



P.O. BOX 158, 110 WESTHUNT DRIVE,  
CARP, ONTARIO  
K0A 1L0

Final Report on the  
Trail-Minto and Roop-Carlin Properties  
Target Evaluation Module  
YMEP 19-015

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Latitude 63.77963N, Longitude 135.30513E

In the

Mayo Mining District

Yukon Territory

By

T. B. Sutherland, M.Sc., P.Geo  
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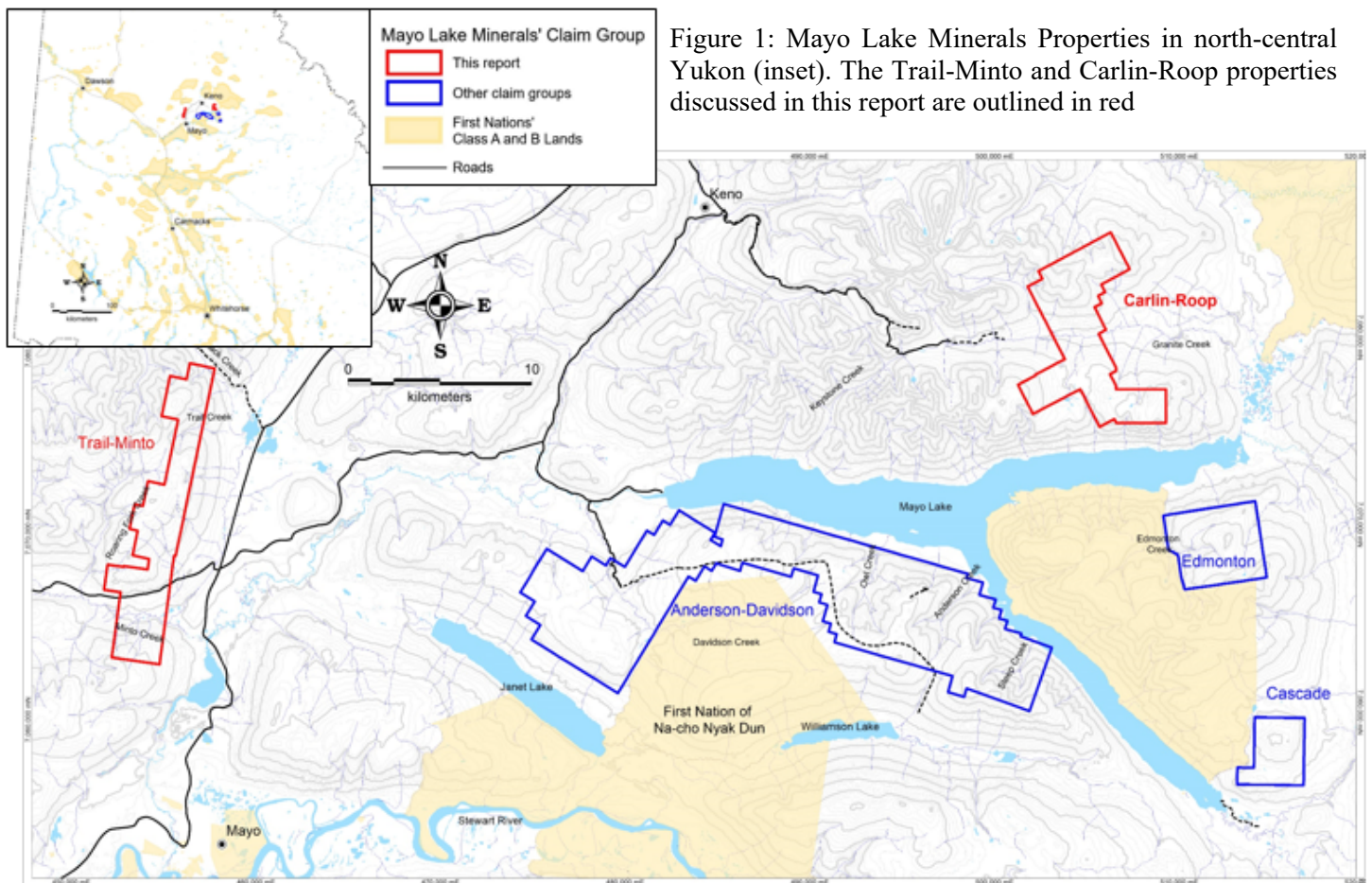
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## 1.0 Introduction

This report describes an IP/Resistivity survey and backpack drilling program on the Trail-Minto and Roop-Carlin claim groups (“Properties” Figure 1) in the Mayo Mining District, Yukon. These surveys were designed to be a less invasive and potentially cost effective alternative to excavator trenching. Target areas were chosen using geochemical, structural and geophysical data from Mayo Lake Minerals Inc. (“MLM”) previous programs on the properties. Numerous gold-silver and multi-elements in soil anomalies occur in target areas. Lowlands draining these areas are known to have considerable placer gold potential. Much of the placer gold recovered in the Mayo area is from creeks draining uplands. The uplands in the Mayo area were generally overlooked during historical exploration due to overburden cover and poor drainage which inhibited systematic exploration and prospecting. This program attempted to further define bedrock type, alteration and structures in the vicinity of defined geochemical anomalies within the survey areas. MLM



completed two IP/Resistivity lines: i) over a major silver anomaly on the Roop-Carlin claim group with a coincident linear mag feature; ii) across the eastern contact of the Roaring Fork Stock to determine the dip of the intrusion, and possible alteration and structures in areas without bedrock exposure. Following IP/resistivity surveys MLM drilled 33 backpack drill holes from 1-3m depth, collecting 61 samples in the process. MLM contracted Kryotek Arctic Innovation to provide equipment and Big River Mineral Exploration to provide geologists and technicians. Work was completed over 13 days from September 17<sup>th</sup> to September 30<sup>th</sup> 2019.

## **2.0 Location and Access**

The 184 claim Trail-Minto Property and the 186 claim Roop-Carlin Property (Figure 1) were investigated during September 2019. Trail-Minto is located 15km north of Mayo, Roop-Carlin is located 18km east of Keno City on NTS map sheets 105M/12, 13, and 15. The claims are registered in the Mayo Mining district under the name of Mayo Lake Minerals Inc.

Access to the Properties is provided by a variety of four wheel drive access trails and government-maintained gravel roads connecting to the Silver Trail highway. The Silver Trail connects with the Yukon's paved or chip-sealed highway network at Mayo (Figure 1).

## **3.0 Historical Work**

Historically placer mining of varying intensity occurred on many creeks draining the Properties. Locally notable placer creeks are Granite Creek, Keystone Creek, Ross Creek, Minto Creek, and Roaring Fork Creek.

The earliest regional mapping in the Mayo Lake area was undertaken by H.S Bostock in 1947. Early work by Bostock was followed from 1952 to 1965 by numerous workers who published geological maps; these included L.H Green et.al (1972), R.W Boyle (1964), and E.D Kindle (1962) with contributions by C.F

Gleeson (Boyle 1964). Mapping was reinitiated in early 1992 by J.A Hunt et al. (1996), D.C. Murphy et al. (1996) and C.F Roots (1997); in addition to fieldwork they integrated numerous geological publications dating from 1920 to 1996. Roots' work resulted in a regional map at 1:250,000 scale (Roots 1997). Surficial mapping was undertaken by Hughes (1983) in 1964 and 1979 and more recently by Bond (1999).

Operation Keno headed by Dr. C.F. Gleeson of The Geological Survey of Canada ("GSC") was completed in 1968 (Gleeson et al 1965-1968, Gleeson 1980a, Gleeson 1980b). It centered on Keno Hill and consisted of stream sediment, water, heavy-mineral and lithogeochemistry programs. This program delineated many elemental anomalies in the region that were overlooked prior to work by MLM. The area was again stream sediment sampled by the GSC in 1986-87 (Figure 2) with a much lower sampling density (Friske 1989). Many of the anomalies delineated by operation Keno were not noted in 1987 because of the lower sampling

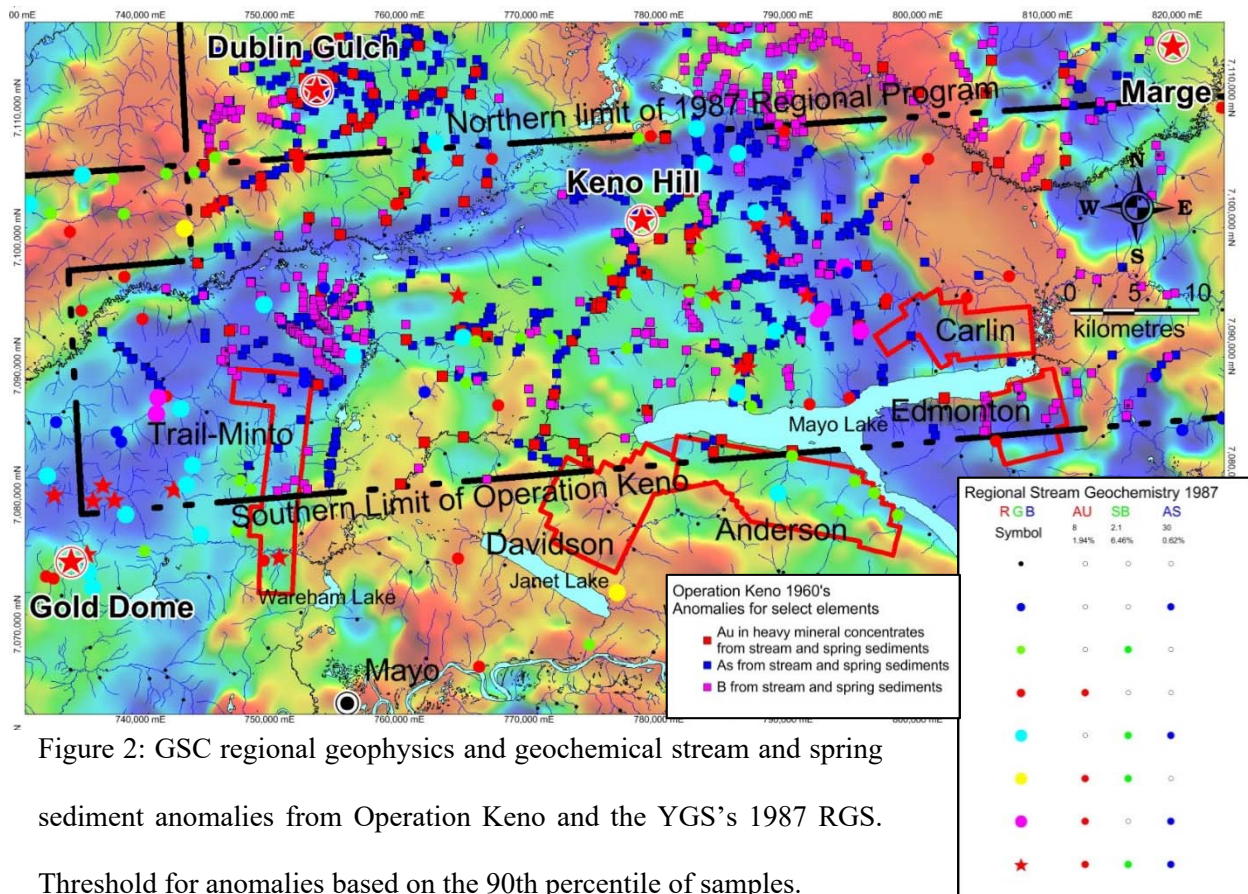


Figure 2: GSC regional geophysics and geochemical stream and spring sediment anomalies from Operation Keno and the YGS's 1987 RGS.

Threshold for anomalies based on the 90th percentile of samples.



density. Note that most major occurrences are not delineated by many anomalous samples from the 1987 program.

The GSC carried out two geophysical programs in the Mayo Lake area; the first at 1207m spacing in 1968 and a second at 2000m spacing in 1990 (Figure 2). These surveys show a major fault or lithological marker horizon with a WNW bearing paralleling the south shore of Mayo Lake on the Anderson and Davidson Properties. Also there is a slight magnetic low coincident with the Roaring Fork Stock similar to Dublin Gulch located on Trail-Minto.

### 3.1 Work Completed on MLM Properties

MLM had airborne geophysical surveys flown over all its properties in the Mayo area by Precision GeoSurveys Inc. (“PGI”) that saw the acquisition of high-quality magnetic data (Figure 3). The properties were flown using a Bell 206 BIII jet ranger. A total of 5098 line-kilometers were flown at an approximate height of 30m above terrain with a line spacing of 150m and tie lines every 1.5km. This program delineated

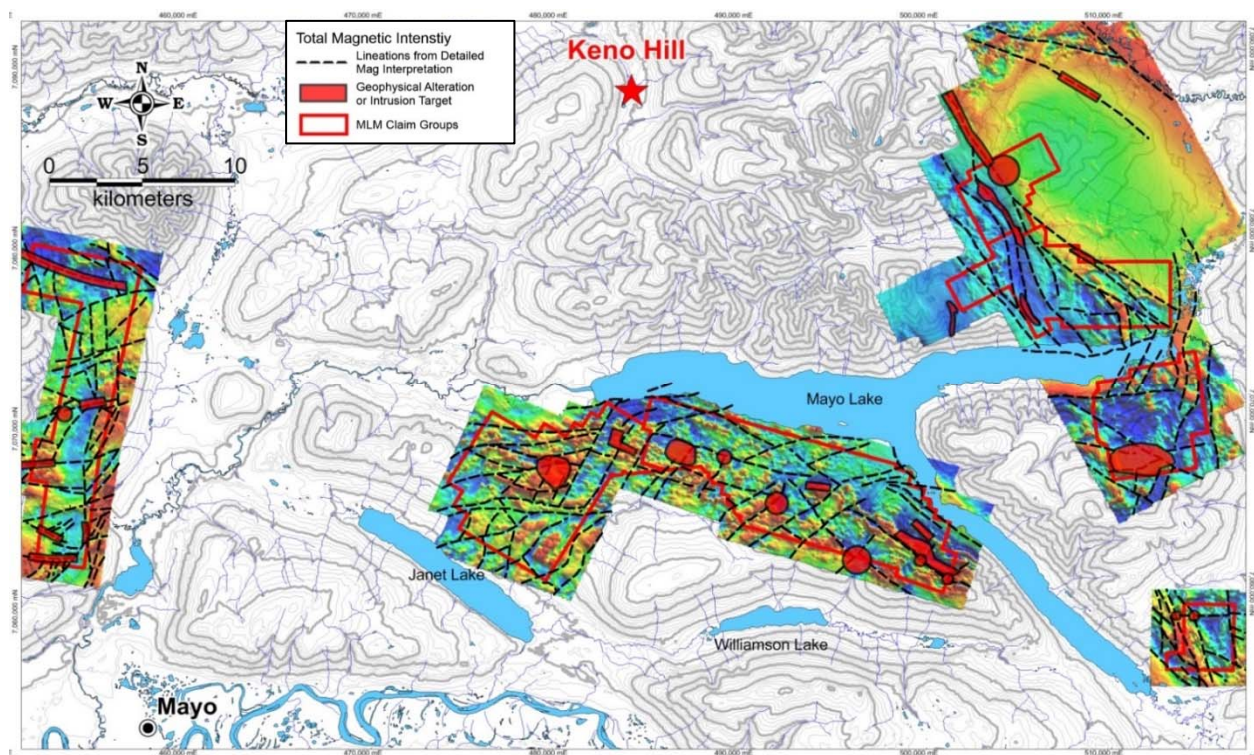


Figure 3: Detailed total magnetic intensity covering MLM claim groups



the major structural trends on the Properties and defined the likely extent of the Roaring Fork Stock. This detailed geophysical survey also covered to MLM's additional claim groups (figure 1).

In 2012 MLM followed up with a ridge and spur type reconnaissance sampling and prospecting program. MLM collected over 2300 geochemical samples identifying numerous geochemical anomalies in silts and soils requiring further sampling. Soil samples from this work revealed a 10km long trend of elevated gold values parallel to the Roaring Fork Stock with Au values of up to 73 ppb Au on the Trail-Minto property.

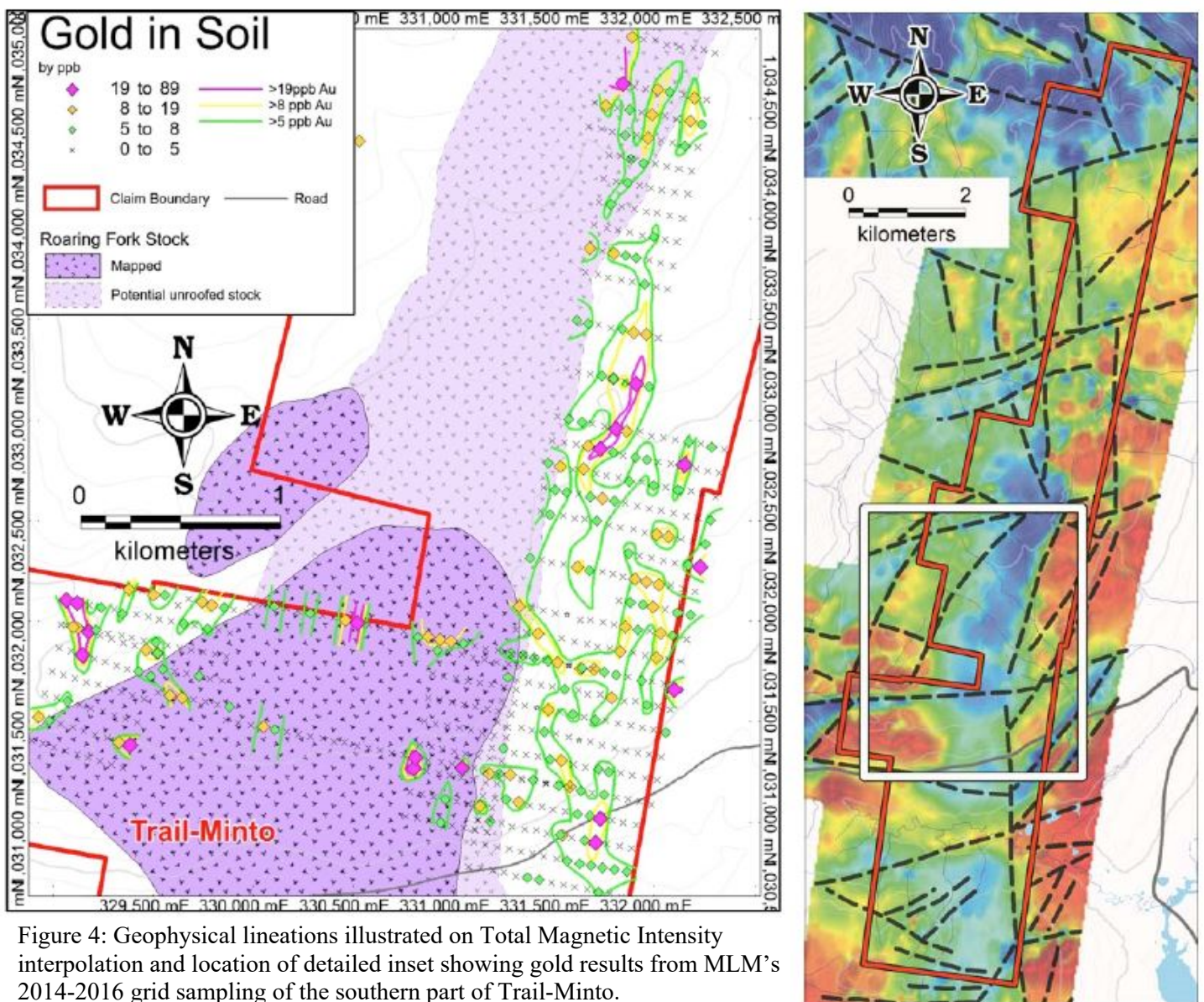


Figure 4: Geophysical lineations illustrated on Total Magnetic Intensity interpolation and location of detailed inset showing gold results from MLM's 2014-2016 grid sampling of the southern part of Trail-Minto.

Reconnaissance sampling indicated a significant Ag-Au-multi-element anomaly at the western edge of the Carlin-Roop Property.

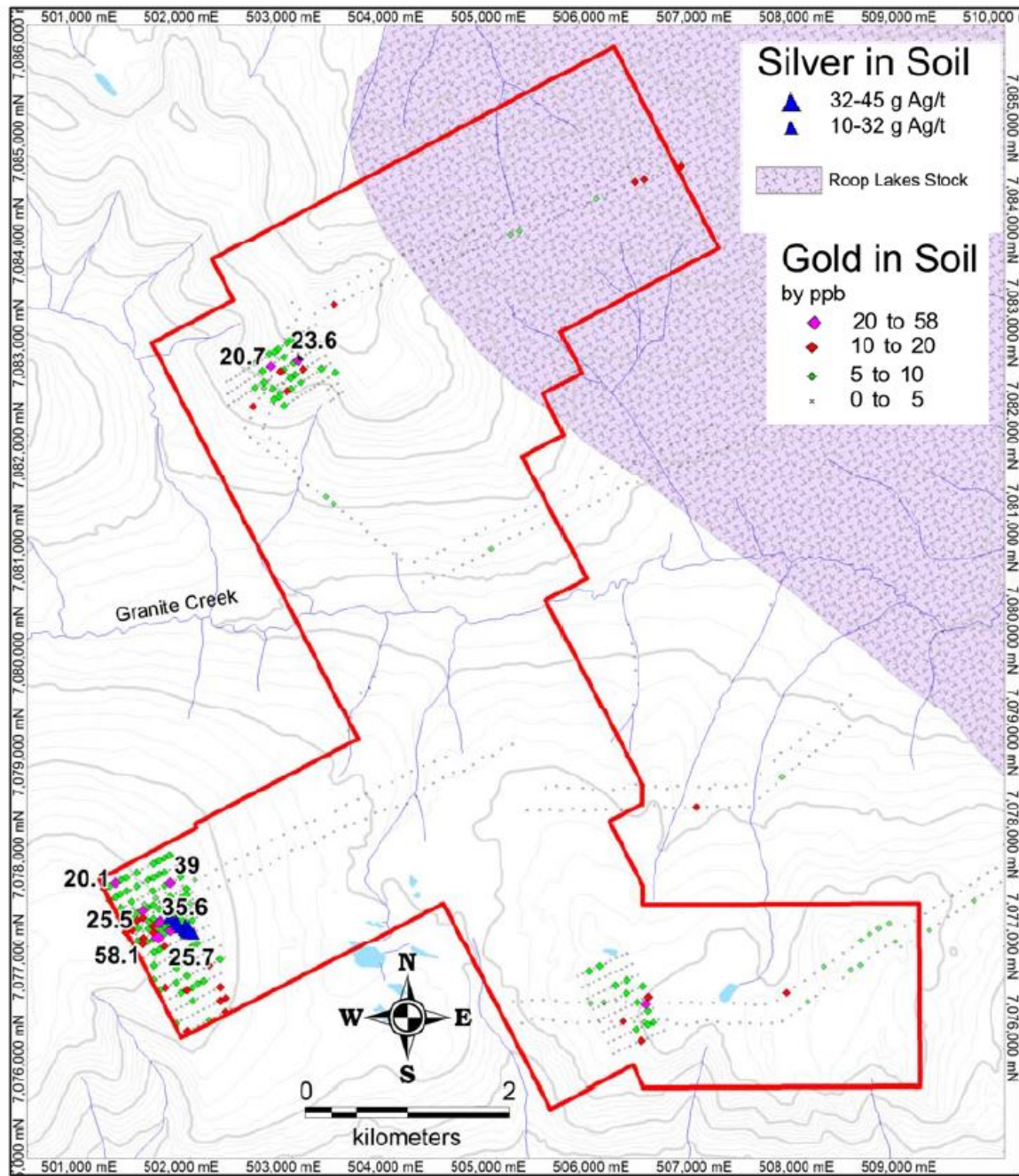


Figure 5: Gold Results from MLM's 2012 reconnaissance sampling, and 2014-2017 grid sampling of the Carlin-Roop property; notable silver analysis are also indicated.

Grid type soil sampling programs were conducted by MLM on Trail-Minto and Carlin-Roop in 2014, 2015, 2016 and 2017 (Figures 4 and 5). Two grids were completed on the Trail-Minto property near the Roaring Fork Stock in 2015, these grids were expanded and linked by further sampling in 2016. This program identified linear Au-multi-element anomalies, corresponding to the edge of the broad 10 km north-south trending magnetic low, likely the extent of the unroofed Roaring Fork Stock. Strong associations between Au, As, Sb, and some base and rare earth metals were identified, as well as a Ba and W association with anomalous Au values in the southern grid area. The former is attributed to sheeted veins in the country rock surrounding the Roaring Fork Stock and the latter are attributed to mineralized veins within the unroofed stock. The western portion of the grid delineated a strong linear gold in soil anomaly with no apparent elemental associations.

