# **Geophysical and Photogrammetry Report**

# Yukon Mineral Exploration Program (YMEP) 21-069

Mayo River and Corkery Creek Placer Properties

Mayo Mining District

Mayo River Placer: NTS: 105M/12 Latitude: 63<sup>0</sup> 37.25" N Longitude: -135<sup>°</sup> 55.54" W

Lease List: IM00412 – Cathy Wood - 100% (2 Miles) IM00411 – Shawn Ryan – 100% (2 Miles)

Work Performed: DC Resistivity Survey: July 12-14, 2021

Corkery Creek Placer: NTS: 105M/13 Latitude: 63° 51.46' N Longitude: -135° 37.39' W

Lease List: IM00441 – Robert Otterholm - 100% (4 Miles) IM00442 – Janna Stecyk – 100% (1 Mile)

> Work Performed: DC Resistivity Survey: July 15-16, 2021 Aerial Photogrammetry: July 19, 2021 Staking:Aug 19-20, 2021

Prepared for GroundTruth Exploration Inc.

Written by: Isaac Fage

March 11, 2022





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# 1 Introduction

This report encompasses work done evaluating two placer targets in the Mayo Mining district: Mayo River and Corkery Creek.

The Mayo River Placer project is held within 2 leases along the left limit of the Mayo River, between the bridge on Silver Trail and the Mayo Site-B Dam. It has been targeted due to a favorable placer depositional setting combined with the discovery of gold while constructing the Mayo Dam.

The Corkery Creek Placer project is targeted due to it's proximity to Banyan Gold's AurMac quartz gold property, under the hope that enough of this deposit has been eroded into the drainage to offer an economical placer deposit.

GroundTruth Exploration Inc. was hired to conduct placer exploration program in 2021 that comprised of:

- 1) Mayo River: DC Resistivity Surveys consisting of 2 cross creek profiles, measuring 415 m and a 605 m long, to interpret overburden thickness and depth to bedrock on June 12-14/21.
- 2) Corkery Creek: DC Resistivity Surveys consisting of 2 cross creek profiles, measuring 415 m and a 290.5 m long, to interpret overburden thickness and depth to bedrock on June 15-16/21.
- 3) Corkery Creek: A UAV Photogrammetry survey covering the entirety of the two lease.
- 4) Staking of both Corkery Creek leases on the property into 46 placer claims on Aug 19-20/21.



## **Section 1: Mayo River Placer**

#### 2 Introduction: Mayo River Target

The exploration target is placer gold, placer gold has been found within the vicinity of hard rock gold deposits. Rock hosting gold bearing veins is transported into the drainage systems from these hard rock sources. There are several potential hard rock sources for placer gold located along the Mayo River.

Two major gold occurrences located in proximity to the property. Dublin Gulch is located 45 km north of the property and Scheelite Dome is located 24 km northwest of the property. Both gold occurrences are intrusions of the Tombstone Plutonic Suite with high tonnage low grade gold mineralization in sheeted veins that protrude into surrounding Hyland Group. Based on the modeling of these two hard rock sources placer gold should be found in the area. The Dublin Gulch project hosts an open pit resource containing 6.4 million ounces of gold.

The main reason for staking the leases on the Mayo River is placer gold found in a gravel pit near the Mayo-B hydro facility, located approximately 210 m northeast by north of the leases (Figure 1). A government geologist, Jeff Bond, visited the Mayo-B hydro facility in June of 2020, a gravel pit had been excavated to bedrock near the facility (Figures 8 to 10). There was approximately 50 feet of gravel that went to the bedrock interface. Jeff Bond panned the gravel located at the interface and estimated the placer gold to be \$70 to \$85 per cubic yar. The leases were staked across the Mayo River from this discovery, Jeff recommended that the leases be staked on the east side of the Mayo River to a pinch point that widens out 100 m from the site. The river flat is too high for placer gold and it is hypothesized that most of the gold should lie in the 600 m wide river valley.

#### 3 Previous Investigations

There has been no previous placer exploration completed on the Mayo River property. There has been several historical and current Quartz exploration in the area leading to the discovery of several gold-in-soil anomalies. There has also been gold discovered upstream of these leases in a gravel pit excavated for the Mayo Dam. (Figure 1)





Figure 1: Placer Gold Found in the Gravel Pit at the Bedrock Interface

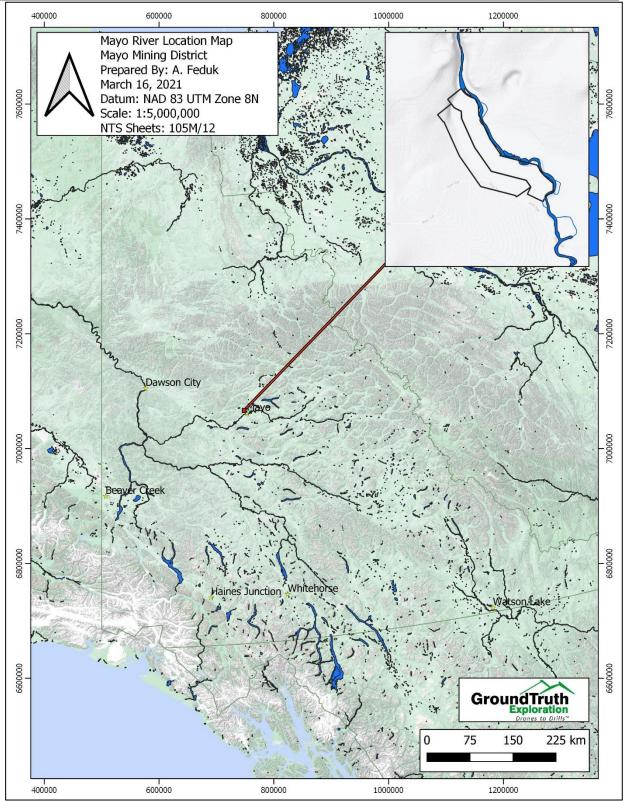
## 4 Location and Access

Mayo River Placer

The Mayo River placer properties are located approximately 2.5 km north of Mayo and 180 km east southeast of Dawson City, Yukon, Canada (Figure 1). The property is contained within map sheets (1:50,000 scale) 105M/12. These leases are located in the Mayo watershed and are located beside the Mayo River, the center of the work is 63.62° N and -135.93° W.

Equipment and personnel can be transported to the property from Mayo via the Silver Trail Highway. IM00412 overlaps the Silver Trail, providing an ideal access location to the leases.









#### 5 Physiography and Climate Mayo River Placer

The landscape is composed of rolling uplands with steep slopes leading to a U-shaped valley bordered, elevation on the lease is 518 m. The area experiences typical climatic conditions of the central Yukon Territory. The territory has a sub-arctic continental climate with a summer mean of 10°C and a winter mean of -23°C with temperatures reaching as high as 35°C in the summer and as low as minus 55°C in the winter. The property lies within Canada's discontinuous permafrost zone, most of the valley bottoms in this area are filled with permafrost.

#### 6 Geology

Mayo River Placer

## 6.4 Regional Geology

The property is located within the Paleozoic deep water sedimentary Selwyn Basin, Laurentia Terrane, which extends from Alaska to northern British Columbia, the majority of this basin is located in the Yukon, but it also extends across the western part of the Northwest Territories (Goodfellow, 2007). The property is also located within the Tintina gold belt which extends for extends for more than 1000 km along the length of the northern North American Cordillera (Goldfarb, R., et al). The main stratigraphic assemblages of the Selwyn Basin include: the Neoproterozoic to Lower Cambrian Hyland Group, the Cambrian Gull Lake Formation, the Cambro-Ordovician Rabbitkettle Formation, the Ordovician to Lower Devonian Road River Group, the Devono-Mississippian Earn Group, the Mississippian Keno Hill Formation, the Carboniferous to Permian Mt. Christie Formation and the Middle to Upper Triassic Jones Lake Formation (Colpron, et al, 2011). The simplified regional geology is depicted in Figure 2.

