



# BC Geological Survey Assessment Report 38671



Ministry of Energy, Mines & Petroleum Resources  
Mining & Minerals Division  
BC Geological Survey

Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological mapping, rock and soil geochemical sampling TOTAL COST: \$47,186.61

AUTHOR(S): Carl Schulze P.Geol

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A

YEAR OF WORK: 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):

Statement of Work - Event 5758619 - 2019/OCT/2019

PROPERTY NAME: Louise Lake

CLAIM NAME(S) (on which the work was done): 1058438 - Louise 1065754 - Weezie 1070157 - Louise Extension

COMMODITIES SOUGHT: Copper Molybdenum Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 093L 079

MINING DIVISION: Omineca

NTS/BCGS: NTS 093L13E BCGS 093L082

LATITUDE: 54 ° 51 ' 08 " LONGITUDE: 127 ° 41 ' 24 " (at centre of work)

OWNER(S):

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2)

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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Eocene Babine Igneous Suite, upper level calc-alkaline porphyry, disseminated and vein associated chalcopryrite and enargite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

11772, 18971, 24235

Nex

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping _____		1058438, 1065754, 1070157	\$16,572.50
Photo interpretation _____			
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic _____			
Electromagnetic _____			
Induced Polarization _____			
Radiometric _____			
Seismic _____			
Other _____			
Airborne _____			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil     77 soils - 36 element ICP		1065754, 1070157	\$22,795.25
Silt _____			
Rock     37 rocks - 36 element ICP		1058438, 1065754, 1070157	\$7,818.91
Other _____			
<b>DRILLING (total metres; number of holes, size)</b>			
Core _____			
Non-core _____			
<b>RELATED TECHNICAL</b>			
Sampling/assaying _____			
Petrographic _____			
Mineralographic _____			
Metallurgic _____			
<b>PROSPECTING (scale, area)</b> _____			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres) _____			
Topographic/Photogrammetric (scale, area) _____			
Legal surveys (scale, area) _____			
Road, local access (kilometres)/trail _____			
Trench (metres) _____			
Underground dev. (metres) _____			
Other _____			
		<b>TOTAL COST:</b>	<b>\$47,186.66</b>



## **ASSESSMENT REPORT**

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Assessment Report on Geological Mapping, Rock and Soil Geochemical Sampling  
On the Louise Lake Property, British Columbia, Canada  
Claims 1058438 (LOUISE), 1064063, 1064064, 1054065 (LOVABLE LOUIS),  
1065754 (WEEZIE), 1065822 (LL BEAN), 1065849, 1070157 (LOUISE EXTENSION)

BCGS Sheet NO93L082  
Smithers Mining Division

**Property Centre:**  
54°51'15" N 127°42'45" W

**WORK PERFORMED:**  
August 20 to August 31, 2019

**Owners:**  
B. Scott (50%), S. Scott (50%)

**Prepared for:**  
79 Resources Ltd.

**Report prepared by:**  
Carl Schulze, PGeol  
Aurora Geosciences Ltd.



**ASSESSMENT REPORT  
GEOLOGICAL MAPPING, ROCK AND SOIL GEOCHEMICAL SAMPLING  
LOUISE LAKE PROPERTY, SMITHERS AREA, NORTHERN BRITISH COLUMBIA  
CANADA**

Claims 1058438 (LOUISE), 1064063, 1064064, 1054065 (LOVABLE LOUIS),  
1065754 (WEEZIE), 1065822 (LL BEAN), 1065849, 1070157 (LOUISE EXTENSION)

BCGS Sheet NO93L082  
Smithers Mining Division

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Effective date: December 6, 2019

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# 1 EXECUTIVE SUMMARY

## 1.1 INTRODUCTION

In August 2019, 79 Resources Ltd (79) of Vancouver, British Columbia, Canada, commissioned Aurora Geosciences Ltd. (Aurora) to complete a surface exploration program of geological mapping and geochemical sampling, followed by an assessment report on the Louise Lake property. This is a “Property of Merit” based on the presence of the “Main Zone” copper (Cu) - molybdenum (Mo) - gold (Au) - silver (Ag) porphyry deposit in the north-central area of the property.

The Louise Lake property is located 35 air-km west of the Town of Smithers, British Columbia, Canada. The property comprises eight mineral claims comprising 1,825.12 hectares (Ha) held by Messrs. Steven Scott and Brian Scott. In July of 2019, 79 Resources Ltd. (“79”) entered into an option agreement to gain a 75% interest in the property. In August 2019, “79” commissioned Aurora to conduct due-diligence mapping and rock sampling across the surface expression of the Main Zone, and to conduct preliminary surface exploration southeast of the Louise Lake waterbody.

The southern part of the property is accessible by logging roads extending west from Smithers, although the Main Zone is accessible by helicopter only. Terrain is gentle to moderate in the Main Zone area, but considerably more rugged in the southeastern area. The property is located along the inland limit of the coastal pacific climatic influence, while to the east, the climate trends towards a sub-arctic continental climate.

Despite a history of significant exploration including delineation-style diamond drilling from 1970 through 2008, there are no environmental liabilities on the property. The 2019 program required no permitting. However, proposed diamond drilling programs for 2020 will require permitting from the Department of Energy, Mines and Petroleum Resources, Government of British Columbia, Canada. A security bond will also be required once the program is permitted.

## 1.2 HISTORY

The present property area was first staked as the LOU claims in 1968 by Mastodon-Highland Bell Mines (Mastodon). In 1969, Mastodon completed geological mapping, soil geochemical and Induced Polarization (IP) geophysical surveying and trenching, the latter exposing a 490 m X 245 m area of low-grade Cu-Mo mineralization, called the “Main Zone”, north of the Coal Creek fault.

Late in 1969, Canadian Superior Exploration Ltd. optioned the property, and in 1970, completed a 17-hole, 2,021 m diamond drilling program, with 16 holes focusing on or close to the Main Zone. Results were deemed sub-economic and the claims were allowed to lapse.

In 1975, Granby Mining Corporation re-staked the area as the 500-hectare (ha) LOUISE 1 and 2 claims and conducted soil geochemical surveying in 1976, delineating a 650 m X 300 m Cu soil geochemical anomaly.

In April 1979, the Bethlehem Copper Corporation staked the ROB 1-4 claims, resampled earlier core and conducted further geochemical and limited IP surveying. The geochemical survey returned two strongly anomalous Mo values, including one northwest of Bud Lake. However, the ROB claims were allowed to lapse.

In late November 1979, the LOUISE LAKE claim was transferred to Noranda Exploration Company Ltd (Noranda) which conducted airborne magnetometer and VLF-EM surveying across the Louise Lake area.

Noranda did some compilation and petrographic work and rock geochemical sampling, revealing anomalous Cu and Au values from the Main Zone area.

The property was re-staked in 1986 as the 1,600-ha TENN and TROUT claims by E. Shaede and L. Warren who then optioned it to Lacana Mining Corporation in 1987, which changed its name to Corona Gold Corporation (Corona) by 1988. In 1988, Corona conducted reconnaissance and detailed geological mapping and soil, rock and silt sampling, identifying numerous Cu  $\pm$  Mo  $\pm$  Au anomalies proximal to, but not always directly overlying, the Main Zone.

In 1989, Corona completed a five-hole, 916-metre diamond drilling program in the eastern Main Zone area. All holes returned strongly anomalous Cu-Au  $\pm$  Mo mineralization with fairly uniform metal values but lacking notable high-grade zones. In 1989, Placer Dome Inc. (Placer) conducted a brief property visit followed by a detailed compilation of existing drill and surface data. Placer determined that mineralization at Louise Lake has both epithermal and porphyry-style characteristics, suggesting the Main Zone represents a transitional zone between upper-levels of a porphyry system and an evolved hydrothermal (epithermal) zone. Placer believed the Main Zone mineralization to be sub-economic and thus declined to enter into an acquisition of the property from Corona.

Corona terminated its option in early 1991. In November 1991, the claims were optioned by New Canamin Resources Ltd. (New Canamin), who then subsequently entered into an option with Equity Silver Mines Ltd (Equity). In 1992, Equity conducted two diamond drilling programs totaling 2,651.6 metres in 13 holes, interpreting drill results as representing an east-west trending tabular deposit, dipping shallowly northward. At a 0.2% Cu cut-off, Equity stated that the deposit contained “estimated resources of 50 million tonnes grading 0.3% Cu and 0.3 g/t Au with some payable molybdenum”. This is not a compliant resource under NI 43-101 standards and should not be relied upon. Equity drilled one hole to the east, and intersected a zone referred to as the “Lake Zone”, comprising chalcopyrite-sphalerite veins with accessory Au and Ag values.

By early 1995, Global Mineral and Chemical Ltd. (Global) entered into an option agreement to earn a 100% interest on the TENN and TROUT claims and conducted soil geochemical sampling. A moderate Zn-in-soil geochemical anomaly was identified about 350 m south of Louise Lake. In early 1996, Global conducted IP surveying followed by five diamond drill holes into the Main Zone area. No assessment reports were accessible; however, news releases stated that two holes were mineralized throughout their >200-metre extents. In 1998, Global drilled five additional holes to the east. No major zones were intersected although the company did announce “interesting but not exciting silver values”

The LOUISE 1-30 claims were staked by January of 2004 by Messrs. B. Kreft and C. Greig. In January 2004, Firestone Ventures Inc. (Firestone) entered into a joint venture agreement to obtain a 100% interest in the property and completed a six-hole, 1,718.4 m diamond drilling program focusing on the Main Zone. The program expanded known dimensions of the zone to the east and west, and confirmed previously reported results in central areas.

In December 2004, Firestone signed a “letter of intent” with North American Gem Inc. whereby North American Gem may earn a 75% interest in the property. In 2005, North American Gem conducted a seven-hole, 2,412.3 m diamond drilling program, focusing on further expansion of the Main Zone to the west, east and at depth.

In early 2006, North American Gem conducted a twelve-hole, 3,387.4m diamond drilling program on the “Main Zone” and surrounding area. This program determined the base of the deposit to be a flat-lying thrust fault, named the “Terminator”. Results of this and all earlier programs were incorporated into the first Main Zone NI 43-101 resource estimate, provided by SRK Consulting (Canada) Inc. (SRK). In July, SRK released its estimate, comprising an Indicated Resource of 6.0M tonnes grading 0.214% Cu, 0.006% Mo, 0.20 g/t Au and 0.98 g/t Ag, and a further Inferred Resource of 141M tonnes grading 0.234 % Cu, 0.009% Mo, 0.23 g/t Au and 0.94 g/t Ag. A bulk density of 2.75 tonnes/m<sup>3</sup> was utilized. No mineral reserves were included in the resource evaluation. Despite some sources of uncertainty, SRK determined that the exploration work, including the 2006 program, was done in “a professional and reliable manner”.

In late July of 2006, a 164-kg composite sample of re-split core was sent for metallurgical analysis to G & T Metallurgical Services of Kamloops, British Columbia, Canada. “Head grade” analysis by G & T stood at 0.28% Cu, 0.3 g/t Au and 0.007% Mo, showing a fair correlation with the weighted average of analytical results by ALS Chemex. Copper mineralogy comprised an even distribution of chalcopyrite and enargite. The resulting concentrate contained 28.9% Cu at an 85% recovery rate, 0.650% Mo at an 80% recovery rate, 18.7 g/t Au, at a 55% recovery rate, and 364 g/t Ag, at a 44% recovery rate. The concentrate also contained 11.4% arsenic (As), a “deleterious element”, initiating research by North American Gem into alternative extraction processes. The final concentrate has a “mass percent” of 0.8% of the original flotation feed.

In 2007, North American Gem conducted a drilling program comprising 6,330.4 metres in 21 holes, focusing on deposit expansion as well as resource upgrading of the Main Zone. The program effectively outlined the deposit size and tenor, and returned the first intersection of Main Zone-style mineralization underlying the Terminator to the northwest. The latter suggested the underlying “sub-Terminator” portion occurs to the west-northwest, and the known Main Zone is hosted by a rafted block offset to the east.

In early 2008, North American Gem conducted a 16-hole, 5,042.8-metre diamond drilling program focusing on potential deep-seated “sub-Terminator” mineralization to the west. This program successfully identified the sub-Terminator zone and determined that post-depositional flat-lying faulting converted the deposit into a series of tabular blocks, each overlying unit successively displaced farther to the east-southeast.

The property was expanded by spring 2008, and a surface exploration program comprising geological mapping and geochemical sampling was conducted across the entire expanded property area. Results suggested some potential for a second porphyry-style system, centered in the Bud Lake area southeast of the Louise Lake waterbody. A detailed surface field program, based at Bud Lake, was recommended, but no further surface work was done by North American Gem.

The area covering the Main Zone deposit was acquired by Messrs. Steven Scott and Brian Scott in 2017. They allowed the property to lapse in 2018, then re-staked the core area. A single two-unit claim, covering the northeast part of the Main Zone, was acquired by an independent interest in October, 2018. As of October 2019, this claim has not been optioned to “79”.



## 1.3 GEOLOGICAL SETTING AND MINERALIZATION

### 1.3.1 *Geological Setting*

The Louise Lake property is located within the Stikinia Terrane of the Intermontane Tectonic Belt. The Stikinia Terrane consists largely of mid-late Jurassic Hazelton Group sedimentary and lesser volcanic units, Bowser Assemblage clastic sediments, and early to mid-Cretaceous Skeena Group volcanic and sedimentary units. This stratigraphy has been intruded by the granitic Topley Intrusions, occurring along the axis of the Skeena Arch, a major northeast-southwest trending transverse uplift structure. The Louise Lake property is located near the western limit of the Skeena Arch, which has also undergone block faulting and some thrust faulting. Eocene Nanika Intrusions, consisting of quartz-feldspar porphyritic granite, quartz monzonite and granodiorite, with minor rhyolite and quartz porphyritic stocks, have intruded all layered stratigraphy.

The Louise Lake property occurs along the east-northeast trending regional-scale Coal Creek lineament, forming the contact between lower Cretaceous Skeena Group sediments and volcanics to the northwest, and lower to middle Jurassic Hazelton Group volcanics and sediments to the southeast. The area north of the Coal Creek lineament is underlain by roughly east-west striking andesite flows and tuff to fragmental units, intercalated with conglomerate to sandstone units, with lesser greywacke and siltstone. Volcanic units occur primarily in the mineralized “Main Zone” area, where they have been intruded by several east-west trending, moderately north-dipping slabs of feldspar porphyritic monzonite. Mapping and drill log analysis revealed a larger quartz monzonitic stock west of the Main Zone. A small unit of argillically altered quartz-feldspar porphyritic monzonite occurs towards the Coal Creek lineament. Another feldspar porphyritic monzonite stock hosting up to 12% disseminated pyrite occurs northeast of the Main Zone.

South of the Coal Creek lineament, Hazelton Group stratigraphy comprises a dominant NNW – SSE trending assemblage of variably feldspar porphyritic basalt to andesite flows, and lesser tuff and agglomerate. This assemblage is intercalated with abundant rhyolitic flow units, variably porphyritic, and described as latite in year-2008 mapping. Two units of fairly monomictic conglomerate occur near the “terminus” of the driveable forest access road.

### 1.3.2 *Mineralization*

Two separate mineralized prospects occur within the core area of the Louise Lake property, the Main Zone deposit and the Lake Zone. The Main Zone is a tabular deposit dipping from 30° to 40° to the north, and has been traced along strike for about 1,000 metres. It comprises two major horizons extending at 80° – 260°: the shallower lower grade “North Horizon” and the underlying much broader, higher-grade “South Horizon”. The Lake Zone, occurring about 1.2 km to the east along the north shore of Louise Lake, hosts vein and fracture-hosted zinc-silver mineralization.

Block modeling in 2006 by SRK indicated the deposit has a footprint in plan view of almost 500 metres, extends to a depth to almost 300 metres, and showed that central portions have lower copper-equivalent grades than western and eastern portions. The geological setting comprises a series of several tabular units of feldspar porphyritic monzonite separated by sedimentary units in central areas, and andesite fragmental units in northern and western areas. Mineralization occurs within both the intrusion and host volcanic and sedimentary strata; grades do not appear to be dependent on a specific lithology.

Mineralization at the Main Zone comprises fine-grained disseminated and vein-controlled sulphides. The sulphide grains consist of an almost even mixture of fine-grained chalcopyrite and enargite (a Cu-As sulphide) locally comprising up to 4% of the rock mass. Several pulses of vein stockwork emplacement have occurred, with quartz-pyrite veins crosscut by later nearly massive pyrite veins. Copper-gold ratios show an approximate deposit-wide average ratio of 1% Cu: 1 g/t Au. Mo-bearing quartz stringers occur on surface in the eastern Main Zone area and in basal portions of the western area. Silver values reported from drill core analysis are generally less than 2.0 g/t.

Interpretation of 2004 through 2006 results and including previous results, indicated the Main Zone is bounded by a basal flat-lying fault at depths to 300m, called the “Terminator” with a minimal displacement of several hundred metres. North-dipping mineralized zones are truncated by this flat-lying fault, forming a wedge-shaped northern terminus.

Feldspar-porphyrific monzonite units are most abundant in central and eastern portions of the Main Zone. In western areas the primary host is andesite tuff to fragmental rocks, with minor host conglomerate and sandstone. The highest copper and gold grades occur in these areas, returning values to 0.592% Cu with 0.586 g/t Au across 35.7 metres, and locally exceeding 0.800% Cu and 0.800 g/t Au. The 2007 program identified higher-grade gold mineralization at depth in northeastern areas, overlying the Terminator fault. The Au: Cu ratio is considerably higher than the 1:1 ratio occurring throughout most of the deposit. Low-grade sub-Terminator mineralization intersected to the northwest in 2007, was found to have metal ratios and rock fabric similar to outlying areas of the Main Zone.

A single hole targeting the projected underlying portion of the Main Zone to the east-northeast, somewhat west of the Lake Zone, intersected minor massive lead-zinc veining at depth.

The 2008 drilling focused partly on delineating sub-Terminator mineralization west-northwest of the Main Zone. Several holes confirmed the presence of a flat lying slab of sub-Terminator-hosted Main Zone-style mineralization. In all intercepts, the sub - “Terminator” mineralization was truncated by another flat-lying mylonitic fault, called the “Sub-Terminator fault”. The westernmost hole returned low-grade mineralization below the “Sub-Terminator” having similar grade ratios to Main Zone mineralization, indicating another mineralized slab extends farther west-northwest.

## **1.4 DEPOSIT SETTINGS**

The Main Zone is classed as a “calc-alkaline suite” porphyry system, similar to deposits of the Eocene Babine Igneous Suite. The primary exploration model is porphyry-style mineralization, although potential satellite occurrences of base metal veining, “Bonanza-style” gold veins and zones of gold +/- silver bearing epithermal mineralization are also viable targets.

A typical porphyry deposit setting comprises bulk-tonnage-style Cu-Mo-Au mineralization centred on, and emanating from, a feldspar porphyritic monzonitic to granitic intrusion. Core areas consist of intrusive-hosted disseminated copper sulphides, largely chalcopyrite and bornite, commonly with accessory molybdenite and gold. Mineralization is spatially associated with the core intrusion, but not necessarily confined to it. Stocks are typified by concentric zones of potassic, phyllic (sericitic) and propylitic alteration, and commonly associated with argillic (clay) alteration and overlying zones of advanced argillic alteration.

Outbound from the stock, mineralization in the central deposit becomes progressively associated with quartz vein, stringer and stockwork infilling of fracture and breccia zones formed during intrusion emplacement. Farther outbound, a progression of concentric “halos” of disseminated pyrite, followed in turn by halos of lead-zinc-silver veins, bonanza veins and finally epithermal mineralized zones, typifies many porphyry systems. “Epithermal” deposits refer to those resulting from deposition of highly evolved hydrothermal fluids. These commonly occur distally from the core intrusion, and are the most outbound mineralized zones. Epithermal mineralization includes chalcedonic quartz vein, stringer and stockwork zones and hot springs-derived mineralization.

At Louise Lake, “epithermal” mineralization may be broadened to include hydrothermal mineralization in general, and include vein, vein stringer and vein stockwork zones. Mineralization may also include tabular, commonly intrusion-hosted stratabound deposits comprising fine stockwork-hosted and/or disseminated mineralization confined to a specific lithological horizon. The tabular shape is due to stratigraphic or structural controls. The Main Zone deposit may represent a transitional deposit model type between a typical porphyry system and outlying vein deposits. Copper mineralization was originally believed to be tennantite (also a Cu-Fe-As sulphide), which would have signified upper levels of a porphyry system. The revised mineralogy renders the location of the Main Zone respective to the overall setting of the porphyry system as uncertain.

## **1.5 CURRENT EXPLORATION (2019)**

The 2019 program comprised a one-day due-diligence visit to the Main Zone area, and eight days of exploration across the southeastern area, within the LOUISE EXTENSION claim. Exploration across the southeastern area comprised geological mapping, rock sampling, and soil geochemical sampling along existing and former logging roads. All work was done by a two-person crew, commuting on a daily basis from Smithers, and included two heli-supported traverses.

The one-day due-diligence visit confirmed the presence of Main Zone-style Cu-Mo-Au-Ag mineralization, although grades were somewhat lower than those from the Main Zone deposit. The remaining traverses failed to identify significantly mineralized zones or major geochemical anomalies, although elevated Mo and arsenic (As) values were returned from rock sampling of pyritic conglomerate units near the terminus of the drive-able logging road. Fairly widespread fine-grained pyrite, associated with fractured to brecciated mafic volcanics, occurs near the former logging roads.

## **1.6 CONCLUSIONS**

The Main Zone of the Louise Lake deposit is a tabular body striking at 260° and dipping from 30° to 40° to the north. The zone comprises disseminated and vein-associated grains of chalcopyrite and enargite with late molybdenite-bearing quartz veining, occurring within a series of tabular units of feldspar porphyritic monzonite separated by sedimentary and volcanic units. The deposit model is an upper-level portion of a Cu-Mo-Au-Ag porphyry system. By 2006, the Main Zone was known to have dimensions in plan view of about 1000 m by 500 m, extending to the horizontal “Terminator” fault at a depth of almost 300 m. Mineralization does not appear to show any lithological preference, although improved correlation of geological data is recommended.

In 2006, SRK released the first NI 43-101 resource estimate. The estimate comprised an Indicated Resource of 6 M tonnes grading 0.214% Cu, 0.006% Mo, 0.20 g/t Au and 0.98 g/t Ag, for a copper



equivalent (CuEq) grade of 0.369%; and an additional Inferred Resource of 141 M tonnes grading 0.234% Cu, 0.009% Mo, 0.20 g/t Au and 0.94 g/t Ag, for a CuEq grade of 0.426%. No reserves were included in this resource estimate.

Later in 2006, a metallurgical study by G & T Metallurgical Services Ltd. indicates that the concentrate, with a “mass percent” of 0.8, contains 28.9% Cu at a recovery rate of 85%. The concentrate also includes 0.650% Mo at an 80% recovery rate, 18.7 g/t Au, at a 55% recovery rate, and 364 g/t Ag, at a 44% recovery rate. Arsenic (As) concentration was 11.4%, limiting potential for treatment by conventional extraction techniques. A number of alternative extraction processes were investigated in 2006, although no further progress has occurred since then. Concentrations of other deleterious elements were minor.

A scoping study by SRK, submitted in January 2008, indicated the project was not economically viable at projected long-term metal prices, specifically a Cu price of US\$1.35/lb. At a Cu price of \$3.00/lb, project economics improve, but economic viability remained doubtful. North American Gem chose to respect the results, and terminated the scoping study. Prices for Cu, Mo, Au and Ag in 2019 have improved significantly, even when factoring inflation since early 2008, buoyed by a favourable CDN\$: US\$ exchange rate. Long term price forecasts are required when re-evaluating project economics.

The 2008 drilling program successfully identified the underlying “fixed” portion of the deposit to the west-northwest. Another flat-lying fault, called the “Sub-Terminator”, forms the basal unit of a mineralized tabular block. At least one other tabular block occurs beneath this to the west. Thus, the original deposit has been segmented into a series of blocks, each overlying segment successively displaced farther to the east-southeast. The Main Zone is hosted by the easternmost single block which extends to surface.

Results from the 2008 summer surface exploration program revealed an area of quartz and carbonate vein stockwork east of Bud Lake, with elevated Au values from nearby stream silt sampling. A second prospective target is the “Arsenic Hill” area northwest of Sandstone Lake. The “Louise Extension” claim currently covers these targets.

Due diligence rock sampling in 2019 across the surface expression of the Main Zone confirmed the presence of Cu-Mo-Au-Ag mineralization, although the 2019 values are lower than the deposit average. Geological mapping in the Bud Lake area did not identify mineralization indicative of another porphyry centre, and no significant mineralized zones were identified. Several rock samples of conglomerate returned elevated Mo and As values and slightly elevated Cu values. However, this is not considered a significant exploration target. The “Argillic Hill” occurrence was not visited in 2019.

## 1.7 RECOMMENDATIONS

It is strongly recommended that 79 Resources acquires the claim (#1064060) held by Mr. B. Kreft, through an option or purchase agreement. This claim covers part of the Main Zone deposit and is required if the entire deposit is to be wholly-owned.

A two-phased diamond drilling program is recommended to test for mineralization WNW of the Main Zone. The Phase 1 program would comprise a single 350-metre due diligence-style hole targeting the Main Zone, designed to confirm the extent and tenor of Main Zone mineralization. Phase 2 would involve a three-hole, 1,300-metre diamond drilling program targeting “sub-Terminator” mineralization WNW of the Main Zone. Both phases would be completed using a single drill with two shifts per 24 hours.

The crew would be comprised of four drillers and three geological and geotechnical staff. Drilling could be done in late winter, allowing for travel across frozen wetlands if necessary, or in summer, if wetlands can be avoided. None of the proposed drilling or support logistics would take place on Claim #1064060.

Due to the depth of mineralization, the Phase 2 program represents a high degree of risk in intersecting significantly mineralized intervals.

Phase 1 expenditures, including 5% contingency, are estimated at about CDN\$180,500. Phase 2 expenditures, including 5% contingency, are estimated at CDN\$484,400. Proposed expenditures exclude any follow-up surface field work or payment for a necessary reclamation bond, but include reclamation costs. Expenditures also exclude PST and the cost of acquiring Claim #1064060.

## **2 INTRODUCTION**

### **2.1 INTRODUCTION**

In August of 2019, 79 Resources Ltd. (“79”), based in Vancouver, British Columbia, Canada, commissioned Aurora Geosciences Ltd. (Aurora) to summarize the geological and mineralogical settings of the Louise Lake property, located in north-central British Columbia, Canada. “79” is a junior mineral exploration company based in Vancouver, British Columbia, Canada, and holds the Louise Lake property. This assessment report has been prepared for “79” to fulfill requirements under the Mineral Tenure Act of the Government of British Columbia. This report documents the historic work but also the recent exploration work completed by “79” at the Louise Lake property.

The Louise Lake property was optioned by 79 Resources on July 8, 2019 from Messrs. Brian Scott and Steven Scott. The property is considered an advanced-stage exploration project covering part of the Louise Lake deposit, with an established mineral resource estimate in the indicated and inferred resource categories.

### **2.2 TERMS OF REFERENCE**

The author has been requested to write this report using the following terms of reference:

- a) Review and compile all available data obtained by “79” and its predecessors,
- b) Provide an Assessment Report to the standards required by the Mineral Tenure Act of the Government of British Columbia.

### **2.3 SOURCES OF INFORMATION**

The author has referenced previous reports on the property that are available in the public domain as well as historic and current internal reports provided by 79 Resources Ltd.

A detailed review of the available historical exploration records pertaining to the property was undertaken. The majority of the historical data was supplied by Carl Schulze (this author), then of All-Terrane Mineral Exploration Services providing services to Fireweed Ventures Inc. (2004) and North American Gem Inc (2005 – 2008). The author has also utilized maps and information provided by the Department of Geological and Geophysical Surveys (DGGs), and interactive maps from the “Mineral Titles Online” website of the Government of British Columbia.

### **2.4 EXTENT OF INVOLVEMENT BY QUALIFIED PERSON**

Mr. Carl Schulze, Qualified Person for Aurora Geosciences Ltd, and the consultant for the Louise Lake property, was on site from August 22-30, 2019, inclusive. Mr. Schulze is responsible for all sections of this report and managed all exploration programs, either on site or based from the Town of Smithers, British Columbia, from 2004 through 2008.

### **2.5 TERMS, DEFINITIONS AND UNITS**

All costs contained in this report are in Canadian dollars (CDN\$) unless indicated otherwise. Distances are reported in millimetres (mm), centimetres (cm), metres (m) and kilometres (km). Weights are reported

in grams (g) or kilograms (kg). Units of area are measured in hectares (ha), of which 1 hectare is 100 m<sup>2</sup>, and equivalent to 2.47 acres (ac). Some historical distances are reported in feet (ft) or miles (mi), and historical weights in troy ounces (oz.) or pounds (lbs). Temperatures are reported in degrees Celsius (°C), whereby 0°C is the freezing point of water.

The term “GPS” refers to “Global Positioning System” with co-ordinates reported in UTM NAD 83 projection, Zone 9.

“RQD” stands for “rock-quality designation” and “SG” is short for “specific gravity”. A “reference sample” is a sample of known concentration of specific metals. A “standard sample”, is a type of reference sample, in this case with known concentrations of copper (Cu), molybdenite (Mo), silver (Ag) and gold (Au), with the Certified Value or “Recommended Value” determined from an average of results from several independent laboratories. These are utilized to determine the accuracy of laboratory analysis. Another type is a “blank sample”, of known very low, normally sub-detection metal grades, that tests for the degree of contamination, if any, occurring through the analytical process.

A “ton” refers to a short ton, or 2,000 lbs. A “tonne” (t) refers to a metric tonne, which is 1,000 kg or 2,204 lbs. The term “ppm” refers to parts per million, which is equivalent to grams per metric tonne (g/t); the term “ppb” refers to parts per billion. Some historic grades are reported in “oz./ton” which is ounces per short ton. “Ma” refers to million years. The symbol “%” refers to weight percent unless otherwise stated.

For the purpose of reporting historical gold grades, one troy ounce (oz.) per short ton (T) is converted to grams (g) per tonne (t) using a factor of 34.2857.

ICP-AES stands for “inductively coupled plasma atomic emission spectroscopy”. ICP-ES stands for “Inductively coupled plasma emission spectroscopy”, and AA stands for “atomic absorption”. “QA/QC” refers to “Quality Assurance/ Quality Control”.

“NI 43-101” stands for National Instrument 43-101. “IPO” stands for “Initial Public Offering”. “CIM” stands for Canadian Institute of Mining, Metallurgy and Petroleum”. “NSR” stands for “Net Smelter Return royalty”.

“NOW” stands for “Notice of Work”, and “MYAB” is short for “Multi-Year Area-based Permit”. “ASEA” is an acronym for “Annual Summary of Exploration Activities”. “FUP” is short for “Free Use Permit”, and “OLTC” stands for “Occupant Licence to Cut”.



Elemental abbreviations used in this report are:

Au: Gold	Mn: Manganese
Ag: Silver	Mo: Molybdenum
Al: Aluminum	Na: Sodium
As: Arsenic	Nb: Niobium
B: Boron	Ni: Nickel
Ba: Barium	P: Phosphorous
Be: Beryllium	Pb: Lead
Bi: Bismuth	Pd: Palladium
Ca: Calcium	Pt: Platinum
Cd: Cadmium	Rb: Rubidium
Ce: Cerium	Re: Rhenium
Co: Cobalt	S: Sulphur
Cr: Chromium	Sb: Antimony
Cs: Cesium	Sc: Scandium
Cu: Copper	Se: Selenium
Fe: Iron	Sn: Tin
Ga: Gallium	Sr: Strontium
Ge: Germanium	Ta: Tantalum
Hf: Hafnium	Te: Tellurium
Hg: Mercury	Th: Thorium
In: Indium	Ti: Titanium
K: Potassium	Tl: Thallium
La: Lanthanum	U: Uranium
Li: Lithium	V: Vanadium
Mg: Magnesium	W: Tungsten
Y: Yttrium	Zn: Zinc
Zr: Zirconium	

### 3 PROPERTY DESCRIPTION AND LOCATION

#### 3.1 LOCATION AND DESCRIPTION

The Louise Lake property is located about 35 air kilometres west of Smithers, British Columbia, Canada, and is geographically centered at 54°51'15" N Latitude, 127°42'45" W Longitude within BCGS sheet NO93L082, in the Smithers mining division. The property is comprised of eight British Columbia mineral claims covering a total of 1,825.12 hectares (ha), equivalent to 4,508 acres.

#### 3.2 MINERAL TENURE AND UNDERLYING AGREEMENTS

All claims are co-owned by Messrs. Steven Scott (50.0%) and Brian Scott (50%). All claims are contiguous, unpatented (Table 1, Figure 2) and have not undergone a legal survey. All claims other than Title # 1070157 were acquired between October 25 2018 through January 20, 2019, and comprise the original block optioned to 79 Resources Ltd. Claim title #1070157 was acquired on August 7, 2019, to cover prospective ground southeast of the Main Zone deposit. Table 1 lists the claim status of all titles comprising the Louise Lake property.

**Table 1: Claim titled, Louise Lake Property (as of October 1, 2019)**

<b>Title No.</b>	<b>Claim Name</b>	<b>Issue Date</b>	<b>Expiry Date</b>	<b>Area (Ha)</b>
1058438	LOUISE	07-Feb-18	30-Dec-27	37.24
1064063		26-Oct-18	30-Dec-27	74.49
1064064		26-Oct-18	30-Dec-27	55.86
1064065	LOVABLE LOUIS	26-Oct-18	30-Dec-27	55.85
1065754	WEEZIE	14-Jan-19	30-Dec-27	37.25
1065822	LL BEAN	17-Jan-19	30-Dec-27	37.23
1065849		18-Jan-19	30-Dec-27	37.24
1070157	LOUISE EXTENSION	07-Aug-19	30-Dec-21	1,527.2
			<b>Total area:</b>	<b>1,862.36</b>

On July 8, 2019 (the "Effective Date"), Messrs. Steven and Brian Scott, (the "Optionors") entered into an option agreement to grant 79 Resources Ltd, as the "Optionee", a 75% undivided interest in and to the Louise Lake Property. The Optionors allow 79 Resources to acquire this interest in the property through two options: a "First Option" to acquire a 51% undivided legal and beneficial interest; and a "Second Option" to acquire an additional 24% undivided legal and beneficial interest, for a total interest of 75%. Both will be free and clear of any liens, charges and encumbrances, but are subject to a 2% net smelter returns royalty. Claim #1070157 was automatically included into the agreement.

The property excludes one claim, #1064060, held by Mr. B. Kreft of Whitehorse, Yukon. This covers part of the Louise Lake deposit and is wholly surrounded by the claim block held by 79 Resources Ltd.

