

UAV Aerial Photogrammetry Survey  
on the  
Wildwood Exploration Inc. and Associated  
Placer Prospecting Leases

Yukon Territory

**Moosehorn Creek Area:**

Lease No.: ID01509 (Wildwood Exploration Inc., 100%)  
Lease No.: ID01714 (Shane Sidsworth, 100%)  
Lease No.: ID01715 (Daniel Brown-Hozjan, 100%)  
Lease No.: ID01719 (Donell Dacillo, 100%)  
Lease No.: ID01720 (Ben Padega, 100%)  
Lease No.: ID01724 (Hector Barrientos, 100%)  
Lease No.: ID01734 (Janna Stecyk, 100%)

**Maisy May Creek:**

Lease No.: ID01717 (Roy Hutton, 100%)

NTS # 1150/06

Latitude: 63.38° N    Longitude: 139.1625°W

Dawson Mining District

WORK PERFORMED: June 8 - 15, 2019  
DATE OF REPORT: June 17, 2019  
Author of Report: Allen Wywrot

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## Summary

GroundTruth Exploration Inc. conducted an aerial drone survey on eight Moosehorn Creek-area placer leases. The leases were imaged by EBee fixed-wing drones, creating high resolution imagery and surface topography that will help establish exploration targets and plan a follow up program.

All work was undertaken by GroundTruth Exploration Inc.

The survey was successful in finding features such as benches, channel merge areas, and valley widths – all useful data for future exploration work by geophysical and drilling methods.

### 1.0 Location and Access

The placer leases are located roughly 70km SSE of Dawson City, within the Yukon river drainage system in west-central Yukon Territory. The rough centre of these leases is located at 63.3800° N, 139.1625° W, and can be found on NTS mapsheet 1150/06 (Figure 1). It is accessible throughout the year by established placer mining road

### 2.0 Property

Placer Prospecting lease tenure:

#### **Moosehorn Creek:**

ID01509, 1 mile, Wildwood Exploration Inc. 100%, expiry October 13, 2019  
ID01714, 1 mile, Shane Sidsworth 100%, expiry October 18, 2019  
ID01715, 2 miles, Daniel Brown-Hozjan 100%, expiry October 19, 2019  
ID01719, 2 miles, Donell Dacillo 100%, expiry October 19, 2019  
ID01720, 1 mile, Ben Padega 100%, expiry October 19, 2019  
ID01724, 1 mile, Hector Barrientos 100%, expiry October 22, 2019  
ID01734, 2 miles, Janna Stecyk 100%, expiry December 10, 2019

#### **Tenderfoot Creek:**

ID01717, 1 mile, Roy Hutton 100%, expiry October 19, 2019

See Figure 2 for locations of these leases in greater detail.

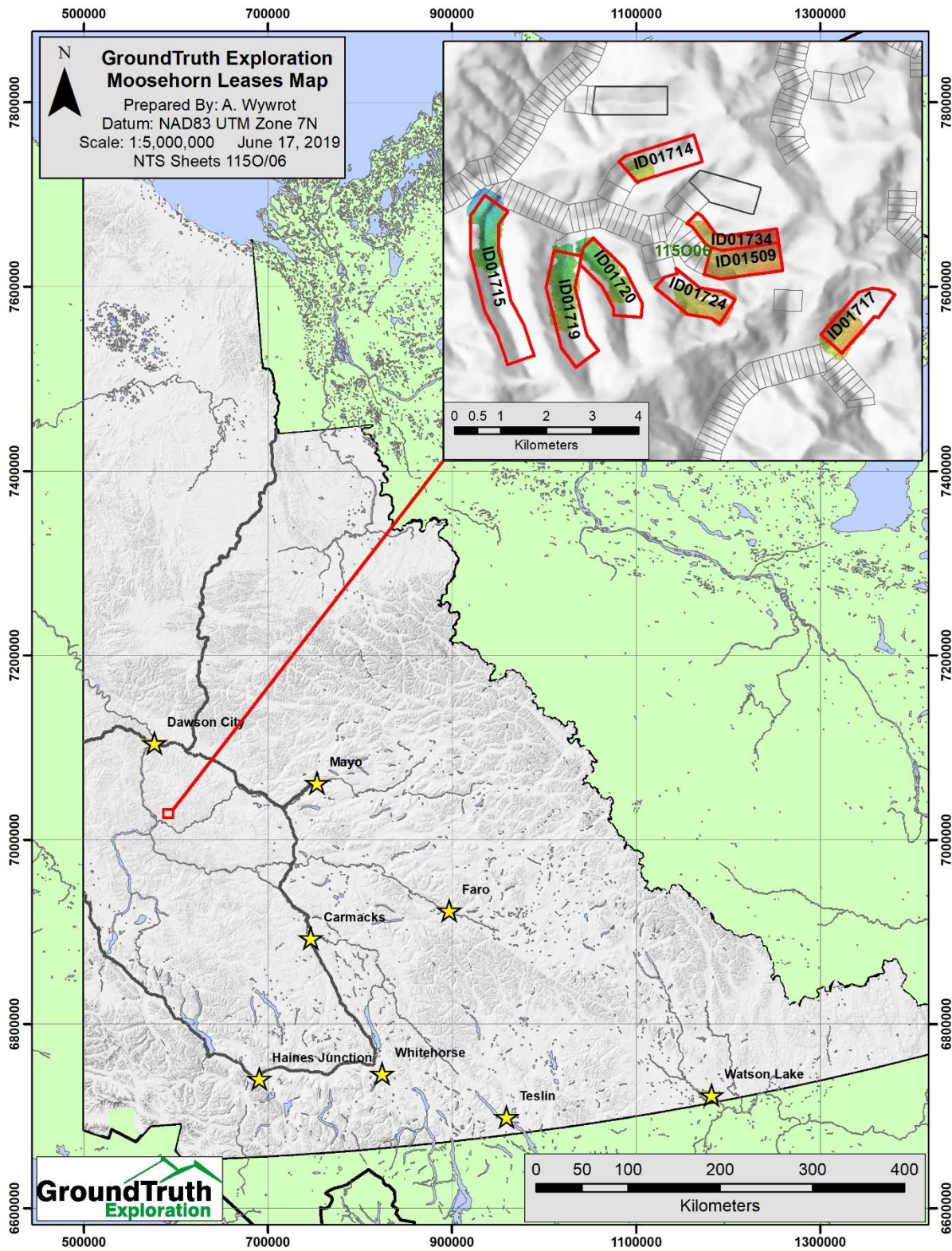


Figure 1: Lease Locations and NTS Mapsheet.

