BC Geological Survey
Assessment Report
39183

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)]: MtM 2019 Greenfields Diamond Drilling Report **TOTAL COST:** CAD$235,287.13

AUTHOR(S): Paul Jago
Michael Pond **SIGNATURE(S):**

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 1300188-201501(Dec.31,2019) **YEAR OF WORK:** 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): statement of work - event # 5803134

PROPERTY NAME: Mount Milligan Minesite - Mine #1300188

CLAIM NAME(S) (on which the work was done): 512888

COMMODITIES SOUGHT: Gold, Copper, Silver

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 093N/ 194

MINING DIVISION: Omineca **NTS/BCGS:** 093K, 093O, 093J, 093K UTM Zone 10

LATITUDE: 55 ° 07 ' 19 " **LONGITUDE:** 124 ° 01 ' 46 " **(at centre of work)**

OWNER(S):
1) Thompson Creek Metals Company Inc. 2)

MAILING ADDRESS:
299 Victoria Street, Suite 200
Prince George, BC V2L 5B8

OPERATOR(S) [who paid for the work]:
1) Thompson Creek Metals Company Inc. 2)

MAILING ADDRESS:
299 Victoria Street, Suite 200
Prince George, BC V2L 5B8

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Commodities: Gold, Copper Significant Minerals: Pyrite, Magnetite, Chalcopyrite, Sphalerite, Bornite
Alteration: K-Feldspar, Biotite, Actinolite, Epidote, Calcite, Chlorite, Albite, Pyrite Alteration Type: Potassic, Propylitic, Carbonate
Classification: Porphyry, Hydrothermal, Epigenetic Type: L03: Alkalic Porphyry Cu-Au
Shape: Regular Modifier: Fractured Dimension: 1300x950x244 metres

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
see attached Schedule A

Next Page

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core	4 NQ Holes. 1,224.7m	512888	$203,641.87
Non-core			
RELATED TECHNICAL			
Sampling/assaying	705 samples	512888	$26,189.26
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail	2.0 km trail re-opening		$5,456.00
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	CAD$235,287.13

Mount Milligan Property 2019 Assessment Report

Title Page & Summary: Schedule A

Refferences to Previous Assessment Report Numbers:

ARIS Reports	
4274	
4742	
5175	
11951	
12912	
13508	
13891	
14377	
17860	
19164	
19268	
19396	
19921	
20227	
20230	
20280	
20416	
20455	
20853	
20978	
21089	
21197	
22011	
28209	
28210	
30425	
31446	
31930	
33981	
35023	
37449	
37725	
38269	

Assessment Report

Mount Milligan Mine
2019 Greenfields Drill Program
Heidi Lake Zone

Omineca Mining Division

N.T.S. 93N , 93O, 93J, 93K
Latitude 55^0 07' 19" N
Longitude 124^0 01' 46" W

Owner/Operator:

Thompson Creek Metals Company Inc.
Mount Milligan Mine
299 Victoria Street, Suite 200
Prince George, B.C. V2L 5B8

Prepared for

Ministry of Energy, Mines, & Petroleum Resources
Mining & Minerals Division

by

Paul Jago, P.Geo and
Michael Pond, P. Geo.

Centerra Gold Services Inc.

August, 2020

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1.0 Summary

The Mount Milligan alkalic gold-copper porphyry deposit is located 155 kilometres northwest of Prince George in central British Columbia. The property consists of 117 claims and 1 mineral lease covering approximately 60,286.6 hectares. Thompson Creek Metals Company Inc. (TCM), owns 100% of the operation and all mineral titles. The Mount Milligan Mine consists of one open pit and one tailings storage facility. Mine life is 9 years with a total proven and probable reserve of 191,028 kilo tonnes grading 0.39 g/t gold and 0.23% copper as of December 31, 2019, (2,407 kilo ounces contained gold and 959 million pounds contained copper). The mine is currently operating at a rate of approximately 62,000 tonnes per day.

In 2019, a ground-based 4-hole (1227.73 m) greenfield (outside mine lease) drilling program ran from July 5-28th in the Heidi zone that further defined the extent and style of shallow low-grade copper mineralization. This assessment report describe the details of this drill program.

The Heidi exploration target at Mount Milligan represents a near surface low-grade copper greenfield target that is readily accessible by exploration trail. Its proximity to the mine lease boundary (~1 km) makes it an attractive target for greenfield exploration programs at Mount Milligan. Drilling in 2018 and 2019 identified a ~250 m NNW linear trend of low-grade copper mineralization that crosses the northern arm of a 400 x 250 m ring-shaped magnetic anomaly and an ENE trending, 100 m wide moderate chargeability feature. Drilling on the southern arm of the magnetic anomaly returned only one narrow (6.0 m) significant low-grade copper value and appears to be less prospective.

Significant mineralized intervals are related to narrow monzonite porphyry dykes in andesitic rocks. Alteration includes a distinct mix of early-stage potassic and sodic-calcic (albite-actinolite-chlorite) assemblages overprinted by propylitic and late-stage QSPC assemblages. Early to transitional vein types include pyrrhotite-bearing polymetallic veins that can be massive. Disseminated pyrrhotite appears to be part of the sodic-calcic alteration assemblage. Higher gold grades occur at depth in 18-1104 which may be a distal western extension of the shallow-dipping Goldmark mineralization trend and is spatially associated with a faulted hanging-wall of a monzonite porphyry dyke. Selected results from the 2018-2019 drilling include,

18-1104: 20.00 metres @ 0.206 g/t Au, 0.132% Cu from 568.00 metres;
18-1106: 33.60 metres @ 0.074 g/t Au, 0.205% Cu from 17.00 metres;
including 3.52 metres @ 0.176 g/t Au, 0.416% Cu from 18.48 metres;
and 2.00 metres @ 0.116 g/t Au, 0.254% Cu from 33.00 metres;
19-1174: 48.60 metres @ 0.034 g/t Au, 0.120% Cu from 149.40 metres
19-1179: 83.73 metres @ 0.048 g/t Au, 0.154% Cu from 24.00 metres;
including 5.51 metres @ 0.302 g/t Au, 0.268% Cu from 24.00 metres;
and 8.00 metres @ 0.087 g/t Au, 0.182% Cu from 56.00 metres.

It is recommended that a series of four 250-300 m long NNW trending parallel fences, comprising three drill holes each, be drilled across the northern arm of the magnetic anomaly to test for a broader area of shallow (less than 200 m depth) copper mineralization.

The Heidi zone greenfield program was one component of the larger 2019 TCM exploration strategy for the Mount Milligan Mine tenure package. Other programs include:

Resource Drilling

- A 53-hole (19,832.30 m) Phase-1 near-pit infill and expansion (NPI) drilling program ran from February 22nd to September 14th in multiple zones within the ultimate pit boundary or marginal to it, including Southern Star (and SS Satellite Pit appendage), Saddle, WBX, GE Fault and Oliver zones.
- A 19-hole (7454.64 m) Phase-2 NPI program ran from September 15th to November 30th in the WBX, Oliver, GE Fault, Rainbow Fault Central and Southern Star East zones. Significant mineralization was intersected in each zone (less so for Rainbow Fault Central).
- Assay results continue to demonstrate significant intervals of additional porphyry Au-Cu mineralization both within, below and outside the margins of the 2019 ultimate pit shell.

Brownfields Drilling

- A 23-hole (8672.32 m) Phase-1 program ran from April 30th to August 26th in the North Slope, Goldmark, Saddle West, and South Boundary zones west of the mine ultimate pit boundary.
- A 12-hole (5500 m) Phase-2 program ran from August 26th to December 18th in the same Phase-1 zones plus the Oliver zone. Results further defined shallow high gold-low copper (HGLC) mineralization as being spatially associated with parallel ENE-WSW (and possibly NNW-SSE) trending fault structures and related breccias, and verified low grade porphyry Au-Cu mineralization related to a dyke and breccia complex in North Slope that remains open in several directions.

Geophysics

- A 640 line-km (38.9 km^2 area) low altitude aeromagnetic survey at 75 m line spacing flown on May 31st over the western side of the Mount Milligan property in both brownfield (49.1%) and greenfield (50.9%) exploration areas.
- A 1500 line-km (129.0 km^2 area) low altitude aeromagnetic survey at 100 m line spacing covering the groundwater exploration area and surrounding areas north and west of the mine and TSF. Within lease (brownfield) coverage was 19.4 km^2 (15.0%) and the rest was greenfield coverage (within property claim block) and beyond.
- The first phase of an IP survey (12 lines, 18 line-km, 200 m line spacing) was conducted from September 18th to October 17th across the North Slope, Goldmark and Oliver zones across a series of ENE trending faults.

Ground Water Exploration

- A five-hole (611.13 m) Phase-2 scout drilling program for groundwater exploration east and northeast of the TSF was conducted in February. This program continued following up results of NMR and TEM geophysical surveys completed in 2018 and was designed to support water well targeting efforts for Mill Operations. One hole in the Upper Rainbow (19-WE08) target area showed indications of groundwater and one hole in the Lower Rainbow (19-WE09) produced flowing artesian conditions. No holes reached bedrock.

On March 26, 2020 Centerra Gold published an updated NI 43-101 Technical Report: "Technical Report On The Mount Milligan Mine North-Central British Columbia", effective date December 31, 2019.

2.0 Introduction

2.1 Terms of Reference

All 2019 work was conducted under work approval for Mines Act Permits M-236 and MX-13-182.

2.2 Property Description and Location

The Property is 100% owned by Thompson Creek Metals Company Inc. (BC Mineral Titles owner Number 283374), a division of Centerra Gold Inc. Located within the Omineca Mining Division in north-central British Columbia, approximately 155 km northwest of Prince George. Access is from Fort St James 86 km to the south, or from Mackenzie 95 km to the east (Figure 1). The claim group consists of 117 mineral claims and 1 mining lease covering a total area of 60,286.6 ha, the details of which are summarized in Appendix 2 and shown in Figures 2 and 3. The boundaries of these claims are defined by map locations (longitude/latitude or UTM) rather than ground position. Positioned over four National Topographic System (NTS) maps, which include 93O04, 93N01, 93K16 and 93J13, the Property is centred at approximately 124°01'46" west longitude and 55°07'19" north latitude, or 434,349 mE, 6,108,845 mN (NAD 83 Zone 10).

The Mount Milligan Mine consists of one open pit and one tailings storage facility. Mine life is 9 years with a total proven and probable reserve of 191,028 kilo tonnes grading 0.39 g/t gold and 0.23% copper as of December 31, 2019, (2,407 kilo ounces contained gold and 959 million pounds contained copper). The mine is currently operating at a rate of approximately 62,000 tonnes per day.

2.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Mt. Milligan Property can be accessed from the south via Fort St James on the Germansen North Road followed by the Rainbow-Milligan Forest Service Road (FSR), or from the east via Mackenzie on the Community Connector FSR and switching to the Rainbow-Milligan FSR. The roads are in good condition and well maintained owing to active logging and mining in the area that utilises both routes. In addition, the Community Connector FSR serves as a haul road for the Mt. Milligan mine site. Both routes are used for daily and weekly crew changes.

The climate in the area is classified as Interior Plateau that is characterized by short warm summers and longer moderately cold winters. Climate data derived from a monitoring station at Mackenzie airport indicate that temperatures range from an average low of -12.9°C in January to an average high of 22.2°C in July.

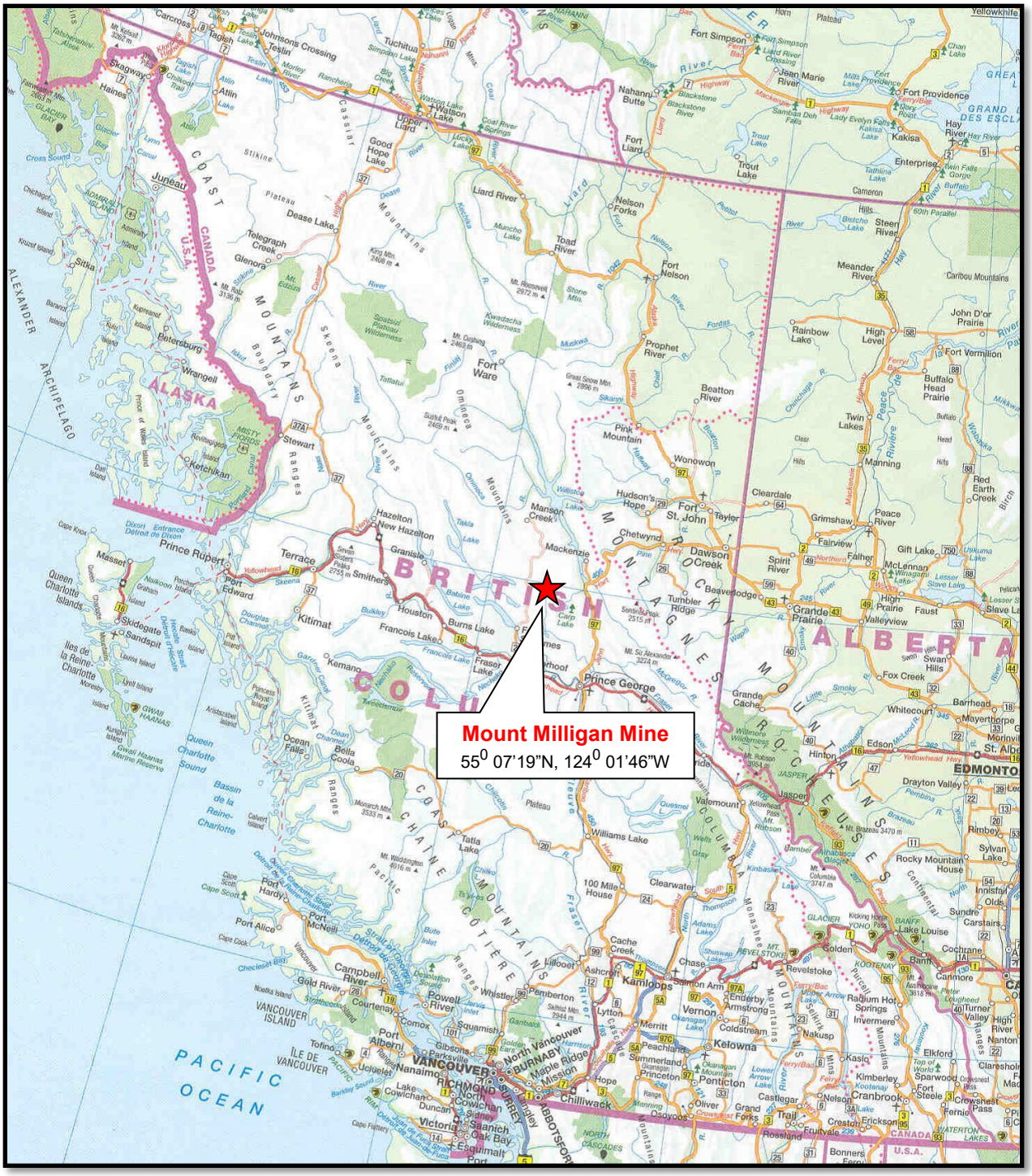

Figure 1: Property Location Map

Regionally, the Property lies near the northern boundary of the Nechako Plateau and the southern limits of the Swannell Range of the Omineca Mountains of the Canadian Cordilleran Interior System. A chain of peaks aligned in an approximate north-south direction dominates the western part of the Property, which includes the field area for this report and the Mt. Milligan mine site. Mt. Milligan is the highest of these peaks, rising to an elevation of 1,508 m, and is rounded and symmetrical in shape. The Mt. Milligan deposit

occurs to the south of Mt. Milligan at an elevation of approximately 1,100 m. The eastern part of the Property is dominated by gentle relief but includes a central region of elevated topography trending northwest and rising to approximately 1,350 m. Several isolated rounded hills also occur in the area rising to a similar elevation. A region of lower topography separates the western and eastern areas of the Property. Several elongated northwest-trending lakes occur in the eastern part of the Property and are interpreted to reflect the regional structural grain.

The Mt. Milligan area was last glaciated 10,000–20,000 years ago with regional ice flow direction to the northeast. This event coated the landscape with a blanket of glacial till and altered pre-glacial drainage patterns. Drumlins, flutings, eskers and melt-water channels of various dimensions are noticeable features of the region. Locally, glacial features show that ice was funnelled through east–west oriented valleys north and south of the Mt. Milligan deposit before flowing northeast. In the field area south of the Nation River, ice flow direction was re-oriented towards the east. The field area is generally well drained with flow towards the Nation River except for glacial depressions that have formed into bogs.

Vegetation in the region consists of pine and spruce with lesser amounts of alder. Beetle-killed timber is present throughout the field area and represents a hazard during fieldwork, especially during strong winds. In addition, numerous recent and active logging cut blocks occur throughout the field area, many of which have been recently replanted.

Labour and services are readily available from Fort St James, Mackenzie, Vanderhoof and Prince George with access provided by the aforementioned forest service roads from the south and east. The Mt. Milligan mine site occurs approximately 4.5 km to the southeast of the field area providing well-serviced camp accommodation, emergency response capabilities and specialized trade expertise. Electrical power is accessed directly from the BC Hydro Kennedy Substation south of Mackenzie or from the main high voltage transmission lines that run from the Kennedy Substation to the Mt. Milligan mine site.

2.4 Property History

Limited exploration activity was first recorded in 1937. In 1984, prospector Richard Haslinger (Haslinger) and BP Resources Canada Limited (BP Resources) located claims on the site. In 1986, Lincoln Resources Inc. (Lincoln) optioned the claims and in 1987 completed a diamond drilling program that led to the discovery of significant copper-gold mineralization. In the late 1980s, Lincoln reorganized, amalgamated with Continental Gold Corp. (Continental Gold) and continued ongoing drilling in a joint-venture with BP Resources.

In 1991, Placer Dome Inc. (Placer Dome) acquired the Project from the joint-venture partners, resumed exploration drilling and completed a pre-feasibility study for the development of a 60,000 t/d open pit mine and flotation process plant.

Barrick Gold Corporation (Barrick) purchased Placer Dome in 2006 and sold its Canadian assets to Goldcorp Inc. (Goldcorp), who then in turn sold the Project to Atlas Cromwell Ltd. (Atlas Cromwell). Atlas Cromwell changed its name to Terrane Metals Corp. (Terrane) and initiated a comprehensive work program.

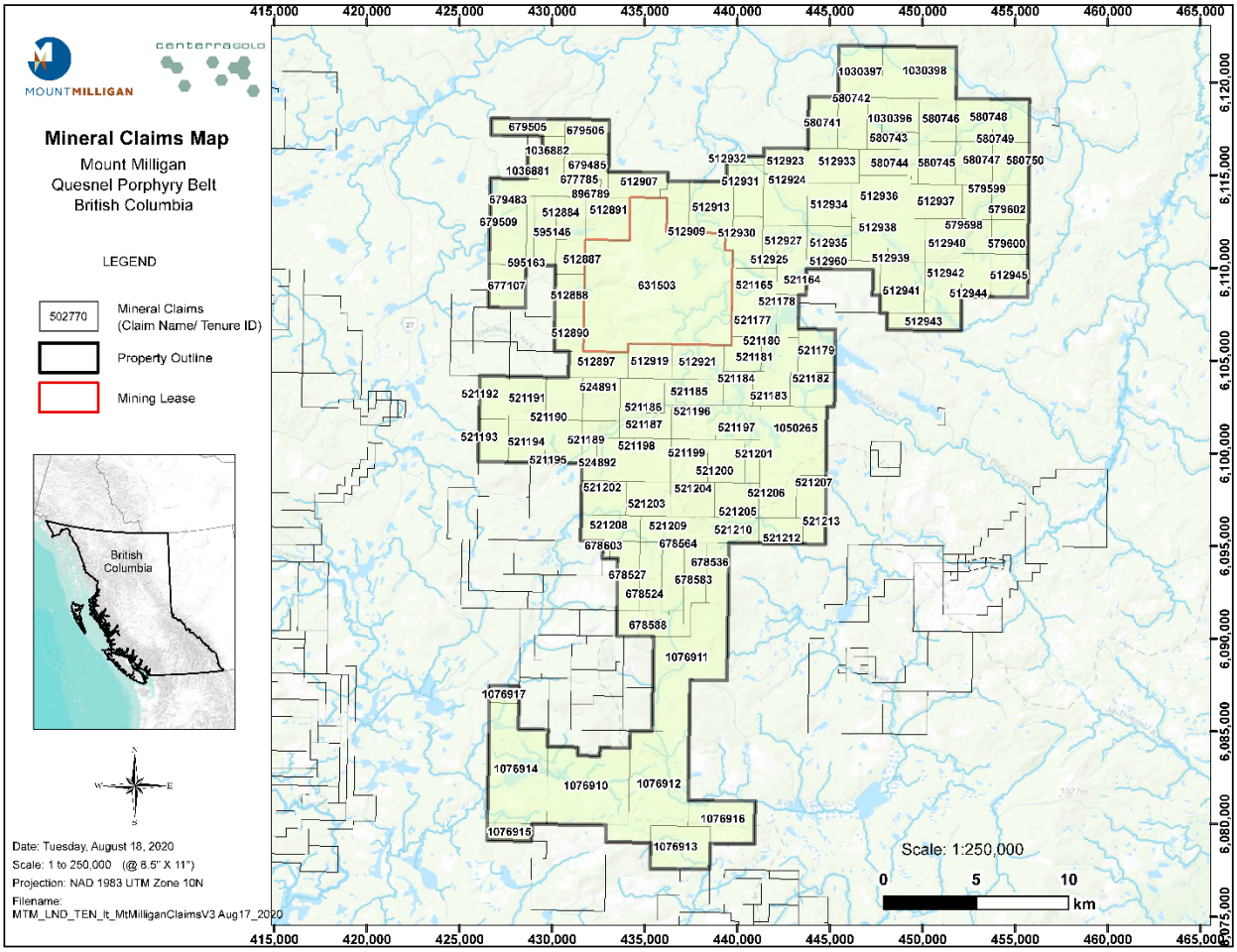

Figure 2: Mount Milligan Mine – Land Tenure

In October 2010, Thompson Creek Metals Company Inc. (TCM) acquired the Mount Milligan development project through its acquisition of Terrane and subsequently constructed the Mount Milligan Mine, which commenced commercial production in February 2014.

In October 2016, TCM was acquired by Centerra Gold Inc. In connection with the acquisition, Terrane (Mt. Milligan Mine), and certain other subsidiary entities of TCM were amalgamated into TCM. TCM now operates as a wholly owned subsidiary of Centerra Gold Inc.

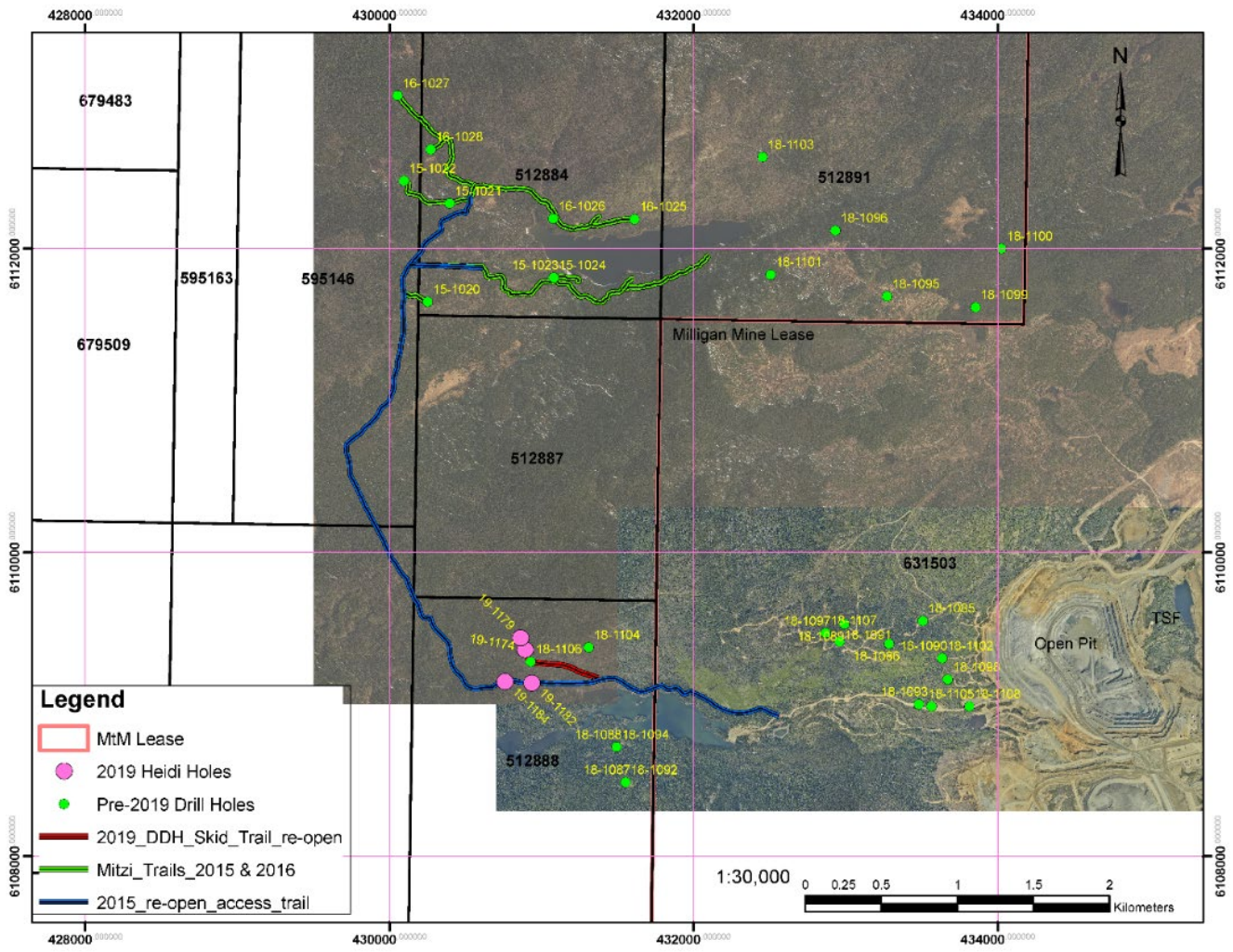

Figure 3: Detail Land Tenure and 2019 Drill Collar Locations

3.0 2019 Heidi Zone Drill Program

The 2019 greenfield exploration program at Mt. Milligan targeted a single area outside of the mine lease. It comprised of 4 NQ diamond drill holes and a total of 1227.7 m drilled in the Heidi Zone, see Figure 3. Drilling was conducted between July 5th and July 28th, 2019. The skid-based program was conducted by LDS Diamond Drilling Ltd. ("LDS Drilling") with one Longyear 38 drill rig.

The objective of the greenfield drilling program in 2019 was to drill test geophysical targets around the mine to further define the extent and style of shallow low-grade copper mineralization identified in the 2018 drill program holes in the Heidi Zone. The target area and hole locations were selected based on geophysical survey data, including IP (chargeability, resistivity, conductivity) and magnetic surveys.

3.1 Program Logistics

The facilities at the Mt. Milligan mine were used for lodging and staging of all crews and equipment for the duration of the program. Mine operations support was used for the program, including Mt. Milligan Site Services and warehouse crews and materials for core processing furniture and logistical support.

3.2 Environmental Surveys

Access trail preparation including flagging and CAT work occurred in stages during April, May, and June preparing locations specifically for this drill program and for the Brownfields program as briefly described in the report summary (page 1).

Ecofor Consulting Ltd. (“Ecofor”) performed bird nesting surveys prior to drill pad construction as the program overlapped with the regional nesting window from April 20th to August 15th (Gov. of Canada, 2018). The surveys were conducted by a qualified biologist and the surveyed area was then released for pad construction.

3.3 Drill Rig Alignment and Down Hole Surveys

The azimuth of the drill rig was aligned with a handheld magnetic compass or the Reflex TN14 north-seeking gyro-compass and fore- and back-sights laid out by geologists. The dip of the drill hole was set either directly by using an inclinometer on the shaft of the rig’s main frame or with the TN14.

Down hole surveys were completed with a Reflex EZ-Trac. The measurements were taken during drilling to monitor drill hole orientation on an on-going basis. A measurement of the hole’s azimuth and dip was taken every 25 m. This ensured adequate data density, as no final drill hole survey was performed. The EZ-Trac has a magnetic compass to determine azimuth and hence magnetic field strength was measured and used to monitor deviations from the mean. Azimuths were flagged as “false” if the field strength measurements were not within a range of approx. 5500 to 6300 nT. Azimuth measurements were corrected by adding the local magnetic declination value of 17.87° to obtain a true north reading.

3.4 Core Handling

Geotechnical core logging was performed by Centerra Gold and Equity Exploration crews and was conducted in temporary core handling facilities erected for the greenfield program. Geotechnical logging included core recovery measurements, rock quality designation (RQD) calculations, and magnetic susceptibility measurements (every meter).

Geological logging was based on the logging schemes developed for the brownfield exploration program and recorded the same attributes and features. The logging geologists collected information about lithology, alteration, veins, structural features, sulphide and sulfosalt mineralization, and oxidation intensity.

The core was photographed in sets of three boxes on a dedicated photo stand with labels visible. Core was photographed dry and wet for better visibility of geological features in the core.

Core sampling was conducted by the logging geologist and comprised the complete hole from top to bottom. The maximum sample interval as set to 2 m. Core samples were identified with a sample ID tag and cut with an electric core saw. The labelled core half stayed in the box for reference and was stored at the Mt. Milligan core storage located at the upper camp lodging facilities. The other core half was packaged in labelled poly plastic bags together with a sample tag, zip-tied and then placed in labelled and sealed rice bags, secured with tracked security tags. The samples were shipped via Mt. Milligan warehouse services and Bandstra Transportation Systems Ltd. to Bureau Veritas Canada Inc. ("Bureau Veritas") in Vancouver, BC.

Certified Reference Materials (CRM), blank samples, field duplicates and preparation duplicates were used to monitor quality assurance and quality control (QA/QC) of the core sampling, processing, and assaying processes. CRMs and blank samples were inserted alternately into the sample sequence every 10 samples resulting in rates of 1 in every 20 samples for both CRMs and blanks. In addition, field and preparation duplicates were inserted alternately into the sample sequence at an approximate rate of 1 duplicate for every 40 samples. Four different CRMs were used in the 2019 programs, two from OREAS (501C and 503C) and two from CDN (CDN-CM-28 and CDN-CM-42). The CRMs are certified for Cu and S at the %-level as well as Au, Ag and Mo at the ppm-level and were originally selected to match low-, medium- and high-grade mineralization ranges. The different CRM ranges were cycled through randomly during standard insertion. However, when possible CRMs were matched to visually estimated grades in mineralized zones. The CRM material submitted was greater than 100 g to ensure re-analyses could be completed if necessary. One field duplicate or preparation duplicate was alternately inserted approximately every 40 samples. Half core was submitted for field sample duplicates. A sealed, empty sample bag with a sequential sample tag was submitted to the lab for preparation duplicates and a pulverized split of the preceding sample was taken as the preparation duplicate. Blank sample material consisted of clean coarse marble landscape rock that was purchased commercially in 18 kg bags. An average weight of approximately 2 kg was used for each blank sample. Blank samples were routinely inserted every 20th sample on even multiples of 10 in the sequence.

The core samples were analyzed by Bureau Veritas in Vancouver for precious and base metals and trace elements. Drill core and blank samples were weighed, dried and crushed to ≥70% passing 2 mm, with a 250 g split pulverized to ≥85% passing 75 µm. Gold was analysed by 30 g fire assay with an AAS finish (method code FA430). Over limits were triggered at Au ≥10 ppm and Ag ≥20 ppm resulting in re-analysis using a 30 g fire assay with gravimetric finish (FA530). Base metals were analysed by 4-acid digestion with an AAS finish of a 0.5 g split (MA404). Sulphur was analysed by combustion analysis (TC002). Additional elements were analysed using ICP-ES/MS and a four-acid digest of a 0.25 g split (MA200).

3.5 Reclamation

Drill pads were cleared by LDS prior to locating the skid drills. Sumps for drill cuttings were built by hand and bordered with straw bales and silt fencing to catch and clear run-off. After the completion of the holes at a drill site, all materials discarded into appropriate Milligan Mine waste containers. The sump was refilled and cut trees were scattered across the pad the help re-vegetate the area naturally.

After drilling was completed on the pads, crew members of the Mt. Milligan Environmental team were given the opportunity to visit the drill sites, the drill collar location was surveyed, and the drill anchor was cut and removed.

4.0 Regional Geology

The Mount Milligan deposit is located within the Quesnel terrane of the North American Cordillera. The Quesnel terrane is part of the Intermontane Belt: a composite belt of volcanic arc and oceanic terranes that evolved outboard of the western margin of North America (Nelson et al., 2013). The terranes of the Intermontane Belt are interpreted to have accreted to North America during the Middle Jurassic (Mihalynuk et al., 2004).

The Quesnel terrane (Figure 4) represents a series of late Paleozoic to Jurassic island arcs. The oldest rocks assigned to the Quesnel terrane are Upper Paleozoic volcanic and sedimentary rocks of the Lay Range assemblage (Nelson and Bellefontaine, 1996). These are overlain by the Middle to Upper Triassic Takla Group which is subdivided into a lower unit of basinal fine clastic sedimentary rocks, the Slate Creek succession, and an upper unit of predominantly mafic to intermediate volcanic rocks that are referred to by a variety of names reflecting the presence of local volcanic centres; in the Mount Milligan deposit area it is referred to as the Witch Lake succession (Nelson and Bellefontaine, 1996). The Takla Group in this area is overlain by intermediate volcanic rocks of the Lower Jurassic Chuchi Lake succession. The Triassic and Early Jurassic volcanic packages both have mildly alkaline, or shoshonitic, geochemical signatures (Barrie, 1993). The 180-km long Hogem intrusive complex represents the batholith core of the Quesnel terrane in northcentral BC. It evolved from more mafic peripheral to more felsic central phases generally, and from weakly alkaline to sub-alkaline compositions from the Late Triassic to Early Cretaceous; except for a more strongly alkaline Early Jurassic phase that includes the Chuchi syenite and Duckling Creek syenite complexes, known for being copper-gold prospective (Garnett, 1978; Devine et al., 2014). Mount Milligan is on trend with the Chuchi syenite complex at the southern end of the Hogem intrusive complex.

At the latitude of Mount Milligan, the Quesnel terrane is juxtaposed against Cassiar platform and Slide Mountain terrane to the east and the Cache Creek and Stikine terranes to the west (Figure 4). On the east, the parautochthonous Cassiar platform includes Proterozoic to Paleozoic carbonate and siliciclastic strata that formed along the passive margin of Ancestral North America (Laurentia). Slide Mountain terrane is comprised of late Paleozoic oceanic rocks that formed outboard of Ancestral North America. On the west, Stikine terrane is a late Paleozoic to Mesozoic volcanic arc terrane with many similarities to Quesnel terrane. Cache Creek terrane is a Late Paleozoic to Mesozoic accretionary complex that formed in an ocean basin outboard of the allochthonous Quesnel and Stikine terranes and became trapped between them during Mesozoic accretion and oroclinal closure (Mihalynuk et al., 1994).

On it's western side, Quesnel terrane is bounded by the Pinchi and Ingenika strike-slip faults. On it's eastern side, it is bounded by northwest-trending thrust and strike-slip faults that include the Swannell fault, Manson-McLeod fault system, and Eureka thrust. The boundary between the Quesnel terrane and Cassiar platform is a complex structural zone that includes Early Jurassic east-directed thrust faults that juxtapose Quesnel terrane above the Cassiar platform. These faults and related folds are locally overprinted by somewhat younger west-directed structures that reverse this stacking order, as well as by dextral strike-slip and normal faults that were active in Cretaceous and early Tertiary time (Schiarizza, 2005). The Quesnel terrane is juxtaposed against the obducted Slide Mountain terrane by a series of west-directed thrusts. Subsequent Cretaceous

to early Tertiary dextral faulting has dismembered the Slide Mountain terrane within fault zones including the Manson-McLeod system east of Mount Milligan.

Younger rocks commonly found in the region include Cretaceous granitic stocks and batholiths; Eocene volcanic and sedimentary rocks; flat-lying basalt of both Neogene and Quaternary age; and extensive blankets and veneers of Quaternary glacial till, glaciofluvial, and glaciolacustrine deposits.

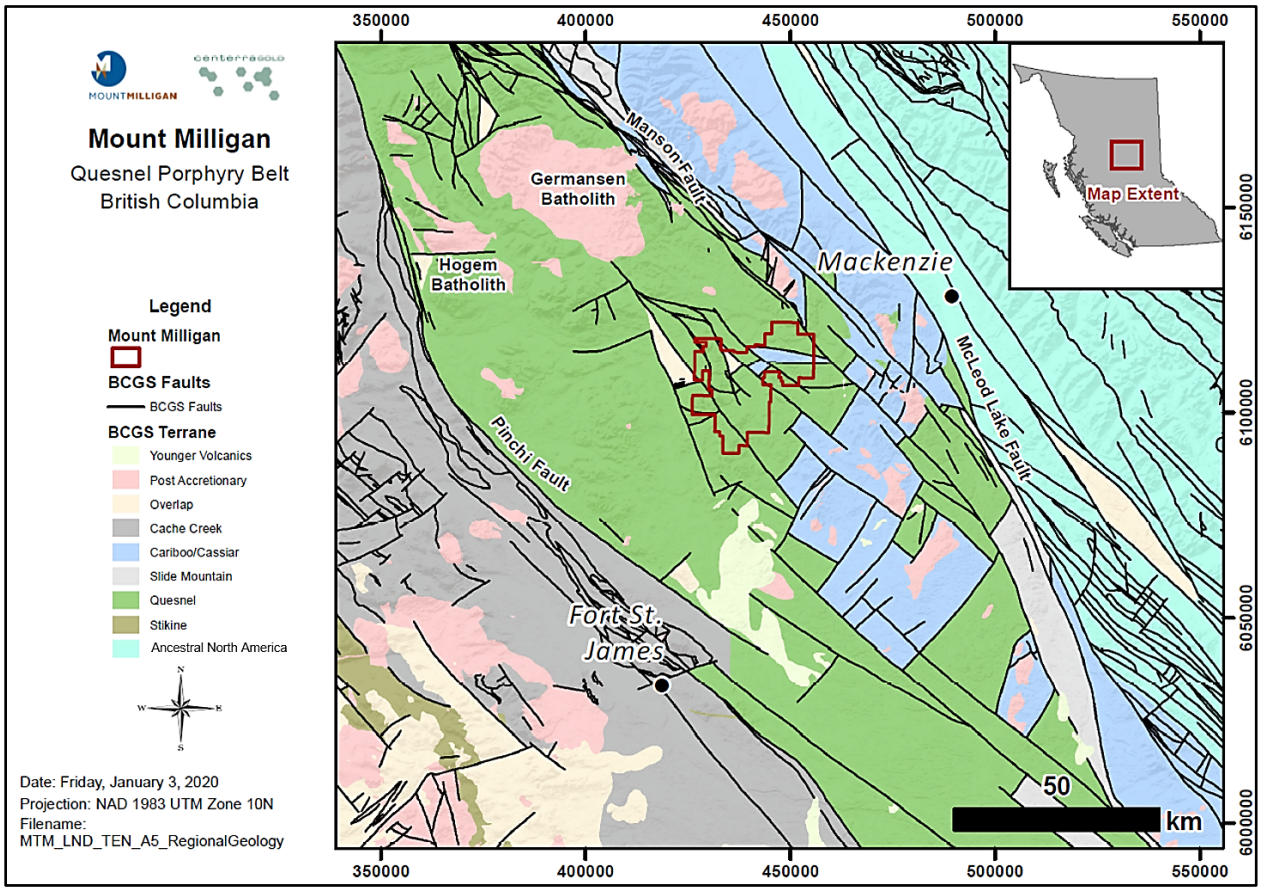

Figure 4: Regional Geological Setting

5.0 Local and Property Geology

The Mount Milligan property is mostly underlain by Upper Triassic volcanic rocks of the Witch Lake succession (Figure 5). The Witch Lake succession is moderately-to-steeply east-northeast dipping and characterized by augite-phyric volcaniclastic and lesser coherent basaltic andesite to andesite, with subordinate epiclastic beds. In the northwestern part of the Mount Milligan property, volcanic rocks are intruded by Early Jurassic to Cretaceous rocks of the Mount Milligan intrusive complex (Figure 5) located about 5 to 9 km north of the Mount Milligan porphyry deposit. The Early Jurassic component of the intrusive complex comprises monzonitic rocks with minor dioritic-monzodioritic and gabbroic-monzogabbroic rocks. In the deposit area to the south, the MBX (Magnetite breccia), Southern Star, Saddle, Goldmark, North Slope, and Heidi stocks and dyke complexes comprise the Heidi Lake stock cluster and are composed of monzonite porphyry rocks and various hydrothermal breccia phases.

The Early Jurassic intrusions are coeval with the Chuchi Lake succession, which is not currently recognized on the property but lies approximately 15 km to the west. Younger intrusions in the area include Cretaceous granites of the Mount Milligan intrusive complex, and Wolverine Metamorphic Complex (WMC). The latter includes schistose to gneissic amphibolite-grade Windermere Group basement rocks of Ancestral North America that were rapidly exhumed in the Paleogene (Ferri et al., 1994; Staples, 2009). The WMC rocks are locally exposed in the northeastern corner of the property (Figure 4). Tertiary sedimentary rocks locally overlie older rocks in wedge-shaped half-graben features evident on the east side of the deposit across the Great Eastern Fault (Figure 5).

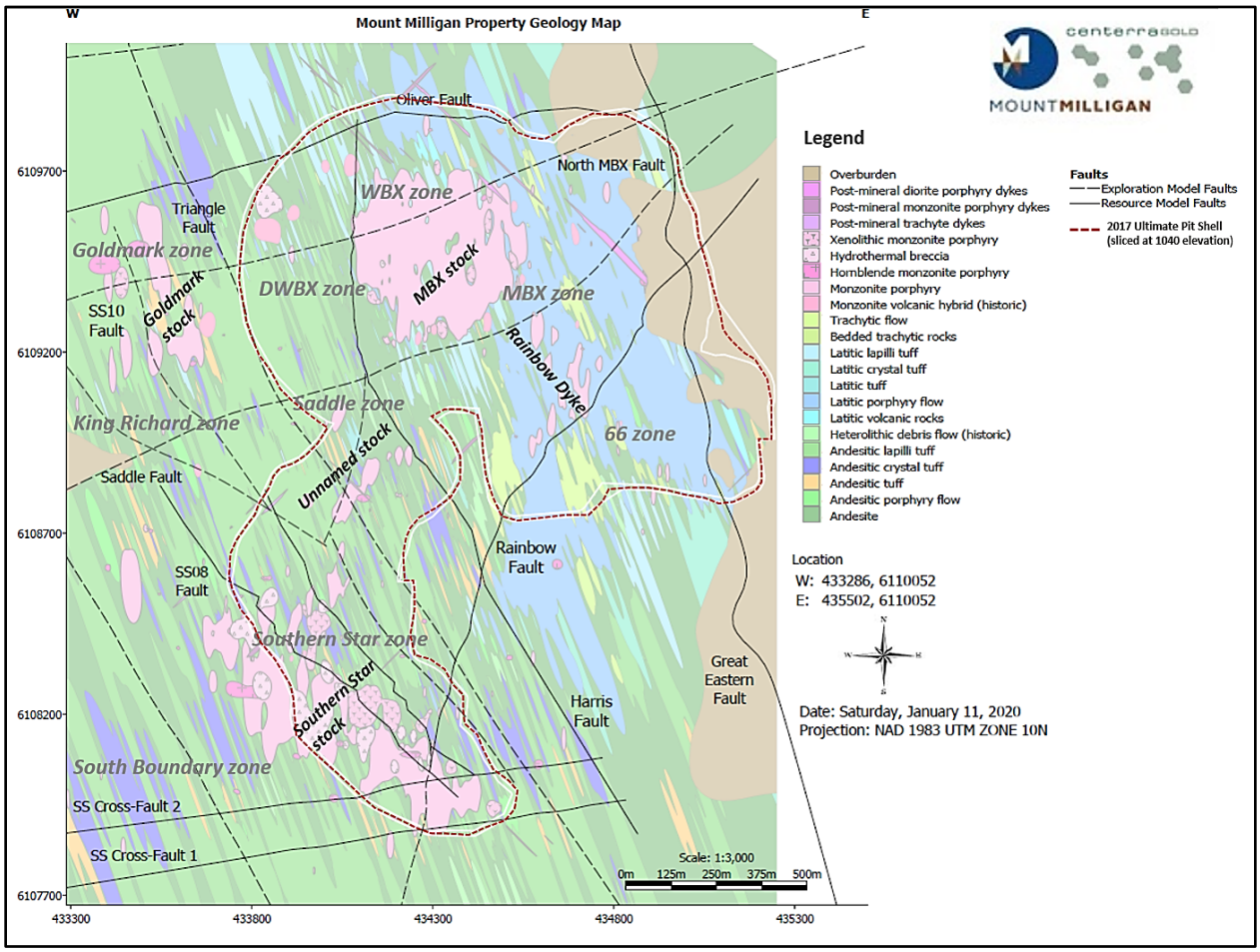

Figure 5: Geological Map of the Mount Milligan Deposits

6.0 Lithology

6.1 Witch Lake Succession

Volcanic and volcaniclastic rocks of the Late Triassic Witch Lake succession are host rocks of the Mount Milligan deposit (Figure 5). Monolithic fragmental varieties of andesite (augite lapilli tuff, crystal tuff, and tuff), form most of the unit. Minor augite porphyritic flows are present in the west side of the deposit. Small, discontinuous heterolithic debris flows and polymictic breccias are found scattered throughout the deposit, and interbedded with

the monolithic fragmental rocks. Plagioclase and/or hornblende phenocrysts are locally present within flows, individual lapilli, and crystal tuff.

Much of the volcanic rocks to the east of the MBX and Southern Star stocks have historically been classified as latite (Figure 5). They were distinguished from andesitic volcanic rocks by a darker colour, a general absence of visible hornblende, and the presence of alteration minerals associated with the potassic assemblage including biotite, magnetite, and potassium feldspar. It is common to see only one or two of the potassic alteration minerals and magnetite alteration is more common than biotite or potassium feldspar. These rocks are more appropriately interpreted as potassically altered andesite equivalents, but for consistency in drill sections and models, drilling campaigns have continued to use the historical latite lithology codes (Table 1).

Rocks classified as trachyte are inter-bedded with 'latite' to the east of the MBX stock (Figure 5). They are characterized by high potassium feldspar content and a lack of mafic minerals. Minor fine-grained plagioclase is also present. Massive and bedded varieties of trachytic rocks are recognized in the volcanic stratigraphy. Bedded varieties are generally discontinuous and locally exhibit cross-bedding and graded bedding. Curvilinear pyrite-chlorite partings or bands of pyrite-chlorite are common along bedding planes. These rocks are now considered to be felsic volcanic and epiclastic units that have undergone potassic alteration. They are the only stratigraphic markers in the deposit area providing evidence that the geology is moderately tilted to the east-northeast.

Nelson et al. (1991) reported that the abundance of potassium feldspar in the volcanic rocks led past authors to a field classification of augite-porphyritic latites and banded trachytes. Microscopic examination indicated that the potassium-rich nature of the rocks is due to infiltration of secondary potassium feldspar in veinlets and microfractures, as clumps with pyrite and epidote, as seams in plagioclase phenocrysts, and as fine-grained aggregates along bedding planes in the sediments.

6.2 Intrusive Rocks – Syn-Mineral

The Main and Southern Star deposits are centered on two principal intrusive bodies, the MBX (Magnetite breccia) and Southern Star stocks. Several smaller intrusive bodies are recognized as being contemporaneous with the mineralizing events, including the Unnamed stock in the Saddle zone (formerly Creek zone) and the Goldmark stock (Figure 5).

The MBX stock is a moderately west-southwest plunging monzonite body, approximately 400 m in diameter. Potassically altered hydrothermal breccia occurs along its margins. In the southeastern portion of the Main deposit, the Rainbow Dyke (a large sheet intrusion up to 50 m wide) protrudes from the footwall of the MBX stock (Figure 5). The dyke changes morphology from a sill-like body near the stock to a shallowly east-dipping curviplanar dyke, 200 m east of the stock, suggestive of a cone sheet (high level igneous intrusion). The Southern Star stock is a moderately west-dipping composite monzonite porphyry complex, approximately 800 x 300 m in area. Its margins are more irregular and undulated than those of the MBX stock. Hydrothermal breccia is extensive throughout the Southern Star stock. Breccia bodies are typically graded from their margins inward by relatively unaltered monzonite to crackle brecciated monzonite, to well-developed mosaic

breccia with strongly potassium feldspar altered matrix.

The MBX and Southern Star stocks generally contain up to 30% sub-parallel plagioclase feldspar phenocrysts, 1-10 millimeters (mm) in length. These phenocrysts occur within a fine-grained greyish pink groundmass of potassium feldspar with lesser plagioclase feldspar, and accessory quartz, hornblende, biotite and magnetite. The Southern Star stock has coarser plagioclase phenocrysts than the core of the MBX stock. Porphyritic monzonite units vary both texturally and compositionally within the composite stocks. Late synmineral plagioclase hornblende monzonite porphyry dykes are common throughout the Southern Star stock.