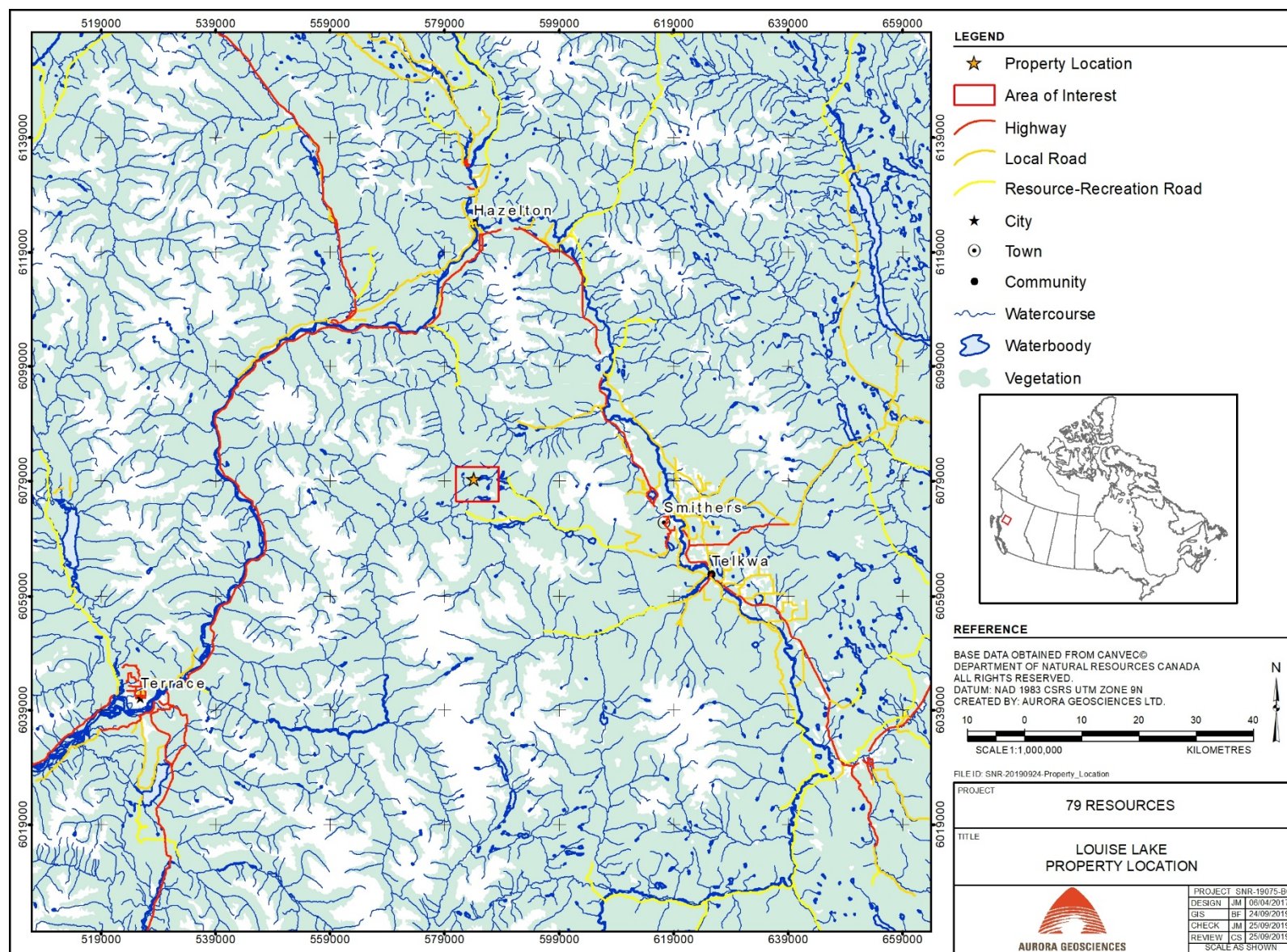


Figure 1: Location Map



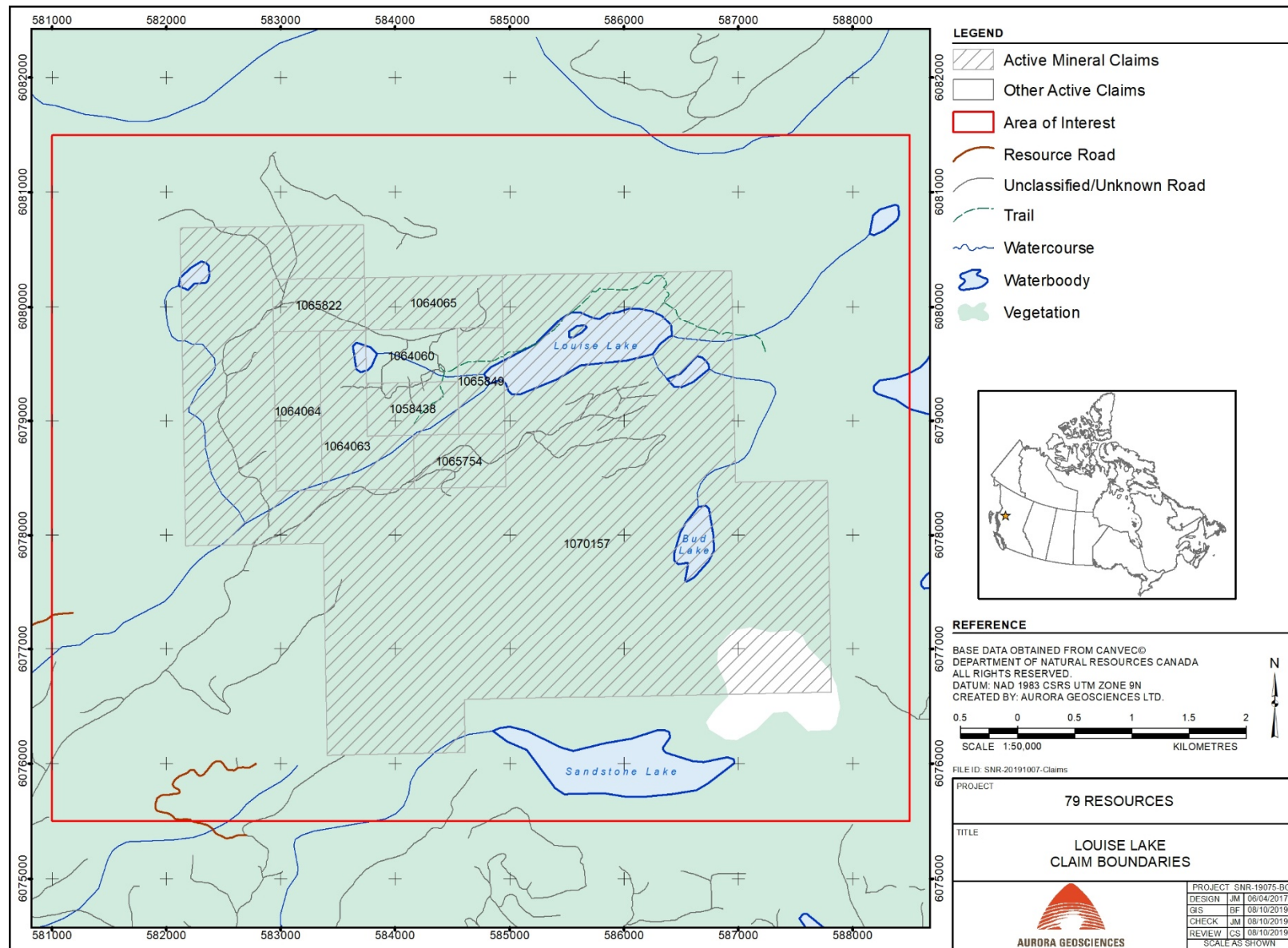


Figure 2: Mineral Tenure Map

### 3.3 ROYALTIES AND ENCUMBRANCES

The First Option can be exercised by the Optionee by paying the Optionor an aggregate of \$5,000.00, and by issuing to the Optionors an aggregate of 100,000 Consideration Shares at a deemed issuance price of \$0.02 per share. The Second Option may be exercised by paying the Optionors an aggregate of \$10,000.00, issuing an aggregate of 100,000 Consideration Shares to the Optionors, and incurring a total of \$225,000.00 of exploration expenditures on the property. To obtain a 75% interest, the payment of \$10,000.00 must be made on or before the first anniversary of the Effective Date. Expenditures totalling \$75,000.00 must be incurred on or before the first anniversary of the Effective date, and expenditures totalling \$150,000.00 must be made on or before the first anniversary of the initial listing of the shares on the TSX-V exchange.

A “Net Smelter Return” (NSR) royalty of 2% will be retained by the Optionors. If either the First Option or Second Option are exercised, the Optionee may, within three (3) years of the commencement of commercial production, purchase 50% of the NSR (1% of production) from the Optionors for \$1,000,000.00

### 3.4 ENVIRONMENTAL LIABILITIES

There are no environmental liabilities on the property. Reclamation of the 2004 through 2008 drill sites was ongoing during those programs. In 2015, the sites were inspected by this author and a government official, who recommended minimal further reclamation, mainly to the access road from existing forestry access roads. The reclamation was completed as requested. In 2019, the access road was inspected and found to be undergoing natural revegetation, as were the former drill access roads in the deposit area.



Figure 3: Natural revegetation along trail to logging road





Figure 4: Natural revegetation of former drill site and access road

### 3.5 PERMITS

At present, no permits are in place for exploration on the Louise Lake property. Activities completed during the 2019 program did not require permitting.

Exploration activities which have a more significant environmental “footprint”, such as drilling and mechanized trenching, require a “Multi-Year Area-based Permit” (MYAB) and a Notice of Work (NOW) permit. The MYAB authorizes exploration activities typically for up to 5 years within identified activity areas within the mineral tenure. The NOW is also required for permitting of a “major mine” under the British Columbia Mines Act. An annual report of exploration activities must be provided in an “Annual Summary of Exploration Activities” (ASEA) document. A reclamation security will be required, based on a risk assessment of the proposed work.

The MYAB process incorporates an “Archaeological Chance Find Procedure” (CFP), which must be prepared, tailored and implemented for the particular work program. A “Mine Emergency Response Plan” must also be provided to the inspector prior to issuance of the MYAP permit. Timber cutting permits, if applicable, include a “Free Use Permit” (FUP) for cutting of up to 50m<sup>3</sup> of merchandisable timber, or an “Occupant Licence to Cut” (OLTC) for amounts greater than 50m<sup>3</sup>. An “Explosives Storage and Use Permit” may also be required as part of the MYAB permitting process (Mines and Mineral Resources Division, BC Ministry of Energy and Mines).

The on-site project manager of any exploration program will require a Mine Supervisor Certification from the Ministry of Energy, Mines and Petroleum Resources, Government of British Columbia.

### **3.6 REPORTING AND NOTIFICATION REQUIREMENTS**

The MYAB requirements include written notification that must be provided to the inspector no less than 10 days prior to commencing an exploration program, and no less than 7 days prior to completion of exploration activities each season. If exploration activities take place during several separate time periods within a calendar year, the above notification must be provided for each exploration program. If the scope of work exceeds that outlined in the MYAB Work Program Annual Update, the proponent must notify the inspector in writing prior to the revised program, and ensure the program remains within the scope of the approved permit.

### **3.7 OTHER SIGNIFICANT FACTORS AND RISKS**

To the best of the author's knowledge, there are no other significant factors and risks pertaining to the Louise Lake project.

## **4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **4.1 TOPOGRAPHY, ELEVATION AND VEGETATION**

The core area, hosting the Main Zone deposit of the Louise Lake property, is located within gently rolling terrain ranging in elevation from 3,100 to 3,400 feet (945 m to 1,035 m). Portions of the property, directly northwest of the Main Zone, are swampy to boggy. Newly acquired areas to the southeast are more rugged, with elevations ranging from 3,230 to 4,130 feet (985m to 1,260m) with locally inaccessible sections.

The property is heavily wooded with thick coniferous forests of hemlock, pine and spruce. Areas northeast of the Main Zone and along the unmaintained logging roads south of the Louise Lake waterbody were clear-cut in the late 1990s. Within the core area, directly overlying the deposit, vegetation comprises smaller trees, mainly pine, fir and hemlock. The area to the southeast comprises mature to over-mature balsam fir and hemlock forest, with trees attaining 40 m in height. Clear-cut areas are marked by immature pine and fir forest and lush annual undergrowth.

### **4.2 ACCESS**

The southeastern property area is accessible by an unmaintained logging road extending ENE from the currently maintained McDonnell Lake Road, itself extending from the all-weather "Hudson Bay Mountain Road" leading to Smithers. Commuting time from Smithers is about 1.25 hours. The unmaintained road is accessible by 4WD vehicles to a "terminus" southeast of the Louise Lake waterbody, although this required some brushing in 2019 along its final 1.3 km to the terminus (Figures 1 and 2). The core area hosting the property is now inaccessible by road, following emplacement of a barrier on the Coal Creek Road extending from the aforementioned logging road. Minor logging roads extending from the remaining accessible road are overgrown and impassable for 4WD vehicles. Access to the core area, and to areas east of Bud Lake, is by helicopter from Smithers.



During August, 2019, the McDonnell Lake Road was an active logging haul road. A two-way radio with the same frequency as that utilized by the logging companies is required during active logging episodes.

### **4.3 LOCAL RESOURCES**

The property is about 35 km west of Smithers, British Columbia, with a population of about 5,700 servicing roughly 11,000 people. Smithers is a major service centre along both the Yellowhead Highway and the northern Canadian National Railway line, midway between the City of Prince George and tidewater at the City of Prince Rupert, British Columbia. The town has abundant accommodation, fuel, hardware and other industrial services, an available workforce for exploration and mining, and access to abundant electrical power. A local mining recorder's office and other government services are also available. A major regional airport, with daily scheduled flights to Vancouver, also services the town.

### **4.4 CLIMATE**

The property occurs along the inland limit of the coastal pacific influence, and areas to the east towards Smithers have a progressively more continental climate. Summers are mild and winters are fairly cold with temperatures to -25°C with abundant snowfall typically attaining depths of 1.3 metres. The exploration season extends from early May to mid-October, although drilling can be done into early November. Drilling may also be done from early February to late March in flat, accessible areas, particularly boggy areas, due to snow and ice cover.

The climate of Smithers is described as a borderline humid continental/subarctic climate (Köppen climate classification, Wikipedia, 2019). Daily high and low temperatures in Smithers for July are 21.6°C and 8.6°C respectively; daily high and low temperatures in January are -3.5°C and -11.0°C respectively. Occasional summer heat waves and winter cold snaps occur. Annual precipitation averages 508.5 mm (20.2"), comprising 367.2 mm of rain and 182.7 cm snow (Wikipedia, 2019).

### **4.5 SURFACE RIGHTS**

No fee-simple surface rights have been allocated within property boundaries. The majority of the property is covered by five (5) Land Act Survey Parcels, specifically Parcels #5579, 5866, 5572, 5865 and 5580, covering the property area to Bud Lake. These are parcels that are, or have been, within the purview of the B.C. Crown Land Management program, but have no private ownership.

### **4.6 INFRASTRUCTURE**

At this time no significant infrastructure exists within the property. The property size and gentle terrain in the core area are sufficient to accommodate mining facilities, accommodations and mine infrastructure support facilities, potential mill processing sites, heap leach pads, and waste disposal sites. In the core area, water is readily accessible from Coal Creek and a tributary stream, and several ponds within the property (Figure 2). Permanent streams and small ponds are abundant throughout most of the property, and the southeastern area hosts the Louise Lake and Bud Lake waterbodies.

Smithers is located along a major transportation and infrastructure corridor, including Highway 16 and the Canadian National Railway line, both extending west to tidewater at Prince Rupert, British Columbia.

A major electric power line also extends about 28 km south of the property. Sufficient electrical power for a small to medium-scale mining operation could be supplied by a spur line from this current infrastructure.

## 5 EXPLORATION HISTORY

### 5.1 OVERVIEW

*This section of the report, concerning exploration activities to 2008, is based on the 2008 technical report titled: "NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc", by Carl Schulze.*

The present property area was first staked as the LOU claims in 1968 by Mastodon-Highland Bell Mines (Mastodon), following identification of anomalous Cu values from outcrop and stream silt sampling west of Louise Lake. In 1969, Mastodon completed geological mapping, soil geochemical and Induced Polarization (IP) geophysical surveying. It also completed 220 metres of trenching, exposing a 1,600 ft by 800 ft (490 m – 245 m) area of low-grade Cu-Mo mineralization, called the Main Zone, along the north side of the ENE – WSW trending Coal Creek fault. Late in 1969, Canadian Superior Exploration Ltd. optioned the property and conducted further IP surveying early in 1970, delineating a chargeability anomaly coincident with the mineralized area and a second anomaly of similar signature about 1.0 km to the east, along the south limb of the fault.

From January to March 1970, Canadian Superior completed a 17-hole, 6,632-foot (2,021m) diamond drilling program utilizing "BQ-sized core", with 16 holes focusing on or close to the Main Zone. Results from the Main Zone area ranged from 104.1 m grading 0.161% Cu, 0.0024% Mo, 0.127 g/t Au and 0.8 g/t Ag to 115.8m grading 0.201% Cu, 0.0055% Mo, 0.127 g/t Au and 0.8 g/t Ag. In 1986, several unsampled intervals were sampled by L. Warren and E. Shaede. Results from this sampling combined with the 1970 sampling returned a 146-metre interval grading 0.255% Cu and 0.297 g/t Au and a 100.9-metre interval grading 0.357% Cu and 0.364 g/t Au. Results were deemed sub-economic and the claims were allowed to lapse.

In 1975, Granby Mining Corporation re-staked the area as the LOUISE 1 and 2 claims comprising 20 units (500 hectares) and conducted soil geochemical surveying in 1976. This program, involving collection of 251 soil samples along a grid extending west from Louise Lake, delineated a 650 m by 300 m Cu soil geochemical anomaly. Granby also re-evaluated the 1970 IP results, and determined that areas having highly anomalous chargeability signatures coincide with strongly pyritic zones. Areas having moderate to weak chargeability signatures may represent higher-grade but less pyritic Cu mineralization, and are thus more viable exploration targets. Granby also re-logged the 1970 drill core and re-assayed much of it. By 1977 the property was reduced to a four-unit (100-ha) claim covering the central Main Zone area.

In April 1979, the Bethlehem Copper Corporation staked the ROB 1-4 claims comprising 61 units, obtained representative core samples at 50-foot intervals and conducted further geochemical and limited IP surveying. The geochemical survey, focusing on Cu and Mo analyses, systematically covered the entire claim block, revealing scattered weakly anomalous Cu values. Two strongly anomalous Mo values were

returned, one of 45 ppm Mo south of the west end of Louise Lake, and another of 150 ppm Mo roughly 400 m northwest of Bud Lake. The IP surveying was done along the Coal Creek fault zone beyond the southwestern and northeastern limits of the 1970 surveying. The IP geophysical equipment was inadequate for the conditions encountered due to insufficient power. However, the survey identified an anomalous chargeability signature to the southwest, and a coincident narrow high chargeability and low resistivity signature to the northeast, possibly representing vein or fault-controlled “chargeability materials” (White, 1979). The ROB claims were then allowed to lapse.

In late November 1979, the LOUISE LAKE claim was transferred to Noranda Exploration Company Ltd (Noranda). In 1980, Noranda conducted airborne magnetometer and VLF-EM surveying across the Louise Lake area, identifying three VLF-EM anomalies (Myers, 1983). Noranda did some compilation and petrographic work and took 17 rock samples, revealing anomalous Cu and Au values from the Main Zone area.

The property was re-staked in 1986 as the TENN 1-3 and TROUT claims by Eric A. Shaede of Sicamous, B.C. and Lorne B. Warren of Smithers, B.C. (Klassen, 1989). The 64-unit (1,600-hectare) block was optioned by Lacana Mining Corporation in 1987, which changed its name to Corona Gold Corporation by 1988. From 1987 to 1988 Lacana systematically re-analyzed and re-logged the 1970 core. In 1988, Corona conducted reconnaissance and detailed geological mapping and silt sampling, followed by a 33-km surface VLF-EM survey, a 4.2 km soil geochemical survey and 485 metres of mechanized trenching. A total of 205 soil and 192 rock samples were taken (Klassen, 1989), identifying numerous Cu  $\pm$  Mo  $\pm$  Au anomalies located close to, but not always directly overlying, the Main Zone. The VLF-EM survey provided limited response across the entire grid.

In 1989, Corona drilled five further holes for 916 metres in the eastern Main Zone area, targeting a major shear zone, for potential high-grade Cu-Au mineralization. All holes returned strongly anomalous Cu-Au  $\pm$  Mo mineralization with intercepts ranging from 117.3 m grading 0.167% Cu, 0.0072% Mo, 0.118 g/t Au and 0.5 g/t Ag to 189.4 m grading 0.264% Cu, 0.0103% Mo, 0.313 g/t Au and 1.0 g/t Ag. Grades were fairly uniform, lacking notable high-grade zones.

In 1989, Placer Dome Inc. conducted a brief property visit followed by detailed compilation of existing drill and surface data, which was completed early in 1990. Placer Dome determined that mineralization at Louise Lake has both epithermal and porphyry-style characteristics, suggesting the Main Zone represents a transitional zone between upper-levels of a porphyry system and an associated evolved hydrothermal (epithermal) zone, possibly remobilized along the Coal Creek fault zone. In 1990, Placer Dome collected 5 rock and 65 soil samples; soil sampling revealed a Cu-Au anomaly southeast of the Main Zone, and a Cu  $\pm$  Zn anomaly to the southwest. Placer Dome believed the eastern anomaly may be “a southeastern continuation of known alteration/ mineralization onto (the) eastern lines” (G. Ditson, 1990) rather than a major structurally controlled zone in the Coal Creek fault zone. The western anomaly likely represents a narrow zone (Ditson). Placer Dome believed the Main Zone mineralization to be sub-economic and that grades of potential mineralization indicated by the southeastern anomaly were not likely to be higher than within the trenches. Placer thus declined to enter into acquisition of the property.

Corona terminated its option in early 1991 and in March 1991, the claims were sold to numbered company 402774 B.C. In October 1991, the TENN 4-12 claims were added, bringing the total number of units to 164 covering 4,100 hectares. In November 1991, the claims were optioned by New Canamin Resources Ltd, who then subsequently entered into an option agreement with Equity Silver Mines Ltd (Equity). In

March and June of 1992 respectively, Equity conducted two diamond drilling programs totaling 2,651.6 metres in 13 holes. Phase I consisted of nine NQ-core holes, of which six tested the Main Zone area, two tested the Coal Creek fault to the south and one hole tested for fault-offset mineralization under Louise Lake. Phase II comprised three BQ-core holes testing potential western extensions of the Main Zone.

Drilling of the Main Zone area returned intervals ranging from 85.4 m grading 0.24% Cu, 0.0116% Mo, 0.241 g/t Au and 0.8 g/t Ag, to 60.9 m grading 0.363% Cu, 0.0223% Mo, 0.335 g/t Au and 1.6 g/t Ag. Drilling outside of the Main Zone area returned shorter, lower grade intercepts. Equity interpreted drill results as representing an east-west trending tabular deposit roughly 850m long and 40 to 80 metres thick, dipping northward at 20° and having a shallow westward plunge (Hanson, 1992). At a 0.2% Cu cut-off, Equity stated that the deposit contained an “estimated resources of 50 million tonnes grading 0.3% Cu and 0.3 g/t Au with some payable molybdenum” (Hanson, 1992). This resource estimate was calculated prior to implementation of current standards under National Instrument 43-101, has not been independently verified by North American Gem, 79 Resources or this author, and should not be relied upon. Equity determined that the deposit was sub-economic but “considerable potential” existed for expansion of the deposit to the west, and for discovery of additional zones and of higher-grade areas within known horizons (Hanson).

Equity also drilled one hole (LL-02-10) to the east, testing the potentially offset IP anomaly under Louise Lake. This hole intersected a zone, called the “Lake Zone”, comprising chalcopyrite-sphalerite veins within ash and lapilli tuff horizons intruded by feldspar porphyritic dykes. A 39.6-metre interval returned 0.129% Cu, 0.566% Zn, 13.6 g/t Ag and 0.210 g/t Au from 70.1 m to 109.7 m; this includes a 3.1-metre interval hosting a 15-cm chalcopyrite-sphalerite vein returning 1.456% Cu, 1.146% Zn, 121.7 g/t Ag and 1.920 g/t Au from 97.5 m – 100.6 m.

By early 1995, Global Mineral and Chemical Ltd. (Global) entered into an option agreement to earn a 100% interest on the TENN 1-12 and TROUT claim with 402274 B.C. Ltd, and conducted a preliminary compilation of past reports. In 1995, Global collected 93 soil and 3 rock geochemical samples south of Louise Lake, and completed five additional lines of IP surveying along the Main Zone trend. One soil sample returned 18 ppm Mo; this was taken roughly 200 metres southeast of a rock sample returning 375 ppm Mo. A moderate zinc-in-soil geochemical anomaly, with values to 574 ppm Zn, coinciding with elevated lead values to 172 ppm Pb, was identified about 350m south of Louise Lake. The IP survey consisted of five lines; two southwest of the Main Zone, one across the Main Zone and two to the northeast. The line across the Main Zone showed that the previously defined chargeability anomaly extends beyond known surface mineralization to the north of the Main Zone and is weaker and more erratic to the south. A weaker but still well-defined chargeability anomaly was identified southwest of the Main Zone to the northern end of the lines (Tennant, 1996), suggesting potential continuation of the Main Zone. No anomalous responses were returned from the eastern lines.

In early 1996, Global conducted further IP surveying followed by five diamond drill holes in the Main Zone area. No assessment reports or detailed results were accessible; however, news releases stated that two holes spaced 320m apart, were mineralized throughout their lengths of 229 and 213 metres respectively. One of these returned a 55-metre intercept from 18 m – 73 m grading 0.28% Cu and 0.47 g/t Au, the other returned a 52-metre interval from 24 m to 76 m grading 0.23% Cu and 0.29 g/t Au. Also, Hole GM-3 returned a 128-metre intercept grading 0.49 g/t Au, and all holes reported slightly enriched Mo near surface, including an interval of 0.024% Mo across 21 m.

In 1998, Global drilled five additional holes targeting the eastern geophysical anomaly. No major zones were intersected although the company did announce “interesting but not exciting silver values” (Letter from the President, 1998). No specific details were available for this work. The company planned additional drilling of the Main Zone in 1999 but no records of such work were found and the company appears to have focused its efforts elsewhere.

The LOUISE 1-8 claims were staked in October 2003 and the LOUISE 9-30 claims were staked in January 2004 by Messrs. B. Kreft and C. Greig. In January 2004, Firestone Ventures Inc. (Firestone) entered into a joint venture agreement with Messrs. Kreft and Greig to obtain a 100% interest in the property. In July and August, Firestone completed a six-hole, 5,638.4-foot (1,718.4 m) diamond drilling program using “NQ” sized core and focusing on the Main Zone. The program expanded known dimensions of the zone to the east and west, and confirmed previously reported results in central areas. Results ranged from 62.1 metres grading 0.214% Cu, 0.0044% Mo, 0.173 g/t Au and 1.5 g/t Ag from 121.0 to 183.1 m, to a 204-metre intercept grading 0.366% Cu, 0.0118% Mo, 0.354 g/t Au and 1.2 g/t Ag.

In December 2004, Firestone signed a “letter of intent” with North American Gem Inc. whereby North American Gem may earn a 75% interest in the Louise Lake property. In 2005, North American Gem conducted a seven-hole, 7915-foot (2,412.3 m) diamond drilling program, focusing on further expansion of the Main Zone to the west, east and at depth. Results ranged from 22.7 metres grading 0.159% Cu, 0.014% Mo, 0.150 g/t Au and 0.5 g/t Ag to 192.1 metres grading 0.271% Cu, 0.011% Mo, 0.255 g/t Au and 1.9 g/t Ag.

In February 2006, Firestone transferred its agreement to earn a 100% interest in the Louise Lake property, together with all obligations of the 2004 and 2003 agreements to North American Gem Inc. From February to March, 2006, North American Gem conducted a twelve-hole, 11,114-foot (3,387.4 m) diamond drilling program on the “Main Zone” and surrounding area. Results of this and all earlier programs, including historical drilling activity, were incorporated into the first Main Zone NI 43-101 resource estimate. The resource estimate was provided by SRK Consulting (Canada) Inc. (SRK). In July, SRK released its estimate, comprising an Indicated Resource of 6.0 M tonnes grading 0.214% Cu, 0.006% Mo, 0.20 g/t Au and 0.98 g/t Ag, and a further Inferred Resource of 141 M tonnes grading 0.234 % Cu, 0.009% Mo, 0.23 g/t Au and 0.94 g/t Ag.

In late July of 2006, a 164-kg composite sample of re-split core was sent for metallurgical analysis to G & T Metallurgical Services of Kamloops, British Columbia, Canada. The concentrate contained 28.9% Cu at an 85% recovery rate. The concentrate also included 18.7 g/t gold, at a 55% recovery rate, and 364 g/t silver, at a 44% recovery rate. Molybdenum grades in concentrate stood at 0.650%, at an 80% recovery rate, potentially recoverable as a separate saleable product using a “reverse flotation” procedure. The concentrate also contained 11.4% arsenic (As), a “deleterious element”, initiating research by North American Gem into alternative, environmentally acceptable extraction processes through a number of consultants. The best alternative treatment process was determined to be the “CESL” hydrometallurgical extraction process, developed by Teck-Cominco.

In 2007, North American Gem conducted a drilling program comprising 6,330.4 metres (20,770 feet) in 21 holes, focusing on deposit expansion as well as resource upgrading of the Main Zone. The program targeted the northern down-dip extension of the Main Zone, and the central deposit area.

This program identified the eastern and western boundaries of mineralization, and firmed up the northern and southern boundaries, effectively outlining the deposit size and tenor. The program resulted in three other major findings: an area of higher gold grade at depth in north-eastern areas; a slight “flattening” of the Main Zone overlying a basal flat-lying fault called the “Terminator” in north-central areas, and the first intersection of Main Zone-style mineralization underlying the Terminator in the northwestern area. The latter suggests the underlying portion occurs to the west-northwest, and the known Main Zone is hosted by a rafted block offset to the east.

A scoping study submitted in January 2008 by SRK, indicated that, at then-current metal prices of US\$1.35/lb for copper, \$15/lb for molybdenum, \$500/oz for gold and \$8/oz for silver, the deposit was uneconomic. At a price of \$3.00/lb for copper, with the same prices for other metals, economic viability improves but remains uncertain.

In early 2008, North American Gem conducted a 16-hole, 5,042.8-metre (16,486-foot) diamond drilling program focusing on areas of higher-grade gold mineralization in the northeastern deposit area, and potential deep-seated mineralization to the west. The 2008 program confirmed the former but also indicated that its extent is limited. This program also successfully identified the underlying “fixed” portion of the deposit to the west-northwest and determined that post-depositional flat-lying faulting converted the deposit into a series of blocks, each overlying unit successively displaced farther to the east-southeast. The depth and relatively low grades of the deep-seated portions limits their economic viability.

Two episodes of claim acquisition resulted in expansion of the claim block to 29,413.5 acres (11,908.3 ha) by spring of 2008. A surface exploration program comprising geological mapping and geochemical sampling was conducted across the entire expanded property area from May through September 2008. Results suggested some potential for a second porphyry-style system, centered roughly in the Bud Lake area. Several weak Au ± Mo soil geochemical anomalies, weakly elevated Au values from rock geochemical sampling and two areas of argillic alteration supported this hypothesis. A detailed surface field program based at Bud Lake was recommended, but no further surface work was done by North American Gem.

In 2011, North American Gem was approached by Hunter-Dickinson Inc. (HDI), which conducted desktop-style due diligence on the property. Little is known of the activities and results of this program. North American Gem allowed the property to lapse in 2016.

The area covering the Main Zone deposit was staked by Messrs. Steven Scott and Brian Scott in 2017. They allowed the property to lapse in 2018, then re-staked the core area of the property from October 2018 to January 2019. A single two-unit claim, #1064060, covering the northeast part of the Main Zone, was acquired by an independent interest in October, 2018. One further, much larger claim covering the Bud Lake area to the southeast was added in August 2019.

## 5.2 MINERAL PROCESSING AND METALLURGICAL TESTING

*This section of the report is taken almost verbatim, with minor edits, from the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze. Much of this information was taken*



from a final metallurgical report titled: “Preliminary Assessment of Louise Lake Metallurgy, North American Gem Inc. Km 1882”, by Tom Lafreniere and Tom Shouldice of G & T Metallurgical Services.

### 5.2.1 Metallurgical testing results

During the autumn of 2006, G & T Metallurgical Services Ltd. of Kamloops, British Columbia, conducted metallogenic testing on a 164-kg bulk sample of “quartered” NQ drill core from Holes LL-06-01, LL-06-02 and LL-06-10 taken from the-2006 drilling of the Main Zone. The intervals sampled were selected to represent a variety of grades and lithologies, roughly in proportion to their occurrences throughout the Main Zone deposit (Table 2). The main objectives were to determine mineralogy and locking characteristics of the sample, and to perform a series of preliminary flotation tests to assess metallurgical performance (Lafreniere and Shouldice, 2006). An estimate of ore grindability and hardness was also determined using a comparative procedure and the ore was found to be fairly friable with a Bond Index of 13.

**Table 2: Year-2006 Diamond Drilling Intervals selected for Metallurgical Testing (Schulze, 2006)**

Hole	From	To	From (m)	To (m)	Meterage	Lithology
DDH LL-06-01	B800706	B800710	18.35	23.90	5.55	Feldspar Porphyritic Monzonite
	B800714	B800720	23.90	33.95	10.05	Feldspar Porphyritic Monzonite
	B800756	B800770	91.10	119.40	28.30	Feldspar Porphyritic Monzonite
	B800771	B800778	119.40	15.40	16.00	Dacite - Andesite
	B800781	B800784	135.4	143.1	7.70	Dacite - Andesite
DDH LL-06-02	B800857	B800859	46.0	51.3	5.30	Heterolithic Conglomerate
	B800861	B800872	51.3	73.9	22.60	Heterolithic Conglomerate
DDH LL-06-10	B801499	B801503	90.0	97.5	7.50	Dacite - Andesite Tuff
	B801504	B801506	97.5	103.5	6.00	Feldspar Porphyritic Monzonite
	B801606	B801607	258.3	260.8	2.50	Feldspar Porphyritic Monzonite
	B801609	B801622	260.8	284.1	23.3	Feldspar Porphyritic Monzonite

“Head grade” analysis by G & T documented a 0.28% Cu, 0.3 g/t Au and 0.007% Mo grade, showing a fair correlation with the weighted average of analytical results by ALS Chemex of 0.321% Cu, 0.279 g/t Au and 0.006% Mo, particularly when rounding effects were incorporated. Copper mineralogy comprises an almost even distribution of chalcopyrite and enargite, the latter a copper-arsenic sulphide with about 20% by weight arsenic, which will affect the quality of the final concentrate (Lafreniere and Shouldice, 2006).