Two grids were completed in the southern Carlin-Roop property in 2015 of which the westernmost was expanded in 2016. The western grid delineated a >1km long northwest trending Ag in soils anomaly corresponding to magnetic lineations identified in earlier geophysical work. This anomaly shows a strong correlation between Ag and Pb indicative of veins of Keno Hill-type mineralization. This anomaly was further defined by a detailed 30m x 30m spaced soil grid in 2017 delineating 300m of 14-45 g Ag/t in soil (14-45 ppm Ag).

In 2018 MLM carried out detailed mag surveys in the vicinity of the same target areas as the 2019 program (Figure 6). Results from the ground mag clearly defined bedrock features corresponding the geochemical anomalies. These included a northwest trending linear parallel to strong silver in soil anomaly on Carlin-Roop and the apparent edge to the Roaring Fork stock corresponding to multi element anomalies on Trail-Minto.



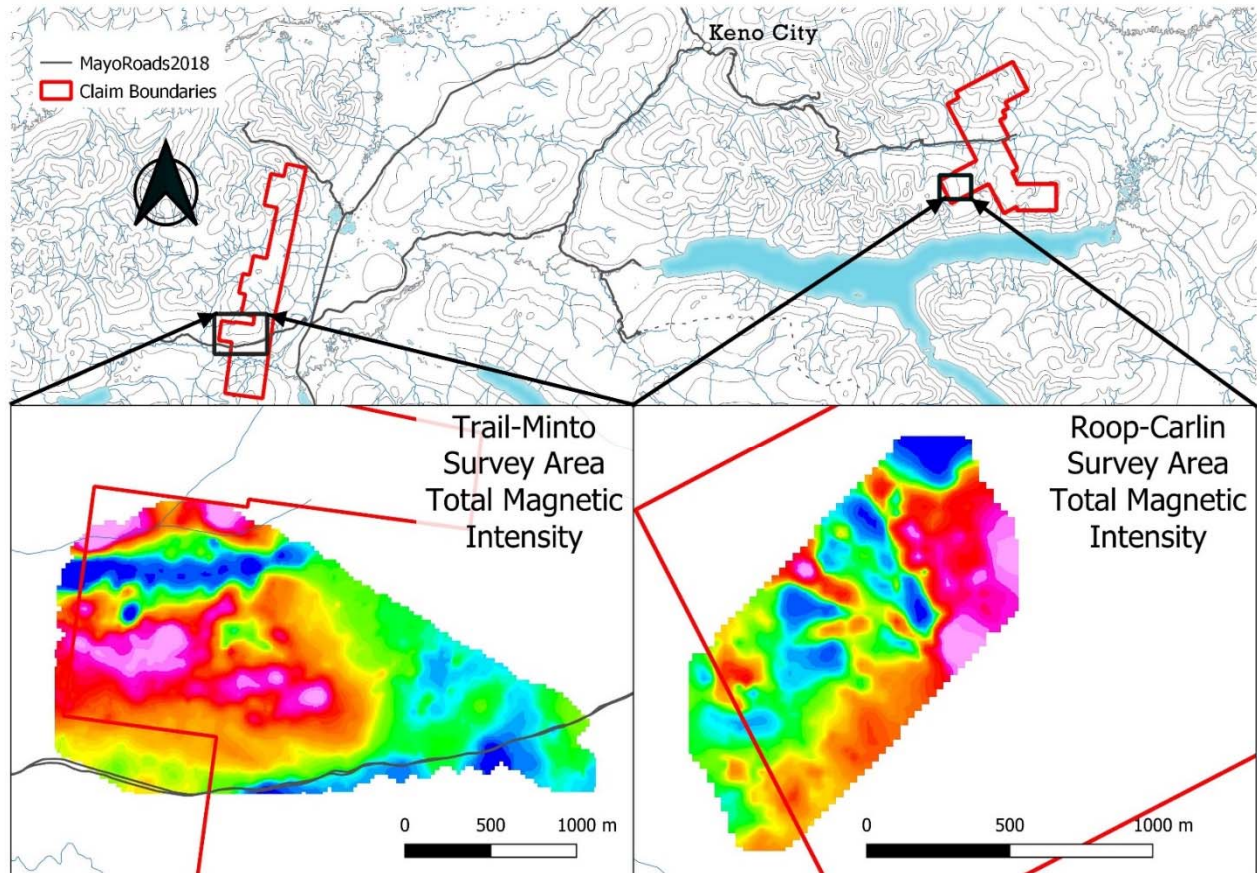


Figure 6: Ground magnetic surveys that were followed up by MLM's 2019 program.

## 4.0 Geomorphology

The Properties cover highlands south of Mount Haldane and west of the Mayo River as well as north of Mayo lake on the south eastern flanks of the Gustavus Range (Figure 1). Valleys containing Mayo and the Mayo River are broad and U-shaped due to glacier ice being funneled down them from east to west during Pleistocene glaciations. Most tributaries to the large valleys are narrow and confined by moderate to steep slopes. Uplands generally have moderate slopes. Streams draining the properties are all part of the Yukon River watershed.

Carlin-Roop been subjected to multiple glaciations (Hughes 1983). The youngest Pleistocene glaciation, the McConnell Glaciation, was confined to the trunk valleys occupied by Mayo lake and the eastern portion of Granite Creek (Bond 1999). These valleys were filled with fast flowing ice that scoured their bottoms

and sides. The upper limit of the McConnell Glaciation is marked by lateral moraines and kame terraces along the sides of these valleys. Minor lobes penetrated the upper reaches of Granite Creek; here their former extent is marked by end moraines and kames; and may have flowed through the valley between Granite and Keystone creeks. The westward limit of the McConnell Glaciation is along the base of the highlands covered by Trail-Minto west of Halfway Lakes between Mount Haldane and the Minto River with a minor lobe penetrating the Minto River Valley. Uplands above the McConnell glacial limit were covered by glacial ice during the earlier Reid glaciation. The ice was probably cold-based and transport of rock and debris was minimal as evidenced by landforms. Some uplands are mapped as a mixture of colluvium and till. Some patches of colluvium and alluvial benches at higher elevations may be representative of the Reid and older glaciations.

Outcrop is sparse on the properties, rarely exceeding 5% in any area. Soil development is immature, except on parts of the terrain above the McConnell glacial limit. Permafrost is likely pervasive on plateaus and north facing slopes but discontinuous on south facing slopes and at high elevations.

Vegetation is predominantly black spruce with willow and alder understorey. Lowlands, north facing slopes and plateaus below the treeline exhibit a thick cover of organic matter, moss and Labrador tea. South facing slopes are similarly vegetated but also include balsam and poplar groves.

## **5.0 Regional Geology and Mineralization**

The Properties are located within the Selwyn Basin of the Tintina Gold Belt. Simplified regional geology as shown on Figure 7 depicts Upper Proterozoic to Lower Cambrian Hyland Group stratigraphy in contact with Paleozoic metasedimentary units of the Ern Group and Keno Hill Quartzite along the Robert Service Thrust (“RST”). Mid-Triassic mafic sills and greenstones are common within the Keno Hill Quartzite and Ern Group, but are rarely encountered in other units. All stratigraphic units have been intruded by the Mid-Cretaceous age Tombstone Plutonic Suite, which host several known gold deposits including the eagle deposit at Dublin Gulch, which hosts an open pit measured and indicated resource of 3.6 million ounces of



gold at a grade of 0.67g/t (2019). The 100sq. km. Roop Lakes Stock, east of the Keno Hill Camp, is the largest member of the Tombstone Plutonic Suite and probably drove hydrothermal circulation leading to the mineralization at Keno Hill, as referenced by Roots (1997).

The dominant structural features in the area are a pair of imbricated thrust sheets; the RST and the Tombstone Thrust Sheet (“TTS”) have over 150km of combined NE directed transport of rock masses. The

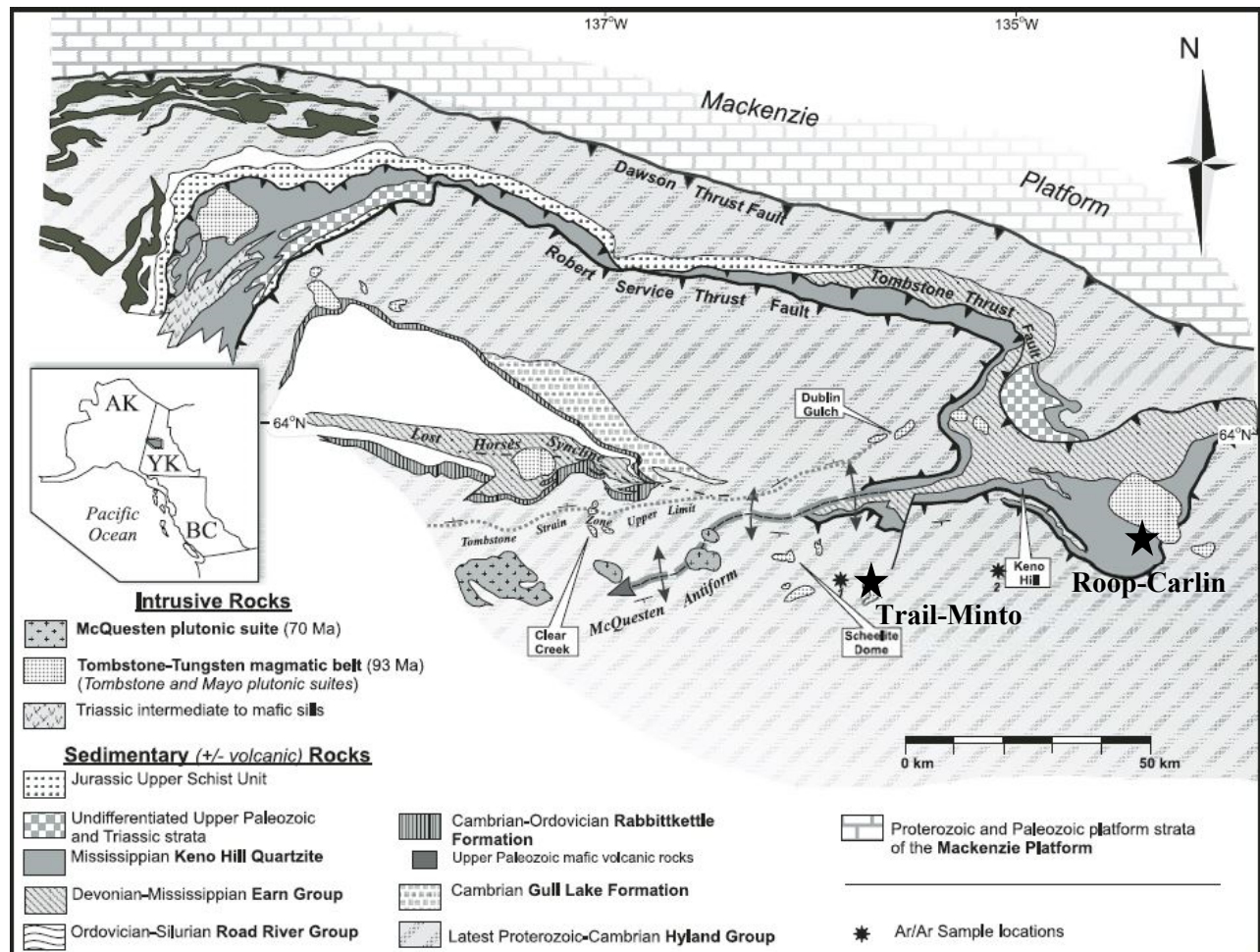


Figure 7: Mayo Lake and Selwyn Basin Geology. From Mair et al. 2006. Labeled stars indicate the claim groups where work was completed in 2018.

RST Sheet itself contains many internal thrusts that are commonly difficult to distinguish due to subsequent intense folding of faults and contacts and a strong penetrative structural fabric imparted by the later underlying TTS; the area deformed during this event is commonly referred to as the Tombstone Strain Zone. Intense folding is especially evident in units immediately around Keno Hill. Large open folds, the

McQueston Antiform (E-W) and Mayo Lake Antiform (NW-SE), and several inferred brittle faults were developed after the large thrusting events (Roots 1997). A significant WNW geophysical lineation, which parallels the south shore of Mayo Lake appears to be a regional fault possibly demarcating segments within the RST Sheet.

Two major gold occurrences are located within 30 km of the properties. Both are located in the upper plate of the RS Thrust within Hyland Group metasedimentary rocks. Sheeted veins related to the Tombstone Plutonic Suite contain most of the gold at the Eagle Deposit and Gold Dome (formerly Scheelite Dome). The most advanced project is the Eagle Deposit currently in production; it hosts an open pit reserve containing 2.7 million ounces of gold at a grade of 0.67g/t.

## **5.1 Mineralization Styles**

Mineralization within the Tintina Gold Belt is primarily the result of intrusion related gold systems; these large epizonal systems result in variable deposits that on the surface may appear unrelated. The most distal mineralization associated with these felsic intrusives are polymetallic Ag-Pb-Zn veins similar to the locally developed Keno Hill Type veins. This mineralization represents the furthest extent of hydrothermal influence related to these intrusions and may occur many kilometers from the source stock (Figure 8). Consensus is that Keno Hill Type Veins (“KHTV”) are the product of hydrothermal circulation in reactivated structures driven by the emplacement of the Roop Lakes Stock, up to twenty kilometers away. The veins are generally within the Keno Hill Quartzite, but are inferred to cut through the RST and continue into the overlying Hyland Group. Abundant narrow Cretaceous dykes (Murphy 1997) related to the Tombstone Suite near Keno Hill could be an alternate hydrothermal engine or fluid source. In addition to Ag, Pb and Zn, other vectors for KHTV include Ba and Cu and in some cases Sb, Fe and Ca. At intermediate distances from source plutons, As-Sb-Au veins develop and have been the subject of minor exploration around Van Cleaves Hill, west of Mayo Lake.

Proximal mineralization associated with Tombstone intrusives are sheeted gold veins or stockworks within the rim or immediately adjacent to Tombstone Suite plutons. Intrusion related mineralization itself is generally (i) enriched in Au-Bi-Te, possibly W; (i) depleted in base metals and (iii) situated in tensional zones of the stock.

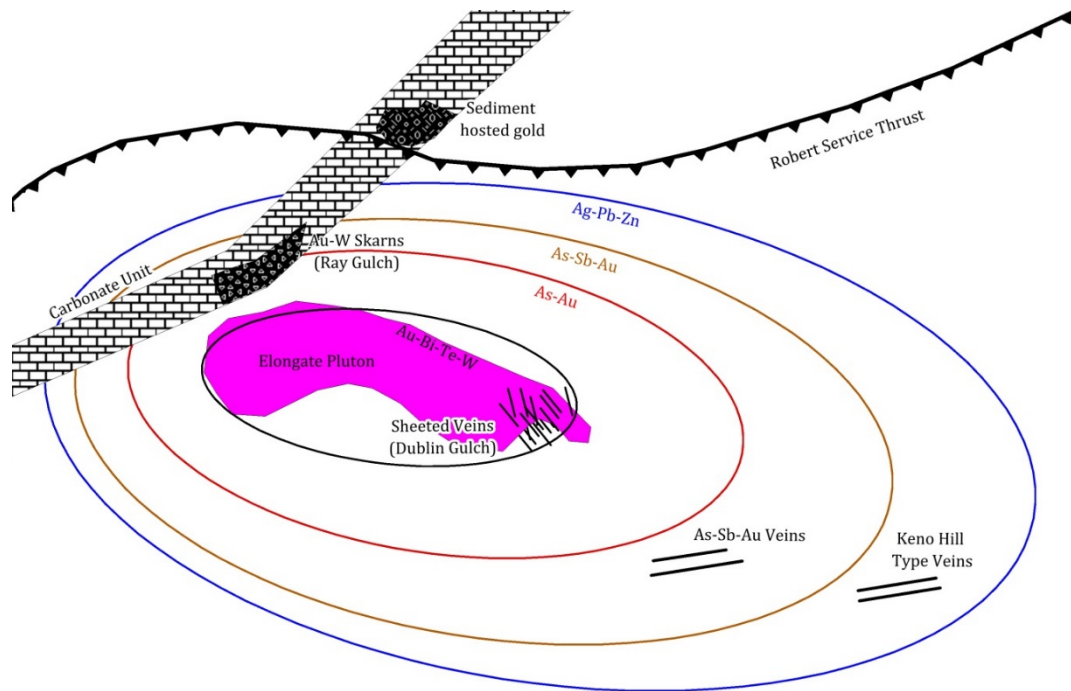


Figure 8: Idealized hydrothermal model for intrusion related gold systems in the Tintina Gold Belt (modified from Hart et. al 2002)

Where hydrothermal circulation contacts carbonate lithologies skarnification is common, such as at the Ray Gulch tungsten skarn near Dublin Gulch. These skarns are generally high in Au-W-Cu-Zn. Skarnification of rocks surrounding Tombstone suite intrusions will result in hydrothermal signatures different from those illustrated in Figure 8.

The Keno Hill silver camp has produced over two hundred million ounces of silver since 1921 from KHTV. Productive veins occur in the Keno Hill Quartzite and underlying Lower Schist (Earn Group). Although faults with associated mineralization (mineralized faults) are believed to cut through the RST and continue into the Hyland Group, no significant silver mineralization has been discovered above the RST. Ore shoots within the veins typically consist of galena, sphalerite and tetrahedrite with siderite or quartz gangue. The

mineralized faults trend northeast and dip steeply to the southeast with left lateral offsets ranging from a few metres to over a hundred metres (Boyle 1965). Longitudinal faults offsetting the mineralized faults trend perpendicular to them and dip 20° to 30° to the southwest.

A proximal relationship to crustal scale features appears to be common among deposits in the Tintina Gold Belt and is indicative of orogenic type gold deposits, the other major style of mineralization within the Tintina Gold Belt. Orogenic gold deposits typically occur localized along major crustal scale collisional suture zones and related splays. The major structures serve as conduits to pump deeply sourced metamorphic fluids to the secondary structures where mineralization takes place. Depth of emplacement is highly variable inflicting a strong control on vein morphologies which generally consist of gold bearing quartz-carbonate veins and veinlets with minor sulphides crosscutting varied host rocks. The wallrock is typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo.

The following characteristics of the orogenic deposit model are modified from Ash and Alldrick (1996). Orogenic veins have a wide variety of morphologies dependent on the competency and depth of emplacement. Commonly enechelon veins and tabular fissure veins in competent host lithologies; stringers forming stockworks in less competent lithologies; carbonate altered shear zones developed in ductile mineralization regimes and crustiform veining and epithermal characteristics in very shallow examples. Lower grade bulk-tonnage styles of mineralization may develop in areas marginal to veins associated with disseminated sulphides and may also be related to broad areas of fracturing.

Silicification, pyritization and potassium metasomatism generally occur adjacent to veins (usually within a metre) within broader zones of carbonate alteration, extending up to tens of metres from the veins. Carbonate alteration consists of talc and iron-magnesite in ultramafic rocks, ankerite and chlorite in mafic volcanic rocks, graphite and pyrite in sediments, and sericite, albite, calcite, siderite and pyrite in felsic to intermediate intrusions. Quartz-carbonate altered rock and pyrite are often the most prominent alteration

minerals in the wallrock. Fuchsite/mariposite, sericite and scheelite are common where veins are associated with felsic to intermediate intrusions.

Ore minerals include native gold, pyrite, arsenopyrite, with lesser galena, sphalerite, chalcopyrite, pyrrhotite, tellurides, scheelite, bismuth minerals, cosalite, tetrahedrite, stibnite, molybdenite and gersdorffite (nickel, arsenic sulphide) in a gangue of quartz and carbonates (ferroan-dolomite, ankerite, ferroan-magnesite, calcite and siderite), and lesser albite, mariposite (fuchsite), sericite, muscovite, chlorite, tourmaline, graphite. Host rocks are varied including mafic volcanic rocks, ultramafic and mafic intrusions, fine clastic rocks, chert, and felsic to intermediate intrusions.

Elemental associations are gold, silver, arsenic, antimony, potassium, lithium, bismuth, tungsten, tellurium and boron,  $\pm$ (copper, lead, zinc and mercury). Geophysics is useful in outlining faults indicated by linear magnetic anomalies and areas of carbonate alteration indicated by negative magnetic anomalies due to destruction of magnetite. Associated deposit types include gold bearing sulphide mantos, silica veins and placer gold.

## **6.0 Property Geology**

The Trail-Minto claim group is underlain by phyllites, schists and carbonates of the Hyland Group metasediments (Figure 9) occasionally intruded by felsic dykes. The Roaring Fork Stock underlies the south part of the Trail-Minto claim group and has a similar age to the Tombstone Intrusive Suite. Most stratigraphy has bedding parallel or sub-parallel to foliation, which dips shallowly generally southeast except where modified by small scale isoclinal folding.

The Roop-Carlin claim group is underlain by Keno Hill Quartzite intruded by Triassic greenstones and the Cretaceous Roop Lakes Stock. A contact metamorphic aureole extends away from the stock up to 4km affecting most units underlying the property.



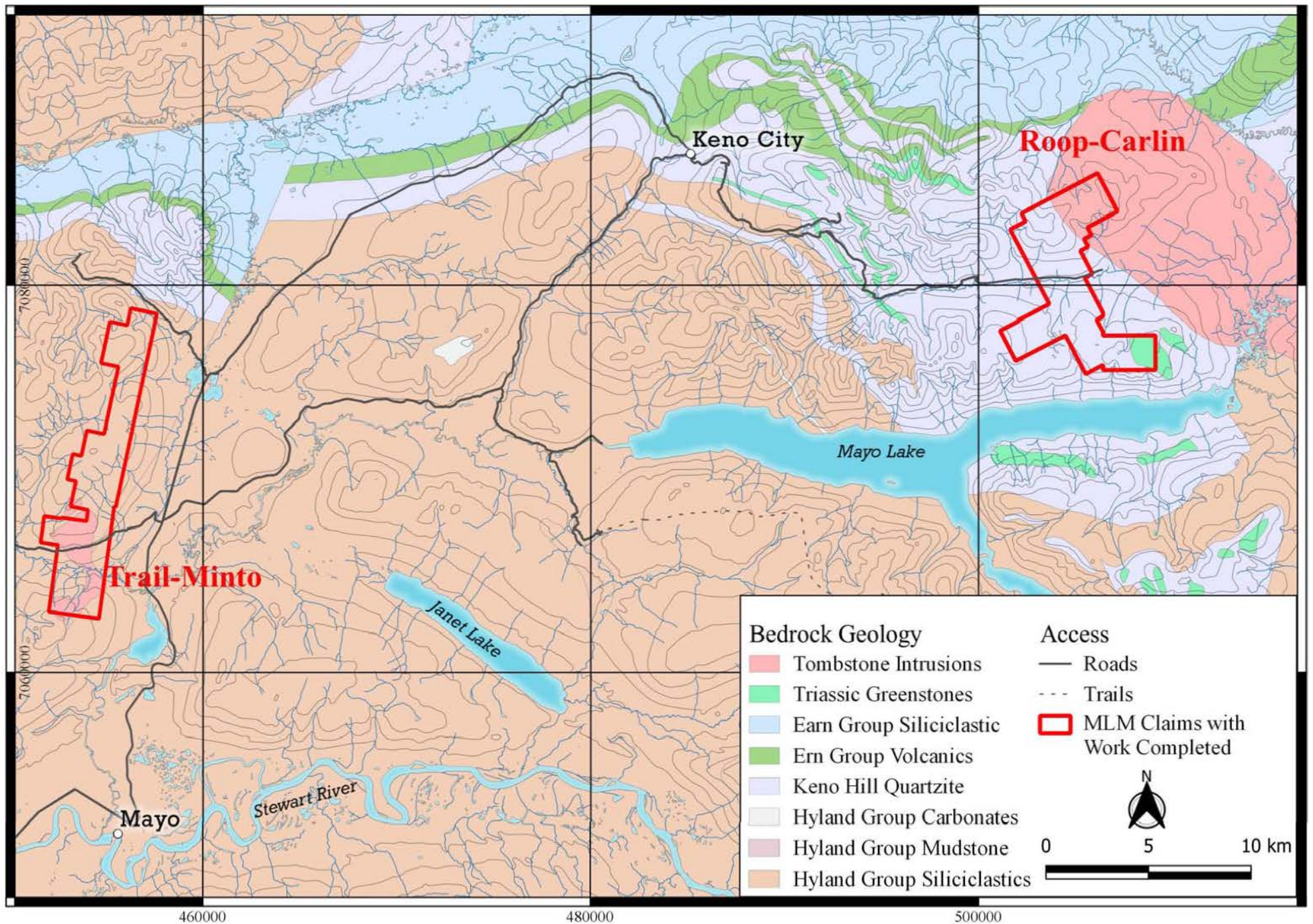


Figure 9: Geology of Mayo Lake showing MLM claim groups claim extents as of 2018.

