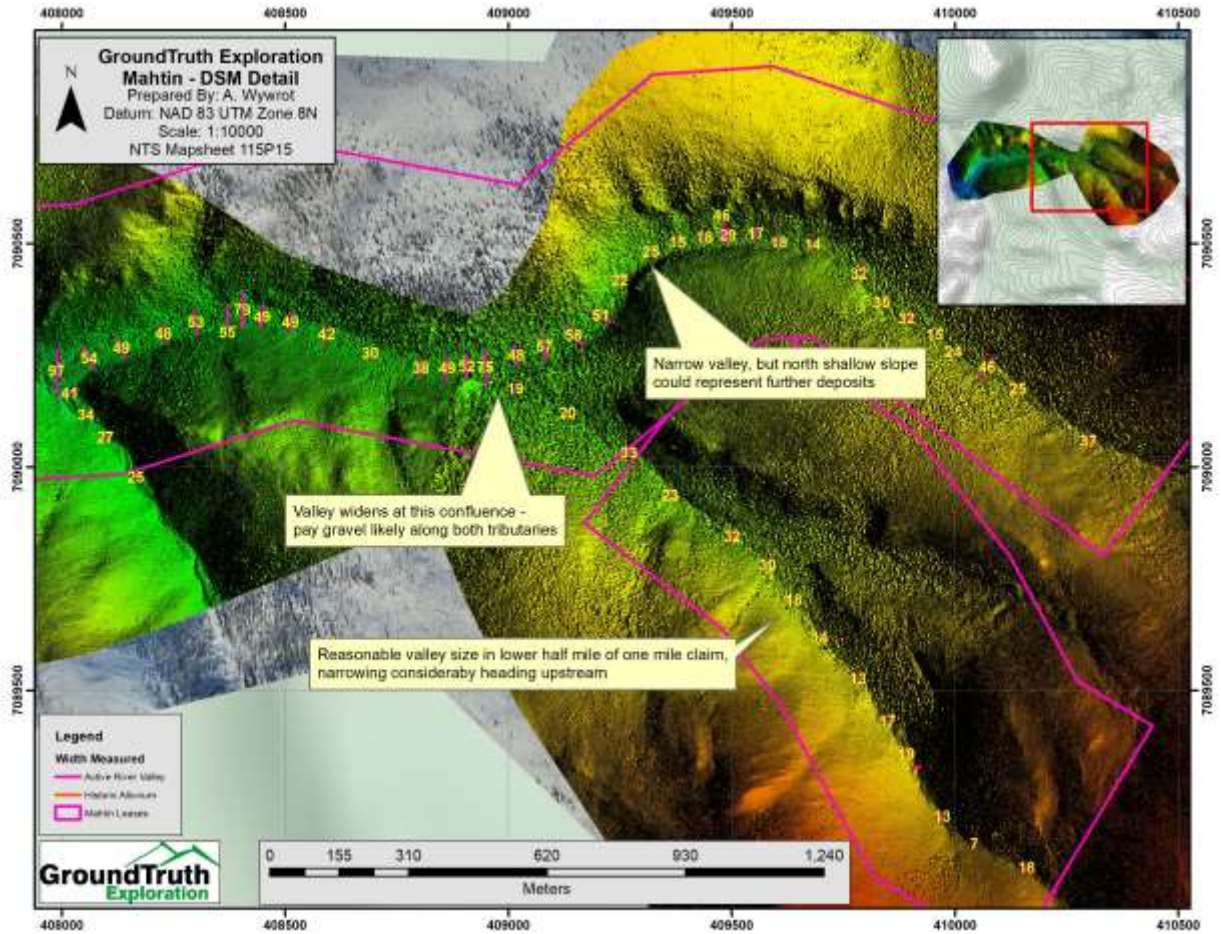
**Standard data output:**

Imagery:	Georeferenced Orthoimage (.geotiff format)
Digital Elevation Model:	Gridded Elevation model (geotiff format)
Automated Quality Report:	Report with survey statistics (.pdf format)

**Discussion:**

The UAV survey is useful for interpreting the geophysical surveys to know in detail what the ground conditions are. Locations of permafrost, drainage and slope have a significant impact on geophysical surveys such as resistivity and GPR data. The imagery/topography allows us to get an accurate measurement of true valley floor width and margins from creek drainage. Future access and planning of exploration work locations will be planned from this dataset. Figures below show the imagery and topographic model and the level of detail which the local topography is imaged. Basic targeting interpretations are made on the topographic model figures. It is interpreted that generally the North slopes on the lease have best prospectivity for buried placer gravels. The South slopes generally appear to be deeply incised and bedrock being near surface. Significant amounts of alluvial bench are present at the creek mouth, and represent another opportunity for placer gravels.





**6.1.4 Conclusion and Recommendations**

Further exploration work is required to evaluate the prospectivity of the lease on Mahtin Placer. It is recommended that a light geophysical survey such as DC Resistivity be conducted to evaluate potential depth and volumes of pay gravels in the drainage and adjacent North and East facing slope on the lease. The alluvial shelf at the mouth of the creek and both confluences of tributary and main creek flows represent areas that could host economic volumes of placer gravels and should be tested. Geophysical surveys should be followed up by means of drilling or test pits. Additional work is at the discretion of the property owner.

**7 Statement of Costs**

UAV Survey conducted on: April 20<sup>th</sup>, 2018

Report Written on: Aug 19, 2018

**GroundTruth Exploration Inc.: Mahtin Placer UAV Survey, Cost Breakdown**

On April 20/18, GroundTruth Exploration conducted a 1 day exploration program on placer leases ID01658,1658. The work consisted of a detailed imagery and topographic survey by UAV drone over the full extent of both leases.

Exploration Program Cost Breakdown:	Charge out	Units	Cost	
<b>Labour</b>				
1 UAV Drone Surveyor (per day)	\$ 550.00	1	\$ 550.00	
1 UAV Drone Assistant (per day)	\$ 385.00	1	\$ 385.00	<b>\$ 935.00</b>
<b>Equipment</b>				
1 UAV Drone with Base Station (per day)	\$ 500.00	1	\$ 500.00	<b>\$ 500.00</b>
<b>Data Processing and Final Deliverables</b>				
Imagery/Topo Finals (charged on a per flight basis)	\$ 100.00	12	\$ 1,200.00	
Plotting and Final Report (per hour)	\$ 75.00	8	\$ 600.00	<b>\$ 1,800.00</b>
				<b>\$ 3,235.00</b>
<b>Total Expenditures</b>				<b>3,235.00</b>

## 8 References

**Regional Geology:** Gordey, S.P. and Makepeace, A.J. (comp.) 1999: Yukon bedrock geology in Yukon digital geology, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1(D)

**Mineral Titles:** Yukon Mining Recorder, Mining Claims Database – [www.yukonminingrecorder.ca](http://www.yukonminingrecorder.ca)

**Topographic data:** NR Canada, CanVec Topographic Database- [www.geogratis.ca](http://www.geogratis.ca)

Additional review of various published scientific and reporting papers on the geology and mineral deposits of the region for indirect reference.