Upon grinding of the composite to a sizing of 162-micron K<sub>80</sub>, nearly 40% of copper sulphides were freed from other mineral species. Most of the remaining Cu-sulphides occur as sulphide-rich binary interlocks with non-sulphide “gangue” minerals. These results suggest that an acceptable “rougher circuit” performance is achievable at a 160-micron K<sub>80</sub> primary grind size. The concentrate from this will require re-grinding to ensure the follow-up “cleaner circuit” performance (Lafreniere and Shouldice, 2006).

Following the rougher circuit testing, three “open circuit batch cleaner” tests were performed, prior to a locked cycle test on the composite. These tests revealed that the concentrate would require re-grinding



to the 25 to 30-micron K<sub>80</sub> range to produce a relatively high-grade concentrate. A single locked-cycle test was performed at a 100-micron K<sub>80</sub> size flotation feed which was then re-ground to 26-micron K<sub>80</sub> prior to dilution cleaning. This testing revealed that a grade of 28.9% Cu in the final copper concentrate was obtainable at a recovery rate of 85%. Metal performance data listed in the report indicate that, in addition to these copper grades, the final concentrate would include 18.7 g/t Au, 364 g/t Ag and 0.650% Mo. Recoveries for Au, Ag and Mo were 57%, 44% and 80% respectively. The final concentrate has a “mass percent” of 0.8% of the original flotation feed.

Table 3 lists minor elements concentrations within the concentrate.

**Table 3: Minor Element Concentrations, Louise Lake Metallurgical Sample\***

Element	Symbol	Units	Value
Gold	Au	g/t	18.7
Silver	Ag	g/t	364
Molybdenum	Mo	%	0.65
Antimony	Sb	%	0.26
Arsenic	As	%	11.4
Bismuth	Bi	g/t	70
Cadmium	Cd	g/t	38
Mercury	Hg	g/t	2.2
Selenium	Se	g/t	57

\*reproduction of Table 3, Report Km 1882, by G & T Metallurgical Services Ltd.

The report concluded that payable levels of gold and silver were recovered in concentrate, and that molybdenum may be worth recovering into a separate saleable product using an industry established “reverse flotation process”. However, arsenic concentrations are very high, requiring marketability studies to determine salability of the concentrate. The other deleterious elements occur in minor concentrations.

Additional recommendations include the investigation of gold-arsenic values from initial analytical results and to determine if the bulk sample was obtained from an area of anomalously high arsenic content. However, copper-arsenic ratios across the deposit were found to be consistent with that of the bulk sample, indicating good representability of the deposit. Further testing work to optimize grinding and re-grinding requirements, and investigation of hydrometallurgical techniques for metal recovery from concentrate, are recommended.

### **6.2.2 Potential Techniques for Metal Recovery**

*This section of the report is taken almost verbatim, with minor edits, from the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze. It is important to note that these potential techniques were provided in 2006 and may now be dated.*

Following receipt of the final report by G & T Metallurgical Services Ltd, several consultants were contacted regarding identification of environmentally safe extraction techniques and markets for this concentrate. Specifically, Butterfield Mineral Consultants Ltd. conducted the marketability survey, and

Mr. David Dreisinger, PhD, a professor at the University of British Columbia provided information on extraction techniques.

One of the most promising extraction techniques is the “CESL” copper-gold hydrometallurgical extraction process, developed by Cominco Engineering Services Ltd. Advantages of this process include on-site processing, eliminating transportation charges, and modification of arsenic to environmentally stable ferric arsenate (CESL website, 2006). Acceptable feed ore minerals include chalcopyrite and enargite, the two copper minerals comprising almost all copper mineralization at Louise Lake.

Another potential technique is the “BIOCOP” bioleaching process developed by BHP Billiton to treat ore containing chalcopyrite and enargite. The process has been shown to be effective, with high copper recoveries. A third potential treatment is “Total Pressure Oxidation”, involving chemical oxidation of the concentrate. The residue fixes arsenic as an iron-arsenic precipitate. A fourth technique involves selective leaching of arsenic and antimony using high pH (strongly alkaline) solutions. The cost of reagents for this particular process is very high; therefore, viability will depend on metal value within the deposit.

Various other copper leaching processes also exist, designed for concentrates containing chalcopyrite that may also be amenable to extraction of copper from enargite. Viability of these will depend on rates of precious metal recoveries and quality of residues.

The “PASAR” smelter in the Philippines, designed to handle high-arsenic concentrates, is an option. The roaster is specifically designed to fume off arsenic in the form of arsenic trioxide or arsenic pentoxide. The facility was originally concentrated to treat high-arsenic bearing ore from the Lepanto Mine in the Philippines.

The findings of these investigations indicate that extraction techniques for high-arsenic-bearing ores exist, together with acceptable disposability of arsenic. Economic viability will depend on costs of extraction and treatment, as well as typical mining, processing and shipping expenditures. No further investigation into alternative extraction techniques was done after 2007.

### 5.3 2006 RESOURCE ESTIMATE

*This section of the report is taken almost verbatim, with minor edits, from the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze.*

In March, 2006 a due-diligence visit was conducted by SRK as part of an independently calculated resource estimate. Mr. Chris Lee, MSc, PGeo, Principal Geologist with SRK, was provided with data from 2004 through 2006 drilling, including all historical data. On June 14, 2006, Mr. Lee and Mr. Marek Nowak, MASc, PEng, Principal Geostatistician for SRK, provided North American Gem Inc. with the following resource estimate (Table 4).

*The following section is taken from the 2006 SRK report by Lee and Marek.*

**Table 4: 2006 SRK Classified Mineral Resource for the Louise Lake Deposit <sup>†</sup>**

<b>Mineral Resources*</b>	<b>Tonnes</b>	<b>CuEq* (%)</b>	<b>Cu (%)</b>	<b>Mo (%)</b>	<b>Au (g/t)</b>	<b>Ag (g/t)</b>
Indicated	6,000,000	0.369	0.214	0.006	0.20	0.98

Inferred	141,000,000	0.426	0.234	0.009	0.23	0.94
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\* All resources quoted at 0.25% CuEq cut-off

\*\* CuEq calculated using the following metal prices: Cu US\$1.20/lb Mo US\$\*/lb, Au US\$450/oz, Ag US\$7/oz

<sup>t</sup> Taken from Table 14 of the 2006 Technical Report by SRK Consulting (Canada) Inc.

No reserves are included in this resource estimate.

The resource estimate incorporated data from 2,043 samples in 37 drill holes. All samples were composited to 3.0-metre intervals, resulting in 1,639 composite assays. Only these composite assays were used in the resource estimate. Samples were analyzed for copper, molybdenum, gold and silver, and assays below detection limit were given a value of half the detection limit. Missing assays and gaps were given a value of 0.0 but almost all of these were outside of the mineralized envelope.

Drill results were obtained intermittently from 1970 through 2006 and can be divided into two groups; results from pre-2004 drilling, and drilling from 2004 – 2006. Documentation for pre-2004 samples is sparse, and no independent QA/QC data exists for pre-2006 data, although ALS Chemex provided comprehensive in-house quality control for analysis of 2004 and 2005 core. Data verification, including the single twinned hole, re-sampling of some pre-2004 core and cursory checks on database consistency, revealed similar analytical results, indicating a lack of bias between old and new data (Lee and Nowak, 2006). All data was treated similarly during calculation of this resource estimate (Lee and Nowak, 2006 SRK technical report).

No geological model was constructed due to complexities of the geological setting. No preferential lithological host was identified; thus, the data were constrained within a single “Leapfrog”-generated grade shell representing a smoothed version of a 0.15% Cu isosurface. An additional 15-metre waste zone was added to this (Lee and Nowak, 2006). All core assays outside of this were excluded from the estimation.

The data utilized was extracted with an isosurface generated by “leapfrog” software, producing a three-dimensional interpolation similar to “kriging” and dividing the deposit into individual blocks. Blocks measure 25m x 25m x 15m and are aligned north-south and east-west. This isosurface captures the “Main Zone” and a small outlier slightly to the northwest encountered through drilling of DDH LL-06-04. The isosurface was inflated by 15 metres to capture a thin veneer of waste material, similar to “shoulder samples”. The resource was calculated using Ordinary Kriging in Gemcom (GEMS 6.0) software, and was checked using non-commercial software (Lee and Nowak, 2006).

A bulk density of 2.75 t/m<sup>3</sup> determined from the three major lithologies was used. However, this was determined from 29 samples within three fairly closely spaced holes, representing low, medium and high-grade occurrences of each. No large density differences were observed as of 2006 and a single global average density was used (Lee and Marek, 2006). However, substantially more measurements are required to establish local precision of density.

Validation exercises carried out on the block model indicate that there is good correlation between estimated grades within the blocks and the actual assays. On average, the estimated blocks are almost identical to the actual assays (Lee and Nowak, 2006).

The mineral inventory is shown in Table 4 with results rounded off to the nearest 100,000 tonnes. A Cu-Equivalent (CuEq) grade was used as a cut-off grade using the following relationship:

$$\text{CuEq} = \text{Cu} + (\text{Au} * \text{P}_{\text{Au}} + \text{Mo} * \text{P}_{\text{Mo}} + \text{Ag} * \text{P}_{\text{Ag}}) / \text{P}_{\text{Cu}}$$

where:

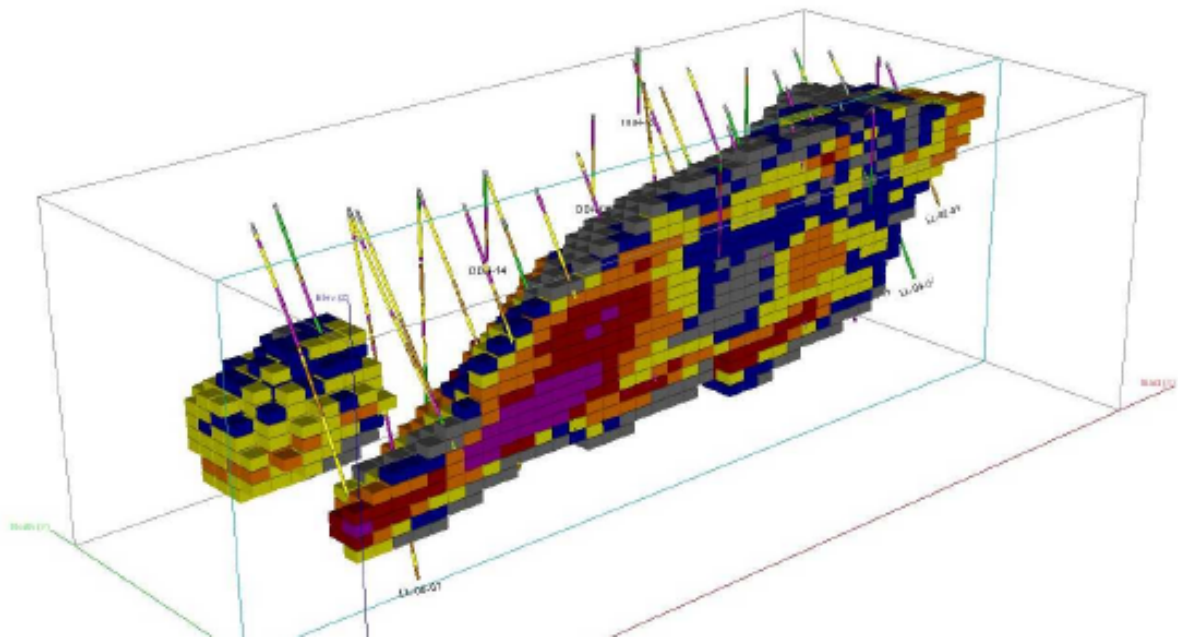
P <sub>Au</sub> is gold price of	\$450/oz
P <sub>Mo</sub> is molybdenum price of	\$8.00/lb
P <sub>Ag</sub> is silver price of	\$7.00/oz
P <sub>Cu</sub> is copper price of	\$1.20/lb (All prices in US dollars)

The majority of the value is derived from copper (60%) and gold (20%). (Lee and Nowak, 2006).

The mineral resource was classified based on number of drill holes, average distance between samples utilized to estimate a given block, proximity to measured density locations and location relative to supporting blocks. Because a large proportion of the value of a given block was linked to its copper estimate, classification was based on parameters utilized to estimate copper grades. Blocks that used composites from at least two drill holes, with an average distance of less than 50 m between sample composites, and that were proximal to the three drill holes with measured density locations and were close to supporting blocks, were assigned as Indicated Resources. All others were assigned as Inferred Resources (Lee and Nowak, 2006). Indicated resources occur in the south-eastern portion of the deposit. Isolated blocks that are far removed from supporting blocks were dropped from the Inferred Resource category even if all other criteria were met (Lee and Nowak, 2008).

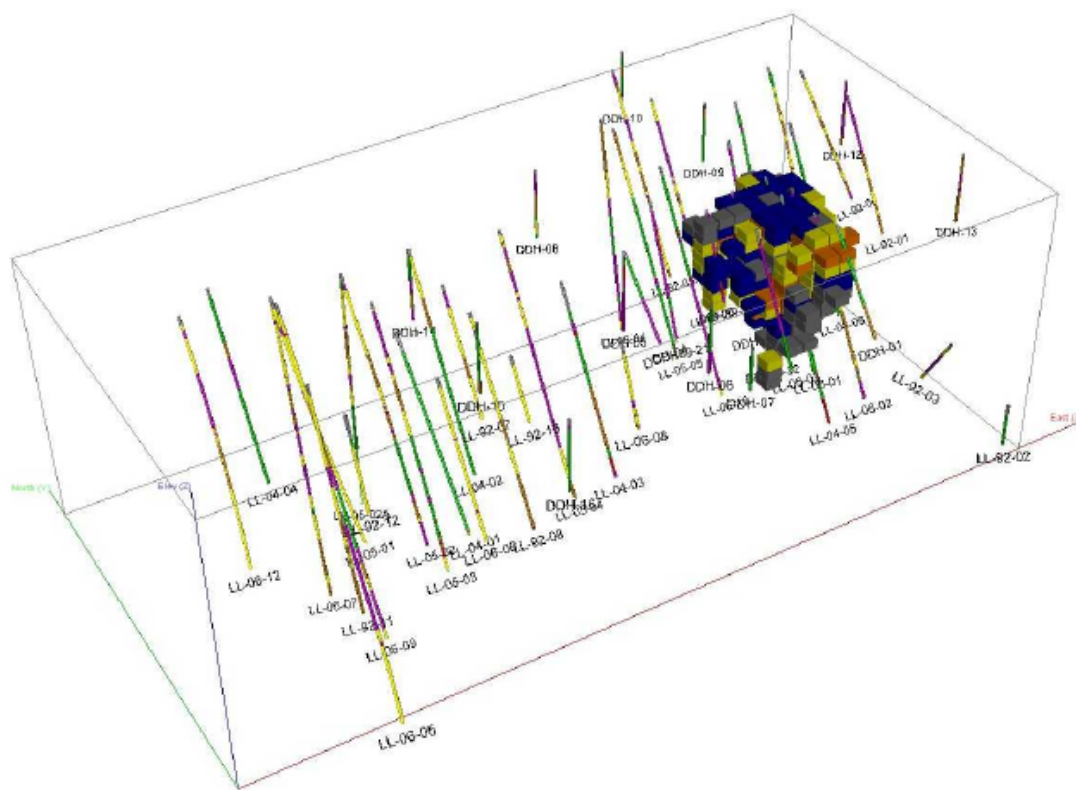
Much of the Inferred Resource may be upgraded through in-fill drilling of the deposit outside of the present Indicated Resource, with additional density sampling throughout the deposit, and proper surveying of collar co-ordinates of all holes.

Figure 5 shows the oblique (northeast) view of estimated blocks. Blocks are coloured by CuEq (%) grade (grey = 0-0.2%, blue = 0.2-0.25%, yellow = 0.25-0.3%, orange = 0.30-0.40%, red = 0.40-0.50%, magenta = >0.50%) Blocks south of 6,079,300N are not shown.



**Figure 5: Oblique (northeast) view of estimated blocks, Main Zone deposit (from Lee and Nowak, SRK, 2006)**

Figure 6 shows the distribution of indicated resource blocks relative to drill holes, using the same block colourization scheme.



**Figure 6: 3D plot showing distribution of Indicated Resource blocks (Lee and Nowak, SRK, 2006)**

Major sources of uncertainty comprise: lack of adequate documentation and confirmation of pre-2004 drilling and data collection. There is also an absence of independent QA/QC data for pre-2006 data, imprecise collar co-ordinate surveys for all holes, lack of down-hole surveys for pre-2005 holes, and limited density data. However, despite these, the cumulative evidence provided by the database is considered adequate to support the 2006 resource classification. SRK determined that the exploration work, including the 2006 program, was done in “a professional and reliable manner” (Lee and Nowak, 2006).

Of six original factors affecting quality and robustness of the current resource estimate, three remain to be addressed. Firstly, a geological model is required to determine if any obvious lithological preferences for grade occur. Secondly, QA/QC procedures for most of the pre-2006 historical data are unknown and/or unverifiable. This may be mitigated by re-sampling of old core with full QA/QC data and twinning of some holes. Thirdly, bulk density sampling can be done for core from the 2004 through 2006 programs, still available at a private residence near Smithers. Much improved density sampling was done during the 2007 and 2008 programs.

## 6 GEOLOGICAL SETTING

### 6.1 REGIONAL GEOLOGY

*This section of the report, concerning exploration activities to 2008, is based on the 2008 technical report titled: "NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc", by Carl Schulze.*

The Louise Lake property is located within the Stikinia Terrane of the Intermontane Tectonic Belt. The Stikinia Terrane consists largely of mid-late Jurassic Hazelton Group sedimentary and lesser volcanic units and Bowser Assemblage clastic sediments, and early to mid-Cretaceous Skeena Group volcanic and sedimentary units. Jurassic and older formations have been intruded by the granitic Topley Intrusions, occurring along the axis of the Skeena Arch, a major northeast-southwest trending transverse uplift structure (Carter, 1995). This arch, located about 15 km south of Louise Lake, represents the southern limit of the Bowser Basin and the approximate northern limit of aerially extensive early to mid-Tertiary continental volcanic units (Carter, 1995). The Louise Lake property is located near the western limit of the Skeena Arch, which has also undergone block (normal) faulting and some thrust faulting (Hanson and Klassen, 1995).

All layered stratigraphy, including that of the Stikinia Terrane, has been intruded by late Cretaceous to early Tertiary granitic dykes and stocks. In the Louise Lake area these have been identified as Eocene (47 – 54 Ma) Nanika Intrusions, consisting of grey to pink feldspar to quartz-feldspar porphyritic granite, quartz monzonite and granodiorite, with minor rhyolite and quartz porphyritic plugs and stocks (B.C. Ministry of Energy, Mines and Resources, 1994).

### 6.2 PROPERTY GEOLOGY

*This section of the report, concerning exploration activities to 2008, is based on the 2008 technical report titled: "NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc", by Carl Schulze. Areas revised from 2019 field work are introduced as such.*

The core area of the Louise Lake property occurs along the east-northeast trending regional-scale Coal Creek lineament, comprising at least two parallel fault zones about 300 m apart (Figure 10). This fault zone forms the contact between lower Cretaceous Skeena Group clastic sediments and intercalated volcanics to the northwest, and lower to middle Jurassic Hazelton Group volcanics and sediments to the southeast. Skeena Group stratigraphy consists largely of polymictic conglomerate and sandstone, with lesser argillite and siltstone, intercalated with units of volcanic ash tuff, lapilli tuff and agglomerate. In 2004, interpretation by Schulze suggests these belong to the Kitsuns Creek Formation. Hazelton Group stratigraphy consists largely of andesitic to basaltic flows, feldspar porphyritic flows including tuff to agglomerate units, lesser rhyolitic flows, and abundant conglomerate which is more coarsely grained than Kitsuns Creek conglomerate.

The proximal area north of the Coal Creek lineament is underlain by roughly east-west striking andesite flows and tuff to fragmental units. These are intercalated with sedimentary horizons comprised largely of



conglomerate to sandstone, with lesser greywacke and siltstone, locally laminated. Volcanic units occur primarily in the mineralized “Main Zone” area, where they have been intruded by several east-west trending, moderately north-dipping slabs of feldspar porphyritic monzonite. Feldspar porphyritic andesite flow units also occur southwest of the Main Zone but north of the Coal Creek lineament. Sedimentary horizons underlie areas to the north and east of the Main Zone.

In 2005, mapping and drill log analysis revealed a larger quartz monzonitic stock west of the Main Zone, with an appendage extending eastwards south of the Main Zone. A small unit of moderately limonitic and argillically altered quartz-feldspar porphyritic monzonite occurs towards the Coal Creek lineament. Although shown as a separate unit, it may instead be a quartz-porphyritic phase of the feldspar-porphyritic stock, with alteration occurring along a parallel splay of the Coal Creek fault. Another feldspar porphyritic monzonite stock occurs northeast of the Main Zone. This stock has undergone moderate argillic and silica alteration, and hosts up to 12% disseminated pyrite. The dimensions of the western and northern stocks remain undetermined.

Mapping in 2019 focused on the area southeast of Louise Lake, including the Bud Lake area. South of the Coal Creek lineament, Hazelton Group stratigraphy comprises a dominant NNW – SSE trending assemblage of variably feldspar porphyritic basalt to andesite flows. The assemblage includes lesser tuff and agglomerate units, with clast size attaining 12 cm in width. The mafic volcanic assemblage is intercalated with abundant dacitic to rhyolitic flow units, typically variably feldspar  $\pm$  quartz  $\pm$  biotite porphyritic. These have been described as latites from 2008 mapping, resembling these in texture and composition. Surface exposures commonly show a weakly to moderately limonitic alteration. Two units of fairly monomictic conglomerate occur near the “terminus” of the driveable road. Clast size varies from pebbles to coarse cobbles, attaining diameters to 15 cm. A small unit of gabbro was identified in the southern part of the 2019 mapping area.

### **6.2.1 Brief Lithological Descriptions**

The following is a brief lithological description of each unit.

**Quartz-feldspar porphyritic monzonite (“EN”):** The early Tertiary Nanika Intrusive suite includes a small unit of quartz feldspar porphyritic monzonite. This is moderately limonitic with moderate argillic and silica alteration, occurring near the Coal Creek lineament. This has been designated as a distinct unit, due to higher quartz porphyry content than the larger Nanika Suite feldspar porphyritic stocks, although alteration was likely caused by fluid movement along the Coal Creek lineament.

**Feldspar porphyritic monzonite (“EN”):** The majority of the Nanika Intrusions, along both sides of the Coal Creek lineament, comprise 30 – 60 percent feldspar crystals in an aphanitic groundmass. The local porphyritic texture is fairly typical of core intrusions of porphyry-style deposits. Main Zone intrusive rocks display strong silicification and phyllic alteration, with minor primary biotite altered to sericite, and moderate argillic alteration. Intrusive rocks outside of this zone exhibit lesser but still moderate phyllic and silica alteration, and weak argillic alteration of feldspar laths.

**Kitsuns Creek sedimentary units (“IKK”):** These consist largely of heterolithic conglomerate, with somewhat lesser sandstone and siltstone units, the latter commonly laminated. Clasts within conglomerates are typically cobble-sized and moderately sorted, attaining lengths to 6 cm. Some

preferential alteration and mineralization of clasts occurs. Minor black argillite units, occurring alongside greywacke units with moderately abundant argillite fragments, occur close to surface in the western portion of the Main Zone. All units within or near the Main Zone, except for the black argillite, have undergone moderate silica and argillic alteration.

**Kitsuns Creek andesites and andesitic tuffs-fragmentals (“IKk”):** These occur southwest of the Main Zone, and comprise fairly massive feldspar porphyritic dark grey andesite flows and minor tuffs. Northern portions of the Main Zone are hosted by andesite tuffs, commonly feldspar porphyritic, and andesite fragmentals with millimeter-scale silicified angular shards within an aphanitic matrix showing strong chlorite and sericite alteration. The strong alteration renders accurate lithological analysis difficult; some earlier workers have described these as “dacite” units.

**Telkwa Formation conglomerate and minor sandstone (“IJt”):** Conglomerate horizons have a higher variability in clast size (up to 15 cm long) than those within the Kitsuns Creek formation. Clasts are also variably reactive, with strong silica and/or argillic alteration and pyritization of select clasts.

**Telkwa Formation rhyolite (“IJt”):** A small unit of fine-grained rhyolite, commonly brecciated and locally flow-banded, occurs east of a small feldspar porphyritic stock. The siliceous composition may be partly due to silicification from the stock.

**Telkwa Formation andesite - basalt (“IJt”):** Mafic volcanics are commonly feldspar porphyritic within a fine grained fairly massive groundmass, similar to those of the Kitsuns Creek formation. However, these contain small units of more coarsely grained, euhedral feldspar porphyritic units that have not been mapped north of the lineament. This indicates a distinct lithological unit.

### 6.2.2 Structural Geology

The east-northeast trending Coal Creek lineament, the dominant structural feature on the property, is a district-scale transpressional structure of unknown displacement. The lineament is comprised of several smaller faults, known to occur north of Coal Creek. A strong parallel fault-related foliation occurs within all lithological units south of the lineament. This foliation also extends somewhat north of the fault. Elsewhere, particularly south of the Coal Creek lineament and to the northwest of the Main Zone, a north-south to NNW – SSE trending, steeply and variably dipping foliation occurs.

The Main Zone area comprises several tabular feldspar-porphyritic units extending at azimuths of roughly 80° - 260°, and dipping at 30° to 40° to the north. Although the strike of the local fabric is only slightly oblique to the Coal Creek lineament, the moderate northward dips suggest an earlier structural setting within the Kitsuns Creek stratigraphy. Drilling showed that faulting forms some of the contacts between intrusive and earlier units, indicating an unknown degree of displacement may have occurred. Plotting of 2005 drill sections indicates a pervasive foliation in the Main Zone which has a steeper dip than stratigraphy.

Drill-section plotting revealed a strongly developed mylonitic zone consistently encountered at a depth of 250 to 270 m. This indicates a flat-lying fault, most likely a thrust fault, forms the basal boundary of Main Zone mineralization. This fault, called “The Terminator”, extends at least 1,000 metres along strike and may represent a much larger structure. Plotting of drill core data indicates the Terminator slopes upwards slightly towards the eastern limits of the deposit, and may continue to shallow further to the east.

In the western part of the Main Zone area, near-surface greywacke and black argillite horizons are sub-horizontal to very gently north-dipping, suggesting that pre-intrusive stratigraphy throughout the Main Zone area may be similarly flat-lying. Structural measurements of core suggest many of the abundant minor faults may be parallel to the “Terminator”, thus indicating a flat-lying lineation. Drill sections also indicate the presence of at least one moderately north-dipping fault with a significant offset of unknown displacement, forming the footwall (south boundary) of the Main Zone. A portion of the smaller faults intersected may also parallel this.

Analysis of the expanded property area indicates that the Coal Creek Fault is the largest member of a district-scale east-northeast trending lineation, manifested by numerous drainage and topographic features. A second north-northwest trending lineament is also indicated by numerous drainage features, as well as a topographic depression with kilometric-scale widths extending northward from the Coal Creek fault west of the Main Zone to the Kitsuns Creek valley (Figure 10). A number of less prominent east-west trending structural features are also visible, with the most prominent extending from the southeastern shore of Louise Lake through Hankin Lake. Mapping in 2008 identified several lithological contacts along individual east-northeast trending lineaments, indicating fault-induced displacement along these.

Mapping by this author in 2019 revealed an area of outcrop-scale shearing, fracture-filling quartz stringer to stockwork veining and minor bleaching, argillic alteration and limonitization east of Bud Lake. This indicates the presence of a brittle deformation zone, potentially parallel to a property-scale lineament marking the west boundary of Bud Lake and the outflow stream (Figure 11). A broad unit of porphyritic rhyolite to dacite identified in 2019 has been interpreted as truncated by the Bud Lake lineament, although the degree of offsetting has not been determined. Results from 2019 mapping also suggest a NNW trend to stratigraphy, rather than an ENE trend as previously interpreted.

## 6.3 MINERALIZATION

### 6.3.1 Main Zone-area Mineralization

*This section of the report, concerning exploration activities to 2008, is based on the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze. Areas revised from 2019 field work are introduced as such.*

Two separate mineralized prospects occur within the core area of the Louise Lake property, the Main and Lake Zones. The Main Zone consists of two major horizons extending at 80° – 260°: the shallower lower grade “North Horizon” and the underlying much broader, higher-grade “South Horizon” at depth. The “Lake Zone”, occurring about 1.2 km to the east along the north shore of Louise Lake, hosts vein and fracture-hosted zinc-silver mineralization. This represents vein-style base metal mineralization outbound of the pyrite halo (Section 8, Deposit Types).

The Main Zone is a tabular deposit dipping from 30° to 40° to the north, and has been traced along strike for about 1,000 metres. In July 2006, SRK Consulting released an NI 43-101 resource estimate, consisting of an indicated resource of 6 million tonnes grading 0.214% copper, 0.006% molybdenum, 0.20 g/t gold and 0.98 g/t silver, and an inferred resource of 141 million tonnes grading 0.234 % copper, 0.009%

molybdenum, 0.23 g/t gold and 0.94 g/t silver. This estimate is compliant with the standards under National Instrument 43-101, as of 2006.

Block modeling in 2006 by SRK Consulting indicates the deposit has a footprint in plan view of almost 500 metres, and extends to a depth of almost 300 metres. Block modeling revealed central portions have lower copper-equivalent grades than western and eastern portions, although a lower density of drilling may negatively influence grades during block modeling. The deposit occurs within a series of several tabular units of feldspar porphyritic monzonite separated by conglomerate and lesser sedimentary units in central areas, and andesite fragmental units in northern and western areas. Mineralization occurs within both the intrusion and host volcanic and sedimentary units; grades do not appear to be dependent on a specific lithology.

The Main Zone deposit comprises several tabular north-dipping zones hosting fine-grained disseminated and vein-controlled sulphides. The sulphide grains consist of an almost even mixture of chalcopyrite and enargite (a copper-arsenic sulphide). These occur within a broad area of strong pyritization, with up to 10% disseminated, fracture and vein-controlled pyrite. The chalcopyrite - enargite mixture was originally believed to be tennantite, which is similar in appearance and chemical composition.

Most of the Main Zone is marked by moderate to strong silicification and sericitic alteration, and moderate argillic alteration. Several pulses of vein stockwork emplacement have occurred, with quartz-pyrite veins crosscut by later nearly massive pyrite veins. Mineralogy consists of an assemblage atypical to most British Columbia porphyry deposits, although enargite is a common constituent of porphyry-copper systems elsewhere, including the Chuquibambilla deposit in Chile. Chalcopyrite-enargite occurs as fine-grained disseminated, fracture and lesser vein-controlled grains locally comprising up to 4% of the rock mass. Copper-gold ratios show a strong correlation, with an approximate deposit-wide average ratio of 1% Cu: 1 g/t Au. Copper-silver ratios show a somewhat weaker correlation. Molybdenum values show a larger variation; molybdenum-bearing quartz stringers occur on surface in the eastern Main Zone area and in basal portions of western areas. Silver values reported from drill core analysis are generally less than 2.0 g/t; rare high values to 81.5 g/t/ 2.0m indicate vein or fault intercepts.

Interpretation of the 2004 through 2006 results, combined with past drilling results, indicate the Main Zone is bounded by a basal flat-lying fault at depths of 250 m to 270 m, called the “Terminator” (see Section 7.2.2) with a minimal displacement of several hundred metres. North-dipping mineralized zones are truncated by this flat-lying fault, forming a wedge-shaped northern terminus for the deposit against the Terminator. High grade mineralization is abruptly cut off by the Terminator; weakly anomalous to background values only were returned from underlying stratigraphy. Lower grade mineralization, comprising the North Horizon, overlies eastern and central portions of the Main Zone, and is also truncated by the Terminator.

Several cross sections indicate the south footwall boundary of mineralization dips at 40° – 45° to the north, slightly steeper than stratigraphic dip. The highest-grade portions, consistently exceeding 0.2% copper, occur towards the base of the South Horizon, surrounded by “halos” of progressively lower grade mineralization both overlying, and along, the footwall side of the horizon.

Feldspar-porphyritic monzonite units are most abundant in central and eastern portions of the Main Zone, where they comprise much of the host rock. These intrusive units are narrower and less abundant in western sections, where the zone has been intersected only at depth. In western areas, the primary host

is andesite tuff to fragmental rocks with minor host conglomerate and sandstone. The highest copper and gold grades occur in these areas, returning values to 0.592% Cu with 0.586 g/t Au across 35.7 metres, and locally exceeding 0.800% Cu and 0.800 g/t Au. Another nearby hole returned 0.362% Cu, 0.017% Mo and 0.257 g/t Au across 66.1 metres. The highest molybdenum grades also occur here, up to 349 ppm (0.035%) Mo across the same aforementioned 35.7 m interval. Nearly massive molybdenite and minor massive enargite +/- chalcopyrite veins to 0.5 cm in width were also identified. This area also exhibits the strongest chlorite and sericite alteration, and strong silicification of andesite fragmental shards. Late pyrite veins are absent here, resulting in a more “massive” fabric.

The 2007 program identified higher-grade gold mineralization at depth in northeastern areas, overlying the Terminator fault. This is most notable in a 40.2-metre interval grading 0.408% Cu with 0.625 g/t Au. The Au: Cu ratio is considerably higher than the 1:1 ratio occurring throughout most of the deposit. The 2007 program also returned the first intercept of low-grade sub-Terminator mineralization, located northwest of the Main Zone. Although values are low, the metal ratios and rock fabric are similar to outlying areas of the Main Zone.

A single hole targeting the projected underlying portion of the Main Zone to the east-northeast, somewhat west of the Lake Zone, did not intersect Main Zone-style mineralization, although minor massive lead-zinc veining (galena and sphalerite) was intersected at depth.

The 2008 drilling program focused on two target areas. The first was the area of higher gold: copper ratios obtained along the down-dip extension of the Main Zone in northeastern areas. The best results were returned from core directly overlying the “Terminator”. The second was the down-dip extension of the Main Zone in western areas, from which drilling returned comparable values to those of earlier programs. Several holes collared progressively to the west-northwest confirmed the presence of a flat lying slab of sub-Terminator-hosted Main Zone-style mineralization. In all intercepts, the sub- “Terminator” mineralization was truncated by another flat-lying mylonitic fault of the same fabric as the “Terminator”, called the “Sub-Terminator fault”. Grades improve to the west, although intercept widths decrease. Hole LL-08-33 returned low-grade mineralization below the “Sub-Terminator” having similar grade ratios to Main Zone mineralization, suggesting the marginal areas of another mineralized slab, likely extending further west-northwest.