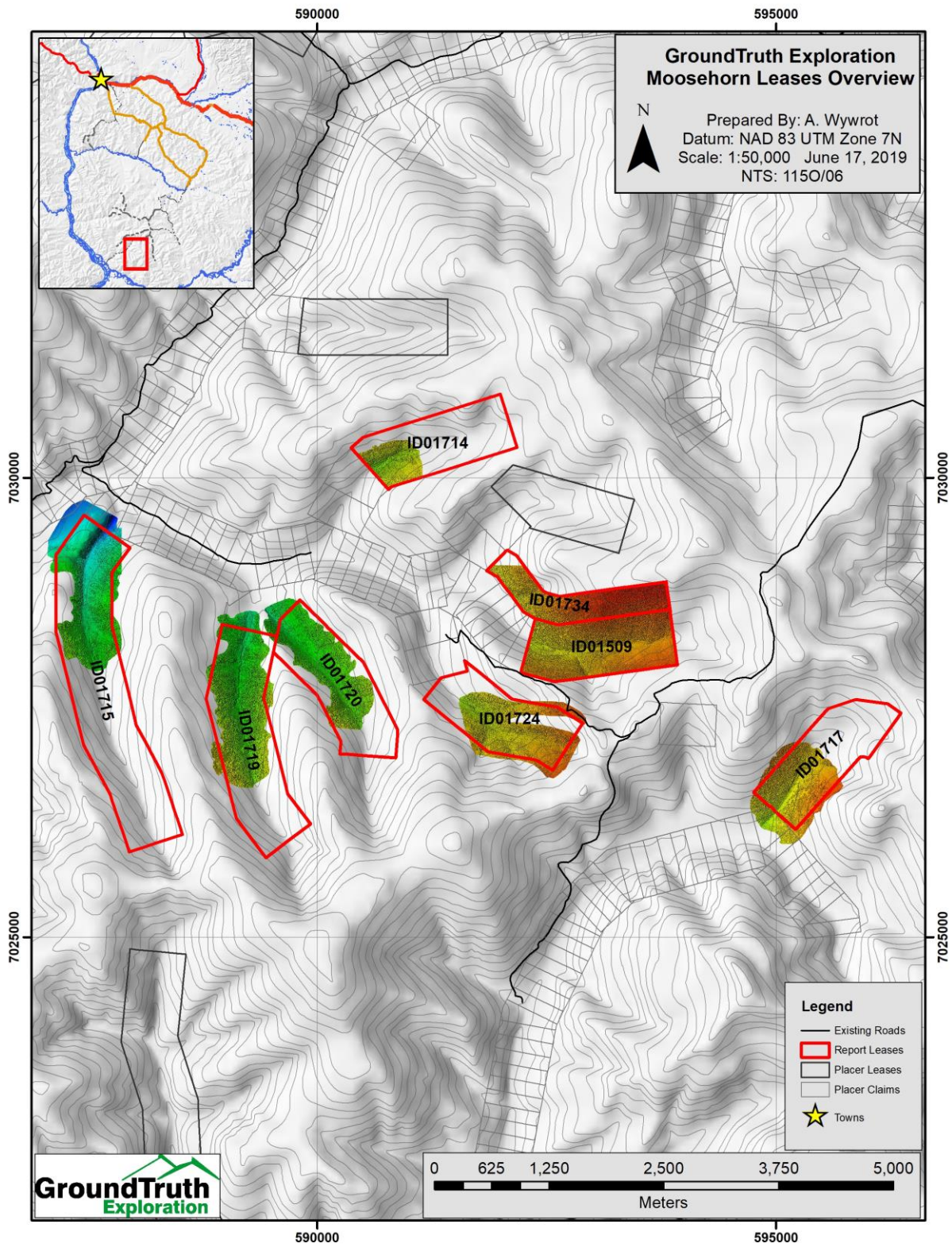


Figure 2: Further detail of leases and UAV Survey.

### 3.0 Physiology

The lease is located in an unglaciated zone in the Klondike Plateau region of Canada's Boreal Cordillera ecozone. Due to its location in Canada's discontinuous permafrost zone, permafrost is distributed unevenly throughout the properties. Moderately-sloped hills range from 365 – 1525m in height. The valley bottoms and northern slopes have thick moss mats, black spruce, and alder thickets over icy permafrost, while southern slopes are generally more sparsely vegetated with ground leaf cover and white spruce, aspen and birch forests.