# 6.5 Property Geology

The property is completely underlain by the rocks of the Neoproterozoic-Cambrian Hyland Group, particularly the Yusezyu Formation. The Yusezyu Formation consists of compositionally layered medium to coarse-grained micaceous quartzose phyllite; muscovite-chlorite gritty phyllite; green and grey impure quartzite; metaconglomerate; and rare calcsilicate (Moynihan, D., 2016, Figure 3).

To the north of the property lies the east-west trending Robert Service Thrust Fault and



the Tombstone Thrust fault, which separates the Hyland Group from the Keno Hill Formation and the Earn Group. There is also an inferred fault to the east of the property.

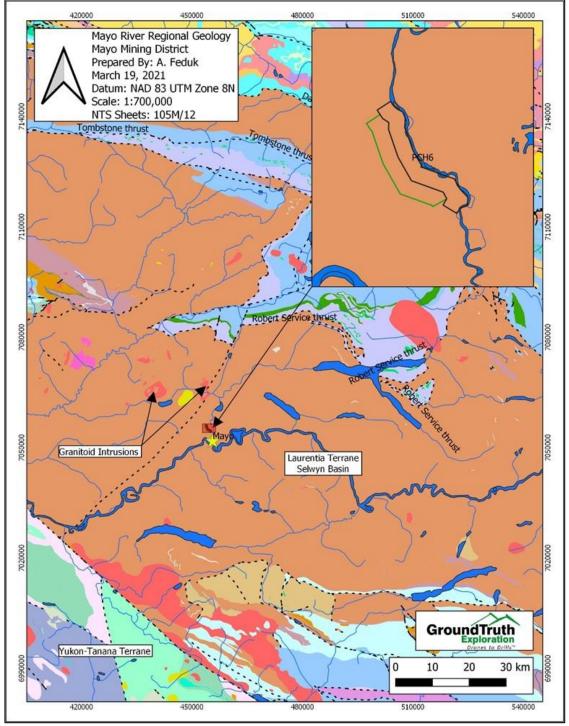


Figure 3: Mayo River Simplified Regional Geology



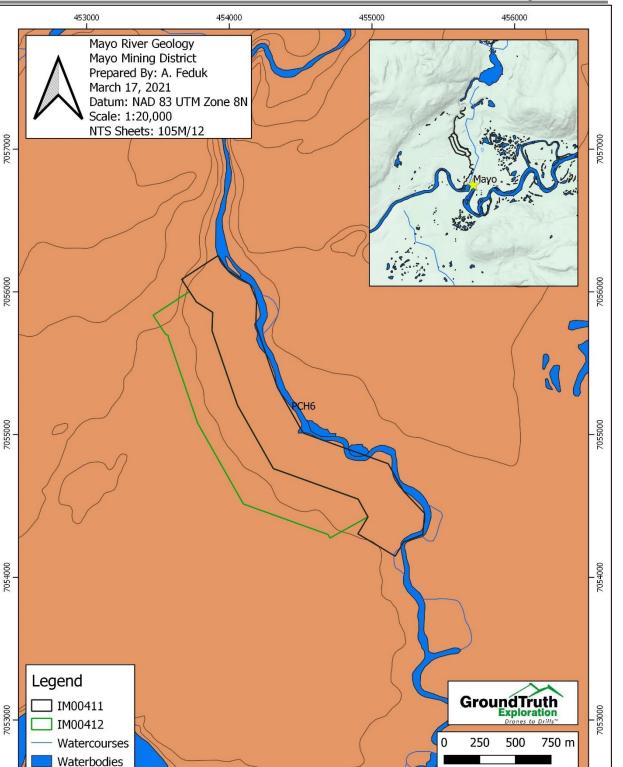


Figure 4: Mayo River Property Geology



#### 7 DC Resistivity and Induced Polarization Survey Mayo River Placer

### 7.1 Work Performed

The DC Resistivity and Induced Polarization (RES/IP) surveys were conducted on the  $12^{th}$  to  $14^{th}$  of July, 2021 on the placer prospecting lease IM00411, the RES/IP surveys also crossed over onto the placer prospecting lease IM00412. The goal of these traverses are to define the fluvial deposits such as muck, sand, and gravel, and delineate the bedrock contact.

Two traverses were completed on the Mayo River placer property. Traverse MYO21-01 is composed of 84 electrodes spaced at 5 m, resulting in a total line length of 415 ground meters. The second traverse, MYORS21-02 was also composed of 84 electrodes spaced at 5 m, two sets of 84 electrodes were overlapped, and the profiles were merged to accommodate the longer line length of 605 ground meters.

The RES/IP surveys are done using Advanced Geoscience's SuperSting highresolution resistivity meter and passive cables. A modified Schlumberger Inverse array was used on all survey lines. This array is a sounding array optimized to delineate horizontal structures such as bedrock contacts and lithological units, has the best overall signal-to-noise ratio and the most lateral coverage. It is an ideal array for finding depths to stratigraphic layers such as muck, sand, gravel, and bedrock.

The traverse location was surveyed with a differential GPS unit capable of sub-meter accuracy. This data was used to both map the traverses and to create the terrain file that models elevation within the resistivity processing.

The crews camped on site and walked out to the survey lines from camp. A helicopter was used to mobilize and support the camp with supplies.

# 7.2 Working Procedure for DC Resistivity/IP Survey

- A crew of 4 is deployed to run survey.
- The midpoint of a traverse is located and the line is sighted-in using a compass and GPS.
- Minimal brush is cut along line to place pickets and set up equipment.
- Calcium Chloride (CaCl, 25% solution) is added to the base of all electrodes.
- 84 electrodes are inserted into the ground, spaced along the line at 3, 4 or 5 m.
- Electrodes are hammered to a depth of up to 50cm (10% of electrode spacing)



- Cables are laid and attached to the electrodes.
- Contact resistance test is conducted.
- Add electrodes and CaCl solution added to each electrode with CR > 2,000 Ohms. Contact resistance test is repeated.
- Continue to add electrodes and CaCl until satisfactory contact resistance values are achieved
- Operator initializes survey and uses DGPS and data collection software to document survey line parameters including electrode locations, topography, and geological/cultural features if present. Pickets are placed along the line every 50 m



• Crew cuts and prepares the next survey line.

# 7.3 Data Processing

The collected data is downloaded in the field after every array and checked for integrity. This allows any field errors to be identified before moving the equipment. The RES/IP data is processed daily by the lead operator using EarthImager2D software provided by Advanced Geosciences Inc. Resistivity data-misfits are removed, and the cleaned data-set is inverted. The same process is done with the IP data. Terrain corrections collected using a differential GPS are applied to the inversions. The DGPS data is processed using GNSS Solutions software. A .csv is created containing the DGPS traverse points collected. All raw instrument data from the DGPS and SuperSting are archived. An ESRI shapefile is created containing the traverse points collected.



The Resistivity and Induced Polarization data from each traverse are inverted separately to minimize the number of resistivity measurements that are filtered based on chargeability inversion parameters. Once data sets are filtered, measurements associated with the largest model misfit are removed, and the inversion process is repeated until the model L2-norm is calculated as close to 1 as possible. If survey noise was estimated accurately (3 - 5%), when the model L2-norm equates to one, the inversion algorithm has produced a model which has not iterated on measurement noise. This indicates inversion artifacts in the earth model are minimized.