### **6.3.2 Mineralization Outside of the Main Zone area**

*This section of the report, concerning exploration activities to 2008, is based on the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze. Areas revised from 2019 field work are introduced as such.*

The 2008 program failed to identify significant mineralized showings on surface or obvious large-scale Cu ± Mo ± Au ± Ag geochemical anomalies potentially marking a sizable surface or near-surface occurrence. However, grid-controlled soil geochemical sampling west of Bud Lake, combined with reconnaissance style mapping and sampling to the east and southwest, indicates a broad area of weakly anomalous Mo values with local areas of Au enrichment. This is hosted by a broad package of Lower Jurassic Telkwa Formation basalt to andesite flows, tuffs and agglomerates. intercalated with porphyritic rhyolite to dacite units.

Grid soil sampling in 2008 identified several small weak Au +/- Mo anomalies. The largest anomaly extends roughly 150 metres in a northwest-southeast orientation, in which Au values range from 0.014 g/t to 0.039 g/t. The anomaly includes a sample returning background Au values but with 80 ppm Mo. A stream silt sample immediately downstream returned a value of 36 ppm Mo with background Au and Ag values. Several other small, weak anomalies were identified from soil sampling; however elevated Au values show a poor correlation with elevated Mo values. Several 2008 rock samples to the north returned weakly anomalous Mo values ranging from background to 72 ppm. Two rock samples taken along a stream bank south of Bud Lake and directly east of the grid returned weakly anomalous Au values of 0.018 g/t and 0.035 g/t.

Silt sampling along a northeast-draining stream originating about 0.7 km east of Bud Lake returned anomalous Au values ranging from background to 0.040 g/t Au along its length. One rock sample returned an anomalous Mo value of 32 ppm. Volcanic units in this area have undergone strong argillic alteration, moderate stockwork silicification and weak hematization.

An occurrence of strong argillic alteration and fine pyrite enrichment occurs at the “Argillic Hill” occurrence about 2.0 km southwest of Bud Lake. Although background values were returned from rock sampling, limited soil sampling returned Au values ranging from background to 0.020 g/t Au.

#### **6.3.2.1 Observations from 2019**

Exploration in 2019 confirmed the presence of replacement-style pyritization of coarse conglomerate near the “terminus” of the driveable road. Pyritization is primarily matrix-supported, although clasts are also variably mineralized, depending on lithology (Figure 7). Sampling of basaltic flows, tuffs to agglomerate along both access roads revealed variable pyritization, silicification and phyllic alteration, with pyrite content ranging from trace to 7% (Figure 8).





**Figure 7: Sample R1893518, Pyritic conglomerate near terminus of drivable road**

Geologic mapping revealed an area of similarly mineralized feldspar porphyritic basalt about 0.25 km south of the terminus. Mapping indicates much of the area southeast of Louise Lake has undergone weak to moderate propylitic alteration, silicification and pyritization, signifying outlying alteration halos from the core deposit area. Alteration and pyritization is more pronounced in basaltic and andesitic rocks and intercalated conglomerates than in the rhyolitic to dacitic units, indicating the former are more reactive with incoming hydrothermal fluids. Numerous samples had undergone weak to moderate carbonate alteration and variable brecciation, the latter most pronounced west of the terminus of the driveable road (Figure 9).





**Figure 8: Sample R1893529, fractured and pyritic mafic flow volcanics**



**Figure 9: Sample R893535, brecciated mafic volcanics**

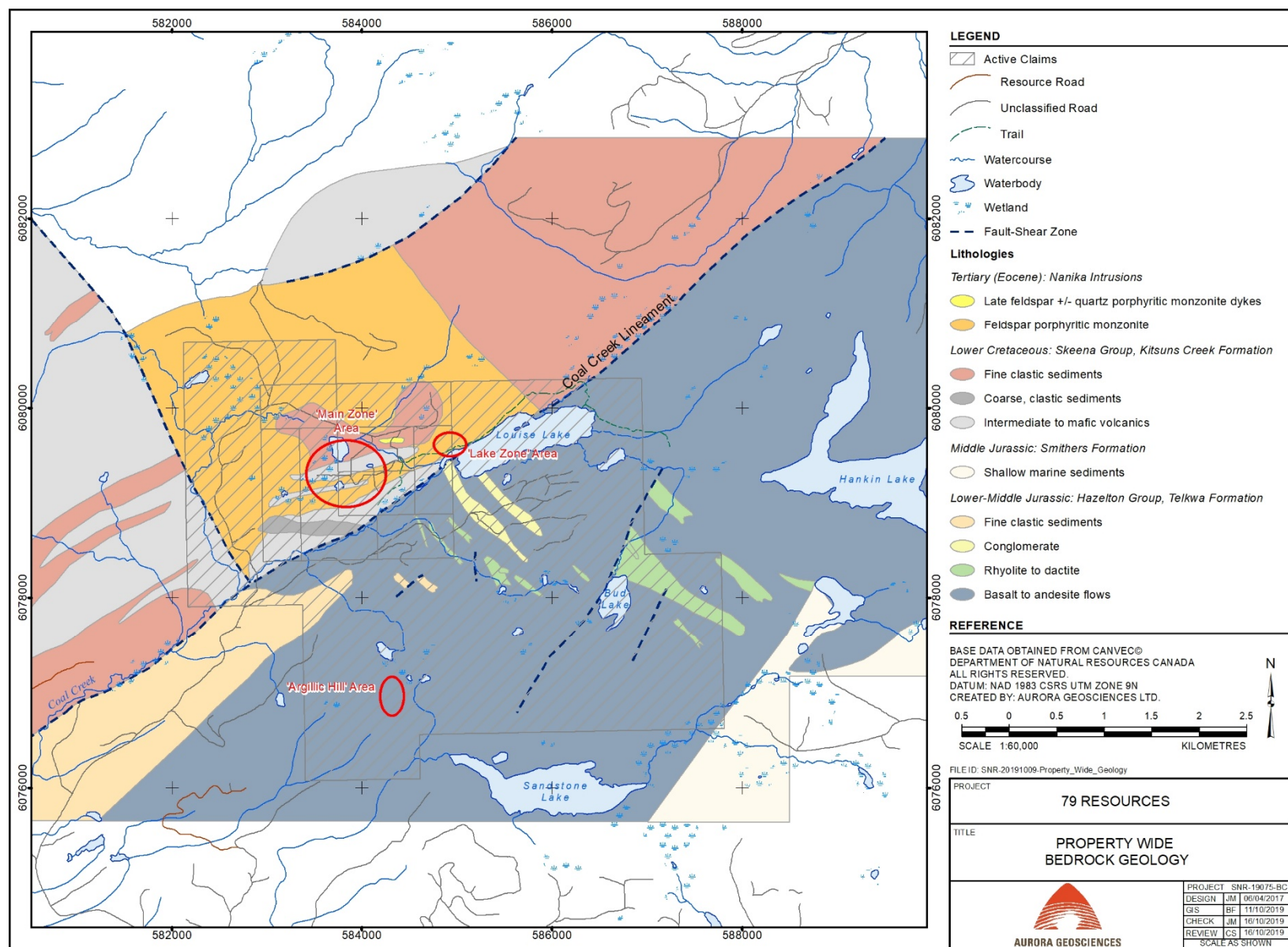
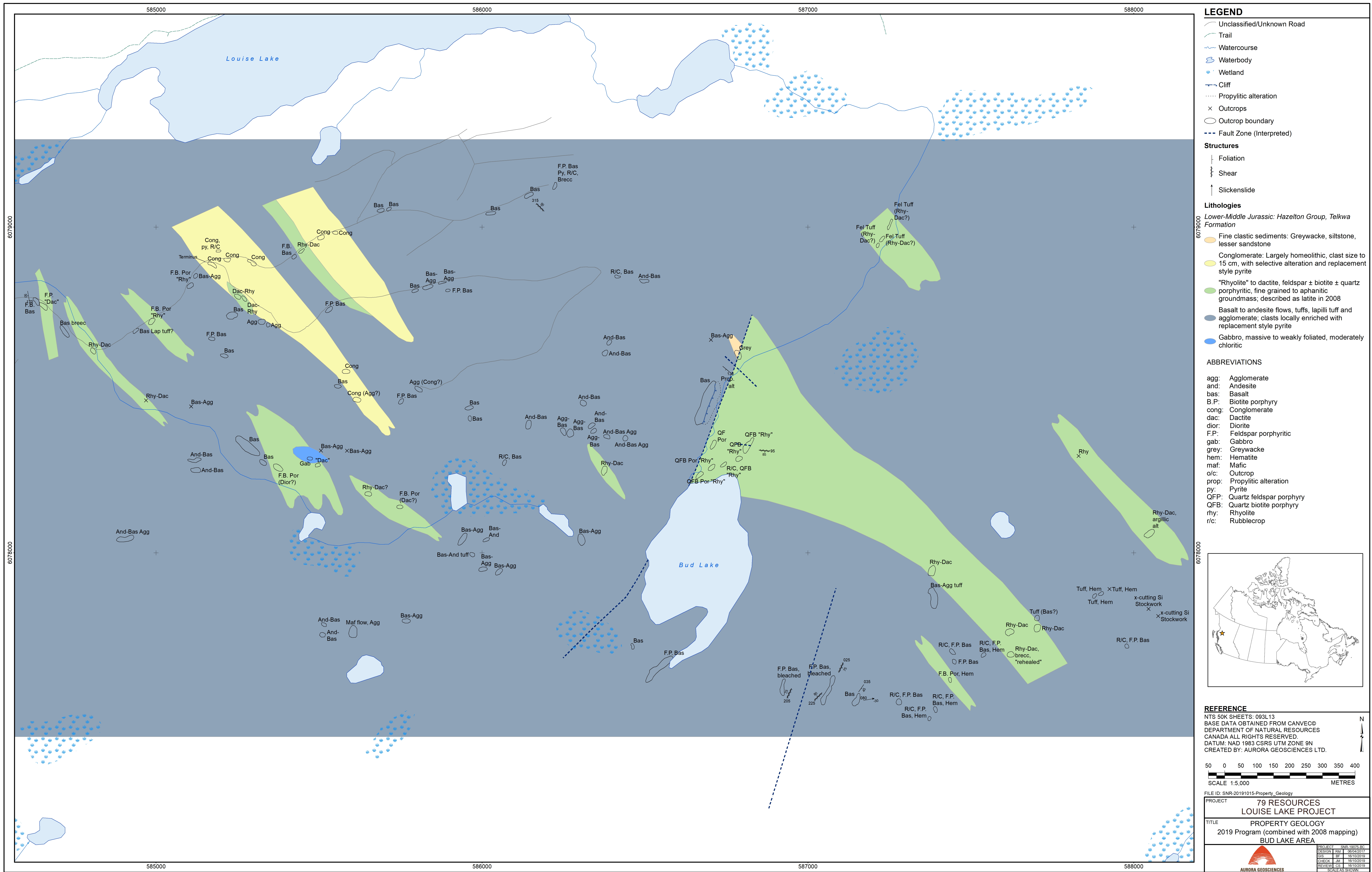


Figure 10: Property-wide Geology, 2019 work combined with 2008 mapping by North American Gem





## 7 DEPOSIT SETTING

*This section of the report is based on the 2008 technical report titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem Inc”, by Carl Schulze.*

The Main Zone is classed as a “calc-alkaline suite” porphyry system, with the greatest similarity to deposits of the Eocene Babine Igneous Suite, including the past-producing Bell deposit. The primary exploration model is porphyry-style mineralization, although potential satellite occurrences of base metal veining, “Bonanza-style” gold veins and zones of gold +/- silver bearing epithermal mineralization are also viable targets.

The porphyry deposit setting comprises bulk-tonnage-style Cu-Mo-Au mineralization centred on, and emanating from, a feldspar porphyritic monzonitic to granitic intrusion. Core areas consist of intrusive-hosted disseminated copper sulphides, largely chalcopyrite and bornite, commonly with accessory molybdenum and gold. Mineralization is spatially associated with the core intrusion, but not necessarily confined to it. Stocks are typified by concentric zones of potassic, phyllic (sericitic) and propylitic alteration, commonly with argillic (clay) alteration and overlying zones of advanced argillic alteration. Surface weathering commonly results in a “leached cap” of oxidized sulphide minerals and depletion of precious and base metal ions by meteoric waters. The liberated ions are transported and deposited in an underlying zone of “supergene enrichment”, marked by formation of secondary base metal oxide, hydroxide and other non-sulphide facies minerals, accompanied by precious metal enrichment.

Outbound from the stock, mineralization becomes progressively associated with quartz vein, stringer and stockwork infilling of fracture and breccia zones within zones of “structural preparation” formed during intrusion emplacement. These stockwork zones occur both within marginal areas of the intrusions and within adjacent country rock. Farther outbound, a progression of concentric “halos” of disseminated pyrite, followed in turn by halos of lead-zinc-silver veins, bonanza veins and finally epithermal mineralized zones typifies many porphyry systems. Potential also exists for distal skarn and replacement mineralization in areas where hydrothermal fluids encounter reactive country rock. Peripheral and outbound mineralization is emplaced from hydrothermal (hot water) fluids along permeable zones, particularly fault zones. These fluids may be “late” compared with the timing of emplacement of the core mineralization, and may also represent “reactivation” along structural zones.

“Epithermal” deposits refer to those originating from deposition of highly evolved hydrothermal fluids, usually at lower temperatures and pressures than “mesothermal” fluid-derived deposits closer to the intrusion. These commonly occur distal from the core intrusion, and are the most outbound mineralized zones. However, these may also be temporally, rather than spatially, distinct and can occur as superimposed zones on previously emplaced more central zones. Epithermal mineralization includes chalcedonic quartz vein, stringer and stockwork zones and hot springs-derived mineralization.

At Louise Lake, “epithermal” mineralization may be broadened to include hydrothermal mineralization in general. These may occur in several deposit settings:



**1. Vein deposits.** These include mineralized vein-type settings, occurring as narrow sheet-like zones within faults or other linear or thin tabular structures. Two mineralogical settings of outbound veins may occur in porphyry systems; silver bearing Pb-Zn-Cu veins, and “bonanza-style” precious metal-bearing quartz veins, commonly called “lode”-style mineralization. The chalcopyrite-sphalerite vein at the Lake Zone may represent the former setting.

**2. Stringer and stockwork deposits.** These are similar in genesis to vein deposits. However, stringer zones consist of abundant irregular or sheeted narrow veins, possibly fault-controlled, within altered host rock, and commonly occur across larger widths than vein deposits. Stockwork zones are similar to stringer zones, but consist of very narrow veinlets, commonly within brecciated or other fault-controlled zones, across large widths. Stringer and stockwork deposits include lower grade host rock, and thus contain lower metal grades over width. Stockwork zones are also typical of porphyry deposits marginal to the core intrusion.

**3. Tabular, commonly intrusion-hosted stratabound deposits.** These consist of fine stockwork-hosted and/or disseminated mineralization largely or completely confined to a specific lithological horizon, commonly comprising reactive felsic to intermediate intrusive horizons. The tabular shape is due to stratigraphic or structural controls.

The Main Zone deposit may represent a transitional deposit model type between a typical porphyry system and outlying vein deposits. Mineralization occurs as a series of tabular zones, roughly paralleling the dip of intrusive and sedimentary units, rather than as a more spherical zone concentric to a central stock. Mineralization occurs primarily as a uniform distribution of chalcopyrite and enargite/ tennantite group minerals (G & T Metallurgical Services, 2006). Chalcopyrite and enargite are both common minerals in porphyry systems, although tennantite is uncommon and typical of top levels of a porphyry system where a transitional zone may develop. Copper mineralization was originally believed to be tennantite, which would have signified upper levels of a porphyry system. The revised mineralogy renders the location of the Main Zone respective to the overall setting of the porphyry system as uncertain; it may represent somewhat lower levels than first believed.

## 8 WORK PROGRAM

Prior to the program, Aurora personnel recommended the acquisition of additional areas to the southeast, southwest and northwest onto the existing property held by Messrs. Steven Scott and Brian Scott. In response to this, 79 Resources Ltd. acquired the 1,527.2 ha LOUISE EXTENSION claim (#1070157).

A two-person crew employed by Aurora conducted exploration on behalf of “79” on the Louise Lake property from August 22 to 30, 2019, inclusive. The following personnel comprised the 2019 crew:

**Table 5: 2019 personnel, Louise Lake Project**

Carl Schulze, BSc, PGeo	Project Manager
Davin Hofmann	Geologist

The work program comprised a one-day helicopter-supported due-diligence style visit to the deposit area, and a further eight days focusing on areas southeast of the Louise Lake. A total of 6 rock samples were

obtained from the deposit area. A total of 22 rock and 71 soil geochemical samples were taken from the recently acquired southeastern area.

## **8.1 CENTRAL DEPOSIT AREA**

Analytical results from the six samples taken from the central deposit area confirmed the presence of porphyry-style disseminated and vein-hosted mineralization obtained during the 2004 – 2008 programs. Values ranged from 135 to 1,613 ppm (0.0135 – 0.161%) Cu, 88 – 888 (0.0088 – 0.0888) ppm Mo, 101 to 512 ppb (0.101 – 0.512 g/t) Au, <0.3 to 1.1 g/t Ag, and 63 – 1,599 ppm As. Further descriptions of 2019 analytical results are outlined in Section 12; Data Verification.

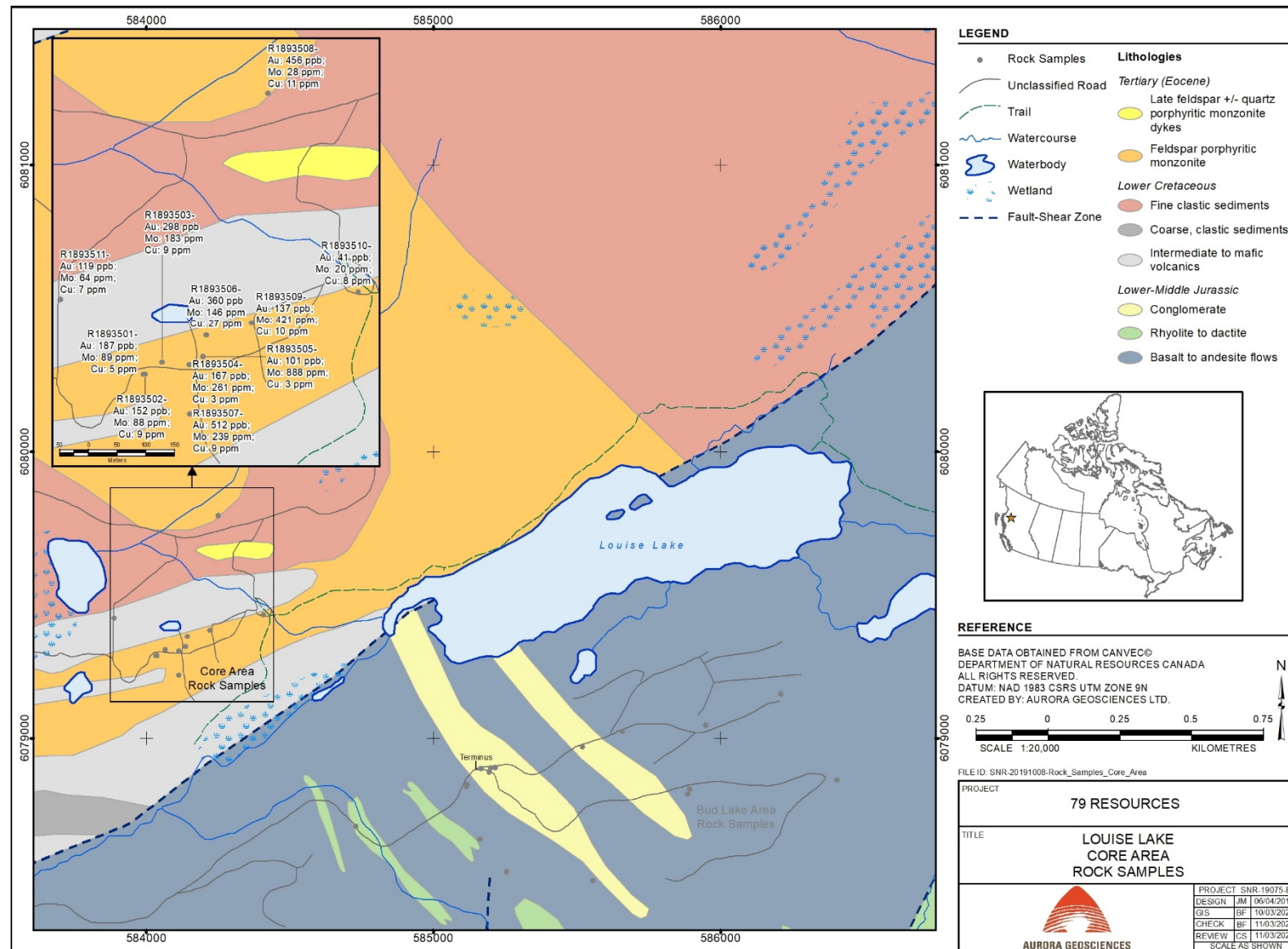


Figure 12: Rock sample locations and Cu, Mo and Au values, core deposit area



Sample #1893504 (Figure 13), which returned 1,613 ppm Cu and 261 ppm Mo, is an example of finely disseminated and fracture-hosted mineralization.



Figure 13: Sample R1893504, Central Louise Lake Deposit area

Sample R1893505 (Figure 14) is of quartz-pyrite-molybdenite veining, returning 135 ppm Cu and 888 ppm Mo.



Figure 14: Sample #1893505, Quartz-Molybdenum veining, central deposit area

## 8.2 2019 PROGRAM, SOUTHEASTERN AREA

The program, focusing on areas southeast of the Louise Lake waterbody, comprised three soil geochemical traverses (Figures 20-23), rock sampling along former logging roads, and five days of geological mapping and reconnaissance traversing. One day focused on areas east of Bud Lake and was helicopter-supported while the remaining days were accessed on foot from the logging roads. The soil sampling was completed along two impassable logging roads extending from the Terminus, and along the driveable 4x4 road extending west of it. Rock sampling was done mainly along the roads directly northwest of Bud Lake, and at several other sites (Figure 15). “Ground-truthing” of several anomalous Au and Mo values from the 2008 program was also undertaken.

Rock sampling returned background Au values to a maximum of 0.012 g/t from silicified pyritic basalt. No significant Ag values were returned from any non-deposit area samples. Three of four samples of conglomerate taken near the Terminus returned elevated Mo values from 30 to 34 ppm (Figure 17),



associated with elevated As values from 168 – 332 ppm (Figure 19). Elsewhere, three rock samples returned Zn values exceeding 200 ppm to a maximum of 699 ppm (Figure 18); the remaining values ranged from 7 to 117 ppm. Sample R1893531 returned a value of 1,691 ppm As; elsewhere, excluding the conglomerate units, As values ranged from 3 to 313 ppm.

Soil sampling returned background Au values and background to low Mo and Cu values throughout the sampled area. Sampling returned Ag values ranging from <0.3 to 0.8 g/t. Five soil samples taken from the eastern end of the lower (northern) impassable logging road returned values from 124 to 753 ppm As (Figure 23), although no significant values of other metals. Rock sample #1893523, taken near soil sample #1893553 that returned 1,691 ppm As, returned a value of 313 ppm As. Soil sample #1893625 returned a value of 287 ppm Pb, 196 ppm Zn and 0.7 g/t Ag. All other samples returned low to background values for precious, base and pathfinder elements.

Figures 16 to 19 show rock sample values for Cu, Mo, Zn and As, and Figures 21 to 23 show soil sample values for Mo, Cu and As.