## **6.1 Stratigraphy**

Underlying Trail-Minto is primarily Hyland Group which is locally mapped as the Yusezyu Formation, which consists of compositionally layered medium to coarse-grained micaceous quartzose phyllite; muscovite-chlorite gritty phyllite; green and grey impure quartzite; metaconglomerate (Roots 1997). Locally metasediments are comprised of interbedded variably quartzose arenaceous schists and carbonates.

The stratigraphy underlying Roop-Carlin is exclusively Keno Hill Quartzite which is comprised of massive to well foliated lineated quartzite with lesser phyllitic quartzite, chloritic and carbonaceous phyllite (Roots 1997). On the Property the Keno Hill quartzite is interbedded with intermediate to felsic volcanoclastics, likely a local extension of the “Marge sequence”, a unit abundant green weathering tuffaceous metavolcanic rocks which host the Marge VMS deposit east of the Keno-Ladue River. Also present, but rare, are thin beds of carbonates.

## **6.2 Intrusions**

The Roop Lakes Stock is roughly 100 sq km and centered on the Roop Lakes just east of Roop-Carlin. The marginal phase is quartz diorite to quartz gabbro with abundant chloritized hornblende. The main phase is medium-grained granodiorite with lesser quartz monzonite with occasional hornblende is up to 15 mm long. The contact locally is a 100m wide zone of aplite and pegmatite dykes (Green, 1971) in quartz phyllite. The metamorphic aureole extends up to 4km beyond the contact grading from sillimanite to biotite schists.

The Roaring Fork Stock underlying Trail-Minto is predominantly fine grained with phenocrysts of biotite and quartz. The age of the Roaring Fork stock is 91.7Ma (Roots 1997) placing it firmly within the Tombstone Plutonic suite. The porphyritic texture of the Roaring Fork Stock indicates it is a high level intrusion that cooled at a shallow level. Numerous small intrusions have been mapped on the north part of the Trail-Minto Claim Group probably of tombstone age.

Triassic sills of greenstone and gabbroic composition are common on the Property. They are dark green, foliated, fine to medium grained and weather in a blocky fashion. The main mineral assemblage consists of

amphibole, chlorite and plagioclase. Sills are common in the Keno Hill Quartzite and Ern Group and are also known, though rare, within the Hyland group. Due to their commonly small size and abundance many such intrusions are located on the Property though not indicated on figure 9.

### **6.3 Structure**

Deformation on the properties is typical of the Tombstone Strain zone, including a strong penetrative fabric and intense large scale deformation (Roots 1997). Broad post-metamorphic folding is also present and is indicated by variable foliation dips. Foliation is generally shallow dipping southwest to southeast. Boudinaged quartz +/-carbonate veins are common within the Hyland Group and generally parallel to foliation. These veins likely predate the development of the Tombstone Strain Zone.

### **6.4 Mineralization**

The properties are prospective hosts to a variety of deposit styles related to the complex Mesozoic and Cenozoic metamorphic, plutonic and volcanic history associated with the formation of the northern Canadian Cordilleran orogeny. The most attractive of these are:

- Polymetallic veins; mainly Keno Hill Type, which are typically high in silver, lead and zinc and are related to the intrusion of the Tombstone Plutonic Suite and constitute the main ore at Keno Hill. Soil Surveys strongly suggest at least one such vein underlies the Roop-Carlin Property.
- Intrusion related gold; such as Dublin Gulch and Fort Knox. These deposits are related to post-orogenic, mid-Cretaceous Tombstone Suite stocks that intruded Selwyn Basin sedimentary rocks.
- Orogenic gold veins; Jurassic in age, formed after peak metamorphism of the Yukon-Tanana Terrane; their erosion likely contributed to the Klondike placer deposits. These are narrow, high-grade deposits; typical is the Pogo Mine in Alaska with total reserves and resources of 4.9 Moz Au at 12.45 g/t Au. They may be high grade, epithermal or mesothermal, structural end-members of the intrusion related gold model rather than typical orogenic veins.



- Skarns; like the Ray Gulch Tungsten Skarn at Dublin Gulch and a small skarn southeast of the Roop Lakes Stock.

## 7.0 Description of MLM's 2019 Work

MLM contracted Kryotek Arctic Innovation (Kryotek) of Whitehorse to utilize their IP/Resistivity expertise as well as their newly developed backpack drill system. A geologist and assistant and logistics were provided by Big River Mineral Exploration of Whitehorse. An IP/Resistivity line was completed on both Trail-Minto and Roop-Carlin (Figure 10). This was followed by variably spaced backpack drilling in select areas. Orientation and layout of mag lines were designed and supervised by MLM personnel. Work was completed on between September 17<sup>th</sup>-30<sup>th</sup>, 2019. During poor weather days work was carried out on Trail-Minto, on better weather days attempts were made to access the Roop-Carlin project.

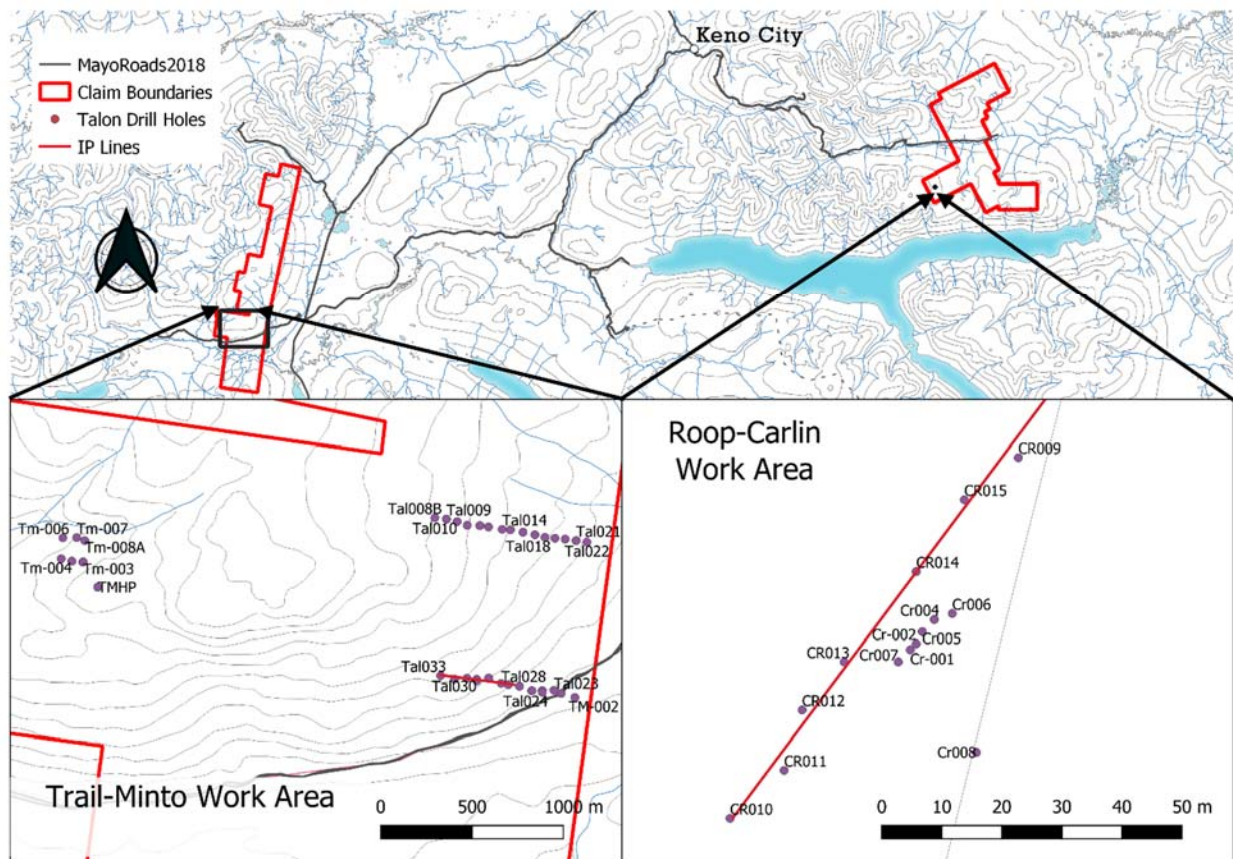


Figure 10: Location IP lines and backpack drill holes.

The Crew was based out of Mayo for the duration of work. The Kryotek team consisted of Jim Coates and for a day Astrid Grawehr. The MLM team consisted of Mike Ives-Ruyter (Geologist), Bailey Rathwell (Medic/Cook/Assistant) and Daniel Chodur (Assistant). Survey planning was carried out by Tyrell Sutherland of MLM.

### **7.1 IP Resistivity Surveys**

Kryotek provided a report summarizing their IP/Resistivity system and results from the two lines measured during this program. This report is provided in Appendix C. On Trail-Minto Kryotek completed a 300m line broken into 3 segments across the contact of the Roaring Fork Stock. These lines were to define the nature of the contact of the stock underlying the overburden and to distinguish any likely targets for utilizing the backpack drill. On Carlin-Roop Kryotek completed a 100m line across the strong Ag in soil anomaly. Much of the IP/Resistivity descriptions and analysis comes from the attached geophysics report and is not described in detail here.

### **7.2 Backpack Drill**

The backpack drill was developed by Kryotek in conjunction with Quantum Machine Works of Whitehorse. The drive consisted of a modified Dewalt battery powered rotary hammer mated to an aluminum frame and 1" tooling developed by Kryotek and Produced by Quantum Machine works. The entire system weighed under 60lbs and could drill up to 2 in quartzites on Carlin-Roop and over 3m in schists and granodiorite on Trail-Minto. It was trialed in an effort determine if it would be effective substitute for excavator trenching on the properties. Samples were collected off of the auger drill bit while drilling through overburden. While drilling through bedrock a one way sample collector was attached to the end of the drill string this was then removed from the hole emptied into sample bags. In both cases a mix of rock chips, and fine material were produced and placed into plastic ore bags with sample tags. During drilling on Carlin Roop two prospecting samples were collected ~250m north west of the drilling area within the Ag in soil anomaly.



### **7.3 Sample Analysis**

Samples were delivered to Bureau Veritas Ltd. preparatory laboratory in Whitehorse, YT. Samples underwent modified preparation code PRP70-250; crushed until 70% passes through a 10 mesh and then pulverized; rejects were discarded. Samples were then sent to Bureau Veritas Ltd. in Vancouver B.C to undergo analysis code AQ201, which is an ICP-MS analysis after aqua regia digestion of a 15g sample for Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Hg, Sc, Tl, S, Ga, Se, Te, and U. Samples were also analyzed by Fire assay for Au, Pt, and Pd.

## **8.0 Observations and Results**

Geochemical analysis from drill holes can be found in Appendix D. Assay Certificates are attached in Appendix E.

### **8.1 Quality Control**

Sample analysis were within acceptable limit for most elements. There is an issue with W and possibly with Mo results. During all previous surveys W analysis are generally below 0.5ppm; from this program most W analysis are >1ppm except for the two prospecting samples which yielded <0.01ppm. This suggests that the higher W analysis are resulting from some contamination in the drill bit or samplers rather than due to the different sample prep procedure. Supporting this assertion, the holes that were the most difficult to drill CR001-CR008 correlate with the highest amount of W in samples. Holes CR009-CR015 were easier to drill but harder than holes drilled on Trail-Minto and have intermediate W analysis. Holes drilled on Trail-Minto generally had the lower W values though orders of magnitude greater than in soils. Specialized steels were utilized to produce the drill bits and samplers and it is assumed that small amounts of this are responsible for the high W analysis. The same pattern is visible in Mo analysis though with less extreme results, possibly being 1-5 times higher than background rather than hundreds of times higher for W.

## 8.2 Roop-Carlin

The IP/Resistivity line cut across the strong Ag in soil anomaly and was used to guide follow up backpack drilling. The resistivity survey (Figure 11) shows a strong vertical high resistivity structure 10-15 m in width extending from near surface (2-3 m depths) to at least 20 m depths. This is consistent with the resistivity of a quartz vein (Coates 2019).

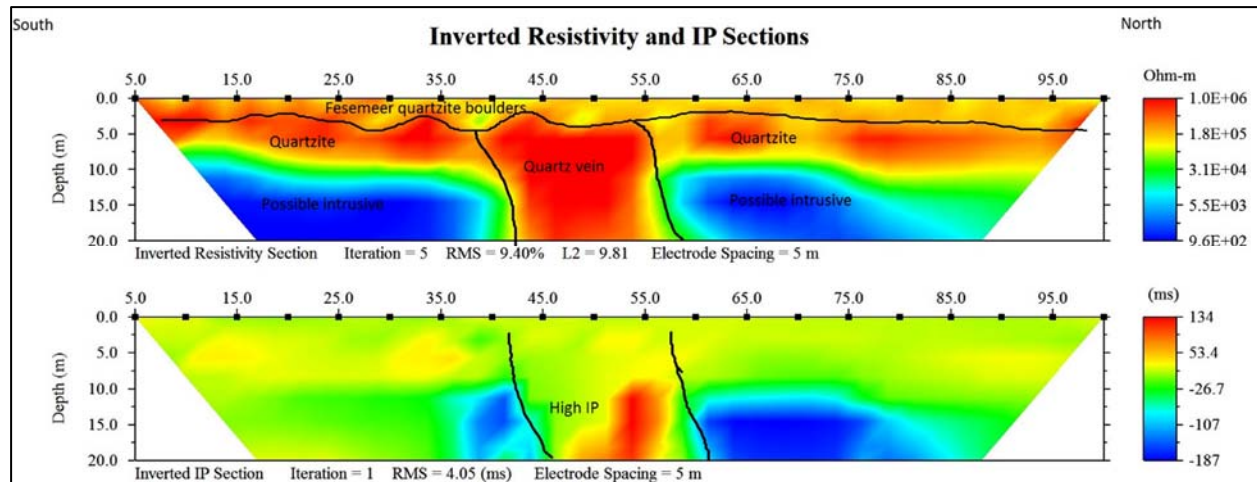


Figure 11: IP Resistivity Profile Roop-Carlin

MLM targeted the central quartz vein on the resistivity line for utilizing the backpack drill. Over the central quartz vein holes were drilled at 2m spacings. Beyond the central quartz vein holes were drilled at 10m for a total of 13 drill holes. For the holes over the quartz vein two samples were collected if there was enough material for an overburden and a bedrock material. For the holes spaced at 10m intervals only a single composite sample of overburden/bedrock interface was collected. Felsomere and visible boulders were exclusively comprised of Keno Hill Quartzite and posed significant difficulties for drilling with this backpack drill. Keno hill quartzite is extremely hard and was difficult for the drill to penetrate effectively. Also due to the rocky nature of the overburden, distinguishing true bedrock from large boulders was particularly challenging. Samples yielded results similar to and or marginally lower than analysis of soils suggesting that sampled material was likely a mixture of felsomere and boulders.

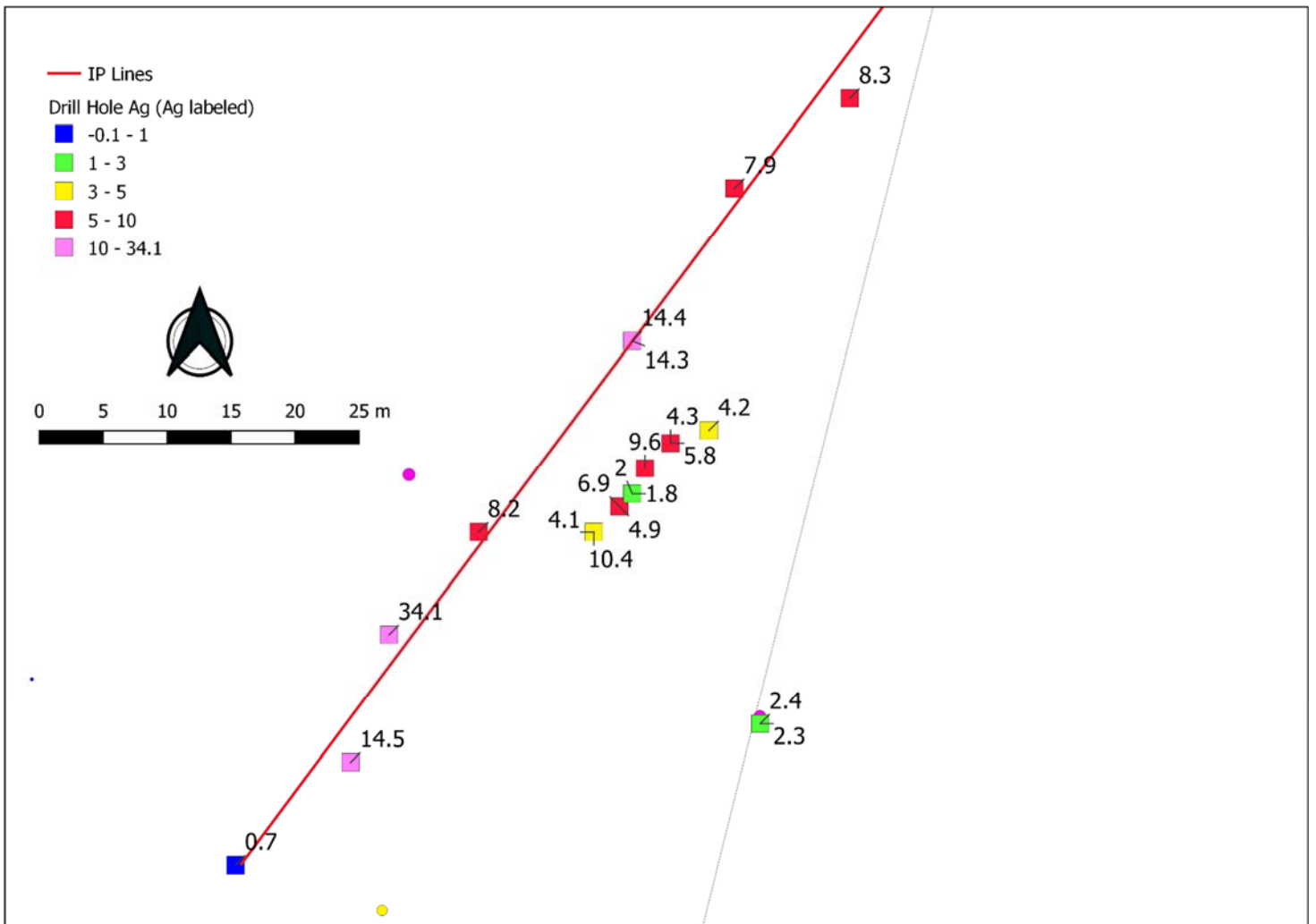


Figure 12: Roop-Carlin Backpack Drill Holes with Silver Analysis

### 8.3 Trail-Minto

Three resistivity lines were completed on Trail-Minto linked tip to tail to ensure that a full profile of the Roaring Fork Stock /schist contact was captured (Figure 13, 14). The Resistivity lines indicate that the

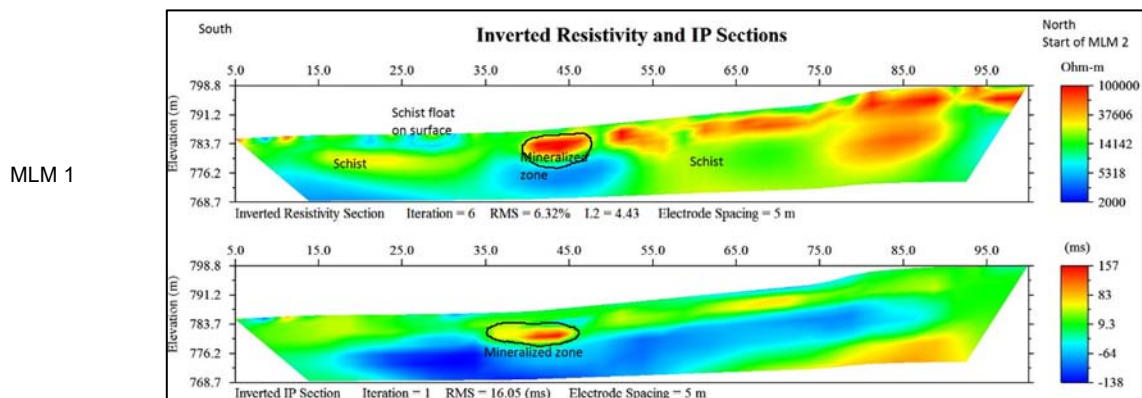
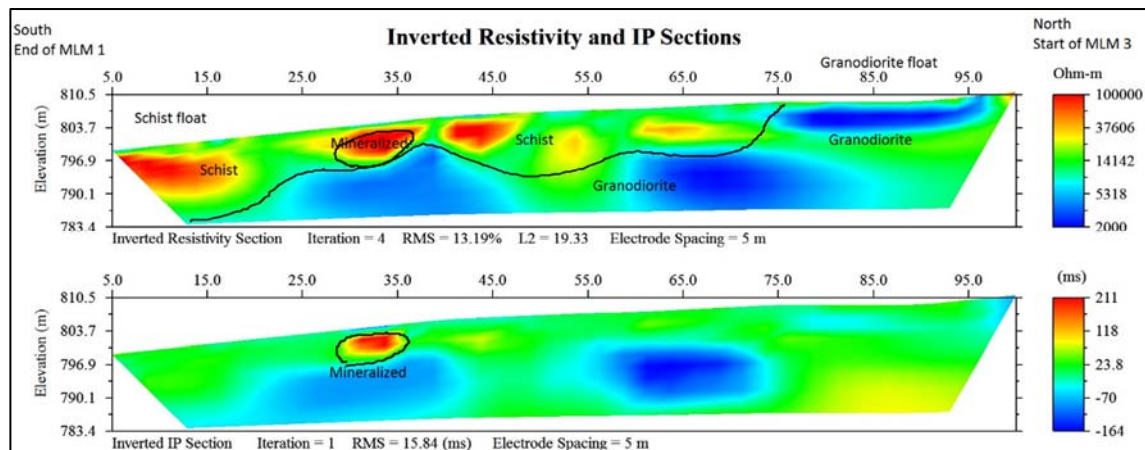
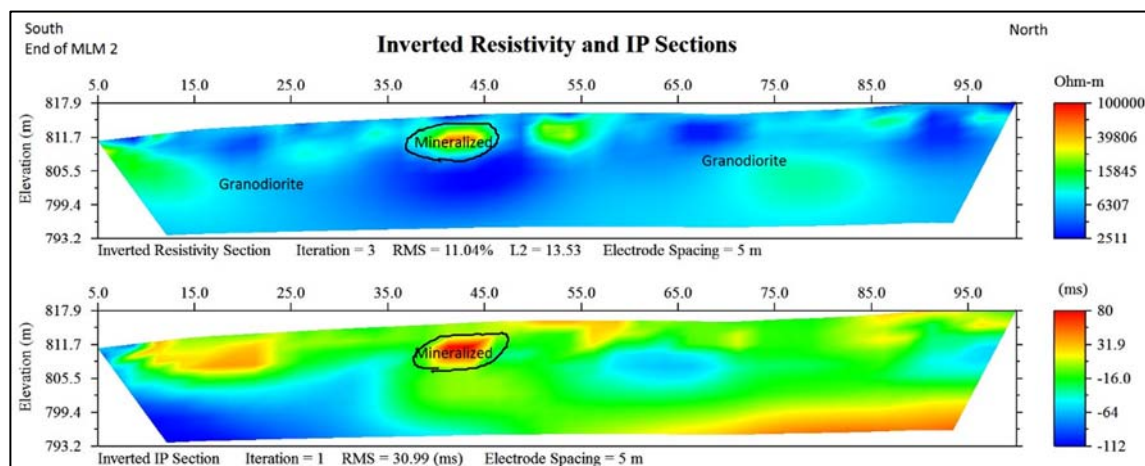


Figure 13: Resistivity line MLM1 looking south.