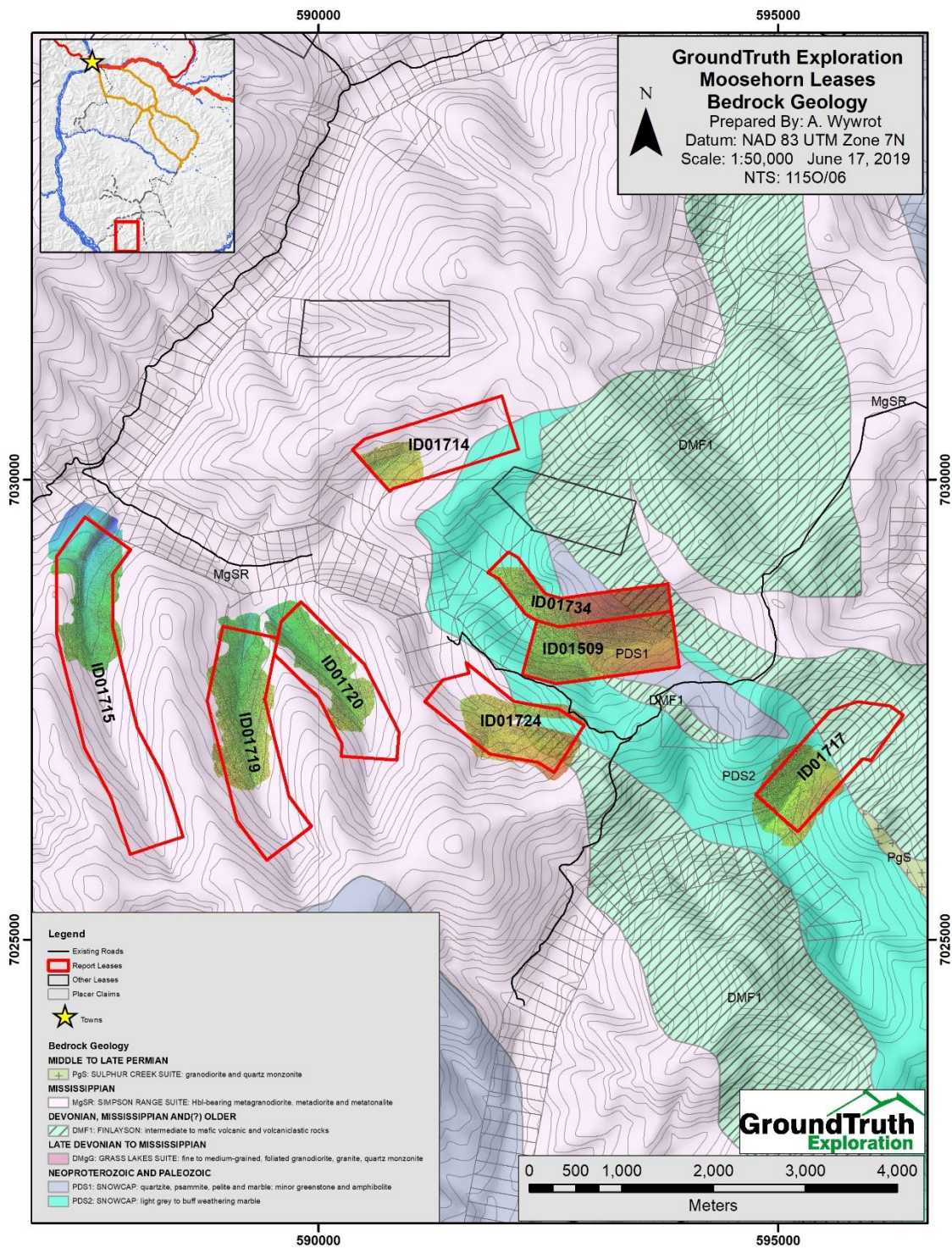
Typically, the interior intermontane plateau receives about 400 mm of annual precipitation. Snowfall accounts for 35 to 60% of all precipitation. Winters are long and cold, with January mean temperatures between -15°C and -27°C. Summers are warm but short, with July mean temperatures between 12°C and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

### 4.0 Geology

Henderson, Moosehorn, Tenderfoot and Maisy May Creeks and their tributaries, located in the Yukon-Tanana Terrane, are underlain by Carbiniferous metamorphic rocks of the Simpson Range (MgSR), Carbiniferous metamorphic rocks of the Finalyson Assemblage (DMF1), Devonian metamorphic rocks of the Snowcap Assemblage (PDS1, PDS2) and Paleozoic metamorphic rocks of the Sulphur Creek Suite (PgS). MgSR is composed of hornblende bearing metagranodiorite, metadiorite, metatonalite and tonalite. DMF1 is mostly composed of amphibolite. PDS1 consists of quartzite, psammite, pelite and marble; minor greenstone and amphibolite, and quartz-mica-schist, whereas PDS2 consists mainly of marble. Pgs is composed of granodiorite and quartz monzonite. There is a north-south trending unknown fault type fault separating the MgSR from PDS2, DMF1 and PDS2 (Ryan, et al, 2016).

This region is located in an unglaciated area, thus placer gold should be located close to the hard rock sources. With the recent discovery of the high-grade gold veins nearby at White Gold's Vertigo target, these properties could be particularly gold-rich.

See Figure 3 for a view of these leases' bedrock geologies.



**Figure 3: Bedrock Geology of the Moosehorn area leases. The western ones are totally underlain by Dawson Range metamorphic felsic-intermediate rocks, while proceeding east one will note a change to Snowcap metasedimentary and Finlayson volcanoclastic bedrock.**

## 5.0 Airborne UAV Survey

Groundtruth exploration was contracted to complete these surveys, and they were flown on June 8<sup>th</sup> - 16<sup>th</sup>, 2019. Two pilots were deployed with two drones to complete the survey on these leases.

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

UAV Drone:	Ebee UAV ‘Drone’ with internal GPS and radio link
Camera:	Canon 16 megapixel camera
Base Station:	Panasonic Toughbook laptop with radio link
Power Generation:	1000watt Honda generator (for battery charging)
Radios:	VHF radio with aircraft frequencies
Processing:	Laptop computer with adequate RAM
Software:	EMotion software for flight planning/monitoring Postflight Pix4D for image Orthorectification

### UAV Survey Operating Procedures:

- A crew of 2 (Pilot and UAV Spotter) or more arrive at the survey area
- Area of operations is evaluated for hazards and a suitable staging site is selected
- A staging point is set up with laptops, base-to-drone communication gear, battery recharge point, and a UAV landing area.
- UAV is assembled, checked for damage, and readied to fly with plan uploaded through EMotion software.
- UAV is launched by pilot, and dispatched to mission
- Spotter maintains visual contact with drone, while pilot ensures base station is updating and occasionally relieving spotter during automated flight.
- UAV completes mission, returns to staging point, and lands.
- UAV battery is removed, and data is imported to base station computer via SD Card.

### Data Processing:

The collected data is sent to a processing PC with Pix4D software, which combines all the collected images using automated georeferencing and Structure-in-Motion techniques. The end result is two images, one an orthomosaic of the images, the other a Digital Surface Model (DSM) that shows height of features present in the orthomosaic.

## 6.0 Survey Results - Moosehorn UAV Survey

Images of the Moosehorn leases are relatively small compared to the size of the leases. Limits on the flights were imposed by length and geometry of lease exceeding transmission capacity, other aircraft in vicinity, and weather issues.