6.3 Intrusive Rocks – Post-Mineral

Three major types of post-mineral dykes cut the MBX Main and Southern Star deposits: trachytic, monzonitic, and dioritic varieties. These dykes are generally fresh-looking and lack sulphide mineralization.

Trachytic dykes are the earliest and most common in the southwestern portion of the MBX, northern portion of the Southern Star deposit, and throughout the Saddle zone (Figure 5). They are up to 15 m wide and dip moderately to the northwest. They are grey, aphanitic to fine-grained, and may contain accessory magnetite. They often have late carbonate veins (calcite/dolomite) with sericite selvages.

Monzonitic dykes are recognized throughout both deposits. They are up to 10 m wide and dip moderately to the northwest. They are characterized by 15 to 35% fresh euhedral plagioclase phenocrysts up to 5 mm in a dark aphanitic matrix, and may contain augite phenocrysts up to 5 mm. Groundmass predominantly comprises fine-grained potassium feldspar as indicated by staining. Accessory magnetite is always present. Some monzonitic dykes are weakly propylitic altered.

Dioritic dykes are the youngest intrusive rocks. Although they are recognized in both deposits, they are most common in the northern (MBX Main) deposit area. They are up to 5 m wide and dip steeply to the northeast. They are characterized by abundant plagioclase phenocrysts up to 10 mm (often zoned) in a fine-grained groundmass, and generally contain 2-4 mm long hornblende phenocrysts and minor quartz eyes up to 1 mm. Some dioritic dykes are weakly propylitic or carbonate altered.

The rock codes used in Mount Milligan drilling programs are indicated in Table 1. The historic rock names have been simplified due to the variability in naming by different geologists logging drill core over time and multiple programs.

Table 1: Rock Units of the Mount Milligan Deposits used in Drill Program Descriptions.

Lithology		
Code	**Name**	**Description**
DRPD	Post-Mineral Dykes	Plag diorite porphyry
MZPD	Post-Mineral Dykes	Plag monzonite porphyry
TRD	Post-Mineral Dykes	Trachyte
HMZP	MBX and SS Stocks	Plag-Hbl monzonite porphyry

HYBX	MBX and SS Stocks	Hydrothermal breccia
MVHD	MBX and SS Stocks	Monzonite volcanic hybrid
MZPP	MBX and SS Stocks	Plag monzonite porphyry
XNMZ	MBX and SS Stocks	Xenolithic monzonite porphyry
TRBT	Trachytic Volcanics	Bedded trachytic flow
TRFW	Trachytic Volcanics	Trachytic flow
LAT	Latitic Volcanics	Latitic rocks - undifferentiated
LATF	Latitic Volcanics	Latitic Tuff
LNLT	Latitic Volcanics	Px latitic lapilli tuff
LPFW	Latitic Volcanics	Px latitic porphyry flow
LPXT	Latitic Volcanics	Px latitic crystal tuff
ANDS	Andesitic Volcanics	Andesitic rocks - undifferentiated
ANLT	Andesitic Volcanics	Px andesite lapilli tuff
ANTF	Andesitic Volcanics	Andesitic tuff
APFW	Andesitic Volcanics	Px andesite porphyry flow
APXT	Andesitic Volcanics	Px andesite crystal tuff
ARGL	Clastic Sedimentary Rocks	Argillite
SED	Undifferentiated Epiclastics	Sediments
HBHL	Undifferentiated Volcaniclastics	Lithic tuff breccia
HTDF	Undifferentiated Volcaniclastics	Heterolithic debris flow
LTTF	Undifferentiated Volcaniclastics	Lithic tuff
PBX	Undifferentiated Volcaniclastics	Polymictic volcaniclastic breccia
FALT	Fault	
GRDR	Felsic Intrusive Rocks	Granodiorite quartz porphyry
MNDR	Intermediate Intrusive Rocks	Plagioclase monzodiorite (+/-) porphyry
GABR	Mafic Intrusive Rocks	Gabbro
BSLT	Mafic Volcanic Rocks	Basalt
OVB	Soil Overburden	Undivided surficial materials
CASE	Casing	Everything above casing block

7.0 Structure

The volcanic stratigraphy within and around the Mount Milligan deposits generally dips moderately to steeply to the east-northeast. This is congruent with the geometry of the MBX and Southern Star stocks as moderately west dipping bodies and suggests that the entire Mount Milligan hydrothermal system has been tilted to the east-northeast. Exactly how and when this tilting occurred remains unclear, however there are at least two episodes (Early-Middle Jurassic and Cretaceous-Paleogene) of deformation recognized on the property.

The structural style of the Mount Milligan area regionally and at the scale of the deposit is characterized by tilted fault blocks of differing stratigraphic levels bounded by steeply dipping east-northeast and northwest trending faults, as well as by north and northeast trending faults. At

the regional scale this has been interpreted to reflect a releasing bend between transcurrent northwest-trending dextral faults during Late Cretaceous to Eocene time (Nelson and Bellefontaine, 1996). A similar scenario is observed at the deposit scale where adjacent fault blocks exhibit alteration and mineralization characteristic of deeper (e.g. MBX) and shallower or peripheral (e.g. 66, DWBX) porphyry environments. The timing relationship between northeast- and northwest-trending faults remains ambiguous, likely due in part to multiple reactivations of structures.

A recent detailed structural investigation in the Mount Milligan open pit has recognized opposing shear sense indicators along northeast-trending structures, lending support for interpreted reactivation; these structures record an early dextral-reverse shear followed by later sinistral shear (Shaban and Barnett, 2019). Examples of faults in this orientation are the Alpine, North MBX, Saddle, Oliver and SS cross faults (Figure 5). Dextral reverse shear on these faults is interpreted to be Cretaceous in age, accommodating regional east-vergent shortening that was widespread in the Northern Cordillera at this time. The subsequent sinistral shear may have occurred during regional dextral transcurrent faulting along northwest-trending faults (Shaban and Barnett, 2019); the northeast-trending faults would be in the antithetic R' orientation with respect to the main northwest-trending dextral faults and therefore would have accommodated minor sinistral shear.

Shallow to moderately southeast- and east-dipping faults are documented to be the youngest structures in the immediate vicinity of the open pit (Shaban and Barnett, 2019). These include the Great Eastern fault which juxtaposes hydrothermally altered Witch Lake succession rocks in its footwall against Tertiary sedimentary and volcanic rocks in its hanging-wall to the east, and the Rainbow fault which is a well-developed southeast-side-down normal fault (Figure 5). They are interpreted to have formed as part of the Late Cretaceous-Paleogene dilational jog in the regional dextral fault system.

Other northwest- and north-trending steeply-dipping faults occur outside of the pit and were not addressed in the recent structural investigation. These faults have been identified through drilling and geophysical interpretation and include the North Slope, KR, Golo, SS10, Triangle and Harris faults (Figure 5). They are interpreted as dextral-oblique normal faults predominantly, although some, such as Harris fault, have apparent reverse sense of shear.

There is evidence that at least some of these structures are long-lived, with a component of deformation that predates or is synchronous with Early Jurassic mineralization and accretion of the Quesnel terrane onto Ancestral North America. Several of the recognized east-northeast- and northwest-trending structures have been successfully targeted for high-gold-low-copper (HGLC) mineralization during recent exploration programs and exhibit enhanced phyllic alteration with late stage pyrite-dominant veins. Similarly, at a regional scale, Nelson and Bellefontaine (1996) note that preferential emplacement of Early Jurassic intrusions along northeast and northwest trends suggests localization along pre-existing crustal scale structures. These would correspond to arc-parallel and arc-transverse structures globally recognized to localize magmatism and porphyry mineralization (Richards et al., 2001).

8.0 Alteration

Alteration of host rocks at Mount Milligan is well developed. The alteration assemblages include potassic, sodic-calcic, inner- and outer-propylitic, and carbonate-phyllic (Jago et al., 2014). Overprint of the assemblages is common and can be locally additive or destructive of mineralization grade (Jago et al., 2014). Porphyry gold-copper mineralization broadly coincides

with zones of initial potassic alteration (DeLong, 1996), and high-gold-low-copper mineralization with structurally controlled carbonate-phyllic (quartz-sericite-pyrite-carbonate; QSPC) alteration. In the following descriptions, vein classifications follow the convention of Jago et al., (2014), which was also adapted for geological logging as shown in Table 2.

Table2: Vein stages at the Mt. Milligan Au-Cu alkaline porphyry deposit as defined by Jago et al. (2014).

Vein stage	Major minerals	Minor minerals	Alteration envelope	Thickness	Length	Form, texture, and zonation	Occurrence
Early stage							
E1	K-feldspar	bn, cpy, py, mt, qz	Ksp, bt clots	<30 mm	Centimeters to tens of centimeters	Stockwork/breccia veins, sheeted aplitic vein dikes, diffuse to straight walled	MBX stock; increase in occurrence toward stock margins; continues through early and transitional vein stages
E2	Quartz ± (Ksp)	bn, cpy, py, mt, cc, anh	Ksp, bt, mt	2 to 40 mm	Centimeters to tens of centimeters	Discrete veins, discontinuous veins, stockwork veinlets, wavy to straight wall; late veins may contain sulfide centerline	MBX stock and inner biotite alteration shell (hornfels); in Rainbow dike; increase in occurrence toward intrusion margins; bornite-rich veins occur in the WBX zone
E3	Chalcopyrite	py	bt, mt	4 to 7 mm	Centimeters	Continuous, straight walled with jagged edges (cusps and caries)	DWBX zone in biotite-magnetite hornfels surrounding down-dropped MBX stock
E4	Chalcopyrite-pyrite	mt, ep, ab	chl, cc	2 to 3 mm	Centimeters	Discontinuous, straight walled with jagged edges (cusps and caries), atoll texture (py in cpy)	
E5	Magnetite	cpy, py	chl, cc	<5 mm	Centimeters	Anastomosing discontinuous veins, wavy to straight walled, swell and pinch	Rainbow dike, biotite alteration shell, upper sodic-calcic shell; Lower Trachyte footwall contact
Transitional stage							
T1	Pyrite-magnetite	cpy, cc, qz	Ksp, bt, chl, cc	<20 mm	Centimeters to tens of centimeters	Continuous, straight sided, undulating veins; coarse-grained subhedral pyrite with interstitial mt-cc; at MBX stock margin, discontinuous, irregular, anastomosing	MBX zone; biotite and sodic-calcic alteration shells MBX stock; faulted contact between margin of MBX stock and Lower Trachyte
T2	Actinolite-chlorite	cc	ab, ep	<1 mm	Centimeters	Discontinuous, diffuse, matrix-hosted, microfracture controlled	Sodic-calcic and propylitic alteration shells; fluid-controlled channeling of disaggregated actinolitized augite phenocrysts
T3	Pyrite	cpy	ep, ab, cc	<5 mm	Centimeters	Discontinuous, irregular, undulatory, and clusters; zoned vein halos; epidote (inner)-albite-K-feldspar (outer); chalcopyrite selvage	MBX zone; sodic-calcic alteration shell
Peripheral							
P1	Epidote-albite-pyrite	act-chl-cc	chl-cc-ap-ttn	<40 mm	Centimeters to tens of centimeters	Pale green, irregular, straight to diffuse veins and alteration "bands" affecting andesite matrix	Lower DWBX, MBX, and 66 zones—inner propylitic alteration
P2	Pyrite-epidote	ab, chl, mont	chl-ep-ab-cc	<50 mm	Centimeters to tens of centimeters	Straight walled, irregular, coarse pyrite; may contain central hairline fracture or be reopened by later carbonate; sulfide and gangue between vein walls	Lower DWBX, 66, and MBX zones; MBX zone—P2 vein occurs in hanging wall of strata-bound fault ~15 m below Rainbow dike
Late stage							
L1	Dolomite-sericite-quartz-pyrite	Ksp, cpy, Cu sulfate, Cu sulfosalt	chl-ser, cbt	1.7 m	Centimeters to tens of centimeters	Sharp contact with monzodiorite; coarse-grained euhedral pyrite overprinting monzonitic protolith; texture-destructive carbonate-sericite alteration	66 zone—in center of Rainbow fault (DDH 90-652); carbonate-phyllic vein-like interval
L2	Dolomite-ankerite	ser-qz-py-ill	chl-ser	~5 mm	Centimeters	Tan-colored, irregular, discontinuous veins, and in situ breccia cement	66 zone—surrounding southeast end of Upper Trachyte in chlorite-altered trachyandesite; less in carbonate-phyllic zone; MBX zone—at upper contact of Lower Trachyte

8.1 Potassic Alteration

Regional mapping and petrographic studies in the Mount Milligan area have demonstrated that Witch Lake volcanic rocks and derived epiclastic sedimentary rocks are affected by strong potassic alteration as far as 4 km from the deposits (Nelson et al., 1991). Potassic alteration is best developed along the contact margins of the MBX and Southern Star stocks as well as the Rainbow Dyke and decreases in intensity both towards the core of the stocks, and outward into the host volcanic rocks. The alteration assemblage within the stocks is characterized by potassium feldspar, biotite, and magnetite with minor quartz and apatite (the potassic assemblage of Jago, 2008). The alteration assemblage in the surrounding volcanic rocks is characterized by the same assemblage with the addition of actinolite as well as minor albite, calcite and chlorite (the calc-potassic assemblage of Jago, 2008). Potassium feldspar is the predominant alteration mineral within the intrusions, whereas biotite is more prevalent within the host andesites (DeLong, 1996;

Jago and Tosdal, 2009; Jago et al., 2014). Secondary biotite forms up to 30% of wall rocks near intrusive contacts, replacing the andesite protolith but also occurs as envelopes to potassium feldspar veinlets (DeLong et al., 1991). Associated vein types include all early-stage veins, including potassium feldspar (E1), quartz ± potassium feldspar (E2), chalcopyrite (E3), chalcopyrite-pyrite (E4), and magnetite (E5) veins as well as transitional pyrite-magnetite (T1) veins.

8.2 Sodic-Calcic Alteration

Sodic-calcic alteration is spatially restricted to the immediate periphery of the preserved potassic alteration zone within volcanic rocks. It comprises albite, actinolite, chlorite and pyrite with minor epidote, calcite, magnetite, apatite, titanite and quartz. (Jago et al., 2014). Albite typically replaces potassium feldspar in groundmass along with uralitization of augite phenocrysts. Sodic-calcic alteration represents an intermediate alteration between the high temperature potassic alteration and the relatively low temperature propylitic alteration (Jago et al., 2014). This spatial association of sodic-calcic alteration is recognized in other BC alkalic porphyry systems including Copper Mountain (Lang et al. 1995) and Galore Creek (Micko et al., 2014). Associated vein types include chalcopyrite-pyrite (E4), actinolite-chlorite (T2), and pyrite (T3) veins. It is also well-developed in the Heidi stock (Heidi zone), a copper target located outside the Mount Milligan mine lease, 3.5 km west of the open pit.

8.3 Inner Propylitic Alteration

The inner propylitic alteration assemblage occurs outboard of the sodic-calcic shell and it overprints earlier potassic alteration (Jago et al., 2014). It contains epidote, albite, calcite, actinolite, and chlorite with minor potassium feldspar, biotite, apatite, titanite, and quartz (Jago et al., 2014). This assemblage is relatively narrow (~20 m wide) and discontinuous in the MBX zone, marking the spatial transition between sodic-calcic and outer propylitic alteration assemblages. Associated veins include transitional pyrite (T3) and peripheral epidote-albite-pyrite (P1) veins.

8.4 Outer Propylitic Alteration

The outer propylitic alteration assemblage is widespread and peripheral to all other alteration zones but also crosscuts older alteration assemblages along minor faults (DeLong et al., 1991; Jago et al., 2014). Epidote is the most common mineral and is associated with chlorite, calcite, actinolite, pyrite and hematite with minor quartz, titanite, apatite, and montmorillonite (Jago et al., 2014). It is associated with peripheral epidote-albite-pyrite (P1) and pyrite-epidote (P2) veins as well as late-stage pyrite-calcite (L3/L4) veins.

8.5 Carbonate-Phyllic Alteration

Carbonate-phyllic (quartz-sericite-pyrite-carbonate; QSPC) alteration is well-developed along stratigraphic horizons in the MBX and 66 zones, and along major east-northeast and north-northwest trending faults. It consists of dolomite, ankerite, potassium feldspar, adularia, albite, muscovite/sericite, chlorite, pyrite and hematite with minor illite, quartz, epidote, titanite, and rutile. In the 66 zone, the best gold grades (4-5 g/t Au) occur at the interface between potassic and carbonate-phyllic alteration where a quartz-sericite-pyrite assemblage predominates (Jago et al., 2014). This zone of carbonate-phyllic alteration is

interpreted as representing a shallower level of the Mount Milligan porphyry system (such as the phyllic alteration shell in typical calc-alkalic porphyry systems) that has been downthrown ~100 m by faulting and juxtaposed on the MBX zone (Jago et al., 2014). High-gold-low-copper mineralization along major east-northeast and north-northwest trending faults is associated with a sericite-carbonate-chlorite-hematite assemblage hosting late-stage vein types including dolomite-sericite-quartz-pyrite (L1), dolomite-ankerite (L2), pyrite-calcite (L3/L4), chlorite-calcite (L5), and hematite (L6) veins.

9.0 Mineralization

Mineralization at the Mount Milligan deposit consists of two styles, early-stage porphyry gold-copper (Au-Cu) and late-stage high-gold-low-copper (HGLC). The early-stage porphyry Au-Cu mineralization comprises mainly chalcopyrite and pyrite, occurs with potassic alteration and early-stage vein types and is spatially associated with composite monzonite porphyry stocks (especially at their hanging-wall and footwall margins), hydrothermal breccia, and narrow dyke and breccia complexes. Late-stage, structurally-controlled pyritic HGLC style mineralization is associated with carbonate-phyllic alteration and intermediate- to late-stage vein types, and is spatially associated with faults, fault breccias and faulted lithological contacts (i.e. faulted monzonite porphyry dyke margins). It crosscuts and overprints the earlier stage porphyry Au-Cu mineralization.

Porphyry style Au-Cu mineralization occurs in the hanging-wall and footwall zones of the MBX, Saddle, Southern Star, and Goldmark stocks (Figure 5). Disseminated and vein/veinlet-hosted mineralization is associated with the composite monzonite stocks, their brecciated margins and variably altered volcanic host rocks. Core zones of auriferous chalcopyrite-pyrite mineralization with magnetite rich potassic alteration transition laterally and vertically to pyrite rich HGLC zones within the inner propylitic (albitic) and carbonate-phyllic alteration shells; the latter appear to be late stage and exhibit strong structural control.

Brownfield target areas west of the mine have mainly peripheral alteration and mineralization signatures; these include near surface HGLC zones proximal to structures. Narrow intrusive units, dykes or pencil porphyries, are common and are locally Au-Cu mineralized. The Heidi target farther west and outside the mine lease is a shallow copper prospect with low gold.

9.1 Hypogene Mineralization

The bulk of the mineralization consists of disseminated and vein-hosted chalcopyrite (in potassic and sodic-calcic alteration assemblages) and disseminated and vein-hosted pyrite (in all alteration assemblages). Late stage polymetallic (subepithermal) veins are rare, but most pronounced in the DWBX zone. These veins contain sphalerite, galena and sulfosalt in addition to chalcopyrite and pyrite.

9.1.1 Chalcopyrite

Chalcopyrite is associated with potassic alteration at the contact margin between volcanic and intrusive rocks. It occurs most commonly as fine-grained disseminations and fracture fillings, and less commonly as veinlets and in veinlet selvages. Adjacent to the MBX stock, chalcopyrite may be accompanied by pyrite to form coarse sulphide aggregates. Chalcopyrite-bearing veins contain pyrite and magnetite in a gangue of potassium feldspar, quartz, and calcite. In massive trachytic rocks, chalcopyrite occurs with pyrite along curviplanar partings and as disseminations. Chalcopyrite also occurs in gold-bearing

early quartz veins in the Southern Star, WBX and DWBX zones.

9.1.2 Pyrite

Pyrite content increases with distance from the MBX and Southern Star stocks and is most abundant in propylitically altered rocks. Pyrite occurs as disseminations, veinlets, large clots, patches, and as replacements of mafic minerals. Gold mineralization in the 66 zone is associated with 10-20% pyrite. Cross-cutting vein relationships indicate several generations of pyrite mineralization.

9.1.3 Gold

Gold occurs as grains from 1 to 100 µm in size, as observed in process samples. Grains occur as microfracture fillings and are attached to pyrite, chalcopyrite, or bornite (Ditson, 1997). Gold also forms inclusions within pyrite, chalcopyrite, and magnetite grains. SEM work indicates electrum throughout the deposit with varying gold to silver ratios.

Petrographic work completed in 2019 on 22 drill core samples from the 66, Saddle and DWBX zones shows the settings of electrum (~3-20 µm) can be summarized as; a) isolated inclusions in cores of pyrite crystals; b) associated with microclusters of chalcopyrite and arsenopyrite in larger pyrite crystals; c) in or near microfractures filled with chalcopyrite cutting pyrite; d) at the margins of sulphide minerals such as between tetrahedrite and pyrite, or between pyrite and chalcopyrite; and e) along microfractures through pyrite. The mean Au/Ag ratio of entire suite of 74 electrum particles was 67.0% Au, or roughly 2:1 Au/Ag.

9.1.4 Silver

Silver is a minor metal found in the Mount Milligan deposits. Polymetallic gold-silver bearing sulphide and sulfosalt rich veins are present in volcanic rocks peripheral to the MBX and Southern Star stocks. Tetrahedrite is the most widespread Ag-bearing sulfosalt mineral at Mount Milligan. Silver is also known to occur throughout the deposits in conjunction with copper and gold mineralization, from micron-scale electrum grains and inclusions.

9.2 Polymetallic Veins

Gold- and silver-bearing sulphide, sulfosalt and carbonate-rich veins are present in andesitic volcanic rocks peripheral to the MBX and Southern Star stocks on the western margin of the deposit, in the DWBX and Saddle zones. They comprise pyrite with lesser chalcopyrite sphalerite, galena, molybdenite, arsenopyrite, tetrahedrite-tennantite, and minor quartz and carbonate. Alteration envelopes are not always present but are recognized to consist of chlorite-sericite-carbonate in propylitically altered andesitic volcanic rocks. Polymetallic veins intersected in the DWBX zone exhibit subepithermal textures (Sillitoe, 2010).

9.3 Supergene Mineralization

Supergene enrichment is poorly developed at Mount Milligan. It is recognized in the MBX, WBX, and Southern Star zones, and is deeper and more extensive in the MBX and WBX zones than in Southern Star (Placer Dome, 1991). Supergene enrichment is restricted to the sporadic occurrence of secondary copper minerals including sulphides (covellite, chalcocite, and djurleite), oxides (cuprite and tenorite), carbonates (malachite and azurite) and native copper. The secondary sulphides occur as rims around chalcopyrite. Oxides, especially cuprite, occur as surface coatings on native copper. Secondary copper minerals commonly occur with iron oxides (goethite, magnetite, and hematite) and iron carbonate (siderite), particularly where malachite and azurite are present. Hydrous iron oxides, which are generally referred to as limonite and include goethite, commonly replace chalcopyrite and pyrite. Limonite either completely replaces sulphide minerals or occurs as coatings on surfaces of fractures and hairline cracks. Limonitic coatings commonly occur at depths greater than those at which pyrite or chalcopyrite are completely replaced. Supergene enrichment is best represented in the MBX and WBX zones between 6109150N to 6109800N, and between 434000E to 434850E, where it is partially developed over a 20 m thickness. Locally, the supergene mineralization reaches 50-60 m in thickness, particularly along the north and eastern margins of the MBX stock.

10.0 Drill Results

The 2019 drilling program at the Heidi Zone was completed between July 04th and July 22nd. Four drill holes for a total of 1,277.73 m were completed.

Holes drilled at the Heidi Zone and their corresponding cross-section lines are listed in Table 3 and shown in Figure 6. A summary of each hole is given in the sections below. Assay certificates are listed in Appendix 6 and complete drill logs listed in Appendix 7.

Table 3: Summary of 2019 Drilling at Heidi Zone.

Hole ID	Section	Zone	Drill Rig	NAD83 Zone	Easting	Northing	Elevation (m)	Dip at Collar	Azimuth at Collar	EOH (m)	Start Date	End Date
19-1174	6,109,350N	Heidi	LDS 38-2	10	430,891.64	6,109,361.27	1156.54	-89.28	61.63	392.28	2019-07-05	2019-07-10
19-1179	6,109,350N	Heidi	LDS 38-2	10	430,861.56	6,109,439.09	1164.05	-89.5	185.57	276.45	2019-07-11	2019-07-14
19-1182	6,109,150N	Heidi	LDS 38-2	10	430,934.29	6,109,141.80	1097.94	-89.6	103.07	282.55	2019-07-15	2019-07-18
19-1184	6,109,150N	Heidi	LDS 38-2	10	430,758.02	6,109,150.85	1097.55	-87.1	253.7	276.45	2019-07-19	2019-07-21

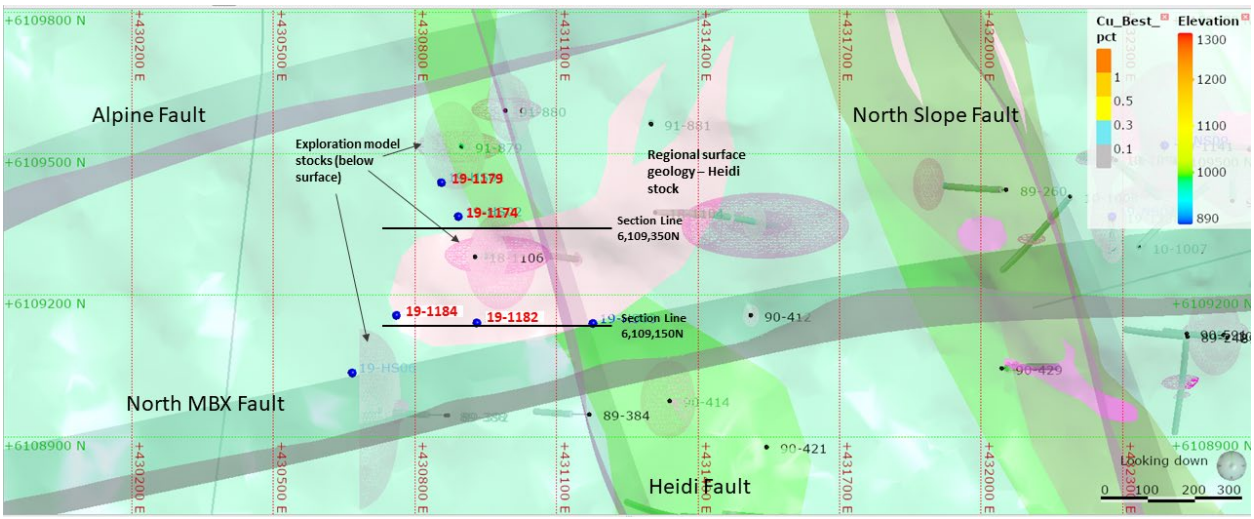

Figure 6: Plan map showing interpreted surface geology, collar locations, and target modeled stocks below surface.

The Heidi Zone is centred at 6109200 N, 431100 E, located approximately three kilometres west of the MBX Zone. The Heidi Zone is defined by a broad southwest-dipping composite porphyry that intrudes andesitic volcanic rocks. The Heidi Stock and adjacent wall rocks are overprinted by weak to moderate potassic alteration, which transitions to propylitic alteration distal from the intrusive bodies. The Heidi Stock and immediately adjacent wall rocks host weak to moderate copper and gold mineralization.

A 1000 m by 650 m magnetic-high anomaly encompasses the Heidi Zone. The southern extent of the magnetic anomaly is terminated abruptly by a broad east-west oriented fault zone. Anomalous gold in soils is present along the southern portion of the magnetic anomaly. Anomalous copper in soils is present along the north and east boundaries of the magnetic anomaly, Figure 7.

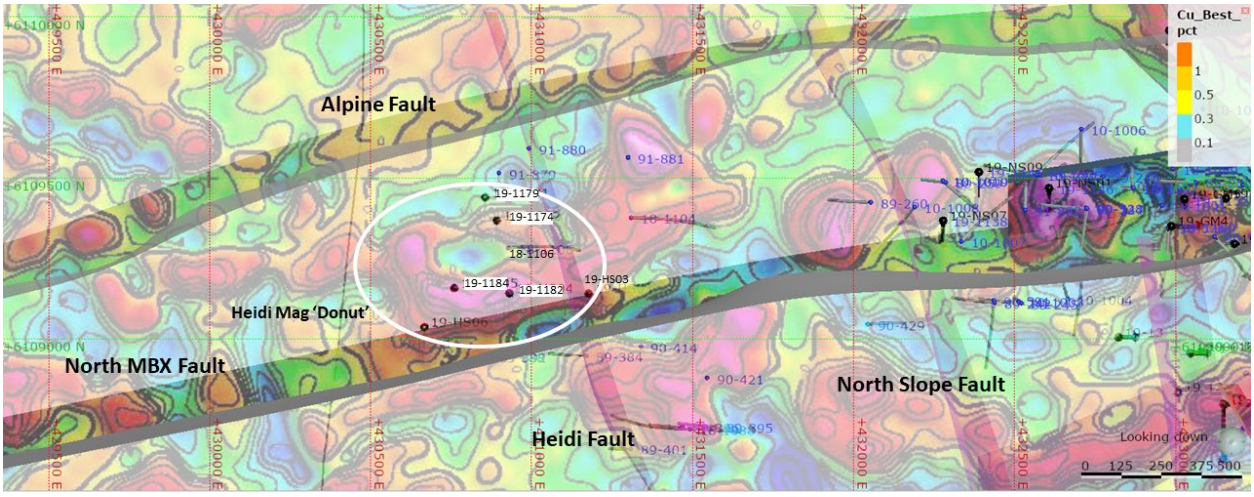

Figure 7: Magnetic geophysics survey with exploration faults and drill holes.

The 2019 Brownfields and Greenfields program holes are plotted against IP chargeability in Figure 8.

10.1 Section 6109350 N

Holes drilled on section 6109350 N are shown in Figure 9. Assay composite results are presented in Table 4 and Table 5.

10.1.1 Drill Hole 19-1174 Summary

DDH 19-1174 (azimuth 63.63°, incl. -89.28°, length 392.28 m) was drilled on section 6109350 N in the Heidi zone. Drilling began July 5th and ended July 10th. The purpose of this drill hole was to test the north side of a ~450m wide ring-shaped aeromagnetic high anomaly; test for down-dip extension of copper mineralization related to the Heidi stock; and infill between holes 91-879 and 18-1106 (33.6m @ 0.2% Cu, and strong to weak mag sus signal from ~170-270 m).

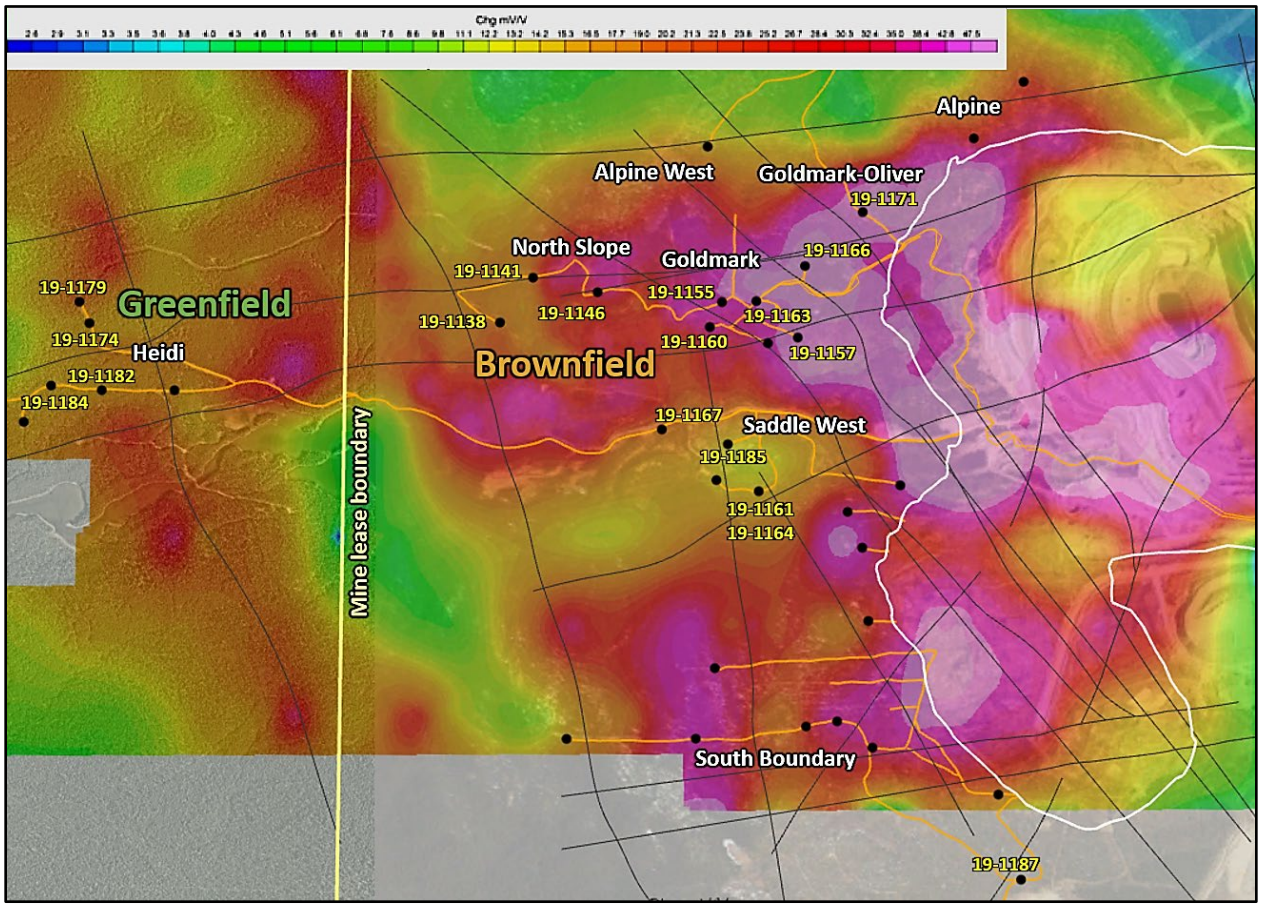

Figure 8: Plan map showing 2019 BF-GF drilling programs. Heidi Zone Greenfield program west of the mine lease, and the several zones comprising the Brownfield program within the mine lease. Grey lines are deposit scale modelled structures. White line is ultimate pit boundary. Orange lines are roads and trails that have been reopened by Duz Cho Logging. Background is IP chargeability and Lidar.

Core logging by R. Boyce and M. Warner shows the volcanic host rock comprises mainly pyroxene andesite crystal tuff from 71.2-223.4 m and then amygdular porphyritic andesite flows from 223.4-392.28 m (EOH). Intrusive rocks include a 65.1 m wide composite (MZPP, HMZP) monzonite porphyry stock with a 45.1 m wide zone of hydrothermal breccia (crackle texture) in hornblende monzonite porphyry (HMZP) near the stock footwall. In the stock footwall is a dyke complex that includes six HMZP dykes (up to 12.1 m wide, averaging 5.5 m) between 113.7-239.3 m; and seven plagioclase monzonite porphyry (MZPP) dykes (up to 11.4 m, averaging 5.1 m wide) between 70.4-295.4 m. A fault (2.1 m wide) was logged near the stock footwall margin at 74.1 m.

Alteration is predominantly the sodic-calcic assemblage (albite-actinolite-chlorite ± epidote, magnetite, calcite, quartz). Potassic (Kspar ± magnetite) was logged at the top of the hole from 6.1-114.6 m, spatially related to the monzonite stock and extending 43.4 m into the footwall andesitic rocks, but it is overprinted by the sodic-calcic assemblage from 22.0-30.8 m and below 76.2 m. Phyllic alteration (qtz-ser-py ± cbt, chl) was logged in nine narrow intervals (up to 9.1 m wide, average 3.3 m) between 133.8-386.2 m in the footwall zone and are spatially associated with dykes and their footwall margins, as well as the fault at 74.1 m.

Plate 1: Left: Example of the Sodic-calcic alteration assemblage (albite-actinolite-chlorite ± epidote, magnetite, calcite) with disseminated cpy-py in pyroxene andesite porphyritic flow. Augite phenocrysts are altered to actinolite ± chlorite; white albite alters the groundmass. DDH 19-1174 at 121 m. Right: Skarnoid replacement mineralization (po-cpy-act-chl-cal) in the sodic-calcic assemblage. This mineralization was noted at the hanging-wall and footwall contacts of an albite altered monzonite dyke near 285.6 m.

Chalcopyrite (0.1%) is in the composite stock from 32.3-65.2 m, and is semi-continuous from 114.6-164.4 m (0.1-0.3%) and 259.4-386.2 m (0.1-3%). It occurs locally as spotty disseminations, in veins (transitional and late stage), and in semi-massive (up to 30 cm wide) replacement style pyrrhotite veins (po-cal ± cpy, py, chl, qtz, mag) and related veinlets that may be skarnoid mineralization. These veins occur in the footwall andesitic rocks between 151.8-322.5 m. Pyrrhotite occurs as disseminated replacement after augite from 139.3-392.28 m (EOH) and appears to be part of the sodic-calcic assemblage. Pyrite (0.5-5%) is continuous throughout the drill hole. It occurs as disseminations and veins, and in semi-massive transitional-stage py-cpy-chl-cal veins at 122.2-124.1 m near the stock footwall margin, approximately 15 m above where the pyrrhotite veins start.

10.1.2 Drill Hole 19-1179 Summary

DDH 19-1179 (azimuth 185.57°, incl. -89.5°, length 276.45 m) was drilled on section 6109350 N in the Heidi zone. Drilling began July 11th and ended July 14th. The purpose of this drill hole was

to test the north side of a ~450m wide ring-shaped aeromagnetic high anomaly; test for down-dip extension of copper mineralization related to the Heidi stock intersected in 91-879 (collar is ~85m SW of 91-879).

Core logging by M. Warner shows the pyroclastic host rock comprises pyroxene andesite lapilli tuff to 273.41 m (EOH). Intrusive rocks include three hornblende monzonite porphyry dykes (HMZP; up to 9.1 m wide, averaging 5.3 m wide) from 12.2-82.9 m; two late-mineral monzodiorite dykes (up to 7.6 m wide) between 165.5-178.9 m; and a post mineral monzonite porphyry dyke (12.2 m wide) at 197.2 m. A hydrothermal breccia (HYBX; protolith unidentified; 3.1 m wide) was logged at 105.8 m and contains fault gouge and slickenside surfaces.

Strong potassic alteration (Kspar ± biotite, magnetite/hematite) is spatially associated with HMZP dykes but is oxidized to the depth of the HYBX. It is also strong within the HYBX unit where secondary biotite and magnetite were noted as well as later stage overprinting alteration minerals (calcite, chlorite, hematite). At the footwall margin of the HYBX unit, there is abundant bladed magnetite crystals (mushketovite?) at 108.8 m. The andesitic host rocks are altered mainly by the sodic-calcic assemblage (albite-actinolite-chlorite) with subordinate intervals of propylitic alteration with peripheral-type epidote veins.
Chalcopyrite (0.1-0.2%) was identified in the HYBX unit and in its footwall zone for up to 56.7 m. In the HYBX, it occurs as disseminated replacement mineralization with pyrrhotite, pyrite and trace sphalerite; and in a 3cm wide cpy-py-calcite vein at 156.2 m. Pyrite (0.1-6%) is continuous throughout the drill hole. It occurs in transitional stage veins and as disseminations and clots within the HYBX unit. Disseminated pyrrhotite is below the level of oxidation from 105.8-273.4 m (EOH).

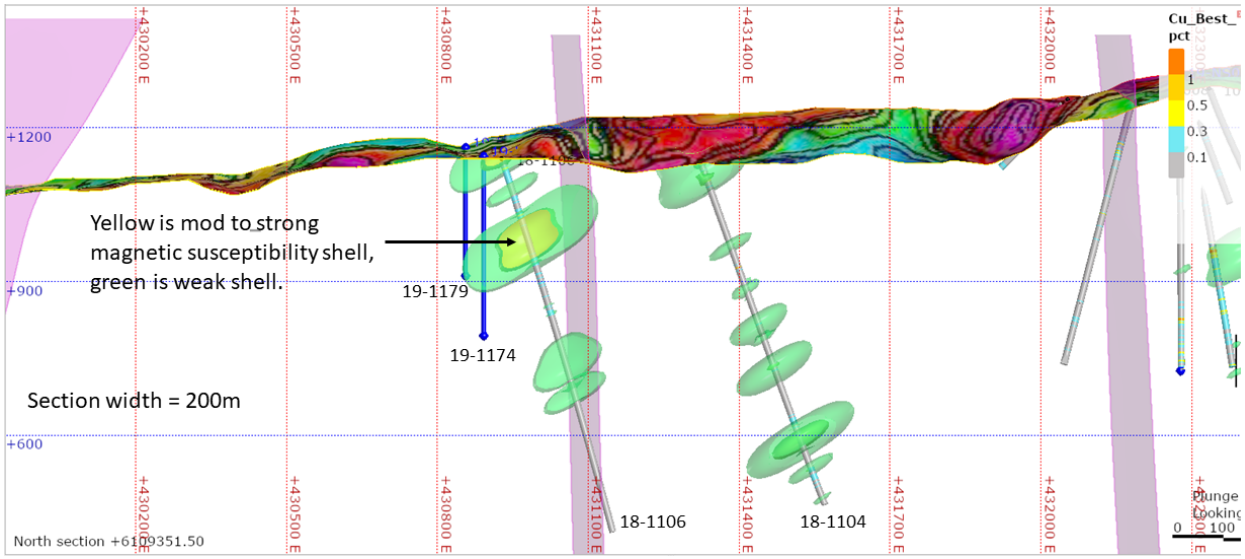

Figure 9. Cross-Section 6109350N showing 2019 aeromag draped on topographic surface, exploration model magnetic susceptibility shells, Cu grade plotted downhole.

Table 4: DDH 19-1174 Assay Composites

Au assay composites; 0.1g/t cut-off at 4m waste limit							
Hole	From (m)	To (m)	Interval Length	Comp:Au_Best_ppm	Mean:Ag_Best_ppm	Mean:Cu_Best_ppm	Mean:Cu_Best_pct
19-1174	122.00	124.00	2.00	0.115	8.2	3082.9	0.308
19-1174	295.00	295.70	0.70	0.139	13.9	6988.6	0.699
Cu assay composites; 0.1% cut-off at 4m waste limit							
Hole	From (m)	To (m)	Interval Length	Comp:Cu_Best_ppm	Mean:Au_Best_ppm	Mean:Ag_Best_ppm	Mean:Cu_Best_pct
19-1174	46.00	50.00	4.00	1637	0.023	2.4	0.163
19-1174	87.00	91.00	4.00	1272.3	0.021	2.55	0.127
19-1174	114.74	127.10	12.36	2015.917	0.031	3.501	0.202
19-1174	149.40	198.00	48.60	1204.618	0.034	1.325	0.12
19-1174	208.00	210.00	2.00	1176.2	0.027	1.8	0.117
19-1174	265.00	307.00	42.00	1087.767	0.013	1.984	0.109

Table 5: DDH 19-1179 Assay Composites

Au assay composite(s); 0.1 g/t cut-off at 4m waste limit							
Hole	From (m)	To (m)	Interval Length	Comp:Au_Best_ppm	Mean:Ag_Best_ppm	Mean:Cu_Best_ppm	Mean:Cu_Best_pct
19-1179	24.00	29.51	5.51	0.302	8.47	2678.957	0.268
19-1179	56.00	64.00	8.00	0.087	2.625	1815.425	0.182
Cu assay composite(s); 0.1% cut-off at 4m waste limit							
Hole	From (m)	To (m)	Interval Length	Comp:Cu_Best_ppm	Mean:Au_Best_ppm	Mean:Ag_Best_ppm	Mean:Cu_Best_pct
19-1179	24.00	107.73	83.73	1539.695	0.048	3.933	0.154
19-1179	214.00	218.00	4.00	1238.75	0.029	1.5	0.124

10.2 Section 6109150 N

Holes drilled on section 6109150 N are shown in Figure 10. Assay composite results for drill hole DDH 19-1182 are presented in Table 6, there were no significant results in hole DDH 19-1184.

10.2.1 Drill Hole 19-1182 Summary

DDH 19-1182 (azimuth 103.07°, incl. -89.6°, length 282.55 m) was drilled on section 6109150 N in the Heidi zone. Drilling began July 15th and ended July 18th. The purpose of this drill hole was to test the south side of a ~450m wide ring-shaped aeromagnetic high anomaly; test for down-dip extension of copper mineralization related to the Heidi stock and the mag sus strong to weak gradient in 18-1106 (33.6m @ 0.2% Cu).

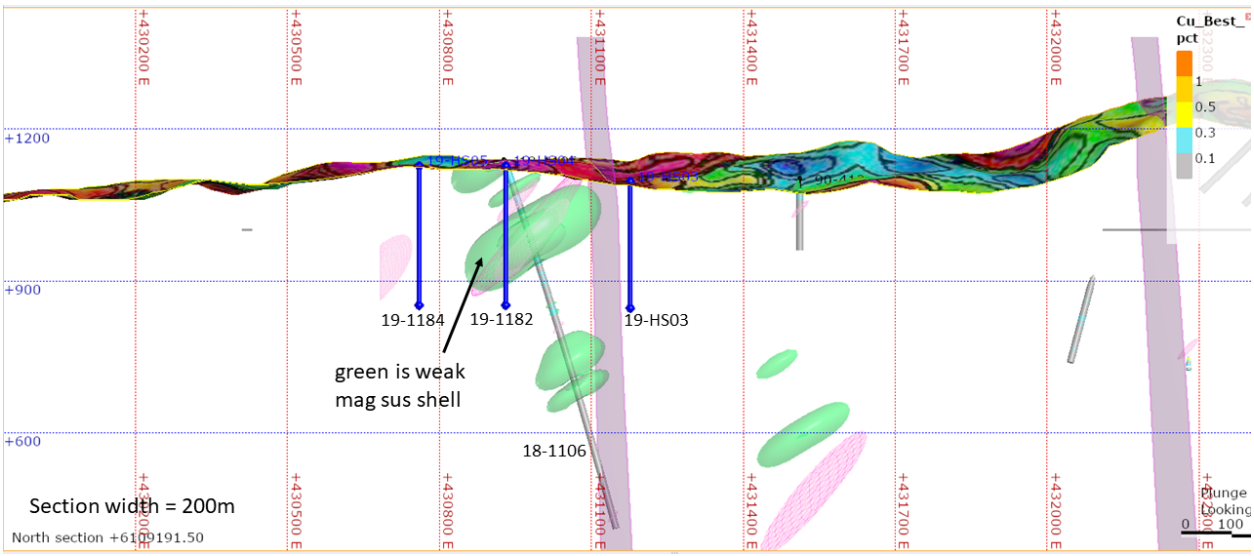

Figure 10. Cross-Section 6109190N showing 2019 aeromag draped on topographic surface, exploration model magnetic susceptibility shells, exploration model porphyries (dark pink HMZP and light pink MZPP), and Cu grade plotted downhole.

Core logging by M. Warner shows the lithology mainly comprises a series of dioritic stocks and dykes in andesitic tuff and lapilli tuff host rock to 282.55 m (EOH). Diorite porphyry was logged from 13.4-178.9 m, 188.1-191.1 m, 203.3-209.4 m, 212.5-267.3 m and 270.4 - 281.6 m. It contains xenoliths (up to 5%) at the top of the hole (13.4-50.0 m) and towards the bottom (203.3-281.6 m). A monzonite porphyry dyke (6.1 m wide) cuts the diorite at 96.6 m. A mafic (basalt/gabbro) porphyritic dyke or flow unit was logged at 178.9-185.0 m. A minor rubble and gouge fault was noted at the diorite/andesite contact at 267.3 m.

Potassic alteration (K-feldspar-biotite ± magnetite) occurs from 50.0-148.4 m depth and includes strong potassic selvages/halos on early-stage veins and associated hydrothermal breccia locally. It continues as patchy alteration to 178.9 m, overprinted by propylitic alteration, and picks up again at 236.8-242.9 m. Remnant biotite alteration and early-stage veins extend for 24.4 m above the deeper potassic altered zone within a propylitic overprint. A narrow zone of sodic-calcic alteration (albite-chlorite ± actinolite) with transitional stage veins (py ± mag) was logged at 203.3-206.4 m. A zone of phyllic (qtz-ser-py ± cbt) alteration (6.1 m wide) was noted at 242.9 m, at the base of the deeper potassic altered zone.

Chalcopyrite (0.1-0.2%) was noted between 50.0-96.9 m and 122.8-136.3 m at the upper and lower margins of the shallow potassic alteration zone. It occurs in close association with early-stage veins. It was noted again at 212.5 m depth in an E-vein. Pyrite is continuous throughout the drill hole (0.1-2%) as disseminations and in transitional stage veins. Some pyrite mineralized xenoliths were noted in diorite at the top of the hole. Pyrrhotite (3%) was observed near the bottom of the hole at 281.6 m.