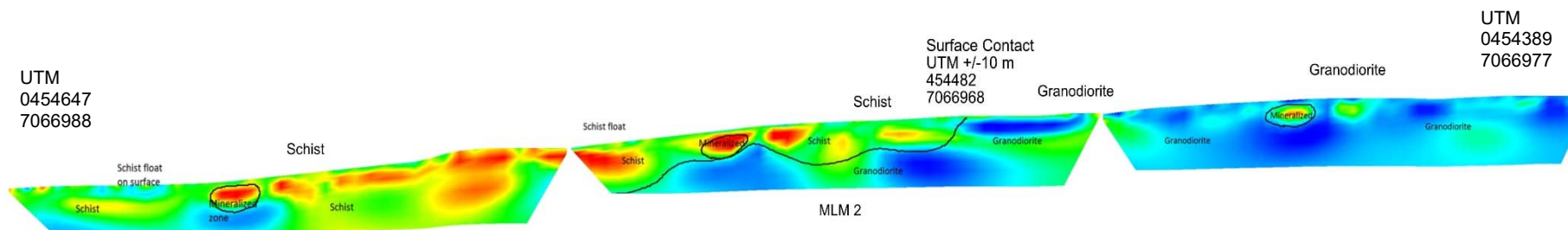
MLM 2



MLM 3



UTM  
0454647  
7066988



MLM 2

Figure 14: Resistivity lines MLM2 and MLM3 and composite profile looking south.

contact between schist and granodiorite at surface occurs at 75m on MLM2. This contact likely dips shallowly to the east underneath schist units. The high resistivity near surface in the schist may be remnant permafrost in cracks within decomposed bedrock within strongly foliated schists (Coates 2019). It is alternatively suggested that these resistivity highs could potentially be flat lying schist units (Coates 2019) which is unlikely based on the observed orientation rocks within the tombstone strain zone.

The resistivity lines did indicate several small potential mineralized zones however MLM opted to go for a wider spaced drilling approach in lieu of trenches. Two lines spaced 800m apart with drill holes at 60m spacing along lines were completed. The Au analysis from the southern line on the east side of the stock were around or below background amounts from gold in soil analysis in this area. Au analysis from the northern line on the east side of the stock had a 300m long zone of elevated gold values which corresponded to a >3km long gold in soil anomaly roughly parallel to the edge of the stock from MLM's 2012 geochemical program.

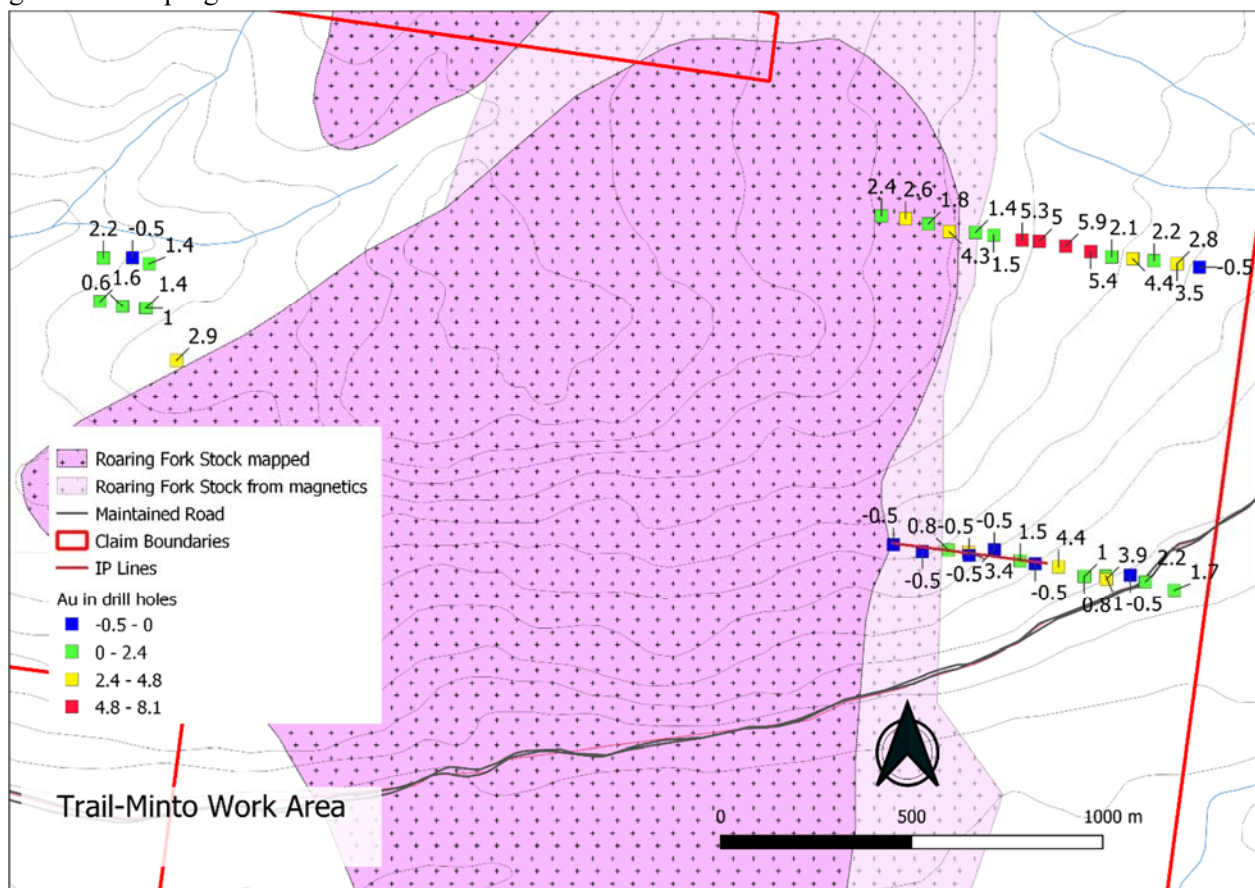


Figure 15: Gold in drill holes, ICP after aquaregia.



Along both lines along eastern edge of the stock the backpack drillholes encountered bedrock within 0.5m-2m of surface. Overburden consisted of variable residual bedrock and McConnell age till. Gold analysis between fire assay and ICP after aquaregia were similar with fire assay being ~15% greater. Both were highly variable likely due to nugget effect.

Along the western edge of the stock several holes were drilled to investigate a 300m long ~30ppb Au in soil anomaly. Oxidized residual till of indeterminate age was encountered and failed to duplicate results of previous soil sampling. Bedrock was encountered within 1-2m of surface.

## **9.0 Discussion**

The backpack drill is a useful tool for sampling the bedrock interface. For these projects however results were mixed. On the Roop-Carlin the bedrock is extremely hard and the backpack drill struggled to get quality samples results simply replicated soil sampling in this area and did not provide further information about the nature of the bedrock. On Trail-Minto on the east side of the stock successive projects have struggled, dealing with variable permafrost year to year and inconsistent results from the resulting samples. The backpack drill collected consistent samples from the base of the overburden regardless of permafrost. The southern line east of Roaring Fork Stock showed that bedrock was very close to surface and soil previous sampling likely collected residual bedrock. This poses an issue for widely spaced sampling methods because unless a sample is taken directly from mineralization there may be know resultant signature and this issue remains for the backpack drill. However, it was able to confirm the continuation of a major gold anomaly through a zone of permafrost that from grid soil sampling appeared to be near background. As a substitute for trenching cost becomes a factor and time required to drill holes of appreciable density would be considerably slower than traditional trenching.

The resistivity lines provide valuable additional information for defining drill targets. This method was particularly effective on Roop-Carlin however Keno Hill type veins are extremely narrow and even 2m spacing for drill holes is potentially too wide.

## **10.0 Conclusion and Recommendations**

### **10.1 Roop-Carlin**

Results to date from the MLM's sampling programs and earlier silt and soil sampling and geophysics provide strong evidence that a significant source of silver mineralization is present on the Property. This is to be expected due to the long history of silver exploitation in the Keno Camp.

Based on this data resistivity line this method of exploration appears to be an effective method for defining this structure and should continue to be utilized to trace this structure over its 1km length. Backpack drilling was not able to penetrate bedrock effectively to be used as a replacement for trenching.

### **10.2 Trail-Minto**

Results to date from the MLM's sampling programs and earlier silt and soil sampling and geophysics provide strong evidence that a significant source of gold mineralization is present Trail-Minto. This is to be expected because of the placer operations along creeks and the strong gold in heavy mineral concentrates anomalies in streams lying downstream.

Due to the proximity of this project to Mayo trenching appears to be a more cost-effective option of testing bedrock. However the backpack drill was more effective in testing soils in areas of discontinuous permafrost.

### **10.3 Recommended Future Exploration**

The strong silver anomaly within the Roop-Carlin survey area warrants significant trenching to determine the nature and intensity of bedrock silver mineralization. This should be followed by drilling if there is indication of potentially economic silver mineralization. The KHTV further defined by this program appears open to the north and east and soil sampling on a 60m by 30m grid should be completed to further delineate its extent.

Review of the geology, geophysics and geochemistry indicate that gold in soil anomalies and their underlying sources extend well beyond the limits of the present sampled areas. Shallow fluvial silt and sand layers on the Trail-Minto claim group and cryoturbation and mass wasting on the Carlin claim group are posing considerable difficulties to distinguishing bedrock signatures. For general vectoring to anomalous areas, regolith geochemical sampling is an effective method on these claim groups. However, for defining drill targets future projects should focus on sampling material at or just below the bedrock interface.

1. Prospective survey areas are reasonably close to road access. This presents an opportunity for cost effective trenching utilizing mechanized equipment.
2. Diamond drilling of targets in areas of discontinuous trench and potentially RC drilling in well drained uplands.

Those parts of the Property showing prospectivity from previous geochemical investigation warrant follow-up geochemical sampling. Grid patterns can be biased towards geologic controls as presently understood. Unless the trends of mineralization can be clearly defined the recommended sampling grid is 60m by 100m for targeting and 30m by 30 m for detailing. Ground geophysics that will not be inhibited by high graphite content of the bedrock, such as VLF, should be tested for their effectiveness. Prior to drilling, mechanized bedrock interface sampling or trenching is warranted. Hand trenching would encounter difficulties with large blocks of colluvium and is not recommended for this reason. Scout drilling may be required to properly test anomalies as much of the terrain has been subjected to long periods of weathering under variable climatic regimes, which can lead to near-surface leaching of metals.

## 11.0 References

- Ash, C, and Alldrick, D. 1996. Au-quartz veins, in Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits, Lefebvre, D.V. and Høy, T, Editors, British Columbia Ministry of Employment and Investment, Open File 1996-13, pages 53-56.
- Becker, T.C. 2000  
Assessment Report 094179 on the Black Property, Black Creek, Mayo Mining District, Yukon Territory for Archer, Cathro & Associates (1981) Limited (October, 2000).
- Bond, J.D. 1999  
Glacial limits and ice-flow map, Mayo area, central Yukon (1:250,000 scale); Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-13.
- Bostock, H.S. 1947  
Mayo, Yukon Territory; Geological Survey of Canada, Map 890A.
- Boyle, R.W. 1964  
Geology Keno Hill-Galena Hill Area, Yukon Territory, Geological Survey of Canada; Map 1147A.
- Boyle, R.W. 1965  
Geology, geochemistry and origin of the lead-zinc-silver deposits of the Keno Hill-Galena Hill Area, Yukon Territory; Geological Survey of Canada, Bulletin 11.
- Carrell, W. 2004  
Report of 2004 field activities funded under YMIP Grant #04-034, Mayo Lake focused regional program, Mayo, Yukon Energy, Mines & Resources Library, Whitehorse Yukon territory.
- Coates, J 2019  
Attached Appendix C
- Gleeson, C.F. and Boyle, R.W. 1980a  
Minor and trace element distribution in the heavy minerals of the rivers and streams of the Keno Hill District, Yukon Territory; Geological Survey of Canada, Paper 76-31.
- Gleeson, C.F. and Boyle, R.W. 1980b  
1 The litho-geochemistry of the Keno Hill District Yukon Territory; Geological Survey of Canada, Paper 77-31.
- Gleeson, C.F. et al. (9 Maps) 1965  
(Ag, As, B, Cu, Ni, Pb, Sb, W and Sn, Zn) content of stream and spring sediments, Keno Hill area, Yukon Territory; Geological Survey of Canada, Maps 45-50, 52-53, 56-1965.
- Gleeson, C.F. and Boyle, R.W. 1972  
1 Gold in heavy mineral concentrates of stream sediments, Keno Hill Area, Yukon Territory; Geological Survey of Canada,, Paper 71-51.
- Goldfarb, R., Hart, C., Miller, M., Miller, L., Farmer, G.L. and Groves, D. 2000  
The Tintina Gold Belt - A Global Perspective *in* the Tintina Gold Belt: Concepts, Exploration and Discoveries; Special Volume 2, British Columbia and Yukon Chamber of Mines Cordilleran Roundup, January 2000.



Green, L.H. 1971

Geology of Mayo Lake, Scougale Creek and McQuesten Lake map areas, Yukon Territory (105M/IS, 1060/2, 106 D/3); Geological Survey of Canada, Memoir 357, 72 p.

Green, L H; Roddick, J A. 1972

Geology of Mayo Lake, Yukon Territory; Geological Survey of Canada, "A" Series Map 1284A.

Hart, C.J.R., McCoy, D.T., Goldfarb, R.J., Smith, M., Roberts, P., Hulstein, R., Bakke, A.A. and Bundtzen, T.K. 2002

Geology, exploration and discovery in the Tintina Gold Province, Alaska and Yukon *in* Marsh, E.E., Goldfarb, R.J. and Day, W.C. (eds.), Integrated Methods for Discovery; Global Exploration in the Twenty-First Century; Society of Economic Geologists, Special Publication Vol. 9, p. 241–274.

Hughes, O.L. 1983

Surficial geology and geomorphology, Mount Edwards, Yukon Territory; Geological Survey of Canada, Map 5-1982 (1:100,000).

Hunt, J.A., Murphy, D.C., Roots, C.F., and Poole, W.H., 1996

Geological map of Mt. Haldane area, Yukon (105M/13); Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Map 1996-4, scale 1:50 000.

Kindle, E.D. 1962

Geology Keno Hill, Yukon Territory; Geological Survey of Canada, Map 1105A.

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, Indian and Northern Affairs Canada, Bulletin 13, p.209.

Lee, W.K. 1966

Arivaca Explorations Limited, Mayo Lake Area, Yukon Assessment Report # 017476; Yukon Energy, Mines & Resources Library.

Lynch, G. 2006

Sediment-hosted disseminated gold occurrence, northeast Mayo Lake area *in* Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.), Yukon Geological Survey, pp. 327-339.

Mair, J.L., Hart, C.J.R., Stephens, J.R., 2006

Deformation history of the northwestern Selwyn Basin, Yukon, Canada: Implications for orogen evolution and mid-Cretaceous magmatism, GSA Bulletin; v. 118; no. 3/4; p. 304–323; doi: 10.1130/B25763

McIntyre, J.F. 1966

Arivaca Explorations Limited, Mayo Lake Area, Yukon, Assessment report # 017476, Yukon Energy, Mines & Resources Library.

Miles, W., Saltus, R., Haywood, N. and Oneschuck, D. In press

Alaska and Yukon regional geophysical compilation project: Residual total magnetic field (1:1,100,000); GSC Open File X.

Murphy, D.C. and Roots, C.F. 1996

Geological map of Keno Hill area, Yukon (105M/14); Exploration and Geological Services Division, Indian and Northern Affairs Canada, Map 1996-1, scale 1:50 000.

Murphy, D.C. 1997

Geology of the McQuesten River region, Northern McQuesten and Mayo Map areas, Yukon Territory (105P/14, 15, 16; 105M/B, 14); Exploration and Geological Services Division, Indian and Northern Affairs Canada; Bulletin 6, p. 122.

Rampton, V.N. and Sutherland, T.B. 2012a

Mayo Lake Minerals Inc. assessment report on the Anderson Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012b

Mayo Lake Minerals Inc. assessment report on the Carlin Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012c

Mayo Lake Minerals Inc. assessment report on the Davidson Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012d

Mayo Lake Minerals Inc. assessment report on the Edmonton Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012e

Mayo Lake Minerals Inc. assessment report on the Trail-Minto Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2013a

Mayo Lake Minerals Inc. Assessment report on the Anderson Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013b

Mayo Lake Minerals Inc. Assessment report on the Carlin Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013c

Mayo Lake Minerals Inc. Assessment report on the Davidson Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013d

Mayo Lake Minerals Inc. Assessment report on the Edmonton Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013e

Mayo Lake Minerals Inc. Assessment report on the Trail-Minto Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Roots, C. F. 1997

Geology of the Mayo Map Area, Yukon Territory (105M); Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 7, 82 p.

## Appendix A

### Statement of Qualifications

Tyrell Sutherland M.Sc., P.Geo.

Mayo Lake Minerals Inc.

P.O. Box 158, 110 Westhunt Drive

Carp, Ontario. K0A 1L0

Tel: (613) 884-8332; E-mail: [tyrell.sutherland@outlook.com](mailto:tyrell.sutherland@outlook.com)

I, T.B. Sutherland, M.Sc., do hereby certify that

- I am Vice-President of exploration of Mayo Lake Minerals Inc.
- I graduated with a B.Sc. Honors Specialization Geology, from the University of Ottawa in 2009. In addition, I have obtained an M.Sc in Geology from Queens University in 2016.
- I am a member in good standing of the Association of Professional Geoscientists of Ontario.
- I have worked as a geologist for approximately 10 years, specifically in mineral exploration, in Canada, Australia, Jamaica and China.
- I fulfill the requirements of a "qualified person" for the purposes of N.I. 43-101.
- To the best of my knowledge all data used in the preparation of the technical report titled "Final Report on the Trail-Minto and Roop-Carlin Properties Target Evaluation Module YMEP 15-015" is correct and of good quality. The technical information contained within the report was collected under my supervision and I was primarily responsible for its interpretation.
- Certain statements concerning the interpretations and discussion of the data maybe considered forward looking statements in that although conceived from the data as recorded to the best of my knowledge may prove in need of variation or changed to reflect changes or updates to the data.

Dated the 31<sup>st</sup> day of January 2020



---

Tyrell Brodie Sutherland



## Appendix B

### Statement of Expenditures

#### Cost Break Down of MLM's 2019 Backpack Drill and IP Program

		rate	Units	
Tyrell Sutherland	Senior Geologist	\$500	13	\$6,500
Mike Ives-Ruyter	Junior Geologist	\$425	13	\$5,525
Bailey Rathwell	Medic/Assistant	\$325	14	\$4,550
Daniel Chodur	Geotech	\$325	13	\$4,225
Talon Drill	Drill and Jim Coates combined rate	\$2,250	9	\$20,250
Meterage rate	Meterage rate	\$8	90	\$720
Tooling	Tooling for talon drill	\$500	3	\$1,500
Geophysics	Per line meter of IP/Resistivity	\$12	400	\$4,800
Mob/demob	Mob/demob for Cryotek	\$2,500	1	\$2,500
Assays	Fire assay and ICP-ES after aqua-regia	\$39	64	\$2,507
Helicopter TM	Helicopter	1539	5.9	\$9,080
Truck	¾ ton crew cab 4x4	\$150	13	\$1,950
Camp Day rate	Big River Camp in Mayo	\$100	65	\$6,500
Equipment rental	Spot, Mag Unit, Computers, GPS, first aid, Survival camp gear	\$50	50	\$2,500
Geophysics report	Geophysics report on IP/Resistivity unit	\$1,200	1	\$1,200
Final Report		\$2,000	1	\$2,000
Sub Total				\$76,307
Sales Taxes				\$3,582.91
Total				\$79,889.94

## **Appendix C**

### **Geophysics Report from Kryotek Arctic Innovation**

**Geophysical Surveys  
Carlin-Roop and Trail-Minto  
Quartz Exploration**

Date: October 22, 2019  
NTS Map Sheet: 105M  
UTM Zone: 08

Claim Numbers: YE25282 and YE25437

By  
Jim Coates  
Kryotek Arctic Innovation Inc.  
2180 2<sup>nd</sup> Ave  
Whitehorse, Yukon  
Y1A 5N6

For  
Tyrell Sutherland  
Mayo Lake Minerals  
Box 158  
Carp Ontario  
K0A 1L0

## Summary

The Minto Trail property is located just north of Mayo, Yukon in an active and historical placer mining area. This property straddles a intrusive contact between granodiorite and schist. Resistivity and Induced Polarization geophysics were used to determine shallow bedrock structures, isolated areas of mineralization and major bedrock contacts.

The Carlin-Roop property is located north of Mayo Lake. One geophysics survey was conducted across an inferred structure with high soil geochemistry values to determine depth to bedrock and mineralized structures within quartzite bedrock.

Kryotek Arctic Innovation Inc. conducted a total of four (4) high-resolution geophysics surveys with a total length of 0.4 km, for Mayo Lake Minerals in the Mayo areas. The survey lines were conducted throughout the property using a Lippmann 4-point Resistivity System. The surveys were conducted by James Coates and Astrid Grawehr during September of 2019.



I

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## Introduction

This geophysical surveys were conducted in 2019 to identify significant bedrock contacts and structures as well as overburden depths in preparation for a shallow drilling program using Talon backpack drills. These drills penetrate overburden and take a sample of the top of bedrock and soils just above the bedrock interface.

## Location and Access

The Trail-Minto property is located approximately 20 km east of the town of Mayo, YT. The claim block is centered at UTM Zone: 8, 0454647, 7066988. Access to the property is via the gravel Minto Lake Road, which runs alongside the property. A number of existing roads and trails cross the property and provide access for exploration activities.

The Carlin-Roop property is located near treeline on a mountainside north of the east arm of Mayo Lake. The claim block is centered at UTM Zone 8, 0502002, 7077227. Access to this site was via helicopter departing from the Mayo airport.