### Survey Results:

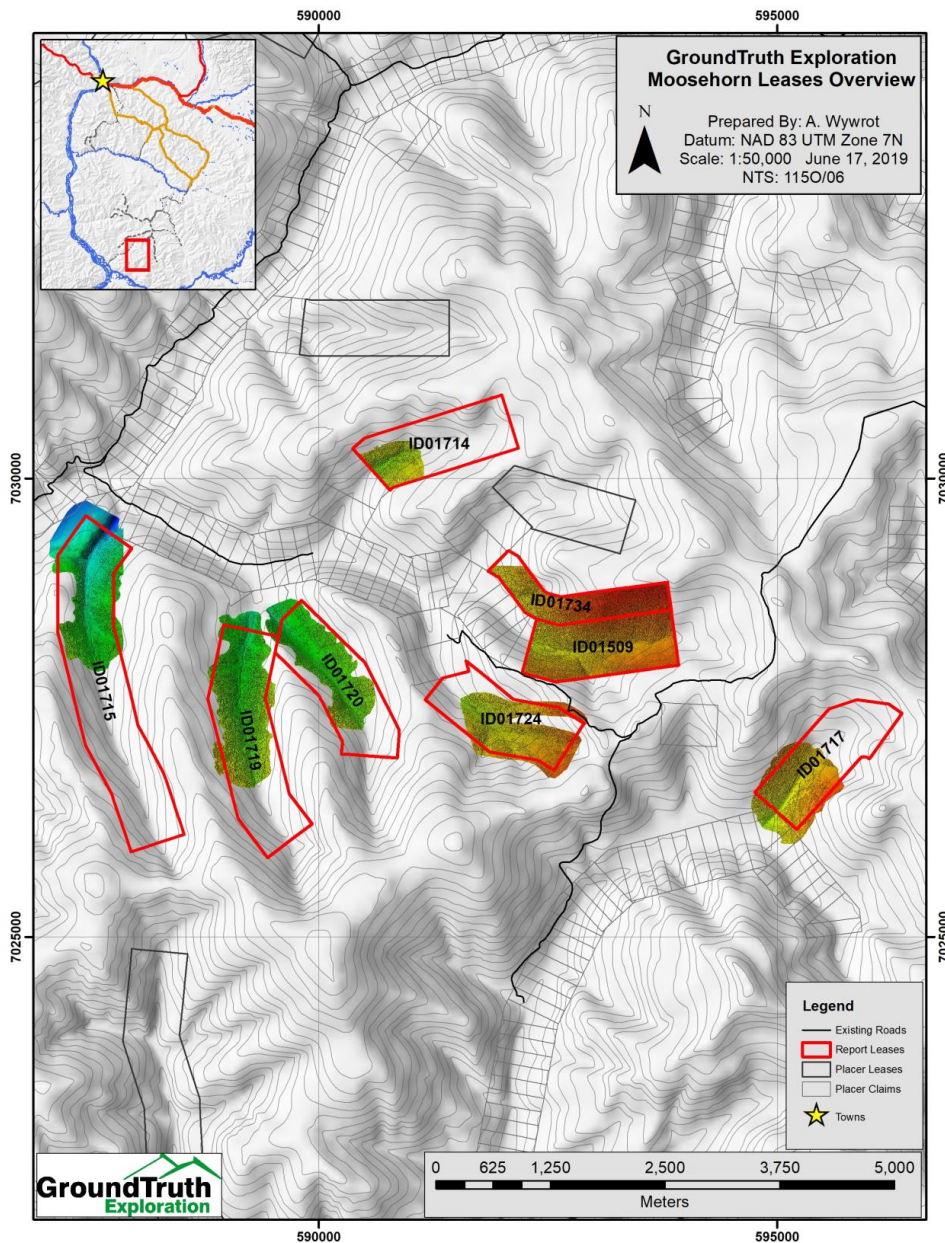


Figure 4: The UAV survey was completed, but coverage is not complete due to combination of bad weather, manned aircraft in operations area, poor UAV linkage quality due to terrain geometry, and length of leases.