#### 7.4 Results

The table and figure below and figure below indicate surveyed electrode station coordinates, station IDs and electrode spacing for all profiles surveyed on the Mayo River placer 2021 DC Resistivity survey. Inversion figures for Resistivity and Chargeability of each survey are in Appendix A.

Line ID	Electrode	Easting	Northing	Meters	elevation	Date	Spacing (m)
MYORS21-01	1	454762.52	7054388	0	514	7/12/2021	5
MYORS21-01	11	454781.49	7054431.75	50	515	7/12/2021	5
MYORS21-01	14	454788.41	7054444.02	65	514	7/12/2021	5
MYORS21-01	16	454791.57	7054453.23	75	513	7/12/2021	5
MYORS21-01	21	454800.3	7054474.28	100	515	7/12/2021	5
MYORS21-01	31	454819.94	7054519.91	150	513	7/12/2021	5
MYORS21-01	41	454840.04	7054565.98	200	509	7/12/2021	5
MYORS21-01	45	454846.88	7054583.72	220	509	7/12/2021	5
MYORS21-01	48	454851.88	7054596.91	235	509	7/12/2021	5
MYORS21-01	51	454857.51	7054609.42	250	509	7/12/2021	5
MYORS21-01	54	454863.06	7054622.6	265	509	7/12/2021	5
MYORS21-01	61	454875.95	7054653.96	300	509	7/12/2021	5
MYORS21-01	65	454884.39	7054671.89	320	509	7/12/2021	5
MYORS21-01	71	454894.92	7054701.38	350	509	7/12/2021	5
MYORS21-01	74	454902.41	7054715.54	365	509	7/12/2021	5
MYORS21-01	76	454904.82	7054724.09	375	509	7/12/2021	5
MYORS21-01	78	454908.3	7054731.95	385	509	7/12/2021	5
MYORS21-01	80	454912.56	7054742.48	395	509	7/12/2021	5
MYORS21-01	84	454918.97	7054760.66	415	509	7/12/2021	5
MYORS21-02a	1	453888.66	7054980.42	0	530	7/13/2021	5
MYORS21-02a	9	453922.03	7055001.33	40	524	7/13/2021	5
MYORS21-02a	11	453929.65	7055007.13	50	521	7/13/2021	5
MYORS21-02a	14	453941.51	7055013.98	65	516	7/13/2021	5
MYORS21-02a	20	453964.43	7055032.14	95	518	7/13/2021	5
MYORS21-02a	21	453968.14	7055035.1	100	520	7/13/2021	5
MYORS21-02a	24	453978.48	7055040.52	115	516	7/13/2021	5
MYORS21-02a	31	454003.77	7055057.54	150	515	7/13/2021	5
MYORS21-02a	41	454043.25	7055082.93	200	510	7/13/2021	5
MYORS21-02a	51	454080.36	7055108.36	250	511	7/13/2021	5
MYORS21-02a	61	454117.31	7055133.23	300	510	7/13/2021	5
MYORS21-02a	71	454154.1	7055157.11	350	510	7/13/2021	5
MYORS21-02a	84	454202.46	7055189.5	415	509	7/13/2021	5
MYORS21-02b	1	454035.44	7055077.36	0	512	7/14/2021	5

Box 70, DAWSON, YT



MYORS21-02b	11	454073.73	7055102.1	50	512	7/14/2021	5
MYORS21-02b	21	454110.2	7055128.21	100	510	7/14/2021	5
MYORS21-02b	31	454146.69	7055151.97	150	509	7/14/2021	5
MYORS21-02b	41	454183.18	7055176.08	200	509	7/14/2021	5
MYORS21-02b	51	454220.09	7055202.07	250	508	7/14/2021	5
MYORS21-02b	61	454256.78	7055225.72	300	508	7/14/2021	5
MYORS21-02b	71	454293.93	7055251.26	350	508	7/14/2021	5
MYORS21-02b	79	454323.13	7055271.68	390	507	7/14/2021	5
MYORS21-02b	81	454331.45	7055277.69	400	505	7/14/2021	5
MYORS21-02b	84	454342.76	7055285.33	415	507	7/14/2021	5



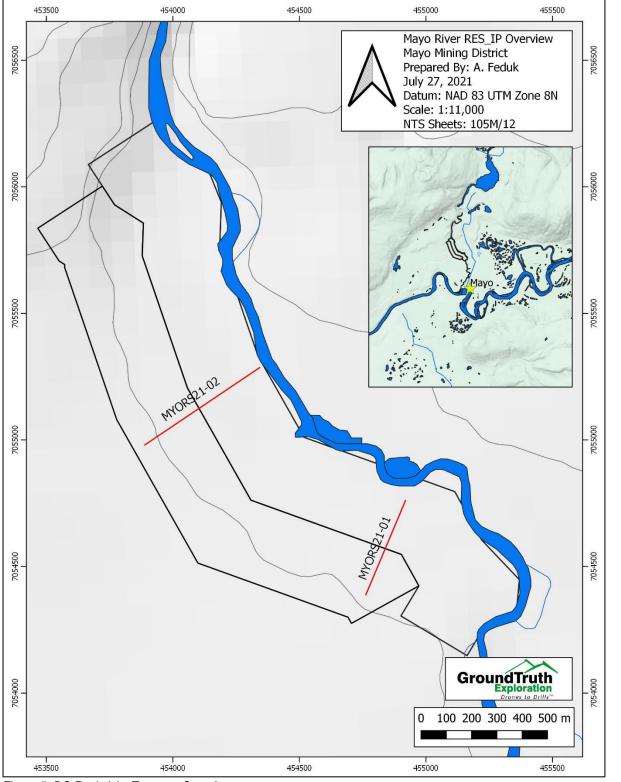


Figure 5: DC Resistivity Traverse Overview



# 7.5 Discussion and Interpretation

Mayo River Placer

The RES/IP profiles were found to be reasonably accurate in the interpretation of the lithological units, these units were characterized by different contrasts in resistivity. Since resistivity has ranges up to 100 orders of magnitude, the resistivity survey is only useful when the data is high quality, which is the case with all the surveys performed in the area. The IP surveys are inversely proportional to the RMS and there is a decline when the RMS increases. The IP data had little use in locating the zones of permafrost and the bedrock interface and was only used to compliment the resistivity profiles where the bedrock interface was unclear.

A low resistivity corresponds to fine-grained fluvial deposits, which is associated with water retaining capabilities of clay and other fine-grained sediments. The moderate to moderately high resistivity is associated with frozen and thawed coarse grained fluvial deposits, this correlation is attributed to the high porosity and permeability of the gravel deposits and its inability to retain water in the upper layers of the stratigraphic column. High resistivity is seen throughout both profiles which is interpreted as permafrost (frozen muck). A moderately high to high resistivity showed a correlation with the interpreted bedrock interface. This correlation is attributed to consolidated material, associated with the bedrock contact.