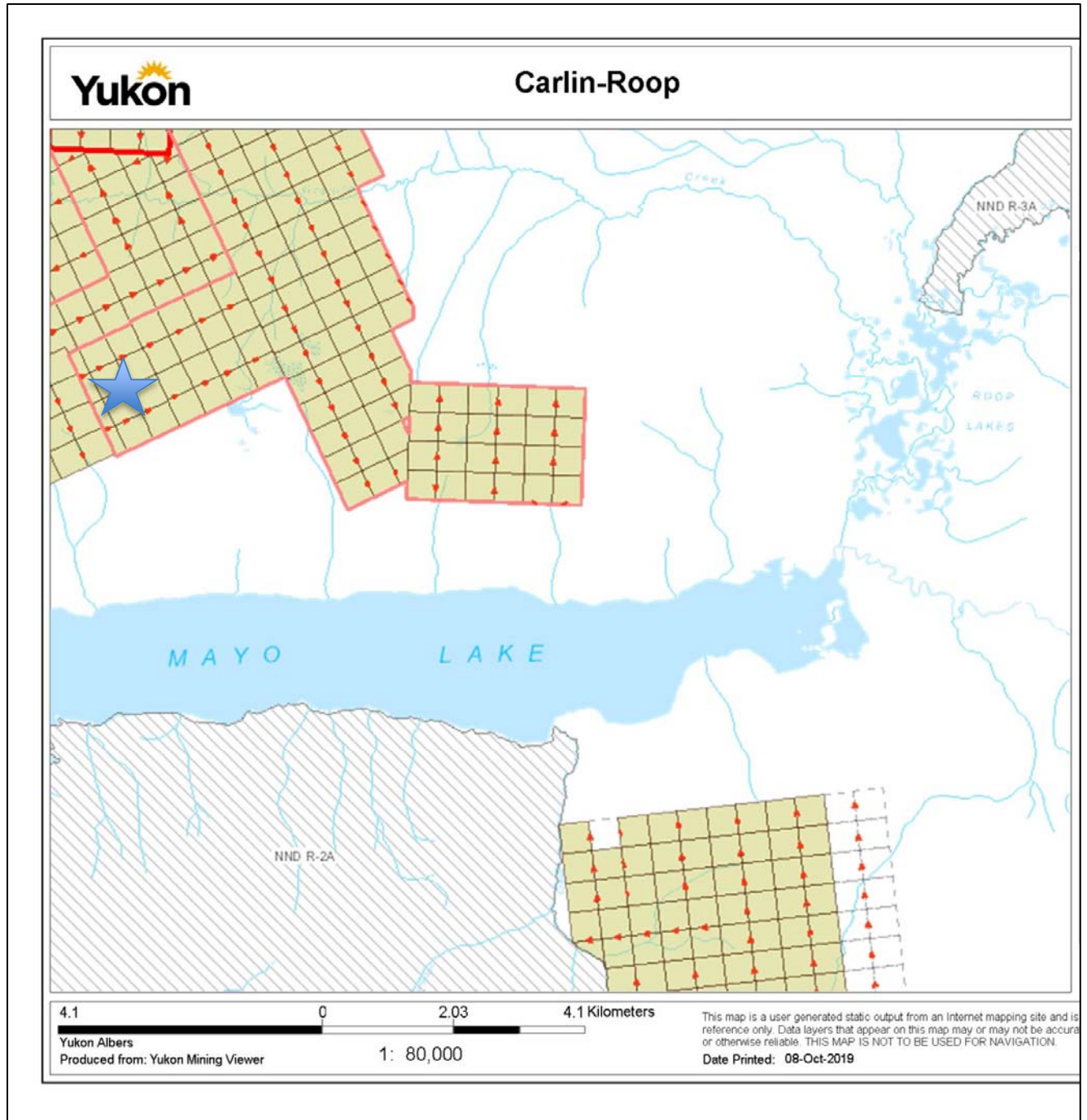


Figure 1- Location of Carlin-Roop

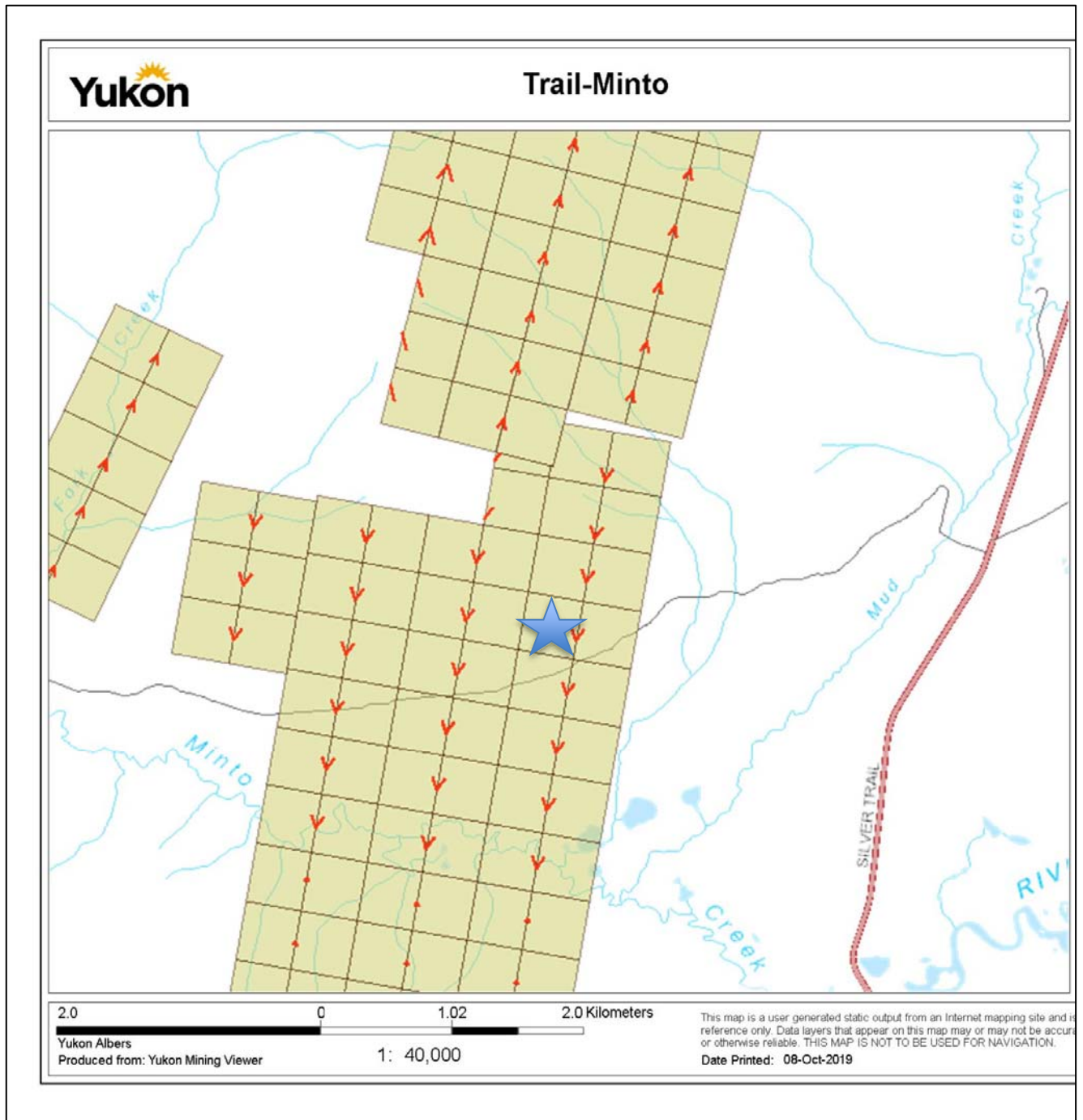


Figure 2- Location of Trail-Minto

## Physiography, Vegetation, Geology and Climate

The Mayo area is located just east of the Tintina Trench and west of the McKenzie Mountains. The town of Mayo lies at the confluence of the Mayo and Stewart Rivers. The topography is moderately rugged with slopes of up to 30° rising from the Stewart River valley floor at an elevation of 520 m to mountains well over 2,000 m. The immediate area of the Minto-Trail property consists of short steep hills and wide, U-shaped valleys striking northeast and northwest. Glaciers occupied many of the valleys in Pleistocene and Reid glaciations and deposited up to 100 m of glaciofluvial till during their retreat. This area is near the maximum extent of both Reid and McConnel glaciations. Bedrock is schist with granodiorite intrusives.

The Mayo-Carlin property is at the edge of treeline at approximately 1,500 m elevation. Alpine fir and felsenmeer boulder fields cover much of the alpine upslope. Bedrock is Keno Hill quartzite.

Till cover is thin or non-existent above the valley floor, giving way to felsenmeer and outcrop at higher elevations. The tree line is at approximately 1,100 m on north facing slopes and 1,500 m on south-facing slopes. Permafrost is extensive discontinuous, common in fine-grained valley sediments and absent in south-facing slopes.



## Methodology

Resistivity was used for this area as the electrical properties of overburden, schist bedrock, granodiorite bedrock and mineralized fault systems are distinct and easily definable. A Lippmann 4- point Resistivity System was used. This system allows over 100 m of depth penetration.

This survey used 1, 2.5 and 5 m electrode spacing in a combined Wenner-Schlumberger array format.

Data was collected and inverted using AGI Earth Imager 2D software. Noisy data points and electrodes with poor contact resistance were removed and data was filtered for spikes or depressions in resistivity. The software produced two- dimensional tomograms using a smoothed, least squares damped and robust inversion parameters. Preliminary interpretations were conducted on the processed data.

## DC Electrical Resistivity Tomography

This technique injects a direct electrical current into the ground surface, and then measures the voltage that remains at a number of distances from the injection point. As different soils have different resistances to electrical current, a tomogram (subsurface diagram) of resistivity can be produced.

## Earth Imager 2D Software

Earth Imager 2D software (Advanced Geosciences Inc.) was used to invert and process the geophysics data. This software produces two-dimensional tomograms of resistivity data. The images were processed using both smoothed and robust inversion parameters in order to clarify transitions between material types as well as resistivity properties of those materials.

## Data Interpretation

The images were interpreted by James Coates and features such as thawed regions, ice-rich permafrost, competent bedrock, degraded bedrock and top of bedrock contours were identified. James Coates has thirteen years of experience performing over 5,000 geophysics surveys commercially for the engineering and exploration industries and academically at the doctoral level.

These are preliminary interpretations. The Mayo area is a unique landscape with complex and poorly understood surficial and bedrock geology. Best efforts were made to identify ground material types based on surface exposure, borehole and test pit data as well as experience in the area.

Interpretations are subjective and highly dependent on the experience of the interpreter. General principles and assumptions followed in the interpretation are as follows:

1. Fine-grained materials over 600 Ohm/m are generally frozen.
2. Frozen gravels and ice-rich materials have much higher resistivity (up to 100,000 Ohm/m).
3. Frozen granite bedrock (as well as granite boulders) has a relatively low resistivity, similar to the thawed overburden in the area. There is little difference between frozen and thawed granite.
4. Frozen schist can have a very high resistivity due to the presence of interstitial water.
5. High-induced polarization chargeability in bedrock can indicate mineralization and faulting.
6. Low induced polarization chargeability in bedrock appears to indicate massive buried ice.
7. Low resistivity can indicate thawed and saturated areas.
8. Contrasts between resistivity readings indicate transitions between materials and are more important than absolute values.
9. Resistivity is the primary tool. IP sections are only provided when it provides insights in addition to the findings from resistivity data. As a result, only resistivity images will be labeled, with supplementary information on the IP sections where relevant.

## Limitations

The electrical resistivity and induced polarizations method provide an estimate of subsurface conditions only at the specific locations where lines were conducted and only to the depths penetrated, and within the accuracy of the method. Data gathered represents a hemispherical cross-section extending downwards from the surface. Results are more accurate closer to the surface and become more general with increasing depths. The presence of permafrost is a major complicating factor and can cause changes in resistivity of up to several orders of magnitude.

These data are indirect and the interpreted features subjective in nature, with identified anomalies based on a visual assessment of the characteristic signatures in the data coupled with information from nearby boreholes and test pits.

Interpretation is largely based on the experience of the operator with the specific equipment and terrain types. Certain material types can be very similar in resistivity, resulting in ambiguous results.

## Geophysical Disclaimer

Subsurface information shown on these drawings was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed, and it is not to be construed as part of the plans governing construction of the project. It is the client's responsibility to inquire of the owner if additional information is available, to make arrangements to review the same prior development to conduct whatever site investigation or testing may be required, and to make their own determinations as to all subsurface conditions.

James Coates and Kryotek Arctic Innovation Inc. accept no liability whatsoever for any use or application of this information by any and all authorized or unauthorized parties.

This is a preliminary report with limited analysis. Complete analysis and detailed interpretation of each geophysics image has not been conducted. This report should serve only as a guide to understanding ground conditions surrounding boreholes and/or test pits and is not to be used for planning or construction purposes.

## Geophysical Survey Locations

Waypoint	Northing	Easting
MLM 1 Start	0454647	7066988
MLM 1 End	0454562	7066977
MLM 2 Start	0454564	7066978
MLM 2 End	0454471	7066968
MLM 3 Start	0454475	7066973
MLM 3 End	0454389	7066977
MLM 5 Start	0501941	7077165
MLM 5 End	0502002	7077227

Table 1. GPS Co-ordinates for geophysical lines

## Geophysical Results

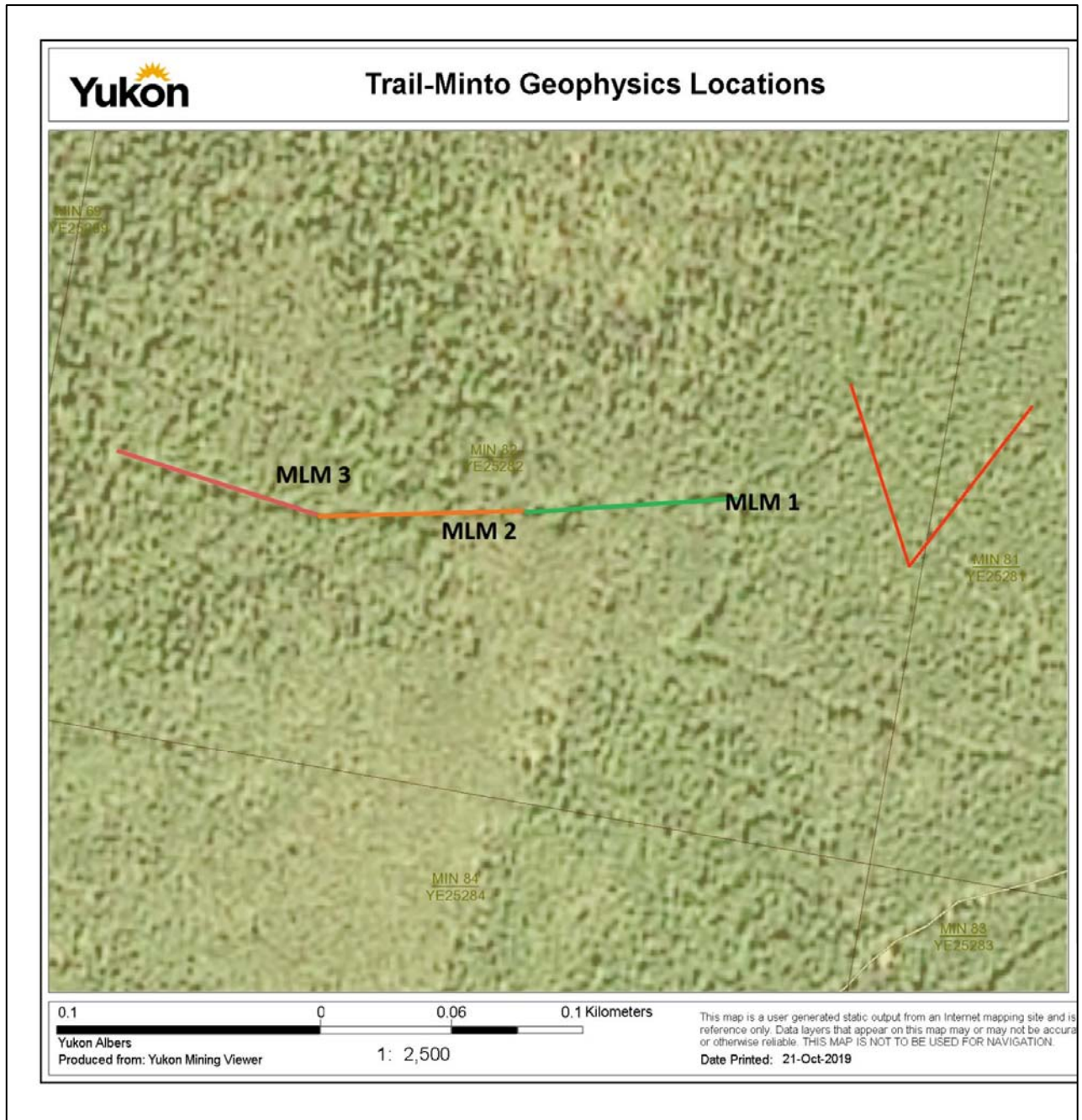
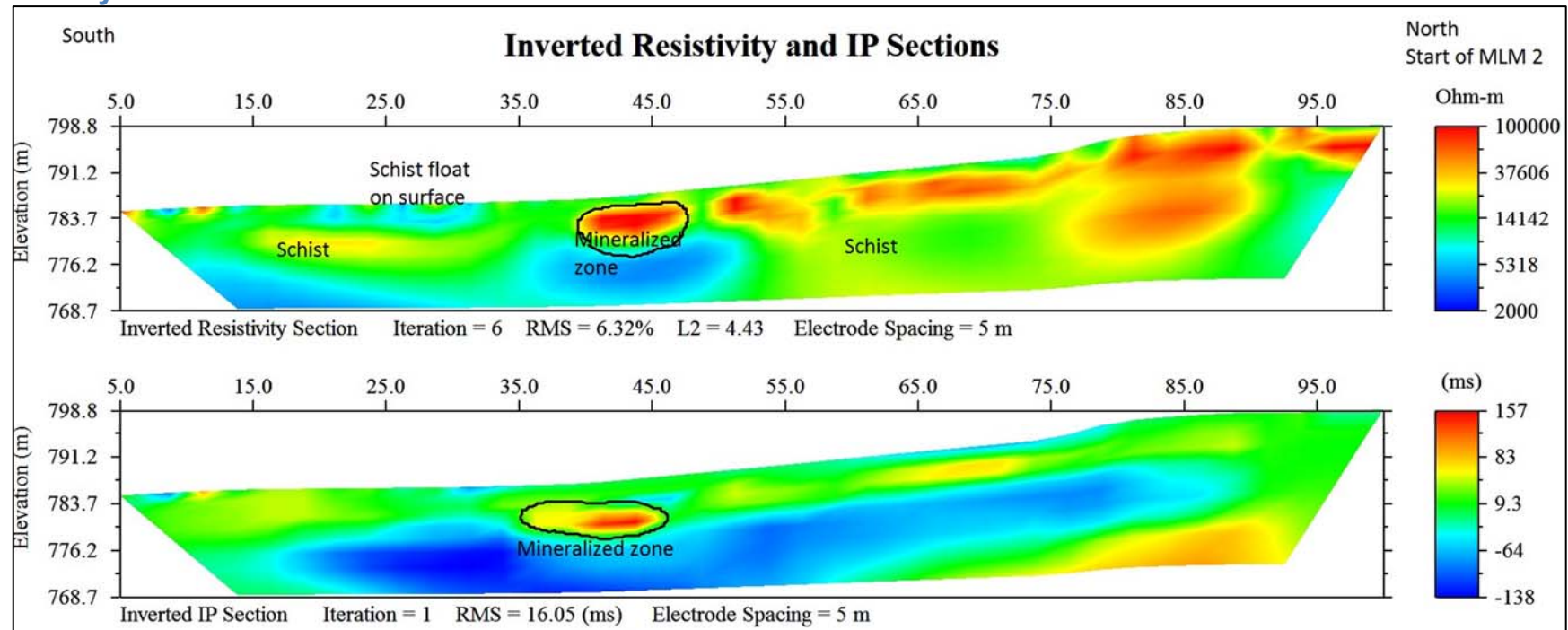


Figure 3- Location of Resistivity Surveys on Trail-Minto, Mayo, Yukon



## Survey MLM1

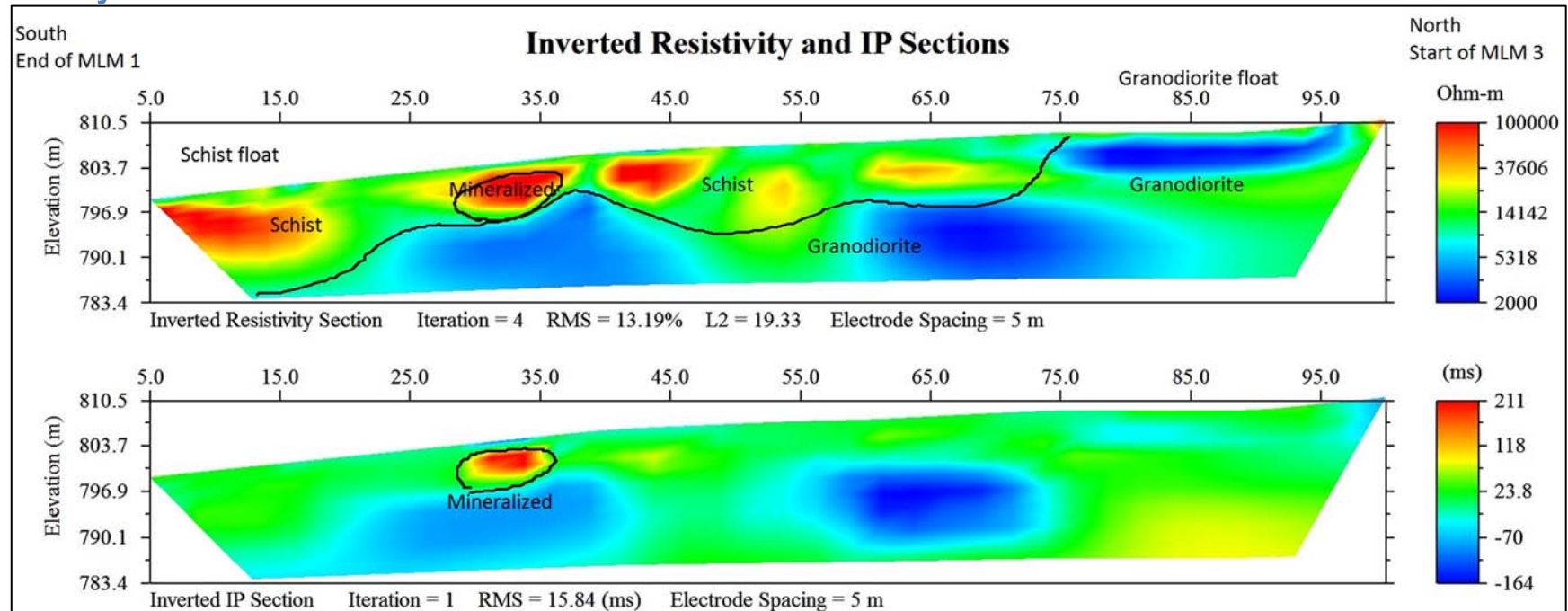


This survey runs along an old access trail that traverses a hillside with a gradient of 10-15 degrees. The object of this survey was to determine the contact between schist and granodiorite bedrock using a series of three 100m long surveys. The upper image is an electrical resistivity survey and lower image is induced polarization conducted concurrently in the same location. In the resistivity image the bedrock is approximately 8-14kOhm (green to light blue). This is consistent with schist. The near-surface high-resistance linear area in yellow and orange roughly 5 m deep and from 35-100 m on the horizontal scale may be quartz or deeply weathered bedrock. This induced polarization survey shows what is likely structurally controlled moderately high and low laminarly sequenced layers approximately 10 m thick. The IP also shows a zone of extremely high chargeability (circled and labelled as a mineralized zone) approximately 10 m wide and at 5-10 m



depths. This is consistent with mineralized quartz. This feature is also identified in the resistivity image as a high resistivity feature consistent with a mineralized quartz body.

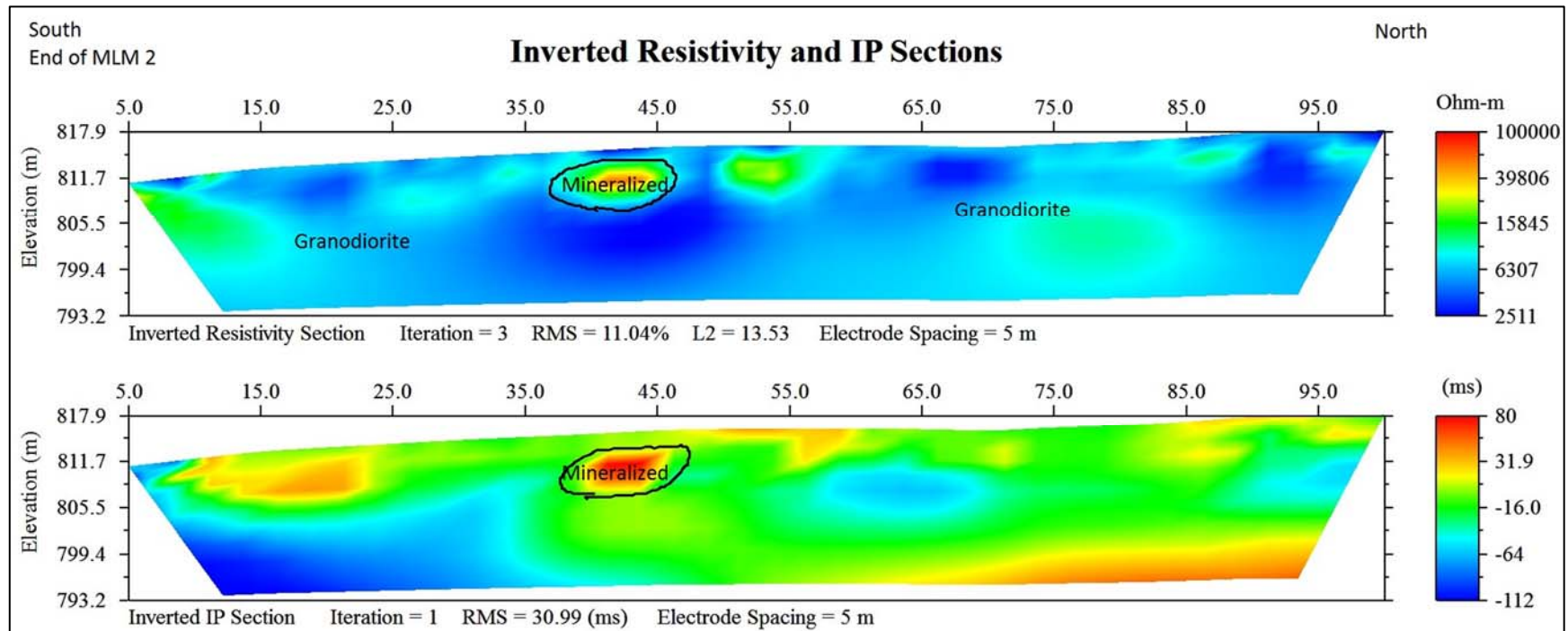
## Survey MLM 2



This survey is an extension of MLM 1, continuing up the access trail. The 7-14kOhm schist is consistent across the upper 10 m of the image with several large, lower resistivity zones (blue) consistent with granodiorite intrusive rock below 10 m depths. These are present as isolated bodies in the center of the survey, extending to surface at 75m on the horizontal scale. This is consistent with drilling and observation of colluvial granodiorite boulder float on the surface. The inferred contact between schist and granodiorite has been identified with a black line. The red high resistivity near-surface areas continue from ML 1. This may be remnant permafrost in cracks within decomposed bedrock or quartz bodies.