Table 6: DDH 19-1182 Assay Composites

Cu assay composite(s); 0.1% cut-off at 4m waste limit							
Hole	From (m)	To (m)	Interval Length	Comp:Cu_Best_ppm	Mean:Au_Best_ppm	Mean:Ag_Best_ppm	Mean:Cu_Best_pct
19-1182	124.00	130.00	6.00	986.567	0.026	3.6	0.099
19-1182	210.00	216.00	6.00	1005.868	0.023	2.419	0.101

10.2.2 Drill Hole 19-1184 Summary

DDH 19-1184 (azimuth 253.7°, incl. -87.1°, length 276.45 m) was drilled on section 6109150 N in the Heidi zone. Drilling began July 19th and ended July 21st. The purpose of this drill hole was to test the south side of a ~450m wide ring-shaped aeromagnetic high anomaly; test for down-dip extension of copper mineralization related to the Heidi stock intersected in 89-392 from ~100-230 m.

Core logging by M. Warner shows the lithology mainly comprises diorite with two subordinate intervals of andesitic tuff (6.1 m wide at 66.1 m) and pyroxene andesite porphyry flow (9.1 m wide at 105.8 m). Smaller diorite vein dykes (few cms to 1m wide) cut the andesitic host rock intervals. A fault zone (27.4 m wide) at 78.3 m separates differentially altered diorite in hanging-wall and footwall of the fault.

Potassic alteration (Kspar, biotite, magnetite) was logged throughout the drill hole but is overprinted by propylitic alteration in the fault hanging-wall from 18.3-78.3 m. Early stage veins (Kspar ± mag) were noted between 66.1-78.3 m. Diorite in the footwall zone is more strongly potassic altered and has higher abundance of early-stage veins. A K-feldspar cemented hydrothermal breccia (3.1 m wide) with crosscutting early-stage veins (Kspar-qtz) was logged at 124.1 m. The propylitic alteration overprint begins again at 143.6 m depth and continues to 276.45 (EOH). Phyllic alteration (qtz-ser-py ± cbt) was logged in the fault zone at 78.3-105.8 m and in a 3.1 m wide interval with high late stage vein density at 166.7 m.

There was no chalcopyrite observed in this drill hole. Pyrite is weak and near-continuous throughout the drill hole (0.1-0.3%). It is strongest (0.3%) in the potassic altered footwall zone diorite. It was not observed within the fault zone.

11.0 Discussion and Conclusions

The Heidi zone is located 2.7 km west of the 2017 ultimate pit boundary and ~900 m outside the mine lease boundary. The area was explored and wide-spaced drilled (<300 m depth) by Placer Dome in 1991. A monzonite porphyry stock (Heidi stock) was identified and mapped, and drilling results indicated shallow low-grade copper mineralization. Follow-up geochronological analysis gave a U-Pb date of 189 ± 3.3 Ma (Mortensen et al., 1995) which is the oldest measured monzonite in the Heidi Lake porphyry stock cluster, which averages ~184.8 Ma (Jago, 2008). TCM resumed drilling the target in 2018 towards the end of a helicopter supported greenfield drilling program.

Geophysically, the target area comprises a 1.6 km long east-west linear magnetic high anomaly that continues eastward into the North Slope zone (Figure 11) on the mine lease, as well as a 400 x 250 m ring-shaped magnetic high anomaly in the core of the Heidi zone; also a coincident SW-NE trending moderate chargeability and high-moderate resistivity gradient feature that may be indicative of intrusive rocks. Immediately NNW of the magnetic anomaly is a broad (550 x 450 m) resistivity low anomaly that is open to the west.

Results of drilling in 2018-2019 showed that significant mineralized intervals are related to narrow monzonite porphyry dykes in andesitic rocks. Alteration includes a distinct mix of early-stage potassic and sodic-calcic (albite-actinolite-chlorite) assemblages overprinted by propylitic and late-stage QSPC assemblages. Early to transitional vein types include pyrrhotite-bearing polymetallic veins that can be massive. Disseminated pyrrhotite appears to be part of the sodic-

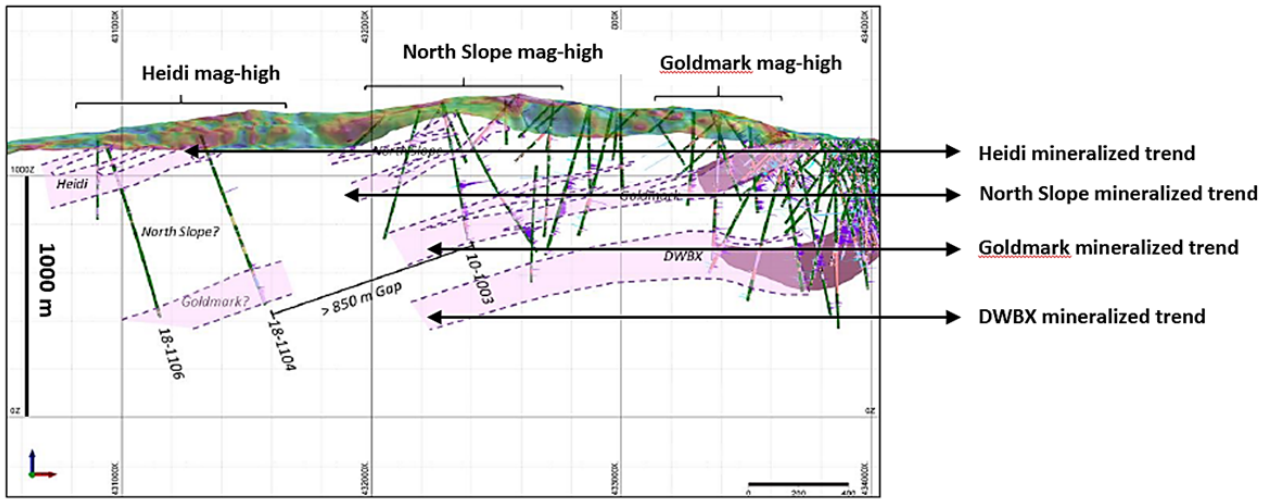

Figure 11. View is to the north on all sections. Schematic interpretation provided by Equity Exploration (2018) of a series of shallowly west-dipping mineralized trends associated with the DWBX, Goldmark, North Slope and Heidi zones from east to west near section 6,109,500 N. Magnetics (1VD) draped over topography.

calcic alteration assemblage. Higher gold grades occur at depth in 18-1104 which may be a distal western extension of the shallow-dipping Goldmark mineralization trend (Figure 11) and is spatially associated with a faulted hanging-wall of a monzonite porphyry dyke. Selected results from the 2018-2019 drilling include,

18-1104: 20.00 metres @ 0.206 g/t Au, 0.132% Cu from 568.00 metres;
18-1106: 33.60 metres @ 0.074 g/t Au, 0.205% Cu from 17.00 metres;
including 3.52 metres @ 0.176 g/t Au, 0.416% Cu from 18.48 metres;
and 2.00 metres @ 0.116 g/t Au, 0.254% Cu from 33.00 metres;
19-1174: 48.60 metres @ 0.034 g/t Au, 0.120% Cu from 149.40 metres
19-1179: 83.73 metres @ 0.048 g/t Au, 0.154% Cu from 24.00 metres;
including 5.51 metres @ 0.302 g/t Au, 0.268% Cu from 24.00 metres;
and 8.00 metres @ 0.087 g/t Au, 0.182% Cu from 56.00 metres.

11.0 Recommendations

The Heidi exploration target at Mount Milligan represents a near surface low-grade copper greenfield target that is readily accessible by exploration trail. Its proximity to the mine lease boundary (~1 km) makes it an attractive target for greenfield exploration programs at Mount Milligan. Drilling in 2018 and 2019 have identified a ~250 m NNW linear trend of low-grade copper mineralization that crosses the northern arm of a 400 x 250 m ring-shaped magnetic anomaly and an ENE trending, 100 m wide moderate chargeability feature. Drilling on the southern arm of the magnetic anomaly returned only one narrow (6.0 m) significant low-grade copper value and appears to be less prospective.

It is recommended that a series of four 250-300 m long NNW trending parallel fences, comprising three drill holes each, be drilled across the northern arm of the magnetic anomaly to test for a

broader area of shallow (less than 200 m depth) copper mineralization (Figure 12). The area is just northwest of the 2009 South Grid IP survey, and 3-4 additional SW-NE trending IP survey lines at 200 m spacing and ~2 km length could improve target definition in this area. If drilling continues to intersect shallow low-grade copper, it should continue to step out to the NNW another ~350 m to continue testing the overlapping resistivity low anomaly.

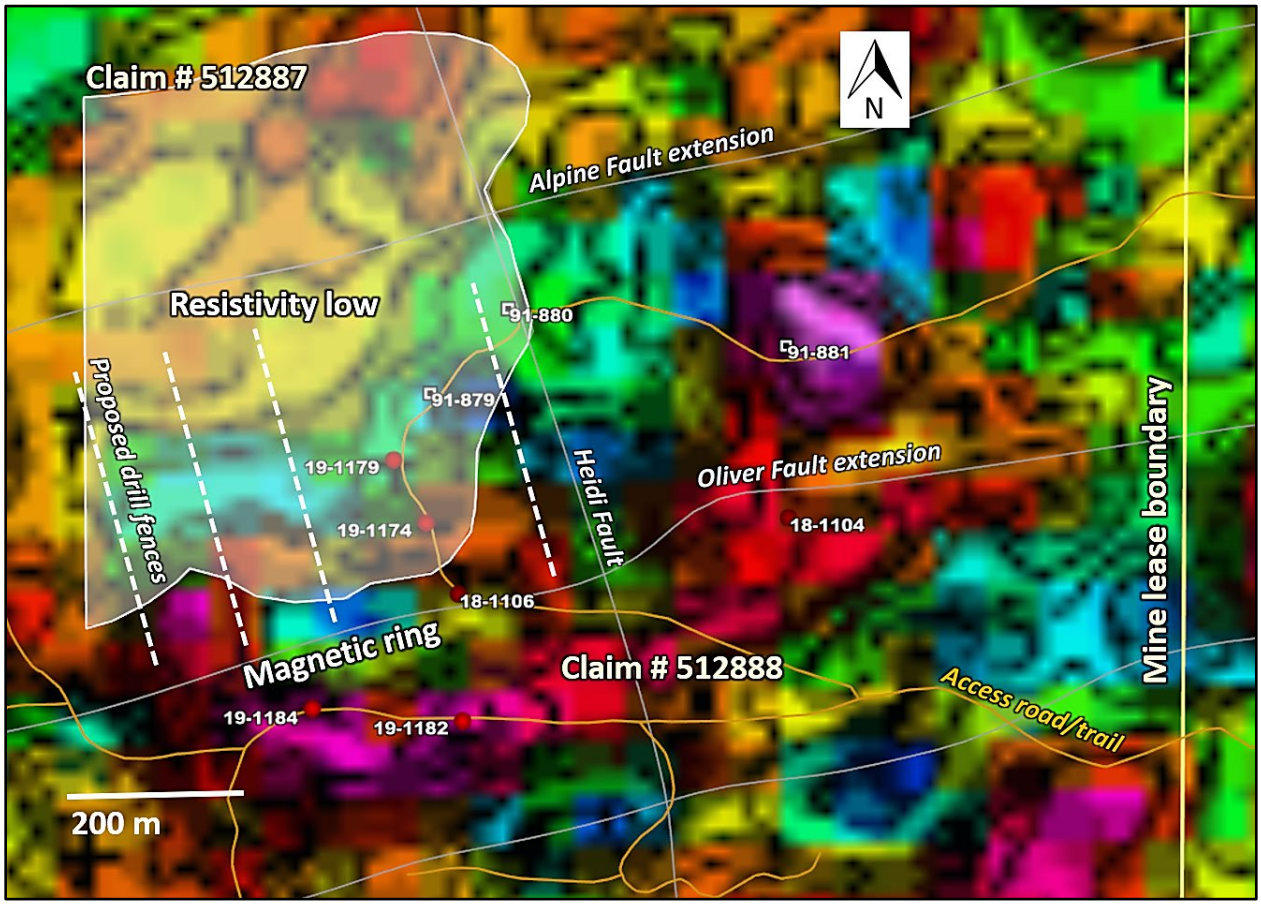

Figure 12. 2019 aeromagnetic survey results showing ring-shaped magnetic anomaly and overlapping resistivity low anomaly to the NNW. Drill holes 18-1106, 19-1174, 19-1179 and 91-879 define a ~250 m long trend of shallow low-grade copper mineralization. It is recommended that parallel fences be drilled to this first trend. These fences should cover the north arm of the magnetic anomaly and overlapping resistivity low feature.

10.0 References

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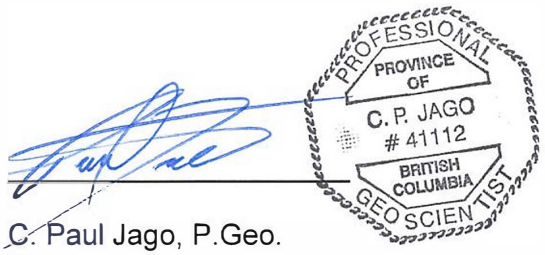
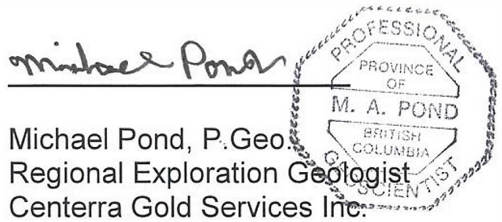
Respectfully submitted,



C. Paul Jago, P.Geo.
Exploration Manager
Centerra Gold Services Inc.
August 19, 2020



Michael Pond, P.Geo.
Regional Exploration Geologist
Centerra Gold Services Inc.
August 19, 2020

Appendix 1

Statement of Author's Qualifications

I, Michael Pond, P.Geo. do hereby certify that:

1. I am currently employed as Regional Exploration Geologist by:

   Centerra Gold Services Inc.
   299 Victoria Street, Suite 200
   Prince George, BC V2L 5B8

2. I graduated from the University of British Columbia with a Bachelors of Science, Geology in 1982.

3. I graduated from the British Columbia Institute of Technology with a Diploma of Technology, CAD/CAM in 1986.

4. I am a Registered Professional Geologist with the Association of Professional Engineers and Geoscientists of BC.
   Registration # 18735

5. I have worked as a Geologist for a total of 30 years since my graduation from university.

6. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes this Assessment Report misleading.

Dated 19th day of August, 2020.

Michael Pond

PROFESSIONAL ENGINEERS AND GEOSCIENTISTS PROVINCE OF BRITISH COLUMBIA M. A. POND

M. Pond, P.Geo.

Appendix 1

Statement of Author's Qualifications

I, C. Paul Jago, P.Geo. do hereby certify that:

1. I am currently employed as Exploration Manager by:

   Centerra Gold Services Inc.
   299 Victoria Street, Suite 200
   Prince George, BC V2L 5B8

2. I am a Registered Professional Geologist with Engineers & Geoscientists British Columbia. Registration # 41112.

3. I worked as the Northcentral-Northeast Regional Geologist for the BC Ministry of Energy and Mines from January 2012 - May 2018.

4. I worked as a Geologist for Freeport-McMoRan Inc. (Oro Valley, Tucson AZ) from May 2008 - December 2011

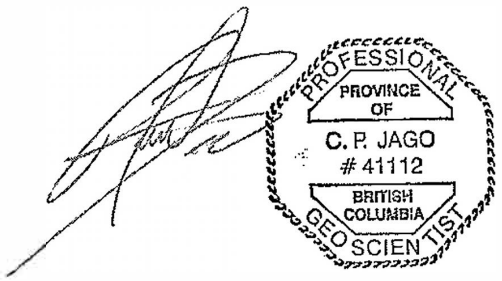
5. I graduated from the Mineral Deposit Research Unit (MDRU), University of British Columbia with a Master of Geological Sciences in June 2008.

6. I graduated from the University of Toronto with a Bachelor of Science (Geology-Physical Geography) in 2005.

7. I have worked full-time as a Geologist in both industry and government for over 10 years since graduation from university.

8. I am not aware of any material fact or material change with respect to the subject matter of the Assessment Report and supporting Report Volumes, or any omission of disclosure, which makes the Technical Report misleading.

Dated 19th day of August, 2020.



C. Paul Jago, P.Geo.

Appendix 2

Tenure Information

All 118 TCM – Mount Milligan Titles in Good Standing to June 23, 2021 and beyond.

Mount Milligan Tenure
(Post Chief Gold Commisioner Order, March 27, 2020)

Title Number	Claim Name	Owner	Title Type	Title Sub Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
512884		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	369.6
512887		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	295.8
512888		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	370.0
512890		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	296.1
512891		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	554.4
512897		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	444.3
512907		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	424.9
512909		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	351.1
512913		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	665.2
512919		283374 (100%)	Mineral	Claim	093N	2005/MAY/18	2024/MAR/14	GOOD	444.3
512921		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	518.4
512923		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	332.4
512924		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	665.2
512925		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	74.0
512927		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	406.7
512930		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	480.6
512931		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	480.3
512932		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	92.3
512933		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	517.1
512934		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	554.3
512935		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	443.7
512936		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2024/MAR/14	GOOD	720.6
512937		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	517.3
512938		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	462.1
512939		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	462.1
512940		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	462.1
512941		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	665.9
512942		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	554.9
512943		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	370.1
512944		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	369.9
512945		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	462.3
512960		283374 (100%)	Mineral	Claim	093O	2005/MAY/18	2023/MAR/14	GOOD	203.4
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521165	MILL 2	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2024/MAR/14	GOOD	443.9
521177	MILL 3	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2024/MAR/14	GOOD	444.1
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521179	MILL 5	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2024/MAR/14	GOOD	462.8
521180	MILL 6	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2024/MAR/14	GOOD	370.2
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521182	MILL 8	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	444.4
521183	MILL 9	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2024/MAR/14	GOOD	370.4
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521186	MILL 12	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2024/MAR/14	GOOD	444.5
521187	MILL 13	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	407.6
521189	MILL 14	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	370.6
521190	MILL 15	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2024/MAR/14	GOOD	463.0
521191	MILL 16	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	463.0
521192	MILL 17	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	370.4
521193	MILL 18	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	370.6
521194	MILL 19	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	463.3
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521196	MILL 21	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	444.6
521197	MILL 22	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	444.6
521198	MILL 23	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	463.4
521199	MILL 24	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	463.4
521200	MILL 25	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	463.4
521201	MILL 26	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	185.4
521202	MILL 27	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	445.0
521203	MILL 28	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	445.0
521204	MILL 29	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	445.0
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521206	MILL 31	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	463.6
521207	MILL 32	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	370.9
521208	MILL 33	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	445.2
521209	MILL 34	283374 (100%)	Mineral	Claim	093N	2005/OCT/14	2023/MAR/14	GOOD	445.2
521210	MILL 35	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	445.2

Mount Milligan Tenure
(Post Chief Gold Commisioner Order, March 27, 2020)

Title Number	Claim Name	Owner	Title Type	Title Sub Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
521212	MILL 36	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	333.9
521213	MILL 37	283374 (100%)	Mineral	Claim	093O	2005/OCT/14	2023/MAR/14	GOOD	167.0
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524892	STRONG	283374 (100%)	Mineral	Claim	093N	2006/JAN/08	2023/MAR/14	GOOD	463.4
579598		283374 (100%)	Mineral	Claim	093O	2008/MAR/28	2023/MAR/14	GOOD	295.8
579599		283374 (100%)	Mineral	Claim	093O	2008/MAR/28	2023/MAR/14	GOOD	295.6
579600		283374 (100%)	Mineral	Claim	093O	2008/MAR/28	2023/MAR/14	GOOD	369.7
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580741		283374 (100%)	Mineral	Claim	093O	2008/APR/08	2023/MAR/14	GOOD	443.0
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580743		283374 (100%)	Mineral	Claim	093O	2008/APR/08	2023/MAR/14	GOOD	406.1
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580747		283374 (100%)	Mineral	Claim	093O	2008/APR/08	2023/MAR/14	GOOD	461.7
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595146		283374 (100%)	Mineral	Claim	093N	2008/DEC/01	2024/MAR/14	GOOD	443.6
595163		283374 (100%)	Mineral	Claim	093N	2008/DEC/01	2024/MAR/14	GOOD	147.9
631503		283374 (100%)	Mineral	Lease	093N	2009/SEP/09	2021/SEP/09	PROTECTED	5138.0
677107	FURB	283374 (100%)	Mineral	Claim	093N	2009/DEC/01	2024/MAR/14	GOOD	462.4
677785		283374 (100%)	Mineral	Claim	093N	2009/DEC/02	2024/MAR/14	GOOD	147.8
678524		283374 (100%)	Mineral	Claim	093K	2009/DEC/03	2023/MAR/14	GOOD	464.0
678527		283374 (100%)	Mineral	Claim	093K	2009/DEC/03	2023/MAR/14	GOOD	464.0
678536		283374 (100%)	Mineral	Claim	093J	2009/DEC/03	2023/MAR/14	GOOD	389.7
678564		283374 (100%)	Mineral	Claim	093J	2009/DEC/03	2023/MAR/14	GOOD	464.0
678583		283374 (100%)	Mineral	Claim	093J	2009/DEC/03	2023/MAR/14	GOOD	464.0
678588		283374 (100%)	Mineral	Claim	093J	2009/DEC/03	2023/MAR/14	GOOD	464.3
678603		283374 (100%)	Mineral	Claim	093K	2009/DEC/03	2023/MAR/14	GOOD	55.7
679483		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2024/MAR/14	GOOD	461.9
679484		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2024/MAR/14	GOOD	221.7
679485		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2024/MAR/14	GOOD	350.9
679505		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2023/MAR/14	GOOD	369.2
679506		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2023/MAR/14	GOOD	443.1
679509		283374 (100%)	Mineral	Claim	093N	2009/DEC/05	2024/MAR/14	GOOD	462.2
896789	MILL 9	283374 (100%)	Mineral	Claim	093N	2011/SEP/13	2024/MAR/14	GOOD	18.5
1030396	GD1	283374 (100%)	Mineral	Claim	093O	2014/AUG/19	2023/MAR/14	GOOD	369.2
1030397	GD2	283374 (100%)	Mineral	Claim	093O	2014/AUG/19	2023/MAR/14	GOOD	664.1
1030398	GD3	283374 (100%)	Mineral	Claim	093O	2014/AUG/19	2023/MAR/14	GOOD	1106.9
1036881	DB1	283374 (100%)	Mineral	Claim	093N	2015/JUN/23	2024/MAR/14	GOOD	277.1
1036882	DB2	283374 (100%)	Mineral	Claim	093N	2015/JUN/23	2023/MAR/14	GOOD	110.8
1050265		283374 (100%)	Mineral	Claim	093O	2017/FEB/24	2023/MAR/14	GOOD	1334.2
1076910		283374 (100%)	Mineral	Claim	093K	2020/JUN/23	2021/JUN/23	PROTECTED	1786.3
1076911		283374 (100%)	Mineral	Claim	093J	2020/JUN/23	2021/JUN/23	PROTECTED	1858.0
1076912		283374 (100%)	Mineral	Claim	093J	2020/JUN/23	2021/JUN/23	PROTECTED	1860.7
1076913		283374 (100%)	Mineral	Claim	093J	2020/JUN/23	2021/JUN/23	PROTECTED	744.8
1076914		283374 (100%)	Mineral	Claim	093K	2020/JUN/23	2021/JUN/23	PROTECTED	1860.4
1076915		283374 (100%)	Mineral	Claim	093K	2020/JUN/23	2021/JUN/23	PROTECTED	223.4
1076916		283374 (100%)	Mineral	Claim	093J	2020/JUN/23	2021/JUN/23	PROTECTED	725.9
1076917		283374 (100%)	Mineral	Claim	093K	2020/JUN/23	2021/JUN/23	PROTECTED	148.7

118 Titles **60,286.6**

(1) Lease 55,148.6

Appendix 4

Computer Software List

1. Trimble GPS Path Finder Office. Project locations were accurately sited using a Trimble GPS system. Data input and output functions used Version 5.90.

2. Seequent (Geosoft) Target for ArcMap. Drill hole modeling in 2D and 3D. Version 9.7.

3. Seequent Leapfrog Geo. Implicit 3D data modeling. Version 5.1.

4. Seequent Central. Data management solution to visualise, track and manage geological data from a centralised, auditable environment. Version 3.1

5. Microsoft 365 ProPlus Suite. General report and documentation (Word, Excel, Outlook, Powerpoint) Version 1708.

6. ESRI ArcMap. GIS database mapping software. Version 10.7.1

7. Adobe Acrobat Standard DC. Document PDF file creation and editing. Version 2020.012.20041

8. Google Earth. Regional and detailed locations and imagery plotting. Version 7.3.3.7786.

9. Microsoft 'SnippingTool' . Screen Captures. (Windows 10 Enterprise).

10. Imago Live. High performance viewing of core and chip images from any location. Integrated with Leapfrog. Version 1.4.55

11. REFLEX EZ-GYRO and cloud-based IMDEXHUB-IQ. Downhole survey data solution including secure chain of custody and QA/QC, and real-time access to drilling data.

12. Boart Longyear – TruCore. Accurate drill core orientation system.

Appendix 5

Program Expenditures

Cost Item	Expenditure ($)
Drilling	$132,203
Laboratory Annalysis	$26,189
Technical:	
Geologist - Core Logger	$10,200
Geologist - Structural Logger	$10,200
Geo Technician	$8,500
Project Geologist/Manager	$7,650
Drill Core Cutters	$5,950
Milligan Camp (room & board)	$11,813
Milligan Fuel	$4,252
Core Boxes	$3,623
Truck Rental	$1,250
Access Trail Preparation	$5,456
Report Writing	$8,000
Total:	**$235,287**

	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
Centerra Admin	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
Michael Pond *																			
Front Line Supervisor/ Senior Geo (core shack)																			
Cheyenne Sica *									0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
Bonnie Spence *				0.5	0.5	0.5	0.5	0.5										0.5	0.5
Core Loggers (core shack)																			
Rob Boyce																			
Mike Warner													1	1	1	1	1	1	1
Structural Loggers (core shack)																			
Wanika Lai																			
Colin Cenaiko											1	1	1	1	1	1	1	1	1
Geotech (core shack)																			
Darcy Kowalski											1	1	1	1	1	1	1	1	1
Taylor Cherkas																			
Core Cutters (cut shack)																			
Jake Neumann															1	1			
Charles Nickerson																	1	1	1
Duz Cho																			

	April 16-17
Raymond Thompson / Lyle Myers	2

	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	
Centerra Admin	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	
Michael Pond *													1
Front Line Supervisor/ Senior Geo (core shack)													
Cheyenne Sica *													4.5
Bonnie Spence *	0.5	0.5											4.5
Core Loggers (core shack)													
Rob Boyce						1	1	1	1	1			5
Mike Warner	1	1	1	1	1								12
Structural Loggers (core shack)													
Wanika Lai						1	1	1		X	X	X	3
Colin Cenaiko	1	1	1	1	1								14
Geotech (core shack)													
Darcy Kowalski	1	1	1	1	1								14
Taylor Cherkas						1	1	1					3
Core Cutters (cut shack)													
Jake Neumann					1	1	1	1	1	1	1		9
Charles Nickerson	1	1	1	1								1	8
Duz Cho													
Raymond Thompson / Lyle Myers													2
												Total:	**80**

Appendix 6

Assay Certificates

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Submitted By: Mt. Milligan Notification List
Receiving Lab: Canada-Vancouver
Received: July 24, 2019
Report Date: August 09, 2019
Page: 1 of 10

CERTIFICATE OF ANALYSIS VAN19001953.1

CLIENT JOB INFORMATION

Project: Mt. Milligan
Shipment ID: TRX19-03_2
P.O. Number M12390
Number of Samples: 251

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
RTRN-RJT Return After 60 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP80-250	233	Crush, split and pulverize 250 g rock to 200 mesh			VAN
SPTRF	6	Split samples by riffle splitter			VAN
PUL85	6	Pulverize to 85% passing 200 mesh			VAN
SLBHP	12	Sort, label and box pulps			VAN
FA430	251	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
EN002	251	Environmental disposal charge-Fire assay lead waste			VAN
MA200	251	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
EN001-MA	251	Environmental disposal fee - Multi-acid neutralization			VAN
CV400	251	Hg by 0.5g/10ml Aqua Regia, CVAA	0.5	Completed	VAN
TC000	1	Analysis by Leco	0.1	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Thompson Creek Metals
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8
Canada

CC: Mt. Milligan Data Distribution List

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.

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3260947	Drill Core	2.04	0.008	0.4	171.0	4.5	44	0.3	27.8	20.3	1001	5.05	3	0.7	1.9	667	0.2	2.8	<0.1	280	4.09
3260948	Drill Core	4.42	0.007	0.5	115.9	5.5	33	0.3	15.8	11.7	834	3.75	2	0.9	2.7	568	0.1	1.2	<0.1	245	2.64
3260949	Drill Core	4.12	0.006	0.3	111.8	3.9	24	0.2	13.3	6.7	544	2.62	2	1.3	3.5	462	<0.1	1.9	<0.1	248	1.83
3260950	Rock	1.66	<0.005	0.2	2.9	1.7	7	<0.1	1.6	0.3	78	0.15	<1	2.6	0.2	149	<0.1	<0.1	<0.1	8	22.97
3260951	Drill Core	3.45	<0.005	0.2	47.7	4.1	31	0.1	12.7	9.8	751	3.42	2	1.1	3.0	580	0.1	2.2	<0.1	233	2.52
3260952	Drill Core	4.17	<0.005	0.2	39.2	5.7	39	0.1	12.3	10.8	811	3.66	2	1.2	3.2	724	<0.1	1.3	<0.1	236	3.15
3260953	Drill Core	4.00	0.008	0.5	111.9	5.5	34	0.2	17.0	14.4	868	4.22	3	1.1	2.9	806	0.2	3.0	<0.1	255	3.92
3260954	Drill Core	4.98	0.012	0.9	218.9	5.5	47	0.4	28.6	22.0	1024	5.35	3	0.8	2.4	666	0.3	2.3	<0.1	314	4.09
3260955	Drill Core	2.75	0.007	0.3	130.3	6.4	49	0.3	34.8	22.4	1085	5.48	3	0.5	1.4	706	0.2	5.8	<0.1	325	3.75
3260956	Drill Core	2.10	0.006	0.3	147.2	9.2	29	0.4	5.4	8.9	481	2.94	2	0.7	1.8	462	0.2	3.6	<0.1	168	0.63
3260957	Drill Core	2.87	0.006	1.2	153.5	9.8	25	0.4	3.3	6.7	476	2.47	1	0.7	1.9	393	0.2	2.6	0.1	145	0.64
3260958	Drill Core	2.08	0.009	0.5	160.9	14.3	47	0.7	2.5	7.2	526	2.73	2	1.0	2.8	331	0.4	4.2	<0.1	183	0.54
3260959	Drill Core	2.47	0.008	0.6	148.1	14.6	35	0.6	5.0	9.3	643	3.65	2	0.9	2.3	700	0.3	2.7	<0.1	240	2.34
3260960	Rock Pulp	0.13	0.230	98.3	2799.9	24.6	82	0.4	63.4	17.2	619	4.53	20	5.8	20.4	355	0.2	2.4	0.7	129	2.71
3260961	Drill Core	2.33	0.007	0.6	191.2	9.7	42	0.6	5.4	9.0	721	3.79	2	1.2	2.5	803	0.5	4.3	<0.1	260	2.95
3260962	Drill Core	2.97	0.010	0.8	253.2	9.4	33	0.6	7.9	9.4	777	3.62	2	1.0	2.5	937	0.6	1.6	<0.1	244	3.35
3260963	Drill Core	1.92	0.005	0.4	131.7	12.5	39	0.4	13.4	7.2	714	2.77	<1	1.1	2.9	955	0.7	1.7	<0.1	271	2.37
3260964	Drill Core	2.99	0.007	0.6	295.1	10.6	57	0.8	6.2	9.5	720	3.48	1	1.1	3.4	751	0.6	3.2	<0.1	242	2.60
3260965	Core DUP		0.007	0.7	307.4	10.7	55	0.8	5.7	10.2	722	3.58	2	1.1	3.3	754	0.6	3.3	<0.1	252	2.67
3260966	Drill Core	4.13	0.008	0.5	244.4	10.3	37	1.1	3.8	7.1	573	2.96	1	1.1	3.0	749	0.8	1.1	<0.1	195	2.67
3260967	Drill Core	4.64	0.006	0.5	213.8	14.6	54	0.8	5.4	11.0	778	4.12	3	1.0	2.2	779	0.7	5.4	<0.1	301	3.55
3260968	Drill Core	4.93	0.031	0.7	419.8	17.5	59	1.2	6.0	12.2	799	4.36	4	1.1	2.2	677	0.8	3.7	0.1	314	3.30
3260969	Drill Core	4.82	0.008	0.4	254.1	16.0	51	0.6	6.2	14.6	926	4.69	4	0.9	1.8	825	0.4	4.7	<0.1	321	4.28
3260970	Rock	2.08	<0.005	0.2	2.6	1.2	7	<0.1	0.8	<0.2	59	0.12	<1	4.1	0.3	154	<0.1	<0.1	<0.1	6	24.23
3260971	Drill Core	5.02	0.010	0.3	244.1	6.6	44	0.5	4.4	8.2	588	3.04	1	0.7	1.9	465	0.5	3.7	<0.1	207	1.87
3260972	Drill Core	4.67	0.011	1.4	666.7	15.0	62	1.4	4.6	15.1	758	3.81	2	1.0	2.3	613	0.7	3.5	<0.1	267	2.63
3260973	Drill Core	4.48	0.021	2.7	1851.8	7.0	54	2.6	5.8	16.8	595	4.33	2	1.2	3.2	679	0.6	4.9	<0.1	271	3.06
3260974	Drill Core	5.21	0.025	1.4	1422.2	8.1	62	2.2	5.9	13.9	657	3.85	2	1.0	2.6	631	0.6	2.9	<0.1	252	3.38
3260975	Drill Core	2.71	0.021	1.5	917.9	4.8	54	1.7	5.6	12.5	668	4.10	2	1.0	3.0	621	1.5	0.9	<0.1	274	4.07
3260976	Drill Core	3.50	0.009	1.9	465.4	5.3	42	0.9	4.5	10.8	619	3.75	<1	0.9	2.7	642	1.0	1.3	<0.1	255	3.81

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.

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

		Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
		Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3260947	Drill Core		0.119	8.7	51	2.12	1189	0.470	8.61	2.964	2.93	1.0	15.0	18	0.8	14.9	7.3	0.4	<1	19	12.3	<0.1
3260948	Drill Core		0.142	11.7	22	1.48	1330	0.358	8.74	3.866	3.42	0.3	19.6	23	0.8	15.2	9.5	0.5	<1	10	7.9	<0.1
3260949	Drill Core		0.096	13.5	17	1.10	1261	0.248	8.41	4.157	3.58	0.4	19.8	26	0.4	13.9	8.5	0.4	<1	6	3.9	<0.1
3260950	Rock		0.056	1.7	2	9.43	139	0.010	0.26	0.049	0.09	<0.1	0.5	2	<0.1	2.7	0.5	<0.1	<1	<1	4.5	<0.1
3260951	Drill Core		0.159	13.4	14	1.32	1344	0.305	8.56	4.230	2.90	0.3	16.5	26	0.4	15.4	9.7	0.5	<1	7	6.3	<0.1
3260952	Drill Core		0.154	13.3	14	1.29	1495	0.339	8.83	4.305	2.94	0.2	18.5	26	0.3	15.7	10.8	0.6	1	7	4.8	<0.1
3260953	Drill Core		0.139	10.0	26	1.40	1268	0.384	8.97	3.395	3.33	0.3	20.5	21	0.5	15.2	9.0	0.5	1	13	7.4	<0.1
3260954	Drill Core		0.133	8.6	56	2.23	1104	0.495	8.66	2.942	3.05	0.3	17.4	17	0.8	14.8	7.3	0.4	1	22	13.0	<0.1
3260955	Drill Core		0.143	7.2	73	2.44	1091	0.468	8.25	2.686	2.33	0.5	14.7	15	0.8	14.2	7.0	0.4	<1	21	15.4	<0.1
3260956	Drill Core		0.087	8.6	7	0.74	1453	0.225	9.61	4.250	3.49	1.7	11.7	17	0.6	10.2	5.5	0.3	<1	5	7.8	<0.1
3260957	Drill Core		0.083	8.8	4	0.50	1403	0.212	8.91	4.167	1.81	0.6	12.9	17	0.4	9.8	7.5	0.4	<1	3	4.7	<0.1
3260958	Drill Core		0.111	12.1	2	0.67	1124	0.261	9.22	4.022	4.38	0.7	14.8	23	0.6	11.7	9.7	0.5	1	4	5.7	<0.1
3260959	Drill Core		0.140	10.5	6	0.98	1318	0.327	9.00	3.665	3.31	0.5	22.2	22	0.7	12.8	7.6	0.4	<1	6	5.7	<0.1
3260960	Rock Pulp		0.098	35.0	82	1.52	1047	0.492	7.98	2.191	3.31	4.3	76.1	78	3.4	27.0	17.7	1.4	3	13	34.1	0.3
3260961	Drill Core		0.150	10.1	4	1.00	1184	0.344	8.70	3.792	3.25	0.4	22.1	20	0.8	12.3	8.8	0.4	<1	6	3.3	<0.1
3260962	Drill Core		0.154	11.6	18	0.85	1388	0.343	8.71	3.614	3.45	0.2	25.6	24	0.9	15.3	10.6	0.6	<1	6	3.9	<0.1
3260963	Drill Core		0.119	13.7	16	0.94	1673	0.291	8.70	3.847	3.36	0.3	23.1	26	0.5	15.3	9.2	0.5	1	6	2.9	<0.1
3260964	Drill Core		0.175	11.6	9	1.00	1199	0.362	8.41	3.496	3.59	0.3	24.7	24	0.8	15.9	11.0	0.6	1	7	4.5	<0.1
3260965	Core DUP		0.190	10.7	9	1.02	1178	0.364	8.58	3.631	3.66	0.4	24.4	23	0.8	15.4	11.9	0.6	1	7	5.4	<0.1
3260966	Drill Core		0.145	9.9	4	0.71	1495	0.325	8.82	3.416	4.31	0.2	23.0	23	0.6	16.5	12.0	0.7	1	6	3.0	<0.1
3260967	Drill Core		0.202	9.5	5	1.05	1346	0.396	8.33	3.581	3.16	0.3	23.2	22	0.8	15.3	10.7	0.6	1	7	4.3	<0.1
3260968	Drill Core		0.203	10.0	6	1.23	1319	0.423	8.77	3.418	3.69	0.4	21.4	22	1.0	15.5	10.2	0.5	1	9	5.9	<0.1
3260969	Drill Core		0.160	8.8	4	1.39	1382	0.450	8.30	3.452	3.15	0.3	24.3	20	0.9	14.6	9.4	0.5	<1	10	6.0	<0.1
3260970	Rock		0.050	1.7	2	9.60	159	0.010	0.23	0.092	0.07	<0.1	0.3	2	<0.1	2.4	0.9	<0.1	<1	<1	5.8	<0.1
3260971	Drill Core		0.125	9.1	4	0.93	1042	0.309	7.43	2.761	3.30	0.7	15.9	19	0.6	12.9	7.3	0.4	<1	7	5.9	<0.1
3260972	Drill Core		0.151	11.2	4	0.93	1484	0.374	8.49	3.673	3.68	0.3	20.9	25	1.3	15.9	11.0	0.7	<1	6	3.5	<0.1
3260973	Drill Core		0.128	13.2	5	0.82	1328	0.379	8.95	3.579	3.32	0.3	20.3	29	1.0	19.0	12.2	0.8	2	6	4.5	0.3
3260974	Drill Core		0.132	12.0	6	0.93	1561	0.358	9.14	3.414	3.59	0.3	19.5	27	1.1	17.8	12.1	0.8	2	6	5.3	0.4
3260975	Drill Core		0.154	14.2	4	1.15	1656	0.378	8.73	3.359	3.40	0.4	22.3	27	1.2	16.9	12.4	0.7	1	8	7.0	0.5
3260976	Drill Core		0.138	12.5	4	1.02	1534	0.370	8.55	3.347	4.15	0.6	21.9	24	1.0	15.8	11.4	0.7	<1	7	6.0	0.5

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3260947	Drill Core	43.4	0.8	0.07	<0.005	<1	<0.5	<0.5	<0.01	
3260948	Drill Core	50.4	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260949	Drill Core	47.8	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260950	Rock	2.6	<0.1	<0.05	<0.005	<1	2.4	<0.5	<0.01	
3260951	Drill Core	41.9	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260952	Drill Core	38.8	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260953	Drill Core	44.2	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260954	Drill Core	40.8	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260955	Drill Core	23.9	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260956	Drill Core	60.6	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260957	Drill Core	32.9	0.5	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260958	Drill Core	72.9	0.7	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260959	Drill Core	46.0	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260960	Rock Pulp	194.8	2.2	0.10	<0.005	1	<0.5	1.2	0.02	
3260961	Drill Core	40.7	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260962	Drill Core	42.6	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260963	Drill Core	46.3	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260964	Drill Core	47.1	1.2	0.06	<0.005	<1	<0.5	<0.5	0.01	
3260965	Core DUP	43.9	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260966	Drill Core	59.2	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260967	Drill Core	33.0	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260968	Drill Core	46.6	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260969	Drill Core	31.3	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260970	Rock	2.7	<0.1	<0.05	<0.005	<1	4.3	<0.5	<0.01	
3260971	Drill Core	49.8	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3260972	Drill Core	54.3	1.0	0.07	<0.005	<1	<0.5	<0.5	0.02	
3260973	Drill Core	50.5	0.9	0.06	<0.005	1	<0.5	<0.5	0.04	
3260974	Drill Core	52.7	1.0	<0.05	<0.005	1	<0.5	<0.5	0.05	
3260975	Drill Core	64.1	1.1	0.06	0.007	<1	<0.5	<0.5	0.04	
3260976	Drill Core	61.5	1.0	<0.05	<0.005	1	<0.5	<0.5	0.02	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3260977	Drill Core	3.45	0.011	0.9	505.8	5.8	45	1.1	4.3	9.4	591	3.33	<1	0.9	2.9	579	0.5	2.8	<0.1	224	3.31
3260978	Drill Core	4.59	0.018	2.3	959.3	5.2	58	2.3	6.2	19.5	654	4.75	1	1.1	3.0	497	1.0	1.4	<0.1	237	2.85
3260979	Drill Core	4.53	0.012	7.5	806.7	5.8	64	2.0	4.5	15.3	762	4.12	1	1.2	2.9	508	0.7	1.6	<0.1	249	3.19
3260980	Rock Pulp	0.11	0.591	41.4	5354.3	60.7	310	2.0	16.4	13.6	866	5.12	67	0.8	4.3	215	1.5	3.2	0.9	104	1.35
3260981	Drill Core	4.53	0.014	2.7	609.8	5.9	55	1.4	7.3	14.0	694	3.47	<1	1.1	3.5	459	0.4	1.2	<0.1	209	2.77
3260982	Drill Core	4.25	0.013	1.9	481.7	9.7	49	1.4	7.4	9.5	546	3.08	<1	1.1	3.1	416	0.8	0.5	0.1	187	2.51
3260983	Drill Core	3.89	0.014	4.9	541.2	6.3	47	1.3	6.3	9.7	532	2.89	2	1.0	2.8	500	0.9	0.7	<0.1	177	2.72
3260984	Drill Core	2.01	0.032	1.1	595.8	6.7	31	1.2	9.9	12.3	495	2.43	<1	1.0	3.0	405	0.4	0.3	<0.1	186	2.93
3260985	Drill Core	2.60	0.019	1.5	834.8	9.2	75	1.2	34.0	27.9	888	4.83	<1	0.5	1.4	479	0.5	0.5	0.1	244	6.10
3260986	Drill Core	4.46	0.035	0.4	979.2	10.0	89	1.2	36.2	22.1	850	4.18	<1	0.5	1.6	365	0.5	0.9	<0.1	242	5.55
3260987	Drill Core	4.34	0.035	0.5	945.8	5.0	57	1.2	43.3	24.8	885	4.62	3	0.3	1.2	382	1.0	1.1	<0.1	247	6.58
3260988	Drill Core	3.92	0.029	0.6	587.4	5.6	51	0.9	24.8	16.6	679	3.39	2	0.7	2.5	329	0.3	1.5	<0.1	186	4.20
3260989	Drill Core	3.34	0.021	0.3	689.5	7.2	61	0.9	37.5	21.5	763	3.95	<1	0.5	1.5	376	0.6	1.4	<0.1	204	4.67
3260990	Rock	2.15	<0.005	0.3	2.7	0.5	5	<0.1	0.3	<0.2	42	0.08	<1	2.9	<0.1	120	<0.1	<0.1	<0.1	6	21.14
3260991	Drill Core	2.78	0.017	1.0	487.4	16.3	241	1.4	28.3	12.6	1329	4.32	2	0.8	2.2	225	1.4	2.8	0.4	145	3.10
3260992	Drill Core	1.00	0.017	1.3	535.1	22.5	406	1.8	61.3	18.7	1555	6.72	<1	0.9	1.8	346	1.8	4.4	0.2	195	4.56
3260993	Drill Core	3.90	0.010	2.8	658.1	8.7	71	1.1	88.5	34.0	1270	6.27	1	0.6	0.9	274	0.3	4.8	0.2	210	8.94
3260994	Drill Core	1.49	0.014	11.7	867.4	5.1	48	1.9	92.0	39.2	1321	5.96	<1	0.6	0.7	283	0.5	4.5	0.5	227	10.42
3260995	Drill Core	1.54	0.007	4.1	103.2	3.5	15	0.2	5.1	4.8	326	1.82	<1	1.8	5.2	293	<0.1	4.7	0.1	85	2.30
3260996	Drill Core	3.87	0.014	3.4	988.6	3.5	44	1.6	93.1	39.2	1297	6.66	1	0.5	0.4	236	0.7	3.3	0.2	213	11.23
3260997	Drill Core	3.84	0.012	2.6	947.3	5.9	41	1.5	101.5	42.0	1290	7.34	<1	0.4	0.5	294	0.5	2.1	0.6	199	10.10
3260998	Drill Core	5.00	0.011	4.6	932.3	6.4	45	1.6	110.6	38.6	1352	8.07	<1	0.5	0.6	367	0.6	3.2	0.5	207	11.18
3260999	Drill Core	5.24	0.013	6.9	900.9	5.0	41	1.6	122.0	40.7	1342	8.21	1	0.4	0.5	369	0.4	1.9	0.5	205	10.69
3261000	Rock Pulp	0.13	0.225	98.7	2672.5	22.4	78	0.4	58.2	14.9	528	4.25	18	5.3	21.2	296	<0.1	2.2	0.8	125	2.43
3261001	Drill Core	5.38	0.016	12.7	1493.1	4.3	48	2.9	113.6	49.3	1278	7.54	<1	0.6	0.7	357	0.8	2.2	0.4	200	10.35
3261002	Drill Core	5.37	0.026	15.7	1051.5	8.5	42	2.2	95.0	38.2	1299	6.35	<1	0.6	0.6	356	0.5	2.1	0.3	212	10.83
3261003	Drill Core	3.96	0.009	57.1	929.9	5.0	38	1.6	95.9	37.6	1250	5.69	<1	0.8	0.5	420	0.2	2.5	0.3	193	11.03
3261004	Drill Core	3.93	0.009	7.5	59.0	3.5	20	0.1	3.7	7.4	524	2.98	<1	1.1	2.9	551	<0.1	1.0	<0.1	143	4.06
3261005	Core DUP		0.009	9.2	62.1	3.6	18	0.1	4.0	6.6	569	3.03	<1	1.0	3.0	551	<0.1	1.1	<0.1	147	4.15
3261006	Drill Core	4.17	0.012	19.9	113.9	3.5	14	0.3	2.7	5.3	414	2.05	<1	1.0	2.8	445	<0.1	0.8	0.2	154	4.35