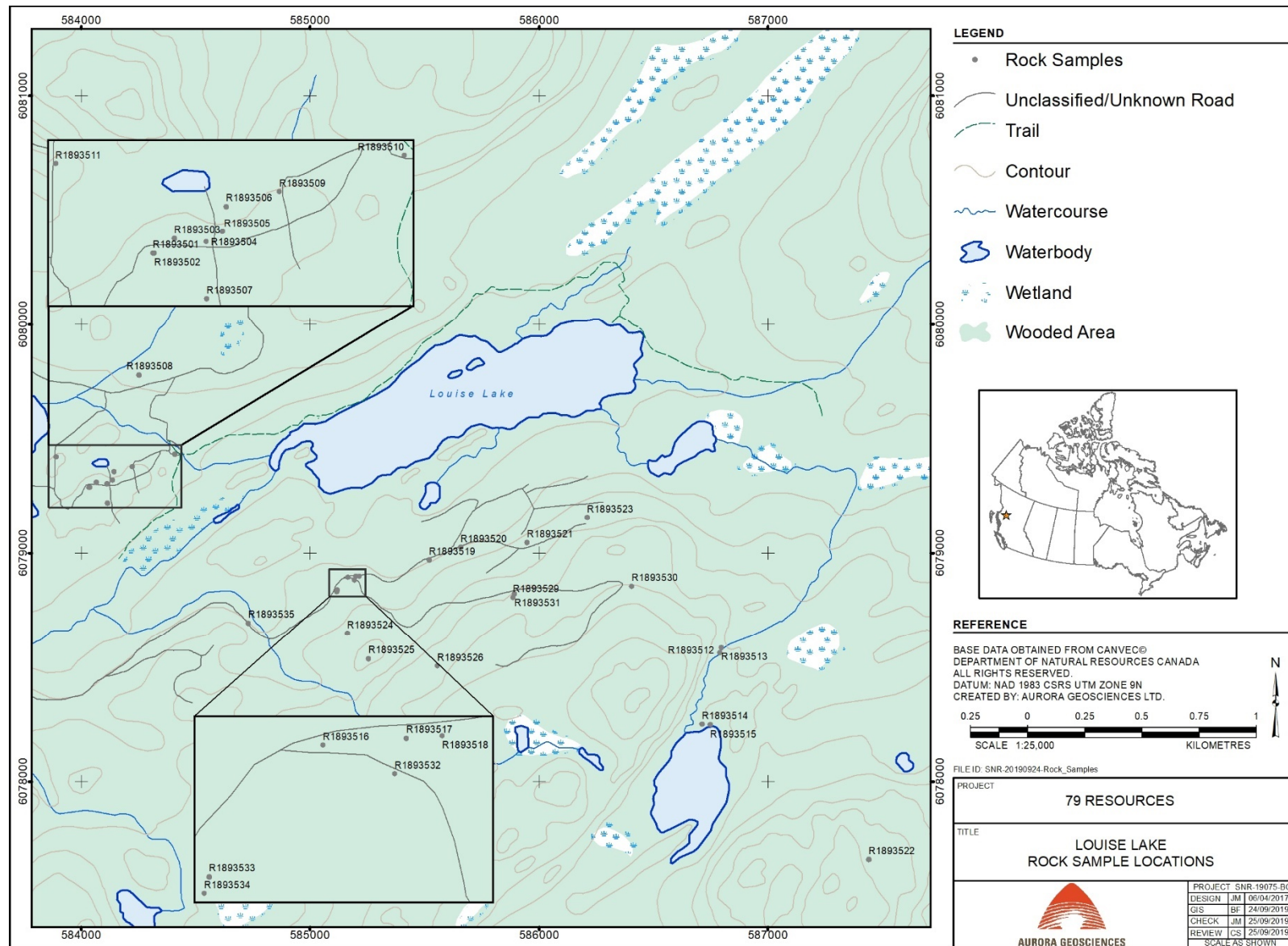


Figure 15: Rock sample locations, southeastern area

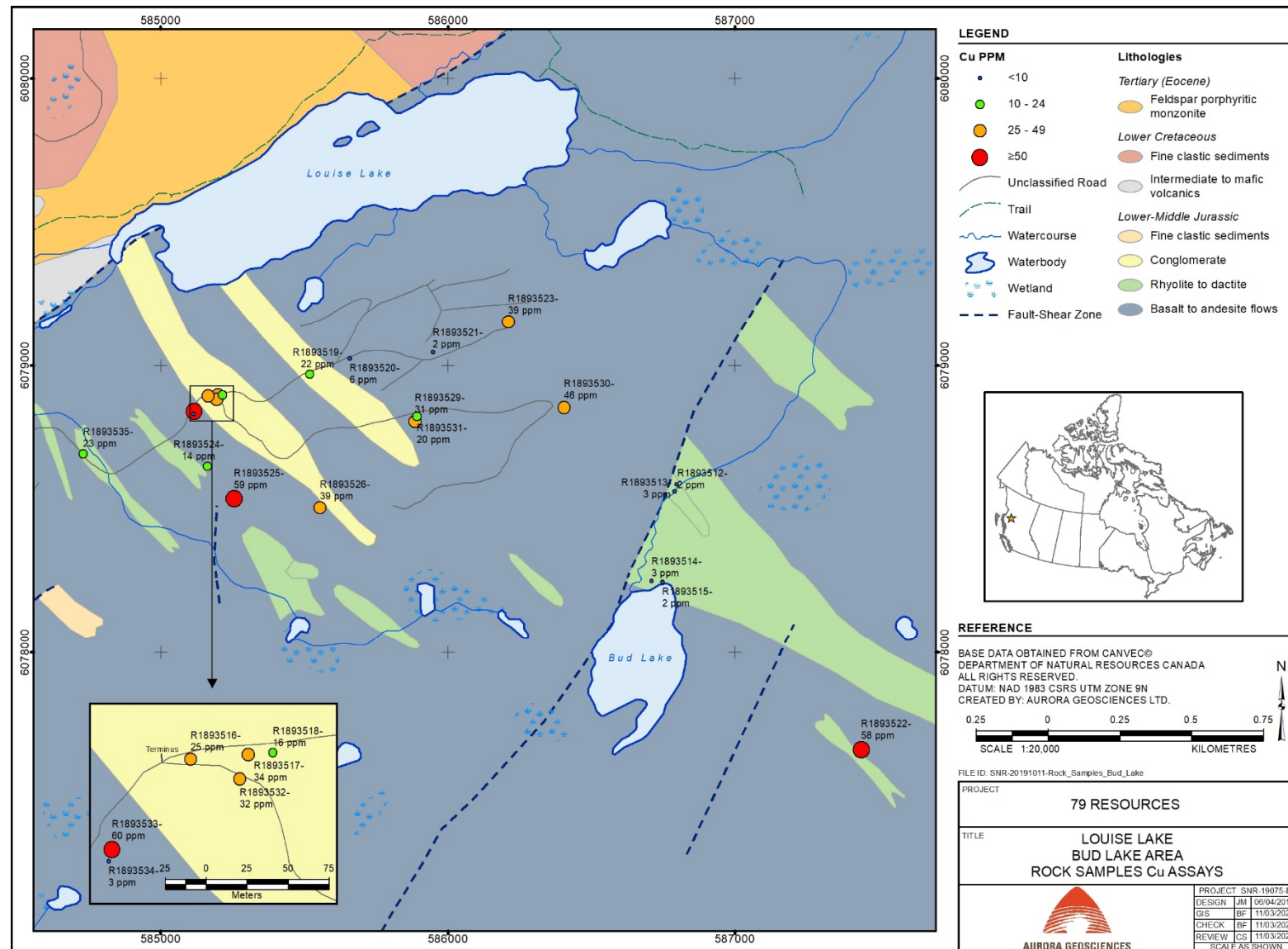


Figure 16: Cu values, rock sampling, southeastern area

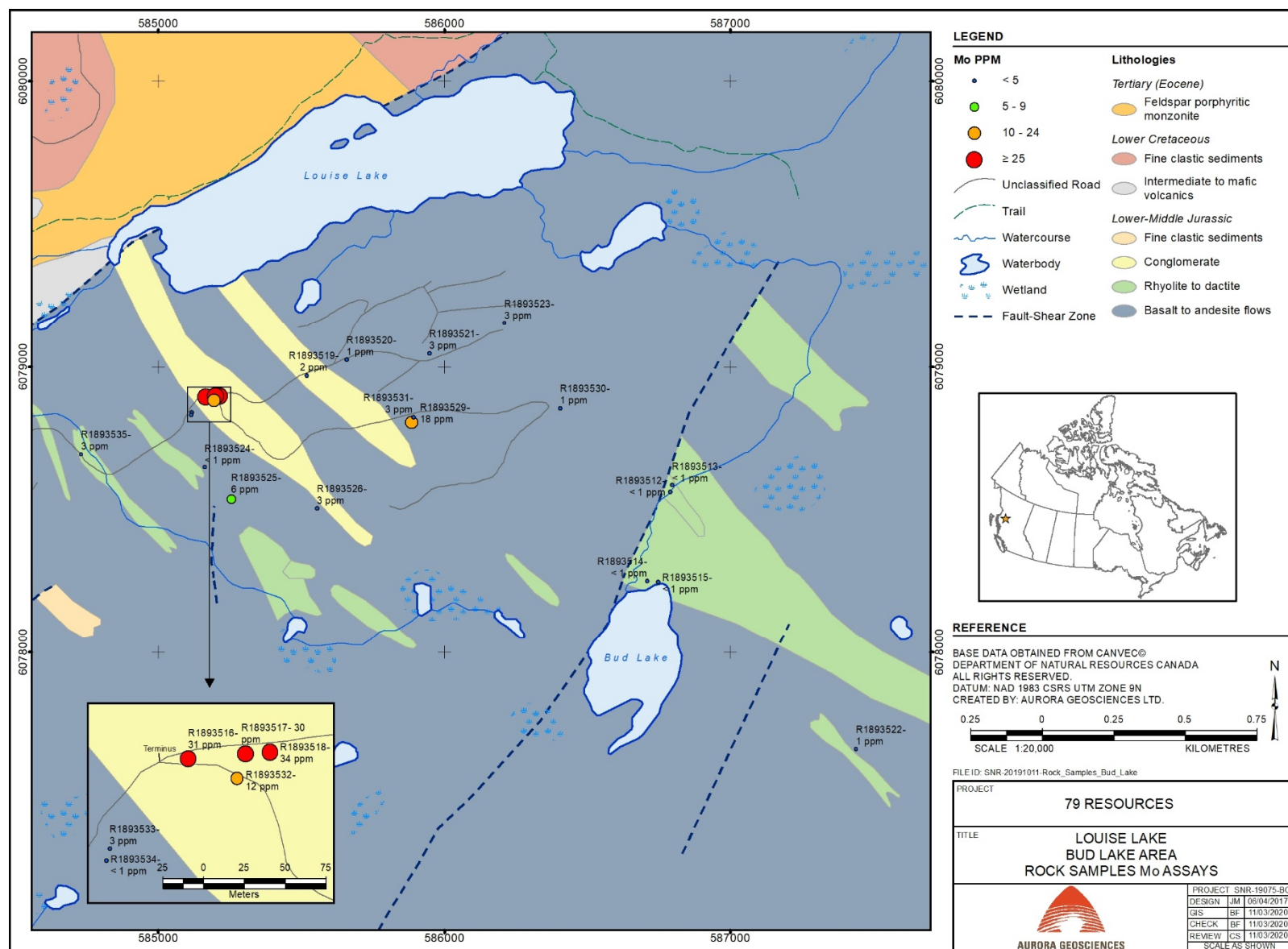


Figure 17: Mo values, rock sampling, southeastern area



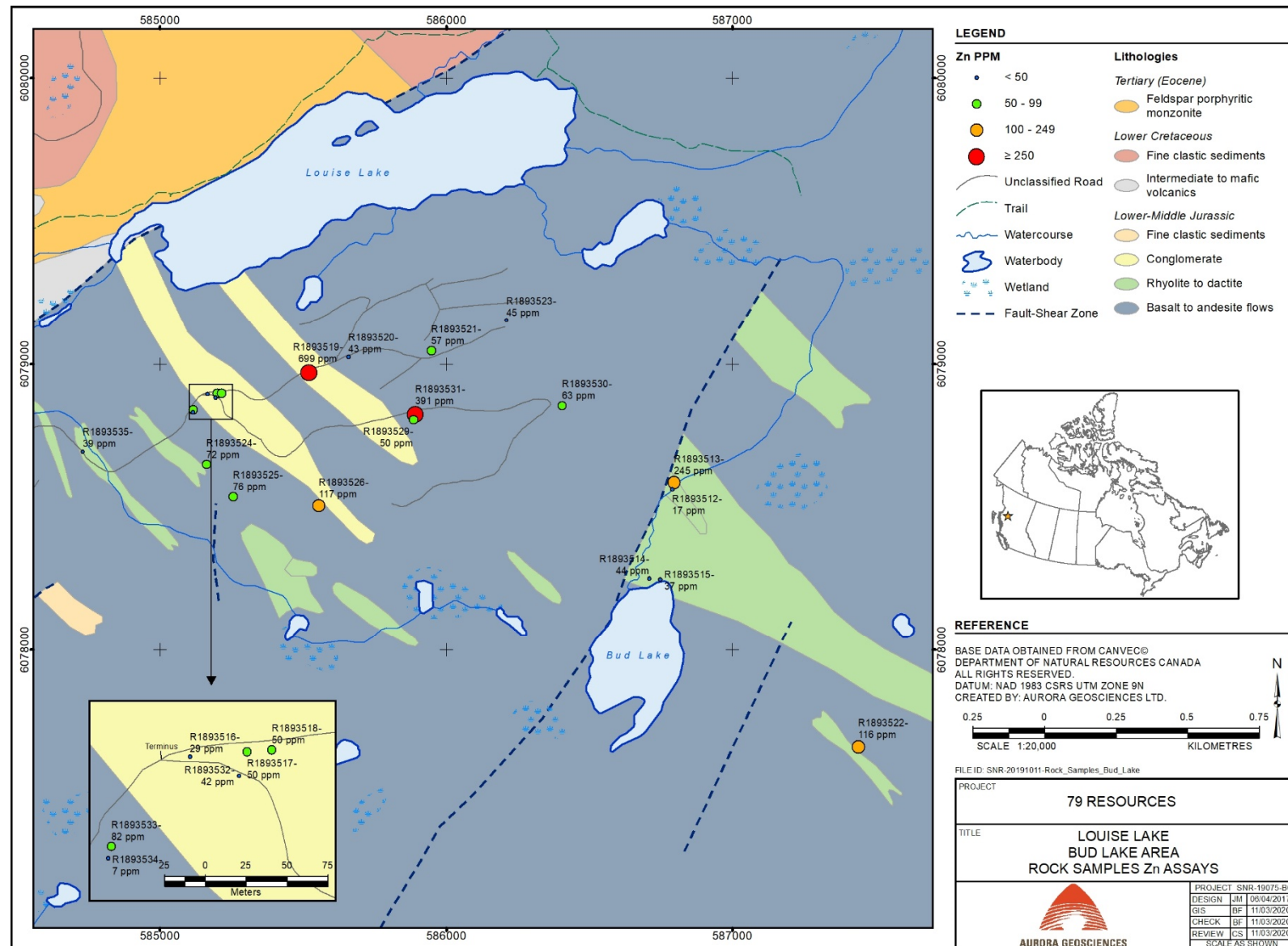


Figure 18: Zn values, rock sampling, southeastern area

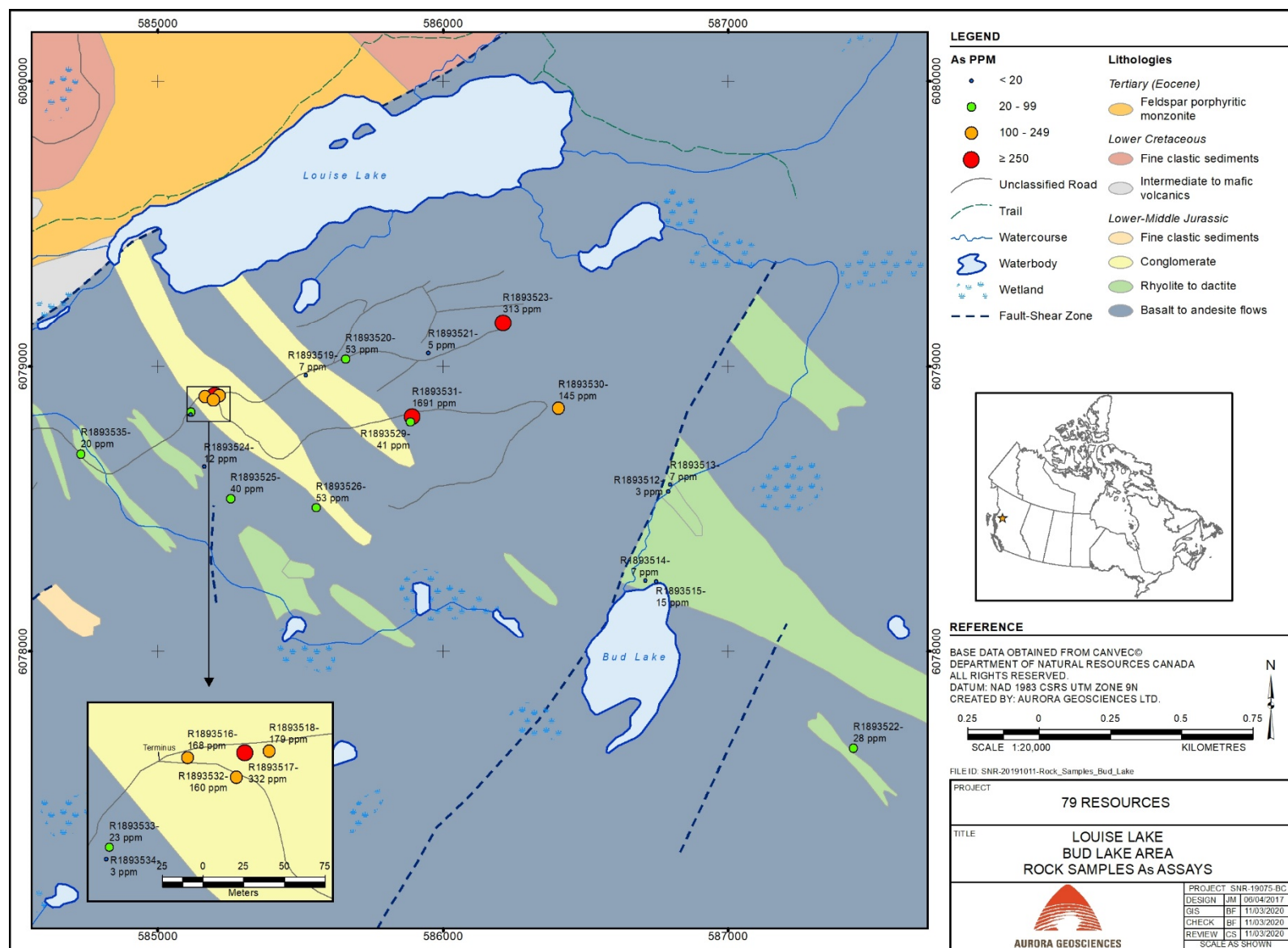


Figure 19: As values, rock sampling, southeastern area





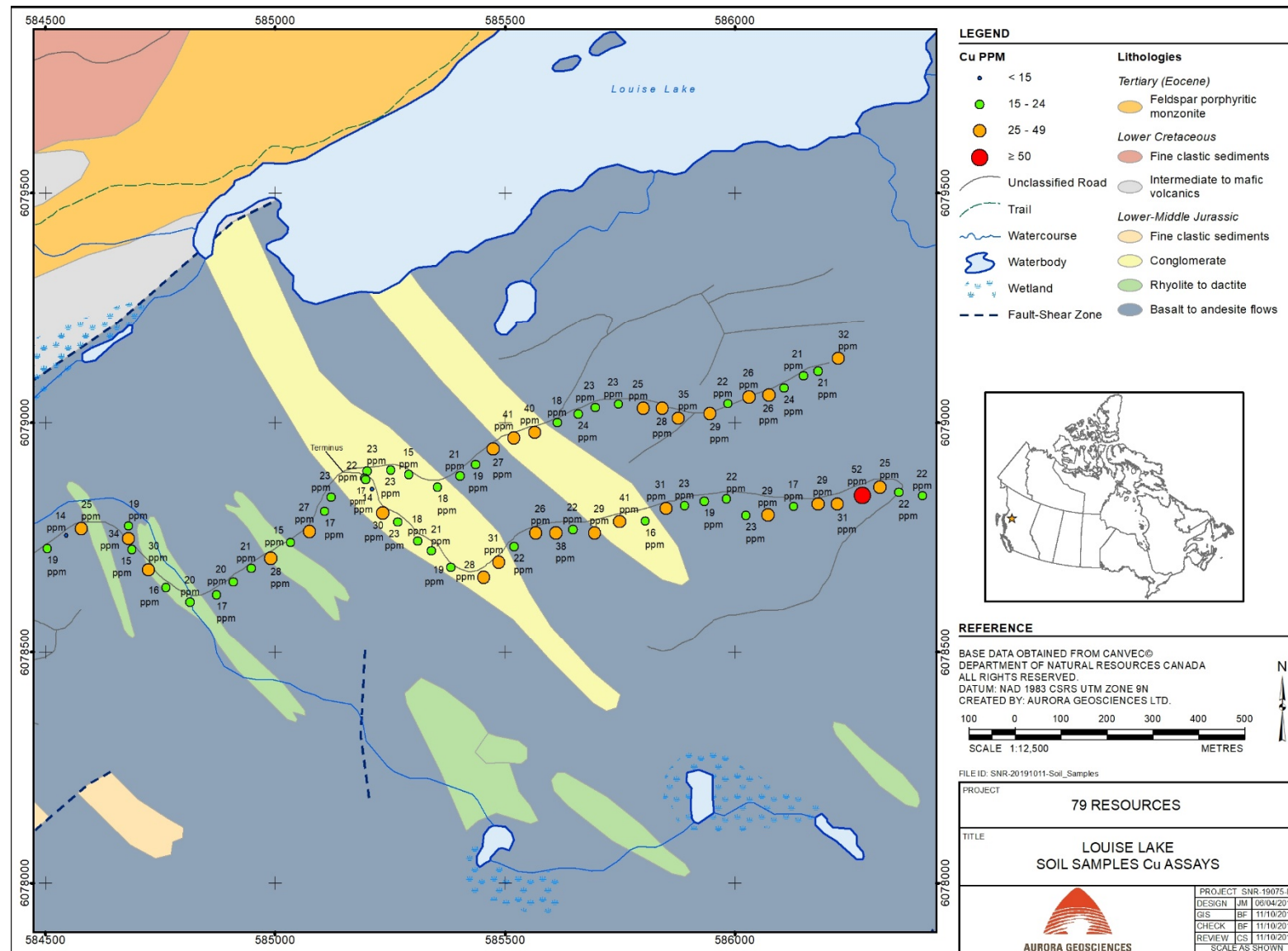


Figure 21: Cu values, soil sampling, southwestern area

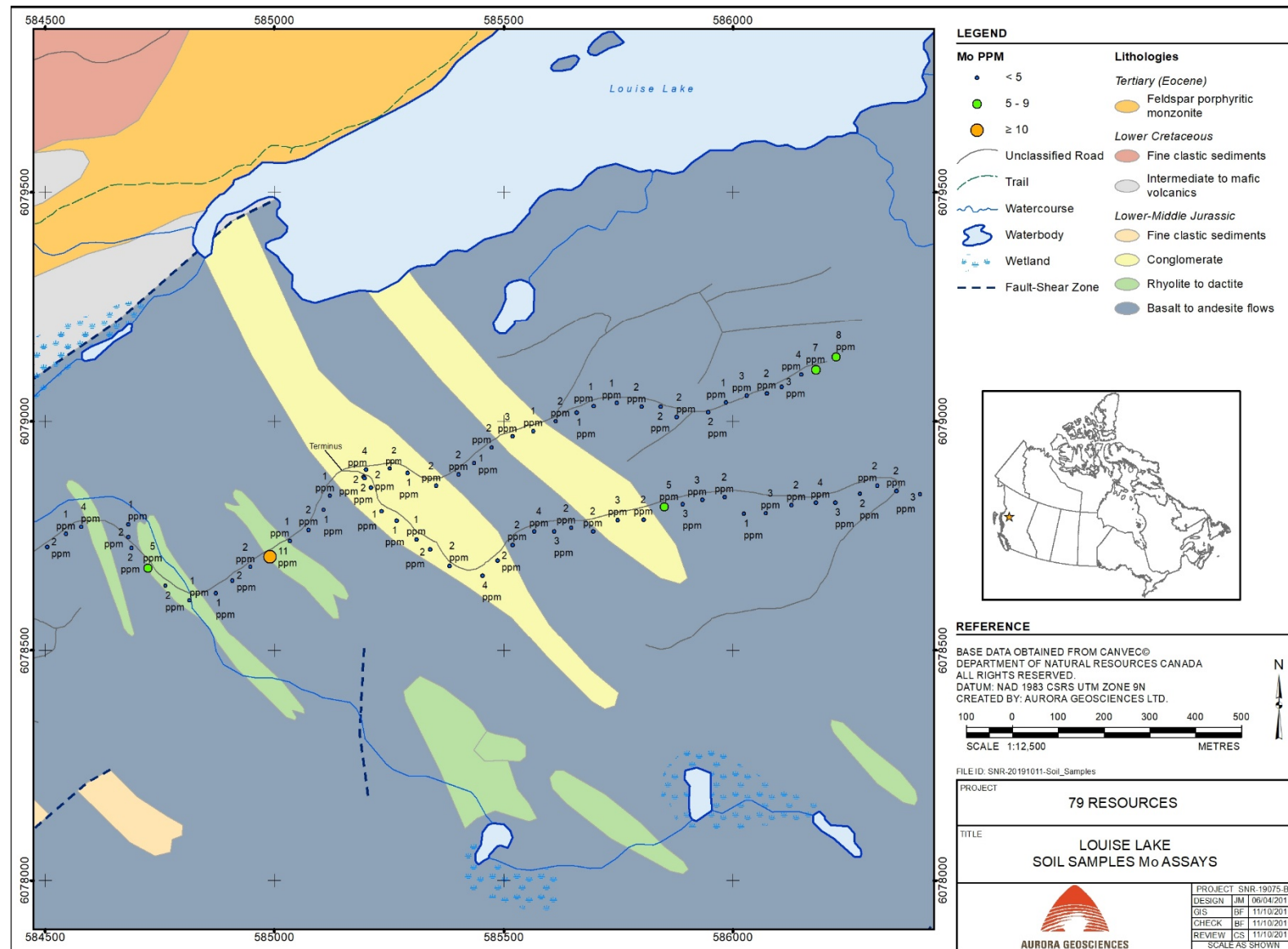


Figure 22: Mo values, soil sampling, southeastern area

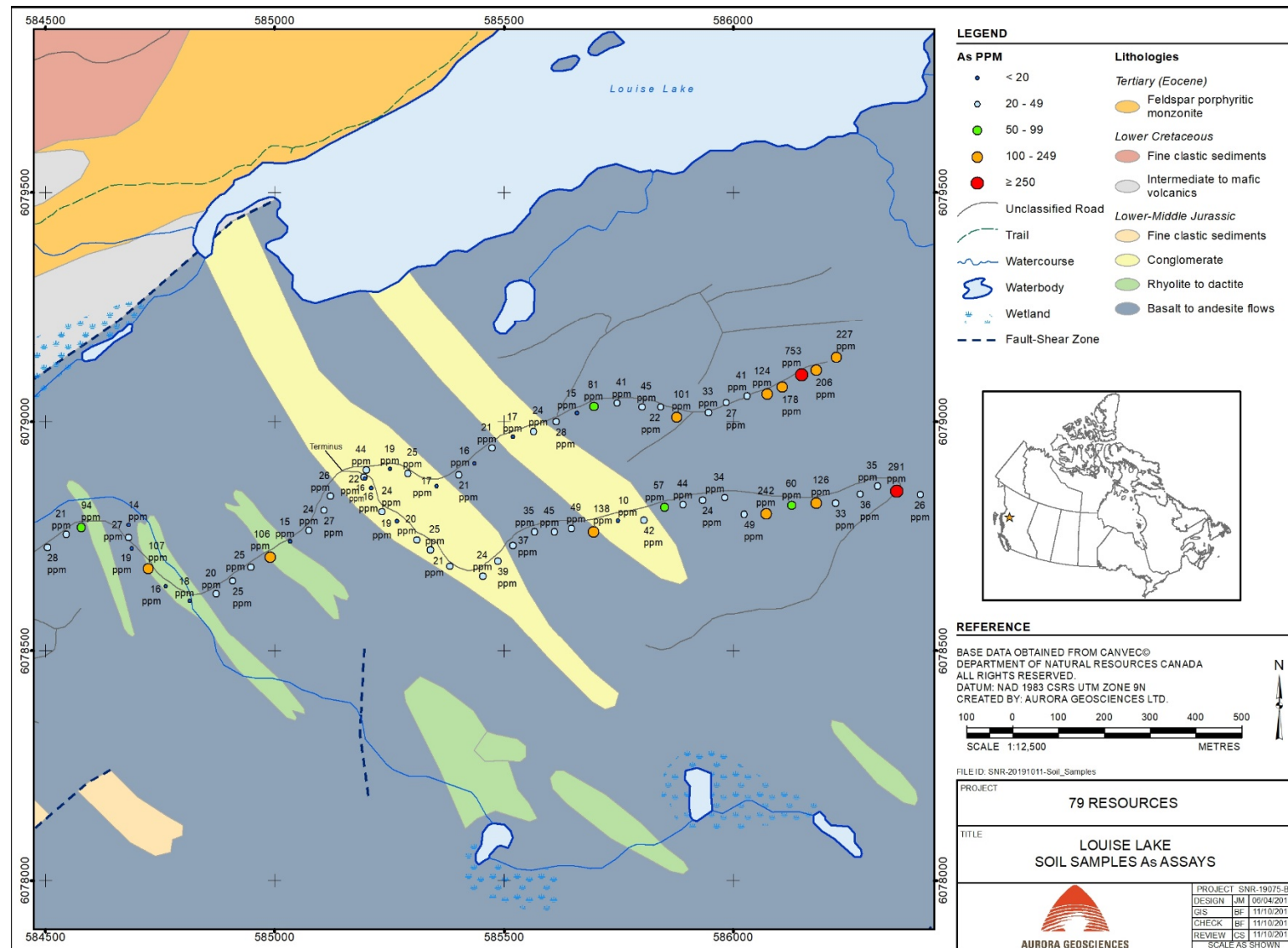


Figure 23: As values, soil sampling, southeastern area



## 9 SAMPLING METHOD AND APPROACH

The author was unable to access any information on Quality Assurance/ Quality Control (QA/QC) practices for geochemical sampling by past workers, prior to acquisition by Firestone Ventures Inc. in 2004. This author is unable to confirm that sampling procedures underwent QA/QC controls to industry best practices at the time.

QA/QC practices for diamond drilling, between 2004 through 2006, are described in the resource estimate performed by SRK Consulting (Canada) Inc., for North American Gem, Inc. This report is titled: "Independent Technical Report and Resource Estimate for the Louise Lake Property, Omineca Mining Division, British Columbia". QC practices for the 2006 through 2008 programs are also described in the 2008 report by C. Schulze titled: "NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, Including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem". This author was responsible for the QA/QC practices employed during the 2006, 2007 and 2008 drilling programs. The author was also responsible for the QA and QC standards employed during the 2008 field program.

### 9.1 2019 ROCK SAMPLING

All rock geochemical sampling was subject to rigorous parameters, including detailed descriptions of each sample. Rock samples were obtained using a "Geotool" rock hammer and documented in the field using a non-differential Global Positioning System (GPS) instrument. Samples were placed in plastic "poly" bags, either 8" x 12" or 13" by 20" in size which were designed specifically for rock sampling. A tag with the unique sample number, supplied by Bureau Veritas Labs, was placed in the bag; the sample number was written on both sides of the bag using "Magic Markers". The sample was then sealed with a "Zap Strap" (cable tie). The sample numbers were also written in pen on soft metal "butter tags" and the tags were attached to the sample locations. Two photographs were taken at each sample site: a close-up of the actual sample, and another of the sample site.

Rock samples were documented by location (UTM - NAD 83), sample type (grab, composite grab, chip, etc.), exposure type (outcrop, rubblecrop, float, etc.), formation, lithology, modifier (for textural or structural descriptions), colour, degrees of carbonate presence and of silicification, argillic, phyllic, propylitic and any other applicable alteration assemblages, types and amounts of sulphide and any other potentially economic mineralization, date, sampler and comments. Minimum sample weight was 0.50 kg, although most samples exceeded 1.0 kg. Field data was entered into Microsoft Excel spreadsheet format, and later matched with analytical results. This process was continually re-checked to ensure correct results are associated with sample numbers and the appropriate descriptions.

"Standard" samples, always immediately followed by "blank" samples, were inserted into the sample stream, at a rate of approximately one every 20 samples, to ensure one of each are included in each sample batch. No duplicate samples of field samples were taken.

Rock samples were placed in rice bags, with the sample number sequence written on the outside of each bag, and sealed with a Zap Strap. The samples were stored in a hotel room occupied by the project manager who then delivered the samples by truck to the Whitehorse prep lab of Bureau Veritas Minerals,

Inc. The prep lab has ISO/IEC 17025 and ISO 9001 certification (Bureau Veritas, 2019). The chain of custody was entirely under the control of Aurora personnel.

## 9.2 2019 SOIL SAMPLING

Soil samples were documented by location (UTM – NAD 83), sample depth, sample horizon, depth within horizon, colour, composition (% organics, % angular fragments, % gravel, % sand, % silt and % clay, total = 100), parent material, moisture content, vegetative cover, topographic position (slope angle), date and sampler. Samples were preferably comprised C-horizon material, although sampling of B/C-horizon or B-horizon soil was done where C-horizon material was unavailable. This was preferable to omitting the sample. The minimum original sample weight was 0.25 kg, although most exceeded 0.5 kg. Samples were placed in hard paper Kraft bags, with a unique sample number tag supplied by Bureau Veritas placed into the bag, and the sample number written in “Magic Marker” on both sides of the bag. The bags were then dried, as much as possible, before shipping. Field data was entered into Microsoft Excel spreadsheet format, and later matched with analytical results. This process was continually re-checked to ensure results are associated with the correct sample number and appropriate description.

“Standard” samples, always immediately followed by “blank” samples, were inserted into the sample stream at a rate of approximately one every 20 samples to ensure one of each are included in each sample batch. No duplicate samples were taken.

Soil samples were placed in rice bags, with the sample numbers written on the outside of each bag, and sealed with a “Zap Strap”. The samples were stored in a hotel room occupied by the project manager who then delivered the samples by truck to the Whitehorse prep lab of Bureau Veritas Minerals, Inc. The chain of custody was entirely under the control of Aurora personnel.

## 10 SAMPLE PREPARATION, ANALYSIS AND SECURITY

The author was unable to access any information on sample preparation, analysis and security by past workers, prior to acquisition by Firestone Ventures Inc. in 2004. This author is unable to confirm that sampling procedures underwent QA/QC controls to industry best practices at the time.

Sample preparation, analysis and security practices of diamond drill core, between 2004 through 2006, are described in the resource estimate performed by SRK Consulting (Canada) Inc., for North American Gem, Inc. This report is titled: “Independent Technical Report and Resource Estimate for the Louise Lake Property, Omineca Mining Division, British Columbia”. Sample preparation, analysis and security practices for the 2006 through 2008 programs are also described in the 2008 report by C. Schulze titled: “NI 43-101-Compliant Report on the Year-2006 through 2008 Diamond Drilling Program, Including: Summary of 2008 Surface Programs, Summaries of 2006 Resource Estimate and Metallurgical Studies on the Louise Lake Property, North American Gem”. This author was responsible for the QA/QC practices employed during the 2006, 2007 and 2008 drilling programs. The author was also responsible for the QA and QC standards employed during the 2008 field program.

## 10.1 ANALYTICAL METHODS, 2019 FIELD PROGRAM

### 10.1.1 Rock Sampling

At the Bureau Veritas Whitehorse prep lab, all samples underwent crushing to ensure that 90% of the sample can pass through a 2 mm screen. The sample was then split and pulverized to achieve a 250-gram pulp capable of passing through a 200-mesh screen (prep code PRP90-250). All samples were then sent to the Vancouver, British Columbia analytical laboratory of Bureau Veritas, where they underwent analysis for Au, Pt and Pd by 50-gram lead collection fire assay with an “Inductively Coupled Plasma” (ICP) finish (analysis code FA350). Also, a 0.5-gram pulp was sent to the Vancouver, British Columbia, Canada lab for 1:1:1 digestion “Inductively Coupled Plasma Emission Spectrometer” (ICP-ES) analysis (prep code AQ300) for Ag, Al, As, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, and Zn.

Analytical results were continually checked to ensure the sample numbers in the results match those in the descriptions.

Bureau Veritas Commodities is an analytical laboratory with ISO 14001 environmental certification and ISO 45001 certification for safety. Bureau Veritas is independent of 79 Resources Ltd, Aurora Geosciences Ltd. and the author.

### 10.1.2 Soil Sampling

At the Whitehorse Bureau Veritas prep facility, all soils underwent drying to 60°C (prep code DY060), then sieved to -180-micron (80 mesh) size (prep code SS80). All samples were then sent to the Vancouver, British Columbia analytical lab, where they underwent analysis for Au, Pt and Pd by 30-gram fire assay fusion by “Inductively Coupled Plasma Emission Spectrometer” (ICP-ES) analysis (prep code FA330). Also, a 0.5-gram pulp was sent to the Vancouver, British Columbia, Canada lab for 1:1:1 digestion ICP-ES analysis (prep code AQ300) for Ag, Al, As, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, and Zn.

Analytical results were continually checked to ensure the sample numbers in the results match those in the descriptions.

Bureau Veritas Commodities is an analytical laboratory with ISO 14001 environmental certification and ISO 45001 certification for safety. Bureau Veritas is independent of 79 Resources Ltd, Aurora Geosciences Ltd. and the author.

## 10.2 2019 QUALITY ASSURANCE AND QUALITY CONTROL

Aurora Geosciences incorporated two types of “reference material”, comprising one type of “Standard” sample of known composition of select elements, and one “blank sample”, into the rock and soil sample streams. Both types of reference material were supplied by Canadian Resource Laboratories of Langley, British Columbia. Table 6 shows the types of reference material inserted. A total of 2 standard and 2 blank samples were inserted into the rock sample stream, and 3 standard and 3 blank samples were inserted into the soil standard stream.

**Table 6: Types of reference material utilized in 2019**

<b>QAQC Type</b>	<b>Identifier</b>
Standard	CDN-CM-37
Blank	CDN-BL-10

Standard sample CDN-CM-37 utilized known “recommended values” and ranges for two “Standard Deviations” (2SD) for Au, Ag, Cu and Mo. Table 7 lists the 2SD ranges of applicable elements for CDN-CM-37. “Provisional values” are shown where the “relative standard deviation” ranges from 5% to 15%.

**Table 7: Recommended values, Reference Material CDN-CM-37 (CDN Resource Laboratories Ltd.)**

<b>Element</b>	<b>Recommended Value</b>	<b>“Between lab” 2SD</b>	<b>RSD</b>	<b>Analytical technique</b>
Gold	0.171 g/t	0.024 g/t	Provisional Value	30g FA/ICP or AA
Silver	1.17 g/t	0.12 g/t	Certified Value	Aqua Regia/ ICP or AA
Copper	0.214%	0.012%	Certified Value	Aqua Regia/ ICP or AA
Molybdenum	0.026%	0.003%	Provisional Value	Aqua Regia/ ICP or AA

Certified values for Au, Pt and Pd provided for “blank” samples were all less than 0.010 g/t (<10 ppb).

### **10.2.1 Rock Sampling Quality Control**

Table 8 lists the actual values returned from analysis of reference material CDN-CM-37 within the rock sample stream for the elements having “recommended values”.

**Table 8: Values returned from analysis of Reference Sample CDN-CM-37**

<b>Sample ID</b>	<b>Au (g/t)</b>	<b>Ag (g/t)</b>	<b>Cu (%)</b>	<b>Mo (%)</b>	<b>Comments</b>
R1893527	0.173	1.3	0.2184	0.0269	Ag value inconclusive due to rounding
R1893536	0.167	1.3	0.217	0.0263	Ag value inconclusive due to rounding

All values for Au, Cu and Mo fell within the 2SD range. Values for Ag are inconclusive due to rounding of the actual values received. Results from the 2019 rock sampling for Au, Cu and Mo can be considered to represent true values, and values for Ag can be considered as marginally representative.

The certificate for the “blank” reference material returned values of <0.01 g/t Au, <0.01 g/t Pt and <0.01 g/t Pd. Table 9 lists actual “blank” sample values for Au, Pt and Pd. All were at background to sub-detection levels, indicating a lack of contamination.

**Table 9: Values returned from analysis of Reference Sample CDN-BL-10**

<b>Sample ID</b>	<b>Au (ppb)</b>	<b>Pt (ppb)</b>	<b>Pd (ppb)</b>
R1893528	5	<3	<2
R1893537	3	<3	<2

### 10.2.2 Soil Sampling Quality Control

Table 10 lists the lists the actual values returned from analysis of reference material CDN-CM-37 inserted into the soil sample stream for analysis of Cu, Mo, Au and Ag.

Table 10: Values returned from analysis of Reference Sample CDN-CM-37

Sample ID	Au (g/t)	Ag (g/t)	Cu (%)	Mo (%)	Comments
R1893575	0.167	1.2	0.2194	0.0277	
R1893599	0.179	1.2	0.2055	0.0254	
R1893621	0.185	1.3	0.2157	0.0264	Ag value inconclusive due to rounding

All Cu, Au and Mo values fell within the 2SD range per element. One Ag value returned an inconclusive value, due to rounding.

Table 11 lists actual “blank” sample values for Au, Pt and Pd. All were at background to sub-detection levels, indicating a lack of contamination.

Table 11: Values returned from analysis of Reference Sample CDN-BL-10

Sample ID	Au (ppb)	Pt (ppb)	Pd (ppb)
1893576	3	<3	<2
1893600	4	<3	<2
1893622	3	<3	<2

## 10.3 STATEMENT OF OPINION

### 10.3.1 Statement on Quality Assurance (QA)

The rock sampling methodology is adequate for the conditions encountered, comprising grab and composite grab sampling mainly of rubblecrop and proximal float, with some outcrop sampling. Grab sampling tends to return the least representative results, and commonly shows a bias towards “high grading” of the mineralized portions. However, grab sampling is locally the only option for some proximal float samples at Louise Lake, due to lack of outcrop or rubblecrop. Composite grab sampling, typically providing more representative metal values, involved collection of several pieces of similar material where rubblecrop or felsenmeer was encountered. Where feasible, composite grab sampling was done, rather than grab sampling. Chip sampling, involving an even amount of sampling across a known width, is recommended where mineralization occurs in situ.

The routine and repetitive methodology of soil sampling in 2019 should eliminate any chance of bias. The methodology of obtaining C-horizon or B/C horizon soil leads to analytical results most likely to represent that of underlying bedrock. Outcrop or rubblecrop occurs near many of the 2019 roadside soil samples, indicating values obtained are likely representative of underlying bedrock. In some areas, no outcrop or rubblecrop were visible, indicating increased depth of overburden and potential for transported metal

ions in soil. Variability in results of soil sampling may also be influenced by slope angle, vegetative cover, moisture content and horizon sampled, with more subdued results expected in flat areas with thick overburden. Soil anomalies may be transported, depending on slope and groundwater conditions; detailed records of slope, vegetation, soil conditions and surficial geology are utilized to determine probability of transportation.

### 10.3.2 Statement on Quality Control (QC)

Although the rock and soil geochemical programs were of limited extent, 79 Resources and Aurora employed a high degree of quality control during the 2019 program. The “standard” reference material, with certified or provisional Au, Cu, Mo and Ag values, was specifically chosen to represent low-grade porphyry-style Main Zone mineralization. Blank samples were also of certified reference material with known Au, Pt and Pd values of <10 ppb. The QC sample insertion rate into the rock sample stream was 12.5%, and the insertion rate into the soil sample stream was 7.8%, sufficient to ensure one of each was emplaced into each sample “batch”. No duplicate samples were taken during the program.

All Cu, Mo and Au values from “standard” reference material CDN-CM-37 fell within the 2SD ranges per element, indicating results returned from sampling are representative of true values. Several of the Ag values returned fell outside of the 2SD range; however, this may be attributable to rounding errors rather than inaccurate analytical results. Values for Ag indicated in the CDN Resource Labs certification documents were provided to two decimal points of precision, whereas those from Bureau Veritas were provided with only one decimal point of precision, rendering results somewhat inconclusive. No Ag values clearly outside of the 2SD range were returned.

“Blank” reference material analysis did not reveal the presence of contamination. Although actual contamination is unlikely, the low Au values returned from the actual samples could render results inconclusive, as no Au was available for contamination. However, Bureau Veritas also includes in-house QC verification through insertion of its own standard and blank reference material. Although the standard samples employed had “recommended values” of 0.519 g/t and 0.994 g/t Au respectively, both in-house blank samples with known Au values returned 0.003 g/t (3 ppm) Au, indicating the process was free of contamination.

## 11 DATA VERIFICATION

The comparison of 2019 surface sample results from the core deposit area with diamond drilling results from 2004 – 2008 involves two separate media from separate locations, and is thus an inexact study. However, Au, Cu, Mo and Ag values from 2019 sampling were sufficiently anomalous to confirm the presence of these elements, and to support results from previous operators.

Results of Cu, Mo, Au and Ag from 2019 rock sampling of the core area are shown in Table 12 below.