The lower induced polarization survey shows low chargeability regions (blue) that overlap with the low resistivity areas in the upper image. These are likely granodiorite bodies within the schist with very low mineralization. At 2-8 m depth and 30-35 m on the horizontal scale an area of extremely high chargeability has been circled. This is very similar to that identified on MLM 1 and corresponds to an extremely high resistivity anomaly. This is likely a highly mineralized quartz body.

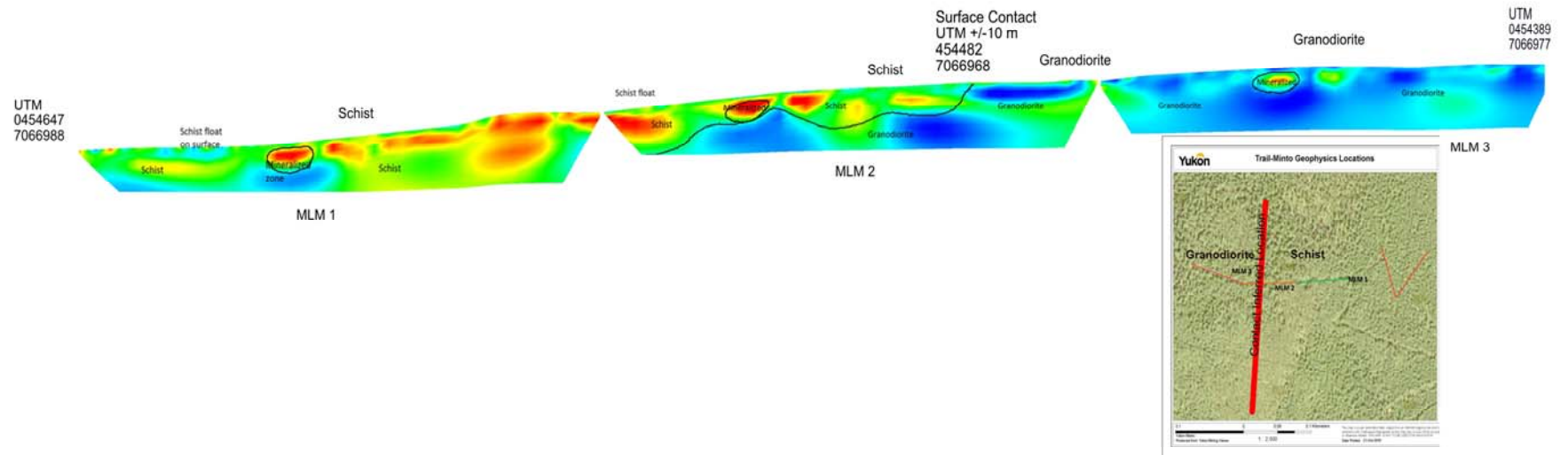
## Survey MLM 3



This survey is a continuation of MLM 2 upslope on the access trail. This survey shows low resistance granodiorite across almost the entire survey. Isolated areas of higher resistance may be schist at the edge of the granodiorite intrusion.

The IP survey shows similar a similar high chargeability zone (circled) at 3-6 m depth and 32-47 m on the horizontal scale as was seen in MLM 1 and 2 that corresponds to a high resistivity structure in the upper image (circled). This is likely a mineralized quartz zone.

## Overview of MLM 1-3 showing Granodiorite/Schist Contact





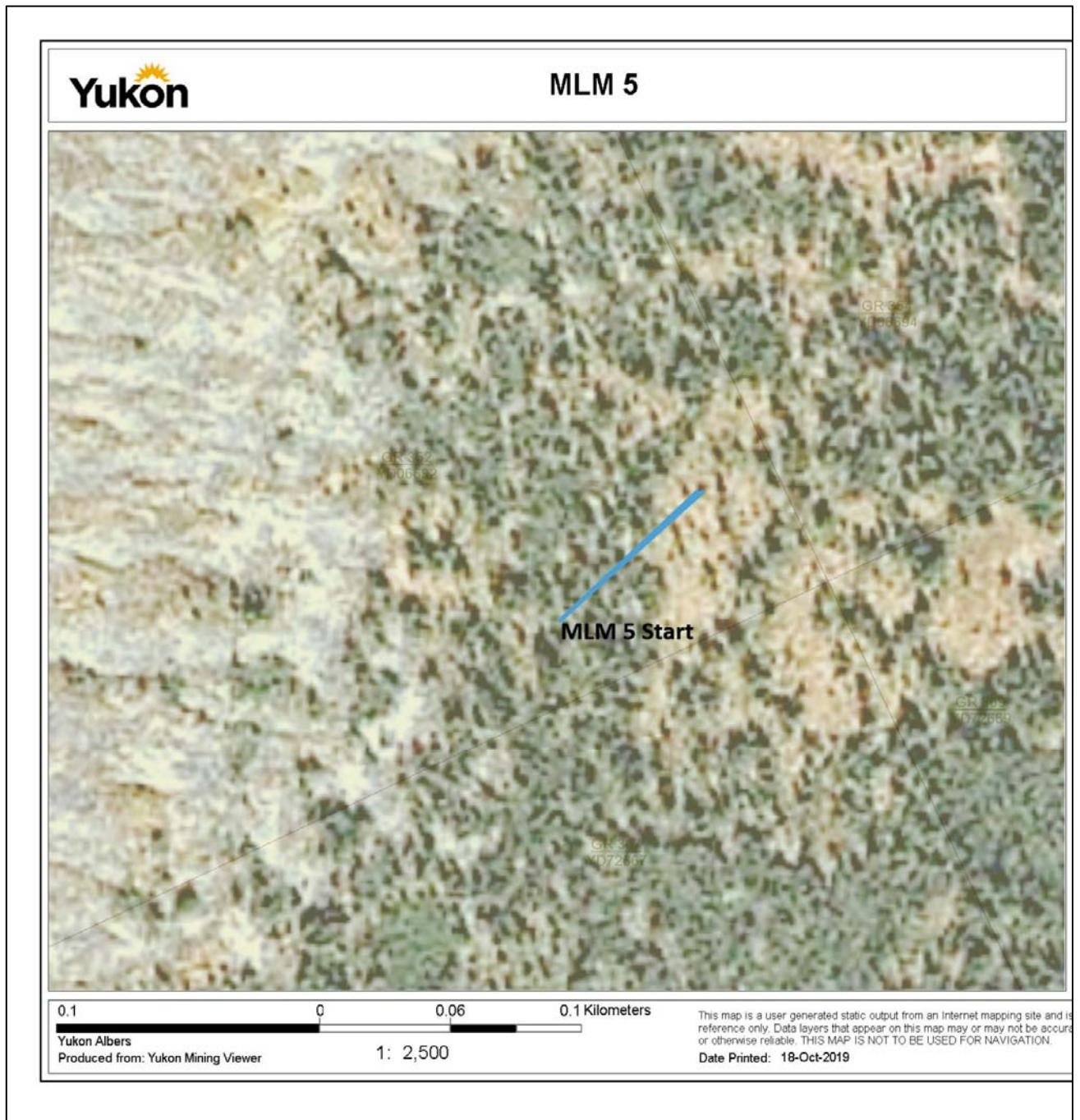
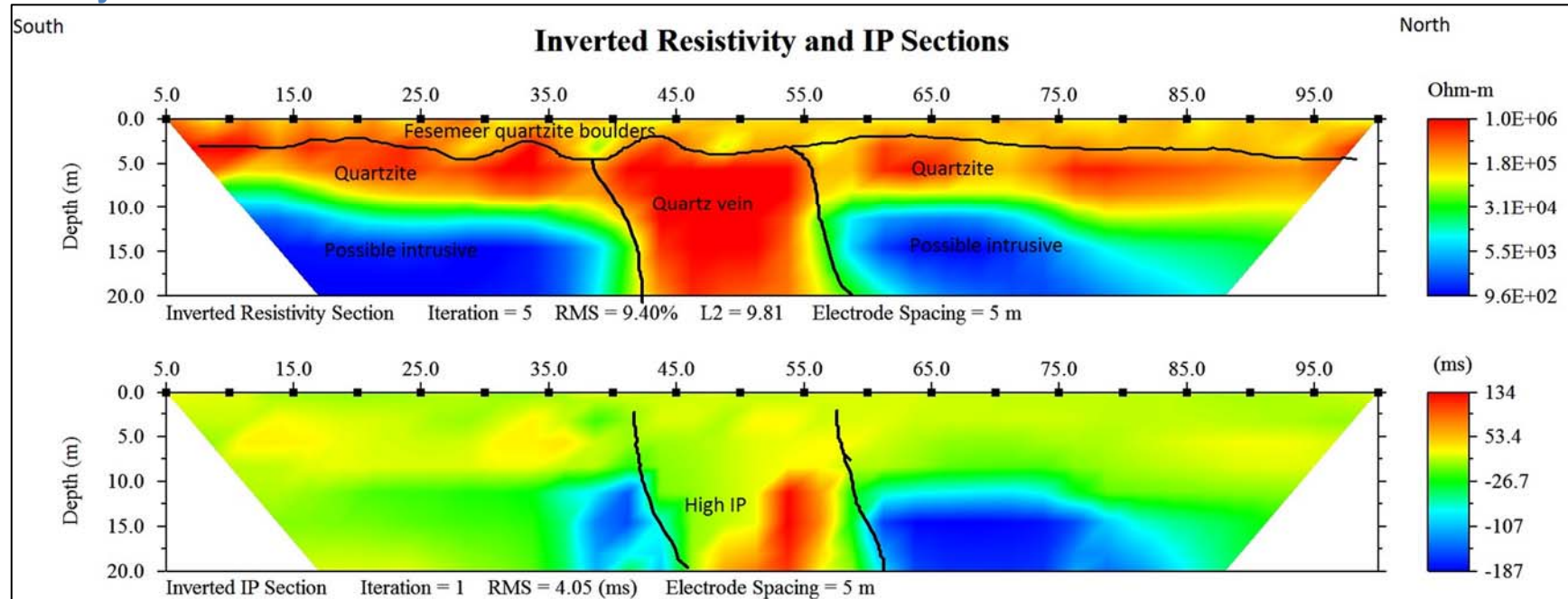


Figure 4. Location of MLM 5.



## Survey MLM 5



This survey was conducted on the Roop-Carlin property over an area of anomalously high silver soil sample results. The survey runs south to north across the anomaly, which was centered at 50 m on the horizontal scale. The resistivity survey shows a strong vertical high resistivity structure 10-15 m in width extending from near surface (2-3 m depths) to at least 20 m depths. This is consistent with the resistivity of a quartz vein. High near-surface resistivities across the top 7m of survey are likely flat-lying Keno Hill quartzite with a layer of felsenmeer quartzite boulders mixed with frozen soil in the upper 2-5 m. The inferred contact with competent bedrock is identified with a dashed line. Below 10 m depths the bedrock resistivity decreases dramatically. This may be the lower limit of surface weathering, where cracks in the quartzite are filled with ice, or it may be a transition into a lower resistance intrusive rock type.

The Induced Polarization survey shows similar results to the resistivity. The inferred mineralized vein has extremely high IP values of 134 ms (E). This is consistent with high metal content within quartz veins. The IP shows the same vertical vein



structure with high IP surrounded by extremely low IP host rock. This is an excellent target for drilling or a more extensive and deeper geophysics program.

## Conclusions and Recommendations

Surveys MLM 1-3 delineated the contact between schist and intrusive granodiorite. This was confirmed by identifying the transition from schist to granodiorite float on the surface. IP showed a number of 3-5 m thick by 10 m wide high chargeability anomalies that corresponded with high resistivity anomalies. These may be mineralized quartz zones.

Survey MLM 5 showed a resistivity and IP anomaly consistent with a highly mineralized vertical quartz vein 10-15 m wide and centered under an area of anomalously high silver soil samples.

## Statement of Qualifications

### **James Coates**

I, James Coates of Whitehorse, Yukon, Canada DO HEREBY CERTIFY THAT:

1. I am a Consulting Geomorphologist in Whitehorse, Yukon, Canada, Y1A 6C4.
2. I am a graduate of the University of Calgary (B.Sc., 2004, Geography) and the University of Ottawa (M.Sc., 2008, Geography), University Laval PhD (Deferred, 2011).
3. I have practiced my Profession as a Geomorphologist continuously since 2008.
4. I am a former Placer Geological Technician with the Yukon Geological Survey and Co-Author of the Yukon Placer Atlas.
5. I am a specialist in the use of Electrical Resistivity Tomography for placer gold exploration.

### **Astrid Grawehr**

I, Astrid Grawehr of Whitehorse, Yukon, Canada DO HEREBY CERTIFY THAT:

1. I am a practicing geoscience technician with approximately 3,000 hours of field experience.
2. I am a geophysics technician with over 1,000 hours of field time conducting resistivity/IP surveys.
3. I am a graduate of Bishop's University (B.A. Geography, 2008).
4. I am Director of Operations of Kryotek Arctic Innovation Inc.

## **Appendix D**

### **Drill hole Locations and Sample Analysis**

Hole	Type	Depth	SampleNum	Permafrost	Comments	Geo	Date	Easting	Northing	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn
Cr-001	Overburden		1901015	yes		M_Ives-Ruyter	2019-09-18T15:42:12.001	501973	7077197	Rock	0.44	6	-3	2	6	27.5	38.3	109	4.9	16.7	6.5	228
Cr-001	Bedrock	2.5	1901016	yes		M_Ives-Ruyter	2019-09-18T15:42:12.001	501973	7077197	Rock	0.3	4	4	4	5.7	24.3	29.8	70	6.9	21.1	7	181
Cr-002	Overburden		1901017	yes		M_Ives-Ruyter	2019-09-18T15:42:12.001	501974	7077198	Rock	0.68	4	-3	-2	5	21.1	11.8	61	1.8	13.8	7.2	150
Cr-002	Bedrock	2.1	1901018	yes		M_Ives-Ruyter	2019-09-18T15:42:12.001	501974	7077198	Rock	0.25	5	-3	-2	5.8	37	18.7	105	2	26.9	7.2	199
Cr004	Bedrock	2.6	1888182	Yes	While drilling hole	M_Ives-Ruyter	2019-09-23T13:43:39.883	501977	7077202	Rock	0.48	5	-3	2	4.3	32.2	33.4	106	4.3	26.2	7.5	294
Cr004	Bedrock	2.6	1888183	Yes	Bottom of hole	M_Ives-Ruyter	2019-09-23T13:49:07.829	501977	7077202	Rock	0.27	5	-3	2	4.5	34.1	40.2	109	5.8	27.6	7.8	301
Cr005	Bedrock	1.6	1888184	Yes	Bottom of hole	M_Ives-Ruyter	2019-09-23T14:01:09.430	501975	7077200	Rock	0.12	6	-3	-2	3.6	31.5	58.3	102	9.6	30.7	8.8	415
Cr006	Bedrock	1.8	1888185	Yes	Bottom of hole	M_Ives-Ruyter	2019-09-23T14:26:10.683	501980	7077203	Rock	0.21	7	-3	-2	5.1	29.5	33.6	78	4.2	44.6	7.8	352
Cr007	Bedrock	2.5	1888186	Yes	Drilling of hole	M_Ives-Ruyter	2019-09-23T15:13:43.182	501971	7077195	Rock	0.32	6	-3	4	1.5	28.1	56.9	278	10.4	17	20.7	329
Cr007	Bedrock	2.6	1888187	Yes	Bottom of hole	M_Ives-Ruyter	2019-09-23T15:28:36.001	501971	7077195	Rock	0.14	7	3	3	5.5	36.9	29.1	174	4.1	41.1	6.3	302
Cr008	Bedrock	1.8	1888188	Yes	Drilling of hole	M_Ives-Ruyter	2019-09-23T16:24:16.211	501984	7077180	Rock	0.34	12	-3	-2	2.2	42.1	21.9	117	2.4	21.6	10	345
Cr008	Bedrock	2	1888189	Yes	Bottom of hole	M_Ives-Ruyter	2019-09-23T16:25:26.025	501984	7077180	Rock	0.27	6	-3	2	2.4	51.7	20.4	123	2.3	24.2	10.8	411
CR009	Bedrock	1	1888194			T_Sutherland	2019-09-23T15:10:33.798	501991	7077229	Rock	0.3	8	-3	4	1.5	23.6	58.9	91	8.3	15.7	6.8	426
CR010	Bedrock	1	1888195	No		T_Sutherland	2019-09-23T13:21:59.710	501943	7077169	Rock	0.16	6	-3	4	2.3	24.7	16.5	69	0.7	20.8	8.9	353
CR011	Overburden	1.3	1888196	No	gossan chips, bedro	T_Sutherland	2019-09-23T13:27:18.637	501952	7077177	Rock	0.28	15	-3	3	1.7	40.2	31.5	151	14.5	25.7	11.9	374
CR012	Overburden	1	1888197	Yes	no rock, pos frost b	T_Sutherland	2019-09-23T13:35:09.889	501955	7077187	Rock	0.18	8	-3	3	2.1	37	67	172	34.1	25.1	9.1	355
CR013	Bedrock	1.3	1888198	Yes	bedrock at 1.4	T_Sutherland	2019-09-23T13:41:18.621	501962	7077195	Rock	0.34	7	-3	6	1.7	26.2	27.8	142	8.2	21.4	8.6	303
CR014	Bedrock	1.5	1888199	Yes	bedrock at 1.3. crea	T_Sutherland	2019-09-23T14:00:49.313	501974	7077210	Rock	0.28	11	-3	7	1.7	43.4	72.5	126	14.4	22.8	10.4	410
CR014	Bedrock	1.5	1888199		Lab Rep			501974	7077210	REP					1.6	43.7	71.8	126	14.3	22.7	10.6	408
CR015	Bedrock	1.1	1888200	Yes	white powder at ba	T_Sutherland	2019-09-23T14:28:52.987	501982	7077222	Rock	0.16	6	-3	-2	1.8	31.4	52.6	91	7.9	18	7.8	354
Grab	Overburden	0	1901019	No	float banded limoni	T_Sutherland	2019-09-23T16:44:50.785	501710	7077374	Rock	1.45	5	-3	3	0.5	98.9	8.6	228	0.3	24	10.9	247
Grab	Overburden	0	1901020	No	float sample from B	T_Sutherland	2019-09-23T16:28:53.679	501786	7077345	Rock	0.66	3	-3	-2	0.3	18.7	4.1	60	2.2	4.7	0.8	46
TM008B	Bedrock	2	1888283	Yes		M_Ives-Ruyter	2019-09-21T10:03:33.394	454333	7067852	Rock	0.41	5	-3	3	1.1	39.8	14.4	67	-0.1	31.2	12.4	568
TM009	Bedrock	3	1888284	Yes		M_Ives-Ruyter	2019-09-21T10:06:22.814	454396	7067845	Rock	0.42	7	-3	2	1.3	36.1	13.1	59	-0.1	29.1	11.2	519
TM010	Bedrock	2.5	1888285	Yes		M_Ives-Ruyter	2019-09-21T10:52:44.082	454455	7067831	Rock	0.39	7	-3	6	1.4	36.1	12.4	61	-0.1	28.7	11.1	563
TM011	Bedrock	2	1888286	Yes		M_Ives-Ruyter	2019-09-21T11:28:18.803	454510	7067811	Rock	0.31	5	-3	5	1.6	24.2	11.2	49	0.1	22.8	7.3	398
TM012	Bedrock	2.8	1888287	Yes		M_Ives-Ruyter	2019-09-21T13:26:37.930	454579	7067809	Rock	0.34	4	-3	-2	2.7	39	12.1	57	-0.1	33.4	9.7	500
TM012	Bedrock	2.8	1888287		Lab Rep			454579	7067809	REP		6	-3	-2								
TM013	Bedrock	2.5	1888288	Yes	Cobbles in surface t	M_Ives-Ruyter	2019-09-21T14:34:27.078	454626	7067802	Rock	0.33	5	3	-2	2.9	31.3	13.5	55	0.1	30.6	11.2	587
TM014	Bedrock	2.8	1888289	Yes		M_Ives-Ruyter	2019-09-21T15:17:57.703	454701	7067789	Rock	0.4	8	-3	-2	2.5	47.8	13.4	62	0.3	32.6	13	752
TM015	Bedrock	2.9	1888290	Yes		M_Ives-Ruyter	2019-09-21T15:50:09.213	454746	7067786	Rock	1.28	9	-3	-2	1	31.1	13.5	59	-0.1	26.3	11.2	535
TM016	Bedrock	2.5	1888291	Yes	Graphitic colour in d	M_Ives-Ruyter	2019-09-22T12:06:18.772	454815	7067773	Rock	0.33	12	-3	5	2.1	39.3	14.2	71	-0.1	39.6	13.2	632
TM017	Bedrock	3.5	1888292	Yes		M_Ives-Ruyter	2019-09-22T13:11:41.742	454880	7067759	Rock	0.56	11	3	-2	1.5	32.5	13.2	65	-0.1	32.4	11.8	541
TM018	Bedrock	2	1888293	Yes		M_Ives-Ruyter	2019-09-22T13:20:00.889	454935	7067745	Rock	0.52	7	-3	-2	1.1	19.1	11	48	-0.1	20.2	10.7	595
TM019	Bedrock	4	1888294	Yes		M_Ives-Ruyter	2019-09-22T13:58:54.029	454990	7067740	Rock	0.2	9	-3	4	4.6	37.2	13.6	57	-0.1	47.1	12	507
TM020	Bedrock	2	1888295	Yes		M_Ives-Ruyter	2019-09-22T14:40:14.953	455046	7067735	Rock	0.22	5	-3	-2	2.3	29.2	10.3	46	0.1	28.4	9.6	533
TM021	Bedrock	2.1	1888296	No	Graphite	M_Ives-Ruyter	2019-09-22T15:05:46.557	455106	7067727	Rock	0.27	7	-3	-2	1.8	36.2	12.7	63	0.1	38.8	12.1	522
TM021	Bedrock	2.1	1888296		Lab Rep			455106	7067727	REP					1.7	36.6	12.7	65	0.1	38.2	11.5	488
TM022	Bedrock	2.2	1888297	yes	Oxidised qtz chips	M_Ives-Ruyter	2019-09-22T15:46:20.636	455165	7067718	Rock	0.32	4	-3	-2	2	23.6	12.2	49	-0.1	28.1	9.1	832
TM023	Bedrock	2	1901021	No		M_Ives-Ruyter	2019-09-24T10:25:39.890	454984	7066909	Rock	0.45	5	-3	-2	1.7	27.4	9.7	45	0.1	25.5	8.6	419
TM024	Bedrock	1.8	1901022	No	Drilling hole	M_Ives-Ruyter	2019-09-24T10:47:07.533	454920	7066907	Rock	0.18	3	-3	-2	1.3	20.5	9.4	41	-0.1	22.5	7.1	323
TM024	Bedrock	2.8	1901023	No	Bottom of hole	M_Ives-Ruyter	2019-09-24T11:03:52.860	454921	7066898	Rock	0.44	6	-3	2	1.5	30.3	10.4	52	-0.1	28.1	9.4	422
TM025	Bedrock	1.8	1901024	No	Drilling of hole	M_Ives-Ruyter	2019-09-24T11:40:01.841	454863	7066906	Rock	0.16	4	-3	-2	1.8	27.7	10.5	49	-0.1	26.6	10.8	558
TM025	Bedrock	2	1901025	No	Bottom of hole	M_Ives-Ruyter	2019-09-24T11:40:58.219	454864	7066906	Rock	0.27	5	-3	-2	1.6	25.8	9.2	50	-0.1	28.1	10.2	523
TM026	Bedrock	1.8	1901026	No	Near bottom	M_Ives-Ruyter	2019-09-24T12:12:58.183	454796	7066931	Rock	0.18	14	-3	4	2.2	36.6	12.2	69	-0.1	38.2	13.6	618
TM027	Bedrock	1.5	1901027	No		M_Ives-Ruyter	2019-09-24T14:03:23.774	454735	7066939	Rock	0.33	5	-3	3	2	26.6	10.4	40	-0.1	26.1	8.6	408
TM028	Bedrock	2.5	1901028	No		M_Ives-Ruyter	2019-09-24T14:45:11.378	454696	7066947	Rock	0.31	4	-3	5	1.4	49.1	11.6	88	-0.1	42.2	17.6	1053
TM029	Bedrock	1.5	1901029	No	Drilling hole	M_Ives-Ruyter	2019-09-25T10:20:40.365	454628	7066976	Rock	0.27	5	-3	-2	1.1	23.5	12.3	48	0.3	21	8.6	364
TM030	Bedrock	1.3	1901031	No	Drilling hole.	M_Ives-Ruyter	2019-09-25T10:43:45.945	454561	7066969	Rock	0.25	4	-3	2	0.8	20.2	7.8	69	-0.1	15.2	6.7	302
TM030	Bedrock	1.5	1901032	No	Bottom of hole. Qtz	M_Ives-Ruyter	2019-09-25T10:44:44.263	454562	7066961	Rock	0.32	3	-3	3	1.3	25.4	18.2	165	0.2	22.7	9.6	420
TM031	Bedrock	1.6	1901033	No	Bottom of hole. Fre	M_Ives-Ruyter	2019-09-25T11:08:20.474	454508	7066975	Rock	0.26	4	-3	5	1	17	14.8	76	0.2	15.3	5	269
TM032	Bedrock	1.5	1901034	No	Bottom of hole. Gra	M_Ives-Ruyter	2019-09-25T11:42:56.082	454440	7066971	Rock	0.16	3	-3	-2	0.9	4.6	23.8	94	0.2	3.8	1.2	190
TM033	Bedrock	0.5	1901035	No	Collapsing hole	M_Ives-Ruyter	2019-09-25T12:10:13.595	454364	7066989	Rock	0.21	3	-3	4	0.6	4.8	22.2	86	0.2	5.4	2.1	160
TM-001	Basal Till	1.2	1888221	No	first hole	T_Sutherland	2019-09-17T15:42:12.001	455023	7066891	Rock	0.33	5	-3	6	1.5	31	12.2	51	-0.1	22.6	9.7	437
TM-002	Basal Till	2.8	1888222	No		T_Sutherland	2019-09-17T16:30:16.907	455099	7066869	Rock	0.15	5	-3	3	1.7	21.7	10.3	43	-0.1	17.2	8	441
Tm-003	Overburden	1.8	1888276	Yes		M_Ives-Ruyter	2019-09-20T11:18:29.659	452407	7067609	Rock	0.17	3	-3	3	2.2	28.9	10.7	54	0.1	30.5	10.4	463
Tm-003	Bedrock	2.2	1888277	Yes			2019-09-20T11:19:32.183	452409	7067610	Rock	0.16	4	-3	-2	1.3	28.1	11.9	58	-0.1	27.9	10.4	463
Tm-004	Bedrock	2.3	1888278	Yes		M_Ives-Ruyter	2019-09-20T11:31:19.695	452347	7067614	Rock	0.2	4	-3	5	2.5	39.4	15.5	62	0.1	26.9	11.4	422



Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
2.3	38.8	2.7	4.5	14	0.4	2.5	0.1	19	0.1	0.051	16	47	0.18	64	0.015	1	0.94	0.013	0.06	18.7	-0.01	1.6	-0.1	-0.05	3	-0.5	-0.2
2.15	27.5	-0.5	1.4	10	0.2	1.8	0.1	16	0.06	0.035	10	43	0.13	53	0.013	-1	0.73	0.023	0.05	30.5	-0.01	1	-0.1	-0.05	2	-0.5	-0.2
1.59	16.9	2.1	3.9	11	0.2	1.3	-0.1	15	0.08	0.033	12	40	0.15	52	0.013	-1	0.79	0.055	0.05	43.4	-0.01	1.3	-0.1	0.05	2	-0.5	-0.2
2.51	33.8	1.7	6	16	0.5	2.1	0.2	22	0.11	0.05	15	47	0.22	75	0.019	-1	1.14	0.066	0.08	21.4	-0.01	2.2	-0.1	0.06	3	-0.5	-0.2
2.81	32.4	4.8	5.2	21	0.6	2.5	0.1	30	0.13	0.06	19	44	0.25	101	0.021	1	1.37	0.031	0.1	9.3	0.02	2.6	-0.1	-0.05	4	-0.5	-0.2
2.7	33.3	3.5	4.6	18	0.6	2.8	0.1	28	0.12	0.06	18	43	0.24	95	0.02	1	1.25	0.028	0.09	10.7	0.01	2.5	-0.1	-0.05	3	-0.5	-0.2
3.63	31.4	6.9	4	29	0.7	3.1	0.2	41	0.17	0.067	21	46	0.38	138	0.029	2	1.82	0.032	0.14	6.6	0.03	2.9	-0.1	-0.05	5	1	-0.2
2.98	22.7	0.7	6.2	31	0.7	2.5	0.1	32	0.18	0.077	21	58	0.28	126	0.019	2	1.64	0.047	0.12	7.8	0.02	2.6	-0.1	-0.05	4	-0.5	-0.2
3.61	90.6	3	3.3	21	0.7	2.6	0.2	39	0.14	0.082	20	35	0.36	101	0.024	1	1.63	0.018	0.1	64	-0.01	2.4	0.1	-0.05	5	0.8	-0.2
3.72	50.4	2.2	5.1	25	0.4	2.3	0.1	31	0.15	0.062	20	58	0.25	116	0.021	2	1.46	0.028	0.13	8	0.01	2.3	-0.1	-0.05	4	-0.5	-0.2
2.96	36	3	9.6	29	0.7	3.9	0.2	39	0.19	0.089	26	35	0.35	125	0.032	1	1.79	0.024	0.11	4.4	0.02	3.4	-0.1	-0.05	4	0.6	-0.2
3.07	37.7	-0.5	9.8	29	0.8	4.4	0.2	40	0.2	0.096	26	37	0.35	130	0.038	1	1.76	0.024	0.12	4	0.02	3.5	0.2	-0.05	4	0.7	-0.2
2.76	27.5	7.9	3.9	23	0.7	3.3	0.2	38	0.28	0.071	19	30	0.38	109	0.037	2	1.51	0.033	0.1	1	0.02	2.7	-0.1	-0.05	4	0.7	-0.2
3	26.2	8.1	1.7	17	0.5	2.3	0.2	41	0.12	0.064	16	34	0.31	121	0.027	2	1.51	0.034	0.12	14.3	0.03	1.9	0.1	-0.05	5	-0.5	-0.2
3.68	55.6	33.1	7	23	0.8	3.9	0.2	41	0.15	0.087	24	32	0.37	126	0.03	2	1.87	0.023	0.11	2.9	0.04	3.3	0.1	-0.05	5	1.2	-0.2
4.02	71.6	7.1	5.3	26	0.8	3.9	0.2	39	0.16	0.084	24	35	0.33	127	0.028	2	1.71	0.027	0.13	1.3	0.03	2.7	0.1	-0.05	5	1	-0.2
3.06	44.8	5.8	4.7	17	0.6	2.8	0.2	33	0.12	0.075	18	30	0.31	95	0.025	1	1.43	0.023	0.08	5.6	0.03	2.4	-0.1	-0.05	4	0.6	-0.2
3.19	37.4	6.1	6.9	24	0.8	3.6	0.2	45	0.18	0.092	22	37	0.38	125	0.036	2	1.8	0.024	0.12	1.6	0.03	3.5	0.1	-0.05	5	0.7	-0.2
3.21	37.8	7	6.8	25	0.7	3.5	0.2	45	0.19	0.093	23	37	0.39	131	0.039	1	1.85	0.025	0.12	1.5	0.03	3.4	0.1	-0.05	5	0.9	-0.2
2.79	24.7	1.8	4	21	0.6	2.7	0.1	34	0.16	0.062	18	40	0.25	118	0.03	2	1.29	0.036	0.11	5.3	0.02	2.4	-0.1	-0.05	4	-0.5	-0.2
4.42	15.2	3.4	1	5	0.4	0.9	-0.1	30	0.1	0.062	9	5	0.5	39	0.012	-1	1.38	0.002	0.03	-0.1	-0.01	4.3	-0.1	-0.05	3	-0.5	-0.2
2.09	30.1	-0.5	2.3	3	-0.1	2	-0.1	13	-0.01	0.031	6	14	0.09	5	0.003	-1	0.31	-0.001	-0.01	-0.1	-0.01	1	-0.1	-0.05	-1	-0.5	-0.2
3.08	17.5	2.4	14.3	26	-0.1	1.8	0.2	17	0.38	0.045	34	22	0.49	136	0.011	2	1.39	0.023	0.25	2	0.01	2.4	0.1	-0.05	4	-0.5	-0.2
2.76	15.5	2.6	12.7	27	0.1	1.8	0.2	15	0.5	0.039	30	23	0.52	138	0.007	2	1.25	0.019	0.22	2.7	0.01	2.1	-0.1	-0.05	3	-0.5	-0.2
2.81	16.6	1.8	11.4	22	0.1	2	0.2	19	0.18	0.041	30	24	0.41	206	0.013	2	1.27	0.024	0.2	1.9	0.01	2.5	-0.1	-0.05	3	-0.5	-0.2
2.17	10.5	4.3	9.4	24	0.2	1.2	0.1	19	0.2	0.041	21	23	0.31	226	0.019	3	0.85	0.021	0.13	5.7	0.02	1.8	-0.1	-0.05	2	-0.5	-0.2
2.43	12.2	1.4	11.1	22	0.2	1.1	0.1	18	0.19	0.044	27	29	0.3	244	0.014	3	0.99	0.023	0.2	5.6	0.02	2.2	-0.1	-0.05	3	-0.5	-0.2
2.72	11	1.5	10.7	15	-0.1	1.1	0.1	12	0.13	0.027	27	24	0.19	131	0.007	3	0.73	0.017	0.19	3.2	0.05	1.9	-0.1	-0.05	2	-0.5	-0.2
2.96	18.8	5.3	12.1	34	0.1	4.2	0.2	15	0.28	0.045	32	27	0.4	173	0.005	1	1.26	0.02	0.21	5.7	0.02	2.2	-0.1	-0.05	3	-0.5	-0.2
2.86	15.7	5	12.6	26	-0.1	2.8	0.2	16	0.25	0.042	32	19	0.39	133	0.008	2	1.17	0.016	0.19	1	0.02	2	-0.1	-0.05	3	-0.5	-0.2
3.21	20.8	5.9	14.7	24	-0.1	4.7	0.3	18	0.27	0.048	36	30	0.51	147	0.009	2	1.4	0.02	0.21	1	0.02	2.4	-0.1	-0.05	4	-0.5	-0.2
2.75	17.9	5.4	10.5	44	0.1	2.9	0.2	17	0.45	0.044	31	22	0.45	132	0.01	2	1.17	0.013	0.15	1.2	0.02	2	-0.1	-0.05	3	-0.5	-0.2
2.24	14	2.1	7.2	29	0.1	1.5	0.2	19	0.22	0.037	23	16	0.34	158	0.012	-1	0.99	0.014	0.1	1.3	0.02	1.6	-0.1	-0.05	3	-0.5	-0.2
2.69	15.6	4.4	10.8	28	0.2	1.9	0.2	15	0.24	0.075	24	39	0.35	121	0.01	2	0.99	0.018	0.17	3.7	0.01	1.8	-0.1	-0.05	3	-0.5	-0.2
2.34	11.4	2.2	8.8	15	-0.1	1.1	0.2	14	0.15	0.03	21	23	0.31	107	0.015	-1	0.88	0.021	0.16	2.2	0.01	1.7	-0.1	-0.05	3	-0.5	-0.2
2.77	14.4	2.8	12.1	12	-0.1	1	0.3	13	0.13	0.046	32	25	0.47	99	0.006	-1	1.28	0.019	0.14	2.3	-0.01	2	-0.1	-0.05	4	-0.5	-0.2
2.76	14.3	3.5	11.8	12	-0.1	1.1	0.3	13	0.13	0.045	32	24	0.47	97	0.006	1	1.26	0.019	0.14	2.4	0.02	2	-0.1	-0.05	4	-0.5	-0.2
2.35	8	-0.5	8	12	-0.1	0.7	0.2	13	0.14	0.036	19	23	0.32	126	0.011	-1	0.89	0.046	0.11	2.9	0.01	1.7	-0.1	-0.05	3	-0.5	-0.2
2.01	11.6	-0.5	7.8	12	-0.1	0.7	0.1	13	0.12	0.029	21	21	0.31	138	0.013	-1	0.89	0.016	0.13	2.5	0.02	1.7	-0.1	-0.05	2	-0.5	-0.2
2.12	10.2	1	6	13	-0.1	0.7	0.2	21	0.1	0.025	19	20	0.32	158	0.02	2	1.03	0.02	0.16	1.2	0.02	1.9	-0.1	-0.05	3	-0.5	-0.2
2.18	12.5	3.9	7.9	13	-0.1	0.8	0.2	19	0.14	0.035	20	23	0.36	157	0.021	-1	0.97	0.014	0.13	1.2	0.03	2.1	-0.1	-0.05	3	-0.5	-0.2
2.43	12.7	0.8	7.5	17	-0.1	1.5	0.2	23	0.17	0.037	20	24	0.35	213	0.024	1	1.08	0.026	0.16	1.8	0.01	2.4	-0.1	-0.05	3	-0.5	-0.2
2.36	12.4	1	6.6	13	-0.1	2.2	0.2	28	0.22	0.037	17	26	0.44	154	0.034	-1	1.03	0.014	0.1	1.6	0.02	2.3	-0.1	-0.05	3	-0.5	-0.2
3.16	12.5	4.4	11	21	-0.1	0.8	0.3	25	0.18	0.038	32	31	0.46	245	0.015	3	1.45	0.033	0.18	2.1	0.02	3.1	-0.1	-0.05	4	-0.5	-0.2
2.04	11.7	-0.5	7	10	-0.1	0.7	0.2	16	0.1	0.026	20	22	0.3	133	0.012	1	0.9	0.013	0.12	4.2	0.02	1.7	-0.1	-0.05	2	-0.5	-0.2
4.3	11.4	1.5	16.7	22	-0.1	0.7	0.3	10	0.1	0.036	48	14	0.13	92	0.001	-1	0.65	0.034	0.19	0.9	0.05	2.8	-0.1	-0.05	2	-0.5	-0.2
1.98	13.7	-0.5	9.6	12	-0.1	0.9	0.2	17	0.09	0.016	21	16	0.27	136	0.016	3	0.84	0.015	0.12	1.8	0.03	2	-0.1	-0.05	3	-0.5	-0.2
1.61	13.1	3.4	9.2	13	-0.1	0.6	0.1	11	0.08	0.016	13	13	0.24	172	0.019	2	0.79	0.014	0.18	2.1	-0.01	1.2	0.1	-0.05	2	-0.5	-0.2
2.25	30.3	-0.5	12.4	12	-0.1	1.1	0.3	10	0.07	0.021	19	20	0.33	160	0.011	2	0.96	0.085	0.22	1.6	-0.01	1.4	0.1	0.08	3	-0.5	-0.2
1.72	8.5	0.8	9	24	-0.1	0.7	0.1	18	0.23	0.021	14	15	0.23	299	0.02	2	1.03	0.032	0.11	0.8	0.03	2.6	-0.1	-0.05	4	-0.5	-0.2
1.27	5.7	-0.5	11.9	101	-0.1	0.4	0.2	3	0.71	0.006	17	8	0.05	328	0.002	14	0.64	0.08	0.2	0.7	0.35	1.5	0.1	0.05	2	-0.5	-0.2
1.1	5.3	-0.5	10.3	18	-0.1	0.5	0.1	5	0.1	0.007	13	6	0.09	177	0.005	4	0.75	0.055	0.16	0.9	0.03	1	0.1	-0.05	3	-0.5	-0.2
2.33	13.1	2.2	9																								

## **Appendix E**

### **Assay Certificates**



**BUREAU  
VERITAS**

**MINERAL LABORATORIES**  
Canada

[www.bureauveritas.com/um](http://www.bureauveritas.com/um)

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:**

**Mayo Lake Minerals Inc.**

107 Falldown Lane

Carp Ontario K0A 1L0 Canada

Submitted By: Tyrell Sutherland

Receiving Lab: Canada-Whitehorse

Received: October 03, 2019

Report Date: October 22, 2019

Page: 1 of 4

## CERTIFICATE OF ANALYSIS

WHI19000643.1

### CLIENT JOB INFORMATION

Project: None Given

Shipment ID:

P.O. Number

Number of Samples: 61

### SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days

DISP-RJT Dispose of Reject After 60 days

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Mayo Lake Minerals Inc.  
107 Falldown Lane  
Carp Ontario K0A 1L0  
Canada

CC: Vern Rampton

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	61	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA330	61	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	61	Environmental disposal charge-Fire assay lead waste			VAN
AQ201	61	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SLBHP	0	Sort, label and box pulps			WHI

### ADDITIONAL COMMENTS

  
MAY LAI  
Data Validation Specialist

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.  
\*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



**BUREAU** MINERAL LABORATORIES  
**VERITAS** Canada

[www.bureauveritas.com/um](http://www.bureauveritas.com/um)

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** Mayo Lake Minerals Inc.  
107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

**Project:** None Given  
**Report Date:** October 22, 2019

**Page:** 2 of 4

**Part:** 1 of 2

# CERTIFICATE OF ANALYSIS

WHI19000643.1

	Method Analyte Unit MDL	WGHT	FA330	FA330	FA330	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	
		kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm
		0.01	2	3	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	0.1
1888194	Rock	0.30	8	<3	4	1.5	23.6	58.9	91	8.3	15.7	6.8	426	2.76	27.5	7.9	3.9	23	0.7	3.3	0.2	
1888195	Rock	0.16	6	<3	4	2.3	24.7	16.5	69	0.7	20.8	8.9	353	3.00	26.2	8.1	1.7	17	0.5	2.3	0.2	
1888196	Rock	0.28	15	<3	3	1.7	40.2	31.5	151	14.5	25.7	11.9	374	3.68	55.6	33.1	7.0	23	0.8	3.9	0.2	
1888197	Rock	0.18	8	<3	3	2.1	37.0	67.0	172	34.1	25.1	9.1	355	4.02	71.6	7.1	5.3	26	0.8	3.9	0.2	
1888198	Rock	0.34	7	<3	6	1.7	26.2	27.8	142	8.2	21.4	8.6	303	3.06	44.8	5.8	4.7	17	0.6	2.8	0.2	
1888199	Rock	0.28	11	<3	7	1.7	43.4	72.5	126	14.4	22.8	10.4	410	3.19	37.4	6.1	6.9	24	0.8	3.6	0.2	
1888200	Rock	0.16	6	<3	<2	1.8	31.4	52.6	91	7.9	18.0	7.8	354	2.79	24.7	1.8	4.0	21	0.6	2.7	0.1	
1888182	Rock	0.48	5	<3	2	4.3	32.2	33.4	106	4.3	26.2	7.5	294	2.81	32.4	4.8	5.2	21	0.6	2.5	0.1	
1888183	Rock	0.27	5	<3	2	4.5	34.1	40.2	109	5.8	27.6	7.8	301	2.70	33.3	3.5	4.6	18	0.6	2.8	0.1	
1888184	Rock	0.12	6	<3	<2	3.6	31.5	58.3	102	9.6	30.7	8.8	415	3.63	31.4	6.9	4.0	29	0.7	3.1	0.2	
1888185	Rock	0.21	7	<3	<2	5.1	29.5	33.6	78	4.2	44.6	7.8	352	2.98	22.7	0.7	6.2	31	0.7	2.5	0.1	
1888186	Rock	0.32	6	<3	4	1.5	28.1	56.9	278	10.4	17.0	20.7	329	3.61	90.6	3.0	3.3	21	0.7	2.6	0.2	
1888187	Rock	0.14	7	3	3	5.5	36.9	29.1	174	4.1	41.1	6.3	302	3.72	50.4	2.2	5.1	25	0.4	2.3	0.1	
1888188	Rock	0.34	12	<3	<2	2.2	42.1	21.9	117	2.4	21.6	10.0	345	2.96	36.0	3.0	9.6	29	0.7	3.9	0.2	
1888189	Rock	0.27	6	<3	2	2.4	51.7	20.4	123	2.3	24.2	10.8	411	3.07	37.7	<0.5	9.8	29	0.8	4.4	0.2	
1888190	Rock	0.54	4	<3	<2	0.7	24.7	18.4	56	0.2	23.3	10.4	361	2.90	9.7	2.9	9.7	14	<0.1	0.4	0.6	
1888221	Rock	0.33	5	<3	6	1.5	31.0	12.2	51	<0.1	22.6	9.7	437	2.33	13.1	2.2	9.8	14	<0.1	1.1	0.1	
1888222	Rock	0.15	5	<3	3	1.7	21.7	10.3	43	<0.1	17.2	8.0	441	2.75	10.8	1.7	6.7	34	0.1	1.1	0.1	
1888276	Rock	0.17	3	<3	3	2.2	28.9	10.7	54	0.1	30.5	10.4	463	3.21	8.1	1.0	7.6	19	<0.1	0.5	0.2	
1888277	Rock	0.16	4	<3	<2	1.3	28.1	11.9	58	<0.1	27.9	10.4	463	3.27	7.7	1.4	7.3	15	<0.1	0.5	0.2	
1888278	Rock	0.20	4	<3	5	2.5	39.4	15.5	62	0.1	26.9	11.4	422	3.09	10.5	0.6	11.3	14	<0.1	0.8	0.3	
1888279	Rock	0.23	4	3	5	2.1	28.4	15.5	55	0.3	19.9	7.9	647	2.35	11.8	1.6	11.8	20	0.1	0.6	0.2	
1888280	Rock	0.19	7	<3	<2	1.9	37.7	15.5	63	<0.1	28.1	10.6	451	2.87	16.0	2.2	12.2	17	0.1	1.3	0.2	
1888281	Rock	0.19	6	<3	3	3.1	38.5	16.0	69	0.1	34.9	11.4	494	3.10	22.2	<0.5	12.6	20	0.1	1.9	0.3	
1888282	Rock	0.21	3	<3	<2	1.2	35.7	11.4	78	<0.1	36.8	14.9	533	3.58	6.9	1.4	15.6	14	<0.1	0.5	0.2	
1888283	Rock	0.41	5	<3	3	1.1	39.8	14.4	67	<0.1	31.2	12.4	568	3.08	17.5	2.4	14.3	26	<0.1	1.8	0.2	
1888284	Rock	0.42	7	<3	2	1.3	36.1	13.1	59	<0.1	29.1	11.2	519	2.76	15.5	2.6	12.7	27	0.1	1.8	0.2	
1888285	Rock	0.39	7	<3	6	1.4	36.1	12.4	61	<0.1	28.7	11.1	563	2.81	16.6	1.8	11.4	22	0.1	2.0	0.2	
1888286	Rock	0.31	5	<3	5	1.6	24.2	11.2	49	0.1	22.8	7.3	398	2.17	10.5	4.3	9.4	24	0.2	1.2	0.1	
1888287	Rock	0.34	4	<3	<2	2.7	39.0	12.1	57	<0.1	33.4	9.7	500	2.43	12.2	1.4	11.1	22	0.2	1.1	0.1	



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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** Mayo Lake Minerals Inc.  
107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