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3260977	Drill Core	0.115	10.6	5	0.82	1507	0.339	8.55	3.258	4.23	0.5	22.9	21	1.0	14.1	11.8	0.7	1	7	4.5	<0.1
3260978	Drill Core	0.115	11.2	5	0.82	344	0.336	8.62	3.249	4.41	0.4	20.9	24	1.4	14.7	11.1	0.6	2	7	4.5	0.8
3260979	Drill Core	0.130	14.5	3	1.03	1216	0.431	9.05	3.570	4.28	0.6	23.8	27	1.4	15.7	12.6	0.7	1	10	7.4	0.3
3260980	Rock Pulp	0.078	13.7	27	0.86	96	0.225	7.81	1.185	2.79	4.4	4.4	27	1.7	9.1	4.2	0.3	2	9	27.4	1.9
3260981	Drill Core	0.106	13.4	14	0.89	1168	0.342	8.73	3.339	4.03	0.4	23.2	24	1.2	14.1	11.4	0.6	<1	8	6.9	<0.1
3260982	Drill Core	0.122	13.6	14	0.91	1270	0.302	8.60	3.577	4.51	0.3	18.8	24	1.3	12.8	10.5	0.5	<1	7	7.5	0.1
3260983	Drill Core	0.120	13.7	7	0.92	1547	0.311	9.10	3.847	4.81	0.3	15.7	28	1.1	15.7	13.4	0.8	<1	6	7.5	0.2
3260984	Drill Core	0.109	11.9	9	1.02	1198	0.315	8.70	3.205	5.28	0.2	16.0	21	1.4	13.2	12.4	0.7	3	8	5.9	0.1
3260985	Drill Core	0.091	5.1	37	2.90	590	0.339	9.30	2.839	2.83	0.4	18.6	10	0.9	12.0	4.4	0.2	<1	21	26.6	<0.1
3260986	Drill Core	0.083	4.8	39	2.94	477	0.321	8.41	2.595	3.46	0.4	18.5	9	1.1	10.6	5.0	0.2	1	20	24.5	<0.1
3260987	Drill Core	0.081	4.8	53	3.63	456	0.340	8.63	2.576	2.39	0.4	14.7	9	0.8	11.5	3.6	0.2	<1	25	27.0	0.1
3260988	Drill Core	0.061	6.1	33	2.27	519	0.275	8.15	3.207	3.52	0.3	18.8	11	1.0	10.4	6.3	0.3	2	15	14.1	<0.1
3260989	Drill Core	0.069	4.9	45	2.82	391	0.306	8.54	2.944	3.37	0.4	18.8	10	0.9	11.0	5.3	0.2	<1	20	23.2	<0.1
3260990	Rock	0.067	1.0	2	10.01	143	0.003	0.06	0.009	0.03	<0.1	0.2	<1	<0.1	1.9	<0.1	<0.1	<1	<1	3.8	<0.1
3260991	Drill Core	0.079	6.9	61	2.00	584	0.256	7.77	2.194	4.26	1.0	30.9	13	1.0	11.3	8.0	0.4	<1	12	17.2	<0.1
3260992	Drill Core	0.090	8.4	200	3.44	549	0.361	7.54	2.013	2.67	1.3	32.3	16	1.6	15.5	5.4	0.3	<1	28	20.9	<0.1
3260993	Drill Core	0.079	5.5	281	4.91	292	0.373	6.02	1.458	1.61	0.9	25.1	11	1.5	14.8	2.9	0.2	<1	36	25.0	2.1
3260994	Drill Core	0.075	4.8	300	5.16	207	0.377	5.68	1.961	1.17	0.6	25.3	10	1.8	14.1	1.9	0.1	<1	39	22.9	2.1
3260995	Drill Core	0.039	9.9	7	0.76	910	0.190	7.62	3.435	4.29	0.3	24.1	19	0.8	13.9	12.4	0.8	1	3	4.6	0.7
3260996	Drill Core	0.074	3.6	295	5.03	120	0.383	5.51	1.459	0.94	1.1	29.1	9	1.5	12.8	1.6	<0.1	<1	39	26.0	2.5
3260997	Drill Core	0.067	3.3	281	4.75	107	0.367	5.63	1.557	0.64	0.7	28.2	8	1.5	12.2	1.6	<0.1	<1	37	21.2	2.8
3260998	Drill Core	0.074	3.4	280	4.61	57	0.382	5.85	1.405	0.31	0.7	29.4	8	1.3	12.2	1.7	<0.1	<1	36	21.2	3.2
3260999	Drill Core	0.078	3.1	280	4.70	86	0.383	5.92	1.527	0.48	0.8	30.6	7	1.2	13.2	1.5	0.1	1	39	20.3	3.3
3261000	Rock Pulp	0.095	33.7	77	1.47	1006	0.478	7.44	2.109	3.42	3.9	72.6	70	2.8	25.9	18.0	1.3	3	11	33.6	0.3
3261001	Drill Core	0.068	3.6	282	4.44	169	0.364	5.88	1.624	0.92	0.6	29.4	9	1.7	13.7	2.3	0.1	<1	36	17.0	3.2
3261002	Drill Core	0.088	4.3	290	4.43	100	0.374	5.60	2.132	0.46	0.7	28.6	10	1.5	14.3	1.7	<0.1	<1	38	14.2	2.4
3261003	Drill Core	0.084	5.5	278	4.22	175	0.349	5.40	2.089	0.55	0.6	24.5	10	1.8	15.0	1.7	0.1	<1	36	9.4	2.3
3261004	Drill Core	0.127	10.2	4	0.97	775	0.301	8.63	4.676	2.79	0.4	61.3	21	0.9	14.1	11.6	0.7	2	5	3.5	0.6
3261005	Core DUP	0.110	11.9	5	1.01	880	0.324	8.86	4.681	2.82	0.5	62.6	22	1.1	15.6	12.2	0.6	2	6	3.3	0.6
3261006	Drill Core	0.116	9.4	5	0.88	950	0.305	8.74	4.713	3.42	0.6	57.9	19	1.3	14.4	12.1	0.6	<1	5	5.7	0.4

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3260977	Drill Core	63.1	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.02	
3260978	Drill Core	64.5	1.1	0.07	<0.005	2	<0.5	<0.5	0.03	
3260979	Drill Core	62.5	1.3	0.09	<0.005	<1	<0.5	<0.5	0.03	
3260980	Rock Pulp	87.3	0.2	0.20	0.114	3	0.6	1.3	0.04	
3260981	Drill Core	63.4	1.1	0.08	<0.005	<1	<0.5	<0.5	0.02	
3260982	Drill Core	70.9	1.0	0.07	<0.005	<1	<0.5	<0.5	0.02	
3260983	Drill Core	73.2	0.8	<0.05	<0.005	2	<0.5	<0.5	0.03	
3260984	Drill Core	87.6	0.7	<0.05	<0.005	<1	<0.5	<0.5	0.02	
3260985	Drill Core	65.1	0.7	0.09	<0.005	1	0.6	<0.5	0.02	
3260986	Drill Core	67.2	0.8	0.09	<0.005	<1	0.5	<0.5	0.03	
3260987	Drill Core	58.2	0.7	0.10	<0.005	<1	0.8	<0.5	0.02	
3260988	Drill Core	53.5	0.8	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260989	Drill Core	54.0	0.8	0.07	<0.005	<1	<0.5	<0.5	<0.01	
3260990	Rock	1.0	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01	
3260991	Drill Core	65.9	1.1	0.05	<0.005	<1	1.4	<0.5	0.07	
3260992	Drill Core	57.0	1.1	0.08	<0.005	2	0.9	<0.5	0.13	
3260993	Drill Core	52.1	1.1	0.08	0.005	4	1.5	<0.5	0.01	
3260994	Drill Core	37.5	1.0	0.15	0.020	7	3.6	<0.5	<0.01	
3260995	Drill Core	64.9	1.4	<0.05	0.007	1	<0.5	<0.5	<0.01	
3260996	Drill Core	36.2	1.0	0.16	0.010	5	2.9	<0.5	<0.01	
3260997	Drill Core	25.6	1.0	0.15	0.008	5	<0.5	<0.5	0.01	
3260998	Drill Core	8.9	1.0	0.14	0.028	5	0.5	<0.5	0.01	
3260999	Drill Core	17.4	0.9	0.15	0.030	6	<0.5	<0.5	0.01	
3261000	Rock Pulp	184.9	2.3	0.09	<0.005	3	0.7	1.1	0.02	
3261001	Drill Core	21.7	1.1	0.14	0.029	6	3.1	<0.5	0.02	
3261002	Drill Core	13.7	1.1	0.12	0.027	4	0.6	<0.5	0.01	
3261003	Drill Core	12.4	1.0	0.14	0.163	4	<0.5	<0.5	0.01	
3261004	Drill Core	39.2	2.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261005	Core DUP	42.3	1.9	<0.05	0.008	<1	<0.5	<0.5	<0.01	
3261006	Drill Core	47.2	1.7	<0.05	0.011	<1	<0.5	<0.5	<0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261007	Drill Core	4.21	0.007	18.0	54.8	3.2	11	<0.1	1.8	3.3	445	1.62	<1	1.0	2.8	552	<0.1	1.1	<0.1	149	4.81
3261008	Drill Core	3.72	0.010	4.2	174.6	3.5	19	0.3	4.6	5.3	433	1.74	<1	1.0	2.8	483	0.2	1.0	<0.1	131	3.29
3261009	Drill Core	1.15	0.042	1.0	982.1	5.7	48	2.4	17.5	16.3	616	3.78	<1	0.9	2.4	541	0.4	1.9	0.1	164	4.19
3261010	Rock	1.57	0.006	0.4	0.8	0.5	4	0.1	0.7	<0.2	42	0.07	2	2.9	0.2	130	<0.1	<0.1	<0.1	15	23.00
3261011	Drill Core	3.12	0.019	7.4	673.2	1.7	39	1.5	43.0	30.0	1149	4.79	1	0.7	2.1	542	0.4	0.8	<0.1	299	7.79
3261012	Drill Core	2.95	0.029	0.5	407.9	4.4	29	1.1	4.7	7.6	491	1.96	1	1.0	3.4	546	0.2	1.1	0.1	129	2.71
3261013	Drill Core	4.61	0.008	19.3	206.5	3.3	29	0.3	3.5	7.0	474	1.85	1	1.2	3.1	378	0.1	1.7	0.1	148	3.42
3261014	Drill Core	4.86	0.009	13.4	279.8	5.5	34	0.4	4.3	9.0	402	1.98	<1	1.1	2.9	408	0.1	1.8	0.1	141	2.86
3261015	Drill Core	3.61	0.007	2.4	132.6	3.2	34	0.2	4.7	5.3	394	1.86	<1	1.2	3.2	367	0.2	2.8	0.1	150	2.32
3261016	Drill Core	4.08	0.009	17.8	172.9	3.2	21	0.3	3.1	6.7	514	1.84	<1	1.1	2.8	378	<0.1	2.1	0.2	150	3.54
3261017	Drill Core	2.46	<0.005	5.4	21.6	2.9	14	<0.1	2.9	5.2	469	1.99	1	1.0	2.6	479	<0.1	1.9	<0.1	170	4.98
3261018	Drill Core	4.30	0.006	2.8	31.9	2.6	19	<0.1	3.7	7.3	529	3.05	<1	1.0	3.0	524	<0.1	2.9	<0.1	166	5.22
3261019	Drill Core	3.14	0.018	312.0	2242.0	4.5	57	2.9	105.5	57.1	1380	8.00	10	0.6	0.8	421	0.7	2.3	0.2	236	10.58
3261020	Rock Pulp	0.13	0.225	102.1	2869.8	22.9	90	0.4	65.7	17.3	604	4.43	19	4.8	18.2	290	0.2	2.5	0.8	141	2.63
3261021	Drill Core	5.42	0.008	2.4	951.6	4.0	47	1.2	94.3	38.3	1385	7.69	5	0.5	0.3	426	0.2	2.0	0.2	252	10.76
3261022	Drill Core	5.00	0.011	5.8	1425.8	5.5	57	1.7	113.4	46.0	1291	9.33	5	0.5	0.5	369	0.6	2.6	0.2	246	10.49
3261023	Drill Core	5.04	0.015	10.8	1588.0	12.1	55	2.1	104.4	56.7	1336	9.49	4	0.6	0.5	391	0.5	4.8	0.3	249	10.63
3261024	Drill Core	5.52	0.115	189.2	3082.9	27.6	1198	8.2	233.0	108.6	1975	20.23	40	0.6	0.8	321	10.3	5.7	0.7	327	8.56
3261025	Drill Core	5.24	0.022	70.1	3156.6	5.0	93	5.4	94.2	88.3	1262	9.03	4	0.7	0.6	479	1.2	3.1	0.4	258	12.11
3261026	Drill Core	2.85	0.014	30.1	1529.1	4.0	62	2.2	110.7	73.0	1339	8.55	4	0.7	0.6	642	0.5	2.9	0.3	255	11.65
3261027	Drill Core	4.41	0.008	9.0	655.8	3.6	36	0.7	33.2	40.3	716	5.39	4	1.2	2.8	726	0.2	1.5	0.1	298	7.74
3261028	Drill Core	4.74	0.009	22.9	340.5	2.6	39	0.4	12.4	27.4	974	5.38	2	1.1	2.8	828	0.2	1.2	<0.1	320	6.94
3261029	Drill Core	4.56	0.010	6.3	275.1	7.3	50	0.6	8.6	26.4	1048	5.75	3	1.1	2.9	810	0.2	1.5	0.2	317	6.65
3261030	Rock	2.02	<0.005	0.3	2.6	0.6	5	0.1	1.8	0.4	59	0.10	1	2.4	<0.1	148	<0.1	<0.1	<0.1	8	25.96
3261031	Drill Core	5.18	0.008	25.2	282.8	3.8	38	0.5	7.3	21.1	780	4.52	3	1.1	2.9	747	0.2	1.2	0.1	316	6.64
3261032	Drill Core	5.44	0.007	151.7	711.0	8.0	53	2.1	8.1	27.6	916	4.94	2	1.3	2.8	663	0.6	2.1	0.4	291	6.44
3261033	Drill Core	2.56	0.018	11.3	447.6	49.1	289	1.2	8.6	28.1	1494	6.64	2	1.1	2.6	814	2.1	1.8	0.2	311	6.83
3261034	Drill Core	3.48	0.014	4.2	213.1	3.1	40	0.3	7.7	23.2	935	5.34	2	1.1	3.0	799	<0.1	2.0	0.2	312	6.76
3261035	Drill Core	4.90	0.008	3.6	541.6	3.1	43	0.7	82.6	35.0	1345	6.22	2	0.8	1.1	378	0.2	1.3	0.2	269	11.03
3261036	Drill Core	4.63	0.013	11.8	1135.9	3.8	47	1.4	108.7	55.6	1420	8.56	<1	0.7	0.6	345	0.4	1.7	0.5	244	10.11

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

		Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
		Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261007	Drill Core		0.107	9.9	4	0.84	856	0.291	8.86	4.335	3.91	0.5	48.1	21	1.1	15.2	11.7	0.6	<1	5	4.7	0.3
3261008	Drill Core		0.120	10.1	4	0.85	996	0.305	8.73	4.358	4.30	0.5	58.0	20	1.3	15.1	12.6	0.7	2	5	4.6	0.1
3261009	Drill Core		0.118	9.4	63	1.45	971	0.339	8.74	4.027	3.32	0.5	57.8	20	1.3	16.2	9.6	0.5	<1	13	8.6	<0.1
3261010	Rock		0.057	1.3	1	9.48	130	0.003	0.07	0.013	0.03	0.1	0.3	<1	<0.1	2.0	<0.1	<0.1	<1	<1	3.2	<0.1
3261011	Drill Core		0.109	9.3	128	4.03	513	0.501	8.15	2.543	1.31	1.1	24.2	19	1.3	18.9	4.2	0.2	<1	43	25.0	0.6
3261012	Drill Core		0.110	9.6	5	1.00	1060	0.309	8.43	3.320	4.40	0.5	52.6	19	1.5	14.2	12.2	0.7	<1	5	6.4	<0.1
3261013	Drill Core		0.114	11.0	5	1.08	1125	0.326	7.93	5.381	5.46	0.6	54.6	21	1.8	15.1	12.3	0.7	1	5	6.0	0.5
3261014	Drill Core		0.118	9.0	4	1.05	1124	0.322	7.53	5.313	5.54	0.4	53.4	19	1.8	14.0	12.9	0.7	<1	5	4.4	0.4
3261015	Drill Core		0.126	11.7	5	1.00	1047	0.325	8.21	5.627	4.44	1.3	47.0	22	1.6	14.9	12.1	0.7	<1	5	6.6	<0.1
3261016	Drill Core		0.111	8.7	5	1.04	1062	0.313	7.39	5.359	4.09	0.4	53.9	17	1.5	13.7	11.7	0.7	1	5	4.9	0.5
3261017	Drill Core		0.114	8.7	5	0.88	985	0.310	7.37	5.593	4.17	0.3	55.9	17	1.0	14.1	11.8	0.7	<1	5	2.8	0.4
3261018	Drill Core		0.119	11.2	5	1.02	898	0.342	8.01	5.849	3.10	0.4	68.3	20	0.9	15.6	12.5	0.7	1	6	3.2	0.5
3261019	Drill Core		0.092	5.8	368	4.70	140	0.438	6.23	2.229	0.71	0.8	31.7	11	1.3	16.0	2.0	0.1	<1	44	16.2	3.2
3261020	Rock Pulp		0.102	30.7	85	1.56	1079	0.518	6.88	2.789	4.49	4.5	81.1	62	3.7	24.5	19.0	1.3	3	12	35.8	0.3
3261021	Drill Core		0.097	5.4	361	4.93	162	0.455	6.27	2.223	0.59	1.0	33.4	10	1.1	15.5	1.8	0.1	<1	47	14.3	2.9
3261022	Drill Core		0.088	5.6	390	4.95	91	0.462	6.23	2.109	0.37	0.9	33.5	10	1.3	14.4	1.8	0.1	<1	48	13.7	3.9
3261023	Drill Core		0.093	5.8	347	4.93	74	0.457	6.24	2.143	0.25	0.9	32.6	11	1.5	14.9	1.7	0.1	<1	46	15.7	4.1
3261024	Drill Core		0.070	4.6	212	3.57	43	0.318	4.43	1.237	0.33	6.0	18.6	10	2.9	13.4	2.1	<0.1	1	29	14.8	>10
3261025	Drill Core		0.089	4.2	336	4.53	171	0.411	5.78	2.372	0.51	1.0	26.3	9	1.6	14.2	1.7	0.1	<1	43	13.1	4.2
3261026	Drill Core		0.103	5.4	347	4.68	133	0.443	6.21	2.551	0.34	0.9	30.1	10	1.5	15.3	1.8	0.1	<1	44	13.3	4.0
3261027	Drill Core		0.220	10.4	13	2.18	174	0.489	9.87	5.402	0.58	1.0	37.5	21	1.8	19.1	7.7	0.5	2	20	15.0	2.3
3261028	Drill Core		0.204	13.1	9	2.26	811	0.500	9.32	4.745	1.92	0.9	32.8	25	1.4	19.9	7.9	0.4	2	20	12.0	0.8
3261029	Drill Core		0.210	13.8	8	2.21	1067	0.492	9.33	4.026	3.43	1.0	32.2	26	0.6	18.7	7.4	0.4	1	20	18.4	0.7
3261030	Rock		0.052	1.7	3	10.55	191	0.006	0.07	0.020	0.04	0.1	0.4	1	<0.1	2.1	0.1	<0.1	<1	<1	5.8	<0.1
3261031	Drill Core		0.219	11.6	7	2.28	648	0.474	9.61	5.148	1.73	0.8	27.6	23	1.3	19.7	7.8	0.4	1	20	15.6	0.9
3261032	Drill Core		0.193	12.7	9	2.04	741	0.477	9.01	5.138	3.08	1.9	28.9	24	1.4	19.1	8.0	0.4	1	19	12.7	1.3
3261033	Drill Core		0.212	15.3	7	2.18	1112	0.466	9.31	3.512	3.55	1.2	30.7	28	0.8	19.1	7.8	0.4	2	19	15.9	1.1
3261034	Drill Core		0.191	13.9	18	2.20	1080	0.516	9.54	3.927	3.55	1.1	32.3	27	0.8	20.0	8.2	0.4	1	19	11.4	0.7
3261035	Drill Core		0.078	6.0	403	4.82	222	0.519	6.75	2.142	1.07	1.2	31.1	13	1.5	17.9	2.9	0.2	<1	40	15.8	1.7
3261036	Drill Core		0.093	5.5	359	4.62	164	0.436	6.09	1.788	0.67	1.0	27.1	10	1.2	15.1	1.9	0.1	<1	43	17.4	3.4

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Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261007	Drill Core	58.2	1.7	0.07	0.015	<1	<0.5	<0.5	<0.01	
3261008	Drill Core	64.8	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261009	Drill Core	51.7	1.9	<0.05	<0.005	2	<0.5	<0.5	0.02	
3261010	Rock	0.9	<0.1	<0.05	<0.005	<1	4.0	<0.5	<0.01	
3261011	Drill Core	45.2	1.1	0.13	0.010	2	1.4	<0.5	<0.01	
3261012	Drill Core	66.8	1.8	0.07	<0.005	<1	<0.5	<0.5	0.02	
3261013	Drill Core	70.0	1.8	0.09	0.013	1	<0.5	<0.5	<0.01	
3261014	Drill Core	65.4	1.7	<0.05	0.011	1	<0.5	<0.5	0.01	
3261015	Drill Core	61.8	1.5	0.05	<0.005	<1	<0.5	<0.5	0.01	
3261016	Drill Core	47.8	1.7	0.06	0.019	<1	<0.5	<0.5	0.01	
3261017	Drill Core	33.9	1.8	0.06	<0.005	<1	<0.5	<0.5	<0.01	
3261018	Drill Core	33.4	2.0	0.06	<0.005	<1	<0.5	<0.5	<0.01	
3261019	Drill Core	24.1	1.1	0.26	0.472	6	1.9	<0.5	0.02	
3261020	Rock Pulp	167.5	2.5	0.05	<0.005	2	0.8	1.1	0.02	
3261021	Drill Core	21.2	1.2	0.11	<0.005	3	2.5	<0.5	0.01	
3261022	Drill Core	14.4	1.1	0.12	0.007	5	2.1	<0.5	0.02	
3261023	Drill Core	9.3	1.0	0.12	0.026	6	2.4	<0.5	0.02	
3261024	Drill Core	13.8	0.6	0.29	0.377	21	0.9	<0.5	0.24	10.55
3261025	Drill Core	11.9	1.0	0.17	0.097	9	2.4	<0.5	0.03	
3261026	Drill Core	9.4	1.1	0.13	0.057	6	1.8	<0.5	0.02	
3261027	Drill Core	20.9	1.4	0.11	0.018	2	0.7	<0.5	<0.01	
3261028	Drill Core	39.7	1.2	0.09	0.030	1	0.7	<0.5	<0.01	
3261029	Drill Core	59.7	1.2	<0.05	0.015	1	0.9	<0.5	<0.01	
3261030	Rock	1.4	<0.1	<0.05	<0.005	<1	5.5	<0.5	<0.01	
3261031	Drill Core	47.3	1.1	0.05	0.025	1	0.7	<0.5	<0.01	
3261032	Drill Core	57.8	1.0	<0.05	0.237	3	0.9	<0.5	0.01	
3261033	Drill Core	63.0	1.1	0.06	<0.005	2	0.8	<0.5	0.07	
3261034	Drill Core	60.4	1.4	0.07	<0.005	<1	1.0	<0.5	<0.01	
3261035	Drill Core	35.2	1.2	0.09	<0.005	3	2.8	<0.5	0.01	
3261036	Drill Core	28.5	1.0	0.17	0.012	5	2.3	<0.5	0.02	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261037	Drill Core	3.35	0.022	24.4	375.6	8.2	93	0.8	10.3	18.4	836	4.51	2	0.9	2.2	500	0.7	1.4	0.3	246	4.91
3261038	Drill Core	2.21	0.015	61.9	293.5	10.0	73	0.6	11.1	18.1	992	4.54	2	1.0	2.2	600	0.4	2.4	0.5	272	6.13
3261039	Drill Core	2.89	0.046	0.8	219.7	9.0	66	0.5	17.3	26.7	1452	5.96	9	0.5	1.1	457	<0.1	3.3	<0.1	267	6.49
3261040	Rock Pulp	0.13	0.222	100.9	2900.4	23.9	87	0.4	64.4	17.3	614	4.47	19	5.7	20.4	298	0.3	2.4	0.8	138	2.63
3261041	Drill Core	4.95	0.020	5.4	268.0	18.4	92	0.5	13.1	25.8	1359	5.94	2	0.7	1.3	613	0.4	3.9	0.3	278	6.11
3261042	Drill Core	3.46	0.016	25.5	364.4	18.8	242	0.8	15.5	21.7	1558	5.36	3	0.8	1.6	520	1.5	4.8	0.2	252	6.47
3261043	Drill Core	3.61	0.047	52.0	1015.4	49.3	287	5.3	12.8	33.7	2090	6.91	19	0.8	1.9	284	1.8	4.4	0.9	259	5.70
3261044	Drill Core	3.30	0.018	210.3	582.3	48.4	230	1.9	22.5	27.7	8471	11.11	10	0.7	1.0	426	1.3	7.4	0.6	194	9.10
3261045	Core DUP		0.018	206.7	569.1	46.2	221	1.8	22.6	28.2	8378	11.01	9	0.7	1.1	411	1.2	6.9	0.6	197	9.12
3261046	Drill Core	3.72	0.013	29.5	766.3	15.8	54	1.7	38.9	26.9	3464	5.65	5	0.7	1.2	250	0.3	6.2	0.4	201	7.67
3261047	Drill Core	5.02	0.022	90.0	1424.7	3.4	37	1.4	67.0	34.6	838	5.48	<1	0.8	1.2	575	0.4	4.9	0.2	224	7.95
3261048	Drill Core	5.22	0.038	56.5	1697.5	4.8	36	1.7	83.1	48.8	1137	6.34	<1	0.7	0.6	333	0.2	7.8	0.2	221	9.20
3261049	Drill Core	1.73	0.032	55.1	1158.8	12.0	86	1.5	79.4	35.2	3293	7.98	2	0.8	0.6	257	0.3	5.2	0.2	206	9.18
3261050	Rock	2.21	<0.005	0.4	3.7	0.8	6	0.1	2.1	0.3	54	0.14	<1	2.0	0.3	122	0.1	<0.1	<0.1	7	21.40
3261051	Drill Core	3.38	0.032	54.0	2003.4	5.4	52	2.9	18.6	46.3	1972	6.59	2	0.7	1.8	336	0.5	2.5	<0.1	210	5.36
3261052	Drill Core	4.92	0.022	49.3	510.2	4.7	30	0.4	9.9	18.2	886	3.46	2	0.8	2.0	676	0.2	1.4	<0.1	222	5.48
3261053	Drill Core	4.73	0.018	67.0	439.9	4.4	36	0.3	10.5	22.0	702	3.95	<1	0.8	1.9	727	0.2	0.7	<0.1	234	5.84
3261054	Drill Core	3.11	0.067	31.3	1227.1	3.3	57	1.2	51.5	36.5	911	5.79	<1	1.1	1.4	873	0.8	0.9	0.1	209	7.63
3261055	Drill Core	5.40	0.093	22.0	1842.6	2.1	38	1.0	111.9	63.7	1211	8.91	<1	0.9	0.5	518	0.2	0.7	0.1	212	10.22
3261056	Drill Core	5.14	0.032	14.5	1408.8	8.2	67	0.9	99.6	60.3	1160	8.61	<1	0.9	0.6	482	0.4	0.8	0.2	227	9.68
3261057	Drill Core	5.20	0.012	8.7	708.1	2.4	26	0.3	89.0	48.0	1066	7.35	3	0.8	0.6	383	<0.1	0.8	<0.1	233	10.24
3261058	Drill Core	5.73	0.022	29.9	1092.7	2.8	36	0.5	104.2	51.3	1191	7.90	<1	0.7	0.7	397	0.2	0.9	0.1	249	11.13
3261059	Drill Core	5.53	0.039	35.3	916.4	2.3	30	0.6	104.9	40.8	1121	6.76	<1	0.9	0.6	401	0.2	1.2	0.1	211	11.29
3261060	Rock Pulp	0.13	0.702	322.0	5301.3	20.9	84	0.8	37.7	14.9	506	4.86	23	4.3	17.5	295	0.2	3.9	0.7	129	2.51
3261061	Drill Core	5.31	0.034	81.0	1209.7	3.3	37	0.9	120.6	46.1	1170	7.18	4	0.7	0.5	416	0.3	2.1	<0.1	216	12.00
3261062	Drill Core	5.62	0.079	42.1	1658.8	2.8	36	1.5	121.4	56.7	1158	8.37	2	0.6	0.4	383	0.6	2.3	0.2	213	10.73
3261063	Drill Core	5.82	0.036	74.0	1606.9	4.4	40	2.1	113.1	60.2	1129	8.65	2	0.8	0.5	317	0.8	1.5	0.4	208	10.20
3261064	Drill Core	6.01	0.027	21.1	1468.1	4.1	32	1.7	113.0	70.3	1116	9.07	2	0.9	0.5	312	0.2	0.9	0.7	220	10.50
3261065	Drill Core	6.35	0.031	18.9	1725.4	3.4	35	2.2	113.1	71.7	1085	8.99	2	1.0	0.5	307	0.4	0.5	0.6	227	10.56
3261066	Drill Core	3.29	0.020	1.4	1093.5	2.4	29	1.1	98.7	50.0	982	8.32	<1	0.9	0.7	326	0.3	0.7	0.3	224	10.16

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261037	Drill Core	0.162	11.1	8	2.06	378	0.429	8.66	4.343	3.30	1.3	32.1	22	1.1	16.2	7.3	0.4	<1	16	15.8	1.3
3261038	Drill Core	0.160	12.9	13	2.41	1193	0.456	9.00	4.078	4.49	1.5	31.6	23	1.0	16.4	7.4	0.4	1	19	16.5	1.1
3261039	Drill Core	0.139	9.1	26	2.30	812	0.462	8.64	2.524	4.06	2.8	26.7	17	0.6	14.4	5.5	0.3	<1	20	23.6	1.0
3261040	Rock Pulp	0.105	34.0	85	1.59	1096	0.507	7.09	2.742	4.39	4.2	75.4	67	3.7	25.1	18.6	1.4	4	13	37.9	0.3
3261041	Drill Core	0.163	10.6	17	2.28	1058	0.466	8.73	3.413	3.85	2.1	31.4	20	0.6	15.8	6.4	0.3	<1	19	21.1	1.0
3261042	Drill Core	0.146	10.2	21	2.22	837	0.431	8.54	4.300	3.05	2.8	29.2	19	0.9	15.4	6.3	0.4	<1	18	16.1	1.1
3261043	Drill Core	0.148	9.3	9	2.21	471	0.428	8.31	3.936	1.85	6.0	29.2	19	1.2	15.2	6.9	0.4	<1	19	26.1	1.9
3261044	Drill Core	0.098	7.4	76	2.06	246	0.307	5.78	1.844	1.36	6.9	22.3	14	0.7	12.4	3.9	0.2	<1	17	15.8	1.6
3261045	Core DUP	0.091	7.3	70	2.07	403	0.302	5.88	1.945	1.39	6.7	19.9	14	0.6	13.1	3.9	0.2	<1	17	15.5	1.6
3261046	Drill Core	0.106	6.1	100	2.14	235	0.365	6.83	1.527	1.55	4.2	21.9	14	0.7	15.9	4.4	0.2	<1	21	24.4	1.6
3261047	Drill Core	0.103	5.0	213	3.61	202	0.371	6.83	2.735	1.09	0.9	27.9	13	1.0	14.9	3.6	0.2	2	29	12.7	2.7
3261048	Drill Core	0.087	3.8	226	3.92	145	0.391	6.09	1.969	1.08	0.8	27.0	9	0.9	14.8	2.2	0.1	<1	32	17.5	3.3
3261049	Drill Core	0.091	3.7	210	2.35	130	0.404	5.87	1.408	1.03	3.1	25.3	10	0.8	13.3	1.9	0.1	1	32	18.2	3.3
3261050	Rock	0.040	1.8	3	9.62	158	0.009	0.18	0.018	0.08	<0.1	0.3	2	<0.1	2.2	0.2	<0.1	<1	<1	6.1	<0.1
3261051	Drill Core	0.135	6.2	16	1.24	226	0.354	7.99	2.498	1.98	2.4	20.5	15	0.6	12.9	6.3	0.3	<1	15	17.3	2.7
3261052	Drill Core	0.153	9.4	8	1.61	652	0.399	8.51	3.975	2.29	1.0	30.4	21	0.8	15.4	7.2	0.4	<1	15	14.9	1.3
3261053	Drill Core	0.163	10.3	7	1.90	836	0.411	8.87	3.638	2.61	0.8	30.3	20	0.8	16.7	7.9	0.4	<1	15	10.7	1.4
3261054	Drill Core	0.120	6.7	174	2.97	346	0.375	7.50	3.487	0.97	0.8	37.4	15	1.0	15.0	4.9	0.3	2	24	13.5	2.5
3261055	Drill Core	0.092	4.4	362	4.47	87	0.377	5.36	1.529	0.38	1.1	24.7	10	1.1	13.7	1.6	<0.1	<1	38	14.9	4.3
3261056	Drill Core	0.096	4.2	248	3.76	85	0.412	5.87	1.803	0.30	0.9	28.3	9	1.0	14.8	1.9	0.1	<1	33	12.9	4.3
3261057	Drill Core	0.094	3.8	219	3.86	59	0.452	6.35	1.994	0.35	0.9	29.9	10	1.0	15.7	2.0	0.1	<1	34	13.7	3.1
3261058	Drill Core	0.085	5.6	316	4.40	58	0.391	5.79	1.596	0.27	0.9	26.1	11	1.4	13.8	1.7	0.1	<1	35	12.8	3.4
3261059	Drill Core	0.087	4.0	314	4.18	102	0.374	5.43	1.797	0.54	1.0	22.8	10	1.0	13.2	1.3	0.1	<1	39	15.9	3.2
3261060	Rock Pulp	0.096	26.4	59	1.49	925	0.452	6.85	2.093	3.38	3.8	66.8	57	3.3	23.2	15.4	1.1	4	11	30.1	0.6
3261061	Drill Core	0.078	3.5	351	4.50	82	0.380	5.44	1.605	0.45	1.1	21.9	9	1.2	13.2	1.5	0.1	<1	39	15.2	3.5
3261062	Drill Core	0.089	3.1	343	4.37	51	0.370	5.41	1.718	0.31	1.0	23.1	8	1.0	12.8	1.3	<0.1	<1	37	14.6	4.4
3261063	Drill Core	0.084	4.2	349	4.23	57	0.371	5.43	1.735	0.36	1.1	24.1	9	1.3	13.1	1.4	<0.1	<1	39	11.9	4.3
3261064	Drill Core	0.092	3.5	356	4.30	40	0.388	5.52	1.558	0.26	1.2	27.0	8	1.4	13.3	1.5	<0.1	<1	41	14.7	4.2
3261065	Drill Core	0.087	3.7	359	4.43	65	0.384	5.83	1.808	0.39	1.3	26.7	9	1.4	13.8	1.4	<0.1	<1	39	12.7	4.4
3261066	Drill Core	0.101	5.2	311	4.28	113	0.406	6.08	1.959	0.44	1.3	29.6	11	1.4	14.9	2.2	0.2	<1	37	14.0	4.0

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Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261037	Drill Core	54.2	1.2	0.08	0.024	2	0.9	<0.5	0.03	
3261038	Drill Core	75.8	1.3	0.07	0.075	2	0.9	<0.5	0.02	
3261039	Drill Core	94.8	0.9	<0.05	<0.005	<1	0.8	<0.5	0.02	
3261040	Rock Pulp	179.0	2.5	0.07	<0.005	1	0.6	1.1	0.02	
3261041	Drill Core	77.3	1.1	<0.05	0.008	1	0.9	<0.5	0.04	
3261042	Drill Core	58.4	1.2	0.11	0.034	2	0.8	<0.5	0.05	
3261043	Drill Core	52.1	0.9	0.10	0.054	4	2.4	<0.5	0.05	
3261044	Drill Core	39.7	0.9	0.14	0.144	3	1.4	<0.5	0.03	
3261045	Core DUP	39.9	0.7	0.12	0.131	3	1.6	<0.5	0.03	
3261046	Drill Core	60.7	1.0	<0.05	0.026	3	1.8	<0.5	0.01	
3261047	Drill Core	39.6	1.0	0.07	0.123	7	1.6	<0.5	0.03	
3261048	Drill Core	39.3	0.9	0.07	0.070	8	2.1	<0.5	0.07	
3261049	Drill Core	42.7	0.9	0.07	0.079	4	1.0	<0.5	0.03	
3261050	Rock	3.9	<0.1	<0.05	<0.005	<1	2.3	<0.5	<0.01	
3261051	Drill Core	71.6	0.8	0.07	0.076	7	<0.5	<0.5	0.02	
3261052	Drill Core	53.8	1.2	<0.05	0.063	<1	0.9	<0.5	<0.01	
3261053	Drill Core	48.2	1.3	0.06	0.108	2	0.6	<0.5	<0.01	
3261054	Drill Core	32.1	1.2	<0.05	0.051	5	1.7	<0.5	0.02	
3261055	Drill Core	12.9	0.9	0.09	0.034	7	1.0	<0.5	<0.01	
3261056	Drill Core	11.2	1.1	0.09	0.024	5	<0.5	<0.5	0.03	
3261057	Drill Core	11.8	1.1	0.11	0.011	2	<0.5	<0.5	<0.01	
3261058	Drill Core	9.2	1.0	0.06	0.041	6	1.0	<0.5	<0.01	
3261059	Drill Core	16.8	0.9	0.07	0.040	2	<0.5	<0.5	<0.01	
3261060	Rock Pulp	147.8	2.3	0.06	<0.005	2	0.5	1.0	0.04	
3261061	Drill Core	16.9	1.0	0.09	0.118	5	3.5	<0.5	0.01	
3261062	Drill Core	14.0	0.9	0.06	0.033	5	<0.5	<0.5	0.01	
3261063	Drill Core	13.5	0.8	0.08	0.094	6	2.0	<0.5	0.01	
3261064	Drill Core	11.5	0.9	0.11	0.019	3	0.8	<0.5	<0.01	
3261065	Drill Core	18.2	1.0	0.07	0.028	5	<0.5	<0.5	<0.01	
3261066	Drill Core	17.6	1.0	0.09	<0.005	5	<0.5	<0.5	<0.01	

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261067	Drill Core	4.66	0.032	56.8	315.9	2.7	35	0.3	9.4	20.4	679	4.19	3	0.7	1.9	737	0.2	1.5	<0.1	239	5.65
3261068	Drill Core	2.75	0.013	1.5	252.4	2.2	25	0.2	14.5	19.6	700	3.92	5	0.8	1.9	572	0.1	0.9	<0.1	229	5.89
3261069	Drill Core	5.31	0.035	2.8	1490.6	2.9	33	1.1	105.0	67.0	1031	9.44	2	0.7	0.5	335	0.3	1.0	0.3	226	9.79
3261070	Rock	2.06	0.006	0.2	2.4	0.5	4	<0.1	1.0	0.3	41	0.09	<1	4.6	0.1	120	<0.1	<0.1	<0.1	7	22.08
3261071	Drill Core	5.67	0.038	24.0	1631.6	8.7	31	1.3	89.2	74.9	975	9.27	4	0.7	0.6	345	0.3	1.0	0.2	237	10.15
3261072	Drill Core	4.28	0.041	20.2	1512.4	2.8	34	1.3	91.9	64.9	924	8.24	3	0.8	0.6	311	0.2	1.6	0.2	239	10.06
3261073	Drill Core	4.65	0.037	130.7	1404.7	5.1	37	1.7	91.0	48.7	876	6.73	6	0.8	0.6	418	0.4	2.8	0.5	244	10.86
3261074	Drill Core	5.84	0.016	29.3	1096.8	8.7	33	1.1	102.3	47.1	980	7.07	1	0.8	0.5	311	0.2	0.4	0.4	243	10.52
3261075	Drill Core	5.22	0.018	24.5	979.5	11.1	36	1.1	108.2	38.8	1057	6.57	<1	0.9	0.6	329	0.3	0.6	0.4	242	10.99
3261076	Drill Core	4.67	0.015	34.3	897.0	7.2	34	0.9	103.4	40.0	1019	6.35	6	0.7	0.6	324	0.3	1.0	0.6	237	11.17
3261077	Drill Core	5.06	0.013	39.4	577.0	5.1	35	0.6	93.5	31.2	962	5.81	<1	0.7	0.7	406	0.3	0.6	0.3	245	10.30
3261078	Drill Core	5.56	0.016	11.1	929.7	3.1	35	1.1	102.3	35.7	1122	6.50	3	1.0	0.6	297	0.1	1.0	0.2	242	12.03
3261079	Drill Core	5.11	0.009	28.0	437.2	2.8	31	0.5	105.2	22.6	1170	5.10	4	0.7	0.6	279	0.2	1.9	0.3	236	12.40
3261080	Rock Pulp	0.13	0.224	101.1	2723.4	22.1	84	0.4	62.7	15.7	527	4.27	17	4.8	19.2	275	0.2	2.3	0.7	130	2.54
3261081	Drill Core	5.58	0.027	21.4	1176.2	3.5	44	1.8	86.4	32.7	1023	6.20	8	0.6	0.5	307	0.2	1.6	0.3	220	11.35
3261082	Drill Core	5.35	0.013	18.3	963.8	3.1	33	0.9	80.8	45.8	1051	7.07	7	1.0	0.6	352	0.2	1.8	0.3	241	11.09
3261083	Drill Core	1.92	0.021	25.4	872.7	3.2	34	0.7	131.0	42.6	1146	7.62	14	1.5	0.7	319	0.3	2.3	0.3	255	10.85
3261084	Drill Core	3.65	0.011	5.3	841.9	2.1	33	0.6	127.4	42.4	1095	7.80	3	1.7	0.6	309	0.1	1.3	0.2	231	10.73
3261085	Core DUP		0.011	6.1	840.5	2.1	33	0.6	138.9	43.0	1117	7.85	3	1.6	0.6	317	0.2	1.5	0.2	238	10.68
3261086	Drill Core	5.32	0.014	9.9	855.9	3.3	29	0.5	123.0	50.0	1061	9.15	5	2.0	0.6	374	<0.1	1.8	0.3	227	11.19
3261087	Drill Core	4.98	0.011	14.0	712.5	2.8	29	0.5	80.8	39.6	998	7.97	5	2.1	0.7	325	<0.1	2.0	0.3	242	10.56
3261088	Drill Core	5.46	0.010	3.4	519.2	2.6	26	0.4	80.3	31.1	1030	7.29	3	2.5	0.7	336	0.1	1.6	0.3	246	10.95
3261089	Drill Core	5.31	0.008	54.4	271.1	2.6	31	0.3	83.7	19.1	1054	5.52	4	1.8	0.8	329	0.1	1.7	0.2	264	11.05
3261090	Rock	1.70	0.005	0.4	1.6	0.5	4	<0.1	0.5	<0.2	44	0.07	1	2.0	<0.1	123	<0.1	<0.1	<0.1	6	22.35
3261091	Drill Core	5.02	0.014	3.4	302.1	2.2	31	0.2	55.0	35.9	975	6.35	14	1.2	0.8	546	0.1	1.5	0.3	238	9.22
3261092	Drill Core	5.13	0.011	52.8	442.2	3.4	26	0.5	92.5	32.0	892	6.26	18	2.3	0.8	532	0.2	5.5	0.6	262	10.99
3261093	Drill Core	4.40	0.010	20.0	805.8	2.8	25	0.7	61.7	56.4	876	8.54	5	2.2	0.9	490	0.2	1.2	0.7	277	8.30
3261094	Drill Core	6.19	0.016	14.0	735.3	3.8	31	0.8	50.8	48.1	897	7.80	22	1.6	0.9	444	0.1	2.1	0.9	291	8.39
3261095	Drill Core	5.35	0.008	8.3	337.3	2.6	25	0.4	54.3	26.6	868	5.04	6	1.3	1.0	449	0.1	1.0	0.3	278	8.58
3261096	Drill Core	5.47	0.008	23.2	353.4	2.9	26	0.4	46.4	30.0	883	5.20	3	1.0	0.9	449	<0.1	1.1	0.4	276	8.90

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261067	Drill Core	0.144	11.5	11	1.84	867	0.483	8.89	2.908	3.60	1.0	38.2	24	0.9	16.6	9.3	0.5	<1	16	11.7	1.2
3261068	Drill Core	0.123	11.5	36	2.03	701	0.444	8.65	2.938	3.29	1.4	35.3	23	0.7	14.6	8.0	0.5	<1	16	13.0	1.1
3261069	Drill Core	0.089	3.4	258	3.71	108	0.408	5.82	1.534	0.67	1.3	29.2	8	1.4	14.2	1.8	0.1	1	35	11.0	4.7
3261070	Rock	0.044	0.9	3	10.04	170	0.004	0.08	0.010	0.03	<0.1	0.2	<1	<0.1	1.8	<0.1	<0.1	<1	<1	3.3	<0.1
3261071	Drill Core	0.098	2.8	230	3.71	73	0.416	6.12	1.683	0.51	1.1	28.4	8	1.4	14.8	1.6	0.1	<1	33	11.9	5.0
3261072	Drill Core	0.097	3.8	315	4.08	81	0.414	6.11	2.056	0.62	1.3	29.0	9	1.2	14.5	1.6	0.1	<1	38	12.4	3.9
3261073	Drill Core	0.095	3.8	277	4.19	150	0.420	6.18	1.894	0.67	0.9	30.3	9	1.3	14.8	1.7	0.1	1	38	11.9	3.3
3261074	Drill Core	0.096	3.6	332	4.29	62	0.415	6.08	1.882	0.42	1.1	28.8	10	1.3	14.8	1.6	0.1	<1	40	13.5	3.2
3261075	Drill Core	0.088	4.3	348	4.48	72	0.396	5.94	1.855	0.52	1.1	28.8	12	1.3	15.2	1.5	0.1	1	40	11.9	2.8
3261076	Drill Core	0.083	3.6	330	4.47	56	0.421	6.17	1.999	0.34	1.3	29.1	9	1.4	14.7	1.5	0.1	<1	38	15.6	2.7
3261077	Drill Core	0.103	4.1	251	4.08	199	0.459	6.90	2.130	0.75	1.1	28.7	10	1.4	15.7	1.9	0.1	1	33	14.3	2.3
3261078	Drill Core	0.100	3.9	340	4.50	52	0.433	6.23	1.760	0.28	1.2	29.4	9	1.6	14.7	1.7	0.1	<1	39	14.0	2.8
3261079	Drill Core	0.091	2.9	335	4.62	68	0.412	6.16	1.780	0.28	1.4	27.3	8	1.5	13.9	1.7	0.1	<1	36	15.4	1.6
3261080	Rock Pulp	0.101	30.8	76	1.47	1061	0.499	6.78	2.111	3.39	4.9	67.0	65	3.3	24.5	16.2	1.3	3	11	33.4	0.4
3261081	Drill Core	0.090	3.8	228	3.82	44	0.434	6.34	1.966	0.19	1.1	32.1	8	1.6	13.3	2.1	0.1	<1	31	11.0	2.7
3261082	Drill Core	0.104	4.3	209	3.77	32	0.458	6.42	1.818	0.15	1.5	36.7	10	1.7	15.4	2.2	0.1	<1	35	12.9	3.4
3261083	Drill Core	0.099	5.3	328	4.36	80	0.487	6.53	1.749	0.28	1.7	35.6	11	1.6	14.6	2.1	0.1	<1	42	16.4	3.7
3261084	Drill Core	0.099	5.6	408	4.20	96	0.434	6.02	1.678	0.50	1.2	36.8	11	1.8	13.7	1.8	0.1	<1	40	14.1	3.2
3261085	Core DUP	0.094	5.5	401	4.32	99	0.437	6.22	1.756	0.49	1.2	35.7	11	1.7	15.3	1.9	0.1	<1	40	14.6	3.1
3261086	Drill Core	0.098	4.2	274	3.78	48	0.441	6.24	1.597	0.24	1.2	36.3	10	1.7	14.3	2.1	0.1	<1	34	12.2	4.2
3261087	Drill Core	0.105	4.7	264	3.71	79	0.469	7.02	1.718	0.51	1.5	40.0	10	1.6	14.7	2.3	0.2	<1	40	16.1	3.0
3261088	Drill Core	0.098	4.2	249	3.72	63	0.496	7.08	1.918	0.41	2.5	39.9	10	1.8	15.9	2.4	0.2	<1	36	14.1	2.6
3261089	Drill Core	0.129	4.8	201	3.68	78	0.503	7.60	2.021	0.41	2.2	40.8	11	1.7	17.2	2.5	0.2	<1	36	17.6	1.7
3261090	Rock	0.051	1.3	2	10.33	158	0.004	0.07	0.009	0.03	<0.1	0.3	<1	<0.1	1.8	<0.1	<0.1	<1	<1	3.2	<0.1
3261091	Drill Core	0.117	5.9	84	2.93	274	0.488	7.93	2.269	0.98	2.4	31.2	12	1.3	16.1	2.3	0.2	<1	26	19.7	2.0
3261092	Drill Core	0.114	5.8	167	3.01	138	0.496	7.23	2.517	0.71	4.2	41.9	11	1.4	16.3	2.5	0.2	<1	32	14.9	2.6
3261093	Drill Core	0.122	4.7	72	2.56	142	0.495	7.30	2.715	0.70	2.3	47.6	11	1.9	17.9	2.8	0.2	<1	25	10.8	4.3
3261094	Drill Core	0.128	8.0	72	2.62	137	0.532	7.66	3.216	0.56	4.2	44.7	15	1.8	19.3	3.0	0.2	1	26	13.7	3.1
3261095	Drill Core	0.132	7.5	88	2.83	140	0.583	8.04	3.365	0.60	3.1	50.0	16	1.8	18.9	3.5	0.2	<1	33	14.4	1.5
3261096	Drill Core	0.119	6.2	77	2.85	97	0.574	8.14	3.348	0.45	1.8	48.8	13	1.3	19.5	3.5	0.2	<1	30	13.0	1.7