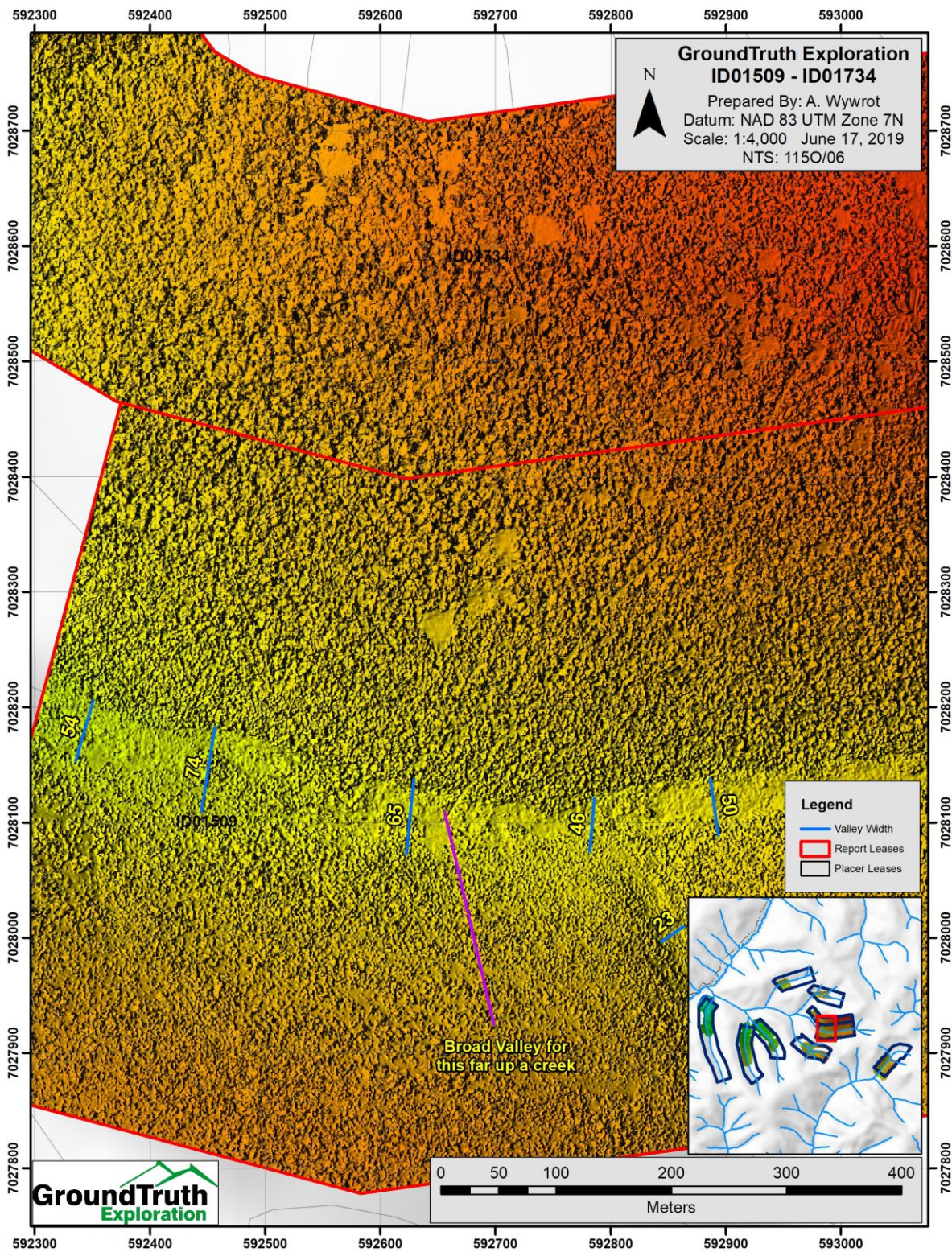


Figure 5: The most complete leases, ID01509 and ID01734, were the most accessible from a road to the south. 1509's valley size is quite large for a creek this far up the mountain, and while bench 1734 has no valley features, it does sit right atop White Gold's new Vertigo discovery – grades are likely to be high.

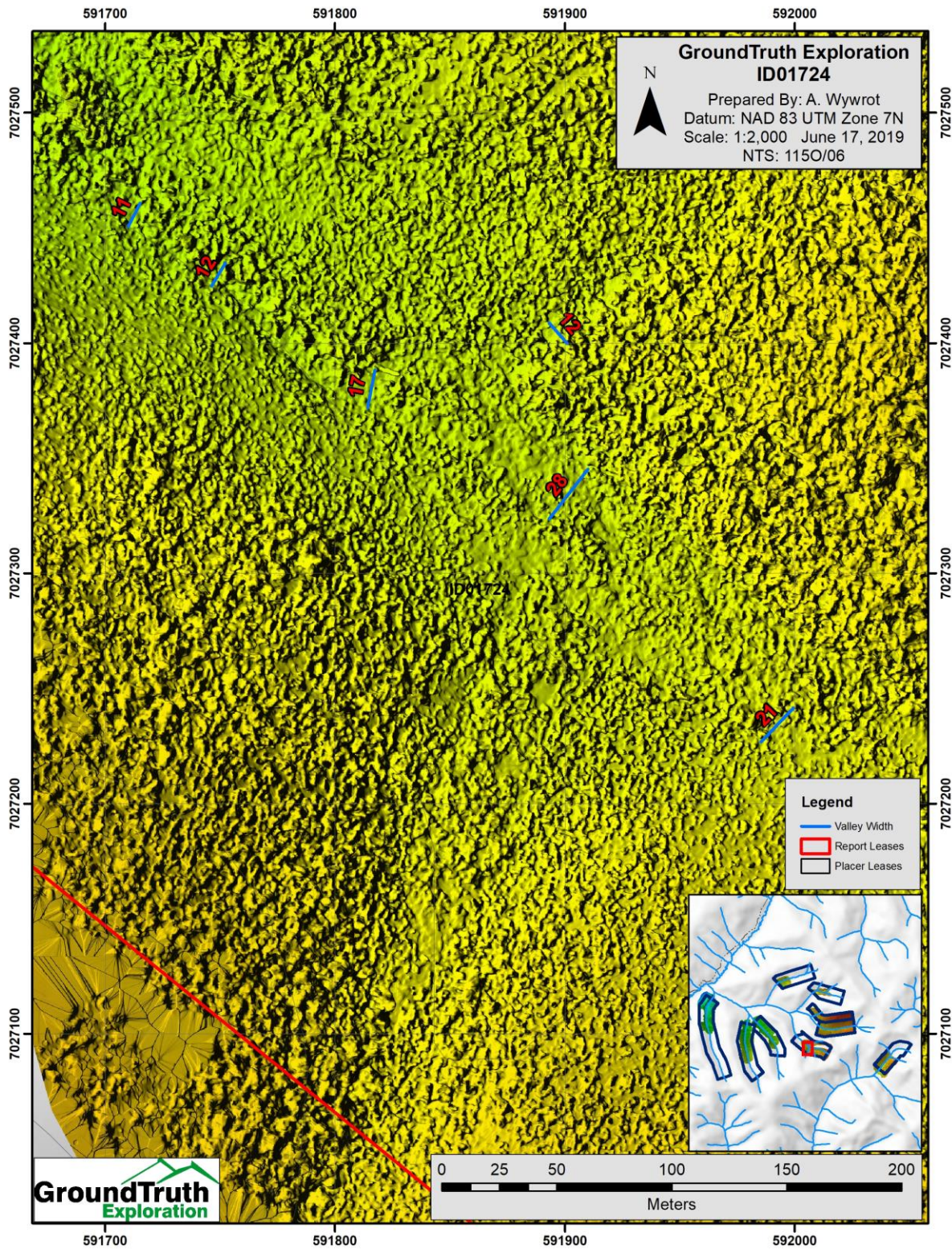


Figure 6: Only the upper reach of ID01724 was completed due to a sudden hailstorm. It features highly erosional features in all respects, as expected for such a high-energy creek.