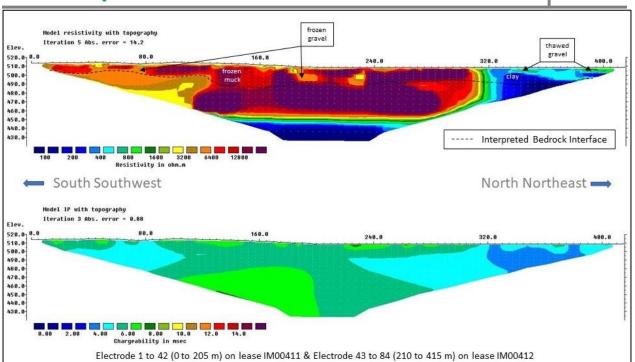


Figure 6: Resistivity and Chargeability Interpretation of MYORES21-01



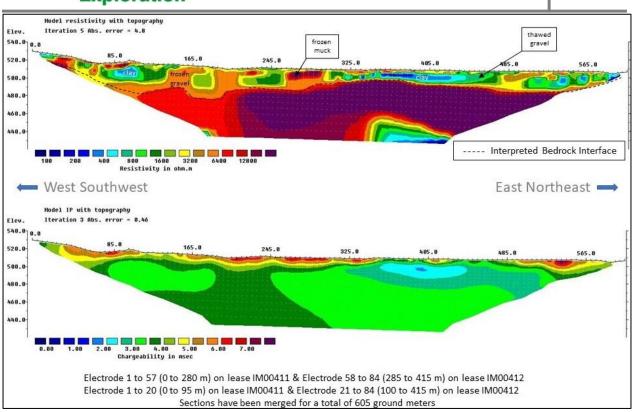


Figure 7: Resistivity and Chargeability Interpretation of MYORES21-02

# 7.6 Recommendations

Mayo River Placer

Recommendation to 1) Drill Test the 2021 resistivity targets to confirm depth to bedrock and allow for refinement of the interpretation. 2) Conduct additional geophysical surveys on new targets to gain bedrock depth information ahead of subsequent drill testing.



# Section 2: Corkery Creek Placer

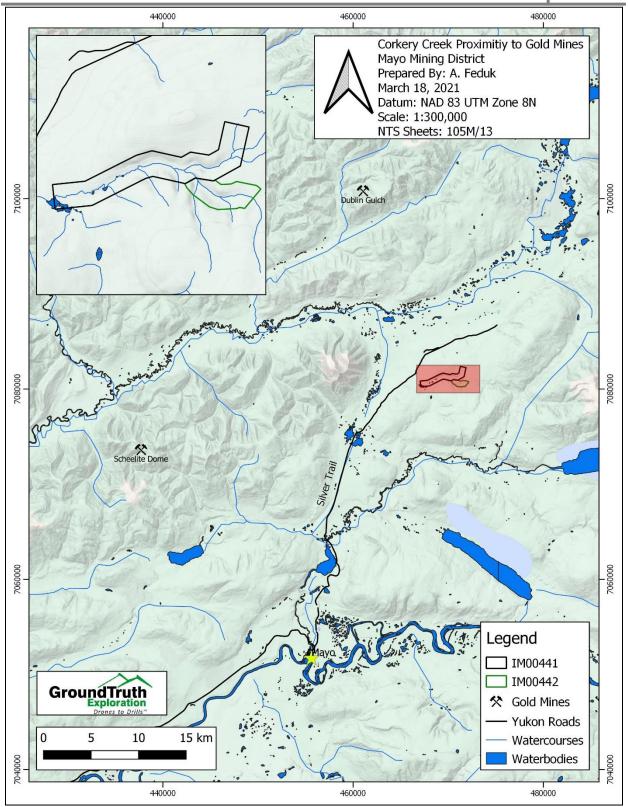
#### 8 Introduction: Corkery Creek Target

The exploration target is placer gold. Placer gold has been found within the vicinity of hard rock gold deposits. Rock hosting gold bearing veins is transported into the drainage systems from these hard rock sources. There are several potential hard rock sources for placer gold located along Corkery Creek, particularly the Banyan Gold's AurMac property. The AurMac deposit mineralization includes intrusive base metal veins and gold mineralization associated with intrusive dikes or pyrrhotite skarn altered sediments that lie above the quartzite.

Two major gold occurrences are also located in proximity to the property. Dublin Gulch is located 20 km north northwest of the property and Scheelite Dome is located 30 km west southwest of the property (Figure 6). Both gold occurrences are intrusions of the Tombstone Plutonic Suite with high tonnage low grade gold mineralization in sheeted veins that protrude into surrounding Hyland Group. Based on the modeling of these two hard rock sources placer gold should be found in the area. The Dublin Gulch project hosts an open pit resource containing 6.4 million ounces of gold.

The main reasoning behind the staking of Corkery Creek is the Baynan Gold Aurex Hill Deposit (Figure 7 and Figure 8). The area lies within a glaciated terrain, glaciers came from the northeast heading down the valley from the Aurex Hill deposit towards the southwest. Based on this knowledge the glaciers pushed material from the Aurex Hill deposit towards Corkery Creek. The lease parallels the soil anomalies found in the Aurex Hill Deposit. The placer gold may have been grabbed by the glaciers and transported into Corkery Creek.









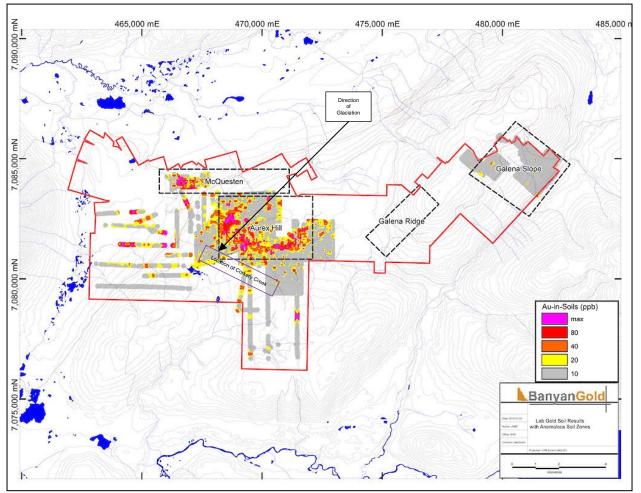


Figure 9: Location of Corkery Creek in Relation to the Aurex Deposit



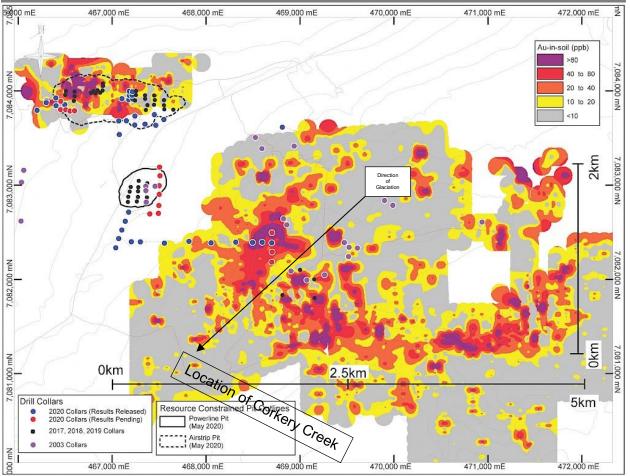


Figure 10: Location of Corkery Creek in Relation to the Aurex Deposit

# 9 Previous Investigations

There has been no previous placer exploration completed on the Corkery Creek property. There has been several historical and current Quartz exploration in the area leading to the discovery of several gold-in-soil anomalies. The AurMac Gold Project is also located in the area, which has been explored and mined since the 1900's. Gold exploration on the AurMac property began in 1898, gold mineralization in the area is associated with gold bearing skarns and intrusive granatoid dykes.