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Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261067	Drill Core	59.5	1.3	<0.05	0.057	1	0.7	<0.5	<0.01	
3261068	Drill Core	66.0	1.3	<0.05	<0.005	2	0.7	<0.5	<0.01	
3261069	Drill Core	23.3	1.0	0.16	<0.005	7	<0.5	<0.5	<0.01	
3261070	Rock	1.3	<0.1	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261071	Drill Core	22.7	1.0	0.10	0.043	6	0.8	<0.5	0.04	
3261072	Drill Core	24.3	1.2	<0.05	0.027	6	<0.5	<0.5	<0.01	
3261073	Drill Core	20.9	1.1	0.11	0.224	7	<0.5	<0.5	<0.01	
3261074	Drill Core	17.2	1.1	0.10	0.057	6	<0.5	<0.5	<0.01	
3261075	Drill Core	23.5	1.0	0.15	0.031	4	2.4	<0.5	<0.01	
3261076	Drill Core	13.3	1.0	0.06	0.051	4	1.6	<0.5	<0.01	
3261077	Drill Core	33.0	1.1	0.13	0.067	4	<0.5	<0.5	<0.01	
3261078	Drill Core	13.0	0.9	0.05	0.020	6	1.2	<0.5	<0.01	
3261079	Drill Core	12.3	1.0	0.12	0.038	3	<0.5	<0.5	<0.01	
3261080	Rock Pulp	154.6	2.3	<0.05	<0.005	4	<0.5	1.1	0.02	
3261081	Drill Core	8.3	1.1	0.10	0.029	4	<0.5	<0.5	<0.01	
3261082	Drill Core	6.3	1.1	0.07	0.033	6	2.7	<0.5	<0.01	
3261083	Drill Core	12.9	1.2	0.10	0.055	4	1.0	<0.5	<0.01	
3261084	Drill Core	23.0	1.1	0.10	<0.005	2	<0.5	<0.5	0.01	
3261085	Core DUP	23.4	1.1	0.13	<0.005	4	1.8	<0.5	<0.01	
3261086	Drill Core	11.4	1.1	0.10	0.010	5	1.8	<0.5	<0.01	
3261087	Drill Core	24.0	1.3	0.07	0.014	3	<0.5	<0.5	<0.01	
3261088	Drill Core	19.5	1.3	0.16	0.006	3	1.2	<0.5	<0.01	
3261089	Drill Core	23.2	1.4	0.06	0.068	1	1.3	<0.5	<0.01	
3261090	Rock	1.3	<0.1	<0.05	<0.005	<1	5.8	<0.5	<0.01	
3261091	Drill Core	47.9	1.2	0.06	<0.005	<1	1.2	<0.5	<0.01	
3261092	Drill Core	29.6	1.3	0.06	0.060	3	1.8	<0.5	<0.01	
3261093	Drill Core	26.6	1.3	0.08	<0.005	5	0.5	<0.5	<0.01	
3261094	Drill Core	23.6	1.4	<0.05	0.005	4	<0.5	<0.5	<0.01	
3261095	Drill Core	26.4	1.6	0.09	<0.005	1	1.0	<0.5	<0.01	
3261096	Drill Core	23.3	1.5	0.07	<0.005	2	<0.5	<0.5	0.01	

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Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261097	Drill Core	5.12	0.008	63.3	489.1	3.1	29	0.7	56.6	38.8	855	5.75	3	1.0	0.9	462	0.2	1.2	0.5	289	8.60
3261098	Drill Core	2.90	0.009	11.6	316.3	3.0	23	0.4	40.5	23.3	909	4.51	5	1.0	1.0	403	<0.1	2.0	0.4	275	9.54
3261099	Drill Core	2.45	0.008	18.8	356.9	1.9	19	0.3	4.7	18.4	399	4.10	10	0.6	1.9	561	<0.1	2.1	0.2	164	4.25
3261100	Rock Pulp	0.13	0.223	100.3	2734.0	22.4	81	0.4	62.8	15.6	532	4.33	21	5.2	18.8	305	0.2	2.3	0.8	125	2.57
3261101	Drill Core	3.26	0.011	2.3	253.3	2.1	18	0.2	8.2	15.2	366	3.06	14	0.6	1.8	481	<0.1	1.3	0.2	150	4.83
3261102	Drill Core	4.74	0.010	2.9	588.9	2.1	25	0.6	58.0	47.0	846	6.42	4	1.1	0.8	367	0.2	0.8	0.2	256	8.61
3261103	Drill Core	5.09	0.012	0.8	741.9	2.3	29	0.9	66.9	57.7	780	7.28	3	1.0	0.7	544	0.2	0.9	0.3	251	8.19
3261104	Drill Core	5.69	0.011	6.7	576.6	2.0	24	0.6	61.5	45.5	816	6.46	3	0.9	0.8	505	<0.1	0.7	0.2	252	8.80
3261105	Drill Core	5.15	0.007	1.2	505.1	2.4	21	0.6	40.7	40.6	722	5.98	3	0.9	0.7	475	<0.1	0.7	0.2	258	8.12
3261106	Drill Core	5.22	0.060	17.5	867.0	25.9	72	5.6	43.9	72.1	661	8.03	3	1.0	0.7	505	0.7	1.4	1.4	233	7.83
3261107	Drill Core	4.74	0.012	23.7	788.5	9.4	47	1.5	50.0	49.2	792	7.41	3	0.9	0.9	393	0.4	1.5	1.3	264	6.28
3261108	Drill Core	2.92	0.027	19.9	515.0	65.5	361	1.8	46.1	50.9	1274	6.98	2	0.8	0.8	263	2.3	1.4	0.7	229	9.02
3261109	Drill Core	2.60	0.012	2.6	135.5	7.8	93	0.3	16.8	28.0	1619	6.51	3	1.4	2.8	670	0.1	1.8	<0.1	266	5.90
3261110	Rock	2.25	0.006	0.3	2.1	1.7	5	<0.1	1.9	<0.2	49	0.08	5	2.0	<0.1	142	<0.1	<0.1	<0.1	6	22.26
3261111	Drill Core	5.04	0.009	2.5	139.6	7.3	90	0.1	17.2	27.0	1661	6.37	3	1.4	2.8	728	<0.1	1.2	<0.1	265	5.68
3261112	Drill Core	5.07	0.009	2.5	141.9	8.2	92	0.1	18.1	28.0	1603	6.51	2	1.5	3.0	843	0.1	1.6	<0.1	271	6.06
3261113	Drill Core	2.39	0.008	2.2	130.0	8.5	88	0.1	17.2	26.6	1643	6.30	2	1.3	2.7	718	0.1	2.5	<0.1	256	6.04
3261114	Drill Core	3.37	0.009	2.9	144.2	6.3	101	<0.1	17.4	28.6	1449	6.56	3	1.5	3.1	624	<0.1	1.3	<0.1	266	5.54
3261115	Drill Core	3.77	0.012	10.6	731.0	52.6	199	1.5	36.6	34.0	1894	7.17	5	0.8	1.1	334	1.5	1.7	0.6	211	11.24
3261116	Drill Core	4.93	0.010	0.7	569.8	29.9	84	0.9	50.5	35.5	972	7.20	5	0.7	1.7	514	0.4	1.6	1.0	269	6.66
3261117	Drill Core	5.46	0.007	0.3	639.9	4.8	32	0.7	42.5	42.1	917	8.82	4	0.9	1.1	412	<0.1	1.5	0.6	271	8.17
3261118	Drill Core	4.33	0.009	0.7	1028.2	6.4	23	1.0	39.3	42.1	889	11.02	<1	2.0	0.9	389	<0.1	2.5	1.0	240	7.87
3261119	Drill Core	5.72	0.009	0.6	670.2	5.2	29	0.6	52.2	27.5	1013	8.35	3	2.6	1.0	411	<0.1	1.9	0.5	258	9.31
3261120	Rock Pulp	0.13	0.232	94.1	2756.1	23.3	80	0.4	63.9	15.9	607	4.36	21	5.1	20.0	319	<0.1	2.3	0.8	122	2.58
3261121	Drill Core	6.18	0.011	0.4	679.5	2.9	24	0.6	53.8	33.2	957	8.57	2	3.0	0.7	435	<0.1	1.4	0.6	240	8.54
3261122	Drill Core	5.54	0.011	0.7	1013.4	3.7	28	0.9	64.5	48.3	996	11.32	2	5.7	0.8	415	0.1	1.7	0.6	219	7.68
3261123	Drill Core	5.25	0.012	1.1	1008.8	3.8	29	0.9	60.6	44.6	999	10.31	1	4.1	0.7	425	0.2	2.0	0.6	236	8.92
3261124	Drill Core	5.49	0.011	0.6	975.7	3.8	28	0.9	58.0	53.5	1053	9.54	<1	3.9	0.7	424	0.2	2.0	0.5	259	9.06
3261125	Core DUP		0.011	0.6	965.7	3.9	31	0.9	56.1	54.5	1065	9.69	2	4.0	0.6	411	0.2	2.1	0.5	268	9.00
3261126	Drill Core	5.15	0.013	0.7	1093.9	8.5	38	1.3	62.2	55.1	1066	9.22	2	4.6	0.8	481	0.1	2.1	0.8	253	9.11

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261097	Drill Core	0.135	4.8	85	2.87	112	0.576	8.08	3.397	0.54	2.5	48.2	13	1.6	18.5	3.4	0.2	<1	32	16.3	2.2
3261098	Drill Core	0.117	9.5	81	2.77	68	0.572	8.11	3.289	0.34	2.6	45.8	17	1.5	19.7	3.4	0.2	<1	29	13.9	1.7
3261099	Drill Core	0.153	10.4	9	1.29	130	0.387	9.25	4.878	2.52	1.3	33.6	21	0.5	16.3	6.1	0.4	<1	10	9.5	1.7
3261100	Rock Pulp	0.099	33.3	84	1.49	989	0.478	7.47	2.171	2.48	4.6	73.8	62	3.5	24.5	17.5	1.3	3	13	34.7	0.3
3261101	Drill Core	0.131	8.6	9	1.21	191	0.354	8.43	3.899	3.13	3.6	33.8	16	0.5	15.0	5.7	0.3	1	10	11.7	1.3
3261102	Drill Core	0.120	5.9	127	3.09	210	0.504	7.49	2.779	1.08	1.9	42.9	13	1.9	18.4	2.8	0.2	<1	30	15.5	2.4
3261103	Drill Core	0.117	6.4	120	2.89	67	0.492	7.37	2.643	1.28	2.2	37.9	13	1.5	18.2	2.7	0.2	<1	30	15.6	3.6
3261104	Drill Core	0.122	7.8	158	3.05	224	0.490	7.26	2.945	0.81	2.1	39.2	15	1.8	17.2	2.8	0.2	2	30	15.7	2.6
3261105	Drill Core	0.117	6.6	53	2.60	229	0.498	7.47	3.663	0.66	2.1	45.4	14	1.8	19.7	3.0	0.2	<1	25	10.2	2.4
3261106	Drill Core	0.122	7.9	71	2.59	180	0.494	7.14	3.099	0.72	4.5	37.2	14	2.1	17.4	2.8	0.2	<1	25	14.2	3.6
3261107	Drill Core	0.140	6.6	67	2.77	158	0.540	7.80	3.274	1.13	12.6	40.4	14	2.0	19.0	3.2	0.2	<1	29	20.2	3.2
3261108	Drill Core	0.104	6.9	104	2.99	171	0.470	6.84	2.459	1.39	7.6	49.6	13	1.6	15.9	2.6	0.2	<1	26	25.0	1.9
3261109	Drill Core	0.190	10.6	26	2.38	1037	0.489	8.67	2.088	2.95	1.1	54.3	22	0.9	17.5	6.9	0.4	1	23	10.0	<0.1
3261110	Rock	0.046	1.7	3	9.56	140	0.005	0.11	0.024	0.04	0.2	0.4	1	<0.1	2.1	<0.1	<0.1	<1	<1	4.0	<0.1
3261111	Drill Core	0.203	9.8	29	2.34	1033	0.479	8.26	2.193	2.56	0.9	49.8	20	0.9	16.2	6.9	0.4	1	22	10.8	<0.1
3261112	Drill Core	0.207	10.4	30	2.43	1027	0.485	8.48	2.186	2.45	0.7	52.3	20	0.8	17.8	7.0	0.4	2	23	9.3	<0.1
3261113	Drill Core	0.183	10.2	27	2.33	990	0.478	8.35	2.349	2.49	0.7	51.2	21	0.8	16.8	6.6	0.4	1	24	8.2	<0.1
3261114	Drill Core	0.202	11.0	29	2.61	1094	0.492	8.88	2.558	2.75	0.8	64.5	22	1.0	18.6	7.0	0.4	<1	24	10.8	<0.1
3261115	Drill Core	0.108	7.7	97	3.67	313	0.409	6.20	2.134	1.02	2.9	34.8	14	1.5	17.9	3.1	0.2	<1	25	20.8	2.0
3261116	Drill Core	0.114	7.9	76	3.29	255	0.591	8.27	1.905	1.29	1.6	44.0	15	1.4	18.0	4.0	0.2	<1	29	25.6	2.6
3261117	Drill Core	0.120	9.0	73	3.02	132	0.554	7.87	2.212	0.75	1.7	44.5	16	2.1	18.8	3.2	0.2	<1	27	17.7	3.7
3261118	Drill Core	0.120	6.3	53	2.42	71	0.485	6.81	2.469	0.32	1.7	40.5	13	2.2	16.2	2.5	0.2	<1	22	11.4	5.4
3261119	Drill Core	0.130	7.2	77	2.66	102	0.533	7.74	2.397	0.46	2.3	47.4	14	2.6	17.1	3.0	0.2	1	26	14.4	2.8
3261120	Rock Pulp	0.088	34.0	79	1.46	1025	0.482	7.29	2.055	2.73	4.9	67.0	65	3.4	24.0	16.8	1.2	2	12	31.5	0.3
3261121	Drill Core	0.124	6.2	100	2.73	127	0.503	7.32	2.617	0.53	2.3	44.8	12	1.9	16.7	2.7	0.2	1	27	15.1	3.0
3261122	Drill Core	0.112	3.3	90	2.44	145	0.483	6.63	2.529	0.56	2.3	42.9	8	1.9	15.9	2.3	0.2	<1	26	12.1	4.1
3261123	Drill Core	0.111	5.0	145	2.92	104	0.453	6.56	2.307	0.35	1.9	40.8	11	1.4	15.2	2.1	0.1	<1	29	11.2	3.8
3261124	Drill Core	0.106	6.0	219	3.38	98	0.436	6.36	2.118	0.41	3.7	36.7	12	1.4	14.4	2.0	0.1	<1	35	11.1	3.4
3261125	Core DUP	0.110	6.4	215	3.38	99	0.460	6.41	2.190	0.43	3.2	39.1	13	1.3	15.3	2.0	0.1	<1	34	11.7	3.4
3261126	Drill Core	0.103	7.3	195	3.20	159	0.480	6.66	2.205	0.87	2.2	41.1	13	1.5	15.7	2.2	0.1	<1	31	12.5	3.5

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261097	Drill Core	25.4	1.6	0.07	0.006	2	<0.5	<0.5	<0.01	
3261098	Drill Core	15.5	1.5	0.07	0.005	2	1.6	<0.5	<0.01	
3261099	Drill Core	48.6	1.2	<0.05	<0.005	2	<0.5	<0.5	<0.01	
3261100	Rock Pulp	137.6	2.1	0.10	<0.005	<1	<0.5	1.1	0.02	
3261101	Drill Core	72.4	1.1	<0.05	<0.005	1	0.9	<0.5	<0.01	
3261102	Drill Core	52.0	1.5	0.06	<0.005	4	0.9	<0.5	<0.01	
3261103	Drill Core	53.6	1.3	0.08	<0.005	2	1.4	<0.5	0.02	
3261104	Drill Core	32.7	1.1	0.10	<0.005	2	0.6	<0.5	<0.01	
3261105	Drill Core	25.3	1.4	0.09	<0.005	3	0.7	<0.5	<0.01	
3261106	Drill Core	36.3	1.3	0.10	0.011	8	3.0	<0.5	0.01	
3261107	Drill Core	57.0	1.4	0.06	0.013	3	1.6	<0.5	0.01	
3261108	Drill Core	51.5	1.0	0.09	0.011	2	1.1	<0.5	0.07	
3261109	Drill Core	71.8	1.7	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261110	Rock	1.5	<0.1	<0.05	<0.005	<1	3.7	<0.5	<0.01	
3261111	Drill Core	55.2	1.5	<0.05	<0.005	<1	0.8	<0.5	0.01	
3261112	Drill Core	58.0	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261113	Drill Core	66.7	1.6	0.07	<0.005	<1	<0.5	<0.5	<0.01	
3261114	Drill Core	75.9	2.2	<0.05	<0.005	<1	0.8	<0.5	<0.01	
3261115	Drill Core	32.2	1.2	<0.05	<0.005	3	1.3	<0.5	0.03	
3261116	Drill Core	70.6	1.7	0.12	<0.005	1	0.6	<0.5	0.01	
3261117	Drill Core	41.7	1.5	0.10	<0.005	2	0.8	<0.5	<0.01	
3261118	Drill Core	16.4	1.2	0.09	0.006	3	0.8	<0.5	<0.01	
3261119	Drill Core	23.2	1.6	0.11	<0.005	3	0.7	<0.5	<0.01	
3261120	Rock Pulp	158.1	2.2	0.13	<0.005	<1	<0.5	1.2	0.02	
3261121	Drill Core	25.8	1.5	0.11	<0.005	2	<0.5	<0.5	<0.01	
3261122	Drill Core	28.0	1.3	0.07	0.006	2	<0.5	<0.5	<0.01	
3261123	Drill Core	17.4	1.2	0.10	<0.005	6	1.0	<0.5	<0.01	
3261124	Drill Core	20.8	1.1	0.12	<0.005	5	<0.5	<0.5	0.01	
3261125	Core DUP	20.1	1.2	0.11	<0.005	<1	<0.5	<0.5	0.01	
3261126	Drill Core	42.3	1.2	0.10	<0.005	3	<0.5	<0.5	0.01	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261127	Drill Core	5.43	0.010	4.1	791.5	4.2	33	1.1	68.2	38.9	1023	6.28	4	2.9	0.8	446	<0.1	4.3	0.5	257	10.02
3261128	Drill Core	3.76	0.020	47.7	1576.6	28.2	152	4.8	45.0	36.9	2773	8.04	3	1.5	0.9	332	1.0	1.8	0.7	204	8.22
3261129	Drill Core	3.43	<0.005	0.5	134.8	2.8	19	0.3	8.9	8.7	797	2.34	3	1.2	2.0	544	<0.1	2.0	<0.1	192	5.35
3261130	Rock	1.74	<0.005	0.5	6.3	0.7	4	<0.1	0.9	0.4	60	0.08	1	2.6	0.1	162	<0.1	<0.1	<0.1	6	24.84
3261131	Drill Core	3.54	<0.005	0.9	242.9	3.0	15	0.5	6.9	11.9	511	2.29	4	0.9	1.7	538	0.2	3.1	<0.1	159	6.03
3261132	Drill Core	2.94	0.029	4.5	2515.2	12.6	197	8.3	46.1	100.6	1146	13.46	6	0.7	0.7	207	2.0	2.0	2.0	92	4.55
3261133	Drill Core	3.23	0.011	1.3	985.3	5.6	44	2.1	58.0	51.2	916	7.41	5	1.1	0.9	300	0.5	1.7	1.5	238	6.70
3261134	Drill Core	4.93	0.011	0.6	1210.3	12.1	40	2.5	55.9	38.3	916	6.34	3	0.9	0.8	391	0.5	1.9	3.5	221	7.37
3261135	Drill Core	3.06	0.013	0.4	1163.6	3.4	42	2.8	55.7	44.8	924	6.70	2	0.9	0.8	423	0.6	2.2	1.0	219	7.53
3261136	Drill Core	3.86	0.009	10.2	631.1	3.6	29	1.7	17.2	19.0	573	3.20	5	0.9	1.4	571	0.5	2.3	5.5	174	5.71
3261137	Drill Core	4.37	0.007	73.9	430.8	3.9	21	0.9	10.1	16.7	535	3.16	3	0.8	1.6	574	0.2	1.8	3.1	170	6.11
3261138	Drill Core	1.82	0.139	6.8	6988.6	25.0	311	13.9	236.6	106.7	867	24.16	<1	0.4	0.6	344	3.3	2.7	10.5	134	6.01
3261139	Drill Core	2.99	0.007	118.7	973.7	3.8	48	2.2	53.6	43.5	950	6.62	6	0.7	0.9	350	0.4	2.3	0.2	223	8.03
3261140	Rock Pulp	0.11	0.598	36.2	5105.7	59.4	313	2.2	14.2	11.9	868	4.85	62	0.8	3.9	218	1.6	3.2	1.1	95	1.21
3261141	Drill Core	4.88	0.013	13.2	1164.1	4.3	39	2.9	73.9	49.5	954	6.81	27	0.6	0.8	441	0.4	5.9	0.3	205	8.47
3261142	Drill Core	4.71	0.012	0.4	1273.9	2.4	36	2.3	67.5	64.9	994	7.19	14	0.5	0.8	522	0.2	5.3	0.2	218	7.93
3261143	Drill Core	4.64	0.012	0.6	1501.4	2.6	42	2.1	76.4	83.3	929	8.10	9	0.6	0.8	498	0.4	2.6	0.3	229	8.39
3261144	Drill Core	4.62	0.009	0.2	814.3	4.8	34	1.5	52.1	36.8	969	6.06	7	0.6	0.7	461	0.2	2.4	0.5	222	7.74
3261145	Drill Core	4.55	0.009	0.2	1173.0	3.7	49	2.0	76.1	39.8	957	7.25	6	0.5	0.7	444	0.3	2.9	0.3	216	8.39
3261146	Drill Core	4.93	0.005	0.4	639.2	2.3	28	1.1	69.6	29.1	989	5.23	15	0.4	0.9	288	0.3	1.6	0.2	216	9.85
3261147	Drill Core	4.83	0.005	0.2	658.8	4.7	58	1.2	75.3	29.9	965	5.61	17	0.4	0.7	306	0.4	2.1	0.1	224	10.14
3261148	Drill Core	5.10	<0.005	0.3	706.2	6.2	34	1.1	76.7	34.6	1007	5.83	9	0.4	0.8	284	<0.1	2.0	0.1	239	9.97
3261149	Drill Core	4.87	0.005	0.3	589.2	2.9	24	0.9	74.2	37.0	1016	5.85	7	0.4	0.7	288	<0.1	2.8	0.2	248	10.79
3261150	Rock	1.94	<0.005	0.4	2.9	0.7	6	<0.1	1.8	0.2	60	0.08	3	3.4	0.1	159	<0.1	0.1	<0.1	6	25.01
3261151	Drill Core	5.07	0.006	0.2	512.0	3.0	31	0.8	71.4	38.2	1037	6.29	3	0.3	0.8	322	<0.1	3.2	0.3	270	9.86
3261152	Drill Core	4.88	0.005	0.3	805.5	2.6	27	1.5	80.6	42.0	999	6.75	3	0.4	0.7	322	<0.1	4.0	0.3	227	9.87
3261153	Drill Core	2.28	0.006	2.7	591.7	22.9	76	5.3	59.9	34.5	2123	7.02	6	0.4	0.8	374	0.3	2.9	0.3	207	9.28
3261154	Drill Core	3.21	0.005	0.3	446.6	28.7	208	2.8	68.2	27.9	3692	9.17	1	0.3	0.7	453	1.2	7.4	0.3	220	8.69
3261155	Drill Core	2.68	0.036	13.4	871.4	49.8	251	6.1	92.3	146.9	3877	24.81	2	0.2	0.3	286	1.6	2.8	1.5	115	10.83
3261156	Drill Core	4.14	0.006	0.2	678.9	5.5	38	1.5	73.8	39.3	1141	6.42	5	0.3	0.8	309	0.2	6.9	0.3	214	9.58

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261127	Drill Core	0.111	10.2	220	3.45	106	0.494	6.92	2.288	0.52	4.5	38.3	16	1.7	16.1	2.2	0.1	<1	36	12.9	2.4
3261128	Drill Core	0.105	5.0	142	2.68	234	0.360	7.09	1.870	1.41	4.3	24.6	9	1.6	13.2	2.4	0.2	<1	23	19.4	2.4
3261129	Drill Core	0.113	8.4	26	2.08	276	0.381	9.37	4.494	1.19	0.9	30.7	16	2.0	15.4	5.6	0.4	1	13	16.1	0.4
3261130	Rock	0.061	1.2	2	9.98	156	0.005	0.09	0.026	0.04	<0.1	0.4	1	<0.1	1.9	<0.1	<0.1	<1	<1	3.4	<0.1
3261131	Drill Core	0.106	5.5	8	1.67	320	0.375	9.13	4.578	1.17	0.7	29.4	13	1.3	14.7	5.7	0.4	<1	12	14.1	0.8
3261132	Drill Core	0.051	1.3	9	1.09	51	0.238	6.40	0.401	3.16	18.3	13.9	4	1.4	7.4	2.9	0.2	<1	5	13.7	5.6
3261133	Drill Core	0.101	7.1	109	3.10	71	0.448	6.22	2.498	1.26	1.9	25.6	12	3.2	16.6	2.4	0.1	<1	29	14.3	4.0
3261134	Drill Core	0.102	4.7	136	3.13	99	0.454	6.31	2.551	1.55	32.4	26.3	9	2.5	15.4	2.2	0.1	<1	28	15.0	2.9
3261135	Drill Core	0.096	4.5	200	3.38	60	0.463	6.40	2.464	1.77	2.6	27.0	8	2.2	16.5	2.2	0.1	<1	33	13.5	3.1
3261136	Drill Core	0.101	5.0	13	1.86	309	0.388	9.02	4.221	0.84	1.2	32.3	12	1.3	14.9	4.9	0.3	<1	13	15.2	1.4
3261137	Drill Core	0.118	6.3	8	1.67	231	0.377	9.16	4.459	0.67	17.9	31.3	14	1.1	15.8	5.2	0.3	<1	12	12.5	1.3
3261138	Drill Core	0.068	2.9	9	1.37	26	0.183	4.69	1.652	1.03	74.1	9.3	6	1.1	7.5	1.6	<0.1	<1	8	10.7	8.0
3261139	Drill Core	0.101	5.1	156	3.08	152	0.461	7.01	3.307	0.49	1.7	31.0	9	2.0	15.1	2.0	0.1	1	29	16.0	2.2
3261140	Rock Pulp	0.073	11.5	28	0.81	285	0.229	6.51	1.115	2.56	7.3	4.7	23	1.4	7.5	4.0	0.3	<1	9	24.7	2.0
3261141	Drill Core	0.099	3.6	161	2.92	138	0.471	6.98	2.965	0.31	3.3	28.2	7	1.8	15.0	2.2	0.1	<1	28	12.7	3.3
3261142	Drill Core	0.099	3.7	154	3.12	109	0.496	7.65	2.967	0.29	2.7	34.4	7	1.7	16.2	2.2	0.2	<1	29	17.7	3.2
3261143	Drill Core	0.103	5.5	233	3.45	295	0.449	6.65	2.354	0.77	7.8	27.9	10	1.8	15.3	1.9	0.1	<1	35	15.9	3.4
3261144	Drill Core	0.098	4.3	146	2.96	273	0.452	6.94	2.740	0.88	3.8	24.5	8	1.7	14.7	2.0	0.1	<1	27	17.4	2.2
3261145	Drill Core	0.095	4.6	222	3.44	281	0.480	6.75	2.531	0.84	2.4	29.3	8	1.8	14.6	2.0	0.1	<1	34	15.0	3.2
3261146	Drill Core	0.091	22.0	191	3.41	67	0.496	7.36	3.098	0.15	1.3	28.5	27	1.6	14.6	2.0	0.2	<1	31	15.5	1.6
3261147	Drill Core	0.092	36.2	207	3.60	128	0.493	7.13	2.738	0.23	1.3	27.9	45	1.4	14.8	2.2	0.1	<1	34	16.5	1.6
3261148	Drill Core	0.097	31.9	230	3.80	74	0.488	7.21	2.622	0.21	1.3	28.9	41	1.4	15.8	2.1	0.2	<1	37	17.1	1.8
3261149	Drill Core	0.089	16.6	222	3.77	71	0.474	7.08	2.368	0.17	1.2	30.2	23	1.7	15.6	2.1	0.2	<1	34	17.0	1.6
3261150	Rock	0.089	1.7	3	9.72	181	0.004	0.07	0.016	0.03	0.1	0.3	1	<0.1	2.3	<0.1	<0.1	<1	<1	3.1	<0.1
3261151	Drill Core	0.091	5.4	201	3.80	69	0.517	7.49	2.613	0.26	1.2	34.7	10	1.7	17.0	2.5	0.2	<1	38	21.0	1.7
3261152	Drill Core	0.101	11.2	198	3.62	71	0.488	6.91	2.518	0.27	1.4	30.9	16	1.6	15.2	2.2	0.1	<1	33	21.1	1.9
3261153	Drill Core	0.080	18.2	193	3.40	234	0.445	6.30	2.198	0.89	2.7	24.6	19	1.5	13.6	1.9	0.1	1	32	24.3	2.0
3261154	Drill Core	0.092	12.3	194	2.40	207	0.465	6.69	1.376	1.08	5.0	22.5	16	1.2	13.9	2.0	0.1	<1	31	19.8	1.6
3261155	Drill Core	0.043	4.6	97	1.66	44	0.223	3.28	0.183	0.14	21.7	10.0	7	0.6	7.5	1.0	<0.1	<1	17	13.7	7.0
3261156	Drill Core	0.089	22.0	211	3.68	122	0.478	6.67	2.528	0.48	1.2	30.5	25	1.7	13.6	2.2	0.2	<1	36	18.9	2.1

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261127	Drill Core	21.7	1.2	0.08	0.008	1	<0.5	<0.5	0.01	
3261128	Drill Core	65.5	1.0	0.12	0.080	4	1.3	<0.5	0.03	
3261129	Drill Core	43.1	1.2	0.05	<0.005	<1	0.6	<0.5	<0.01	
3261130	Rock	1.7	<0.1	<0.05	<0.005	<1	4.3	<0.5	<0.01	
3261131	Drill Core	34.1	1.0	<0.05	<0.005	1	0.6	<0.5	<0.01	
3261132	Drill Core	81.9	0.5	0.07	0.011	3	1.7	0.7	0.08	
3261133	Drill Core	32.7	1.0	0.11	<0.005	6	1.5	<0.5	0.02	
3261134	Drill Core	41.2	1.0	0.06	<0.005	7	1.8	<0.5	0.02	
3261135	Drill Core	52.0	1.0	0.08	<0.005	7	1.5	<0.5	0.03	
3261136	Drill Core	30.6	1.1	<0.05	0.038	2	3.9	<0.5	0.02	
3261137	Drill Core	23.3	1.1	<0.05	0.133	3	2.3	<0.5	0.01	
3261138	Drill Core	35.9	0.4	0.18	0.026	3	3.3	<0.5	0.10	
3261139	Drill Core	18.3	1.1	<0.05	0.394	5	0.9	<0.5	0.02	
3261140	Rock Pulp	80.5	0.1	0.13	0.110	2	0.5	1.4	0.04	
3261141	Drill Core	9.0	1.1	0.06	0.031	5	0.7	<0.5	0.02	
3261142	Drill Core	12.0	1.3	0.09	<0.005	5	0.7	<0.5	0.02	
3261143	Drill Core	33.0	1.1	0.10	<0.005	<1	0.9	<0.5	0.02	
3261144	Drill Core	38.3	1.0	<0.05	<0.005	2	1.0	<0.5	0.02	
3261145	Drill Core	30.2	1.0	<0.05	<0.005	3	0.9	<0.5	0.03	
3261146	Drill Core	5.9	1.1	<0.05	<0.005	<1	0.9	<0.5	0.01	
3261147	Drill Core	6.5	1.1	0.08	<0.005	<1	1.0	<0.5	0.03	
3261148	Drill Core	8.7	1.1	0.06	<0.005	<1	0.7	<0.5	0.01	
3261149	Drill Core	6.4	1.2	0.10	<0.005	1	1.2	<0.5	<0.01	
3261150	Rock	1.7	<0.1	<0.05	<0.005	<1	4.6	<0.5	<0.01	
3261151	Drill Core	11.3	1.4	0.09	<0.005	<1	2.4	<0.5	<0.01	
3261152	Drill Core	10.4	1.2	0.09	<0.005	1	1.8	<0.5	<0.01	
3261153	Drill Core	36.7	1.0	0.06	<0.005	1	1.9	<0.5	0.20	
3261154	Drill Core	43.2	0.8	0.11	<0.005	1	1.3	<0.5	0.07	
3261155	Drill Core	4.4	0.4	0.13	0.006	3	1.7	<0.5	0.07	
3261156	Drill Core	17.1	1.2	0.10	<0.005	2	2.0	<0.5	0.02	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261157	Drill Core	4.79	0.007	0.3	584.5	14.0	138	0.9	82.1	34.3	1411	6.41	7	0.4	0.7	404	0.8	4.9	0.2	219	8.38
3261158	Drill Core	5.18	<0.005	0.3	401.7	4.9	35	0.5	81.7	26.4	1246	5.57	5	0.4	0.7	286	<0.1	9.8	0.1	226	9.65
3261159	Drill Core	4.97	0.008	0.3	391.6	14.9	65	2.1	82.1	24.6	1508	5.72	1	0.4	0.7	353	0.3	8.4	0.2	229	10.30
3261160	Rock Pulp	0.13	0.218	95.6	2739.2	23.5	83	0.5	80.7	15.7	555	4.36	19	5.0	20.7	322	0.2	2.5	0.8	121	2.58
3261161	Drill Core	5.09	0.006	0.3	681.9	12.9	96	1.1	86.8	26.0	1492	5.85	4	0.3	0.6	365	0.4	6.6	0.2	208	8.44
3261162	Drill Core	4.79	0.005	0.2	420.6	12.0	124	1.2	100.4	27.4	1540	5.95	3	0.3	0.7	333	0.6	4.8	0.2	230	8.54
3261163	Drill Core	4.91	0.009	0.3	732.5	30.0	125	2.1	111.2	40.8	1606	7.25	5	0.3	0.6	349	0.6	5.9	0.3	209	8.64
3261164	Drill Core	4.78	0.009	0.4	590.3	16.5	178	0.9	97.8	40.1	1713	7.18	6	0.3	0.6	321	0.9	5.2	0.3	211	9.32
3261165	Core DUP		0.009	0.4	641.1	15.5	236	1.0	105.0	42.6	1753	7.40	6	0.3	0.6	336	1.3	5.7	0.2	210	9.50
3261166	Drill Core	5.16	0.008	0.3	770.2	19.6	115	1.0	96.6	48.6	1619	6.82	8	0.3	0.6	331	0.6	7.8	0.2	191	10.49
3261167	Drill Core	5.01	0.007	0.2	497.3	8.1	76	0.5	97.2	40.2	1584	6.56	6	0.3	0.7	321	0.2	3.9	0.2	221	8.89
3261168	Drill Core	5.24	0.006	0.2	498.4	5.1	35	0.5	92.9	41.0	1382	6.35	4	0.3	0.6	310	<0.1	5.2	0.2	211	10.93
3261169	Drill Core	5.45	0.006	0.2	680.8	5.7	49	0.6	94.1	49.6	1351	7.33	7	0.3	0.6	321	0.2	3.8	0.2	225	9.20
3261170	Rock	2.09	0.005	0.3	3.2	0.7	5	<0.1	1.0	0.3	48	0.09	<1	2.7	<0.1	130	<0.1	<0.1	<0.1	7	22.84
3261171	Drill Core	5.28	0.006	0.2	660.6	9.2	61	0.5	85.0	49.0	1304	7.34	8	0.4	0.8	302	0.3	2.4	0.3	216	9.69
3261172	Drill Core	5.15	0.007	0.2	749.6	14.9	80	0.5	84.3	47.4	1267	7.31	8	0.5	0.9	331	0.4	4.0	0.2	221	9.97
3261173	Drill Core	4.97	0.006	0.3	767.0	5.6	47	0.4	86.3	41.5	1241	7.17	5	0.4	0.6	310	0.2	3.0	0.2	214	9.82
3261174	Drill Core	5.19	0.007	0.3	730.7	3.3	29	0.4	97.9	41.6	1143	7.29	8	0.2	0.5	321	0.1	3.1	0.3	211	9.54
3261175	Drill Core	5.00	0.007	0.4	422.9	2.0	27	0.3	94.2	39.3	1026	6.26	5	0.5	0.7	414	<0.1	4.5	0.2	218	8.97
3261176	Drill Core	4.89	0.007	0.4	513.0	1.7	25	0.2	58.4	42.7	991	7.39	3	1.0	0.8	497	<0.1	2.5	0.2	243	6.94
3261177	Drill Core	5.04	0.006	0.3	515.5	2.4	22	0.2	37.7	37.7	895	6.74	3	1.1	0.9	805	<0.1	4.6	0.2	245	8.30
3261178	Drill Core	4.97	0.005	0.3	531.4	2.2	22	0.2	32.8	39.9	766	7.21	1	1.4	0.9	528	<0.1	1.7	0.2	233	8.09
3261179	Drill Core	5.20	<0.005	0.3	364.2	1.9	22	0.2	27.2	26.8	834	6.09	<1	1.2	0.8	550	<0.1	2.2	0.1	244	8.70
3261180	Rock Pulp	0.13	0.231	98.0	2771.8	23.3	82	0.4	63.5	16.5	560	4.40	18	5.2	19.1	322	0.2	2.3	0.8	126	2.61
3261181	Drill Core	5.32	0.006	0.4	375.3	2.5	24	0.2	33.4	29.9	799	7.01	<1	1.0	0.7	508	<0.1	1.5	0.2	262	8.02
3261182	Drill Core	5.28	<0.005	0.4	306.0	3.1	19	0.1	32.8	29.0	792	6.43	<1	1.5	0.9	480	<0.1	2.9	0.3	221	9.39
3261183	Drill Core	5.05	0.007	0.5	263.6	5.0	33	0.8	35.1	28.4	849	6.86	3	0.8	0.9	533	<0.1	1.9	0.2	247	8.05
3261184	Drill Core	4.86	0.006	1.4	143.4	2.6	26	0.1	27.0	25.0	768	6.36	<1	1.5	0.9	581	<0.1	2.2	0.1	270	6.24
3261185	Drill Core	4.77	0.006	3.4	137.6	4.0	32	0.1	30.0	30.4	694	6.74	<1	2.3	1.0	569	<0.1	1.6	0.2	250	5.98
3261186	Drill Core	4.87	0.006	3.1	103.2	2.3	28	0.1	26.6	28.0	687	6.54	2	1.5	0.2	468	<0.1	1.1	0.2	256	6.37

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BUREAU VERITAS MINERAL LABORATORIES Canada

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261157	Drill Core	0.084	15.9	221	4.15	156	0.474	6.58	2.428	0.73	1.1	27.7	20	1.6	13.9	2.1	0.1	<1	36	21.3	2.3
3261158	Drill Core	0.081	11.5	247	4.05	72	0.468	6.58	2.466	0.30	1.0	29.9	16	1.6	13.5	2.0	0.1	<1	38	21.6	1.4
3261159	Drill Core	0.092	7.6	236	3.79	107	0.459	6.55	2.347	0.39	1.2	29.1	12	1.6	13.9	2.2	0.1	<1	38	20.5	1.4
3261160	Rock Pulp	0.103	33.6	114	1.45	1048	0.483	7.42	2.038	2.96	4.8	72.1	71	3.3	24.1	17.3	1.4	3	13	34.9	0.3
3261161	Drill Core	0.079	6.6	271	4.19	233	0.447	6.34	2.182	0.87	1.1	26.9	11	1.3	14.0	1.9	0.1	<1	39	22.9	2.0
3261162	Drill Core	0.076	2.8	269	4.46	184	0.455	6.54	2.027	1.04	1.1	28.0	6	1.6	13.5	1.9	0.1	<1	39	23.4	1.5
3261163	Drill Core	0.084	3.8	274	4.08	184	0.424	6.34	2.047	0.80	1.9	24.3	8	1.8	13.0	1.7	0.1	<1	38	22.7	2.7
3261164	Drill Core	0.074	3.9	311	4.53	228	0.419	6.11	1.607	0.90	0.9	26.6	9	2.0	12.5	1.6	0.1	<1	40	23.2	2.4
3261165	Core DUP	0.081	4.0	299	4.65	229	0.433	6.28	1.611	0.95	1.2	27.6	9	1.8	12.4	1.7	0.1	<1	41	24.6	2.6
3261166	Drill Core	0.075	7.8	244	4.28	174	0.448	6.34	1.572	0.77	1.1	28.7	16	1.3	12.7	1.9	0.1	<1	35	24.9	2.1
3261167	Drill Core	0.089	5.5	277	4.65	169	0.474	6.79	1.910	0.71	1.1	34.7	12	1.3	13.9	2.1	0.1	<1	39	25.5	1.6
3261168	Drill Core	0.079	4.4	272	3.93	85	0.438	6.47	1.830	0.30	1.0	31.9	11	1.3	13.2	1.8	0.1	<1	38	17.7	1.6
3261169	Drill Core	0.092	5.1	292	4.21	120	0.492	6.54	2.237	0.42	0.7	29.7	12	1.6	13.9	2.2	0.1	<1	39	20.3	2.4
3261170	Rock	0.060	1.3	3	9.26	202	0.007	0.13	0.027	0.04	<0.1	0.9	1	<0.1	2.2	0.2	<0.1	<1	<1	4.6	<0.1
3261171	Drill Core	0.081	5.6	293	3.97	92	0.471	6.46	2.138	0.29	0.9	28.2	13	1.4	14.5	2.0	0.1	<1	40	20.7	2.5
3261172	Drill Core	0.085	5.6	247	3.74	83	0.486	6.70	2.165	0.28	1.0	28.0	13	1.5	15.1	2.2	0.1	<1	37	18.0	2.7
3261173	Drill Core	0.085	3.1	248	3.77	89	0.473	6.76	2.341	0.29	1.3	25.4	8	1.1	14.2	2.1	0.1	<1	37	18.1	2.5
3261174	Drill Core	0.084	3.0	268	3.79	118	0.462	6.65	2.218	0.40	3.1	24.4	7	1.6	13.8	1.9	0.1	<1	40	21.8	3.2
3261175	Drill Core	0.072	4.3	307	3.82	87	0.492	7.06	2.382	0.45	1.1	28.5	10	1.2	14.1	2.1	0.1	<1	42	15.3	1.9
3261176	Drill Core	0.109	5.2	176	3.59	125	0.496	7.74	2.711	0.78	1.7	31.0	12	1.7	15.8	2.2	0.1	<1	32	20.2	2.4
3261177	Drill Core	0.131	6.1	38	2.65	92	0.528	8.27	2.807	0.60	4.4	31.3	14	1.4	17.1	2.7	0.2	<1	23	16.0	2.5
3261178	Drill Core	0.133	6.1	36	2.00	96	0.504	8.28	2.970	0.60	3.5	31.6	14	1.4	17.2	2.5	0.2	<1	22	13.6	2.1
3261179	Drill Core	0.129	5.7	40	2.33	95	0.521	8.27	2.702	0.50	1.5	29.6	13	1.5	17.0	2.5	0.2	<1	22	16.7	1.6
3261180	Rock Pulp	0.101	32.3	84	1.48	1077	0.489	7.39	2.064	2.32	4.5	75.0	68	3.2	23.0	18.2	1.4	3	13	35.6	0.3
3261181	Drill Core	0.142	5.1	45	2.39	84	0.550	8.91	3.206	0.43	1.7	32.7	12	1.6	18.0	2.6	0.2	<1	25	17.7	1.9
3261182	Drill Core	0.134	6.1	40	2.05	84	0.513	8.33	2.893	0.49	2.0	28.9	14	1.2	17.3	2.5	0.2	<1	21	12.8	1.6
3261183	Drill Core	0.133	5.3	42	2.40	128	0.506	8.21	2.948	0.74	1.7	30.1	13	1.3	16.7	2.6	0.2	<1	22	18.5	1.9
3261184	Drill Core	0.140	6.2	48	2.41	190	0.555	9.07	3.125	1.01	1.3	35.3	13	1.0	19.0	2.7	0.2	<1	24	22.4	1.3
3261185	Drill Core	0.145	6.6	48	2.32	336	0.548	8.97	2.510	2.43	1.0	42.2	15	0.6	20.2	2.8	0.2	<1	25	18.7	1.5
3261186	Drill Core	0.141	5.4	45	2.13	391	0.526	8.47	2.388	2.15	1.2	34.4	13	0.9	19.0	2.7	0.2	<1	22	16.6	1.5

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261157	Drill Core	33.0	1.0	0.07	<0.005	1	2.3	<0.5	0.05	
3261158	Drill Core	11.3	1.2	0.11	<0.005	<1	1.8	<0.5	0.01	
3261159	Drill Core	13.3	1.2	0.11	<0.005	<1	2.3	<0.5	0.04	
3261160	Rock Pulp	179.0	2.2	0.08	<0.005	1	0.6	1.1	0.02	
3261161	Drill Core	32.0	1.2	0.12	<0.005	<1	1.8	<0.5	0.04	
3261162	Drill Core	48.4	1.2	0.11	<0.005	<1	2.3	<0.5	0.05	
3261163	Drill Core	32.3	0.9	0.12	<0.005	1	1.6	<0.5	0.05	
3261164	Drill Core	40.1	1.0	0.17	<0.005	<1	2.3	<0.5	0.08	
3261165	Core DUP	41.4	1.1	0.14	<0.005	<1	2.0	<0.5	0.10	
3261166	Drill Core	35.3	1.1	0.13	<0.005	<1	2.2	<0.5	0.05	
3261167	Drill Core	31.7	1.2	0.10	<0.005	<1	1.8	<0.5	0.03	
3261168	Drill Core	9.2	1.1	0.12	<0.005	<1	1.9	<0.5	0.01	
3261169	Drill Core	13.6	1.1	0.15	<0.005	<1	2.1	<0.5	0.02	
3261170	Rock	1.6	<0.1	<0.05	<0.005	<1	3.8	<0.5	<0.01	
3261171	Drill Core	8.8	1.0	0.14	<0.005	<1	1.9	<0.5	0.02	
3261172	Drill Core	8.1	1.0	0.13	<0.005	<1	1.8	<0.5	0.03	
3261173	Drill Core	8.6	1.1	0.13	<0.005	<1	1.9	<0.5	0.01	
3261174	Drill Core	11.3	0.9	0.13	<0.005	<1	1.7	<0.5	0.01	
3261175	Drill Core	14.4	1.1	0.06	<0.005	<1	1.9	<0.5	0.02	
3261176	Drill Core	38.0	1.3	0.11	<0.005	<1	1.2	<0.5	0.02	
3261177	Drill Core	27.8	1.2	0.08	<0.005	<1	1.3	<0.5	0.02	
3261178	Drill Core	24.9	1.3	0.11	<0.005	<1	0.9	<0.5	0.01	
3261179	Drill Core	21.2	1.3	0.11	<0.005	<1	1.3	<0.5	<0.01	
3261180	Rock Pulp	147.3	2.4	0.06	<0.005	2	0.6	1.1	0.02	
3261181	Drill Core	18.4	1.3	0.07	<0.005	<1	1.2	<0.5	<0.01	
3261182	Drill Core	18.5	1.0	0.07	<0.005	<1	1.4	<0.5	<0.01	
3261183	Drill Core	37.7	1.1	0.06	<0.005	<1	0.9	<0.5	<0.01	
3261184	Drill Core	52.2	1.3	0.07	<0.005	<1	0.8	<0.5	<0.01	
3261185	Drill Core	82.3	1.3	<0.05	0.010	<1	1.0	<0.5	<0.01	
3261186	Drill Core	59.5	1.3	0.14	<0.005	<1	1.3	<0.5	0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261187	Drill Core	5.02	0.007	0.9	102.5	2.4	28	0.2	30.5	27.9	705	5.76	2	0.8	0.3	507	<0.1	1.7	0.2	250	5.95
3261188	Drill Core	5.24	0.008	1.1	107.6	2.8	20	0.2	35.4	28.6	832	5.90	2	0.8	0.1	541	<0.1	2.5	0.3	238	6.98
3261189	Drill Core	4.78	0.007	0.5	139.6	2.3	21	0.2	33.8	31.5	800	6.58	2	1.2	1.3	430	<0.1	2.0	0.3	221	7.95
3261190	Rock	2.58	0.006	0.3	0.4	0.6	4	0.1	0.3	<0.2	41	0.07	3	2.9	<0.1	138	0.1	0.1	<0.1	5	23.13
3261191	Drill Core	2.57	0.008	0.8	138.2	2.6	19	0.3	32.1	28.0	723	6.16	9	1.1	1.6	527	<0.1	1.6	0.1	193	8.42
3261192	Drill Core	4.99	0.007	2.7	140.3	2.8	19	0.4	24.3	24.3	797	5.58	8	0.9	1.9	522	<0.1	2.2	0.2	218	7.10
3261193	Drill Core	5.03	0.007	4.8	133.3	2.6	22	0.3	27.5	28.0	653	5.88	6	1.1	1.6	442	<0.1	3.3	0.4	232	7.30
3261194	Drill Core	5.18	0.008	1.2	92.7	3.1	32	0.2	27.6	24.1	732	6.42	3	1.1	<0.1	476	<0.1	2.8	0.2	274	6.90
3261195	Drill Core	2.63	0.006	2.0	97.9	2.5	30	0.2	35.0	28.7	755	6.59	3	1.0	0.5	457	<0.1	2.7	0.1	253	6.41
3261196	Drill Core	3.12	0.007	2.1	86.0	2.6	27	0.1	31.9	25.4	705	6.08	2	0.7	0.8	463	<0.1	3.9	<0.1	247	6.62
3261197	Drill Core	3.08	0.007	0.5	96.1	2.7	23	0.2	34.9	29.8	718	6.16	<1	0.7	0.4	388	0.2	4.7	0.2	229	7.50