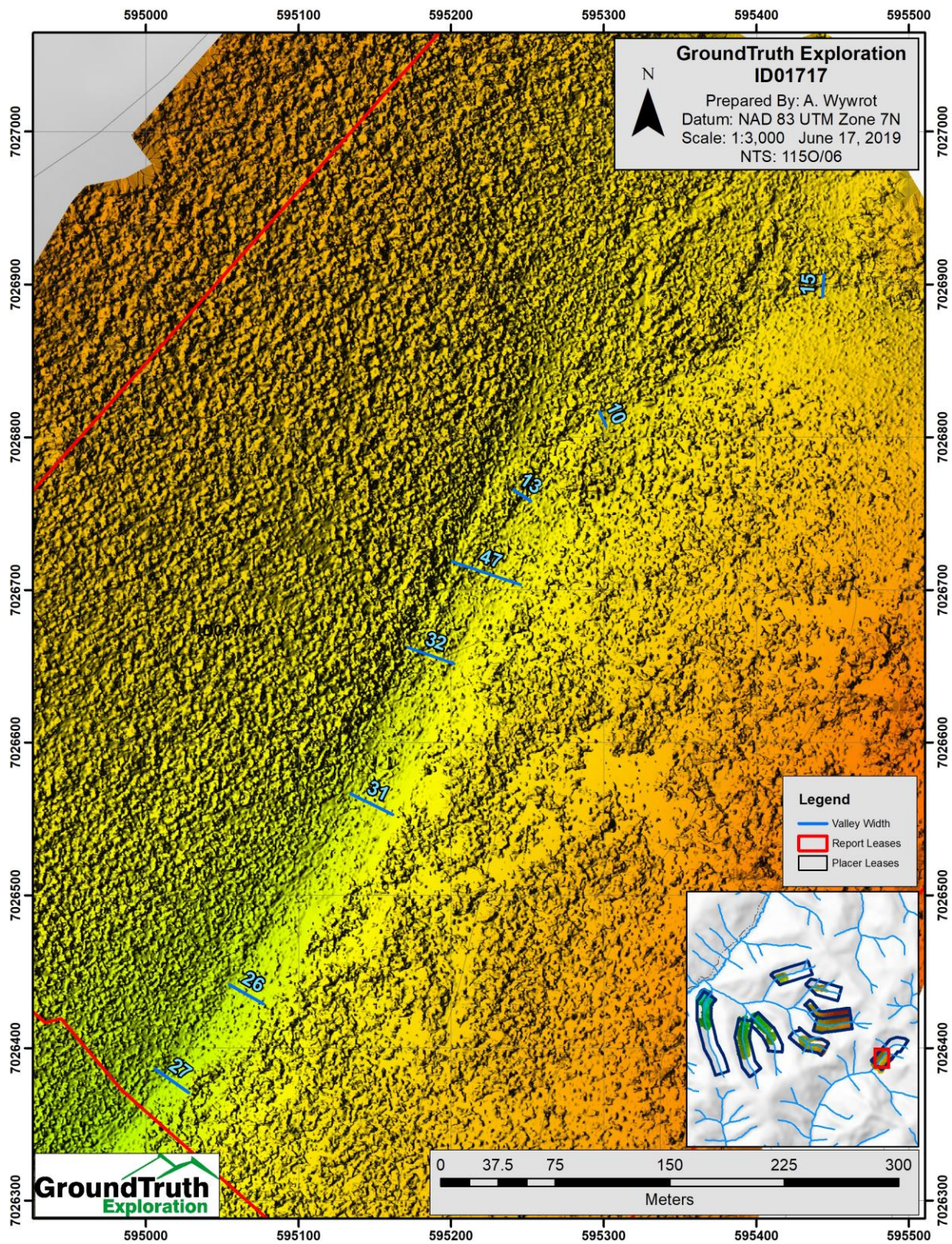


Figure 7: ID01717, the Tenderfoot creek lease, was repeatedly delayed due to heavy helicopter traffic in the area. However, the bottom half of the lease was captured, showcasing the erosional channels on the lease.