10 Location and Access Corkery Creek Placer

24

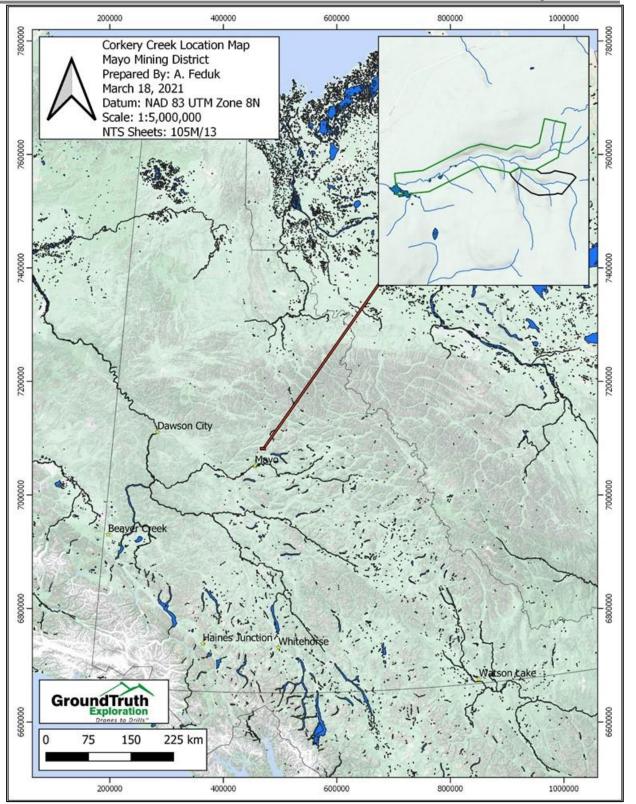
The Mayo River placer properties are located approximately 2.5 km north of Mayo and 180 km east southeast of Dawson City, Yukon, Canada (Figure 1). The property is contained within map sheets (1:50,000 scale) 105M/12. These leases are located in the



Mayo watershed and are located beside the Mayo River, the center of the proposed work is 63.62° N and -135.93° W.

Equipment and personnel can be transported to the property from Mayo via the Silver Trail Highway. IM00412 overlaps the Silver Trail, providing an ideal access location to the leases.









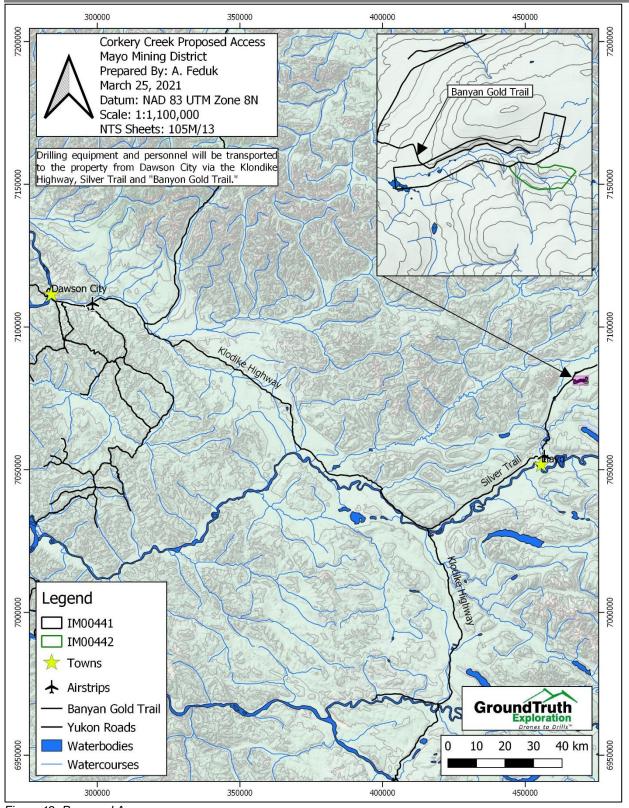


Figure 12: Proposed Access



The landscape is composed of rolling uplands with steep slopes leading to a U-shaped valley bordered, elevations on the lease range from 884 to 975 m. The area experiences typical climatic conditions of the central Yukon Territory. The territory has a sub-arctic continental climate with a summer mean of 10°C and a winter mean of -23°C with temperatures reaching as high as 35°C in the summer and as low as minus 55°C in the winter. The property lies within Canada's discontinuous permafrost zone, most of the valley bottoms in this area are filled with permafrost.

#### 11 Geology

Corkery Creek Placer

# 11.1 Regional Geology

The property is located within the Paleozoic deep water sedimentary Selwyn Basin, Laurentia Terrane, which extends from Alaska to northern British Columbia, the majority of this basin is located in the Yukon, but it also extends across the western part of the Northwest Territories (Goodfellow, 2007). The property is also located within the Tintina gold belt which extends for extends for more than 1000 km along the length of the northern North American Cordillera (Goldfarb, R., et al). The main stratigraphic assemblages of the Selwyn Basin include: the Neoproterozoic to Lower Cambrian Hyland Group, the Cambrian Gull Lake Formation, the Cambro-Ordovician Rabbitkettle Formation, the Ordovician to Lower Devonian Road River Group, the Devono-Mississippian Earn Group, the Mississippian Keno Hill Formation, the Carboniferous to Permian Mt. Christie Formation and the Middle to Upper Triassic Jones Lake Formation (Colpron, et al, 2011). The simplified regional geology is depicted in Figure 2.

# 11.2 Property Geology

The property is completely underlain by the rocks of the Neoproterozoic-Cambrian Hyland Group, particularly the Yusezyu Formation. The Yusezyu Formation consists of compositionally layered medium to coarse-grained micaceous quartzose phyllite; muscovite-chlorite gritty phyllite; green and grey impure quartzite; metaconglomerate; and rare calcsilicate (Moynihan, D., 2016, Figure 13).



To the north of the property lies the east-west trending Robert Service Thrust Fault and the Tombstone Thrust fault, which separates the Hyland Group from the Keno Hill Formation and the Earn Group. There is also an inferred fault to the east of the property.

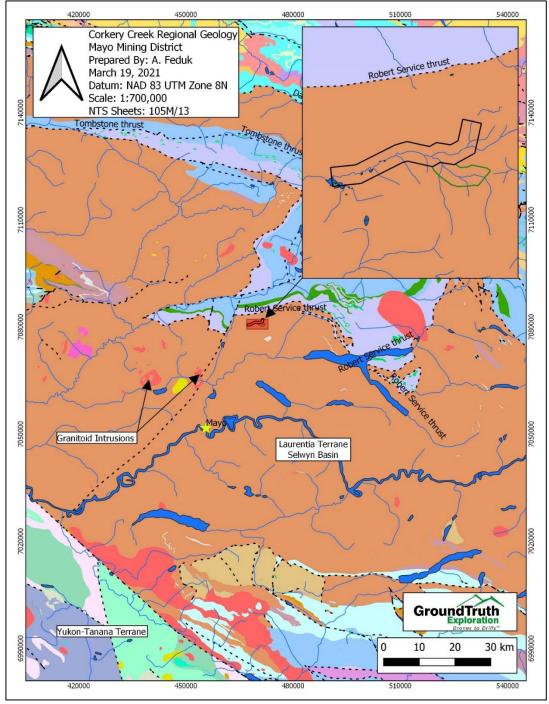
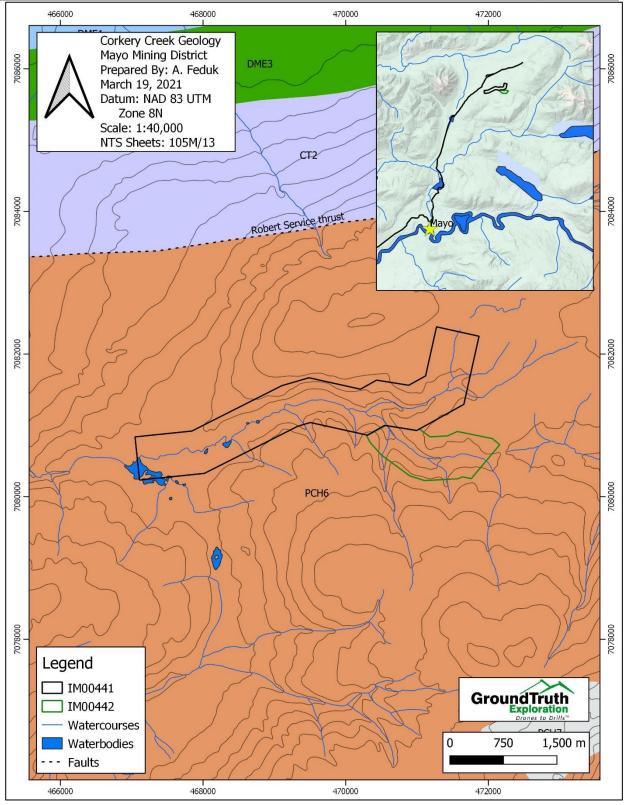
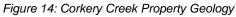