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Project: Mt. Milligan
Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

		Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
		Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261187	Drill Core		0.120	5.3	45	2.28	460	0.537	8.67	2.878	1.31	1.7	32.8	13	0.7	17.8	2.7	0.2	<1	23	19.6	1.6
3261188	Drill Core		0.115	5.2	40	2.21	220	0.494	8.20	2.783	0.76	2.7	30.0	12	0.7	17.3	2.5	0.2	<1	21	15.0	2.0
3261189	Drill Core		0.121	4.6	39	2.10	129	0.499	7.86	3.038	0.60	9.8	28.7	11	0.8	16.5	2.6	0.2	<1	21	15.6	2.3
3261190	Rock		0.062	1.3	2	9.33	168	0.003	0.07	0.009	0.03	0.1	0.5	1	<0.1	2.3	0.1	<0.1	<1	<1	3.8	<0.1
3261191	Drill Core		0.113	4.4	39	1.75	123	0.416	7.44	3.481	0.69	3.0	22.5	11	0.8	14.4	2.1	0.1	<1	20	21.2	2.2
3261192	Drill Core		0.121	5.4	43	1.97	185	0.495	7.98	3.244	1.03	2.7	23.3	12	0.9	15.7	2.4	0.2	<1	21	22.6	1.8
3261193	Drill Core		0.121	5.8	42	2.02	274	0.502	8.47	2.521	1.79	1.7	26.2	13	0.6	17.5	2.5	0.2	<1	21	20.4	2.3
3261194	Drill Core		0.125	5.4	49	2.32	525	0.568	9.06	2.557	1.25	1.1	31.8	13	0.7	19.1	2.8	0.2	<1	25	21.4	1.5
3261195	Drill Core		0.134	7.2	49	2.30	586	0.555	8.98	2.766	1.40	2.0	27.7	16	0.7	18.7	2.9	0.2	<1	24	26.6	1.7
3261196	Drill Core		0.112	4.7	48	2.09	388	0.506	8.60	2.681	1.02	1.5	24.5	10	0.7	17.1	2.6	0.2	<1	22	25.0	1.6
3261197	Drill Core		0.113	7.1	41	2.01	125	0.477	7.88	2.533	1.41	2.0	24.8	15	0.6	17.7	2.5	0.1	<1	20	16.1	2.2

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Report Date: August 09, 2019

CERTIFICATE OF ANALYSIS VAN19001953.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
3261187	Drill Core	51.0	1.3	0.06	<0.005	<1	0.7	<0.5	0.01	
3261188	Drill Core	32.9	1.2	0.08	<0.005	1	<0.5	<0.5	0.01	
3261189	Drill Core	19.4	1.2	0.08	<0.005	1	1.5	<0.5	<0.01	
3261190	Rock	1.1	<0.1	<0.05	<0.005	<1	10.0	<0.5	<0.01	
3261191	Drill Core	34.1	0.8	0.09	<0.005	1	1.4	<0.5	<0.01	
3261192	Drill Core	52.7	1.0	0.08	<0.005	2	1.7	<0.5	<0.01	
3261193	Drill Core	66.7	1.1	<0.05	0.007	2	0.9	<0.5	0.02	
3261194	Drill Core	37.0	1.3	0.08	<0.005	<1	1.0	<0.5	<0.01	
3261195	Drill Core	39.8	1.1	0.16	<0.005	1	0.7	<0.5	<0.01	
3261196	Drill Core	29.4	1.1	0.08	<0.005	<1	1.4	<0.5	<0.01	
3261197	Drill Core	34.7	1.0	0.08	<0.005	<1	1.3	<0.5	<0.01	

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Bureau Veritas Commodities Canada Ltd.
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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

	Method	WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
Pulp Duplicates																					
3260960	Rock Pulp	0.13	0.230	98.3	2799.9	24.6	82	0.4	63.4	17.2	619	4.53	20	5.8	20.4	355	0.2	2.4	0.7	129	2.71
REP 3260960	QC																				
3260994	Drill Core	1.49	0.014	11.7	867.4	5.1	48	1.9	92.0	39.2	1321	5.96	<1	0.6	0.7	283	0.5	4.5	0.5	227	10.42
REP 3260994	QC																				
3261005	Core DUP		0.009	9.2	62.1	3.6	18	0.1	4.0	6.6	569	3.03	<1	1.0	3.0	551	<0.1	1.1	<0.1	147	4.15
REP 3261005	QC		0.009																		
3261008	Drill Core	3.72	0.010	4.2	174.6	3.5	19	0.3	4.6	5.3	433	1.74	<1	1.0	2.8	483	0.2	1.0	<0.1	131	3.29
REP 3261008	QC		0.010																		
3261029	Drill Core	4.56	0.010	6.3	275.1	7.3	50	0.6	8.6	26.4	1048	5.75	3	1.1	2.9	810	0.2	1.5	0.2	317	6.65
REP 3261029	QC																				
3261046	Drill Core	3.72	0.013	29.5	766.3	15.8	54	1.7	38.9	26.9	3464	5.65	5	0.7	1.2	250	0.3	6.2	0.4	201	7.67
REP 3261046	QC			30.7	771.1	16.3	57	1.7	38.5	27.4	3501	5.70	7	0.7	1.2	264	0.5	5.6	0.3	203	7.79
REP 3261064	QC																				
3261081	Drill Core	5.58	0.027	21.4	1176.2	3.5	44	1.8	86.4	32.7	1023	6.20	8	0.6	0.5	307	0.2	1.6	0.3	220	11.35
REP 3261081	QC		0.036	20.7	1176.2	3.2	38	2.0	88.7	33.4	1025	6.24	9	0.6	0.6	326	0.4	2.0	0.3	223	11.59
3261084	Drill Core	3.65	0.011	5.3	841.9	2.1	33	0.6	127.4	42.4	1095	7.80	3	1.7	0.6	309	0.1	1.3	0.2	231	10.73
REP 3261084	QC		0.011																		
3261099	Drill Core	2.45	0.008	18.8	356.9	1.9	19	0.3	4.7	18.4	399	4.10	10	0.6	1.9	561	<0.1	2.1	0.2	164	4.25
REP 3261099	QC																				
3261116	Drill Core	4.93	0.010	0.7	569.8	29.9	84	0.9	50.5	35.5	972	7.20	5	0.7	1.7	514	0.4	1.6	1.0	269	6.66
REP 3261116	QC			0.7	594.8	32.0	88	0.9	52.1	36.8	983	7.28	4	0.7	1.3	517	0.6	1.8	1.2	271	6.80
3261134	Drill Core	4.93	0.011	0.6	1210.3	12.1	40	2.5	55.9	38.3	916	6.34	3	0.9	0.8	391	0.5	1.9	3.5	221	7.37
REP 3261134	QC																				
3261151	Drill Core	5.07	0.006	0.2	512.0	3.0	31	0.8	71.4	38.2	1037	6.29	3	0.3	0.8	322	<0.1	3.2	0.3	270	9.86
REP 3261151	QC			0.3	477.8	2.9	25	0.8	69.7	36.1	1011	6.11	2	0.3	0.7	314	<0.1	2.9	0.3	263	9.61
3261155	Drill Core	2.68	0.036	13.4	871.4	49.8	251	6.1	92.3	146.9	3877	24.81	2	0.2	0.3	286	1.6	2.8	1.5	115	10.83
REP 3261155	QC		0.037																		
3261158	Drill Core	5.18	<0.005	0.3	401.7	4.9	35	0.5	81.7	26.4	1246	5.57	5	0.4	0.7	286	<0.1	9.8	0.1	226	9.65

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Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
Pulp Duplicates																					
3260960	Rock Pulp	0.098	35.0	82	1.52	1047	0.492	7.98	2.191	3.31	4.3	76.1	78	3.4	27.0	17.7	1.4	3	13	34.1	0.3
REP 3260960	QC																				
3260994	Drill Core	0.075	4.8	300	5.16	207	0.377	5.68	1.961	1.17	0.6	25.3	10	1.8	14.1	1.9	0.1	<1	39	22.9	2.1
REP 3260994	QC																				
3261005	Core DUP	0.110	11.9	5	1.01	880	0.324	8.86	4.681	2.82	0.5	62.6	22	1.1	15.6	12.2	0.6	2	6	3.3	0.6
REP 3261005	QC																				
3261008	Drill Core	0.120	10.1	4	0.85	996	0.305	8.73	4.358	4.30	0.5	58.0	20	1.3	15.1	12.6	0.7	2	5	4.6	0.1
REP 3261008	QC																				
3261029	Drill Core	0.210	13.8	8	2.21	1067	0.492	9.33	4.026	3.43	1.0	32.2	26	0.6	18.7	7.4	0.4	1	20	18.4	0.7
REP 3261029	QC																				
3261046	Drill Core	0.106	6.1	100	2.14	235	0.365	6.83	1.527	1.55	4.2	21.9	14	0.7	15.9	4.4	0.2	<1	21	24.4	1.6
REP 3261046	QC	0.109	6.7	100	2.16	246	0.372	6.92	1.540	1.62	4.2	21.6	14	0.7	13.5	4.5	0.3	<1	21	26.8	1.6
REP 3261064	QC																				
3261081	Drill Core	0.090	3.8	228	3.82	44	0.434	6.34	1.966	0.19	1.1	32.1	8	1.6	13.3	2.1	0.1	<1	31	11.0	2.7
REP 3261081	QC	0.095	3.6	224	3.89	45	0.459	6.52	2.030	0.19	1.3	33.0	9	1.7	14.4	2.2	0.1	<1	32	12.3	2.7
3261084	Drill Core	0.099	5.6	408	4.20	96	0.434	6.02	1.678	0.50	1.2	36.8	11	1.8	13.7	1.8	0.1	<1	40	14.1	3.2
REP 3261084	QC																				
3261099	Drill Core	0.153	10.4	9	1.29	130	0.387	9.25	4.878	2.52	1.3	33.6	21	0.5	16.3	6.1	0.4	<1	10	9.5	1.7
REP 3261099	QC																				
3261116	Drill Core	0.114	7.9	76	3.29	255	0.591	8.27	1.905	1.29	1.6	44.0	15	1.4	18.0	4.0	0.2	<1	29	25.6	2.6
REP 3261116	QC	0.110	8.6	78	3.35	268	0.604	8.40	1.940	1.36	1.8	45.8	16	1.6	18.8	3.7	0.2	<1	30	24.9	2.7
3261134	Drill Core	0.102	4.7	136	3.13	99	0.454	6.31	2.551	1.55	32.4	26.3	9	2.5	15.4	2.2	0.1	<1	28	15.0	2.9
REP 3261134	QC																				
3261151	Drill Core	0.091	5.4	201	3.80	69	0.517	7.49	2.613	0.26	1.2	34.7	10	1.7	17.0	2.5	0.2	<1	38	21.0	1.7
REP 3261151	QC	0.098	4.6	187	3.70	63	0.506	7.41	2.548	0.24	1.2	33.2	10	1.7	16.4	2.4	0.2	<1	37	21.7	1.6
3261155	Drill Core	0.043	4.6	97	1.66	44	0.223	3.28	0.183	0.14	21.7	10.0	7	0.6	7.5	1.0	<0.1	<1	17	13.7	7.0
REP 3261155	QC																				
3261158	Drill Core	0.081	11.5	247	4.05	72	0.468	6.58	2.466	0.30	1.0	29.9	16	1.6	13.5	2.0	0.1	<1	38	21.6	1.4

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	TC000
	Analyte	Rb	Hf	In	Re	Se	Te	Tl	CVHg	TOT/S
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.02
Pulp Duplicates										
3260960	Rock Pulp	194.8	2.2	0.10	<0.005	1	<0.5	1.2	0.02	
REP 3260960	QC								0.02	
3260994	Drill Core	37.5	1.0	0.15	0.020	7	3.6	<0.5	<0.01	
REP 3260994	QC								<0.01	
3261005	Core DUP	42.3	1.9	<0.05	0.008	<1	<0.5	<0.5	<0.01	
REP 3261005	QC									
3261008	Drill Core	64.8	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
REP 3261008	QC									
3261029	Drill Core	59.7	1.2	<0.05	0.015	1	0.9	<0.5	<0.01	
REP 3261029	QC								<0.01	
3261046	Drill Core	60.7	1.0	<0.05	0.026	3	1.8	<0.5	0.01	
REP 3261046	QC	63.0	0.8	<0.05	0.033	3	<0.5	<0.5		
REP 3261064	QC								<0.01	
3261081	Drill Core	8.3	1.1	0.10	0.029	4	<0.5	<0.5	<0.01	
REP 3261081	QC	8.6	1.1	0.08	0.028	6	2.5	<0.5		
3261084	Drill Core	23.0	1.1	0.10	<0.005	2	<0.5	<0.5	0.01	
REP 3261084	QC									
3261099	Drill Core	48.6	1.2	<0.05	<0.005	2	<0.5	<0.5	<0.01	
REP 3261099	QC								<0.01	
3261116	Drill Core	70.6	1.7	0.12	<0.005	1	0.6	<0.5	0.01	
REP 3261116	QC	71.5	1.7	0.12	<0.005	1	0.5	<0.5		
3261134	Drill Core	41.2	1.0	0.06	<0.005	7	1.8	<0.5	0.02	
REP 3261134	QC								0.02	
3261151	Drill Core	11.3	1.4	0.09	<0.005	<1	2.4	<0.5	<0.01	
REP 3261151	QC	10.9	1.2	0.10	<0.005	<1	2.5	<0.5		
3261155	Drill Core	4.4	0.4	0.13	0.006	3	1.7	<0.5	0.07	
REP 3261155	QC									
3261158	Drill Core	11.3	1.2	0.11	<0.005	<1	1.8	<0.5	0.01	

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QUALITY CONTROL REPORT VAN19001953.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
REP 3261158	QC		<0.005																		
3261169	Drill Core	5.45	0.006	0.2	680.8	5.7	49	0.6	94.1	49.6	1351	7.33	7	0.3	0.6	321	0.2	3.8	0.2	225	9.20
REP 3261169	QC																				
3261186	Drill Core	4.87	0.006	3.1	103.2	2.3	28	0.1	26.6	28.0	687	6.54	2	1.5	0.2	468	<0.1	1.1	0.2	256	6.37
REP 3261186	QC			3.6	105.7	2.4	27	0.1	27.4	28.7	693	6.72	2	1.6	0.2	499	<0.1	1.2	0.2	265	6.60
3261193	Drill Core	5.03	0.007	4.8	133.3	2.6	22	0.3	27.5	28.0	653	5.88	6	1.1	1.6	442	<0.1	3.3	0.4	232	7.30
REP 3261193	QC																				
Core Reject Duplicates																					
3260962	Drill Core	2.97	0.010	0.8	253.2	9.4	33	0.6	7.9	9.4	777	3.62	2	1.0	2.5	937	0.6	1.6	<0.1	244	3.35
DUP 3260962	QC		0.009	0.9	247.2	9.4	36	0.6	8.5	9.9	791	3.66	1	1.0	2.4	951	0.7	1.6	<0.1	247	3.40
3260996	Drill Core	3.87	0.014	3.4	988.6	3.5	44	1.6	93.1	39.2	1297	6.66	1	0.5	0.4	236	0.7	3.3	0.2	213	11.23
DUP 3260996	QC		0.011	3.3	975.3	3.5	41	1.5	96.4	40.7	1303	6.73	2	0.4	0.5	239	0.5	3.0	0.2	211	11.17
3261064	Drill Core	6.01	0.027	21.1	1468.1	4.1	32	1.7	113.0	70.3	1116	9.07	2	0.9	0.5	312	0.2	0.9	0.7	220	10.50
DUP 3261064	QC		0.032	18.7	1519.8	4.1	33	1.8	112.1	69.2	1157	9.26	2	0.9	0.5	301	0.3	1.0	0.7	229	10.85
3261098	Drill Core	2.90	0.009	11.6	316.3	3.0	23	0.4	40.5	23.3	909	4.51	5	1.0	1.0	403	<0.1	2.0	0.4	275	9.54
DUP 3261098	QC		0.009	12.5	316.1	3.2	27	0.5	44.2	24.7	927	4.63	5	1.0	1.1	444	0.2	1.9	0.4	283	9.82
3261132	Drill Core	2.94	0.029	4.5	2515.2	12.6	197	8.3	46.1	100.6	1146	13.46	6	0.7	0.7	207	2.0	2.0	2.0	92	4.55
DUP 3261132	QC		0.038	4.3	2500.6	14.3	202	9.3	48.0	97.6	1266	13.96	5	0.8	0.9	228	2.1	2.1	2.1	98	4.69
3261166	Drill Core	5.16	0.008	0.3	770.2	19.6	115	1.0	96.6	48.6	1619	6.82	8	0.3	0.6	331	0.6	7.8	0.2	191	10.49
DUP 3261166	QC		0.008	0.2	781.1	20.0	123	1.0	95.0	49.3	1612	6.86	8	0.3	0.6	327	0.6	7.8	0.2	189	10.52
Reference Materials																					
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OREAS25A-4A	Standard			2.5	33.6	26.4	44	<0.1	46.9	8.0	518	6.56	9	3.2	16.3	51	<0.1	0.6	0.3	161	0.28
STD OREAS25A-4A	Standard			2.4	35.3	26.2	43	<0.1	46.7	8.4	519	6.59	11	2.8	16.4	49	<0.1	0.7	0.4	162	0.29
STD OREAS25A-4A	Standard			2.5	35.0	23.7	42	<0.1	45.9	7.7	467	6.54	9	2.8	16.5	47	<0.1	0.5	0.3	155	0.29
STD OREAS25A-4A	Standard			2.8	36.6	25.1	44	<0.1	44.5	7.6	481	6.62	8	2.8	17.2	48	<0.1	0.6	0.3	164	0.30
STD OREAS25A-4A	Standard			2.3	30.6	23.5	40	<0.1	45.4	7.2	480	6.38	10	2.8	13.1	46	<0.1	0.7	0.4	152	0.30
STD OREAS25A-4A	Standard			2.5	32.4	25.4	42	<0.1	47.4	7.6	499	6.71	9	3.0	16.4	48	<0.1	0.6	0.4	160	0.29

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Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
REP 3261158	QC																				
3261169	Drill Core	0.092	5.1	292	4.21	120	0.492	6.54	2.237	0.42	0.7	29.7	12	1.6	13.9	2.2	0.1	<1	39	20.3	2.4
REP 3261169	QC																				
3261186	Drill Core	0.141	5.4	45	2.13	391	0.526	8.47	2.388	2.15	1.2	34.4	13	0.9	19.0	2.7	0.2	<1	22	16.6	1.5
REP 3261186	QC	0.146	5.7	48	2.23	692	0.550	8.93	2.495	2.24	1.1	36.7	13	0.7	19.0	3.0	0.2	<1	24	17.0	1.6
3261193	Drill Core	0.121	5.8	42	2.02	274	0.502	8.47	2.521	1.79	1.7	26.2	13	0.6	17.5	2.5	0.2	<1	21	20.4	2.3
REP 3261193	QC																				
Core Reject Duplicates																					
3260962	Drill Core	0.154	11.6	18	0.85	1388	0.343	8.71	3.614	3.45	0.2	25.6	24	0.9	15.3	10.6	0.6	<1	6	3.9	<0.1
DUP 3260962	QC	0.162	11.3	17	0.85	1406	0.348	8.61	3.659	3.45	0.3	24.7	25	0.7	14.5	10.5	0.6	<1	6	4.0	<0.1
3260996	Drill Core	0.074	3.6	295	5.03	120	0.383	5.51	1.459	0.94	1.1	29.1	9	1.5	12.8	1.6	<0.1	<1	39	26.0	2.5
DUP 3260996	QC	0.079	3.6	315	5.10	129	0.380	5.53	1.471	0.96	1.1	27.8	8	1.6	13.2	1.5	<0.1	<1	42	23.4	2.5
3261064	Drill Core	0.092	3.5	356	4.30	40	0.388	5.52	1.558	0.26	1.2	27.0	8	1.4	13.3	1.5	<0.1	<1	41	14.7	4.2
DUP 3261064	QC	0.095	4.0	352	4.43	44	0.399	5.70	1.615	0.28	1.4	27.2	9	1.2	13.6	1.5	<0.1	<1	44	14.4	4.5
3261098	Drill Core	0.117	9.5	81	2.77	68	0.572	8.11	3.289	0.34	2.6	45.8	17	1.5	19.7	3.4	0.2	<1	29	13.9	1.7
DUP 3261098	QC	0.118	9.9	79	2.87	70	0.587	8.44	3.491	0.34	2.4	52.3	19	1.4	21.1	3.6	0.2	<1	33	14.5	1.7
3261132	Drill Core	0.051	1.3	9	1.09	51	0.238	6.40	0.401	3.16	18.3	13.9	4	1.4	7.4	2.9	0.2	<1	5	13.7	5.6
DUP 3261132	QC	0.054	2.0	8	1.16	179	0.239	7.12	0.375	3.08	19.1	14.1	6	1.6	8.9	3.1	0.2	<1	6	15.3	5.8
3261166	Drill Core	0.075	7.8	244	4.28	174	0.448	6.34	1.572	0.77	1.1	28.7	16	1.3	12.7	1.9	0.1	<1	35	24.9	2.1
DUP 3261166	QC	0.076	7.6	236	4.25	162	0.425	6.21	1.538	0.76	1.2	27.6	16	1.4	12.4	1.8	0.1	<1	35	25.7	2.1
Reference Materials																					
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OREAS25A-4A	Standard	0.046	19.1	114	0.37	143	0.894	9.23	0.138	0.49	2.0	151.6	46	3.4	9.9	18.8	1.3	<1	12	36.9	<0.1
STD OREAS25A-4A	Standard	0.051	23.9	119	0.32	146	0.905	9.30	0.112	0.46	1.8	153.4	47	4.1	10.9	20.2	1.5	1	13	37.1	<0.1
STD OREAS25A-4A	Standard	0.045	22.1	106	0.33	138	0.885	9.19	0.111	0.49	1.7	143.5	48	3.7	10.7	19.4	1.3	1	12	35.4	<0.1
STD OREAS25A-4A	Standard	0.050	22.0	107	0.33	146	0.974	9.10	0.109	0.46	2.1	155.8	53	3.9	11.7	21.9	1.5	1	12	36.5	<0.1
STD OREAS25A-4A	Standard	0.047	21.5	108	0.30	141	0.909	8.94	0.112	0.45	1.9	144.8	48	3.5	10.0	19.0	1.3	1	13	36.7	<0.1
STD OREAS25A-4A	Standard	0.048	23.1	117	0.31	154	0.954	9.22	0.117	0.48	1.8	148.1	49	4.3	10.2	19.4	1.4	<1	12	38.8	<0.1

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	TC000 TOT/S % 0.02
REP 3261158	QC									
3261169	Drill Core	13.6	1.1	0.15	<0.005	<1	2.1	<0.5	0.02	
REP 3261169	QC								0.02	
3261186	Drill Core	59.5	1.3	0.14	<0.005	<1	1.3	<0.5	0.01	
REP 3261186	QC	62.7	1.3	0.11	0.007	<1	1.0	<0.5		
3261193	Drill Core	66.7	1.1	<0.05	0.007	2	0.9	<0.5	0.02	
REP 3261193	QC								0.02	
Core Reject Duplicates										
3260962	Drill Core	42.6	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01	
DUP 3260962	QC	40.3	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3260996	Drill Core	36.2	1.0	0.16	0.010	5	2.9	<0.5	<0.01	
DUP 3260996	QC	36.6	0.9	0.08	0.006	5	2.3	<0.5	<0.01	
3261064	Drill Core	11.5	0.9	0.11	0.019	3	0.8	<0.5	<0.01	
DUP 3261064	QC	12.5	1.0	0.06	0.021	7	<0.5	<0.5	0.01	
3261098	Drill Core	15.5	1.5	0.07	0.005	2	1.6	<0.5	<0.01	
DUP 3261098	QC	16.2	1.6	<0.05	0.008	<1	<0.5	<0.5	<0.01	
3261132	Drill Core	81.9	0.5	0.07	0.011	3	1.7	0.7	0.08	
DUP 3261132	QC	97.3	0.6	0.13	<0.005	2	1.8	0.7	0.08	
3261166	Drill Core	35.3	1.1	0.13	<0.005	<1	2.2	<0.5	0.05	
DUP 3261166	QC	34.2	1.0	0.11	<0.005	<1	2.3	<0.5	0.05	
Reference Materials										
STD GS311-1	Standard									2.39
STD GS910-4	Standard									8.30
STD OREAS25A-4A	Standard	54.7	3.8	0.09	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	60.2	4.3	0.05	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	58.2	3.9	0.11	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.5	4.2	0.07	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	56.4	3.8	0.06	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	60.6	4.3	0.07	<0.005	2	<0.5	<0.5		

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
STD OREAS25A-4A	Standard			2.5	34.0	25.7	42	<0.1	48.5	7.9	527	6.70	10	2.9	15.6	46	<0.1	0.7	0.4	163	0.25
STD OREAS25A-4A	Standard			2.3	34.2	24.6	44	<0.1	45.6	7.8	502	6.52	10	2.9	16.9	47	<0.1	0.6	0.4	173	0.29
STD OREAS25A-4A	Standard			2.7	36.6	25.1	49	<0.1	45.3	7.8	487	6.60	9	2.9	16.2	47	<0.1	0.7	0.4	164	0.29
STD OREAS25A-4A	Standard			2.8	36.9	24.5	40	<0.1	45.6	7.5	509	6.60	11	2.9	15.3	47	<0.1	0.6	0.3	159	0.30
STD OREAS45E	Standard			2.4	782.0	20.0	46	0.3	476.0	62.1	584	25.48	17	2.8	14.8	18	<0.1	1.1	0.2	352	0.06
STD OREAS45E	Standard			2.3	756.2	18.4	45	0.3	451.3	60.4	526	24.30	18	2.7	13.1	17	<0.1	1.0	0.3	310	0.06
STD OREAS45E	Standard			2.0	790.2	18.5	45	0.3	468.3	57.3	514	25.78	15	2.6	14.8	16	<0.1	1.0	0.2	321	0.06
STD OREAS45E	Standard			2.5	763.4	17.5	43	0.3	452.1	56.1	548	24.22	15	2.3	12.7	15	<0.1	1.1	0.3	311	0.06
STD OREAS45E	Standard			2.3	770.8	18.2	44	0.3	461.4	58.0	537	24.88	17	2.4	11.9	16	<0.1	1.1	0.3	316	0.06
STD OREAS45E	Standard			2.3	788.9	19.7	50	0.3	469.6	60.6	552	25.29	17	2.6	14.5	17	<0.1	1.1	0.3	320	0.06
STD OREAS45E	Standard			2.7	769.1	19.1	43	0.3	459.2	57.2	586	24.40	17	2.8	13.2	17	<0.1	1.1	0.3	317	0.05
STD OREAS45E	Standard			2.2	792.8	18.2	46	0.3	459.4	59.6	551	23.71	17	2.5	13.3	16	<0.1	1.0	0.3	341	0.07
STD OREAS45E	Standard			2.5	790.8	19.3	50	0.3	476.9	58.4	550	24.45	16	2.5	14.0	18	<0.1	1.0	0.3	327	0.06
STD OREAS45E	Standard			2.6	796.2	18.7	50	0.3	483.6	60.9	594	24.02	17	2.6	13.4	18	<0.1	1.0	0.3	324	0.06
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS25A-4A	Standard	0.052	18.3	118	0.34	151	0.955	8.59	0.133	0.46	2.1	148.3	41	3.7	8.8	19.1	1.4	<1	11	34.6	<0.1
STD OREAS25A-4A	Standard	0.045	22.3	114	0.30	145	1.015	8.74	0.113	0.47	2.2	149.1	47	4.1	10.6	20.6	1.5	<1	12	38.4	<0.1
STD OREAS25A-4A	Standard	0.048	21.4	120	0.31	151	0.965	9.21	0.137	0.50	2.0	149.7	45	3.9	10.0	19.2	1.4	<1	12	37.8	<0.1
STD OREAS25A-4A	Standard	0.048	23.4	109	0.37	153	0.941	9.67	0.134	0.50	1.8	144.2	51	3.9	10.8	19.3	1.4	1	13	35.9	<0.1
STD OREAS45E	Standard	0.032	11.9	1029	0.18	250	0.541	7.21	0.070	0.35	1.0	101.1	27	1.4	8.7	6.3	0.5	<1	98	6.3	<0.1
STD OREAS45E	Standard	0.034	11.7	979	0.14	260	0.517	6.99	0.048	0.30	1.0	100.5	25	1.4	8.3	6.1	0.5	1	94	6.7	<0.1
STD OREAS45E	Standard	0.036	11.0	944	0.16	244	0.536	7.19	0.047	0.31	1.0	93.7	25	1.0	9.1	6.1	0.5	<1	89	6.4	<0.1
STD OREAS45E	Standard	0.037	10.3	966	0.16	241	0.532	6.90	0.050	0.33	1.0	90.3	23	1.1	7.9	5.9	0.5	<1	86	7.7	<0.1
STD OREAS45E	Standard	0.032	11.3	993	0.14	250	0.491	6.94	0.052	0.31	0.9	92.8	25	1.1	7.2	6.1	0.5	<1	88	7.4	<0.1
STD OREAS45E	Standard	0.035	11.7	973	0.15	258	0.542	7.01	0.055	0.35	1.0	98.4	25	1.1	8.3	6.4	0.5	<1	95	7.0	<0.1
STD OREAS45E	Standard	0.031	8.8	931	0.15	239	0.526	6.66	0.059	0.31	0.9	90.7	19	0.9	6.8	5.6	0.5	<1	88	6.4	<0.1
STD OREAS45E	Standard	0.034	11.3	935	0.14	249	0.556	6.98	0.053	0.32	1.0	97.1	24	1.1	8.1	6.0	0.6	<1	86	6.4	<0.1
STD OREAS45E	Standard	0.034	11.7	982	0.15	263	0.549	6.81	0.053	0.34	0.9	101.9	24	1.2	8.3	6.1	0.5	<1	91	6.7	<0.1
STD OREAS45E	Standard	0.033	11.8	985	0.17	266	0.554	7.19	0.060	0.34	1.0	91.0	25	1.4	8.5	6.2	0.5	<1	92	6.7	<0.1
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
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Project: Mt. Milligan
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QUALITY CONTROL REPORT VAN19001953.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	TC000 TOT/S % 0.02
STD OREAS25A-4A	Standard	53.7	4.0	<0.05	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.3	4.4	0.09	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.9	4.0	0.12	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	61.3	3.9	0.09	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	21.8	2.9	0.07	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	22.8	2.8	0.10	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	20.9	3.0	0.12	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	19.5	2.6	0.11	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	20.5	2.9	0.13	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	22.1	3.0	0.09	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	20.8	2.8	0.09	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	20.5	2.7	0.12	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	21.7	3.0	0.11	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	21.9	3.1	0.11	<0.005	2	<0.5	<0.5		
STD OREAS623	Standard								0.75	
STD OREAS620	Standard								2.22	
STD OREAS623	Standard								0.70	
STD OREAS620	Standard								2.08	
STD OREAS623	Standard								0.79	
STD OREAS620	Standard								2.31	
STD OREAS623	Standard								0.73	
STD OREAS620	Standard								2.28	
STD OREAS623	Standard								0.76	
STD OREAS620	Standard								2.19	
STD OREAS623	Standard								0.84	
STD OREAS620	Standard								1.99	
STD OREAS623	Standard								0.77	
STD OREAS620	Standard								2.24	
STD OREAS623	Standard								0.84	

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QUALITY CONTROL REPORT VAN19001953.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
STD OREAS620	Standard																				
STD OXC145	Standard		0.209																		
STD OXC145	Standard		0.210																		
STD OXC145	Standard		0.211																		
STD OXC145	Standard		0.214																		
STD OXH139	Standard		1.317																		
STD OXH139	Standard		1.309																		
STD OXH139	Standard		1.267																		
STD OXH139	Standard		1.293																		
STD OXN134	Standard		7.445																		
STD OXN134	Standard		7.479																		
STD OXN134	Standard		7.404																		
STD OXN134	Standard		7.362																		
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD OXC145 Expected			0.212																		
STD OXH139 Expected			1.312																		
STD OXN134 Expected			7.667																		
STD OREAS25A-4A Expected				2.41	33.9	25.2	44.4		45.8	7.7	480	6.6	9.94	2.94	15.8	48.5		0.65	0.37	157	0.301
STD OREAS45E Expected				2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065
BLK	Blank			<0.1	0.3	<0.1	<1	<0.1	<0.1	<0.2	2	<0.01	<1	<0.1	<0.1	2	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank																				
BLK	Blank																				
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BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS620	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD OXC145 Expected																					
STD OXH139 Expected																					
STD OXN134 Expected																					
STD OREAS25A-4A Expected		0.048	21.8	115	0.327	147	0.93	8.87	0.131	0.482	2	155	47.3	4.06	10.5	20.9	1.4	0.93	13.7	36.7	0.047
STD OREAS45E Expected		0.034	11	979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
BLK	Blank																				
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BLK	Blank																				

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	TC000 TOT/S % 0.02
STD OREAS620	Standard								2.31	
STD OXC145	Standard									
STD OXC145	Standard									
STD OXC145	Standard									
STD OXC145	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OREAS623 Expected									0.79	
STD OREAS620 Expected									2.14	
STD GS311-1 Expected										2.35
STD GS910-4 Expected										8.27
STD OXC145 Expected										
STD OXH139 Expected										
STD OXN134 Expected										
STD OREAS25A-4A Expected		61	4.14	0.09		2.4		0.35		
STD OREAS45E Expected		21.2	3.11	0.099		2.97	0.1	0.15		
BLK	Blank	0.2	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
BLK	Blank																				
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.3	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.5	<0.1	<1	<0.1	0.2	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank																				
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.4	<0.1	<1	<0.1	0.1	<0.2	3	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank																				
BLK	Blank		<0.005																		
BLK	Blank		0.005																		
BLK	Blank		0.005																		
BLK	Blank		0.007																		
BLK	Blank		0.006																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
Prep Wash																					
ROCK-VAN	Prep Blank		<0.005	0.8	7.3	3.9	41	<0.1	0.8	4.1	695	2.10	2	1.3	3.1	209	<0.1	0.2	<0.1	36	1.62
ROCK-VAN	Prep Blank		<0.005	1.0	9.9	4.6	43	<0.1	0.9	4.2	694	2.09	2	1.3	2.9	213	<0.1	0.2	<0.1	36	1.63

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	0.2	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
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BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
Prep Wash																					
ROCK-VAN	Prep Blank	0.040	11.6	3	0.49	782	0.195	7.25	3.509	1.52	0.2	49.9	24	0.7	16.0	5.5	0.4	1	6	3.3	<0.1
ROCK-VAN	Prep Blank	0.033	11.0	3	0.49	777	0.196	7.08	3.474	1.58	0.2	49.0	24	0.6	15.7	5.2	0.4	1	6	3.3	<0.1

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 09, 2019

QUALITY CONTROL REPORT VAN19001953.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	TC000 TOT/S % 0.02
BLK	Blank								<0.01	
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.2	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank								<0.01	
BLK	Blank	0.2	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.3	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.2	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank									<0.02
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank	0.2	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
Prep Wash										
ROCK-VAN	Prep Blank	33.7	1.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
ROCK-VAN	Prep Blank	32.7	1.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01	

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Submitted By: Mt. Milligan Notification List
Receiving Lab: Canada-Vancouver
Received: July 26, 2019
Report Date: August 18, 2019
Page: 1 of 7

CERTIFICATE OF ANALYSIS VAN19001978.1

CLIENT JOB INFORMATION

Project: Mt. Milligan
Shipment ID: TRX19-03_3
P.O. Number M12390
Number of Samples: 166

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
RTRN-RJT Return After 60 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP80-250	153	Crush, split and pulverize 250 g rock to 200 mesh			VAN
SPTRF	4	Split samples by riffle splitter			VAN
PUL85	4	Pulverize to 85% passing 200 mesh			VAN
SLBHP	9	Sort, label and box pulps			VAN
FA430	166	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
EN002	166	Environmental disposal charge-Fire assay lead waste			VAN
MA200	166	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
EN001-MA	166	Environmental disposal fee - Multi-acid neutralization			VAN
CV400	166	Hg by 0.5g/10ml Aqua Regia, CVAA	0.5	Completed	VAN
MA404	1	4 Acid Digest AAS Finish for Cu VAN	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Thompson Creek Metals
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8
Canada

CC: Mt. Milligan Data Distribution List

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Production Manager

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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: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261198	Drill Core	1.76	0.009	0.7	306.0	4.1	31	0.7	10.0	7.8	644	3.04	1	0.9	3.2	491	0.2	0.9	0.1	236	2.32
3261199	Drill Core	3.33	0.008	0.4	186.1	3.6	21	0.4	8.2	5.2	444	1.99	2	0.6	2.5	288	<0.1	0.4	<0.1	158	1.45
3261200	Rock Pulp	0.13	0.233	99.1	2738.1	22.3	82	0.4	64.3	16.2	562	4.38	20	5.4	20.1	326	0.3	2.4	0.8	125	2.67
3261201	Drill Core	2.35	0.027	0.7	659.3	4.3	38	1.2	21.6	8.1	730	2.40	2	0.9	3.1	347	0.4	0.6	0.1	178	1.81
3261202	Drill Core	3.72	0.254	1.1	1853.7	3.4	100	5.8	57.5	18.1	1102	4.60	3	0.7	1.6	377	0.7	1.6	0.8	331	3.88
3261203	Drill Core	3.26	0.331	1.1	2755.6	5.2	132	8.7	57.3	25.2	1061	5.46	3	0.7	1.1	370	0.6	1.5	1.4	313	5.54
3261204	Drill Core	2.02	0.327	1.3	3670.5	6.6	138	11.7	61.5	30.1	1141	7.18	5	0.6	1.0	506	1.1	2.3	1.2	334	7.03
3261205	Core DUP		0.285	1.1	3581.2	6.5	131	12.2	57.6	29.8	1124	6.90	6	0.7	0.9	496	1.0	2.5	1.2	324	6.84
3261206	Drill Core	2.45	0.046	1.1	1381.2	4.1	95	4.7	30.9	18.6	442	3.88	4	1.0	4.1	200	0.4	1.2	0.5	141	1.28
3261207	Drill Core	1.76	0.058	0.6	521.6	2.3	49	3.8	8.6	7.5	206	1.66	3	1.2	6.4	130	0.3	0.5	0.2	62	0.63
3261208	Drill Core	1.39	0.015	0.6	350.0	2.4	26	1.0	8.8	4.3	196	1.14	1	1.4	7.0	87	0.2	0.7	0.1	52	0.29
3261209	Drill Core	1.77	0.021	0.7	2378.7	5.5	93	3.1	83.9	35.2	1265	5.92	3	0.6	1.2	337	0.9	2.0	0.4	222	4.37
3261210	Rock	2.21	<0.005	0.3	3.0	0.5	4	0.2	2.3	<0.2	55	0.10	<1	2.1	0.1	131	0.1	<0.1	<0.1	14	24.22
3261211	Drill Core	3.44	0.033	1.0	1889.3	13.1	114	4.8	73.6	40.5	1434	7.08	5	0.7	1.7	478	2.3	2.0	0.9	237	6.06
3261212	Drill Core	1.97	0.035	1.4	992.0	6.5	68	6.0	32.0	23.3	917	5.11	3	1.0	2.2	498	1.4	0.8	0.3	268	5.98
3261213	Drill Core	3.01	0.028	1.5	1697.7	12.2	101	5.1	59.9	38.0	1318	6.77	5	0.7	1.0	446	1.9	1.6	0.5	257	6.86
3261214	Drill Core	1.34	0.033	1.0	1140.8	10.5	75	5.9	61.6	37.3	902	6.16	4	0.6	2.1	367	1.9	1.6	0.4	182	5.65
3261215	Drill Core	3.09	0.029	1.6	1018.0	8.8	79	5.7	34.4	27.1	574	4.06	6	1.3	4.5	231	1.3	1.2	0.3	146	2.46
3261216	Drill Core	2.62	0.019	1.0	1568.9	10.3	87	4.8	60.6	53.5	1537	7.22	2	0.6	0.8	568	1.2	1.8	0.3	220	9.74
3261217	Drill Core	4.08	0.027	1.5	2561.4	10.1	108	6.9	76.3	62.2	1429	8.77	4	0.6	0.6	590	1.7	3.4	0.4	243	9.95
3261218	Drill Core	3.64	0.033	0.9	2987.9	10.0	130	5.3	89.7	62.0	1479	8.43	4	0.7	1.0	517	2.1	3.4	0.6	237	6.35
3261219	Drill Core	2.43	0.011	1.0	1611.9	12.9	90	2.8	82.3	47.5	1594	8.53	5	0.6	0.8	945	2.2	4.7	0.3	257	9.91
3261220	Rock Pulp	0.13	0.212	99.6	2710.3	22.9	86	0.4	67.5	16.5	610	4.41	21	5.5	20.5	336	0.3	2.4	0.7	125	2.64
3261221	Drill Core	2.23	0.035	0.9	1336.5	8.3	72	3.8	50.4	30.6	826	5.38	2	0.7	1.7	610	1.4	2.5	0.3	172	5.37
3261222	Drill Core	4.32	0.040	0.7	1562.8	21.9	72	3.1	80.1	27.9	1262	5.62	2	0.4	0.9	564	0.5	1.4	0.2	228	9.49
3261223	Drill Core	4.05	0.027	0.7	1144.6	4.8	65	2.0	67.8	29.5	1174	5.33	2	0.5	0.7	511	0.6	1.2	0.1	235	9.74
3261224	Drill Core	4.10	0.047	0.9	1026.0	2.8	60	1.3	56.7	22.1	1005	4.58	3	0.5	1.1	430	0.5	1.0	<0.1	209	7.87
3261225	Drill Core	3.87	0.115	0.8	2264.7	3.0	83	1.5	75.1	32.3	1335	7.03	2	0.6	1.0	562	1.3	1.9	0.1	287	9.02
3261226	Drill Core	4.12	0.089	2.4	2099.2	2.4	74	3.1	75.8	38.4	1379	7.34	3	0.6	1.0	480	0.9	1.7	0.1	279	9.14
3261227	Drill Core	4.26	0.025	1.1	977.5	2.2	57	2.3	59.1	35.6	1116	6.25	1	0.5	1.0	470	0.6	1.1	0.1	260	7.62

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261198	Drill Core	0.116	13.9	10	1.03	1004	0.376	8.98	3.361	4.56	0.5	21.6	23	1.0	15.4	11.8	0.6	<1	10	4.1	<0.1
3261199	Drill Core	0.080	8.3	5	0.77	663	0.255	5.95	2.181	2.84	0.3	12.6	13	0.7	9.4	7.1	0.4	<1	7	2.6	<0.1
3261200	Rock Pulp	0.113	38.5	81	1.48	1023	0.480	7.72	1.952	3.34	4.3	63.0	72	3.6	26.8	17.2	1.3	3	13	32.2	0.3
3261201	Drill Core	0.092	13.0	42	1.03	933	0.329	8.96	3.460	4.99	0.5	24.7	24	1.3	17.5	14.9	0.7	<1	13	6.1	<0.1
3261202	Drill Core	0.111	7.6	107	2.08	597	0.368	7.97	2.508	4.01	0.5	20.1	13	1.9	16.8	7.3	0.3	<1	25	10.5	<0.1
3261203	Drill Core	0.103	5.3	129	2.43	402	0.356	7.35	2.152	2.94	0.5	18.2	10	3.1	13.6	3.7	0.1	<1	28	11.2	<0.1
3261204	Drill Core	0.102	4.7	136	2.48	341	0.361	7.70	2.033	1.84	0.8	21.2	11	3.1	12.5	2.9	0.1	1	29	12.6	<0.1
3261205	Core DUP	0.097	4.8	136	2.45	362	0.349	7.59	1.974	1.94	0.9	21.6	10	2.7	12.7	2.7	0.2	<1	30	11.2	<0.1
3261206	Drill Core	0.048	6.5	57	0.93	583	0.180	7.24	1.888	4.70	1.2	18.7	12	1.5	8.8	5.5	0.3	<1	12	8.5	<0.1
3261207	Drill Core	0.019	6.0	18	0.40	412	0.101	6.63	2.259	4.35	0.8	18.4	10	0.9	5.8	5.9	0.3	<1	4	4.3	<0.1
3261208	Drill Core	0.012	5.3	11	0.24	384	0.083	6.69	2.644	4.55	0.6	19.7	9	0.6	5.1	7.0	0.4	2	3	4.0	<0.1
3261209	Drill Core	0.102	5.3	178	2.47	552	0.360	8.97	1.851	3.29	0.8	20.9	11	1.6	13.2	2.1	0.1	1	33	19.7	<0.1
3261210	Rock	0.057	1.4	2	9.55	127	0.005	0.11	0.009	0.05	0.1	0.2	2	<0.1	2.0	0.2	<0.1	<1	<1	4.6	<0.1
3261211	Drill Core	0.106	6.5	171	2.39	306	0.373	8.15	2.301	1.56	0.7	25.7	13	1.8	13.1	3.2	0.2	<1	34	15.9	<0.1
3261212	Drill Core	0.129	10.1	57	2.13	197	0.509	8.78	3.503	1.01	0.7	30.5	22	1.8	18.4	4.6	0.2	2	32	19.4	<0.1
3261213	Drill Core	0.100	6.8	130	2.58	296	0.421	8.61	2.279	1.41	0.8	25.0	14	1.8	14.4	2.6	0.1	1	32	20.3	<0.1
3261214	Drill Core	0.073	4.8	118	2.06	340	0.303	8.37	1.722	3.60	0.9	23.8	10	1.0	10.5	4.5	0.2	<1	22	15.9	<0.1
3261215	Drill Core	0.054	7.6	56	1.06	637	0.215	7.97	1.425	5.30	0.8	18.6	14	1.5	10.9	7.9	0.5	2	14	8.2	<0.1
3261216	Drill Core	0.084	5.2	172	3.04	770	0.340	7.73	1.815	0.64	0.7	23.5	10	1.5	11.9	1.7	0.1	<1	35	17.8	0.4
3261217	Drill Core	0.077	4.7	213	2.89	260	0.329	7.19	1.448	0.47	0.8	24.1	9	1.7	11.3	1.6	<0.1	1	34	11.3	1.6
3261218	Drill Core	0.104	5.5	178	2.74	953	0.350	7.98	1.874	1.32	1.0	26.0	10	1.7	12.7	2.4	0.1	1	34	20.5	0.2
3261219	Drill Core	0.114	6.5	155	2.17	276	0.376	8.78	1.190	0.78	0.8	27.7	13	1.9	14.2	1.9	0.1	<1	30	13.7	<0.1
3261220	Rock Pulp	0.104	37.6	76	1.50	1019	0.485	7.75	1.970	3.30	4.4	66.1	75	3.4	26.9	18.1	1.3	2	13	33.6	0.3
3261221	Drill Core	0.095	7.2	93	1.74	845	0.279	8.64	2.528	2.57	0.6	23.1	14	1.3	11.2	5.9	0.3	<1	19	11.1	<0.1
3261222	Drill Core	0.079	5.4	176	3.34	403	0.324	7.60	1.613	1.30	0.6	21.5	10	1.2	11.2	2.3	0.1	<1	34	15.6	<0.1
3261223	Drill Core	0.083	5.5	188	3.64	289	0.341	7.55	1.732	1.47	0.6	21.3	10	1.1	11.7	1.7	0.1	<1	36	20.4	<0.1
3261224	Drill Core	0.084	5.9	125	2.99	486	0.306	7.78	2.071	2.14	0.6	22.6	11	1.0	11.4	3.1	0.2	1	28	18.6	<0.1
3261225	Drill Core	0.115	4.7	162	2.71	246	0.342	7.84	1.701	1.24	0.8	22.9	10	1.9	12.5	1.9	<0.1	<1	33	12.2	<0.1
3261226	Drill Core	0.101	5.6	163	3.12	394	0.352	7.69	1.511	1.32	0.8	22.1	11	1.9	13.5	1.9	0.1	<1	31	15.0	0.2
3261227	Drill Core	0.117	7.6	134	3.26	434	0.438	7.86	2.475	0.95	0.7	23.9	15	1.3	15.4	2.9	0.2	<1	34	21.7	0.5