**Table 12: Cu, Mo, Au and Ag values returned from 2019 surface rock sampling, core deposit area**

Sample ID	Cu (%)	Mo (%)	Au (g/t)	Ag (g/t)
R1893501	0.1148	0.0089	0.187	0.5



R1893502	0.0566	0.00088	0.152	0.3
R1893503	0.0616	0.0183	0.298	0.6
R1893504	0.1613	0.0261	0.167	0.4
R1893505	0.0135	0.0888	0.101	<0.3
R1893507	0.0918	0.0239	512	1.1

The Mo results reflect a higher concentration in eastern areas, due to increased quartz-pyrite-molybdenite, also reflected in drilling and deposit modelling results.

Table 13 lists the mineral resource estimation for the Main Zone deposit as determined by SRK (Canada) Ltd. (Lee and Marek, 2006).

**Table 13: 2006 SRK Classified Mineral Resource for the Louise Lake Deposit <sup>t</sup>**

Mineral Resources*	Tonnes	CuEq** (%)	Cu (%)	Mo (%)	Au (g/t)	Ag (g/t)
Indicated	6,000,000	0.369	0.214	0.006	0.20	0.98
Inferred	141,000,000	0.426	0.234	0.009	0.23	0.94

\* All resources quoted at 0.25% CuEq cut-off

\*\* CuEq calculated using the following metal prices: Cu US\$1.20/lb Mo US\$8.00/lb, Au US\$450/oz, Ag US\$7.00/oz

<sup>t</sup> Taken from Table 14 of the 2006 Technical Report by SRK Consulting (Canada) Inc.

Data verification from sampling southeast of Louise Lake is difficult to ascertain. No significant Cu, Mo, Au or Ag results were returned from rock sampling during either of the 2006 and 2019 programs. The only correlation possible is that of 2019 Sample #R1893525, which returned slightly elevated values of 6 ppm Mo and 59 ppm Cu. This was taken close to a 2008 soil sample returning 28 ppb (0.028 g/t) Au and 2 ppm Mo, with slightly elevated Mo soil geochemical values nearby. This indicates a weakly mineralized zone may occur.

No limitations on, or failures to conduct, data verification within the scope of the 2019 program have occurred. It is this author's opinion that the data obtained in 2019, combined with that provided by Firestone Ventures in 2004 and by North American Gem from 2005 - 2008 are adequate for the purposes of this report.

## 12 PROJECT INFRASTRUCTURE

At present, infrastructure is limited to a local system of drill roads across the deposit area. Access from 2004 – 2008 was provided by a branch logging road extending from the present unmaintained but still driveable 4x4 logging road along the south side of Coal Creek. By 2015 the branch road had become barricaded and is no longer accessible. No other forms of surface access exist.

The area of gentle relief near the Louise Lake deposit is large enough to contain open pit mining, milling, accommodations, other ancillary infrastructure, and tailings facilities. Several ponds and small lakes would have to be drained, although the Louise Lake waterbody and Coal Creek are likely to remain unaffected. Any dams required for tailings impoundment would likely be of limited height. The existing

road infrastructure could be upgraded to accommodate highway-legal concentrate trucks and other large service vehicles.

The Town of Smithers (town pop. 5,351, local rural pop. 5,256, 2016 census, Wikipedia) is located along the main Canadian National Railway line extending west to tidewater at Prince Rupert, British Columbia. Electric power could be supplied by a spur from the existing major power line which lies 28 km south of the deposit area. No pipelines would be necessary for a project of this size.

## **13 ADJACENT PROPERTIES**

The Louise Lake property optioned by 79 Resources surrounds one 2-unit claim, Claim #1064060, held by B. Kreft, of Whitehorse, Yukon (Figure 2). This claim covers part of the northern, down-dip extension of the deposit, including a portion of the 2006 resource estimation calculated in compliance with regulations under NI 43-101. The amount of the resource base is undetermined; however, it is a significant portion.

No other claims are located directly adjacent to the deposit.

## **14 OTHER RELEVANT DATA AND INFORMATION**

To the best of this author's knowledge, there are no other data or information to support the filing of this Technical Report.

## **15 INTERPRETATION AND CONCLUSIONS**

### **15.1 INTERPRETATIONS**

#### **15.1.1 Louise Lake Deposit area**

By the end of the 2006 diamond drilling program, North American Gem Inc. (NAG) had completed sufficient drilling on the Main Zone of the Louise Lake deposit to determine a maiden resource estimate. The 2006 estimate, prepared by SRK Consulting (Canada) Inc. (SRK) comprised an Indicated Resource of 6 M tonnes with a CuEq grade of 0.369%, and an Inferred Resource of 141 M tonnes grading 0.426% CuEq. SRK determined that the Main Zone occurs as a roughly wedge-shaped deposit, with a shallow westerly plunge, a plan view of about 1,000 m by 500 m and extending to a depth of about 300m. Although lateral dimensions remained undetermined, the base of the deposit was found to be sharply constrained by the basal "Terminator" thrust fault.

A follow-up 2006 metallurgical study on the Main Zone was completed by G & T Metallurgical Services. A 164-kg bulk sample of "quartered" drill core from three 2006 holes representing a variety of lithologies and metal grades was submitted, and found to have a "head grade" of 0.28% Cu, 0.3 g/t Au and 0.007% Mo. The resulting concentrate had a grade of 28.9% Cu at a recovery rate of 85%. The final concentrate included 18.7 g/t Au, 364 g/t Ag and 0.650% Mo. Au recoveries stand at 57%, Ag at 44% and Mo at 80%. The final concentrate has a "mass percent" of 0.8% of the original flotation feed. However, the concentrate also contained 11.7% As, originating from enargite, a copper-arsenic sulphide. The enargite

is a major mineralogical constituent, which will incur significant smelter penalties and require specialized extraction techniques to ensure environmental integrity. Several alternative extraction techniques were identified in 2006, although no further investigation of these was completed. Concentrations of Sb, Bi, Cd, Hg and Se, which also occur in the concentrate, were considered to be minor.

By 2007, the dimensions of the Main Zone of the Louise Lake deposit had been largely delineated. That year, low-grade mineralization was intersected below the Terminator in the western deposit area, suggesting the “fixed” underlying portion of the deposit occurs to the west.

As of Oct 11, 2019, metal prices were US\$2.61 for Cu, US\$27.27 for Mo, US\$1,486 for Au and US\$17.50 for Ag, at an exchange rate of CAD\$: US\$ of 1.3185:1 or CAD\$1.00 = US\$0.758. These indicate a significant improvement in project economics compared with 2008, although inflation needs to be factored in. Long-term price forecasts, rather than daily spot prices, are required to update project economics.

The 2008 diamond drilling program attempted to find the basal “fixed” portion of the deposit beneath the Terminator fault. Several holes targeting sub-Terminator mineralization west of the Main Zone deposit were successful in identifying the basal portion. Four holes returned mineralized intercepts commencing just below the Terminator fault. All mineralized zones were truncated by another basal flat-lying fault, referred to as the “Sub-Terminator”. The “Sub-Terminator” fault has the same fabric as the Terminator, and thus is of the same tectonic event. The most western drill hole intersected low grade mineralization below the Sub-Terminator, indicating a third underlying “slab”, or horizontal fault-bounded mineralized unit.

The “original” deposit has been sliced into a series of horizontal slabs that have been progressively displaced to the east-southeast with elevation. The lowest, or “fixed” portion, occurs some distance to the north-northwest of the Main Zone; each overlying slab represents an increased displacement to the east-southeast. Displacement distances are unknown, but likely in the 400 m to 600 m range. The original deposit was considerably larger than the Main Zone, the latter hosted by the easternmost block that extends to surface. However, the sub-Terminator mineralization is at considerable depth, requiring removal of large amounts of overburden prior to extraction.

The 2019 program included a due-diligence visit to the Main Zone deposit. Rock sampling returned somewhat lower Cu, Mo, Ag and Au values than the historical deposit average. However, these were sufficiently anomalous to confirm sampling results by previous workers and the presence of the Main Zone.

### **15.1.2 Interpretations, other property areas**

A sizable surface exploration program was conducted in the summer of 2008, to explore for other core areas of porphyry-style mineralization, and outlying Pb-Zn-Ag veining, auriferous “Bonanza veining” and epithermal veining. Sampling across several soil geochemical grids was completed, returning sporadic high Au values but revealing no significant aerially extensive auriferous zones. Reconnaissance-style soil sampling, stream silt and rock sampling, and geological mapping were completed across the property. Although no major discoveries were made, the program identified an area of silica and carbonate stockworking within mafic volcanics east of Bud Lake, and an area of argillic alteration at “Argillic Hill” northwest of Sandstone Lake.

In July 2019, 79 Resources Ltd. ("79") entered into an option agreement to acquire the Louise Lake property. In early August 2019, "79" added the "Louise Extension" claim covering 1,527.2 Ha and increasing the property size more than five-fold. The August 2019 field program comprised geological mapping and rock sampling southeast of Louise Lake, and systematic soil sampling along disused logging roads in the south-central area. The area of stockwork emplacement east of Bud Lake was visited, although Argillic Hill was not.

Geological mapping determined the area to be underlain by a broad package of mafic flow and pyroclastic volcanic rocks, intercalated with smaller units of porphyritic rhyolite to dacite, and of conglomerate near the terminus of the driveable 4x4 road. Prospecting and mapping also identified an aerially extensive area of moderate to strong pyrite emplacement associated with weak silicification and strong limonitization. Rock and soil sampling failed to identify elevated Au values, or significant zones of Cu, Mo or Ag mineralization. Sampling of conglomerate near the "terminus" of the driveable logging road returned elevated Mo values and anomalous As values, indicating a weakly mineralized zone may extend to the south-southeast. This pyritic zone likely represents weak mineralization outbound from the deposit, and lacks economic viability. The weakly mineralized conglomerate horizons may have a somewhat more reactive original geochemistry, allowing for transport and emplacement of fluids from the core deposit area.

To date, no significant mineralized zones or geochemically important anomalous values have been identified outside of the core Main Zone area and its west-northwest extension.

## 15.2 CONCLUSIONS

- The Main Zone of the Louise Lake deposit is a tabular body striking at 260° and dipping from 30° to 40° to the north. The zone comprises disseminated and vein-associated grains of chalcopyrite and enargite with lesser late molybdenite-bearing quartz veining, occurring within a series of tabular units of feldspar porphyritic monzonite. These are separated by conglomerate and lesser finer-grained sedimentary units in central areas, and andesite fragmental units in northern and western areas. The deposit model is of an upper-level portion of a Cu-Mo-Au-Ag porphyry deposit.
- By 2006, the Main Zone was known to have dimensions in plan view of about 1000 m by 500 m, extending to the horizontal "Terminator" fault at a depth of almost 300 m. The 2006 Technical Report by SRK Consulting indicated the zone remained open to the west, north and south below a depth of about 150 metres. However, drilling in 2007 determined western and eastern limits of the deposit and firmed up northern and southern boundaries, effectively constraining the deposit above the flat-lying "Terminator" fault.
- Mineralization does not appear to show any lithological preference, with fairly similar grades reported from feldspar porphyritic monzonite, heterolithic conglomerate and more finely grained clastic sediments, and andesitic to dacitic tuffs. However, improved correlation of geological data is recommended.
- The following table states resources identified through the 2006 SRK resource estimate:

**Table 14: SRK Classified Mineral Resources for the Main Zone Deposit <sup>†</sup> (Lee and Nowak, SRK, 2006)**

<b>Mineral Resource*</b>	<b>Tonnes</b>	<b>CuEq**(%)</b>	<b>Cu (%)</b>	<b>Mo (%)</b>	<b>Au (g/t)</b>	<b>Ag (g/t)</b>
Indicated	6,000,000	0.369	0.214	0.006	0.20	0.98
Inferred	141,000,000	0.426	0.234	0.009	0.23	0.94

\* All resources quoted at 0.25% CuEq cut-off

\*\* CuEq calculated using the following metal prices: Cu US\$1.20/lb Mo US\$\*/lb, Au US\$450/oz, Ag US\$7/oz

<sup>†</sup> Taken from Table 14 of the Technical Report by SRK Consulting

- No reserves were included in this resource estimate.
- The metallurgical study by G & T Metallurgical Services Ltd. indicates that the concentrate, with a “mass percent” of 0.8, contains 28.9% Cu at a recovery rate of 85. The concentrate also includes 18.7 g/t Au, at a 55% recovery rate, and 364 g/t Ag, at a 44% recovery rate. Grades of Mo in concentrate stood at 0.650%, at an 80% recovery rate, potentially recoverable as a separate salable product using a “reverse flotation” procedure.
- Arsenic values were high at 11.4%, limiting potential for treatment by conventional extraction techniques. A number of alternative extraction processes were investigated in 2006, although no further progress on this issue has occurred since then. Concentrations of other deleterious elements were considered to be minor.
- Prices for Cu, Mo, Au and Ag as of October 2019 have improved significantly since 2008, buoyed by a favourable CDN\$: US\$ exchange rate, even when factoring inflation. Even so, long-term price forecasts are required when re-evaluating project economics.
- The 2008 drilling successfully identified the underlying “fixed” portion of the deposit to the west-northwest. Another flat-lying fault, called the “Sub-Terminator”, of the same structural event as the Terminator fault, forms the basal unit of a block or “slab”; at least one other slab occurs beneath this. Thus, the original deposit has been segmented into a series of blocks, of which each overlying block has been successively displaced farther to the east-southeast. The Main Zone is hosted by the easternmost single block which extends to surface. Potential for further underlying mineralization occurs farther to the west-northwest. However economic viability is compromised by the depths encountered, thinness of the slabs and lack of improved metal grades.
- Results of the summer, 2008 surface exploration program revealed an area of quartz and carbonate stockwork veining east of Bud Lake, with elevated Au values from nearby stream silt sampling. A second prospective target is the “Arsenic Hill” area northwest of Sandstone Lake. The “Louise Extension” claim, acquired in August, 2019, covers these targets. Elsewhere, sporadic anomalous Au values were returned from grid and reconnaissance soil sampling, although no substantive anomalous zones were identified.
- Due diligence rock sampling, in 2019, across the surface expression of the Main Zone confirmed the presence of Cu-Mo-Au-Ag mineralization, although 2019 values are somewhat lower than the deposit average.

- Geological mapping in the Bud Lake area did not identify mineralization indicative of porphyry mineralization. Mapping indicated the area southeast of the Louise Lake is underlain by mafic volcanic rocks intercalated with porphyritic rhyolite units and units of conglomerate.
- Rock and soil sampling in 2019 did not return significant metal values. Several rock samples of conglomerate returned elevated Mo and As values and slightly elevated Cu values, indicating the conglomerate horizons may have had a more reactive geochemistry, allowing for increased metal-bearing fluid movement. However, this is not considered a significant exploration target. The “Argillic Hill” occurrence was not visited in 2019.

## 16 RECOMMENDATIONS

### 16.1 RECOMMENDATIONS

It is strongly recommended that 79 Resources acquires Claim #1064060, held by Mr. B. Kreft, through an option or purchase agreement. This claim covers part of the Main Zone deposit, and is required if the entire deposit is to be contained within a single property.

The 2004 – 2008 programs have constrained the dimensions of the Main Zone, but have indicated the sub-Terminator mineralization extends to the west-northwest. A two-phased diamond drilling program is recommended. This comprises a Phase 1 program of a single 350-metre due-diligence-style hole essentially twinning known central Main Zone area mineralization, and avoiding Claim #1064060 on surface and at depth. Duration of the project is proposed at 7 days of actual diamond drilling, and an additional 4 days of program set-up and post-drilling work. An additional 3 day’s travel time is also budgeted into the program.

The Phase 2 program would target “sub-Terminator” mineralization WNW of the Main Zone deposit. It would involve three deep holes, for a total of 1,300 m of NTW-sized core. Duration of this program would be 31 days, including pre-drill set-up and post-drill logging, sampling and reclamation. Both programs would be done by a single drill with two shifts per 24 hours. The crews would be comprised of four drillers and three geological and geotechnical staff. Core logging and sampling are planned to be done on site, but the crews would commute from Smithers on a daily basis. Drilling could be done in late winter, allowing for travel across frozen wetlands, if necessary, or in summer, if wetlands can be avoided. None of the proposed drilling or support logistics would take place on Claim #1064060.

Phase 1 expenditures, including 5% contingency, are estimated at about CDN\$180,500. Phase 2 expenditures, including 5% contingency, are estimated at \$484,400. Proposed expenditures exclude any follow-up field work or payment for a necessary reclamation bond, but include reclamation costs. Assuming the reclamation work is done to industry standard, the bond will be returned. Expenditures also exclude PST and the cost of acquiring Claim #1064060.



Due to the depth of mineralization, the Phase 2 program represents a high degree of risk in intersecting significant mineralization.

### 16.1.1 Recommended Phase 1 Budget

The following is a recommended budget for the 2020 Phase 1 diamond drilling program.

Type of Expense	Proposed cost	
Personnel, including preparation and wrap-up costs	\$	34,675.00
Drilling, including move and ancillary charges	\$	65,600.00
Core boxes	\$	1,320.00
Heavy equipment, including transport	\$	12,800.00
Diesel fuel for drill, equipment; gas for generator	\$	7,650.00
Down-hole tool rental	\$	2,350.00
Sampling, including shipping and "reference material"	\$	12,405.00
Accommodations	\$	9,000.00
Truck rental and fuel	\$	4,900.00
Rock saw and generator rental	\$	1,125.00
Other rentals	\$	1,875.00
Field office supplies	\$	500.00
Permitting	\$	4,500.00
<b>Field total:</b>	<b>\$</b>	<b>158,700.00</b>
Field report	\$	3,000.00
Assessment report, incl. data compilation, drafting	\$	10,200.00
<b>Sub-total</b>	<b>\$</b>	<b>171,900.00</b>
5% contingency	\$	8,595.00
<b>Estimated total</b>	<b>\$</b>	<b>180,495.00</b>

### 16.1.2 Phase 2 Expenditures

The following is a recommended budget for the 2020 Phase 2 diamond drilling program.

Type of Expense	Proposed cost
Personnel, including preparation and wrap-up costs	\$ 78,000.00
Drilling, including mobe and ancillary charges	\$ 211,100.00
Core boxes	\$ 4,875.00
Heavy equipment, including transport	\$ 30,200.00
Diesel fuel for drill, equipment; gas for generator	\$ 27,100.00
Down-hole tool rental	\$ 2,350.00
Sampling, including shipping and "reference material"	\$ 47,140.00
Accommodations	\$ 21,000.00
Truck rental and fuel	\$ 10,900.00
Rock saw and generator rental	\$ 2,625.00
Other rentals	\$ 4,375.00
Field office supplies	\$ 700.00
Permitting	\$ 4,500.00
<b>Field total:</b>	<b>\$ 444,865.00</b>
Field report	\$ 3,000.00
Assessment report, incl. data compilation, drafting	\$ 13,450.00
<b>Sub-total</b>	<b>\$ 461,315.00</b>
5% contingency	\$ 23,066.00
<b>Estimated total</b>	<b>\$ 484,381.00</b>

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Lepanto Mining Corporation Ltd.

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Effective Date: December 6, 2019

Respectfully submitted,  
Aurora Geosciences Ltd.

*Carl Schulze*

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Carl Schulze, BSc, P.Geo  
Project Manager, Aurora Geosciences Ltd.

Reviewed by

*Gary Vivian*

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Gary Vivian, P.Geo



## Appendix I

### CERTIFICATE OF QUALIFICATIONS, CONSENT, DATE AND SIGNATURES

I, Carl Schulze, BSc, with business and residence addresses in Whitehorse, Yukon Territory do hereby certify that:

1. I am a graduate of Lakehead University with a B.Sc. degree in Geology obtained in 1984.
2. I am a Professional Geoscientist registered with the Association of Professional Engineers and Geoscientists of British Columbia (registration number 25393), Association of Professional Geoscientists of Ontario (registration no. 1966) and with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG, registration number L3359).
3. I have been employed in mineral exploration as a geologist since 1984, primarily on projects in the Yukon Territory, Northwest Territories, Nunavut, Alaska and British Columbia.
4. I supervised the work described in this report and wrote this report.
5. I have no interest, direct or indirect, nor do I hope to receive any interest, direct or indirect, from 79 Resources or any of its properties.

Dated this 6<sup>th</sup> day of December 2019, in Whitehorse, Yukon Territory.

Respectfully Submitted,

*Carl Schulze*

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Carl M. Schulze, BSc. P. Geo.

## Appendix II

### STATEMENT OF EXPENDITURES

Data and Crew Preparation:	\$ 3,253.75
Mobilization and Demobilization:	\$ 6,000.00
Survey: 2 person crew @ \$2,000/day:	\$18,000.00
Helicopter Support: *	\$ 3,965.28
Rock Assaying: 37 rocks @ average of \$51.39 each: *	\$ 1,901.44
Soil Assaying: 77 soils @ ave. of \$42.31 each: *	\$ 3,257.82
“Standard” reference material samples: *	\$ 163.22
Accommodations: *	\$ 2,084.31
Meals and Groceries: *	\$ 833.16
Truck fuel: *	\$ 722.61
Supplies and Consumables: *	\$ 445.07
GIS Drafting and Assessment Report:	<u>\$ 6,560.00</u>
<b>Total:</b>	<b>\$47,186.66</b>

## Appendix III

### ROCK AND SOIL SAMPLE DESCRIPTIONS

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**Rock Sample Descriptions and Results  
2019 Program, Louise Lake Property  
79 Resources Ltd.**

Sample ID	UTM Easting	UTM Northing	Elevation	Zone	Sample Type	Width (m)	Sample Descrp	Lithology	Modification	Colour	Carb alt (1-3)	Silica (1-3)	Alt 1	Alt 2	Other Alt	Mineral 1	Amt (%)	Min 2	Amt (%)	Other min	Amt (%)	Date	Sampler	Comments
R1893501	584034	6079287	987	9V	C Grab		Road push	FP Monzonite	fractured	blue-grey		S2	Ph2			Enargite/Cpy	>1	Pyrite	8		22-Aug	CS/DH	Disseminated and frac-controlled enargite/chalco	
R1893502	584036	6079287	9V	Grab			Road push	FP Monzonite	brecciated	blue-grey		S1-2	Ph1-2	A1		Enargite/Cpy	>1	Pyrite	6		22-Aug	CS/DH	Disseminated and frac-controlled enargite/chalco	
R1893503	584066	6079309	9V	C Grab			Roadcut	FP Monzonite	Veined, fractured	light grey		S1-2	Ph2	A1		Enargite/Cpy	>1	Pyrite	6		22-Aug	CS/DH	Disseminated and frac-controlled enargite/chalco, fairly soft	
R1893504	584113	6079304	9V	SCGr			Roadcut	Monzonite	Veined	blue-grey		S1-2	Ph2	A1		Enargite/Cpy	3	Pyrite	7	Moly	tr	22-Aug	CS/DH	2-3% fine Qz veins, trace vein-assoc and dissem molybdenite
R1893505	584137	6079319	9V	Grab			Rcrop boulder	Qz-Moly vein	Banded veining	grey-white			Ph 1			Moly	5	Pyrite	8	Enargite/Cpy	tr	22-Aug	CS/DH	Clotty to semi-massive moly
R1893506	584143	6079356	9V	C Grab			Prox float	FP Monzonite	Veined	light grey		S1-2	Ph 1			Enargite/Cpy	>2	Pyrite	9	Moly	tr	22-Aug	CS/DH	15% Qz-moly veins, tr moly along veins, fractures
R1893507	584114	6079219	9V	Grab			Trench push	FP Monzonite	fractured	blue-grey		S1-2	Ph1-2	A1		Enargite/Cpy	>1	Pyrite	5	Moly	tr	22-Aug	CS/DH	Dissem moly and enargite/chalco
R1893508	584251	6079778	1003	9V	SCGr		Trench push	FP Monzonite	Veined	green-grey		S1-2	Ph2	A1-2		Enargite/Cpy	>1	Pyrite	8		22-Aug	CS/DH	Fracture controlled and disseminated pyrite	
R1893509	584222	6079378	1000	9V	SCGr		Trench push	FP Monzonite	Veined	blue-grey		S2	Ph1	A1		Enargite/Cpy	1	Pyrite	<1	Moly	<1	22-Aug	CS/DH	Banded veins to 2.5 cm wide
R1893510	584408	6079432	9V	SCGr			Rcrop	FP Monzonite	fractured	blue-grey		S1-2	Ph1	A1		Enargite/Cpy	<1	Pyrite	4		22-Aug	CS/DH	Fine grained	
R1893511	583889	6079420	996	9V	SCGr		Trench push	FP Monzonite	fractured	Grey		S1-2	A1-2			Enargite/Cpy	<1	Pyrite	3		22-Aug	CS/DH	Fracture controlled and disseminated pyrite	
R1893512	586790	6078563	1098	9V	Grab		Prox float	QFB Rhyolite	Speckled	buff-tan		S1	Ph1		L1-2	Py	2				24-Aug	CS/DH	Pyrite may be replacement of feldspars	
R1893513	586796	6078586	1095	9V	C Grab		Prox float	Monzonite?	med grained	tan-brown		S1			L2						24-Aug	CS/DH	Several pieces in stream	
R1893514	586711	6078251	1120	9V	C Grab		Rcrop	QFB Rhyolite	Fractures	buff-tan			Ph1	A1	L1-2	Py	tr				24-Aug	CS/DH	Likely fine grained porphyritic intrusion	
R1893515	586721	6078248	1115	9V	C Grab		Rcrop	QFB Rhyolite	Weakly fissile	buff-tan		S1	Ph1		L1-2						24-Aug	CS/DH	Part of large area of subcrop	
R1893516	585165	6078895	1001	9V	C Grab		Road push	Conglomerate	Pyritic matrix	grey		S1	A1		L2-3	Py	15				25-Aug	CS/DH	Matrix supported pyrite, includes yellow limonite	
R1893517	585700	6078898	996	9V	C Grab		Road push	Conglomerate	Pyritic matrix	light grey		S1-2	A1	L2-3	Py	12	Mal?	tr			25-Aug	CS/DH	12% matrix-supported and dissem pyrite, yellow limonite	
R1893518	585215	6078899	996	9V	C Grab		Outcrop	Conglomerate	fractured	grey-blue		S1-2	A1	L2-3	Py	15					25-Aug	CS/DH	Matrix-supported replacement-style pyrite	
R1893519	585520	6078970	994	9V	Grab		Prox float	Conglomerate	fractured	Orange-brown		S1		L3	Py	tr	3				25-Aug	CS/DH	Locally mm-scale sheeted fractures; adjacent to basalt	
R1893520	585658	6079025	1002	9V	Grab		Float	F.P. Monzonite?	fractured	light grey	C1	S2		L1-2	Py	3					25-Aug	CS/DH	Dissem and fracture-controlled pyrite	
R1893521	585948	6079047	1041	9V	SCGr		Prox float	F.P. Monzonite?	fractured	buff-t grey		S2	Ph1		Py	3	Born?	tr			25-Aug	CS/DH	35-40% Fspar porphyries, dissem pyrite	
R1893522	587441	6077662	1234	9V	C Grab		Rcrop	F Por Basalt	Brecciated	grey-tan			Hem 2	L2							26-Aug	CS/DH	Fairly close to Au anomalous silt sample	
R1893523	586211	6079154	1084	9V	C Grab		Rcrop	F Por Basalt	fract-brecciated	blue-grey	C1	S1-2		L2	Py	5					27-Aug	CS/DH	Disseminated pyrite	
R1893524	585163	6078649	1040	9V	C Grab		Outcrop	F Por Basalt	red-grey	red-grey		S1	A1	Pro1	L2	Py	tr	4			28-Aug	CS/DH	Disseminated pyrite	
R1893525	585256	6078537	1068	9V	C Grab		Prox float	F Por Basalt	fractured	green-grey		S1	A1		L2	Py	4				28-Aug	CS/DH	Disseminated, fine grained pyrite	
R1893526	585555	6078505	1103	9V	C Grab		Outcrop	Basalt?	Veined	blue-grey	C2	S2-3			L1-2	Py	4				28-Aug	CS/DH	Pyrite along early rehealed fractured and disseminated	
R1893527	Blank																							
R1893528	Blank																							
R1893529	585886	6078806	1066	9V	Grab		Rubblercrop	F Por Basalt	Fractured	blue-grey		S1	A1		L3	Py	7				29-Aug	CS/DH	"Nodule" of basalt, possible agglomerate	
R1893530	586406	6078855	1118	9V	SCGr		Rubblercrop	Basalt	Lapilli tuff?	blue-grey	C1-2	S1	Pro1	Hem 1	L2	Py	1				29-Aug	CS/DH	Unit of lapilli tuff in basalt flow; frac controlled and dissem pyrite	
R1893531	585893	6078823	1089	9V	Grab		Prox float	F Por Basalt	Brecciated	blue-grey	C1-2	S2	A1	L2	Py	4					30-Aug	CS/DH	3% vfg pyrite and 1% clotty pyrite	
R1893532	585195	6078883	1007	9V	C Grab		Rubblercrop	Basalt agglom	sheared, veined	tan	C2	S1	A1-2		Py	5					30-Aug	CS/DH	Selective clast replacement-style pyrite	
R1893533	585117	6078840	1099	9V	C Grab		Outcrop	Basalt agglom	fractured	blue-grey	C1-2	S1-2	A1-3	L2-3	Py	5					30-Aug	CS/DH	Fracture-controlled and fracture-controlled pyrite	
R1893534	585115	6078833	1014	9V	Grab		Float (prox?)	Sandstone	equigranular	white-buff			S1-2	A1							30-Aug	CS/DH	Bleached, disseminated pyrite	
R1893535	584730	6078694	1006	9V	Grab		Rubblercrop	Basalt	Brecciated	tan	C1	S1-2		L1	Py	tr	7				30-Aug	CS/DH	Large rcrop exposureVariable late silicification, fine silica matrix	
R1893536	Blank																							
R1893537	Blank																							

**Soil Sample Descriptions and Results**  
**2019 Program, Louise Lake Property**  
**79 Resources Ltd.**

Job number	Sampler	Tag Number	GPS UTM	Easting	Northing	Sample depth (cm)	Horizon sampled	Depth within horizon	Colour	Composition %	Parent Material	Moisture content	Vegetation cover	Topo Position
	CS/DH	1893551	09V NAD83	586226	6079140	10 to 20	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 5 Gravel: 5 Sand:20 Silt:60 Clay:5	weathered bedrock	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893552	09V NAD83	586181	6079112	20 to 30	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 10 Sand:30 Silt:35 Clay:10	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893553	09V NAD83	586149	6079102	20 to 30	B	5 to 10	red dark brown	organics: 10 Ang. Rock: 5 Gravel: 10 Sand:25 Silt:35 Clay:15	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893554	09V NAD83	586107	6079075	20 to 30	B/C	10 to 15	dark brown	organics: 10 Ang. Rock: 15 Gravel: 15 Sand:20 Silt:40 Clay:10	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893555	09V NAD83	586074	6079060	40 to 50	B/C	2 to 5	red light brown	organics: 5 Ang. Rock: 5 Gravel: 20 Sand:30 Silt:35 Clay:15	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893556	09V NAD83	586031	6079056	10 to 20	B/C	5 to 10	light brown	organics: 5 Ang. Rock: 0 Gravel: 5 Sand:20 Silt:60 Clay:10	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893557	09V NAD83	585985	6079041	20 to 30	B	5 to 10	light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:10 Silt:40 Clay:20	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893558	09V NAD83	585946	6079020	30 to 40	B	10 to 15	dark brown	organics: 15 Ang. Rock: 0 Gravel: 5 Sand:10 Silt:20 Clay:40	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893559	09V NAD83	585877	6079009	20 to 30	B/C	10 to 15	red dark brown	organics: 10 Ang. Rock: 5 Gravel: 10 Sand:15 Silt:40 Clay:20	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893560	09V NAD83	585842	6079032	30 to 40	b	20 to 25	dark brown	organics: 10 Ang. Rock: 0 Gravel: 20 Sand:10 Silt:10 Clay:50	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893561	09V NAD83	585801	6079032	20 to 40	B/C	5 to 10	red dark brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:15 Silt:40 Clay:20	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893562	09V NAD83	585747	6079040	30 to 40	b/C	5 to 10	red dark brown	organics: 5 Ang. Rock:10 Gravel: 15 Sand:25 Silt:30 Clay:15	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893563	09V NAD83	585696	6079033	30 to 40	C	10 to 15	red light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:30 Silt:30 Clay:10	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893564	09V NAD83	585659	6079019	30 to 40	C	10 to 15	dark brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:20 Silt:25 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893565	09V NAD83	585614	6079000	20 to 30	B/C	10 to 15	red light brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:30 Silt:25 Clay:20	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893566	09V NAD83	585565	6078979	30 to 40	B/C	5 to 10	dark brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:5 Silt:30 Clay:40	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893567	09V NAD83	585520	6078967	30 to 40	B/C	5 to 10	dark brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:10 Silt:35 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893568	09V NAD83	585474	6078943	30 to 40	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 15 Gravel: 10 Sand:25 Silt:25 Clay:15	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893569	09V NAD83	585436	6078909	20 to 30	B/C	2 to 5	light brown	organics: 5 Ang. Rock: 15 Gravel: 10 Sand:15 Silt:35 Clay:10	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893570	09V NAD83	585402	6078884	20 to 30	B/C	10 to 15	light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:15 Silt:40 Clay:25	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893571	09V NAD83	585353	6078860	10 to 20	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:20 Silt:35 Clay:20	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893572	09V NAD83	585291	6078888	30 to 40	B/C	10 to 15	red light brown	organics: 10 Ang. Rock: 5 Gravel: 10 Sand:25 Silt:35 Clay:15	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893573	09V NAD83	585252	6078897	20 to 30	B/C	10 to 15	red dark brown	organics: 10 Ang. Rock: 10 Gravel: 15 Sand:20 Silt:25 Clay:20	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893574	09V NAD83	585200	6078895	20 to 30	B/C	15 to 20	red dark brown	organics: 10 Ang. Rock: 10 Gravel: 15 Sand:20 Silt:20 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893575	09V NAD83	STD: CDN-CM-37										
SNR-19075-BC	CS/DH	1893576	09V NAD83	BLANK: CDN-BL-10										
SNR-19075-BC	CS/DH	1893577	09V NAD83	586409	6078841	20 to 30	B	10 to 15	dark brown	organics: 5 Ang. Rock: 0 Gravel: 20 Sand:15 Silt:30 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893578	09V NAD83	586357	6078849	30 to 40	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:30 Silt:30 Clay:15	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893579	09V NAD83	586316	6078860	30 to 40	B	2 to 5	light brown	organics: 15 Ang. Rock: 5 Gravel: 20 Sand:10 Silt:20 Clay:30	till	moist	evergreen	bench
SNR-19075-BC	CS/DH	1893580	09V NAD83	586277	6078842	30 to 40	B	2 to 5	light brown	organics: 15 Ang. Rock: 5 Gravel: 20 Sand:10 Silt:20 Clay:30	till	moist	evergreen	bench
SNR-19075-BC	CS/DH	1893581	09V NAD83	586223	6078823	30 to 40	B	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:10 Silt:30 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893582	09V NAD83	586181	6078823	30 to 40	B/C	5 to 10	dark brown	organics: 10 Ang. Rock: 5 Gravel: 10 Sand:5 Silt:45 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893583	09V NAD83	586128	6078818	20 to 30	B/C	10 to 15	light brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:30 Silt:30 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893584	09V NAD83	586072	6078800	40 to 50	A/B	10 to 15	dark brown	organics: 20 Ang. Rock: 15 Gravel: 10 Sand:30 Silt:20 Clay:5	till	Wet	evergreen	Valley bottom
SNR-19075-BC	CS/DH	1893585	09V NAD83	586024	6078799	20 to 30	B	10 to 15	light brown	organics: 10 Ang. Rock: 10 Gravel: 5 Sand:20 Silt:35 Clay:20	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893586	09V NAD83	585982	6078835	30 to 40	B	5 to 10	Dark grey	organics: 15 Ang. Rock: 5 Gravel: 10 Sand:15 Silt:20 Clay:35	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893587	09V NAD83	585933	6078829	30 to 40	B	10 to 15	light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:25 Silt:35 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893588	09V NAD83	585891	6078820	30 to 40	B/C	10 to 15	light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:25 Silt:30 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893589	09V NAD83	585851	6078814	30 to 40	B/C	2 to 5	light brown	organics: 10 Ang. Rock: 10 Gravel: 25 Sand:15 Silt:15 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893590	09V NAD83	585805	6078786	20 to 30	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:25 Silt:30 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893591	09V NAD83	585749	6078785	30 to 40	B/C	15 to 20	dark brown	organics: 5 Ang. Rock: 5 Gravel: 30 Sand:25 Silt:20 Clay:15	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893592	09V NAD83	585695	6078761	20 to 30	B/C	15 to 20	dark brown	organics: 5 Ang. Rock: 5 Gravel: 30 Sand:25 Silt:20 Clay:15	till	moist	evergreen	mid slope