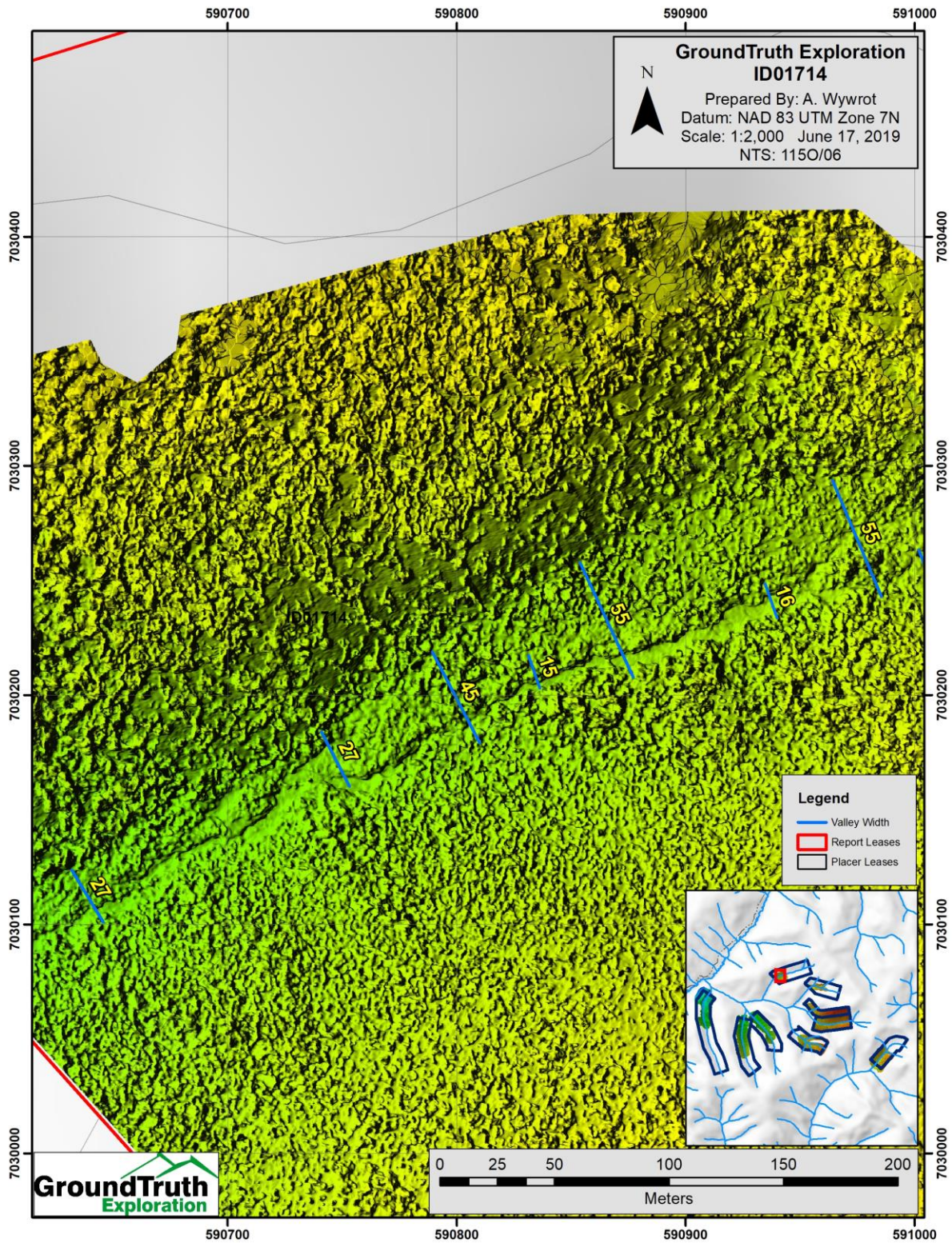


Figure 8: ID01714 displays a prominent valley bottom alongside the current active channel. A drone crash on landing caused significant delay for this lease.

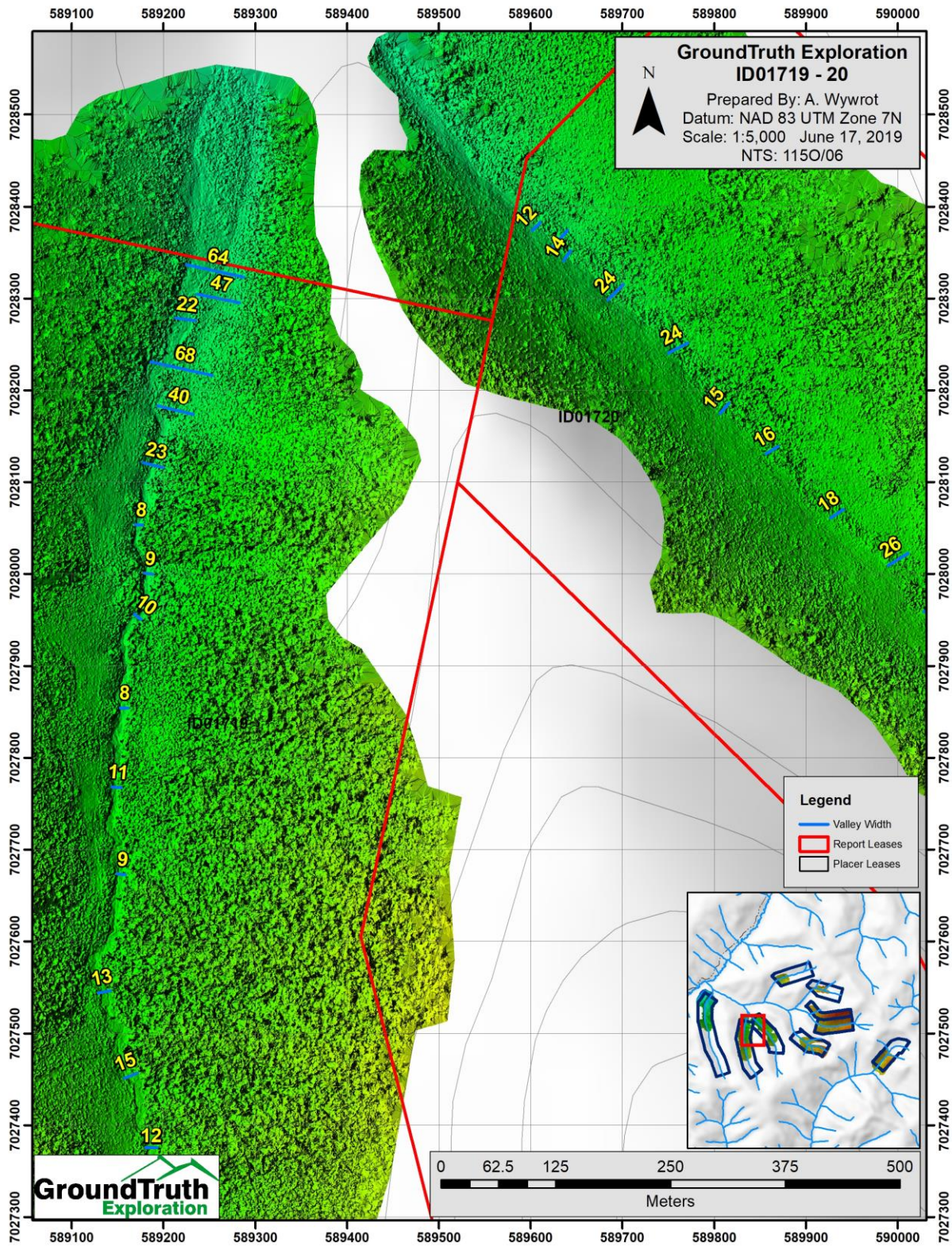


Figure 9: ID01719 and ID01720 are located directly adjacent to each other. Of the two, 1719 on the left shows more distinct flow features, including a right bench of ~40m width visible for the first ~300m.