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261198	Drill Core	78.6	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261199	Drill Core	49.0	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261200	Rock Pulp	192.3	2.1	0.07	0.006	2	<0.5	1.1	0.02	
3261201	Drill Core	84.2	1.1	0.07	<0.005	<1	<0.5	<0.5	0.02	
3261202	Drill Core	78.1	0.8	0.29	<0.005	<1	0.8	<0.5	0.09	
3261203	Drill Core	71.0	0.8	0.47	<0.005	2	1.7	<0.5	0.16	
3261204	Drill Core	46.5	0.8	0.37	<0.005	2	2.3	<0.5	0.14	
3261205	Core DUP	45.2	0.8	0.28	<0.005	2	1.2	<0.5	0.14	
3261206	Drill Core	86.7	0.9	0.15	<0.005	2	<0.5	<0.5	0.04	
3261207	Drill Core	85.0	0.8	0.10	<0.005	<1	<0.5	<0.5	0.06	
3261208	Drill Core	84.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.02	
3261209	Drill Core	118.1	0.8	0.09	<0.005	2	1.4	<0.5	0.04	
3261210	Rock	1.8	<0.1	<0.05	<0.005	<1	6.2	<0.5	<0.01	
3261211	Drill Core	44.7	1.0	0.16	<0.005	2	1.5	<0.5	0.05	
3261212	Drill Core	33.2	1.1	0.11	<0.005	2	0.6	<0.5	0.03	
3261213	Drill Core	45.4	0.9	0.15	<0.005	1	0.5	<0.5	0.05	
3261214	Drill Core	80.6	1.0	0.09	<0.005	2	1.1	<0.5	0.04	
3261215	Drill Core	53.7	0.9	0.10	<0.005	<1	<0.5	<0.5	0.06	
3261216	Drill Core	19.8	0.8	0.11	<0.005	3	2.7	<0.5	0.03	
3261217	Drill Core	13.5	0.8	0.08	<0.005	5	1.1	<0.5	0.04	
3261218	Drill Core	35.4	1.0	0.10	<0.005	3	1.2	<0.5	0.06	
3261219	Drill Core	25.1	1.1	0.16	<0.005	3	1.5	<0.5	0.02	
3261220	Rock Pulp	203.4	2.2	0.08	<0.005	2	0.7	1.0	0.02	
3261221	Drill Core	57.2	0.9	0.06	<0.005	2	0.5	<0.5	0.02	
3261222	Drill Core	30.2	0.8	0.10	<0.005	<1	2.7	<0.5	0.02	
3261223	Drill Core	43.9	0.8	0.07	<0.005	<1	1.2	<0.5	0.01	
3261224	Drill Core	54.9	0.9	0.07	<0.005	<1	1.8	<0.5	<0.01	
3261225	Drill Core	28.4	0.8	0.11	<0.005	2	1.6	<0.5	0.02	
3261226	Drill Core	39.3	0.9	0.10	<0.005	2	2.2	<0.5	0.01	
3261227	Drill Core	32.0	0.9	0.11	0.006	2	1.2	<0.5	0.01	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261228	Drill Core	4.32	0.118	0.8	1920.3	5.8	88	3.6	80.0	41.4	1310	8.35	3	0.4	0.7	533	1.0	2.1	0.4	251	9.61
3261229	Drill Core	4.78	0.060	0.8	1599.3	3.0	60	2.8	76.1	35.4	1301	7.68	3	0.4	0.6	618	0.7	1.4	<0.1	255	12.73
3261230	Rock	2.43	<0.005	0.1	2.4	0.5	4	0.1	1.1	<0.2	49	0.09	1	2.4	<0.1	139	<0.1	<0.1	<0.1	14	24.06
3261231	Drill Core	4.23	0.027	1.0	1727.4	3.1	61	3.8	72.7	36.0	1059	6.42	2	0.4	1.4	436	0.7	0.9	0.2	231	9.85
3261232	Drill Core	4.83	0.016	0.9	1674.3	3.8	59	2.9	78.5	45.8	1264	6.97	5	0.5	0.9	551	1.0	1.6	0.3	229	9.70
3261233	Drill Core	4.09	0.026	1.4	1837.4	3.0	68	4.3	73.7	48.9	1255	7.08	4	0.5	0.7	514	1.2	2.0	0.4	223	9.40
3261234	Drill Core	3.67	0.027	1.2	1539.3	7.7	90	2.4	76.1	47.1	1253	6.95	4	0.5	0.6	430	1.3	1.8	0.5	217	8.54
3261235	Drill Core	4.49	0.013	1.2	834.3	2.7	60	1.3	64.3	35.5	1287	5.48	1	0.5	0.6	349	0.4	1.0	0.2	200	9.94
3261236	Drill Core	4.01	0.024	1.8	1325.2	3.1	69	2.6	64.6	44.4	1310	6.72	<1	0.6	0.7	444	1.1	1.4	0.3	200	9.55
3261237	Drill Core	3.17	0.029	2.8	1396.1	2.6	72	2.8	51.2	36.1	1428	6.21	2	0.6	0.7	398	1.0	1.4	0.3	188	9.79
3261238	Drill Core	3.41	0.011	1.0	303.4	3.1	34	0.9	5.5	4.7	274	1.57	5	1.4	4.3	263	0.2	0.5	0.1	74	0.43
3261239	Drill Core	3.35	0.010	2.7	709.4	4.0	49	1.3	10.9	9.7	286	2.07	5	1.1	4.4	391	0.5	0.6	<0.1	83	0.48
3261240	Rock Pulp	0.13	0.665	314.6	5293.0	21.8	90	0.9	40.5	16.1	546	4.92	27	4.8	17.3	322	0.3	3.6	0.7	126	2.56
3261241	Drill Core	2.41	0.019	1.1	2138.4	7.7	120	1.5	78.0	61.2	1182	9.03	5	0.7	0.8	942	1.6	3.7	0.6	310	8.37
3261242	Drill Core	2.35	0.013	0.6	2262.9	9.4	102	3.0	80.5	63.7	1014	9.00	5	0.6	0.7	811	1.8	5.5	0.4	286	6.91
3261243	Drill Core	2.74	0.018	2.4	1776.0	9.4	114	2.8	82.5	66.4	1148	8.62	11	0.6	0.7	342	1.4	6.4	0.6	221	5.99
3261244	Drill Core	4.75	0.021	3.5	1752.8	7.5	57	2.6	71.2	66.2	985	8.14	6	0.5	0.6	455	1.3	5.0	0.4	182	10.09
3261245	Core DUP		0.019	3.4	1759.2	7.5	58	2.5	66.7	64.6	976	8.05	4	0.4	0.6	469	1.1	5.0	0.4	180	9.95
3261246	Drill Core	4.98	0.028	6.6	1167.6	7.0	51	1.7	65.3	60.0	997	7.98	7	0.4	0.6	575	0.3	3.9	0.3	180	10.64
3261247	Drill Core	4.90	0.016	3.8	1735.4	8.3	86	2.5	62.9	54.8	1007	8.10	4	0.5	0.5	416	1.2	4.0	0.9	175	10.15
3261248	Drill Core	4.76	0.011	15.8	843.4	4.8	40	0.9	61.3	44.8	934	7.31	3	0.6	1.1	508	0.3	2.4	0.3	180	10.00
3261249	Drill Core	4.71	0.008	4.1	788.9	5.2	44	0.9	56.0	39.9	978	7.19	3	0.5	0.6	592	0.3	3.2	0.2	184	11.28
3261250	Rock	2.11	<0.005	0.3	2.0	1.0	5	0.3	2.0	0.6	67	0.15	<1	2.2	0.5	157	<0.1	<0.1	<0.1	7	23.75
3261251	Drill Core	4.82	0.016	2.2	1756.2	7.0	65	2.5	61.3	57.5	1020	8.26	7	0.5	0.5	627	0.8	3.1	0.6	181	11.07
3261252	Drill Core	4.49	0.024	1.8	2304.1	7.0	69	4.3	92.3	76.6	1052	9.36	29	0.5	0.6	533	0.9	4.4	0.9	196	8.47
3261253	Drill Core	4.43	0.008	1.2	550.0	2.9	41	0.8	30.2	18.9	1242	3.31	3	0.8	0.8	335	0.7	2.8	0.2	204	8.51
3261254	Drill Core	4.24	0.013	2.1	1153.2	5.2	70	2.3	41.0	25.4	1135	4.75	4	0.8	0.7	333	0.6	5.2	0.3	233	7.09
3261255	Drill Core	3.26	<0.005	17.5	177.8	17.8	68	0.8	29.7	13.7	1309	3.45	4	0.6	0.7	308	0.3	5.5	<0.1	204	9.39
3261256	Drill Core	1.32	0.008	2.9	297.0	13.4	40	4.0	10.9	7.6	>10000	28.35	5	0.1	0.1	104	0.1	40.0	0.2	38	5.03
3261257	Drill Core	4.21	0.018	5.6	1339.7	125.0	3622	32.4	62.4	34.2	9461	15.69	6	0.3	0.3	348	29.6	21.2	0.6	126	10.71

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261228	Drill Core	0.086	6.9	238	3.41	400	0.328	7.09	1.259	1.01	0.8	20.1	12	2.0	11.8	1.3	<0.1	<1	34	21.0	1.1
3261229	Drill Core	0.077	6.7	216	3.75	134	0.336	7.26	0.809	0.79	0.6	20.0	12	1.7	12.0	1.3	<0.1	<1	36	15.4	1.0
3261230	Rock	0.063	1.2	2	9.55	143	0.003	0.05	0.007	0.03	<0.1	0.2	<1	<0.1	2.0	0.1	<0.1	<1	<1	4.0	<0.1
3261231	Drill Core	0.076	6.6	199	3.62	255	0.341	7.00	1.392	0.92	0.7	21.6	12	1.8	12.5	1.7	0.1	<1	34	19.7	1.0
3261232	Drill Core	0.094	7.3	179	2.91	241	0.357	7.52	1.527	0.43	0.7	23.2	12	1.6	13.9	1.7	<0.1	<1	32	15.7	0.4
3261233	Drill Core	0.088	6.8	176	2.86	374	0.343	7.37	1.405	0.67	0.9	22.7	11	2.0	12.2	1.6	<0.1	<1	31	18.3	0.2
3261234	Drill Core	0.091	5.2	188	3.30	326	0.366	7.48	1.575	1.23	2.1	24.8	9	1.9	13.6	1.5	<0.1	<1	35	24.5	0.4
3261235	Drill Core	0.079	4.9	180	3.91	242	0.338	6.97	1.510	1.16	0.7	23.3	9	1.4	12.7	1.4	<0.1	<1	34	25.0	0.8
3261236	Drill Core	0.090	5.6	155	3.30	210	0.331	7.36	1.649	0.85	0.7	23.6	10	1.6	13.3	1.7	0.1	<1	30	21.0	1.7
3261237	Drill Core	0.089	6.2	143	3.31	191	0.312	6.96	1.582	0.81	1.1	23.0	10	1.8	13.1	1.5	<0.1	<1	26	20.1	1.7
3261238	Drill Core	0.025	10.4	5	0.47	649	0.181	7.91	2.761	4.21	1.0	18.3	16	0.9	10.7	11.6	0.7	<1	2	4.7	<0.1
3261239	Drill Core	0.039	10.4	6	0.53	702	0.212	8.22	3.029	4.07	0.8	19.0	18	1.2	10.2	13.0	0.8	<1	3	5.9	<0.1
3261240	Rock Pulp	0.102	37.0	64	1.48	393	0.475	7.31	1.929	3.23	4.6	64.8	67	3.2	26.3	15.9	1.0	3	12	31.0	0.5
3261241	Drill Core	0.113	8.7	189	2.53	261	0.357	7.63	1.081	0.67	1.0	19.7	13	2.1	13.6	1.7	<0.1	1	33	13.5	<0.1
3261242	Drill Core	0.111	7.9	207	2.74	207	0.340	7.21	1.148	0.53	1.1	19.5	13	1.9	15.1	1.5	<0.1	<1	32	13.2	<0.1
3261243	Drill Core	0.102	6.1	180	3.01	98	0.305	6.87	1.902	0.39	1.0	18.0	12	1.3	12.0	1.5	<0.1	<1	30	10.0	0.2
3261244	Drill Core	0.089	6.2	136	3.22	81	0.321	6.39	1.934	0.20	0.7	19.0	12	1.6	12.5	1.4	<0.1	<1	29	10.4	4.9
3261245	Core DUP	0.087	6.6	128	3.19	84	0.310	6.39	1.919	0.21	0.8	19.0	12	1.3	12.0	1.4	<0.1	<1	28	10.4	4.9
3261246	Drill Core	0.090	6.9	133	3.25	91	0.323	6.69	1.526	0.45	0.7	19.0	11	1.1	12.3	1.3	<0.1	<1	28	14.0	4.4
3261247	Drill Core	0.082	6.6	127	3.14	69	0.302	6.24	1.962	0.24	0.7	17.3	12	1.4	11.4	1.2	<0.1	<1	27	9.2	4.7
3261248	Drill Core	0.093	8.3	148	3.23	39	0.318	6.86	1.785	0.68	0.6	18.9	14	1.1	12.0	1.7	<0.1	<1	27	15.4	4.2
3261249	Drill Core	0.086	7.8	138	3.22	79	0.310	6.50	1.632	0.38	0.7	17.8	13	1.0	12.8	1.3	<0.1	<1	28	9.7	4.0
3261250	Rock	0.067	2.3	4	9.65	183	0.010	0.17	0.029	0.08	<0.1	0.2	2	<0.1	3.2	0.3	<0.1	<1	<1	3.7	<0.1
3261251	Drill Core	0.087	8.6	127	3.25	54	0.295	6.39	1.428	0.53	0.7	18.7	14	1.8	12.5	1.3	<0.1	<1	27	10.5	4.6
3261252	Drill Core	0.100	6.5	164	3.21	133	0.319	6.65	1.788	0.47	0.6	21.5	11	1.5	14.1	1.3	<0.1	<1	28	13.7	3.4
3261253	Drill Core	0.353	5.0	169	3.41	318	0.352	6.79	2.486	1.15	0.6	20.1	11	2.1	12.9	2.0	<0.1	<1	30	10.6	<0.1
3261254	Drill Core	0.064	5.0	197	3.75	255	0.322	6.35	2.271	1.07	0.8	17.7	10	2.7	13.0	2.2	<0.1	<1	31	18.8	1.2
3261255	Drill Core	0.072	4.5	189	3.98	143	0.330	6.60	2.043	0.99	1.2	20.4	9	1.4	13.4	1.5	<0.1	<1	34	22.8	0.4
3261256	Drill Core	0.006	4.9	44	2.08	20	0.067	1.39	0.016	0.17	1.9	2.8	9	0.3	20.2	0.3	<0.1	<1	9	5.0	0.4
3261257	Drill Core	0.057	3.8	187	2.29	33	0.210	3.35	0.065	0.37	4.3	8.1	7	0.6	10.7	0.8	<0.1	<1	21	14.3	3.5

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177 Victoria Street, Suite 100
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Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261228	Drill Core	24.7	0.7	0.18	<0.005	7	1.5	<0.5	0.02	
3261229	Drill Core	20.0	0.8	0.11	<0.005	3	4.6	<0.5	0.02	
3261230	Rock	1.0	<0.1	<0.05	<0.005	<1	4.0	<0.5	<0.01	
3261231	Drill Core	30.3	0.8	0.16	0.010	3	2.2	<0.5	0.03	
3261232	Drill Core	13.1	0.9	0.09	<0.005	2	3.4	<0.5	0.02	
3261233	Drill Core	22.3	0.8	0.19	<0.005	4	4.0	<0.5	0.03	
3261234	Drill Core	45.2	0.8	0.18	<0.005	3	3.2	<0.5	0.04	
3261235	Drill Core	38.0	0.8	0.12	0.005	2	4.3	<0.5	0.03	
3261236	Drill Core	30.7	0.9	0.17	0.008	5	2.9	<0.5	0.04	
3261237	Drill Core	30.6	0.8	0.24	0.013	3	4.4	<0.5	0.05	
3261238	Drill Core	94.5	0.9	<0.05	0.007	<1	<0.5	0.7	0.02	
3261239	Drill Core	102.4	1.0	0.06	0.010	<1	<0.5	0.6	0.02	
3261240	Rock Pulp	179.1	2.1	0.08	<0.005	2	0.9	0.9	0.04	
3261241	Drill Core	19.5	0.7	0.26	<0.005	3	2.1	<0.5	0.02	
3261242	Drill Core	15.2	0.7	0.26	<0.005	3	3.2	<0.5	0.04	
3261243	Drill Core	15.7	0.7	0.13	0.009	5	3.6	<0.5	0.05	
3261244	Drill Core	5.8	0.7	0.11	0.012	7	3.1	<0.5	0.02	
3261245	Core DUP	5.6	0.6	0.09	0.024	7	3.1	<0.5	0.02	
3261246	Drill Core	14.8	0.7	0.14	0.029	4	3.4	<0.5	0.01	
3261247	Drill Core	5.5	0.7	0.15	0.026	7	3.2	<0.5	0.04	
3261248	Drill Core	20.7	0.8	0.11	0.027	4	5.0	<0.5	0.01	
3261249	Drill Core	11.5	0.7	0.11	0.015	4	4.0	<0.5	0.01	
3261250	Rock	3.2	<0.1	<0.05	<0.005	<1	8.4	<0.5	<0.01	
3261251	Drill Core	15.4	0.7	0.12	0.009	6	4.1	<0.5	0.02	
3261252	Drill Core	11.2	0.7	0.15	<0.005	7	3.6	<0.5	0.04	
3261253	Drill Core	34.0	0.9	0.09	0.015	<1	4.4	<0.5	0.02	
3261254	Drill Core	27.5	0.8	0.21	<0.005	3	4.5	<0.5	0.04	
3261255	Drill Core	41.7	0.8	0.11	0.022	<1	8.2	<0.5	0.01	
3261256	Drill Core	8.6	0.1	0.54	0.007	<1	0.9	<0.5	0.06	
3261257	Drill Core	34.0	0.3	0.33	0.019	4	2.2	<0.5	0.99	

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177 Victoria Street, Suite 100
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Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261258	Drill Core	3.08	0.011	3.9	652.7	15.5	152	2.8	104.3	37.6	4256	12.18	2	0.4	0.5	189	0.4	25.3	0.3	223	6.46
3261259	Drill Core	2.71	0.016	4.6	774.7	9.0	432	5.4	101.2	38.0	3478	9.02	3	0.3	0.3	198	4.6	38.8	0.2	197	9.86
3261260	Rock Pulp	0.11	1.398	265.7	>10000	19.7	99	2.3	22.0	13.0	705	5.05	10	1.2	4.4	431	0.5	2.9	0.4	93	2.04
3261261	Drill Core	1.48	0.016	3.4	865.7	338.2	5254	18.4	77.1	30.0	>10000	19.16	1	0.2	0.2	530	65.0	32.7	0.5	116	9.60
3261262	Drill Core	3.36	0.012	6.5	806.1	9.1	59	1.4	97.9	45.2	1569	8.22	1	0.3	0.4	250	0.5	12.4	0.2	203	9.32
3261263	Drill Core	4.58	0.011	7.8	810.6	7.7	83	0.9	104.9	45.7	1671	8.86	<1	0.4	0.5	300	0.4	13.7	0.2	203	9.38
3261264	Drill Core	4.85	0.014	4.3	911.0	83.6	1115	8.8	83.7	53.4	2850	9.17	5	0.4	0.5	316	7.7	14.1	0.2	212	9.33
3261265	Drill Core	4.70	0.008	4.8	533.8	3.5	33	0.8	53.1	42.1	1045	6.21	2	0.5	0.9	571	0.2	5.2	<0.1	274	8.55
3261266	Drill Core	4.61	0.007	3.9	439.6	2.6	37	0.4	59.1	34.3	1104	5.61	2	0.5	0.9	441	0.1	3.9	<0.1	268	9.54
3261267	Drill Core	4.82	0.006	15.1	509.7	2.9	33	0.5	60.2	27.1	1158	4.98	<1	0.5	0.9	580	0.1	3.6	0.2	258	10.47
3261268	Drill Core	4.90	0.007	1.9	474.2	2.3	31	0.5	61.8	33.8	1019	5.64	<1	0.5	0.9	532	0.1	2.2	0.1	251	9.46
3261269	Drill Core	4.61	0.007	2.1	364.3	2.4	37	0.3	68.3	40.1	1019	6.07	1	0.4	0.9	539	<0.1	1.1	0.1	247	9.54
3261270	Rock	1.86	<0.005	0.2	1.7	0.4	4	0.1	1.9	0.3	44	0.09	<1	2.5	<0.1	122	<0.1	<0.1	<0.1	6	23.05
3261271	Drill Core	4.87	0.007	6.6	321.3	2.4	38	0.3	109.5	31.6	1311	6.01	2	0.6	0.6	385	0.1	1.5	0.1	228	12.20
3261272	Drill Core	4.65	0.006	120.4	334.8	3.3	48	0.4	106.0	36.3	1292	6.01	<1	0.4	0.5	367	0.3	0.8	<0.1	209	11.42
3261273	Drill Core	4.55	0.006	20.8	183.9	2.6	39	0.2	91.6	24.2	1277	5.08	<1	0.6	0.6	308	0.1	0.9	<0.1	216	11.84
3261274	Drill Core	5.09	0.006	2.0	317.3	3.5	44	0.3	105.6	36.5	1239	5.88	2	0.6	0.5	288	0.2	0.6	0.1	249	11.22
3261275	Drill Core	4.30	0.007	3.9	484.3	18.4	189	1.3	84.6	37.2	1240	6.11	1	0.6	0.6	413	1.2	3.9	0.1	237	10.32
3261276	Drill Core	4.21	0.009	23.8	571.0	22.0	194	1.2	73.9	40.3	1353	6.97	1	0.7	0.8	432	1.2	5.0	0.1	253	8.18
3261277	Drill Core	4.59	0.006	8.0	403.2	5.1	35	0.5	66.5	32.4	1069	5.41	<1	0.6	0.9	669	0.1	8.1	0.1	244	10.90
3261278	Drill Core	4.98	0.009	60.3	792.6	4.4	38	1.0	103.6	44.7	1065	6.54	5	0.6	0.6	432	0.3	3.9	0.2	210	11.26
3261279	Drill Core	4.65	0.010	23.5	876.1	3.6	54	1.2	122.3	52.1	1081	7.35	14	0.7	0.5	350	0.5	2.1	0.2	224	10.13
3261280	Rock Pulp	0.13	0.230	91.5	2680.1	21.6	86	0.4	61.1	16.1	558	4.27	22	5.2	18.7	307	0.2	2.0	0.7	117	2.57
3261281	Drill Core	4.45	0.009	13.1	827.0	2.9	35	0.9	119.7	49.2	1100	7.63	18	0.7	0.6	362	0.2	2.4	0.2	220	10.15
3261282	Drill Core	4.31	0.011	17.0	762.8	3.4	37	0.8	98.2	41.1	1083	6.51	2	0.7	0.7	345	0.3	1.6	0.1	230	10.29
3261283	Drill Core	4.46	0.009	33.9	841.2	3.4	36	0.8	99.9	46.5	1073	7.13	7	0.7	0.6	430	0.3	2.7	0.2	234	9.93
3261284	Drill Core	4.78	0.009	13.5	808.7	3.2	36	0.6	87.5	43.9	1047	6.72	3	0.7	0.7	346	0.1	1.5	<0.1	231	10.03
3261285	Core DUP		0.010	14.2	784.8	3.3	32	0.6	87.4	41.4	1030	6.59	2	0.7	0.7	356	0.2	1.5	<0.1	228	9.91
3261286	Drill Core	4.36	<0.005	12.4	669.9	4.6	47	0.6	85.5	39.5	979	6.41	4	0.6	0.6	343	0.2	1.8	0.1	217	10.29
3261287	Drill Core	4.56	0.015	4.5	1019.4	14.9	66	1.1	76.9	56.3	931	7.88	6	0.8	0.8	454	0.4	2.2	0.2	234	8.60

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Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261258	Drill Core	0.086	4.7	382	3.17	24	0.432	5.84	0.712	0.54	3.7	21.7	10	1.1	13.3	1.6	0.1	<1	44	29.1	3.5
3261259	Drill Core	0.071	3.5	283	3.78	34	0.365	5.01	0.909	0.63	1.5	19.8	8	1.4	12.9	1.4	<0.1	<1	37	23.1	3.2
3261260	Rock Pulp	0.077	16.2	39	0.90	85	0.303	7.43	2.305	1.77	1.8	29.9	33	2.7	15.1	5.8	0.3	1	11	16.2	1.3
3261261	Drill Core	0.044	4.4	232	2.51	24	0.218	2.97	0.337	0.47	1.9	9.7	8	1.1	11.9	0.9	<0.1	<1	24	12.1	4.1
3261262	Drill Core	0.071	3.2	336	4.37	25	0.370	5.01	1.105	0.52	0.8	22.6	7	1.1	13.0	1.3	<0.1	<1	40	20.3	3.5
3261263	Drill Core	0.079	4.4	343	5.11	29	0.394	5.32	0.991	0.41	1.0	26.1	8	0.9	13.7	1.5	<0.1	<1	42	23.4	3.7
3261264	Drill Core	0.093	5.0	232	4.21	31	0.429	5.74	1.462	0.36	1.3	25.5	10	1.4	15.0	1.9	0.1	<1	34	21.0	3.5
3261265	Drill Core	0.123	6.7	88	3.05	73	0.546	7.79	2.490	0.43	1.0	38.6	14	1.4	20.1	3.0	0.2	<1	29	19.3	2.4
3261266	Drill Core	0.107	6.6	129	3.29	150	0.547	7.71	2.253	0.40	1.3	37.8	14	1.5	17.0	3.2	0.2	<1	33	23.0	1.9
3261267	Drill Core	0.110	6.4	136	3.27	227	0.532	7.29	2.342	0.55	1.4	39.0	14	1.5	17.9	3.2	0.2	<1	32	19.1	1.6
3261268	Drill Core	0.112	5.9	112	3.09	156	0.522	7.62	2.434	0.47	1.1	37.7	13	1.3	17.4	3.2	0.2	<1	30	21.4	2.1
3261269	Drill Core	0.115	5.5	157	3.57	207	0.516	7.45	2.232	0.53	1.0	35.4	13	0.8	16.8	2.9	0.2	<1	33	28.6	2.0
3261270	Rock	0.053	1.1	2	9.74	129	0.004	0.07	0.012	0.02	0.1	0.4	<1	<0.1	1.9	<0.1	<0.1	<1	<1	3.5	<0.1
3261271	Drill Core	0.090	4.0	345	4.60	56	0.425	5.82	1.687	0.21	1.2	26.7	10	1.1	14.2	1.7	0.1	<1	42	20.8	1.7
3261272	Drill Core	0.081	3.9	327	4.99	178	0.406	5.68	1.308	0.56	1.3	23.9	9	0.9	12.1	1.6	0.1	<1	40	29.2	1.6
3261273	Drill Core	0.090	4.3	313	4.80	58	0.433	5.87	1.741	0.24	1.3	28.1	9	1.1	13.9	1.8	0.1	<1	41	22.7	0.9
3261274	Drill Core	0.087	4.3	389	4.77	97	0.420	5.86	1.619	0.43	1.3	26.4	10	1.0	14.5	1.6	0.1	<1	43	19.7	1.5
3261275	Drill Core	0.097	5.0	293	4.64	89	0.462	6.11	1.599	0.46	1.3	30.7	11	1.2	14.6	2.0	0.1	<1	39	21.8	1.8
3261276	Drill Core	0.105	4.6	125	3.98	117	0.524	7.45	1.677	1.03	1.4	38.6	12	1.2	16.4	2.8	0.2	<1	30	26.0	2.3
3261277	Drill Core	0.111	4.5	96	3.24	118	0.514	7.13	2.189	0.43	1.1	38.6	12	1.2	16.6	3.0	0.2	1	29	13.0	2.0
3261278	Drill Core	0.083	3.2	229	3.91	121	0.396	5.68	1.825	0.43	4.1	27.0	8	1.2	13.3	1.9	0.1	<1	33	17.3	3.0
3261279	Drill Core	0.094	3.5	327	4.30	112	0.421	5.88	1.737	0.46	1.0	26.5	9	1.3	13.9	1.7	0.1	1	39	16.3	3.2
3261280	Rock Pulp	0.094	33.4	74	1.43	1004	0.472	7.55	2.003	2.43	4.2	71.8	66	3.2	23.9	18.0	1.2	4	12	34.2	0.3
3261281	Drill Core	0.093	3.9	287	4.25	85	0.431	5.91	1.708	0.38	1.6	28.3	10	1.5	14.4	2.0	0.1	<1	39	17.6	3.4
3261282	Drill Core	0.099	3.6	254	3.84	110	0.481	6.67	1.614	0.72	1.2	32.9	9	1.6	15.9	2.4	0.1	<1	36	17.2	2.6
3261283	Drill Core	0.091	3.2	252	4.03	89	0.443	6.31	1.672	0.46	1.1	30.3	8	1.5	14.2	2.0	0.1	<1	36	15.2	3.2
3261284	Drill Core	0.098	3.2	221	3.70	85	0.482	6.81	1.842	0.39	1.1	32.2	8	1.4	15.2	2.4	0.1	<1	33	14.9	2.7
3261285	Core DUP	0.103	3.1	213	3.62	87	0.484	6.78	1.838	0.38	1.2	34.1	8	1.5	15.8	2.5	0.2	<1	34	16.8	2.5
3261286	Drill Core	0.085	3.2	211	3.50	95	0.435	6.23	1.769	0.45	1.3	28.2	8	1.2	13.3	2.1	0.1	<1	31	20.2	2.2
3261287	Drill Core	0.111	5.5	119	2.90	98	0.492	6.95	2.164	0.40	1.9	34.7	13	1.7	16.1	3.0	0.2	<1	26	14.0	3.6

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BUREAU VERITAS MINERAL LABORATORIES Canada

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261258	Drill Core	14.2	0.8	0.21	0.044	3	1.4	<0.5	0.03	
3261259	Drill Core	16.6	0.8	0.19	0.035	4	4.4	<0.5	0.11	
3261260	Rock Pulp	55.3	1.0	0.16	0.146	3	0.6	<0.5	0.04	1.33
3261261	Drill Core	13.4	0.4	0.46	0.015	4	1.7	<0.5	1.48	
3261262	Drill Core	18.4	0.8	0.08	0.021	3	3.5	<0.5	0.02	
3261263	Drill Core	16.1	1.0	0.11	0.012	6	6.3	<0.5	0.03	
3261264	Drill Core	15.4	1.0	0.20	0.023	2	5.5	<0.5	0.31	
3261265	Drill Core	18.6	1.5	0.11	0.020	2	2.9	<0.5	<0.01	
3261266	Drill Core	17.6	1.4	0.11	0.009	2	0.8	<0.5	<0.01	
3261267	Drill Core	23.7	1.4	0.11	0.024	1	2.1	<0.5	<0.01	
3261268	Drill Core	20.3	1.4	0.12	<0.005	2	0.6	<0.5	0.01	
3261269	Drill Core	24.9	1.3	0.11	<0.005	<1	1.2	<0.5	0.01	
3261270	Rock	1.0	<0.1	<0.05	<0.005	<1	6.3	<0.5	<0.01	
3261271	Drill Core	9.4	1.1	0.12	0.018	<1	1.8	<0.5	<0.01	
3261272	Drill Core	30.9	0.9	0.13	0.290	1	0.9	<0.5	<0.01	
3261273	Drill Core	12.7	1.0	0.14	0.062	<1	4.0	<0.5	<0.01	
3261274	Drill Core	22.7	1.0	0.10	0.008	1	2.3	<0.5	<0.01	
3261275	Drill Core	22.0	1.1	0.07	0.005	1	2.1	<0.5	0.06	
3261276	Drill Core	54.6	1.3	0.12	0.025	2	1.9	<0.5	0.04	
3261277	Drill Core	16.0	1.5	0.07	0.015	1	2.2	<0.5	0.01	
3261278	Drill Core	16.8	0.9	0.09	0.074	4	3.8	<0.5	<0.01	
3261279	Drill Core	20.1	1.0	0.10	0.033	4	2.2	<0.5	0.01	
3261280	Rock Pulp	169.6	2.4	0.05	<0.005	1	<0.5	1.0	0.02	
3261281	Drill Core	16.5	1.0	0.12	0.015	4	1.1	<0.5	<0.01	
3261282	Drill Core	36.2	1.2	0.13	0.014	2	0.6	<0.5	0.02	
3261283	Drill Core	24.0	1.1	0.11	0.051	4	0.8	<0.5	0.01	
3261284	Drill Core	19.3	1.1	0.08	0.021	2	2.3	<0.5	0.01	
3261285	Core DUP	19.5	1.3	0.11	0.016	2	1.4	<0.5	<0.01	
3261286	Drill Core	19.4	1.1	0.08	0.015	2	1.7	<0.5	0.01	
3261287	Drill Core	16.8	1.2	0.11	0.008	5	0.8	<0.5	0.02	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261288	Drill Core	4.33	0.017	2.6	810.6	6.4	38	1.0	66.3	50.9	969	7.52	4	0.9	0.9	506	0.3	3.0	0.2	244	9.87
3261289	Drill Core	4.58	0.011	2.2	886.5	4.4	39	1.0	64.0	37.9	991	6.55	12	0.9	0.9	440	0.3	2.3	0.2	246	9.89
3261290	Rock	1.33	<0.005	0.1	1.8	0.5	4	<0.1	1.2	<0.2	45	0.07	<1	3.6	<0.1	120	<0.1	<0.1	<0.1	5	22.85
3261291	Drill Core	4.41	0.010	94.4	824.2	4.3	27	1.2	63.6	34.9	895	5.36	4	0.7	0.8	594	0.2	2.5	0.1	243	10.62
3261292	Drill Core	4.38	0.009	4.1	629.9	3.0	25	0.5	73.2	37.1	939	7.32	8	0.8	0.8	385	0.1	1.9	0.2	253	9.21
3261293	Drill Core	2.10	0.006	9.2	767.0	5.0	33	1.3	61.0	41.9	956	5.46	27	0.8	0.9	412	0.3	2.0	0.2	244	10.68
3261294	Drill Core	2.62	0.011	9.6	480.3	3.6	30	0.7	53.8	26.7	962	4.65	8	0.6	0.8	431	0.2	2.0	0.1	219	11.16
3261295	Drill Core	2.96	0.008	2.2	121.5	3.4	20	0.1	4.4	7.9	456	3.03	<1	1.2	3.0	602	<0.1	1.7	<0.1	147	4.33
3261296	Drill Core	2.78	0.011	0.3	65.3	3.8	63	<0.1	17.0	24.2	1163	5.55	<1	0.5	1.1	664	<0.1	2.3	<0.1	238	5.88
3261297	Drill Core	1.61	0.009	0.5	76.5	3.1	60	<0.1	16.8	23.3	1124	5.64	1	0.4	1.1	642	<0.1	0.6	<0.1	244	5.87
3261298	Drill Core	3.16	0.020	88.3	664.7	2.9	34	0.7	53.9	41.2	919	7.09	3	0.7	0.9	521	0.3	2.0	0.1	255	8.73
3261299	Drill Core	3.84	0.009	5.0	291.4	7.9	42	0.3	7.7	15.4	464	3.46	2	1.1	2.5	495	0.2	0.7	0.1	142	4.13
3261300	Rock Pulp	0.13	0.215	96.2	2700.4	20.8	73	0.4	61.8	15.7	532	4.37	18	4.5	17.3	300	<0.1	2.1	0.6	121	2.59
3261301	Drill Core	4.00	0.010	18.0	373.8	5.2	26	0.8	3.0	11.3	321	2.83	<1	1.2	3.3	484	0.3	0.6	0.3	138	3.42
3261302	Drill Core	4.10	0.007	14.5	314.0	3.0	19	0.7	3.4	11.9	307	2.68	2	1.0	2.6	435	0.2	0.3	0.2	129	3.25
3261303	Drill Core	3.25	0.008	3.6	188.8	2.5	16	0.3	6.1	10.6	351	3.41	<1	1.2	2.9	647	<0.1	1.0	<0.1	141	4.10
3261304	Drill Core	3.17	0.011	4.6	671.8	3.5	32	0.8	50.0	43.3	949	7.21	8	0.8	1.0	556	0.3	1.5	0.3	262	8.76
3261305	Drill Core	4.77	0.009	11.3	342.9	3.0	38	0.4	54.1	33.3	1032	6.08	3	0.5	0.8	516	0.2	1.4	<0.1	265	8.02
3261306	Drill Core	4.39	0.009	8.4	459.9	2.7	29	0.5	71.4	36.4	1137	6.19	3	0.6	0.7	411	0.3	1.7	0.2	260	11.62
3261307	Drill Core	4.73	0.014	7.3	456.9	3.7	28	0.6	67.8	41.3	1163	6.70	2	0.4	0.7	485	0.1	2.1	0.2	244	11.10
3261308	Drill Core	4.49	0.011	23.2	485.3	2.3	38	0.6	64.8	36.5	1096	6.13	5	0.5	0.8	393	0.2	1.5	<0.1	262	8.44
3261309	Drill Core	4.50	0.017	405.0	750.6	6.9	107	1.1	65.4	50.6	1046	6.86	4	0.5	0.6	529	1.7	3.7	0.5	231	12.77
3261310	Rock	1.62	<0.005	0.4	1.0	0.5	4	0.2	0.9	<0.2	48	0.07	<1	2.0	<0.1	145	<0.1	<0.1	<0.1	15	23.77
3261311	Drill Core	4.44	0.025	182.9	749.3	8.2	94	1.0	79.6	65.4	1089	7.54	6	0.5	0.7	442	1.1	3.5	0.3	260	9.39
3261312	Drill Core	3.26	0.010	1.7	243.2	2.3	42	0.3	64.1	31.6	1148	6.65	4	0.5	0.9	534	0.1	2.0	<0.1	279	8.46
3261313	Drill Core	4.05	0.021	143.3	2571.6	3.2	51	4.5	8.6	26.1	508	4.09	2	0.9	1.8	519	1.0	1.3	0.1	220	5.75
3261314	Drill Core	3.49	0.017	121.6	429.1	3.2	40	0.7	13.4	37.4	758	4.48	2	1.6	1.7	290	0.2	1.1	0.3	348	8.51
3261315	Drill Core	3.96	0.012	130.1	434.8	3.4	23	0.6	9.1	26.9	542	4.00	1	0.7	1.5	426	0.2	1.3	0.2	217	6.28
3261316	Drill Core	4.08	0.021	33.1	920.0	5.6	50	1.1	17.4	58.1	593	6.97	3	0.8	2.0	528	0.8	2.1	0.3	270	7.42
3261317	Drill Core	4.14	0.010	11.0	224.4	2.4	20	0.2	7.5	18.4	569	4.31	<1	1.0	2.5	798	<0.1	1.4	<0.1	285	7.20

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261288	Drill Core	0.111	6.5	67	2.68	98	0.491	6.95	2.165	0.34	1.6	37.0	16	1.8	16.7	3.3	0.2	<1	25	11.6	3.8
3261289	Drill Core	0.111	7.0	88	2.95	84	0.505	7.16	2.043	0.39	1.8	36.4	16	1.7	17.8	3.3	0.2	<1	26	17.0	2.6
3261290	Rock	0.065	1.3	1	9.03	134	0.003	0.06	0.011	0.02	0.1	0.3	<1	<0.1	2.0	<0.1	<0.1	<1	<1	3.6	<0.1
3261291	Drill Core	0.111	5.4	59	2.80	145	0.493	6.87	2.214	0.53	1.7	32.6	12	1.8	16.4	3.3	0.2	<1	23	12.2	2.7
3261292	Drill Core	0.110	6.5	79	2.89	91	0.495	7.18	1.969	0.46	1.9	35.2	14	1.6	16.9	3.0	0.2	1	25	15.6	3.0
3261293	Drill Core	0.112	6.2	74	2.88	111	0.499	6.98	2.081	0.60	2.3	35.7	13	1.6	17.4	3.3	0.2	1	25	18.2	2.5
3261294	Drill Core	0.101	6.9	56	2.56	157	0.478	6.59	2.381	0.62	4.3	29.2	14	1.3	16.5	2.9	0.2	<1	22	16.5	1.9
3261295	Drill Core	0.121	11.8	4	0.92	369	0.334	8.92	4.273	2.54	0.5	63.9	23	1.0	15.4	13.0	0.7	<1	6	3.5	0.7
3261296	Drill Core	0.146	9.5	22	2.30	819	0.440	8.98	2.664	2.14	1.4	28.8	18	0.5	14.6	5.9	0.3	<1	20	15.0	0.3
3261297	Drill Core	0.141	8.5	22	2.34	901	0.441	8.99	2.627	2.17	0.8	31.5	17	0.5	15.2	6.2	0.3	<1	20	10.4	0.2
3261298	Drill Core	0.115	7.9	70	2.62	100	0.509	7.53	2.380	0.72	1.3	36.7	16	1.8	17.5	3.8	0.2	<1	25	12.5	3.1
3261299	Drill Core	0.117	10.4	6	0.98	112	0.324	8.80	3.611	2.14	0.7	64.5	21	1.3	15.1	11.9	0.7	<1	6	4.8	1.3
3261300	Rock Pulp	0.097	31.3	78	1.46	1065	0.488	7.60	2.025	2.29	4.1	65.3	63	3.2	23.1	17.3	1.2	3	12	32.0	0.3
3261301	Drill Core	0.111	12.7	3	0.83	107	0.284	8.21	3.863	2.87	0.5	58.4	23	1.1	15.7	11.1	0.7	<1	5	4.7	1.6
3261302	Drill Core	0.112	12.2	4	0.84	143	0.285	8.24	3.885	2.96	0.4	55.1	22	1.0	14.6	11.1	0.6	<1	5	3.6	1.3
3261303	Drill Core	0.109	12.8	6	0.95	163	0.304	8.17	3.806	2.47	0.6	61.4	23	0.9	16.3	10.7	0.6	<1	6	3.1	1.4
3261304	Drill Core	0.124	9.1	71	2.65	77	0.523	7.49	2.114	0.84	1.6	43.1	15	1.7	18.1	3.6	0.2	<1	24	15.2	3.3
3261305	Drill Core	0.112	5.4	113	3.26	228	0.517	7.24	1.989	1.10	1.1	39.6	12	1.0	16.0	2.7	0.2	<1	28	17.1	1.9
3261306	Drill Core	0.097	5.3	237	3.68	97	0.496	6.69	1.632	0.44	1.3	36.0	11	1.3	15.3	2.3	0.1	<1	37	13.9	2.2
3261307	Drill Core	0.095	5.2	185	3.34	128	0.474	7.14	1.767	0.39	1.3	36.3	11	1.3	15.2	2.2	0.1	<1	33	10.4	2.5
3261308	Drill Core	0.105	5.5	186	3.66	110	0.502	7.18	1.788	1.71	1.4	36.5	12	1.4	17.3	2.4	0.2	<1	32	19.9	1.7
3261309	Drill Core	0.091	4.8	167	3.03	98	0.431	6.51	1.497	0.51	1.4	32.1	11	1.6	14.5	2.0	0.1	<1	29	9.0	3.4
3261310	Rock	0.043	1.7	2	9.43	205	0.004	0.07	0.010	0.03	0.1	0.3	1	<0.1	2.3	<0.1	<0.1	<1	<1	4.5	<0.1
3261311	Drill Core	0.101	5.0	173	3.61	52	0.496	6.83	1.794	0.95	1.5	35.8	11	1.1	16.0	2.6	0.2	<1	31	17.2	3.3
3261312	Drill Core	0.104	6.5	150	3.66	383	0.544	7.61	1.957	1.07	1.5	43.4	14	1.3	18.4	2.9	0.2	<1	33	17.3	0.9
3261313	Drill Core	0.118	11.2	12	1.61	181	0.432	8.18	2.464	3.36	1.0	34.5	22	2.0	15.0	8.5	0.5	<1	14	8.1	1.4
3261314	Drill Core	0.098	6.5	137	2.41	139	0.494	7.09	2.373	2.90	1.9	27.6	16	4.6	19.5	3.8	0.2	1	27	13.4	1.9
3261315	Drill Core	0.149	6.1	10	1.69	119	0.347	7.99	2.934	3.30	2.3	22.1	14	1.8	13.5	5.4	0.3	<1	14	12.6	1.9
3261316	Drill Core	0.160	6.6	8	2.01	50	0.361	7.51	3.134	0.98	1.0	20.7	15	1.6	14.5	5.8	0.3	<1	16	9.6	4.2
3261317	Drill Core	0.186	12.5	7	1.93	455	0.432	8.80	3.079	1.20	1.0	24.6	24	1.0	17.5	7.1	0.4	<1	17	9.2	1.2

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261288	Drill Core	15.3	1.3	0.10	0.006	3	1.0	<0.5	0.01	
3261289	Drill Core	18.1	1.4	0.13	<0.005	2	1.8	<0.5	0.01	
3261290	Rock	0.8	<0.1	<0.05	<0.005	<1	2.7	<0.5	<0.01	
3261291	Drill Core	19.6	1.3	0.07	0.111	5	1.8	<0.5	<0.01	
3261292	Drill Core	22.7	1.3	0.07	0.008	2	1.8	<0.5	0.01	
3261293	Drill Core	28.2	1.3	0.09	0.010	4	1.2	<0.5	<0.01	
3261294	Drill Core	23.3	1.1	0.08	0.011	2	1.5	<0.5	<0.01	
3261295	Drill Core	54.0	2.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261296	Drill Core	65.2	1.0	0.05	<0.005	<1	0.7	<0.5	<0.01	
3261297	Drill Core	64.3	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261298	Drill Core	25.9	1.4	0.08	0.079	3	0.7	<0.5	0.01	
3261299	Drill Core	59.3	2.1	<0.05	<0.005	1	<0.5	<0.5	0.01	
3261300	Rock Pulp	155.8	2.2	0.06	<0.005	1	<0.5	0.9	0.02	
3261301	Drill Core	70.2	1.8	<0.05	0.013	2	<0.5	<0.5	<0.01	
3261302	Drill Core	66.6	1.7	<0.05	<0.005	3	<0.5	<0.5	<0.01	
3261303	Drill Core	57.1	1.9	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261304	Drill Core	36.9	1.6	0.08	<0.005	2	2.4	<0.5	<0.01	
3261305	Drill Core	48.2	1.5	0.08	0.015	1	2.3	<0.5	0.01	
3261306	Drill Core	18.3	1.2	0.07	<0.005	2	4.4	<0.5	<0.01	
3261307	Drill Core	15.1	1.3	0.08	<0.005	3	4.3	<0.5	<0.01	
3261308	Drill Core	61.5	1.4	0.06	0.017	2	3.6	<0.5	<0.01	
3261309	Drill Core	13.9	1.1	0.13	0.333	6	4.6	<0.5	0.05	
3261310	Rock	1.5	<0.1	<0.05	<0.005	<1	9.2	<0.5	<0.01	
3261311	Drill Core	34.6	1.3	0.06	0.218	5	5.3	<0.5	0.04	
3261312	Drill Core	38.6	1.6	0.12	<0.005	<1	4.4	<0.5	<0.01	
3261313	Drill Core	95.7	1.2	0.13	0.131	3	1.3	<0.5	0.02	
3261314	Drill Core	78.7	1.2	0.06	0.179	3	3.0	<0.5	0.01	
3261315	Drill Core	90.0	0.9	<0.05	0.105	2	1.5	<0.5	0.02	
3261316	Drill Core	33.8	0.9	<0.05	0.035	7	1.4	<0.5	0.04	
3261317	Drill Core	34.0	1.1	<0.05	0.012	2	2.0	<0.5	<0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261318	Drill Core	4.14	0.013	39.1	296.2	1.5	40	0.3	7.4	22.4	959	5.39	2	1.0	2.5	816	0.1	1.1	<0.1	282	5.06
3261319	Drill Core	4.27	0.011	4.7	187.4	1.4	41	0.2	7.0	22.0	1040	5.61	2	1.0	2.5	834	<0.1	0.8	<0.1	285	5.66
3261320	Rock Pulp	0.13	0.709	312.1	5120.8	19.3	79	0.8	37.0	14.5	517	4.82	27	5.0	17.4	328	0.6	3.4	0.7	123	2.54
3261321	Drill Core	2.71	0.012	16.6	252.0	1.3	31	0.2	8.3	24.2	827	5.44	2	1.0	2.6	669	<0.1	0.9	<0.1	281	5.34
3261322	Drill Core	3.73	0.009	1.6	389.5	1.3	29	0.2	62.1	28.3	1076	6.23	3	0.6	0.7	459	<0.1	1.3	<0.1	244	8.42
3261323	Drill Core	4.67	0.009	0.8	432.6	1.2	31	0.3	66.4	36.8	1121	6.75	4	0.5	0.8	373	0.2	1.0	<0.1	251	9.18
3261324	Drill Core	4.16	0.016	1.1	710.3	1.6	29	0.6	57.2	34.8	1022	6.49	5	0.6	0.8	432	0.2	1.5	<0.1	237	8.53
3261325	Core DUP		0.015	0.8	660.3	1.4	28	0.6	53.6	34.4	954	6.14	4	0.5	0.8	422	0.2	1.3	0.1	243	8.20
3261326	Drill Core	4.57	0.020	4.7	1257.1	1.8	34	1.4	70.0	42.2	945	6.68	6	0.6	0.7	401	0.3	2.0	0.2	239	8.66
3261327	Drill Core	4.58	0.037	1.5	1220.4	3.2	37	1.6	64.0	39.2	917	6.96	7	0.5	0.7	431	0.5	3.2	0.2	229	9.29
3261328	Drill Core	4.40	0.021	3.0	816.1	3.9	40	1.1	67.3	35.9	1065	6.89	6	0.6	0.6	436	0.2	3.3	0.3	219	8.58
3261329	Drill Core	4.57	0.011	2.2	351.3	2.8	45	0.5	69.4	30.3	1265	6.56	5	0.4	0.7	433	<0.1	3.3	0.2	226	8.47
3261330	Rock	1.73	<0.005	0.5	0.5	0.8	4	0.2	1.7	<0.2	43	0.07	<1	1.6	<0.1	129	<0.1	<0.1	<0.1	14	22.72
3261331	Drill Core	1.73	0.012	0.6	263.7	3.9	56	0.5	60.0	32.6	1209	7.42	6	0.5	0.9	524	<0.1	3.4	0.2	225	6.44
3261332	Drill Core	2.24	0.013	12.1	288.1	4.4	52	0.8	8.5	22.4	744	4.98	3	0.8	1.7	441	0.1	2.4	0.2	205	4.21
3261333	Drill Core	4.31	0.032	45.5	391.0	12.4	107	1.6	7.4	21.0	916	3.99	3	0.8	1.7	483	0.5	1.4	0.6	192	6.29
3261334	Drill Core	3.74	0.014	41.9	218.4	10.6	42	0.7	6.6	11.2	500	2.47	2	1.0	2.3	659	<0.1	0.9	0.4	187	4.56
3261335	Drill Core	4.14	0.018	1.8	260.7	10.0	31	0.7	7.0	11.4	406	2.66	2	0.8	2.1	671	0.1	2.1	0.6	195	5.00
3261336	Drill Core	2.27	0.013	1.1	236.9	4.1	31	0.5	9.7	13.7	552	4.12	2	0.8	1.7	1051	<0.1	3.5	0.1	243	6.03
3261337	Drill Core	3.73	0.012	0.4	98.7	2.4	32	0.2	9.8	14.4	683	4.74	2	0.8	1.7	815	<0.1	2.2	<0.1	244	4.83
3261338	Drill Core	3.09	0.026	22.2	345.9	2.3	18	0.6	9.0	12.1	382	3.15	8	0.9	2.0	938	<0.1	1.5	<0.1	198	5.22
3261339	Drill Core	4.30	0.016	0.6	105.8	2.1	20	0.1	10.5	9.5	449	4.91	4	0.8	1.9	773	<0.1	1.2	<0.1	237	5.67
3261340	Rock Pulp	0.12	0.228	95.4	2698.6	20.6	78	0.4	60.8	15.0	544	4.33	20	4.7	17.1	300	0.1	2.2	0.7	120	2.60
3261341	Drill Core	1.56	0.020	0.5	461.7	2.6	28	0.7	33.7	20.7	636	5.77	11	0.7	1.4	608	<0.1	2.0	0.1	241	5.88
3261342	Drill Core	2.82	0.014	0.4	456.6	11.6	124	0.9	87.0	30.1	1180	6.52	12	0.2	0.5	283	1.1	1.0	0.1	180	9.84
3261343	Drill Core	4.60	0.011	0.5	500.6	1.7	31	0.4	100.8	39.2	1272	7.23	6	0.3	0.5	230	<0.1	2.0	0.2	194	10.47
3261344	Drill Core	4.69	0.012	0.5	510.3	1.7	34	0.3	107.8	42.9	1316	8.02	8	0.3	0.5	237	<0.1	2.1	0.2	213	10.74
3261345	Drill Core	4.42	0.020	0.5	397.8	1.5	36	0.3	112.9	41.4	1348	8.09	23	0.3	0.6	248	<0.1	1.5	0.2	217	9.07
3261346	Drill Core	4.41	0.020	0.5	356.3	1.5	38	0.2	103.2	40.0	1371	7.56	31	0.3	0.5	322	<0.1	1.5	0.2	216	8.92
3261347	Drill Core	4.48	0.024	0.5	346.7	1.5	33	0.2	94.5	36.8	1245	6.86	30	0.3	0.6	292	<0.1	1.4	0.1	198	10.61