SNR-19075-BC	CS/DH	1893593	09V NAD83	585648	6078768	30 to 40	B/C	10 to 15	dark brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:25 Silt:20 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893594	09V NAD83	585611	6078761	30 to 40	B/C	15 to 20	dark brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:10 Silt:40 Clay:25	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893595	09V NAD83	585567	6078761	20 to 30	B	5 to 10	red light brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:15 Silt:40 Clay:20	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893596	09V NAD83	585519	6078731	20 to 30	B/C	10 to 15	light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:30 Silt:35 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893597	09V NAD83	585487	6078697	50 to 60	B/C	10 to 15	dark brown	organics: 5 Ang. Rock: 0 Gravel: 10 Sand:30 Silt:30 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893598	09V NAD83	585454	6078664	30 to 40	B	5 to 10	red dark brown	organics: 10 Ang. Rock: 5 Gravel: 25 Sand:15 Silt:20 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893599	09V NAD83	STD: CDN-CM-37										
SNR-19075-BC	CS/DH	1893600	09V NAD83	BLANK: CDN-BL-10										
SNR-19075-BC	CS/DH	1893601	09V NAD83	585382	6078686	30 to 40	B	15 to 20	dark brown	organics: 15 Ang. Rock: 5 Gravel: 20 Sand:10 Silt:20 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893602	09V NAD83	585339	6078721	20 to 30	B/C	10 to 15	red light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:25 Silt:30 Clay:15	weathered bedrock	moist	evergreen	bench
SNR-19075-BC	CS/DH	1893603	09V NAD83	585310	6078743	20 to 30	B	5 to 10	light brown	organics: 5 Ang. Rock: 5 Gravel: 20 Sand:15 Silt:20 Clay:35	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893604	09V NAD83	585266	6078784	10 to 20	B/C	10 to 15	red light brown	organics: 10 Ang. Rock: 10 Gravel: 20 Sand:25 Silt:25 Clay:10	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893605	09V NAD83	585234	6078804	30 to 40	B/C	10 to 15	light brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:25 Silt:30 Clay:20	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893606	09V NAD83	585210	6078856	20 to 30	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:25 Silt:30 Clay:25	till	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893607	09V NAD83	585194	6078879	20 to 30	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:25 Silt:30 Clay:15	till	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893608	09V NAD83	585197	6078876	30 to 40	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:30 Silt:20 Clay:25	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893609	09V NAD83	585121	6078838	20 to 30	B/C	15 to 20	red light brown	organics: 5 Ang. Rock: 5 Gravel: 5 Sand:35 Silt:20 Clay:30	weathered bedrock	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893610	09V NAD83	585108	6078807	20 to 30	B/C	5 to 10	light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:30 Silt:20 Clay:30	weathered bedrock	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893611	09V NAD83	585075	6078764	20 to 30	C	5 to 10	Red light grey	organics: 5 Ang. Rock: 15 Gravel: 20 Sand:5 Silt:15 Clay:35	till	moist	evergreen	bench
SNR-19075-BC	CS/DH	1893612	09V NAD83	585034	6078739	20 to 30	B/C	5 to 10	red dark brown	organics: 5 Ang. Rock: 10 Gravel: 25 Sand:15 Silt:15 Clay:30	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893613	09V NAD83	584990	6078706	30 to 40	C	2 to 5	red light brown	organics: 5 Ang. Rock: 10 Gravel: 10 Sand:30 Silt:30 Clay:15	till	dry	evergreen	bench
SNR-19075-BC	CS/DH	1893614	09V NAD83	584948	6078683	30 to 40	B	10 to 15	light brown	organics: 5 Ang. Rock: 10 Gravel: 15 Sand:35 Silt:20 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893615	09V NAD83	584909	6078654	20 to 30	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:25 Silt:30 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893616	09V NAD83	584873	6078626	20 to 30	B/C	15 to 20	red light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:40 Silt:15 Clay:25	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893617	09V NAD83	584815	6078610	30 to 40	B	20 to 25	light brown	organics: 5 Ang. Rock: 5 Gravel: 15 Sand:15 Silt:20 Clay:40	till	moist	Deciduous	mid slope
SNR-19075-BC	CS/DH	1893618	09V NAD83	584763	6078642	20 to 30	B/C	5 to 10	red light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:35 Silt:30 Clay:15	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893619	09V NAD83	584725	6078680	20 to 30	C	5 to 10	light brown	organics: 5 Ang. Rock: 25 Gravel: 5 Sand:25 Silt:25 Clay:15	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893620	09V NAD83	584689	6078725	20 to 30	B/C	5 to 10	light brown	organics: 5 Ang. Rock: 5 Gravel: 10 Sand:20 Silt:25 Clay:35	till	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893621	09V NAD83	STD: CDN-CM-37										
SNR-19075-BC	CS/DH	1893622	09V NAD83	BLANK: CDN-BL-10										
SNR-19075-BC	CS/DH	1893623	09V NAD83	584681	6078748	30 to 40	B/C	5 to 10	red light brown	organics: 10 Ang. Rock: 5 Gravel: 15 Sand:30 Silt:30 Clay:10	till	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893624	09V NAD83	584681	6078776	30 to 40	B/C	5 to 10	light brown	organics: 10 Ang. Rock: 10 Gravel: 10 Sand:35 Silt:25 Clay:10	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893625	09V NAD83	584578	6078770	20 to 30	C	10 to 15	red light brown	organics: 5 Ang. Rock: 25 Gravel: 5 Sand:25 Silt:25 Clay:15	weathered bedrock	dry	evergreen	mid slope
SNR-19075-BC	CS/DH	1893626	09V NAD83	584546	6078755	20 to 30	C	10 to 15	red light brown	organics: 5 Ang. Rock: 25 Gravel: 5 Sand:20 Silt:20 Clay:25	weathered bedrock	moist	evergreen	mid slope
SNR-19075-BC	CS/DH	1893627	09V NAD83	584504	6078727	20 to 30	C	10 to 15	light brown	organics: 10 Ang. Rock: 15 Gravel: 10 Sand:35 Silt:20 Clay:10	weathered bedrock	dry	evergreen	mid slope

## Appendix IV

### GEOLOGICAL WAYPOINT DESCRIPTIONS

Waypoint Data, 2019 Program, Louise Lake Property  
79 Resources Ltd.

Waypoint ID	UTM Easting	UTM Northing	Elevation	Zone	Waypoint Descrip	Lithology	Modification	Colour	Structural type	Struc measurement	Structure 2	Measurement	Carb alt (1-3)	Silica (1-3)	Alt 1	Alt 2	Other Alt	Mineral 1	Amt (%)	Date	Mapper	Comments	
WPL0001	585112	6078815		9V	Outcrop	F. Gr intrusion	15% F Por, 10% biot por							S2							22-Aug	CS	Possible F. Bio Por andesite flow
WPL0002	585265	6078800		9V	Outcrop	Andes - Basalt?	Brecciated										L1				22-Aug	CS	Medium grained, metamorphosed?
WPL0003	585523	6078753		9V	Outcrop	Basalt - andesite	fine grained								Prop 1-2						22-Aug	CS	Somewhat "punky"
WPL0004	585871	6078831		9V	Outcrop	Basalt	Agglomerate										L2				22-Aug	CS	Select limonitization of certain clasts
WPL0005	586739	6078482	1122	9V	Rubblecrop	Basalt		brown-black							Prop 1						24-Aug	CS	Base of cliff
WPL0006	586683	6078223	1115	9V	Rubblecrop	QFB Por Rhyolite	F. gr. Intrusive?						S1				L1				24-Aug	CS	
WPL0007	586798	6078287		9V	Rubblecrop	QFB Por Rhyolite	"Rhyolite" intrusive						C1	S1	A1		L1				24-Aug	CS	Argillic alt of feldspars
WPL0008	586815	6078313		9V	Outcrop	QFB Por Rhyolite	"Rhyolite" intrusive	tan-buff	Shear	095 -85											24-Aug	CS	
WPL0009	582530	6076439		9V	Outcrop	Conglomerate	Heterolithic														25-Aug	CS	Rounded clasts to 10 cm, incl. F.P. volc. shale
WPL0010	585158	6078895		9V	Outcrop	Conglomerate								S1	A1		L1				25-Aug	CS	Clasts to 6 cm. semi-massive Py in matrix
WPL0011	585287	6078892		9V	Outcrop	Conglomerate		brown									L1-2				25-Aug	CS	Clasts to 20 cm, variable limonite alt.
WPL0012	585424	6078907	988	9V	Outcrop	F.P. Basalt	massive	dark grey													25-Aug	CS	20% plagioclase porphyries
WPL0013	585502	6078968	995	9V	Rubblecrop	Conglomerate								Ep 1	Hem1	Mang2	L1-2				25-Aug	CS	Weak propylitic alteration?
WPL0014	585680	6079030	1004	9V	Outcrop	F.P. Basalt	massive	dark grey													25-Aug	CS	Red tinge
WPL0015	585711	6079047		9V	Outcrop	Basalt	massive						Hem1								25-Aug	CS	
WPL0016	586020	6079047	1041	9V	Outcrop	Basalt	weathered	brown							A1		L3				25-Aug	CS	
WPL0017	586144	6079106	1055	9V	Outcrop	F.P. Basalt	Sheared		Shear	315 -50				S2	Ph1		L3	Py	tr		25-Aug	CS	
WPL0018	586467	6077691	1123	9V	Outcrop	Basalt	med grained	green-grey													26-Aug	CS	Small outcrop
WPL0019	586599	6077652	1118	9V	Rubblecrop	F.P. Basalt	Med grained	dark grey													26-Aug	CS	Along edge of lake
WPL0020	586924	6077573	1248	9V	Outcrop	F.P. Basalt	weak bleaching	dark grey	Shear	205 -75											26-Aug	CS	35-40% F Porphyries
WPL0021	587054	6077525	1258	9V	Outcrop	F.P. Basalt	Bleached	tan-buff	Shear	225 -80					A1-2		L1-2				26-Aug	CS	30-35% F Porphyries, local fine Qvein breccia
WPL0022	587062	6077589	1251	9V	Outcrop	F.P. Basalt	Small shear		Shear	025 -75											26-Aug	CS	
WPL0023	587139	6077534	1254	9V	Outcrop	F.P. Basalt	Foliated	red-grey	Foliation	035 -45	Slickenside	080 -30			Hem 1-2		L1-2				26-Aug	CS	
WPL0024	587281	6077529	1279	9V	Rubblecrop	F.P. Basalt		tan							A1		L1-2				26-Aug	CS	
WPL0025	587394	6077522	1259	9V	Rubblecrop	F.P. Basalt		tan-grey							A1-2		L1-2				26-Aug	CS	
WPL0026	587378	6077474	1267	9V	Rubblecrop	F.P. Basalt								S1							26-Aug	CS	Trace euhedral biotite (secondary?)
WPL0027	587434	6077601	1248	9V	Outcrop	F.Biot Porphyry	fractured	red-grey					C1		Hem 1-2		L1-2				26-Aug	CS	
WPL0028	587426	6077696	1224	9V	Rubblecrop	F.P. Basalt		red-grey					C1				L1-2				26-Aug	CS	
WPL0029	587537	6077687	1245	9V	Rubblecrop	F.P. Basalt		red-grey							Hem1-2						26-Aug	CS	
WPL0030	587978	6077709		9V	Rubblecrop	F.P. Basalt	fractured								Hem 1		L1-2				26-Aug	CS	Includes float of QFB Monzonite
WPL0031	585206	6078605	1055	9V	Outcrop	Basalt		dark grey									L1				28-Aug	CS	Possibly agglomerate?
WPL0032	585271	6078330	1094	9V	Large Outcrop	Basalt	massive	dark grey							Hem 1						28-Aug	CS	
WPL0033	585320	6078283	1129	9V	Outcrop	F.P. Basalt	also locally massive														28-Aug	CS	
WPL0034	585373	6078252	1131	9V	Outcrop	F.Biot Porphyry	Diorite?														28-Aug	CS	Vfg matrix: possibly equivalent to Bud Lake granite
WPL0035	585468	6078291	1142	9V	Outcrop	Gabbro	Poss. c.gr basalt?	green-grey						S1	K1						28-Aug	CS	K1 = biotite
WPL0036	585499	6078279	1141	9V	Outcrop	Dacite?		green-grey						S1-2				Mag	<1		28-Aug	CS	Disseminated euhedral magnetite
WPL0037	585457	6078201	1135	9V	Prox float	QFB Biot Por	"Rhyolite?"	tan-buff													28-Aug	CS	5% Q Por, 10% F. Por, 8% Bio Por, fine gmass
WPL0038	585751	6078137	1166	9V	Rubblecrop	F.Biot Porphyry	"Rhyolite?"								Hem1						28-Aug	CS	Dacite? Weak bleaching
WPL0039	586069	6078285	1181	9V	Rubblecrop	Basalt	fine grained	dark grey							Ep 1	Hem1					28-Aug	CS	
WPL0040	585963	6078405	1176	9V	Outcrop	Basalt	Fairly massive														28-Aug	CS	
WPL0041	585756	6078459	1143	9V	Outcrop	F.P. Basalt	fine grained, massive	grey													28-Aug	CS	
WPL0042	585883	6078832		9V	Outcrop	Basalt	Agglomerate?	green-grey	Shear	345 -80			C1		Ch1						29-Aug	CS	
WPL0043	585793	6078815	1078	9V	Outcrop	Basalt	fractured	dark grey							Hem1						29-Aug	CS	Roadside, locally f. porphyritic
WPL0044	585527	6078751	1041	9V	Outcrop	F.P. Basalt		brown-grey							Pro1						29-Aug	CS	Roadside, 30m long
WPL0045	585100	6078812	1015	9V	Outcrop	F.Biot Porphyry	"Rhyolite" intrusive	buff-grey							Hem1						30-Aug	CS	6% euhedral biotite
WPL0046	584997	6078721	1011	9V	Rubblecrop	F.Biot Porphyry	"Rhyolite" - Dacite						C2								30-Aug	CS	Friable, tabular boulders, ankerite replacement of fspar
WPL0047	584940	6078681	1013	9V	Rubblecrop	Basalt	Lapilli tuff?	Grey-brown							Hem1		L2				30-Aug	CS	
WPL0048	584662	6078758	1001	9V	Rubblecrop	F.P. Dacite	Poss granite?	grey					C1	S1				Py	tr		30-Aug	CS	
WPL0049	584653	6078774	1001	9V	Outcrop	F.P. Basalt	Weak shear	brown-grey	Shear	170 -50			C1-2				L1				30-Aug	CS	



## Appendix V

### ORIGINAL 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:** **Aurora Geosciences Ltd. (Whitehorse)**  
34A Laberge Road  
Whitehorse Yukon Y1A 5Y9 Canada

Submitted By: Gary Musil  
Receiving Lab: Canada-Whitehorse  
Received: September 04, 2019  
Report Date: September 30, 2019  
Page: 1 of 2

## CERTIFICATE OF ANALYSIS

WHI19000505.1

### CLIENT JOB INFORMATION

Project: Louise Lake  
Shipment ID:  
P.O. Number  
Number of Samples: 13

### SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage  
STOR-RJT Store After 60 days Invoice for Storage

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: Aurora Geosciences Ltd. (Whitehorse)  
34A Laberge Road  
Whitehorse Yukon Y1A 5Y9  
Canada

CC: Carl Schulze

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP90-250	11	Crush (>90%), split and pulverize 250g rock to 200 mesh			WHI
FA350	13	50g lead collection fire assay analysis by ICP	50	Completed	VAN
EN002	13	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	13	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	13	Per sample shipping charges for branch shipments			VAN
SLBHP	2	Sort, label and box pulps			WHI

### ADDITIONAL COMMENTS



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

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** **Aurora Geosciences Ltd. (Whitehorse)**

34A Laberge Road

Whitehorse Yukon Y1A 5Y9 Canada

**Project:** Louise Lake

**Report Date:** September 30, 2019

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# CERTIFICATE OF ANALYSIS

WHI19000505.1

	Method	WGHT	FA350	FA350	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
R1893501	Rock	1.22	187	<3	<2	89	1148	5	28	0.5	6	8	14	3.07	748	<2	49	<0.5	29	<3	4
R1893502	Rock	1.35	152	<3	<2	88	566	9	49	0.3	3	4	13	1.21	466	<2	70	<0.5	16	<3	5
R1893503	Rock	1.19	298	<3	2	183	616	9	24	0.6	3	1	19	1.04	1040	<2	16	<0.5	119	<3	4
R1893504	Rock	1.34	167	<3	<2	261	1613	3	58	0.4	2	19	28	2.89	680	<2	18	<0.5	56	<3	5
R1893505	Rock	0.93	101	<3	<2	888	135	3	24	<0.3	2	16	43	2.96	63	<2	4	<0.5	5	<3	4
R1893506	Rock	0.85	360	<3	<2	146	1078	27	125	1.1	1	6	39	1.86	643	<2	118	<0.5	23	<3	5
R1893507	Rock	1.45	512	<3	<2	239	918	9	9	1.1	<1	3	28	2.23	1599	<2	28	<0.5	13	<3	7
R1893508	Rock	1.34	456	<3	3	28	1863	11	40	0.9	<1	3	32	1.59	930	<2	45	<0.5	216	<3	7
R1893509	Rock	1.06	137	<3	<2	421	1720	10	119	0.7	2	12	23	2.44	817	<2	43	<0.5	11	<3	3
R1893510	Rock	1.10	41	<3	<2	20	454	8	25	0.3	2	16	26	2.43	144	<2	163	<0.5	<3	<3	6
R1893511	Rock	0.80	119	<3	<2	64	930	7	18	0.6	<1	5	10	0.95	696	<2	28	<0.5	305	<3	4
R1893536	Rock Pulp		167	<3	6	263	2170	34	219	1.3	11	14	707	3.83	46	3	66	0.9	<3	<3	53
R1893537	Rock Pulp		3	<3	<2	4	21	<3	31	<0.3	7	4	598	2.46	<2	<2	32	<0.5	<3	<3	23



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Whitehorse Yukon Y1A 5Y9 Canada

**Project:** Louise Lake

**Report Date:** September 30, 2019

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# CERTIFICATE OF ANALYSIS

WHI19000505.1

		Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	
		Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		MDL	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
R1893501	Rock	<0.01	0.006	2	<1	0.03	156	<0.001	<20	0.61	0.01	0.18	<2	3.32	<1	<5	<5	<5	
R1893502	Rock	<0.01	0.009	2	<1	0.02	488	<0.001	<20	0.83	0.01	0.17	<2	1.02	<1	<5	<5	<5	
R1893503	Rock	<0.01	0.002	2	2	0.03	839	<0.001	<20	0.45	0.01	0.24	<2	0.48	<1	<5	<5	<5	
R1893504	Rock	<0.01	0.003	2	3	0.06	151	<0.001	<20	0.59	0.02	0.32	<2	3.22	<1	<5	<5	<5	
R1893505	Rock	<0.01	<0.001	1	4	0.02	93	<0.001	<20	0.28	0.01	0.17	<2	3.37	<1	<5	<5	<5	
R1893506	Rock	<0.01	0.014	3	3	0.04	272	<0.001	<20	0.69	<0.01	0.22	<2	1.60	<1	<5	<5	<5	
R1893507	Rock	<0.01	0.005	2	2	0.06	169	0.001	<20	0.63	0.01	0.27	<2	1.46	<1	<5	<5	<5	
R1893508	Rock	<0.01	0.009	3	2	0.05	137	<0.001	<20	0.67	<0.01	0.24	<2	1.34	<1	<5	<5	<5	
R1893509	Rock	<0.01	0.006	2	2	0.03	147	<0.001	<20	0.47	<0.01	0.20	<2	2.76	<1	<5	<5	<5	
R1893510	Rock	0.01	0.024	4	2	0.07	178	<0.001	<20	0.96	0.03	0.37	<2	2.26	<1	<5	<5	<5	
R1893511	Rock	<0.01	0.005	2	<1	0.02	152	<0.001	<20	0.76	<0.01	0.15	<2	0.78	<1	<5	<5	<5	
R1893536	Rock Pulp	1.12	0.067	5	15	0.78	70	0.091	<20	2.26	0.11	0.40	3	1.54	<1	<5	<5	<5	
R1893537	Rock Pulp	0.80	0.039	6	15	0.50	58	0.079	<20	1.05	0.07	0.08	<2	0.05	<1	<5	<5	<5	



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**Project:** Louise Lake

**Report Date:** September 30, 2019

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## QUALITY CONTROL REPORT

WHI19000505.1

Method Analyte Unit MDL	WGHT	FA350	FA350	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
		kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
Pulp Duplicates																					
R1893503	Rock	1.19	298	<3	2	183	616	9	24	0.6	3	1	19	1.04	1040	<2	16	<0.5	119	<3	4
REP R1893503	QC					163	618	9	24	0.6	2	1	20	1.04	1037	<2	15	<0.5	118	<3	4
Reference Materials																					
STD DS11	Standard					15	152	139	350	1.8	81	14	1059	3.12	45	8	69	2.2	8	11	50
STD OREAS262	Standard					<1	122	57	155	0.6	65	27	538	3.30	36	9	36	0.6	<3	<3	23
STD PD05	Standard		510	428	598																
STD PG04	Standard		1041	941	1261																
STD DS11 Expected						13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50
STD OREAS262 Expected							118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39		22.5
STD PD05 Expected			519	430	596																
STD PG04 Expected			996	910	1210																
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		3	<3	<2																
Prep Wash																					
ROCK-WHI	Prep Blank		3	<3	<2	<1	4	<3	32	<0.3	2	4	595	2.00	2	<2	24	<0.5	<3	<3	28
ROCK-WHI	Prep Blank		3	<3	<2	<1	6	<3	30	<0.3	2	4	568	2.04	<2	2	26	<0.5	<3	<3	27





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**Client: Aurora Geosciences Ltd. (Whitehorse)**

34A Laberge Road  
Whitehorse Yukon Y1A 5Y9 Canada

Project: Louise Lake

Report Date: September 30, 2019

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## QUALITY CONTROL REPORT

WHI19000505.1

Method Analyte Unit MDL		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates																		
R1893503	Rock	<0.01	0.002	2	2	0.03	839	<0.001	<20	0.45	0.01	0.24	<2	0.48	<1	<5	<5	<5
REP R1893503	QC	<0.01	0.002	2	2	0.03	805	<0.001	<20	0.44	0.01	0.23	<2	0.48	<1	<5	<5	<5
Reference Materials																		
STD DS11	Standard	1.08	0.072	18	60	0.86	440	0.093	<20	1.21	0.07	0.41	3	0.30	<1	8	<5	<5
STD OREAS262	Standard	2.99	0.040	18	45	1.23	259	0.002	<20	1.41	0.07	0.34	<2	0.28	<1	<5	<5	<5
STD PD05	Standard																	
STD PG04	Standard																	
STD DS11 Expected		1.063	0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1
STD OREAS262 Expected		2.98	0.04	15.9	41.7	1.17	248	0.003		1.204	0.071	0.312		0.253			3.73	3.24
STD PD05 Expected																		
STD PG04 Expected																		
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																	
Prep Wash																		
ROCK-WHI	Prep Blank	0.74	0.043	7	4	0.57	59	0.093	<20	1.02	0.09	0.10	<2	<0.05	<1	<5	<5	<5
ROCK-WHI	Prep Blank	0.76	0.042	7	4	0.53	65	0.097	<20	1.06	0.10	0.11	<2	<0.05	<1	<5	<5	<5



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PHONE (604) 253-3158

**Client:** **Aurora Geosciences Ltd. (Whitehorse)**  
34A Laberge Road  
Whitehorse Yukon Y1A 5Y9 Canada

Submitted By: Gary Musil  
Receiving Lab: Canada-Whitehorse  
Received: September 04, 2019  
Report Date: September 30, 2019  
Page: 1 of 2

## CERTIFICATE OF ANALYSIS

WHI19000506.1

### CLIENT JOB INFORMATION

Project: Louise Lake  
Shipment ID:  
P.O. Number  
Number of Samples: 24

### SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage  
STOR-RJT Store After 60 days Invoice for Storage

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: Aurora Geosciences Ltd. (Whitehorse)  
34A Laberge Road  
Whitehorse Yukon Y1A 5Y9  
Canada

CC: Carl Schulze

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP90-250	22	Crush (>90%), split and pulverize 250g rock to 200 mesh			WHI
FA350	24	50g lead collection fire assay analysis by ICP	50	Completed	VAN
EN002	24	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	24	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	24	Per sample shipping charges for branch shipments			VAN
SLBHP	2	Sort, label and box pulps			WHI

### ADDITIONAL COMMENTS



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.



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**Client:** **Aurora Geosciences Ltd. (Whitehorse)**

34A Laberge Road  
Whitehorse Yukon Y1A 5Y9 Canada

**Project:** Louise Lake

**Report Date:** September 30, 2019

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**Part:** 1 of 2

# CERTIFICATE OF ANALYSIS

WHI19000506.1

	Method	Analyte	Unit	MDL	WGHT	FA350	FA350	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300			
					Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
					kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
					0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
R1893512	Rock		1.49	3	<3	3	<1	2	7	17	<0.3	3	2	530	1.21	3	9	37	<0.5	<3	<3	4		
R1893513	Rock		1.01	2	<3	<2	<1	3	19	245	<0.3	4	3	1478	2.60	7	8	60	0.8	<3	<3	20		
R1893514	Rock		1.02	2	<3	<2	<1	3	7	44	<0.3	<1	2	250	1.39	7	9	36	<0.5	<3	<3	5		
R1893515	Rock		0.81	2	<3	<2	<1	2	4	37	<0.3	1	2	204	1.62	15	7	15	<0.5	<3	<3	15		
R1893516	Rock		0.45	3	<3	<2	31	25	14	29	<0.3	6	10	301	3.82	168	6	66	<0.5	<3	<3	49		
R1893517	Rock		1.08	4	<3	<2	30	34	11	50	0.4	16	35	690	3.17	332	6	100	<0.5	<3	<3	65		
R1893518	Rock		0.90	4	<3	<2	34	16	13	50	<0.3	8	14	461	4.21	179	6	47	<0.5	<3	<3	81		
R1893519	Rock		0.95	3	<3	<2	2	22	62	699	<0.3	5	9	2155	2.98	7	5	94	6.0	<3	<3	35		
R1893520	Rock		0.90	3	<3	<2	1	6	9	43	<0.3	4	7	498	2.56	53	9	95	<0.5	<3	<3	26		
R1893521	Rock		1.21	3	<3	<2	3	2	<3	57	<0.3	3	5	1042	2.23	5	9	76	<0.5	<3	<3	34		
R1893522	Rock		1.24	5	<3	<2	1	58	7	116	<0.3	10	23	2797	4.68	28	5	262	<0.5	<3	<3	136		
R1893523	Rock		1.19	5	<3	<2	3	39	8	45	<0.3	12	22	1165	4.95	313	4	94	<0.5	<3	<3	77		
R1893524	Rock		1.16	3	<3	3	<1	14	3	72	<0.3	8	34	1890	2.95	12	5	106	<0.5	<3	<3	72		
R1893525	Rock		0.76	5	<3	2	6	59	10	76	0.3	11	23	650	7.43	40	6	51	<0.5	<3	<3	102		
R1893526	Rock		1.02	12	<3	3	3	39	9	117	<0.3	9	20	2029	4.67	53	6	127	0.6	<3	<3	119		
R1893527	Rock Pulp		0.12	173	<3	3	269	2184	34	218	1.3	11	15	717	3.84	46	3	66	0.9	<3	<3	55		
R1893528	Rock Pulp		0.12	5	<3	<2	4	21	<3	31	<0.3	7	4	601	2.50	<2	<2	32	<0.5	<3	<3	23		
R1893529	Rock		1.05	3	<3	<2	18	31	21	50	<0.3	9	23	210	5.72	41	5	83	<0.5	<3	5	40		
R1893530	Rock		0.91	5	<3	<2	1	46	3	63	<0.3	8	16	843	3.43	145	4	101	<0.5	<3	<3	98		
R1893531	Rock		0.85	5	<3	<2	3	20	13	391	<0.3	9	15	1177	4.30	1691	7	111	1.7	<3	<3	94		
R1893532	Rock		1.07	5	<3	<2	12	32	12	42	<0.3	4	10	317	4.63	160	6	68	<0.5	<3	<3	63		
R1893533	Rock		0.93	4	<3	<2	3	60	6	82	<0.3	17	25	938	3.71	23	5	110	<0.5	<3	<3	87		
R1893534	Rock		0.57	6	<3	4	<1	3	<3	7	<0.3	2	<1	32	1.81	3	<2	48	<0.5	<3	<3	5		
R1893535	Rock		0.92	4	<3	<2	3	23	8	39	<0.3	12	10	1030	3.37	20	4	77	<0.5	<3	<3	33		



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**Project:** Louise Lake

**Report Date:** September 30, 2019

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# CERTIFICATE OF ANALYSIS

WHI19000506.1

	Method	Analyte	Unit	MDL	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300			
					Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
					%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
					0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	0.01	2	0.05	1	5	5
R1893512	Rock	0.55	0.026	21	2	0.05	98	<0.001	<20	0.49	0.06	0.23	<2	<0.05	<1	<5	<5	<5			
R1893513	Rock	1.13	0.021	19	2	0.15	1262	<0.001	<20	0.61	0.05	0.16	<2	<0.05	<1	<5	<5	<5			
R1893514	Rock	0.03	0.014	5	2	0.03	131	<0.001	<20	0.45	0.05	0.21	<2	<0.05	<1	<5	<5	<5			
R1893515	Rock	0.07	0.026	16	3	0.14	156	0.043	<20	0.71	0.07	0.24	<2	<0.05	<1	<5	<5	<5			
R1893516	Rock	0.34	0.172	16	6	0.05	219	0.001	<20	1.14	0.05	0.11	<2	1.86	<1	<5	<5	6			
R1893517	Rock	0.80	0.164	16	6	0.10	418	0.001	<20	1.02	0.07	0.12	<2	1.27	<1	<5	<5	9			
R1893518	Rock	0.73	0.172	18	5	0.16	138	0.001	<20	1.23	0.05	0.13	<2	1.99	<1	<5	<5	7			
R1893519	Rock	1.06	0.095	29	2	0.11	1827	0.008	<20	0.93	0.08	0.17	<2	<0.05	<1	<5	<5	<5			
R1893520	Rock	1.46	0.055	31	3	0.45	530	0.001	<20	0.76	0.03	0.12	<2	1.33	<1	<5	<5	<5			
R1893521	Rock	0.80	0.075	33	3	0.34	1331	0.011	<20	0.69	0.05	0.17	<2	0.46	<1	<5	<5	<5			
R1893522	Rock	0.50	0.173	24	22	0.10	1229	0.006	<20	1.58	0.06	0.20	<2	<0.05	<1	<5	<5	19			
R1893523	Rock	1.05	0.139	23	10	0.23	159	<0.001	<20	0.98	0.05	0.19	<2	2.39	<1	6	<5	11			
R1893524	Rock	2.65	0.104	15	4	0.61	259	0.003	<20	1.12	0.08	0.15	<2	<0.05	<1	<5	<5	9			
R1893525	Rock	0.44	0.289	31	10	0.47	226	0.002	<20	2.49	0.08	0.11	<2	2.62	<1	<5	6	10			
R1893526	Rock	4.12	0.109	19	6	1.01	473	<0.001	<20	0.81	0.04	0.12	<2	1.09	<1	<5	<5	12			
R1893527	Rock Pulp	1.13	0.068	5	15	0.79	69	0.094	<20	2.31	0.11	0.40	3	1.56	<1	<5	<5	<5			
R1893528	Rock Pulp	0.80	0.039	6	15	0.50	59	0.081	<20	1.07	0.07	0.08	<2	0.05	<1	<5	<5	<5			
R1893529	Rock	0.55	0.214	13	3	0.26	104	0.002	<20	1.67	0.10	0.26	<2	4.71	<1	<5	<5	5			
R1893530	Rock	0.97	0.121	17	8	0.38	550	0.016	<20	1.33	0.02	0.08	<2	0.57	<1	<5	<5	9			
R1893531	Rock	2.81	0.191	28	13	0.58	462	<0.001	<20	1.20	0.04	0.15	<2	1.38	<1	25	5	11			
R1893532	Rock	0.27	0.212	10	6	0.07	297	<0.001	<20	1.34	0.03	0.17	<2	0.23	<1	<5	5	9			
R1893533	Rock	0.96	0.130	15	8	0.22	1023	0.001	<20	1.26	0.05	0.23	<2	0.84	<1	<5	<5	11			
R1893534	Rock	0.02	0.009	2	6	0.01	480	<0.001	<20	0.44	0.01	0.23	<2	0.36	<1	<5	<5	<5			
R1893535	Rock	0.83	0.098	25	9	0.11	626	<0.001	<20	0.70	0.04	0.18	<2	0.32	<1	<5	<5	<5			