Figure 13: Corkery Creek Simplified Regional Geology









12 DC Resistivity and Induced Polarization Survey Corkery Creek Placer

## 12.1 Work Performed

The DC Resistivity and Induced Polarization (RES/IP) surveys were conducted on the 15<sup>th</sup> and 16<sup>th</sup> of July 2021 on the placer prospecting lease IM00441. The goal of these traverses are to define the fluvial deposits such as muck, sand, and gravel, and delineate the bedrock contact.

Two traverses were completed on the Corkery Creek placer property. CRKRS21-01 is composed of 84 electrodes spaced at 5 m resulting in a total line length of 415 ground meters. CRKRS21-02 is also composed of 84 electrodes spaced at 3.5 m resulting in a total line length 290.5 ground meters.

The RES/IP surveys are done using Advanced Geoscience's SuperSting highresolution resistivity meter and passive cables. A modified Schlumberger Inverse array was used on all survey lines. This array is a sounding array optimized to delineate horizontal structures such as bedrock contacts and lithological units, has the best overall signal-to-noise ratio and the most lateral coverage. It is an ideal array for finding depths to stratigraphic layers such as muck, sand, gravel, and bedrock.

The traverse location was surveyed with a differential GPS unit capable of sub-meter accuracy. This data was used to both map the traverses and to create the terrain file that models elevation within the resistivity processing.

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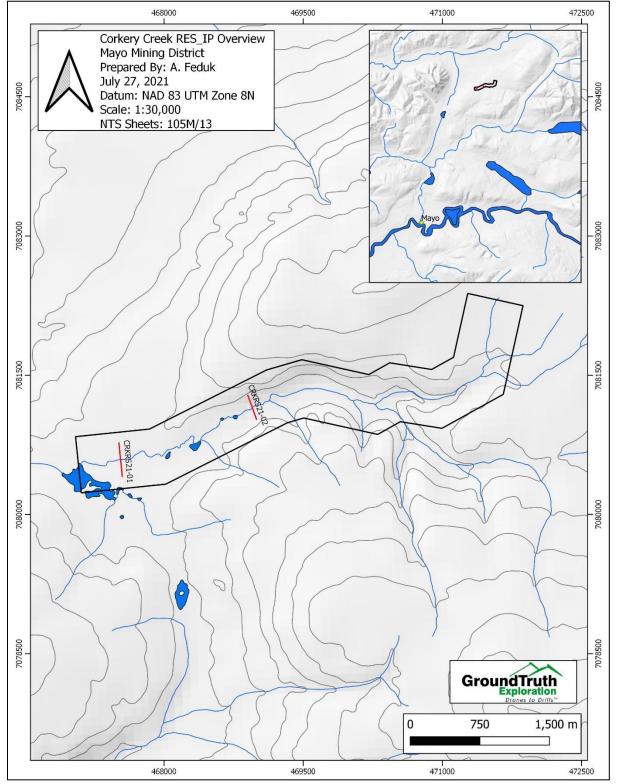


#### 12.2 Results

The table and figure below and figure below indicate surveyed electrode station coordinates, station IDs and electrode spacing for all profiles surveyed on the Mayo River placer 2021 DC Resistivity survey. Inversion figures for Resistivity and Chargeability of each survey are in Appendix A.

Line ID	Electrode	Easting	Northing	Meters	elevation	Date	Spacing (m)
CORRS21-01	1	467515.29	7080768.75	0	865	7/16/2021	5
CORRS21-01	11	467518.73	7080725.7	50	864	7/16/2021	5
CORRS21-01	21	467522.96	7080682.53	100	865	7/16/2021	5
CORRS21-01	31	467526.83	7080639.03	150	865	7/16/2021	5
CORRS21-01	41	467532.18	7080594.95	200	865	7/16/2021	5
CORRS21-01	43	467533.12	7080586.47	210	864	7/16/2021	5
CORRS21-01	44	467532.88	7080581.91	215	864	7/16/2021	5
CORRS21-01	45	467532.89	7080577.56	220	864	7/16/2021	5
CORRS21-01	46	467533.68	7080573.54	225	865	7/16/2021	5
CORRS21-01	47	467534.32	7080569.3	230	865	7/16/2021	5
CORRS21-01	51	467536.51	7080552.12	250	865	7/16/2021	5
CORRS21-01	61	467540.68	7080508.72	300	865	7/16/2021	5
CORRS21-01	71	467545	7080465	350	865	7/16/2021	5
CORRS21-01	84	467550.07	7080408.56	415	865	7/16/2021	5
CORRS21-02	1	468903.65	7081282.12	0	879	7/15/2021	3.5
CORRS21-02	11	468915.25	7081251.47	35	875	7/15/2021	3.5
CORRS21-02	21	468926.64	7081220.04	70	874	7/15/2021	3.5
CORRS21-02	31	468937.43	7081188.29	105	873	7/15/2021	3.5
CORRS21-02	34	468942.4	7081178.76	115.5	873	7/15/2021	3.5
CORRS21-02	37	468945.65	7081169.37	126	874	7/15/2021	3.5
CORRS21-02	41	468949.22	7081157.08	140	873	7/15/2021	3.5
CORRS21-02	42	468950.97	7081154.83	143.5	872	7/15/2021	3.5
CORRS21-02	43	468951.13	7081151.26	147	872	7/15/2021	3.5
CORRS21-02	51	468961.11	7081126.54	175	875	7/15/2021	3.5
CORRS21-02	61	468972.06	7081094.89	210	877	7/15/2021	3.5
CORRS21-02	66	468977.01	7081078.8	227.5	880	7/15/2021	3.5
CORRS21-02	71	468983.65	7081063.91	245	883	7/15/2021	3.5
CORRS21-02	74	468986.36	7081054.86	255.5	886	7/15/2021	3.5
CORRS21-02	77	468989.32	7081045.91	266	888	7/15/2021	3.5
CORRS21-02	84	468996.92	7081024.11	290.5	893	7/15/2021	3.5









# 12.3 Discussion and Interpretation

The RES/IP profiles were found to be reasonably accurate in the interpretation of the lithological units, these units were characterized by different contrasts in resistivity. Since resistivity has ranges up to 100 orders of magnitude, the resistivity survey is only useful when the data is high quality, which is the case with all the surveys performed in the area. The IP surveys are inversely proportional to the RMS and there is a decline when the RMS increases. The IP data had little use in locating the zones of permafrost and the bedrock interface and was only used to compliment the resistivity profiles where the bedrock interface was unclear.

A low resistivity corresponds to fine-grained fluvial deposits, which is associated with water retaining capabilities of clay and other fine-grained sediments. The moderate to moderately high resistivity is associated with frozen and thawed coarse grained fluvial deposits, this correlation is attributed to the high porosity and permeability of the gravel deposits and its inability to retain water in the upper layers of the stratigraphic column. A high resistivity corresponds to frozen muck. A moderately high resistivity showed a correlation with the interpreted bedrock interface. This correlation is attributed to consolidated material, associated with the bedrock contact.