**Project:** None Given  
**Report Date:** October 22, 2019

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**Part:** 2 of 2

# CERTIFICATE OF ANALYSIS

WHI19000643.1

	Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Ti	S	Ga	Se	Te
		ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1888194	Rock	38	0.28	0.071	19	30	0.38	109	0.037	2	1.51	0.033	0.10	1.0	0.02	2.7	<0.1	<0.05	4	0.7	<0.2
1888195	Rock	41	0.12	0.064	16	34	0.31	121	0.027	2	1.51	0.034	0.12	14.3	0.03	1.9	0.1	<0.05	5	<0.5	<0.2
1888196	Rock	41	0.15	0.087	24	32	0.37	126	0.030	2	1.87	0.023	0.11	2.9	0.04	3.3	0.1	<0.05	5	1.2	<0.2
1888197	Rock	39	0.16	0.084	24	35	0.33	127	0.028	2	1.71	0.027	0.13	1.3	0.03	2.7	0.1	<0.05	5	1.0	<0.2
1888198	Rock	33	0.12	0.075	18	30	0.31	95	0.025	1	1.43	0.023	0.08	5.6	0.03	2.4	<0.1	<0.05	4	0.6	<0.2
1888199	Rock	45	0.18	0.092	22	37	0.38	125	0.036	2	1.80	0.024	0.12	1.6	0.03	3.5	0.1	<0.05	5	0.7	<0.2
1888200	Rock	34	0.16	0.062	18	40	0.25	118	0.030	2	1.29	0.036	0.11	5.3	0.02	2.4	<0.1	<0.05	4	<0.5	<0.2
1888182	Rock	30	0.13	0.060	19	44	0.25	101	0.021	1	1.37	0.031	0.10	9.3	0.02	2.6	<0.1	<0.05	4	<0.5	<0.2
1888183	Rock	28	0.12	0.060	18	43	0.24	95	0.020	1	1.25	0.028	0.09	10.7	0.01	2.5	<0.1	<0.05	3	<0.5	<0.2
1888184	Rock	41	0.17	0.067	21	46	0.38	138	0.029	2	1.82	0.032	0.14	6.6	0.03	2.9	<0.1	<0.05	5	1.0	<0.2
1888185	Rock	32	0.18	0.077	21	58	0.28	126	0.019	2	1.64	0.047	0.12	7.8	0.02	2.6	<0.1	<0.05	4	<0.5	<0.2
1888186	Rock	39	0.14	0.082	20	35	0.36	101	0.024	1	1.63	0.018	0.10	64.0	<0.01	2.4	0.1	<0.05	5	0.8	<0.2
1888187	Rock	31	0.15	0.062	20	58	0.25	116	0.021	2	1.46	0.028	0.13	8.0	0.01	2.3	<0.1	<0.05	4	<0.5	<0.2
1888188	Rock	39	0.19	0.089	26	35	0.35	125	0.032	1	1.79	0.024	0.11	4.4	0.02	3.4	<0.1	<0.05	4	0.6	<0.2
1888189	Rock	40	0.20	0.096	26	37	0.35	130	0.038	1	1.76	0.024	0.12	4.0	0.02	3.5	0.2	<0.05	4	0.7	<0.2
1888190	Rock	23	0.07	0.027	31	22	0.53	128	0.012	<1	1.47	0.017	0.15	2.0	0.02	2.0	0.1	<0.05	4	<0.5	<0.2
1888221	Rock	15	0.13	0.037	25	18	0.32	167	0.014	1	0.94	0.015	0.16	3.3	0.03	1.9	<0.1	<0.05	3	<0.5	<0.2
1888222	Rock	15	0.27	0.032	18	19	0.25	150	0.009	2	0.81	0.023	0.15	6.0	0.01	1.5	<0.1	<0.05	2	<0.5	<0.2
1888276	Rock	11	0.05	0.022	31	22	0.14	118	0.003	3	0.72	0.024	0.20	3.7	0.06	1.8	<0.1	<0.05	2	<0.5	<0.2
1888277	Rock	13	0.06	0.027	29	19	0.19	141	0.004	3	0.85	0.028	0.20	5.5	0.06	1.8	<0.1	<0.05	3	<0.5	<0.2
1888278	Rock	10	0.07	0.031	28	23	0.23	129	0.005	3	0.83	0.026	0.18	4.7	0.06	1.8	<0.1	<0.05	3	<0.5	<0.2
1888279	Rock	13	0.15	0.023	28	21	0.22	183	0.008	6	0.94	0.026	0.18	5.2	0.04	2.1	<0.1	<0.05	3	<0.5	<0.2
1888280	Rock	14	0.11	0.040	31	22	0.33	166	0.007	4	1.08	0.025	0.25	3.0	0.04	2.0	<0.1	<0.05	3	<0.5	<0.2
1888281	Rock	17	0.15	0.044	32	31	0.37	200	0.011	4	1.20	0.026	0.25	3.8	0.03	2.3	0.1	<0.05	3	<0.5	<0.2
1888282	Rock	13	0.09	0.043	42	22	0.57	103	0.004	2	1.42	0.029	0.22	1.8	0.03	2.0	<0.1	<0.05	4	<0.5	<0.2
1888283	Rock	17	0.38	0.045	34	22	0.49	136	0.011	2	1.39	0.023	0.25	2.0	0.01	2.4	0.1	<0.05	4	<0.5	<0.2
1888284	Rock	15	0.50	0.039	30	23	0.52	138	0.007	2	1.25	0.019	0.22	2.7	0.01	2.1	<0.1	<0.05	3	<0.5	<0.2
1888285	Rock	19	0.18	0.041	30	24	0.41	206	0.013	2	1.27	0.024	0.20	1.9	0.01	2.5	<0.1	<0.05	3	<0.5	<0.2
1888286	Rock	19	0.20	0.041	21	23	0.31	226	0.019	3	0.85	0.021	0.13	5.7	0.02	1.8	<0.1	<0.05	2	<0.5	<0.2
1888287	Rock	18	0.19	0.044	27	29	0.30	244	0.014	3	0.99	0.023	0.20	5.6	0.02	2.2	<0.1	<0.05	3	<0.5	<0.2



Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

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107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

**Project:** None Given  
**Report Date:** October 22, 2019

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**Part:** 1 of 2

# CERTIFICATE OF ANALYSIS

WHI19000643.1

	Method	WGHT	FA330	FA330	FA330	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1
1888288	Rock	0.33	5	3	<2	2.9	31.3	13.5	55	0.1	30.6	11.2	587	2.72	11.0	1.5	10.7	15	<0.1	1.1	0.1
1888289	Rock	0.40	8	<3	<2	2.5	47.8	13.4	62	0.3	32.6	13.0	752	2.96	18.8	5.3	12.1	34	0.1	4.2	0.2
1888290	Rock	1.28	9	<3	<2	1.0	31.1	13.5	59	<0.1	26.3	11.2	535	2.86	15.7	5.0	12.6	26	<0.1	2.8	0.2
1888291	Rock	0.33	12	<3	5	2.1	39.3	14.2	71	<0.1	39.6	13.2	632	3.21	20.8	5.9	14.7	24	<0.1	4.7	0.3
1888292	Rock	0.56	11	3	<2	1.5	32.5	13.2	65	<0.1	32.4	11.8	541	2.75	17.9	5.4	10.5	44	0.1	2.9	0.2
1888293	Rock	0.52	7	<3	<2	1.1	19.1	11.0	48	<0.1	20.2	10.7	595	2.24	14.0	2.1	7.2	29	0.1	1.5	0.2
1888294	Rock	0.20	9	<3	4	4.6	37.2	13.6	57	<0.1	47.1	12.0	507	2.69	15.6	4.4	10.8	28	0.2	1.9	0.2
1888295	Rock	0.22	5	<3	<2	2.3	29.2	10.3	46	0.1	28.4	9.6	533	2.34	11.4	2.2	8.8	15	<0.1	1.1	0.2
1888296	Rock	0.27	7	<3	<2	1.8	36.2	12.7	63	0.1	38.8	12.1	522	2.77	14.4	2.8	12.1	12	<0.1	1.0	0.3
1888297	Rock	0.32	4	<3	<2	2.0	23.6	12.2	49	<0.1	28.1	9.1	832	2.35	8.0	<0.5	8.0	12	<0.1	0.7	0.2
1901015	Rock	0.44	6	<3	2	6.0	27.5	38.3	109	4.9	16.7	6.5	228	2.30	38.8	2.7	4.5	14	0.4	2.5	0.1
1901016	Rock	0.30	4	4	4	5.7	24.3	29.8	70	6.9	21.1	7.0	181	2.15	27.5	<0.5	1.4	10	0.2	1.8	0.1
1901017	Rock	0.68	4	<3	<2	5.0	21.1	11.8	61	1.8	13.8	7.2	150	1.59	16.9	2.1	3.9	11	0.2	1.3	<0.1
1901018	Rock	0.25	5	<3	<2	5.8	37.0	18.7	105	2.0	26.9	7.2	199	2.51	33.8	1.7	6.0	16	0.5	2.1	0.2
1901019	Rock	1.45	5	<3	3	0.5	98.9	8.6	228	0.3	24.0	10.9	247	4.42	15.2	3.4	1.0	5	0.4	0.9	<0.1
1901020	Rock	0.66	3	<3	<2	0.3	18.7	4.1	60	2.2	4.7	0.8	46	2.09	30.1	<0.5	2.3	3	<0.1	2.0	<0.1
1901021	Rock	0.45	5	<3	<2	1.7	27.4	9.7	45	0.1	25.5	8.6	419	2.01	11.6	<0.5	7.8	12	<0.1	0.7	0.1
1901022	Rock	0.18	3	<3	<2	1.3	20.5	9.4	41	<0.1	22.5	7.1	323	2.12	10.2	1.0	6.0	13	<0.1	0.7	0.2
1901023	Rock	0.44	6	<3	2	1.5	30.3	10.4	52	<0.1	28.1	9.4	422	2.18	12.5	3.9	7.9	13	<0.1	0.8	0.2
1901024	Rock	0.16	4	<3	<2	1.8	27.7	10.5	49	<0.1	26.6	10.8	558	2.43	12.7	0.8	7.5	17	<0.1	1.5	0.2
1901025	Rock	0.27	5	<3	<2	1.6	25.8	9.2	50	<0.1	28.1	10.2	523	2.36	12.4	1.0	6.6	13	<0.1	2.2	0.2
1901026	Rock	0.18	14	<3	4	2.2	36.6	12.2	69	<0.1	38.2	13.6	618	3.16	12.5	4.4	11.0	21	<0.1	0.8	0.3
1901027	Rock	0.33	5	<3	3	2.0	26.6	10.4	40	<0.1	26.1	8.6	408	2.04	11.7	<0.5	7.0	10	<0.1	0.7	0.2
1901028	Rock	0.31	4	<3	5	1.4	49.1	11.6	88	<0.1	42.2	17.6	1053	4.30	11.4	1.5	16.7	22	<0.1	0.7	0.3
1901029	Rock	0.27	5	<3	<2	1.1	23.5	12.3	48	0.3	21.0	8.6	364	1.98	13.7	<0.5	9.6	12	<0.1	0.9	0.2
1901030	Rock	0.17	3	<3	<2	1.3	25.1	14.0	51	0.6	21.4	8.9	436	2.16	16.0	<0.5	10.2	16	<0.1	0.8	0.2
1901031	Rock	0.25	4	<3	2	0.8	20.2	7.8	69	<0.1	15.2	6.7	302	1.61	13.1	3.4	9.2	13	<0.1	0.6	0.1
1901032	Rock	0.32	3	<3	3	1.3	25.4	18.2	165	0.2	22.7	9.6	420	2.25	30.3	<0.5	12.4	12	<0.1	1.1	0.3
1901033	Rock	0.26	4	<3	5	1.0	17.0	14.8	76	0.2	15.3	5.0	269	1.72	8.5	0.8	9.0	24	<0.1	0.7	0.1
1901034	Rock	0.16	3	<3	<2	0.9	4.6	23.8	94	0.2	3.8	1.2	190	1.27	5.7	<0.5	11.9	101	<0.1	0.4	0.2





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**Part:** 2 of 2

# CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Ti	S	Ga	Se	Te
		ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1888288	Rock	12	0.13	0.027	27	24	0.19	131	0.007	3	0.73	0.017	0.19	3.2	0.05	1.9	<0.1	<0.05	2	<0.5	<0.2
1888289	Rock	15	0.28	0.045	32	27	0.40	173	0.005	1	1.26	0.020	0.21	5.7	0.02	2.2	<0.1	<0.05	3	<0.5	<0.2
1888290	Rock	16	0.25	0.042	32	19	0.39	133	0.008	2	1.17	0.016	0.19	1.0	0.02	2.0	<0.1	<0.05	3	<0.5	<0.2
1888291	Rock	18	0.27	0.048	36	30	0.51	147	0.009	2	1.40	0.020	0.21	1.0	0.02	2.4	<0.1	<0.05	4	<0.5	<0.2
1888292	Rock	17	0.45	0.044	31	22	0.45	132	0.010	2	1.17	0.013	0.15	1.2	0.02	2.0	<0.1	<0.05	3	<0.5	<0.2
1888293	Rock	19	0.22	0.037	23	16	0.34	158	0.012	<1	0.99	0.014	0.10	1.3	0.02	1.6	<0.1	<0.05	3	<0.5	<0.2
1888294	Rock	15	0.24	0.075	24	39	0.35	121	0.010	2	0.99	0.018	0.17	3.7	0.01	1.8	<0.1	<0.05	3	<0.5	<0.2
1888295	Rock	14	0.15	0.030	21	23	0.31	107	0.015	<1	0.88	0.021	0.16	2.2	0.01	1.7	<0.1	<0.05	3	<0.5	<0.2
1888296	Rock	13	0.13	0.046	32	25	0.47	99	0.006	<1	1.28	0.019	0.14	2.3	<0.01	2.0	<0.1	<0.05	4	<0.5	<0.2
1888297	Rock	13	0.14	0.036	19	23	0.32	126	0.011	<1	0.89	0.046	0.11	2.9	0.01	1.7	<0.1	<0.05	3	<0.5	<0.2
1901015	Rock	19	0.10	0.051	16	47	0.18	64	0.015	1	0.94	0.013	0.06	18.7	<0.01	1.6	<0.1	<0.05	3	<0.5	<0.2
1901016	Rock	16	0.06	0.035	10	43	0.13	53	0.013	<1	0.73	0.023	0.05	30.5	<0.01	1.0	<0.1	<0.05	2	<0.5	<0.2
1901017	Rock	15	0.08	0.033	12	40	0.15	52	0.013	<1	0.79	0.055	0.05	43.4	<0.01	1.3	<0.1	0.05	2	<0.5	<0.2
1901018	Rock	22	0.11	0.050	15	47	0.22	75	0.019	<1	1.14	0.066	0.08	21.4	<0.01	2.2	<0.1	0.06	3	<0.5	<0.2
1901019	Rock	30	0.10	0.062	9	5	0.50	39	0.012	<1	1.38	0.002	0.03	<0.1	<0.01	4.3	<0.1	<0.05	3	<0.5	<0.2
1901020	Rock	13	<0.01	0.031	6	14	0.09	5	0.003	<1	0.31	<0.001	<0.01	<0.1	<0.01	1.0	<0.1	<0.05	<1	<0.5	<0.2
1901021	Rock	13	0.12	0.029	21	21	0.31	138	0.013	<1	0.89	0.016	0.13	2.5	0.02	1.7	<0.1	<0.05	2	<0.5	<0.2
1901022	Rock	21	0.10	0.025	19	20	0.32	158	0.020	2	1.03	0.020	0.16	1.2	0.02	1.9	<0.1	<0.05	3	<0.5	<0.2
1901023	Rock	19	0.14	0.035	20	23	0.36	157	0.021	<1	0.97	0.014	0.13	1.2	0.03	2.1	<0.1	<0.05	3	<0.5	<0.2
1901024	Rock	23	0.17	0.037	20	24	0.35	213	0.024	1	1.08	0.026	0.16	1.8	0.01	2.4	<0.1	<0.05	3	<0.5	<0.2
1901025	Rock	28	0.22	0.037	17	26	0.44	154	0.034	<1	1.03	0.014	0.10	1.6	0.02	2.3	<0.1	<0.05	3	<0.5	<0.2
1901026	Rock	25	0.18	0.038	32	31	0.46	245	0.015	3	1.45	0.033	0.18	2.1	0.02	3.1	<0.1	<0.05	4	<0.5	<0.2
1901027	Rock	16	0.10	0.026	20	22	0.30	133	0.012	1	0.90	0.013	0.12	4.2	0.02	1.7	<0.1	<0.05	2	<0.5	<0.2
1901028	Rock	10	0.10	0.036	48	14	0.13	92	0.001	<1	0.65	0.034	0.19	0.9	0.05	2.8	<0.1	<0.05	2	<0.5	<0.2
1901029	Rock	17	0.09	0.016	21	16	0.27	136	0.016	3	0.84	0.015	0.12	1.8	0.03	2.0	<0.1	<0.05	3	<0.5	<0.2
1901030	Rock	16	0.09	0.023	22	19	0.27	153	0.014	2	0.98	0.022	0.21	2.4	0.03	1.9	<0.1	<0.05	3	<0.5	<0.2
1901031	Rock	11	0.08	0.016	13	13	0.24	172	0.019	2	0.79	0.014	0.18	2.1	<0.01	1.2	0.1	<0.05	2	<0.5	<0.2
1901032	Rock	10	0.07	0.021	19	20	0.33	160	0.011	2	0.96	0.085	0.22	1.6	<0.01	1.4	0.1	0.08	3	<0.5	<0.2
1901033	Rock	18	0.23	0.021	14	15	0.23	299	0.020	2	1.03	0.032	0.11	0.8	0.03	2.6	<0.1	<0.05	4	<0.5	<0.2
1901034	Rock	3	0.71	0.006	17	8	0.05	328	0.002	14	0.64	0.080	0.20	0.7	0.35	1.5	0.1	0.05	2	<0.5	<0.2



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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** **Mayo Lake Minerals Inc.**  
107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

Project: None Given  
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# CERTIFICATE OF ANALYSIS

WHI19000643.1

	Method Analyte Unit MDL	WGHT	FA330	FA330	FA330	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi
		kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
		0.01	2	3	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1
1901035	Rock	0.21	3	<3	4	0.6	4.8	22.2	86	0.2	5.4	2.1	160	1.10	5.3	<0.5	10.3	18	<0.1	0.5	0.1



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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** **Mayo Lake Minerals Inc.**  
107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

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# CERTIFICATE OF ANALYSIS

WHI19000643.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL	1	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1901035 Rock	5	0.10	0.007	13	6	0.09	177	0.005	4	0.75	0.055	0.16	0.9	0.03	1.0	0.1	<0.05	3	<0.5	<0.2



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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:**

**Mayo Lake Minerals Inc.**

107 Falldown Lane

Carp Ontario K0A 1L0 Canada

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## QUALITY CONTROL REPORT

WHI19000643.1

	Method	WGHT	FA330	FA330	FA330	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1
Pulp Duplicates																					
1888199	Rock	0.28	11	<3	7	1.7	43.4	72.5	126	14.4	22.8	10.4	410	3.19	37.4	6.1	6.9	24	0.8	3.6	0.2
REP 1888199	QC					1.6	43.7	71.8	126	14.3	22.7	10.6	408	3.21	37.8	7.0	6.8	25	0.7	3.5	0.2
1888287	Rock	0.34	4	<3	<2	2.7	39.0	12.1	57	<0.1	33.4	9.7	500	2.43	12.2	1.4	11.1	22	0.2	1.1	0.1
REP 1888287	QC		6	<3	<2																
1888296	Rock	0.27	7	<3	<2	1.8	36.2	12.7	63	0.1	38.8	12.1	522	2.77	14.4	2.8	12.1	12	<0.1	1.0	0.3
REP 1888296	QC					1.7	36.6	12.7	65	0.1	38.2	11.5	488	2.76	14.3	3.5	11.8	12	<0.1	1.1	0.3
Reference Materials																					
STD BVGEO01	Standard					11.3	4276.5	192.3	1701	2.5	153.6	24.7	725	3.59	115.0	214.1	15.7	57	6.4	2.9	27.1
STD DS11	Standard					14.1	160.8	142.1	352	1.7	80.8	13.8	1024	3.21	44.9	77.5	9.1	69	2.5	9.7	12.4
STD KO74421	Standard		503	450	475																
STD OREAS262	Standard					0.7	121.2	58.0	147	0.4	62.1	27.1	520	3.27	36.3	69.4	10.9	38	0.6	5.5	1.1
STD OREAS262	Standard					0.7	120.3	55.6	150	0.4	65.2	27.6	563	3.18	35.6	50.6	9.4	35	0.6	3.8	1.0
STD OREAS683	Standard		206	1722	834																
STD PD05	Standard		530	449	629																
STD PG04	Standard		951	880	1195																
STD DS11 Expected						14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	8.74	12.2
STD KO74421 Expected			518	459	466																
STD PG04 Expected			996	910	1210																
STD PD05 Expected			519	430	596																
STD OREAS683 Expected			207	1760	853																
STD BVGEO01 Expected						11.2	4415	187	1741	2.53	163	25	733	3.7	121	219	14.4	55	6.5	3.39	25.6
STD OREAS262 Expected						0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	65	9.33	36	0.61	5.06	1.03
BLK	Blank					<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	0.4	<1	<0.1	<0.1	<0.1
BLK	Blank		3	<3	<2																
BLK	Blank		3	<3	2																
BLK	Blank					<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1
Prep Wash																					
ROCK-WHI	Prep Blank		4	<3	4	0.8	3.8	0.9	32	<0.1	1.3	3.8	565	2.04	1.2	5.1	2.4	22	<0.1	<0.1	<0.1



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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:**

**Mayo Lake Minerals Inc.**

107 Falldown Lane

Carp Ontario K0A 1L0 Canada

**Project:**

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## QUALITY CONTROL REPORT

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	Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																					
1888199	Rock	45	0.18	0.092	22	37	0.38	125	0.036	2	1.80	0.024	0.12	1.6	0.03	3.5	0.1	<0.05	5	0.7	<0.2
REP 1888199	QC	45	0.19	0.093	23	37	0.39	131	0.039	1	1.85	0.025	0.12	1.5	0.03	3.4	0.1	<0.05	5	0.9	<0.2
1888287	Rock	18	0.19	0.044	27	29	0.30	244	0.014	3	0.99	0.023	0.20	5.6	0.02	2.2	<0.1	<0.05	3	<0.5	<0.2
REP 1888287	QC																				
1888296	Rock	13	0.13	0.046	32	25	0.47	99	0.006	<1	1.28	0.019	0.14	2.3	<0.01	2.0	<0.1	<0.05	4	<0.5	<0.2
REP 1888296	QC	13	0.13	0.045	32	24	0.47	97	0.006	1	1.26	0.019	0.14	2.4	0.02	2.0	<0.1	<0.05	4	<0.5	<0.2
Reference Materials																					
STD BVGEO01	Standard	73	1.27	0.075	26	176	1.28	229	0.232	3	2.27	0.187	0.86	4.7	0.10	5.9	0.7	0.65	7	5.1	1.1
STD DS11	Standard	49	1.07	0.074	19	60	0.85	371	0.095	7	1.15	0.071	0.40	3.1	0.26	3.2	4.9	0.28	5	2.2	4.6
STD KO74421	Standard																				
STD OREAS262	Standard	22	2.97	0.043	17	42	1.18	250	0.003	3	1.30	0.069	0.30	0.3	0.16	3.4	0.5	0.26	4	<0.5	0.2
STD OREAS262	Standard	21	2.91	0.038	15	43	1.15	257	0.003	3	1.30	0.065	0.29	0.2	0.16	3.2	0.4	0.25	4	<0.5	0.2
STD OREAS683	Standard																				
STD PD05	Standard																				
STD PG04	Standard																				
STD DS11 Expected		50	1.063	0.0701	18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD KO74421 Expected																					
STD PG04 Expected																					
STD PD05 Expected																					
STD OREAS683 Expected																					
STD BVGEO01 Expected		73	1.3219	0.0727	25.9	187	1.2963	260	0.233	3.8	2.347	0.1924	0.89	5.3	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD OREAS262 Expected		22.5	2.98	0.04	15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	3.73	0.4	0.23
BLK	Blank	<1	<0.01	<0.001	<1	1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<1	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																					
ROCK-WHI	Prep Blank	24	0.62	0.047	6	4	0.55	56	0.075	1	0.91	0.087	0.09	0.1	<0.01	3.0	<0.1	<0.05	4	<0.5	<0.2



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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** **Mayo Lake Minerals Inc.**

107 Falldown Lane

Carp Ontario K0A 1L0 Canada

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## QUALITY CONTROL REPORT

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		WGHT	FA330	FA330	FA330	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb
		kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm
		0.01	2	3	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1
ROCK-WHI	Prep Blank		3	<3	7	0.9	3.0	0.9	33	<0.1	1.3	3.7	546	1.92	1.0	2.4	2.5	21	<0.1	<0.1





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		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
		V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
ROCK-WHI	Prep Blank	23	0.57	0.046	6	3	0.51	56	0.067	1	0.87	0.088	0.09	<0.1	<0.01	2.7	<0.1	<0.05	4	<0.5	<0.2