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Project: Louise Lake

Report Date: September 30, 2019

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## QUALITY CONTROL REPORT

WHI19000506.1

	Method	WGHT	FA350	FA350	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
Pulp Duplicates																					
R1893515	Rock	0.81	2	<3	<2	<1	2	4	37	<0.3	1	2	204	1.62	15	7	15	<0.5	<3	<3	15
REP R1893515	QC		3	<3	2																
R1893531	Rock	0.85	5	<3	<2	3	20	13	391	<0.3	9	15	1177	4.30	1691	7	111	1.7	<3	<3	94
REP R1893531	QC					3	20	13	395	<0.3	8	15	1171	4.33	1656	7	113	1.7	<3	<3	93
R1893533	Rock	0.93	4	<3	<2	3	60	6	82	<0.3	17	25	938	3.71	23	5	110	<0.5	<3	<3	87
REP R1893533	QC		5	<3	<2																
Reference Materials																					
STD BVGEO01	Standard					10	4425	194	1724	2.8	164	24	713	3.67	117	13	55	6.2	4	24	74
STD DS11	Standard					15	152	139	350	1.8	81	14	1059	3.12	45	8	69	2.2	8	11	50
STD OREAS262	Standard					<1	120	59	153	0.6	64	27	533	3.33	37	8	37	0.7	3	<3	22
STD OREAS262	Standard					<1	122	57	155	0.6	65	27	538	3.30	36	9	36	0.6	<3	<3	23
STD PD05	Standard		510	428	598																
STD PD05	Standard		506	438	613																
STD PG04	Standard		1041	941	1261																
STD PG04	Standard		994	885	1214																
STD BVGEO01 Expected						10.8	4415	187	1741	2.53	163	25	733	3.7	121	14.4	55	6.5	2.2	25.6	73
STD DS11 Expected						13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50
STD OREAS262 Expected							118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39		22.5
STD PD05 Expected			519	430	596																
STD PG04 Expected			996	910	1210																
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		3	<3	<2																
BLK	Blank		3	<3	<2																
Prep Wash																					
ROCK-WHI	Prep Blank		2	<3	<2	1	9	<3	33	<0.3	3	5	615	2.15	<2	2	32	<0.5	<3	<3	34
ROCK-WHI	Prep Blank		2	<3	<2	<1	5	<3	33	<0.3	4	5	589	2.10	<2	<2	27	<0.5	<3	<3	31



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**Project:** Louise Lake

**Report Date:** September 30, 2019

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**Part:** 2 of 2

## QUALITY CONTROL REPORT

WHI19000506.1

Method Analyte Unit MDL		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates																		
R1893515	Rock	0.07	0.026	16	3	0.14	156	0.043	<20	0.71	0.07	0.24	<2	<0.05	<1	<5	<5	<5
REP R1893515	QC																	
R1893531	Rock	2.81	0.191	28	13	0.58	462	<0.001	<20	1.20	0.04	0.15	<2	1.38	<1	25	5	11
REP R1893531	QC	2.83	0.190	29	12	0.58	515	<0.001	<20	1.20	0.04	0.16	<2	1.39	<1	25	<5	11
R1893533	Rock	0.96	0.130	15	8	0.22	1023	0.001	<20	1.26	0.05	0.23	<2	0.84	<1	<5	<5	11
REP R1893533	QC																	
Reference Materials																		
STD BVGEO01	Standard	1.31	0.073	25	183	1.32	337	0.233	<20	2.37	0.19	0.91	4	0.70	<1	<5	<5	6
STD DS11	Standard	1.08	0.072	18	60	0.86	440	0.093	<20	1.21	0.07	0.41	3	0.30	<1	8	<5	<5
STD OREAS262	Standard	3.00	0.040	18	44	1.21	253	0.003	<20	1.38	0.07	0.33	<2	0.28	<1	<5	5	<5
STD OREAS262	Standard	2.99	0.040	18	45	1.23	259	0.002	<20	1.41	0.07	0.34	<2	0.28	<1	<5	<5	<5
STD PD05	Standard																	
STD PD05	Standard																	
STD PG04	Standard																	
STD PG04	Standard																	
STD BVGEO01 Expected		1.3219	0.0727	25.9	171	1.2963	340	0.233		2.347	0.1924	0.89	3.5	0.6655			7.37	5.97
STD DS11 Expected		1.063	0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1
STD OREAS262 Expected		2.98	0.04	15.9	41.7	1.17	248	0.003		1.204	0.071	0.312		0.253			3.73	3.24
STD PD05 Expected																		
STD PG04 Expected																		
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																	
BLK	Blank																	
Prep Wash																		
ROCK-WHI	Prep Blank	0.83	0.043	6	4	0.65	79	0.094	<20	1.20	0.10	0.10	<2	<0.05	<1	<5	<5	<5
ROCK-WHI	Prep Blank	0.83	0.044	7	6	0.60	67	0.091	<20	1.11	0.09	0.10	<2	<0.05	<1	<5	<5	<5





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**Client:** **Aurora Geosciences Ltd. (Whitehorse)**

34A Laberge Road

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Submitted By: Gary Vivian

Receiving Lab: Canada-Whitehorse

Received: September 04, 2019

Report Date: September 30, 2019

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## CERTIFICATE OF ANALYSIS

WHI19000507.1

### CLIENT JOB INFORMATION

Project: Louise Lake

Shipment ID:

P.O. Number

Number of Samples: 77

### SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage

STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

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

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	77	Dry at 60C			WHI
SS80	71	Dry at 60C sieve 100g to -80 mesh			WHI
FA330	77	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	77	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	77	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	77	Per sample shipping charges for branch shipments			VAN
SVRJT	77	Save all or part of Soil Reject			WHI
SLBHP	6	Sort, label and box pulps			WHI

### ADDITIONAL COMMENTS

Invoice To: Aurora Geosciences Ltd. (Whitehorse)  
34A Laberge Road  
Whitehorse Yukon Y1A 5Y9  
Canada

CC: Carl Schulze

  
SOFIA DEVOTA  
XRF Manager

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.



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**Project:** Louise Lake

**Report Date:** September 30, 2019

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# CERTIFICATE OF ANALYSIS

WHI19000507.1

	Method Analyte Unit MDL	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
1893551	Soil	6	<3	<2	8	32	15	104	<0.3	9	9	479	6.21	227	3	17	<0.5	<3	<3	112	0.05
1893552	Soil	4	<3	<2	7	21	15	95	<0.3	6	6	281	4.38	206	<2	45	<0.5	<3	<3	91	0.47
1893553	Soil	4	<3	<2	4	21	14	102	<0.3	11	14	467	4.22	753	2	56	0.6	<3	<3	68	0.78
1893554	Soil	3	<3	<2	3	24	17	96	<0.3	9	8	611	4.42	178	<2	38	<0.5	<3	<3	84	0.27
1893555	Soil	4	<3	<2	2	26	14	75	<0.3	11	8	631	4.30	124	<2	79	<0.5	<3	<3	90	0.40
1893556	Soil	4	<3	<2	3	26	11	63	0.4	7	4	328	4.22	41	<2	28	<0.5	<3	<3	84	0.19
1893557	Soil	5	<3	<2	1	22	12	112	<0.3	11	12	959	4.53	27	<2	36	<0.5	<3	<3	104	0.13
1893558	Soil	4	<3	<2	2	29	12	67	0.4	9	7	614	3.24	33	<2	78	<0.5	<3	<3	70	0.34
1893559	Soil	8	<3	<2	2	35	11	81	0.4	8	7	808	4.76	101	<2	17	0.6	<3	<3	105	0.07
1893560	Soil	4	<3	<2	2	28	11	44	0.4	11	6	249	3.36	22	<2	49	<0.5	<3	<3	75	0.32
1893561	Soil	3	<3	<2	2	25	13	78	<0.3	13	9	798	5.47	45	<2	50	<0.5	<3	<3	93	0.45
1893562	Soil	4	<3	<2	1	23	11	75	<0.3	10	13	1457	3.78	41	3	43	<0.5	<3	<3	90	0.29
1893563	Soil	4	<3	<2	1	23	14	126	0.6	9	9	1242	3.95	81	<2	93	<0.5	<3	<3	95	0.69
1893564	Soil	6	<3	<2	<1	24	12	97	0.8	12	11	2463	3.53	15	<2	88	0.5	<3	<3	82	0.85
1893565	Soil	3	<3	<2	2	18	10	94	<0.3	9	9	483	4.15	28	<2	38	<0.5	<3	<3	72	0.20
1893566	Soil	4	<3	<2	1	40	13	100	0.6	12	11	1127	3.90	24	<2	107	<0.5	<3	<3	93	0.83
1893567	Soil	3	<3	<2	3	41	62	102	0.5	5	3	126	3.57	17	<2	25	<0.5	<3	<3	70	0.15
1893568	Soil	4	<3	<2	2	27	17	96	0.5	10	7	400	4.22	21	<2	34	<0.5	<3	<3	70	0.21
1893569	Soil	4	<3	<2	1	19	11	78	0.4	12	11	382	4.44	16	3	19	<0.5	<3	<3	102	0.13
1893570	Soil	4	<3	<2	2	21	28	162	0.4	10	7	660	4.02	21	<2	28	<0.5	<3	<3	80	0.27
1893571	Soil	4	<3	<2	2	18	14	99	0.4	8	7	373	4.21	17	2	18	<0.5	<3	<3	72	0.13
1893572	Soil	3	<3	<2	1	15	17	104	0.3	13	8	467	4.99	25	3	13	<0.5	<3	<3	81	0.08
1893573	Soil	4	<3	<2	2	23	10	71	<0.3	8	12	1213	4.11	19	<2	111	<0.5	<3	<3	85	0.81
1893574	Soil	4	<3	<2	4	23	16	89	<0.3	9	13	891	4.17	44	2	32	<0.5	<3	<3	81	0.27
1893575	Rock Pulp	167	<3	5	277	2194	34	221	1.2	11	14	719	3.94	46	3	68	1.1	<3	<3	54	1.14
1893576	Rock Pulp	3	<3	<2	4	20	<3	31	<0.3	7	4	608	2.53	<2	<2	34	<0.5	<3	<3	24	0.82
1893577	Soil	4	<3	<2	3	22	10	59	<0.3	20	10	722	2.94	26	<2	67	<0.5	<3	<3	61	0.35
1893578	Soil	3	<3	<2	2	22	10	57	<0.3	10	4	347	3.97	291	<2	19	<0.5	<3	<3	66	0.11
1893579	Soil	4	<3	<2	2	25	10	89	0.4	21	10	956	3.33	35	<2	102	<0.5	<3	<3	61	0.64
1893580	Soil	8	<3	2	2	52	12	115	0.5	33	14	1180	3.90	36	<2	94	0.8	<3	<3	67	0.95



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Project: Louise Lake

Report Date: September 30, 2019

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# CERTIFICATE OF ANALYSIS

WHI19000507.1

	Method	Analyte	Unit	MDL	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300			
					P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
					%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
					0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
1893551	Soil				0.211	9	17	0.19	145	0.009	<20	2.37	<0.01	0.05	<2	<0.05	<1	<5	10	<5
1893552	Soil				0.119	10	12	0.16	298	0.012	<20	1.71	<0.01	0.05	<2	<0.05	<1	<5	9	<5
1893553	Soil				0.117	10	13	0.28	286	0.011	<20	2.80	<0.01	0.05	<2	<0.05	<1	<5	6	<5
1893554	Soil				0.224	11	15	0.30	178	0.019	<20	2.05	<0.01	0.08	<2	<0.05	<1	<5	10	<5
1893555	Soil				0.140	19	16	0.37	232	0.026	<20	2.06	0.01	0.07	<2	<0.05	<1	<5	8	<5
1893556	Soil				0.430	9	16	0.20	160	0.033	<20	2.75	<0.01	0.05	<2	0.05	<1	<5	8	<5
1893557	Soil				0.292	11	17	0.43	360	0.043	<20	3.59	<0.01	0.10	<2	<0.05	<1	<5	7	5
1893558	Soil				0.106	27	14	0.34	249	0.016	<20	2.08	0.01	0.05	<2	<0.05	<1	<5	6	<5
1893559	Soil				0.642	10	17	0.54	233	0.023	<20	4.40	<0.01	0.09	<2	0.06	<1	<5	11	<5
1893560	Soil				0.074	20	21	0.28	147	0.020	<20	2.71	<0.01	0.05	<2	<0.05	<1	<5	7	<5
1893561	Soil				0.239	14	22	0.46	156	0.020	<20	2.76	<0.01	0.07	<2	<0.05	<1	<5	9	<5
1893562	Soil				0.149	27	13	0.47	181	0.030	<20	3.99	0.01	0.06	<2	<0.05	<1	<5	<5	7
1893563	Soil				0.138	29	17	0.37	230	0.021	<20	2.95	0.01	0.06	<2	<0.05	<1	<5	7	<5
1893564	Soil				0.153	21	17	0.59	225	0.017	<20	2.92	0.02	0.06	<2	<0.05	<1	<5	6	6
1893565	Soil				0.451	8	15	0.24	171	0.007	<20	4.29	<0.01	0.06	<2	<0.05	<1	<5	6	<5
1893566	Soil				0.195	28	18	0.62	255	0.020	<20	3.45	0.04	0.09	<2	<0.05	<1	<5	7	7
1893567	Soil				0.317	10	13	0.06	246	0.014	<20	1.33	<0.01	0.08	<2	<0.05	<1	<5	7	<5
1893568	Soil				0.512	11	17	0.29	244	0.018	<20	3.07	<0.01	0.06	<2	<0.05	<1	<5	7	<5
1893569	Soil				0.197	12	18	0.60	213	0.026	<20	3.63	<0.01	0.07	<2	<0.05	<1	<5	9	6
1893570	Soil				0.359	8	15	0.29	187	0.013	<20	2.05	<0.01	0.10	<2	<0.05	<1	<5	7	<5
1893571	Soil				0.792	11	14	0.30	199	0.013	<20	3.80	<0.01	0.06	<2	<0.05	<1	<5	6	<5
1893572	Soil				0.275	8	22	0.28	111	0.023	<20	4.44	<0.01	0.05	<2	<0.05	<1	<5	6	<5
1893573	Soil				0.168	13	13	0.29	239	0.016	<20	2.71	<0.01	0.07	<2	<0.05	<1	<5	6	<5
1893574	Soil				0.175	16	13	0.24	197	0.010	<20	3.06	<0.01	0.07	<2	<0.05	<1	<5	6	<5
1893575	Rock Pulp				0.067	5	15	0.80	72	0.095	<20	2.36	0.12	0.42	<2	1.57	<1	<5	<5	<5
1893576	Rock Pulp				0.040	6	15	0.52	62	0.084	<20	1.10	0.07	0.09	<2	0.05	<1	<5	<5	<5
1893577	Soil				0.050	16	20	0.48	262	0.020	<20	2.31	0.01	0.06	<2	<0.05	<1	<5	<5	<5
1893578	Soil				0.165	9	19	0.23	133	0.015	<20	3.10	<0.01	0.06	<2	<0.05	<1	<5	6	<5
1893579	Soil				0.111	22	21	0.41	440	0.012	<20	2.90	0.01	0.09	<2	<0.05	<1	<5	<5	6
1893580	Soil				0.094	35	29	0.51	427	0.014	<20	3.32	<0.01	0.12	<2	<0.05	<1	<5	5	10



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**Project:** Louise Lake

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	Method Analyte Unit MDL	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
1893581	Soil	4	<3	<2	3	31	8	54	0.5	13	7	605	3.26	33	<2	258	<0.5	<3	<3	57
1893582	Soil	4	<3	<2	4	29	6	82	0.4	19	12	977	3.35	126	<2	150	<0.5	<3	<3	62
1893583	Soil	3	<3	<2	2	17	11	75	<0.3	14	9	366	4.02	60	<2	19	<0.5	<3	<3	68
1893584	Soil	8	<3	<2	3	29	7	169	0.4	19	8	1525	2.21	242	<2	136	0.5	<3	<3	44
1893585	Soil	4	<3	<2	1	23	9	49	0.6	7	5	346	3.66	49	<2	36	<0.5	<3	<3	108
1893586	Soil	6	<3	<2	2	22	10	80	<0.3	8	5	544	2.70	34	<2	133	<0.5	<3	<3	62
1893587	Soil	5	<3	<2	3	19	8	81	<0.3	17	10	848	3.24	24	<2	31	<0.5	<3	<3	66
1893588	Soil	4	<3	<2	3	23	16	101	0.3	11	12	647	4.17	44	<2	33	<0.5	<3	<3	79
1893589	Soil	6	<3	<2	5	31	12	80	0.5	14	17	1887	3.76	57	<2	49	<0.5	<3	<3	71
1893590	Soil	4	<3	<2	2	16	13	51	<0.3	9	7	278	3.84	42	4	29	<0.5	<3	<3	68
1893591	Soil	5	<3	<2	3	41	16	48	0.4	4	7	435	4.13	10	4	20	<0.5	<3	<3	71
1893592	Soil	5	<3	<2	2	29	27	78	0.3	15	15	1997	4.03	138	3	73	<0.5	<3	<3	90
1893593	Soil	3	<3	<2	2	22	15	81	0.3	10	10	856	3.79	49	<2	66	<0.5	<3	<3	87
1893594	Soil	4	<3	<2	3	38	20	51	0.5	10	8	431	3.58	45	<2	34	<0.5	<3	<3	79
1893595	Soil	4	<3	<2	4	26	13	78	0.4	8	7	710	4.12	35	<2	29	<0.5	<3	<3	94
1893596	Soil	4	<3	<2	2	22	14	92	0.6	9	11	993	4.58	37	<2	37	<0.5	<3	<3	109
1893597	Soil	6	<3	<2	2	31	15	65	<0.3	10	8	693	3.66	39	<2	92	<0.5	<3	<3	78
1893598	Soil	4	<3	<2	4	28	14	60	0.3	8	13	1091	3.90	24	3	20	<0.5	<3	<3	66
1893599	Rock Pulp	179	<3	5	254	2055	35	207	1.2	11	14	671	3.66	42	3	63	1.1	<3	<3	53
1893600	Rock Pulp	4	<3	<2	4	21	<3	32	<0.3	7	4	588	2.42	<2	<2	32	<0.5	<3	<3	23
1893601	Soil	7	4	<2	2	19	11	74	0.4	10	14	3125	2.54	21	<2	144	0.5	<3	<3	64
1893602	Soil	4	<3	<2	2	21	11	74	0.5	10	10	657	4.26	25	4	19	<0.5	<3	<3	81
1893603	Soil	3	<3	<2	<1	18	22	112	0.6	13	12	1331	3.89	20	<2	97	<0.5	<3	<3	80
1893604	Soil	3	<3	<2	1	23	14	132	<0.3	12	13	344	4.49	19	4	30	<0.5	<3	<3	95
1893605	Soil	4	<3	<2	1	30	17	117	0.6	17	17	1787	3.94	24	4	55	<0.5	<3	<3	86
1893606	Soil	3	<3	<2	2	14	14	93	<0.3	6	6	227	4.09	16	<2	17	<0.5	<3	<3	88
1893607	Soil	5	<3	<2	2	22	16	86	<0.3	7	9	298	4.80	22	5	14	<0.5	<3	<3	88
1893608	Soil	3	<3	<2	2	17	12	120	0.5	8	8	253	4.04	16	4	11	<0.5	<3	<3	82
1893609	Soil	3	<3	<2	1	23	13	162	<0.3	14	16	399	4.72	26	5	17	<0.5	<3	<3	99
1893610	Soil	4	<3	<2	1	17	15	102	<0.3	7	8	364	4.74	27	3	14	<0.5	<3	<3	87



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# CERTIFICATE OF ANALYSIS

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		Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	
		Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
1893581	Soil		0.141	15	19	0.28	182	0.022	<20	4.22	<0.01	0.06	<2	0.07	<1	<5	5	<5
1893582	Soil		0.140	21	24	0.49	189	0.012	<20	3.56	<0.01	0.11	<2	0.05	<1	<5	6	<5
1893583	Soil		0.098	11	19	0.33	113	0.019	<20	3.47	<0.01	0.06	<2	<0.05	<1	<5	<5	<5
1893584	Soil		0.315	46	26	0.35	246	0.017	<20	3.35	0.02	0.07	<2	0.14	<1	<5	<5	8
1893585	Soil		0.074	14	29	0.47	146	0.025	<20	2.02	<0.01	0.06	<2	0.05	<1	<5	11	<5
1893586	Soil		0.107	18	14	0.29	235	0.010	<20	2.07	0.01	0.05	<2	<0.05	<1	<5	7	<5
1893587	Soil		0.087	14	18	0.43	197	0.019	<20	2.66	<0.01	0.05	<2	<0.05	<1	<5	7	<5
1893588	Soil		0.097	21	16	0.26	181	0.019	<20	2.71	<0.01	0.05	<2	<0.05	<1	<5	9	<5
1893589	Soil		0.175	31	19	0.41	172	0.011	<20	4.58	0.01	0.06	<2	0.06	<1	<5	7	8
1893590	Soil		0.072	14	15	0.27	146	0.018	<20	4.54	<0.01	0.04	<2	<0.05	<1	<5	7	<5
1893591	Soil		0.470	21	13	0.19	135	0.048	<20	5.98	<0.01	0.03	<2	0.07	<1	<5	11	7
1893592	Soil		0.141	39	17	0.37	150	0.029	<20	2.82	0.02	0.06	<2	<0.05	<1	<5	5	10
1893593	Soil		0.156	15	14	0.36	261	0.023	<20	2.38	<0.01	0.06	<2	<0.05	<1	<5	9	<5
1893594	Soil		0.119	25	17	0.15	114	0.023	<20	2.90	<0.01	0.04	<2	0.05	<1	<5	8	<5
1893595	Soil		0.121	16	19	0.33	145	0.027	<20	3.06	<0.01	0.05	<2	<0.05	<1	<5	11	<5
1893596	Soil		0.249	12	17	0.45	180	0.034	<20	3.14	0.01	0.06	<2	<0.05	<1	<5	10	<5
1893597	Soil		0.167	28	16	0.29	183	0.020	<20	2.05	0.01	0.05	<2	<0.05	<1	<5	7	<5
1893598	Soil		0.559	15	12	0.28	126	0.010	<20	4.09	<0.01	0.05	<2	0.07	<1	<5	7	<5
1893599	Rock Pulp		0.065	5	14	0.74	66	0.091	<20	2.20	0.11	0.38	4	1.44	<1	<5	7	<5
1893600	Rock Pulp		0.039	6	15	0.49	57	0.079	<20	1.04	0.06	0.08	<2	<0.05	<1	<5	<5	<5
1893601	Soil		0.162	30	15	0.33	348	0.011	<20	2.21	0.02	0.05	<2	0.07	<1	<5	5	<5
1893602	Soil		0.538	12	16	0.35	131	0.018	<20	5.27	0.01	0.06	<2	<0.05	<1	<5	8	6
1893603	Soil		0.335	14	18	0.58	188	0.016	<20	3.06	0.01	0.10	<2	<0.05	<1	<5	10	6
1893604	Soil		0.371	15	17	0.50	168	0.010	<20	4.62	<0.01	0.06	<2	<0.05	<1	<5	9	7
1893605	Soil		0.184	32	22	0.46	222	0.017	<20	3.50	0.01	0.09	<2	<0.05	<1	<5	6	11
1893606	Soil		0.260	8	12	0.15	134	0.010	<20	1.97	<0.01	0.05	<2	<0.05	<1	<5	10	<5
1893607	Soil		0.180	11	13	0.22	98	0.014	<20	3.16	<0.01	0.05	<2	<0.05	<1	<5	9	<5
1893608	Soil		0.314	9	13	0.21	118	0.012	<20	4.82	<0.01	0.06	<2	<0.05	<1	<5	11	<5
1893609	Soil		0.336	10	19	0.26	149	0.005	<20	4.59	<0.01	0.08	<2	<0.05	<1	<5	9	6
1893610	Soil		0.692	8	13	0.17	121	0.007	<20	3.16	<0.01	0.06	<2	<0.05	<1	<5	8	<5



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# CERTIFICATE OF ANALYSIS

WHI19000507.1

	Method Analyte Unit MDL	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
1893611	Soil	8	<3	<2	2	27	18	133	<0.3	11	25	2358	4.67	24	3	63	<0.5	<3	<3	98	0.52
1893612	Soil	3	<3	<2	1	15	14	117	<0.3	11	14	1614	3.35	15	<2	97	<0.5	<3	<3	75	0.60
1893613	Soil	4	<3	<2	11	28	19	80	0.3	11	12	443	4.82	106	3	23	<0.5	<3	<3	81	0.08
1893614	Soil	4	<3	<2	2	21	20	84	0.5	10	7	614	4.05	25	4	14	<0.5	<3	<3	72	0.08
1893615	Soil	3	<3	<2	2	20	19	81	0.6	10	6	239	4.74	25	3	13	<0.5	<3	<3	79	0.07
1893616	Soil	3	<3	<2	1	17	14	112	<0.3	15	10	398	3.47	20	3	15	<0.5	<3	<3	70	0.06
1893617	Soil	6	5	<2	1	20	13	71	<0.3	22	10	905	3.47	18	<2	79	<0.5	<3	<3	68	0.54
1893618	Soil	4	<3	<2	2	16	9	68	0.5	9	7	275	3.52	16	7	11	<0.5	<3	<3	72	0.09
1893619	Soil	3	<3	<2	5	30	17	79	0.5	11	12	434	4.07	107	<2	14	<0.5	<3	<3	82	0.04
1893620	Soil	3	<3	<2	2	15	24	104	<0.3	9	8	637	3.23	19	2	81	<0.5	<3	<3	69	0.47
1893621	Rock Pulp	185	<3	5	264	2157	33	220	1.3	11	15	707	3.82	42	4	65	1.1	<3	<3	55	1.11
1893622	Rock Pulp	3	<3	<2	4	22	<3	32	<0.3	8	5	595	2.45	<2	<2	32	<0.5	<3	<3	24	0.80
1893623	Soil	4	<3	3	2	34	29	102	<0.3	9	12	799	4.46	27	4	44	<0.5	<3	<3	89	0.38
1893624	Soil	4	<3	5	1	19	11	92	<0.3	18	9	311	4.05	14	2	15	<0.5	<3	<3	74	0.12
1893625	Soil	5	<3	5	4	25	287	196	0.7	12	9	385	4.40	94	3	15	<0.5	<3	<3	76	0.11
1893626	Soil	5	<3	3	1	14	23	133	0.5	8	6	301	3.77	21	2	12	<0.5	<3	<3	72	0.05
1893627	Soil	3	<3	3	2	19	24	138	0.4	7	6	417	4.18	28	3	17	<0.5	<3	<3	75	0.12





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# CERTIFICATE OF ANALYSIS

WHI19000507.1

Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
1893611	Soil	0.220	18	16	0.26	248	0.005	<20	2.04	0.01	0.11	<2	<0.05	<1	<5	7
1893612	Soil	0.127	15	15	0.34	383	0.009	<20	1.97	0.02	0.07	<2	<0.05	<1	<5	<5
1893613	Soil	0.345	6	10	0.12	120	0.004	<20	1.94	<0.01	0.06	<2	<0.05	<1	<5	6
1893614	Soil	0.335	9	15	0.18	121	0.014	<20	3.53	<0.01	0.06	<2	<0.05	<1	<5	6
1893615	Soil	0.241	8	16	0.22	102	0.014	<20	3.04	<0.01	0.05	<2	<0.05	<1	<5	7
1893616	Soil	0.056	11	18	0.27	201	0.016	<20	3.08	<0.01	0.04	<2	<0.05	<1	<5	5
1893617	Soil	0.095	14	22	0.50	442	0.009	<20	2.82	0.01	0.08	<2	<0.05	<1	<5	7
1893618	Soil	0.318	15	13	0.29	127	0.018	<20	3.67	0.01	0.08	<2	<0.05	<1	<5	7
1893619	Soil	0.184	13	15	0.08	149	0.001	<20	1.59	<0.01	0.07	<2	0.05	<1	<5	6
1893620	Soil	0.057	15	13	0.25	313	0.009	<20	1.74	0.01	0.05	<2	<0.05	<1	<5	6
1893621	Rock Pulp	0.066	5	15	0.77	68	0.092	<20	2.26	0.11	0.39	3	1.53	<1	<5	6
1893622	Rock Pulp	0.040	6	15	0.49	58	0.082	<20	1.05	0.07	0.08	<2	<0.05	<1	<5	<5
1893623	Soil	0.121	22	12	0.24	242	0.020	<20	1.91	0.01	0.05	<2	<0.05	<1	<5	7
1893624	Soil	0.206	12	20	0.32	152	0.017	<20	3.09	<0.01	0.06	<2	<0.05	<1	<5	7
1893625	Soil	0.217	11	13	0.19	164	0.005	<20	2.51	<0.01	0.05	<2	<0.05	<1	<5	6
1893626	Soil	0.174	9	13	0.15	786	0.006	<20	2.04	<0.01	0.05	<2	<0.05	<1	<5	9
1893627	Soil	0.110	14	11	0.16	247	0.007	<20	2.52	<0.01	0.05	<2	<0.05	<1	<5	6



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Whitehorse Yukon Y1A 5Y9 Canada

Project: Louise Lake

Report Date: September 30, 2019

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## QUALITY CONTROL REPORT

WHI19000507.1

	Method Analyte Unit MDL	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300		
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca	
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01	
Pulp Duplicates																						
1893551	Soil	6	<3	<2	8	32	15	104	<0.3	9	9	479	6.21	227	3	17	<0.5	<3	<3	112	0.05	
REP 1893551	QC	5	<3	<2																		
1893582	Soil	4	<3	<2	4	29	6	82	0.4	19	12	977	3.35	126	<2	150	<0.5	<3	<3	62	0.52	
REP 1893582	QC				3	29	7	82	0.4	19	12	989	3.26	127	<2	151	<0.5	<3	<3	61	0.52	
1893594	Soil	4	<3	<2	3	38	20	51	0.5	10	8	431	3.58	45	<2	34	<0.5	<3	<3	79	0.15	
REP 1893594	QC	4	<3	<2																		
1893618	Soil	4	<3	<2	2	16	9	68	0.5	9	7	275	3.52	16	7	11	<0.5	<3	<3	72	0.09	
REP 1893618	QC				2	15	11	67	0.5	9	6	272	3.52	15	6	11	<0.5	<3	<3	72	0.09	
1893627	Soil	3	<3	3	2	19	24	138	0.4	7	6	417	4.18	28	3	17	<0.5	<3	<3	75	0.12	
REP 1893627	QC	4	<3	<2	2	20	24	139	0.4	7	7	427	4.20	28	3	17	<0.5	<3	<3	79	0.11	
Reference Materials																						
STD BVGEO01	Standard				10	4373	195	1726	2.8	164	25	706	3.62	122	14	56	6.3	<3	26	73	1.30	
STD DS11	Standard				15	150	134	350	1.6	77	13	1023	3.18	42	6	70	2.2	6	10	49	1.08	
STD DS11	Standard				15	154	149	355	1.8	84	14	1045	3.15	45	8	69	2.5	8	12	52	1.07	
STD OREAS262	Standard				<1	119	57	151	0.5	65	27	543	3.35	37	8	37	0.7	<3	<3	23	2.99	
STD OREAS262	Standard				<1	121	58	155	0.6	67	28	539	3.26	38	10	36	0.8	<3	<3	23	2.98	
STD OREAS262	Standard				<1	123	59	157	0.6	67	28	539	3.37	38	9	37	0.7	<3	<3	23	3.00	
STD PD05	Standard	546	427	615																		
STD PD05	Standard	543	451	624																		
STD PG04	Standard	1064	953	1275																		
STD PG04	Standard	1037	917	1236																		
STD PG04	Standard	1042	956	1268																		
STD BVGEO01 Expected					10.8	4415	187	1741	2.53	163	25	733	3.7	121	14.4	55	6.5	2.2	25.6	73	1.3219	
STD DS11 Expected					13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50	1.063	
STD OREAS262 Expected								118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39	22.5	2.98
STD PD05 Expected		519	430	596																		
STD PG04 Expected		996	910	1210																		
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01	



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Whitehorse Yukon Y1A 5Y9 Canada

Project: Louise Lake

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## QUALITY CONTROL REPORT

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	Method Analyte Unit MDL	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates																	
1893551	Soil	0.211	9	17	0.19	145	0.009	<20	2.37	<0.01	0.05	<2	<0.05	<1	<5	10	<5
REP 1893551	QC																
1893582	Soil	0.140	21	24	0.49	189	0.012	<20	3.56	<0.01	0.11	<2	0.05	<1	<5	6	<5
REP 1893582	QC	0.135	21	24	0.48	187	0.011	<20	3.56	<0.01	0.10	<2	0.05	<1	<5	6	<5
1893594	Soil	0.119	25	17	0.15	114	0.023	<20	2.90	<0.01	0.04	<2	0.05	<1	<5	8	<5
REP 1893594	QC																
1893618	Soil	0.318	15	13	0.29	127	0.018	<20	3.67	0.01	0.08	<2	<0.05	<1	<5	7	<5
REP 1893618	QC	0.315	15	12	0.29	123	0.018	<20	3.55	<0.01	0.07	<2	<0.05	<1	<5	6	<5
1893627	Soil	0.110	14	11	0.16	247	0.007	<20	2.52	<0.01	0.05	<2	<0.05	<1	<5	6	<5
REP 1893627	QC	0.109	14	11	0.16	245	0.008	<20	2.51	<0.01	0.05	<2	<0.05	<1	<5	6	<5
Reference Materials																	
STD BVGEO01	Standard	0.073	26	175	1.30	335	0.233	<20	2.33	0.19	0.90	4	0.68	<1	<5	7	6
STD DS11	Standard	0.070	18	57	0.86	433	0.094	<20	1.21	0.07	0.42	2	0.29	<1	<5	<5	<5
STD DS11	Standard	0.072	19	59	0.86	433	0.093	<20	1.20	0.08	0.41	3	0.29	<1	7	7	<5
STD OREAS262	Standard	0.040	18	45	1.21	263	0.003	<20	1.42	0.07	0.35	<2	0.27	<1	<5	<5	<5
STD OREAS262	Standard	0.041	18	45	1.20	257	0.002	<20	1.42	0.07	0.34	<2	0.27	<1	<5	6	<5
STD OREAS262	Standard	0.042	18	43	1.23	257	0.004	<20	1.32	0.07	0.33	<2	0.28	<1	<5	<5	<5
STD PD05	Standard																
STD PD05	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD BVGEO01 Expected		0.0727	25.9	171	1.2963	340	0.233		2.347	0.1924	0.89	3.5	0.6655			7.37	5.97
STD DS11 Expected		0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1
STD OREAS262 Expected		0.04	15.9	41.7	1.17	248	0.003		1.204	0.071	0.312		0.253			3.73	3.24
STD PD05 Expected																	
STD PG04 Expected																	
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5



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		FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank	3	<3	<2																	
BLK	Blank	3	<3	<2																	
BLK	Blank	4	<3	<2																	



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		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																
BLK	Blank																
BLK	Blank																