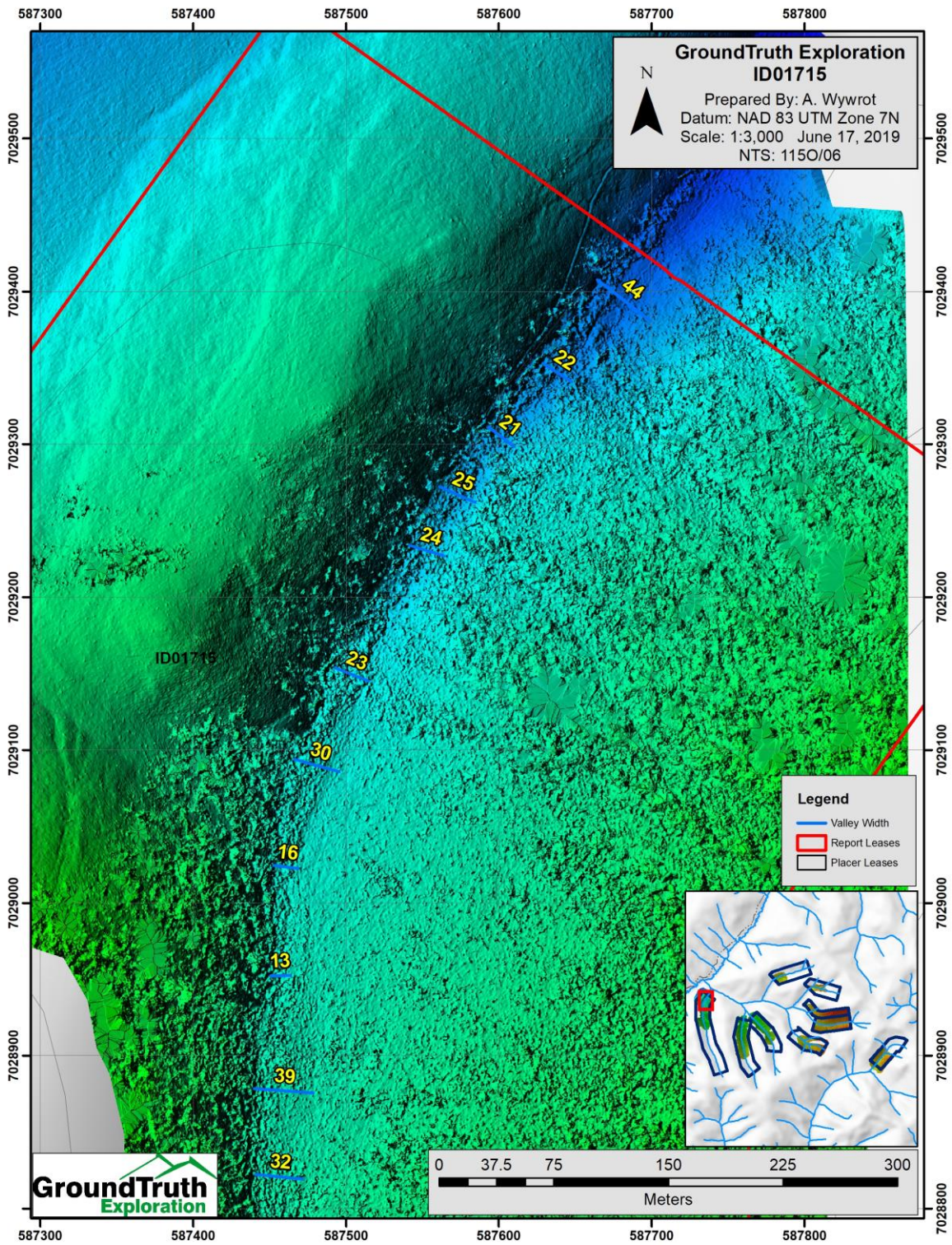


Figure 10: The westernmost and lowest-altitude lease, ID01715, is also the longest. Only the first third was able to be imaged from the road. Valley features are mostly erosional within this lease.

## 7.0 Conclusion/ Recommendations

The UAV Surveying on these Moosehorn and Tenderfoot leases produced high resolution digital surface models and orthophotos. These products will be very useful in identifying benches, stream channels, areas of flow regime change, and other valley features. Knowing the location of these features will aid the planning of future geophysical surveys, drilling locations, and eventually placer mining operations.

## 8.0 Statement of Expenditures

### Moosehorn Area Placer Leases: Drone Survey

<b>Lease: ID01509</b>		<b>Owner: Wildwood Exploration Inc., 100%</b>
<b>1 Mile Lease</b>		<b>Date: June 8th, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 300.00	3 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 1,835.00</b>	

<b>Lease: ID01714</b>		<b>Owner: Shane Sidsworth, 100%</b>
<b>1 Mile Lease</b>		<b>Date: June 9th, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 300.00	3 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 1,835.00</b>	

<b>Lease: ID01715</b>		<b>Owner: Daniel Brown-Hozjan, 100%</b>
<b>2 Mile Lease</b>		<b>Date: June 10th, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 800.00	8 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 2,335.00</b>	

<b>Lease: ID01717</b>		<b>Owner: Roy Brown, 100%</b>
<b>1 Mile Lease</b>		<b>Date: June 11<sup>th</sup>, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 300.00	3 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 1,835.00</b>	

<b>Lease: ID01719</b>		<b>Owner: Donnel Dacillo, 100%</b>
<b>2 Mile Lease</b>		<b>Date: June 12<sup>th</sup>, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 800.00	8 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 2,335.00</b>	

<b>Lease: ID01720</b>		<b>Owner: Ben Padega, 100%</b>
<b>1 Mile Lease</b>		<b>Date: June 13<sup>th</sup>, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 300.00	3 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 1,835.00</b>	

<b>Lease: ID01724</b>		<b>Owner: Hector Barrientos, 100%</b>
<b>1 Mile Lease</b>		<b>Date: June 14<sup>th</sup>, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 300.00	3 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 1,835.00</b>	

<b>Lease: ID01734</b>		<b>Owner: Janna Stecyk, 100%</b>
<b>2 Mile Lease</b>		<b>Date: June 15<sup>th</sup>, 2019</b>
<b>AERIAL DRONE SURVEYS</b>		
<b>Drone Survey</b>	<b>Amount</b>	<b>Description</b>
Wages -Drone Operator	\$ 550.00	
Wages -Assistant Operator	\$ 385.00	
Equipment and Electronics	\$ 500.00	1 UAV Drone with Base Station, computer, GPS, Radio
Imagery Processing and Final Deliverables	\$ 800.00	8 flights @ \$100/flight
Report	\$ 100.00	\$800 divided by 8 leases
<b>Aerial Drone Surveys</b>	<b>\$ 2,335.00</b>	

## 9.0 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)

## 10.0 Statement of Qualifications

I, Allen Wywrot of Thunder Bay, Ontario, certify that I:

- a) am a Geologist-in-Training, registered under the Association of Professional Geoscientists of Ontario
- b) hold an Advanced Diploma in GIS/Remote Sensing from the Centre of Geographic Sciences (COGS)
- c) hold an Advanced RPAS Pilot's Certificate as issued by Transport Canada, in accordance with the June 1, 2019 RPAS regulations

I have held the role of GIS Geologist for Groundtruth Exploration since May 2018.

Allen Wywrot  
June 17, 2019