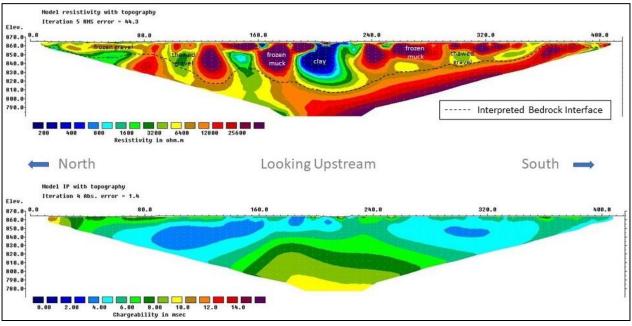


Figure 16: Resistivity and Chargeability Interpretation of CORRES21-01

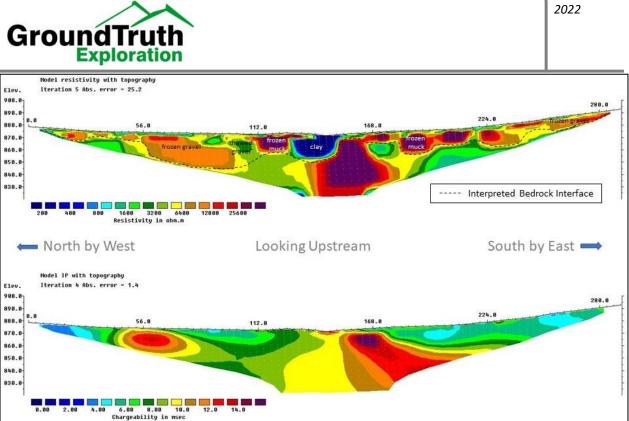


Figure 17: Resistivity and Chargeability Interpretation of CORRES21-02

# 13 UAV Aerial Photogrammetry

# 13.1 Work Performed

The UAV survey consisted of a 1-day survey performed on July 19<sup>th</sup>, 2021. A lead UAV operator and assistant UAV operator (spotter) were employed to run the survey. A total of three flights were run to cover the lease.

The Drone survey lines and spatial resolution are approved by client prior to survey, and are designed in accordance with June 1, 2019 Transport Canada RPAS regulations. Typical flight time is approximately 30 minutes per flight, less if the operations area is experiencing high winds.

# 13.2 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 with other aircraft in the area.

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

UAV Drone:	Ebee UAV 'Drone' with internal GPS and radio link	
Camera:	S.O.D.A. 24MP custom EBee camera	
Base Station:	Panasonic Toughbook laptop with radio link	
Power Generation:	ower Generation: 1000watt Honda generator	
Radios:	VHF radio with aircraft frequencies	
Processing:	Laptop computer with adequate RAM and GPU	
Software:	Emotion software for flight planning/monitoring	
	Postflight Pix4D for image Orthorectification	
	Globalmapper for manual correction/cropping	

## 13.3 UAV Survey Operating Procedures

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 and at regular intervals during the survey, operator calls out on Aircraft frequencies to notify Drone 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.



### 13.4 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 cropped in Globalmapper or other GIS software to remove bad edges and areas that lack sufficient image coverage to be useful to the client. 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)



#### 13.5 Results

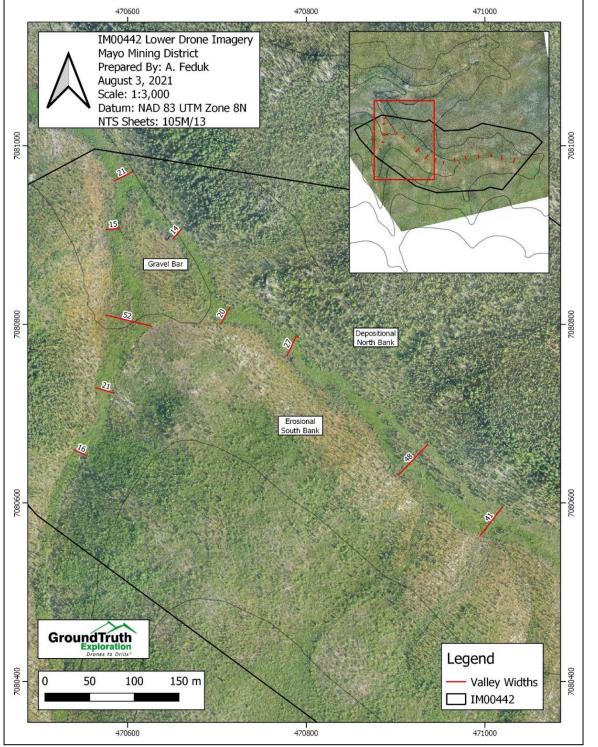


Figure 18: Lower Lease with Depositional North Bank and Erosional South Bank Visible



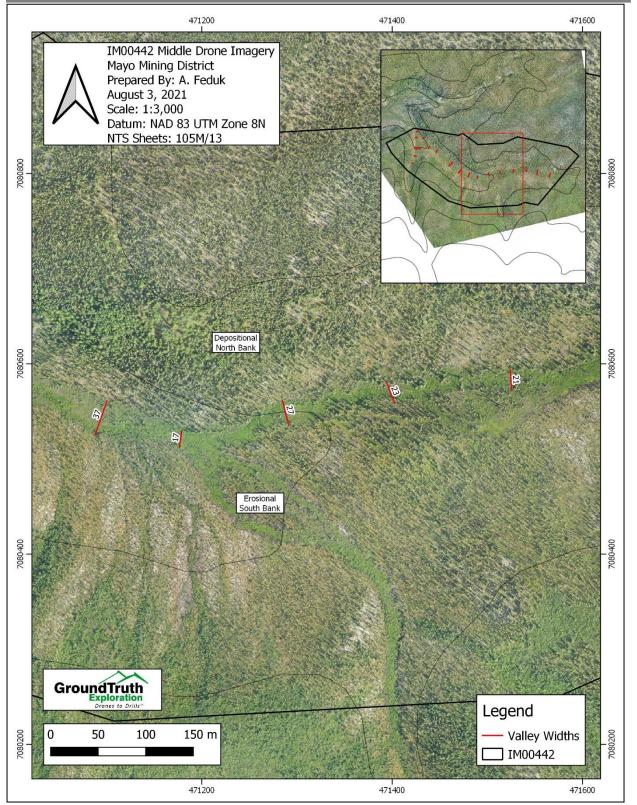


Figure 19: Middle Lease with Depositional North Bank and Erosional South Bank Visible



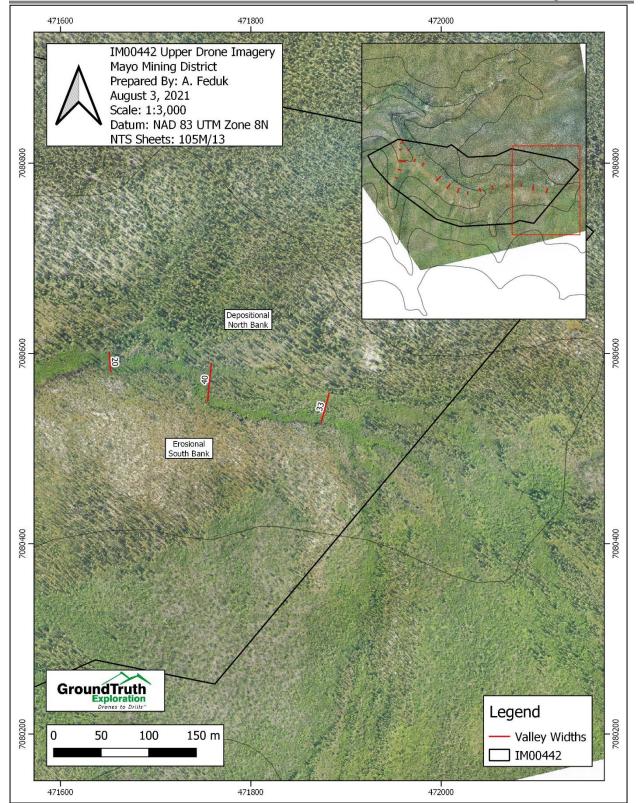


Figure 20: Upper Lease with Depositional North Bank and Erosional South Bank Visible



## 13.6 Discussion and Interpretation

The UAV Drone survey was successful in imaging the lease. This imagery will be useful for planning geophysical surveys since ground conditions can be seen using the imagery. 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 can be planned from this dataset. The figures shown in the above results section show the imagery and topographic model and the level of detail which the local topography is imaged, along with measurements of the channel size at many points along the channel length. Also visible in the figures are erosional and depositional banks.

# 14 Recommendations

Corkery Creek Placer

It is recommended to complete drill lines over the geophysical surveys performed during the 2021 field season. Drilling will confirm the lithological interpretation of the RES/IP. Drilling will also confirm the economic viability of the placer deposits on Corkery Creek.



# 15 Expenditures

то	\$27,417.50	
5.	Report Writing	\$ 1,500.00
	a. 6 manday @ \$600/manday	
4.	Corkery Creek Staking, Aug 19-20	\$ 3,600.00
	a. GroundTruth Exploration Invoice 10575	
3.	Corkery Creek. UAV Wages, Equipment and Processing	\$ 3 <i>,</i> 467.50
	a. GroundTruth Exploration Invoice 10573	
2.	Corkery Creek. RES/IP Wages and Equipment, July 15-16	\$ 7,500.00
	a. GroundTruth Exploration Invoice 10572	
1.	Mayo River. RES/IP Wages and Equipment, July 12-14	\$11,350.00



### 16 Qualification

I, Isaac Fage with a business and residential address in Dawson City, Yukon, do herby certify that:

1. I graduated from Dalhousie University in Halifax, Nova Scotia in 2002 with a Bachelor of Arts, and graduated from the Centre of Geographic Sciences (COGS) in Lawrencetown, Nova Scotia in 2008 with an Advanced Diploma in Geographic Information Systems and Remote Sensing.

2. From 2004 to present I have been actively engaged in mineral exploration in the Yukon Territory.

3. I have been an employee of GroundTruth Exploration Inc. since May of 2010.

4. I am not aware of any material fact or material change with respect to the subject matter of this report, the omission to disclose which makes this report misleading.

Dated this 9th day of March 2022

Respectfully submitted,

Isaac Fage



### 17 References

**Regional Geology:** Colpron, M., Israel, S., Murphy, D.C., Pigage, L.C., and Moynihan, D., 2016. Yukon Bedrock Geology Map. Yukon Geological Survey, Open File 2016-1.

Regional Geology: Yukon Mining Map Viewer, Mining Claims Database -

http://mapservices.gov.yk.ca/Mining/Load.htm

Mineral Titles: Yukon Mining Recorder, Mining Claims Database – www.yukonminingrecorder.ca

#### **Topographic data:** Natural Resources Canada, The Atlas of Canada - Toporamahttp://atlas.gc.ca/toporama/en/index.html

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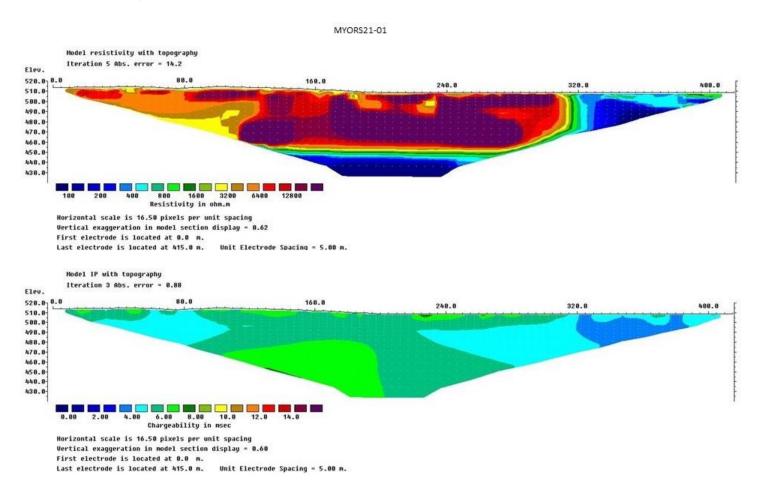


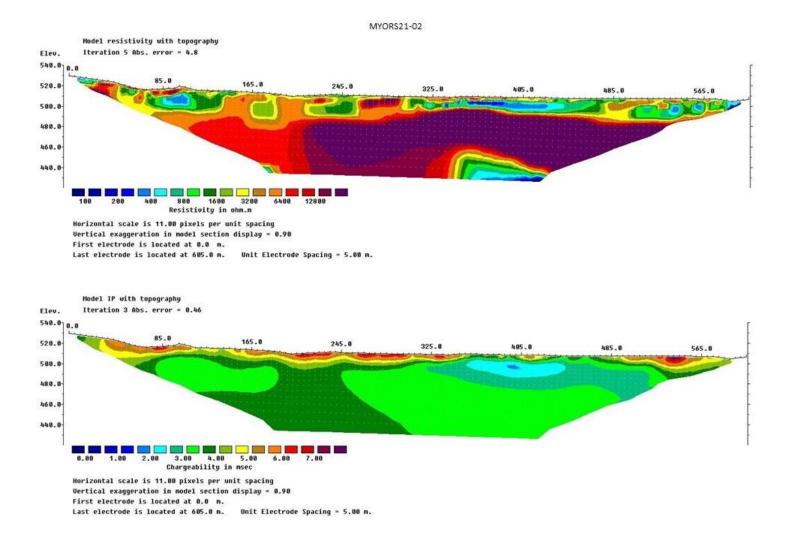
18 Appendices

2022

#### Appendix A: DC Resistivity Inversion Figures for Resistivity

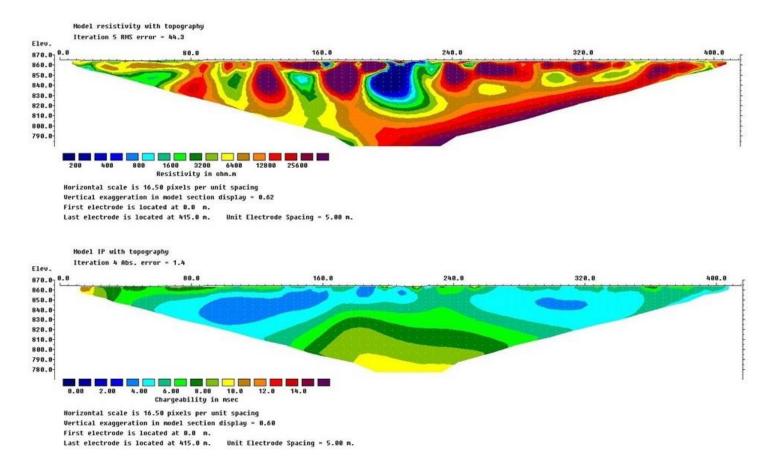
#### MAYO RIVER Project:





#### Corkery Creek Project:

CRKRS21-01



CRKRS21-02