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CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261318	Drill Core	0.173	13.2	6	2.01	1052	0.439	8.40	2.485	2.55	0.9	27.7	24	0.5	17.2	6.9	0.4	<1	18	10.8	0.5
3261319	Drill Core	0.182	12.6	6	1.95	1034	0.430	8.65	2.590	2.31	0.7	29.0	24	0.6	16.9	7.0	0.4	<1	17	9.1	0.2
3261320	Rock Pulp	0.090	30.5	61	1.45	579	0.455	7.16	1.913	2.87	3.9	63.9	61	2.9	22.0	15.2	1.0	3	12	29.1	0.5
3261321	Drill Core	0.181	13.6	9	2.05	1218	0.434	8.60	2.544	2.53	0.8	28.1	25	0.6	17.2	6.7	0.4	<1	18	12.1	0.5
3261322	Drill Core	0.093	4.9	181	3.39	375	0.474	7.32	2.118	1.09	1.3	37.4	11	1.8	16.6	2.4	0.1	<1	31	14.0	1.6
3261323	Drill Core	0.087	5.9	159	3.53	265	0.491	7.58	1.691	0.95	1.5	35.2	12	1.3	16.2	2.4	0.2	<1	31	21.8	2.0
3261324	Drill Core	0.112	5.2	145	3.36	291	0.495	7.67	2.223	0.93	1.5	34.0	12	1.6	17.6	2.4	0.2	<1	29	16.9	2.2
3261325	Core DUP	0.108	5.2	135	3.26	272	0.489	7.67	2.120	0.88	1.6	32.5	11	1.4	17.2	2.5	0.2	<1	27	17.5	2.0
3261326	Drill Core	0.097	5.6	201	3.22	141	0.440	6.85	2.601	0.60	1.0	32.2	12	1.8	16.5	2.1	0.1	1	32	11.1	3.4
3261327	Drill Core	0.089	5.5	173	2.78	65	0.457	6.88	2.476	0.28	1.2	32.3	11	1.6	15.8	2.1	0.1	<1	29	9.3	3.4
3261328	Drill Core	0.086	4.8	173	3.12	145	0.435	6.84	2.255	0.76	0.9	31.4	10	1.5	14.7	2.0	0.1	<1	30	11.9	3.0
3261329	Drill Core	0.081	4.7	175	3.52	191	0.461	6.97	2.285	0.96	1.0	38.5	10	1.1	15.7	2.1	0.1	<1	33	14.5	1.4
3261330	Rock	0.042	1.3	2	8.96	130	0.003	0.10	0.016	0.05	<0.1	0.2	<1	<0.1	1.7	<0.1	<0.1	<1	<1	4.4	<0.1
3261331	Drill Core	0.091	6.3	148	3.51	158	0.480	7.85	2.022	1.97	1.2	41.5	14	1.2	16.3	3.1	0.2	<1	27	19.7	1.8
3261332	Drill Core	0.122	13.4	10	1.83	111	0.376	8.38	2.955	2.73	1.4	33.5	24	1.1	16.9	7.1	0.4	<1	13	13.4	1.6
3261333	Drill Core	0.114	9.6	9	1.62	167	0.362	8.58	3.489	2.53	2.2	29.9	20	1.2	15.7	7.3	0.4	<1	13	14.0	1.4
3261334	Drill Core	0.133	9.4	5	1.59	391	0.360	8.12	4.892	1.23	0.9	27.8	21	1.7	16.5	10.0	0.5	1	11	12.0	0.9
3261335	Drill Core	0.131	10.3	8	1.46	320	0.350	8.36	4.293	1.44	0.6	22.9	22	1.5	15.0	9.3	0.5	1	11	9.1	1.0
3261336	Drill Core	0.161	12.0	9	1.86	335	0.444	9.18	3.328	1.55	1.1	24.3	24	1.9	16.8	8.7	0.5	<1	13	10.1	1.2
3261337	Drill Core	0.156	11.8	8	1.99	596	0.430	8.92	2.984	2.54	1.0	32.1	22	1.1	15.5	7.8	0.4	<1	15	8.8	0.7
3261338	Drill Core	0.138	9.9	8	1.61	456	0.386	8.84	3.269	2.56	1.2	29.6	21	1.6	15.2	9.6	0.5	<1	11	9.6	1.0
3261339	Drill Core	0.152	12.9	9	1.71	1013	0.422	9.02	2.918	2.27	1.0	30.8	25	1.3	15.9	9.2	0.5	<1	13	5.8	0.5
3261340	Rock Pulp	0.094	33.4	73	1.44	991	0.480	7.57	2.015	3.18	4.5	69.6	67	3.4	22.8	17.1	1.3	3	12	32.4	0.3
3261341	Drill Core	0.156	15.0	45	2.11	164	0.445	9.11	2.961	1.65	0.8	25.2	25	1.7	17.1	8.2	0.4	<1	16	13.3	1.4
3261342	Drill Core	0.060	10.2	261	3.56	84	0.337	5.37	1.527	0.28	1.0	13.2	13	1.3	10.6	1.4	<0.1	<1	31	23.8	1.2
3261343	Drill Core	0.067	5.3	326	4.03	51	0.398	5.89	1.547	0.31	0.6	26.5	9	1.5	11.7	1.6	0.1	<1	36	13.1	1.8
3261344	Drill Core	0.072	7.1	330	4.05	45	0.409	6.18	1.277	0.30	0.7	27.3	11	1.8	11.8	1.6	0.1	<1	37	13.5	1.9
3261345	Drill Core	0.070	7.6	349	4.58	128	0.410	5.95	1.307	0.92	0.9	26.4	12	1.9	11.7	1.7	0.1	<1	39	20.1	2.3
3261346	Drill Core	0.070	4.7	373	4.59	238	0.427	6.13	0.911	1.66	1.1	28.1	9	1.9	12.2	1.7	0.1	<1	41	21.6	2.0
3261347	Drill Core	0.072	6.5	277	3.74	223	0.400	5.97	0.974	2.35	6.3	25.1	11	1.7	11.8	1.7	0.1	1	35	19.1	1.5

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261318	Drill Core	71.2	1.0	0.05	0.049	1	1.3	<0.5	<0.01	
3261319	Drill Core	65.7	1.1	0.07	<0.005	<1	2.2	<0.5	<0.01	
3261320	Rock Pulp	173.4	1.9	0.08	0.006	3	1.0	0.7	0.04	
3261321	Drill Core	73.4	1.0	0.07	0.018	1	0.8	<0.5	<0.01	
3261322	Drill Core	37.0	1.3	0.10	<0.005	2	3.7	<0.5	<0.01	
3261323	Drill Core	46.9	1.3	0.08	<0.005	1	3.4	<0.5	<0.01	
3261324	Drill Core	41.2	1.2	0.09	<0.005	3	4.5	<0.5	0.02	
3261325	Core DUP	39.4	1.5	0.11	<0.005	2	4.0	<0.5	0.02	
3261326	Drill Core	21.2	1.2	0.10	0.007	4	2.4	<0.5	0.03	
3261327	Drill Core	8.4	1.1	0.06	<0.005	5	3.0	<0.5	0.04	
3261328	Drill Core	28.8	1.1	0.08	<0.005	3	2.3	<0.5	0.03	
3261329	Drill Core	37.2	1.3	0.15	<0.005	<1	4.2	<0.5	<0.01	
3261330	Rock	1.9	<0.1	<0.05	<0.005	<1	13.3	<0.5	<0.01	
3261331	Drill Core	73.5	1.5	0.17	<0.005	<1	1.8	<0.5	<0.01	
3261332	Drill Core	77.1	1.2	0.06	<0.005	<1	1.2	<0.5	0.01	
3261333	Drill Core	75.2	1.2	0.06	0.034	2	2.2	<0.5	0.03	
3261334	Drill Core	46.0	1.0	<0.05	0.034	1	1.1	<0.5	0.01	
3261335	Drill Core	40.4	0.9	<0.05	0.005	<1	1.5	<0.5	0.01	
3261336	Drill Core	39.5	1.0	0.05	<0.005	2	<0.5	<0.5	<0.01	
3261337	Drill Core	60.4	1.2	0.05	<0.005	1	<0.5	<0.5	<0.01	
3261338	Drill Core	66.1	1.1	<0.05	0.010	2	<0.5	<0.5	<0.01	
3261339	Drill Core	54.7	1.2	0.05	<0.005	<1	<0.5	<0.5	0.01	
3261340	Rock Pulp	198.4	2.2	0.07	<0.005	2	<0.5	1.0	0.03	
3261341	Drill Core	55.6	1.0	0.07	<0.005	2	<0.5	<0.5	<0.01	
3261342	Drill Core	8.2	0.5	0.08	<0.005	2	<0.5	<0.5	0.05	
3261343	Drill Core	8.4	1.0	0.11	<0.005	1	<0.5	<0.5	0.01	
3261344	Drill Core	7.8	1.0	0.12	<0.005	1	<0.5	<0.5	0.01	
3261345	Drill Core	32.1	1.0	0.14	<0.005	1	<0.5	<0.5	<0.01	
3261346	Drill Core	50.3	1.0	0.13	<0.005	<1	<0.5	<0.5	0.02	
3261347	Drill Core	91.0	0.9	0.12	<0.005	1	<0.5	<0.5	0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261348	Drill Core	4.31	0.027	0.3	431.0	1.6	34	0.2	96.3	42.9	1217	8.23	27	0.4	0.6	315	<0.1	1.5	0.2	202	9.53
3261349	Drill Core	4.74	0.087	0.4	437.3	2.2	42	0.3	100.2	45.3	1191	9.48	148	0.5	0.6	277	<0.1	3.0	0.3	215	9.19
3261350	Rock	1.51	0.006	<0.1	0.6	0.4	2	<0.1	3.4	0.6	77	0.09	2	0.4	<0.1	69	<0.1	<0.1	<0.1	<1	33.23
3261351	Drill Core	4.56	0.033	0.4	432.7	1.1	30	0.2	99.9	40.4	1081	8.27	9	0.5	0.6	282	<0.1	1.5	0.2	212	9.68
3261352	Drill Core	4.91	0.012	0.5	430.0	1.4	30	0.2	94.7	36.4	1075	7.68	14	0.6	0.6	339	<0.1	2.1	0.2	218	10.04
3261353	Drill Core	4.71	0.008	0.4	342.8	1.2	32	<0.1	96.1	34.6	1100	7.55	11	0.4	0.6	303	<0.1	1.4	0.2	224	9.93
3261354	Drill Core	4.68	0.008	0.5	497.8	1.2	27	0.2	100.7	53.1	1007	8.40	7	0.5	0.6	329	<0.1	1.2	0.2	217	9.70
3261355	Drill Core	4.57	0.008	0.3	390.0	1.4	28	0.1	100.5	42.2	1040	7.65	3	0.4	0.6	352	<0.1	1.1	0.1	215	9.41
3261356	Drill Core	4.77	0.006	0.3	280.9	1.2	32	0.1	105.8	39.3	986	6.71	3	0.3	0.6	373	<0.1	0.8	0.2	230	8.30
3261357	Drill Core	4.88	0.007	0.9	150.0	1.1	34	<0.1	118.0	42.2	946	6.65	8	0.3	0.6	365	<0.1	1.0	0.1	221	8.21
3261358	Drill Core	5.31	0.005	0.9	148.0	1.3	34	<0.1	116.0	38.7	1114	6.61	4	0.3	0.6	369	<0.1	1.0	0.1	221	8.75
3261359	Drill Core	5.50	0.006	0.8	203.8	1.0	31	<0.1	103.1	32.9	1205	6.98	2	0.4	0.6	325	<0.1	1.4	0.4	213	10.82
3261360	Rock Pulp	0.13	0.224	94.3	2659.8	20.1	76	0.4	59.9	14.8	539	4.29	18	5.0	17.2	297	0.1	2.2	0.7	120	2.59
3261361	Drill Core	5.45	0.007	0.6	162.5	1.0	27	<0.1	86.9	28.8	1192	6.05	4	0.5	0.6	395	<0.1	1.5	0.2	202	10.73
3261362	Drill Core	4.84	<0.005	0.5	165.3	1.3	28	<0.1	79.7	32.8	1301	6.36	2	0.6	0.6	274	<0.1	1.4	0.2	214	10.87
3261363	Drill Core	3.25	<0.005	0.5	162.9	1.3	28	<0.1	78.3	32.2	1353	6.20	3	0.6	0.6	297	<0.1	1.5	0.1	207	11.21

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261348	Drill Core	0.075	7.3	258	3.70	151	0.410	5.95	1.114	2.24	4.1	26.7	12	1.9	12.2	1.8	0.1	1	34	18.1	2.0
3261349	Drill Core	0.071	7.7	295	3.80	124	0.409	5.95	1.249	1.27	2.1	28.8	11	2.6	11.4	1.8	0.1	1	36	17.7	2.5
3261350	Rock	0.005	0.9	<1	1.37	11	0.004	0.06	0.027	<0.01	<0.1	1.0	<1	<0.1	1.6	<0.1	<0.1	<1	<1	1.0	<0.1
3261351	Drill Core	0.076	7.9	304	3.73	46	0.445	6.40	1.722	0.50	0.8	33.2	12	2.3	12.6	2.0	0.1	<1	37	15.5	1.8
3261352	Drill Core	0.079	10.7	292	3.71	68	0.440	6.43	1.684	0.68	0.8	32.6	15	2.6	13.2	1.9	0.1	<1	37	14.7	2.0
3261353	Drill Core	0.087	7.1	288	3.72	62	0.464	6.66	1.805	0.78	1.0	32.9	13	2.3	13.8	2.1	0.1	<1	38	16.8	1.4
3261354	Drill Core	0.089	9.6	277	3.48	85	0.433	6.33	1.651	1.10	1.4	30.4	14	2.2	13.6	1.9	0.1	<1	36	16.0	2.1
3261355	Drill Core	0.083	6.4	278	3.63	73	0.463	6.62	2.021	0.84	1.4	32.1	12	1.8	13.3	2.1	0.1	<1	37	16.5	1.9
3261356	Drill Core	0.084	4.2	331	4.11	108	0.500	7.13	2.046	0.96	0.8	28.6	10	1.0	13.3	2.2	0.1	<1	42	20.5	1.3
3261357	Drill Core	0.070	3.9	392	4.39	198	0.466	6.79	1.683	1.39	0.7	20.4	9	0.6	11.9	1.9	0.1	<1	43	24.3	1.7
3261358	Drill Core	0.076	3.9	341	4.42	134	0.466	6.88	1.517	1.19	1.1	27.9	9	0.9	12.9	1.9	0.1	<1	41	21.3	1.5
3261359	Drill Core	0.072	4.0	314	4.02	101	0.431	6.29	1.090	0.99	2.1	29.8	9	1.4	12.1	1.8	0.1	<1	38	19.3	2.4
3261360	Rock Pulp	0.094	32.9	78	1.43	981	0.475	7.34	1.985	3.27	4.4	69.0	66	3.3	22.2	16.8	1.2	3	12	32.1	0.3
3261361	Drill Core	0.077	3.9	237	3.78	122	0.436	6.51	1.575	0.76	2.1	29.2	9	1.5	12.5	1.9	0.1	<1	33	19.8	1.9
3261362	Drill Core	0.078	4.2	246	3.87	92	0.462	6.75	1.576	0.54	3.7	29.5	10	1.3	13.0	2.1	0.1	<1	35	21.0	1.6
3261363	Drill Core	0.078	3.6	240	3.71	50	0.450	6.72	1.593	0.30	3.8	29.5	9	1.4	12.8	2.0	0.1	<1	34	18.5	1.6

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177 Victoria Street, Suite 100
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Project: Mt. Milligan
Report Date: August 18, 2019

CERTIFICATE OF ANALYSIS VAN19001978.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261348	Drill Core	89.6	1.0	0.14	<0.005	1	<0.5	<0.5	0.01	
3261349	Drill Core	49.5	1.0	0.18	<0.005	2	<0.5	<0.5	0.01	
3261350	Rock	0.2	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01	
3261351	Drill Core	19.9	1.1	0.14	<0.005	2	<0.5	<0.5	0.01	
3261352	Drill Core	27.2	1.1	0.12	<0.005	2	<0.5	<0.5	<0.01	
3261353	Drill Core	31.9	1.1	0.12	<0.005	1	<0.5	<0.5	<0.01	
3261354	Drill Core	45.0	1.1	0.10	<0.005	1	<0.5	<0.5	0.01	
3261355	Drill Core	38.4	1.1	0.10	<0.005	<1	<0.5	<0.5	0.02	
3261356	Drill Core	53.8	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261357	Drill Core	73.9	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.02	
3261358	Drill Core	59.7	1.1	0.07	<0.005	<1	<0.5	<0.5	0.03	
3261359	Drill Core	43.0	1.0	0.11	<0.005	<1	<0.5	<0.5	<0.01	
3261360	Rock Pulp	189.4	2.2	0.06	<0.005	2	<0.5	0.9	0.03	
3261361	Drill Core	37.0	1.0	0.10	<0.005	<1	<0.5	<0.5	0.02	
3261362	Drill Core	23.8	1.1	0.09	<0.005	<1	<0.5	<0.5	0.01	
3261363	Drill Core	13.1	1.1	0.11	<0.005	<1	<0.5	<0.5	<0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

	Method	WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
Pulp Duplicates																					
REP 3261198	QC		0.009																		
3261202	Drill Core	3.72	0.254	1.1	1853.7	3.4	100	5.8	57.5	18.1	1102	4.60	3	0.7	1.6	377	0.7	1.6	0.8	331	3.88
REP 3261202	QC			1.0	1857.4	3.5	102	5.8	56.7	17.7	1086	4.50	3	0.8	1.7	365	0.6	1.6	0.8	325	3.88
3261204	Drill Core	2.02	0.327	1.3	3670.5	6.6	138	11.7	61.5	30.1	1141	7.18	5	0.6	1.0	506	1.1	2.3	1.2	334	7.03
REP 3261204	QC																				
3261236	Drill Core	4.01	0.024	1.8	1325.2	3.1	69	2.6	64.6	44.4	1310	6.72	<1	0.6	0.7	444	1.1	1.4	0.3	200	9.55
REP 3261236	QC			1.8	1316.1	3.1	67	2.6	67.4	46.0	1303	6.69	<1	0.6	0.7	422	0.9	1.4	0.3	198	9.55
3261237	Drill Core	3.17	0.029	2.8	1396.1	2.6	72	2.8	51.2	36.1	1428	6.21	2	0.6	0.7	398	1.0	1.4	0.3	188	9.79
REP 3261237	QC																				
3261244	Drill Core	4.75	0.021	3.5	1752.8	7.5	57	2.6	71.2	66.2	985	8.14	6	0.5	0.6	455	1.3	5.0	0.4	182	10.09
REP 3261244	QC		0.021																		
3261271	Drill Core	4.87	0.007	6.6	321.3	2.4	38	0.3	109.5	31.6	1311	6.01	2	0.6	0.6	385	0.1	1.5	0.1	228	12.20
REP 3261271	QC		0.007	5.9	333.0	2.5	35	0.4	108.2	32.0	1315	6.02	<1	0.6	0.5	401	0.1	1.7	0.1	228	12.26
3261272	Drill Core	4.65	0.006	120.4	334.8	3.3	48	0.4	106.0	36.3	1292	6.01	<1	0.4	0.5	367	0.3	0.8	<0.1	209	11.42
REP 3261272	QC																				
3261307	Drill Core	4.73	0.014	7.3	456.9	3.7	28	0.6	67.8	41.3	1163	6.70	2	0.4	0.7	485	0.1	2.1	0.2	244	11.10
REP 3261307	QC			6.8	458.1	3.6	28	0.6	68.6	38.2	1148	6.64	3	0.4	0.7	497	<0.1	2.1	0.2	248	11.02
3261308	Drill Core	4.49	0.011	23.2	485.3	2.3	38	0.6	64.8	36.5	1096	6.13	5	0.5	0.8	393	0.2	1.5	<0.1	262	8.44
REP 3261308	QC																				
3261318	Drill Core	4.14	0.013	39.1	296.2	1.5	40	0.3	7.4	22.4	959	5.39	2	1.0	2.5	816	0.1	1.1	<0.1	282	5.06
REP 3261318	QC		0.011																		
3261341	Drill Core	1.56	0.020	0.5	461.7	2.6	28	0.7	33.7	20.7	636	5.77	11	0.7	1.4	608	<0.1	2.0	0.1	241	5.88
REP 3261341	QC			0.5	450.8	2.6	27	0.7	33.3	20.0	620	5.59	10	0.7	1.4	597	<0.1	1.9	0.1	234	5.76
3261343	Drill Core	4.60	0.011	0.5	500.6	1.7	31	0.4	100.8	39.2	1272	7.23	6	0.3	0.5	230	<0.1	2.0	0.2	194	10.47
REP 3261343	QC		0.010																		
Core Reject Duplicates																					
3261198	Drill Core	1.76	0.009	0.7	306.0	4.1	31	0.7	10.0	7.8	644	3.04	1	0.9	3.2	491	0.2	0.9	0.1	236	2.32
DUP 3261198	QC		0.009	0.7	321.2	3.8	30	0.7	10.4	8.1	632	3.14	2	0.8	2.9	476	0.1	0.7	0.1	239	2.38

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
Pulp Duplicates																					
REP 3261198	QC																				
3261202	Drill Core	0.111	7.6	107	2.08	597	0.368	7.97	2.508	4.01	0.5	20.1	13	1.9	16.8	7.3	0.3	<1	25	10.5	<0.1
REP 3261202	QC	0.106	7.6	96	2.05	597	0.371	8.02	2.528	3.93	0.7	20.2	13	2.0	16.1	6.4	0.3	1	25	11.0	<0.1
3261204	Drill Core	0.102	4.7	136	2.48	341	0.361	7.70	2.033	1.84	0.8	21.2	11	3.1	12.5	2.9	0.1	1	29	12.6	<0.1
REP 3261204	QC																				
3261236	Drill Core	0.090	5.6	155	3.30	210	0.331	7.36	1.649	0.85	0.7	23.6	10	1.6	13.3	1.7	0.1	<1	30	21.0	1.7
REP 3261236	QC	0.093	5.3	158	3.29	208	0.334	7.18	1.640	0.89	0.7	22.2	9	1.8	12.2	1.7	<0.1	<1	29	20.4	1.7
3261237	Drill Core	0.089	6.2	143	3.31	191	0.312	6.96	1.582	0.81	1.1	23.0	10	1.8	13.1	1.5	<0.1	<1	26	20.1	1.7
REP 3261237	QC																				
3261244	Drill Core	0.089	6.2	136	3.22	81	0.321	6.39	1.934	0.20	0.7	19.0	12	1.6	12.5	1.4	<0.1	<1	29	10.4	4.9
REP 3261244	QC																				
3261271	Drill Core	0.090	4.0	345	4.60	56	0.425	5.82	1.687	0.21	1.2	26.7	10	1.1	14.2	1.7	0.1	<1	42	20.8	1.7
REP 3261271	QC	0.087	4.0	343	4.62	60	0.414	5.89	1.695	0.20	1.1	29.1	10	1.3	14.4	1.7	0.1	<1	42	20.5	1.7
3261272	Drill Core	0.081	3.9	327	4.99	178	0.406	5.68	1.308	0.56	1.3	23.9	9	0.9	12.1	1.6	0.1	<1	40	29.2	1.6
REP 3261272	QC																				
3261307	Drill Core	0.095	5.2	185	3.34	128	0.474	7.14	1.767	0.39	1.3	36.3	11	1.3	15.2	2.2	0.1	<1	33	10.4	2.5
REP 3261307	QC	0.091	5.4	180	3.37	129	0.465	7.06	1.782	0.39	1.5	38.0	12	1.2	15.7	2.3	0.1	<1	30	11.0	2.4
3261308	Drill Core	0.105	5.5	186	3.66	110	0.502	7.18	1.788	1.71	1.4	36.5	12	1.4	17.3	2.4	0.2	<1	32	19.9	1.7
REP 3261308	QC																				
3261318	Drill Core	0.173	13.2	6	2.01	1052	0.439	8.40	2.485	2.55	0.9	27.7	24	0.5	17.2	6.9	0.4	<1	18	10.8	0.5
REP 3261318	QC																				
3261341	Drill Core	0.156	15.0	45	2.11	164	0.445	9.11	2.961	1.65	0.8	25.2	25	1.7	17.1	8.2	0.4	<1	16	13.3	1.4
REP 3261341	QC	0.153	14.8	48	2.06	196	0.437	8.91	2.829	1.62	0.9	24.5	25	1.6	16.8	8.1	0.4	<1	15	13.1	1.4
3261343	Drill Core	0.067	5.3	326	4.03	51	0.398	5.89	1.547	0.31	0.6	26.5	9	1.5	11.7	1.6	0.1	<1	36	13.1	1.8
REP 3261343	QC																				
Core Reject Duplicates																					
3261198	Drill Core	0.116	13.9	10	1.03	1004	0.376	8.98	3.361	4.56	0.5	21.6	23	1.0	15.4	11.8	0.6	<1	10	4.1	<0.1
DUP 3261198	QC	0.112	13.1	8	1.01	982	0.367	8.96	3.278	4.60	0.5	19.7	22	0.9	14.4	11.1	0.5	<1	10	3.5	<0.1

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
	Analyte	Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
Pulp Duplicates										
REP 3261198	QC									
3261202	Drill Core	78.1	0.8	0.29	<0.005	<1	0.8	<0.5	0.09	
REP 3261202	QC	76.6	0.9	0.28	<0.005	2	1.1	<0.5		
3261204	Drill Core	46.5	0.8	0.37	<0.005	2	2.3	<0.5	0.14	
REP 3261204	QC								0.13	
3261236	Drill Core	30.7	0.9	0.17	0.008	5	2.9	<0.5	0.04	
REP 3261236	QC	30.3	0.8	0.13	0.007	5	3.0	<0.5		
3261237	Drill Core	30.6	0.8	0.24	0.013	3	4.4	<0.5	0.05	
REP 3261237	QC								0.05	
3261244	Drill Core	5.8	0.7	0.11	0.012	7	3.1	<0.5	0.02	
REP 3261244	QC									
3261271	Drill Core	9.4	1.1	0.12	0.018	<1	1.8	<0.5	<0.01	
REP 3261271	QC	9.8	1.1	0.14	0.021	1	2.1	<0.5		
3261272	Drill Core	30.9	0.9	0.13	0.290	1	0.9	<0.5	<0.01	
REP 3261272	QC								<0.01	
3261307	Drill Core	15.1	1.3	0.08	<0.005	3	4.3	<0.5	<0.01	
REP 3261307	QC	15.2	1.4	0.09	0.006	2	3.6	<0.5		
3261308	Drill Core	61.5	1.4	0.06	0.017	2	3.6	<0.5	<0.01	
REP 3261308	QC								<0.01	
3261318	Drill Core	71.2	1.0	0.05	0.049	1	1.3	<0.5	<0.01	
REP 3261318	QC									
3261341	Drill Core	55.6	1.0	0.07	<0.005	2	<0.5	<0.5	<0.01	
REP 3261341	QC	54.6	1.0	0.07	<0.005	2	<0.5	<0.5		
3261343	Drill Core	8.4	1.0	0.11	<0.005	1	<0.5	<0.5	0.01	
REP 3261343	QC								<0.01	
Core Reject Duplicates										
3261198	Drill Core	78.6	1.1	<0.05	<0.005	<1	<0.5	<0.5	0.01	
DUP 3261198	QC	75.0	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	

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Project: Mt. Milligan
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QUALITY CONTROL REPORT VAN19001978.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261232	Drill Core	4.83	0.016	0.9	1674.3	3.8	59	2.9	78.5	45.8	1264	6.97	5	0.5	0.9	551	1.0	1.6	0.3	229	9.70
DUP 3261232	QC		0.017	1.2	1675.5	4.0	62	3.3	74.7	47.5	1255	7.05	2	0.6	0.8	560	1.1	1.5	0.3	231	9.83
3261266	Drill Core	4.61	0.007	3.9	439.6	2.6	37	0.4	59.1	34.3	1104	5.61	2	0.5	0.9	441	0.1	3.9	<0.1	268	9.54
DUP 3261266	QC		0.006	4.2	453.0	2.5	38	0.4	59.7	32.5	1109	5.49	2	0.5	0.8	467	0.1	3.4	<0.1	269	9.57
3261334	Drill Core	3.74	0.014	41.9	218.4	10.6	42	0.7	6.6	11.2	500	2.47	2	1.0	2.3	659	<0.1	0.9	0.4	187	4.56
DUP 3261334	QC		0.014	44.8	216.6	11.2	43	0.8	6.4	11.1	482	2.47	3	0.9	2.3	690	<0.1	0.9	0.5	185	4.45
Reference Materials																					
STD CCU-1E	Standard																				
STD OREAS134B	Standard																				
STD OREAS256	Standard		7.858																		
STD OREAS25A-4A	Standard			2.4	37.3	26.2	45	<0.1	52.2	8.8	478	6.52	10	2.9	16.9	49	<0.1	0.5	0.3	152	0.29
STD OREAS25A-4A	Standard			2.6	32.3	24.5	44	<0.1	43.8	7.6	480	6.42	9	2.8	16.1	48	<0.1	0.5	0.3	155	0.27
STD OREAS25A-4A	Standard			2.4	37.7	26.0	44	<0.1	48.2	8.2	512	6.60	11	2.8	15.9	51	<0.1	0.6	0.4	157	0.30
STD OREAS25A-4A	Standard			2.4	32.8	24.4	46	<0.1	46.5	7.7	489	6.59	9	2.7	15.5	47	<0.1	0.6	0.3	156	0.30
STD OREAS25A-4A	Standard			2.1	34.1	24.8	45	<0.1	46.3	7.8	525	6.50	12	2.8	15.9	48	<0.1	0.5	0.4	160	0.29
STD OREAS45E	Standard			2.4	775.9	18.7	45	0.3	464.7	64.8	538	25.09	17	2.5	13.9	16	<0.1	0.6	0.3	319	0.06
STD OREAS45H	Standard			1.5	770.5	12.6	39	0.1	443.3	87.1	386	19.77	16	1.7	7.6	30	<0.1	0.6	0.2	276	0.13
STD OREAS45E	Standard			2.3	780.3	18.1	45	0.3	473.0	59.8	593	24.11	16	2.4	13.2	18	<0.1	0.8	0.3	328	0.06
STD OREAS45E	Standard			2.4	771.6	17.6	46	0.2	465.1	59.6	550	25.04	15	2.4	12.6	16	<0.1	0.7	0.3	321	0.06
STD OREAS45H	Standard			1.4	765.3	12.4	39	0.1	438.6	91.9	433	19.54	16	1.6	7.4	29	<0.1	0.5	0.2	263	0.14
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
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STD OREAS620	Standard																				
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QUALITY CONTROL REPORT VAN19001978.1

		MA200 P	MA200 La	MA200 Cr	MA200 Mg	MA200 Ba	MA200 Ti	MA200 Al	MA200 Na	MA200 K	MA200 W	MA200 Zr	MA200 Ce	MA200 Sn	MA200 Y	MA200 Nb	MA200 Ta	MA200 Be	MA200 Sc	MA200 Li	MA200 S
		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261232	Drill Core	0.094	7.3	179	2.91	241	0.357	7.52	1.527	0.43	0.7	23.2	12	1.6	13.9	1.7	<0.1	<1	32	15.7	0.4
DUP 3261232	QC	0.087	7.4	187	2.93	240	0.365	7.64	1.542	0.42	0.7	23.4	13	1.8	14.0	1.7	<0.1	<1	31	17.3	0.4
3261266	Drill Core	0.107	6.6	129	3.29	150	0.547	7.71	2.253	0.40	1.3	37.8	14	1.5	17.0	3.2	0.2	<1	33	23.0	1.9
DUP 3261266	QC	0.107	6.7	129	3.28	153	0.554	7.86	2.297	0.44	1.3	38.8	14	1.4	17.5	3.3	0.2	<1	32	22.1	1.8
3261334	Drill Core	0.133	9.4	5	1.59	391	0.360	8.12	4.892	1.23	0.9	27.8	21	1.7	16.5	10.0	0.5	1	11	12.0	0.9
DUP 3261334	QC	0.125	8.6	5	1.58	406	0.352	8.29	4.872	1.14	1.1	28.0	19	1.7	15.7	9.9	0.6	1	10	12.0	0.9
Reference Materials																					
STD CCU-1E	Standard																				
STD OREAS134B	Standard																				
STD OREAS256	Standard																				
STD OREAS25A-4A	Standard	0.049	23.4	116	0.34	150	0.905	9.56	0.130	0.46	1.6	151.3	50	3.5	10.6	19.5	1.4	<1	13	41.0	<0.1
STD OREAS25A-4A	Standard	0.043	23.6	110	0.32	147	0.907	8.89	0.124	0.48	1.7	147.3	49	3.3	10.3	18.9	1.4	1	12	39.5	<0.1
STD OREAS25A-4A	Standard	0.049	24.3	109	0.36	145	0.906	9.53	0.131	0.48	1.6	137.4	49	4.0	10.2	18.0	1.3	<1	13	34.1	<0.1
STD OREAS25A-4A	Standard	0.047	23.5	108	0.32	150	0.941	9.31	0.130	0.48	1.7	151.7	50	4.0	10.3	19.6	1.4	<1	13	35.7	<0.1
STD OREAS25A-4A	Standard	0.053	25.3	105	0.33	149	0.912	9.16	0.132	0.44	1.9	137.1	51	3.8	11.3	18.5	1.3	<1	12	35.9	<0.1
STD OREAS45E	Standard	0.033	11.4	996	0.17	250	0.523	7.06	0.054	0.32	0.9	95.0	24	1.2	7.9	6.1	0.5	<1	93	7.5	<0.1
STD OREAS45H	Standard	0.025	13.8	601	0.24	343	0.854	8.16	0.087	0.20	0.9	122.2	26	1.7	9.8	13.4	0.9	<1	53	14.4	<0.1
STD OREAS45E	Standard	0.036	11.4	932	0.17	247	0.533	7.10	0.057	0.37	0.9	87.1	24	1.2	7.8	6.0	0.5	<1	96	6.4	<0.1
STD OREAS45E	Standard	0.033	11.0	959	0.16	246	0.531	6.92	0.060	0.33	0.9	92.7	24	1.3	7.5	5.9	0.5	<1	90	6.7	<0.1
STD OREAS45H	Standard	0.024	13.7	557	0.26	314	0.860	8.01	0.086	0.18	0.8	116.0	24	1.8	10.2	12.9	0.8	<1	55	13.3	<0.1
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				

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Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
3261232	Drill Core	13.1	0.9	0.09	<0.005	2	3.4	<0.5	0.02	
DUP 3261232	QC	12.5	0.8	0.13	0.008	3	3.3	<0.5	0.02	
3261266	Drill Core	17.6	1.4	0.11	0.009	2	0.8	<0.5	<0.01	
DUP 3261266	QC	19.7	1.4	0.12	0.012	1	2.0	<0.5	<0.01	
3261334	Drill Core	46.0	1.0	<0.05	0.034	1	1.1	<0.5	0.01	
DUP 3261334	QC	44.3	0.9	<0.05	0.035	1	1.7	<0.5	0.01	
Reference Materials										
STD CCU-1E	Standard									22.74
STD OREAS134B	Standard									0.13
STD OREAS256	Standard									
STD OREAS25A-4A	Standard	63.1	4.4	0.08	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	60.4	4.0	0.10	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.3	4.0	0.10	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	63.8	4.2	0.08	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	61.3	3.8	<0.05	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	22.5	2.9	0.11	<0.005	2	<0.5	<0.5		
STD OREAS45H	Standard	24.0	3.6	0.11	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	21.9	2.8	0.09	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	21.7	2.8	0.09	<0.005	3	<0.5	<0.5		
STD OREAS45H	Standard	23.2	3.1	0.10	<0.005	1	<0.5	<0.5		
STD OREAS623	Standard								0.77	
STD OREAS620	Standard								2.24	
STD OREAS623	Standard								0.79	
STD OREAS620	Standard								2.19	
STD OREAS623	Standard								0.77	
STD OREAS620	Standard								2.26	
STD OREAS623	Standard								0.81	
STD OREAS620	Standard								2.23	
STD OREAS623	Standard								0.81	

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
STD OREAS620	Standard																				
STD OXC145	Standard		0.207																		
STD OXC145	Standard		0.218																		
STD OXC145	Standard		0.220																		
STD OXH139	Standard		1.302																		
STD OXH139	Standard		1.323																		
STD OXH139	Standard		1.316																		
STD OXN134	Standard		7.421																		
STD OXN134	Standard		8.018																		
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OREAS256 Expected			7.66																		
STD OXC145 Expected			0.212																		
STD OXH139 Expected			1.312																		
STD OXN134 Expected			7.667																		
STD OREAS45E Expected				2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065
STD OREAS25A-4A Expected				2.41	33.9	25.2	44.4		45.8	7.7	480	6.6	9.94	2.94	15.8	48.5		0.65	0.37	157	0.301
STD OREAS45H Expected				1.55	767	11.9	39.7	0.147	423	88	380	19.52	16.9	1.68	7.26	27.1		0.63	0.17	263	0.135
STD OREAS134B Expected																					
STD CCU-1E Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank		0.006																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank		0.005																		

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS620	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OREAS256 Expected																					
STD OXC145 Expected																					
STD OXH139 Expected																					
STD OXN134 Expected																					
STD OREAS45E Expected		0.034	11	979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046
STD OREAS25A-4A Expected		0.048	21.8	115	0.327	147	0.93	8.87	0.131	0.482	2	155	47.3	4.06	10.5	20.9	1.4	0.93	13.7	36.7	0.047
STD OREAS45H Expected		0.023	12.4	602	0.238	332	0.878	7.99	0.09	0.205	0.99	131	23.6	1.93	10.4	14.8	1.08	1.09	57	13.1	
STD OREAS134B Expected																					
STD CCU-1E Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
STD OREAS620	Standard								2.35	
STD OXC145	Standard									
STD OXC145	Standard									
STD OXC145	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OREAS623 Expected									0.79	
STD OREAS620 Expected									2.14	
STD OREAS256 Expected										
STD OXC145 Expected										
STD OXH139 Expected										
STD OXN134 Expected										
STD OREAS45E Expected		21.2	3.11	0.099		2.97	0.1	0.15		
STD OREAS25A-4A Expected		61	4.14	0.09		2.4		0.35		
STD OREAS45H Expected		22.5	3.6	0.1		2.02				
STD OREAS134B Expected										0.1348
STD CCU-1E Expected										22.88
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
BLK	Blank		<0.005																		
BLK	Blank		0.005																		
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	0.2	<0.2	2	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			0.1	0.6	<0.1	<1	<0.1	<0.1	<0.2	2	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank		<0.005	0.7	3.0	1.8	26	<0.1	0.7	2.5	449	1.31	<1	0.8	2.0	137	<0.1	<0.1	<0.1	21	1.04
ROCK-VAN	Prep Blank		<0.005	0.9	5.0	2.8	35	<0.1	1.3	3.5	653	2.15	2	1.3	3.1	217	0.1	<0.1	<0.1	33	1.58

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	1	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	1	<0.01	<1	<0.001	<0.01	0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	0.027	9.1	2	0.33	520	0.128	4.84	2.136	1.20	0.1	29.2	17	0.5	10.6	3.4	0.2	<1	4	2.6	<0.1
ROCK-VAN	Prep Blank	0.046	14.2	3	0.52	809	0.201	7.51	3.231	1.79	0.3	44.5	26	0.7	16.7	5.1	0.4	1	7	3.4	<0.1

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 18, 2019

QUALITY CONTROL REPORT VAN19001978.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
BLK	Blank									
BLK	Blank									
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.6	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank									<0.01
Prep Wash										
ROCK-VAN	Prep Blank	23.6	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
ROCK-VAN	Prep Blank	35.6	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Submitted By: Mt. Milligan Notification List
Receiving Lab: Canada-Vancouver
Received: July 26, 2019
Report Date: August 15, 2019
Page: 1 of 8

CERTIFICATE OF ANALYSIS VAN19001979.1

CLIENT JOB INFORMATION

Project: Mt. Milligan
Shipment ID: TRX19-03_4
P.O. Number M12390
Number of Samples: 182

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
RTRN-RJT Return After 60 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP80-250	168	Crush, split and pulverize 250 g rock to 200 mesh		Completed	VAN
SPTRF	5	Split samples by riffle splitter			VAN
PUL85	5	Pulverize to 85% passing 200 mesh			VAN
SLBHP	9	Sort, label and box pulps			VAN
FA430	182	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
EN002	182	Environmental disposal charge-Fire assay lead waste			VAN
MA200	182	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
EN001-MA	182	Environmental disposal fee - Multi-acid neutralization			VAN
CV400	182	Hg by 0.5g/10ml Aqua Regia, CVAA	0.5	Completed	VAN
MA404	1	4 Acid Digest AAS Finish for Cu VAN	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Thompson Creek Metals
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8
Canada

CC: Mt. Milligan Data Distribution List

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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 VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261364	Drill Core	2.92	0.011	1.4	86.4	6.5	39	0.2	6.9	10.3	610	3.33	20	1.2	2.9	648	0.2	1.0	0.2	187	3.83
3261365	Core DUP		0.010	1.5	81.6	5.9	36	0.2	6.4	9.5	593	3.26	17	1.4	3.0	646	<0.1	0.9	0.1	186	3.73
3261366	Drill Core	4.02	0.012	1.6	74.0	5.8	39	0.1	7.9	13.5	644	3.31	16	1.3	3.1	666	<0.1	1.2	<0.1	187	3.60
3261367	Drill Core	4.26	0.013	1.7	77.1	6.4	44	0.2	7.0	11.1	628	3.19	18	1.2	3.0	616	<0.1	0.9	0.3	183	3.65
3261368	Drill Core	3.95	<0.005	1.3	74.3	3.9	34	0.1	6.9	9.0	538	3.22	3	1.6	3.5	587	<0.1	2.0	0.2	183	4.01
3261369	Drill Core	2.20	0.008	2.0	65.2	4.6	35	0.1	6.9	9.4	565	3.09	10	1.2	3.0	457	<0.1	3.0	0.1	175	4.51
3261370	Rock	1.17	<0.005	<0.1	1.9	0.5	4	<0.1	0.2	<0.2	100	0.10	<1	0.2	<0.1	87	<0.1	<0.1	<0.1	<1	34.08
3261371	Drill Core	1.54	0.014	1.2	43.5	6.4	38	0.1	7.0	9.6	611	2.90	10	1.1	2.7	485	0.2	4.4	0.3	151	3.48
3261372	Drill Core	2.47	0.007	1.8	44.4	6.3	38	0.1	7.1	9.8	577	3.03	5	1.1	3.0	549	0.2	2.9	0.1	172	4.17
3261373	Drill Core	4.16	<0.005	2.9	68.1	4.1	28	0.1	6.6	9.6	553	3.14	41	1.5	3.3	675	<0.1	1.7	0.2	179	3.87
3261374	Drill Core	2.13	<0.005	1.3	70.7	4.5	28	0.1	7.6	10.8	537	3.20	6	1.4	3.3	867	<0.1	1.4	0.2	187	4.04
3261375	Drill Core	2.94	0.006	0.5	77.7	6.8	38	0.1	7.3	11.7	566	3.25	5	1.3	2.9	675	0.2	2.5	0.3	182	4.30
3261376	Drill Core	1.42	0.027	0.8	63.6	4.4	31	0.2	7.5	11.3	508	3.14	15	1.2	2.9	588	0.2	5.9	0.3	169	3.83
3261377	Drill Core	4.41	0.011	1.8	60.8	6.5	34	0.2	6.7	10.3	532	3.34	8	1.5	3.3	687	<0.1	2.2	0.2	188	4.19
3261378	Drill Core	4.20	0.010	2.1	70.4	5.0	39	0.2	7.9	10.2	550	3.27	66	1.2	3.5	758	0.1	1.5	0.3	178	3.84
3261379	Drill Core	4.11	<0.005	1.8	88.1	4.5	30	0.2	7.3	10.4	581	3.42	23	1.4	3.5	719	<0.1	1.1	0.2	184	3.97
3261380	Rock Pulp	0.13	0.211	101.7	2858.2	22.5	87	0.5	65.1	16.8	608	4.60	25	5.4	20.8	349	0.1	2.5	0.7	127	2.73
3261381	Drill Core	3.95	0.005	1.1	61.0	4.3	28	0.2	7.3	10.3	581	3.28	50	1.3	3.1	681	<0.1	1.4	0.1	181	3.82
3261382	Drill Core	4.00	0.005	1.6	68.5	8.2	31	0.2	7.7	10.7	622	3.37	27	1.5	3.6	730	<0.1	0.9	0.1	185	4.06
3261383	Drill Core	4.08	0.011	2.0	92.9	8.5	43	0.5	7.2	11.3	620	3.43	11	1.4	3.3	684	<0.1	0.9	0.5	181	4.00
3261384	Drill Core	4.08	<0.005	2.0	62.2	4.1	40	0.1	7.7	11.0	611	3.41	7	1.4	3.5	746	<0.1	0.8	<0.1	182	3.91
3261385	Drill Core	4.10	<0.005	1.6	77.3	4.1	31	0.1	7.0	11.4	601	3.60	56	1.4	3.2	701	<0.1	1.2	0.1	192	3.81
3261386	Drill Core	4.20	<0.005	1.2	73.4	6.8	42	0.2	7.2	10.0	712	3.62	10	1.4	3.2	830	<0.1	2.0	<0.1	193	4.16
3261387	Drill Core	4.02	<0.005	1.5	66.0	4.3	33	0.1	7.3	10.6	634	3.59	10	1.5	3.6	707	0.1	1.2	<0.1	190	4.12
3261388	Drill Core	1.83	<0.005	5.3	69.0	6.8	43	0.2	7.1	11.0	643	3.49	5	1.4	3.5	632	0.3	1.4	0.1	186	3.76
3261389	Drill Core	2.37	0.008	8.1	368.2	3.2	26	0.8	2.7	9.0	626	2.79	6	1.4	4.3	847	0.2	4.4	<0.1	149	3.95
3261390	Rock	1.52	<0.005	<0.1	1.5	0.6	3	<0.1	0.2	<0.2	97	0.10	2	0.1	<0.1	84	<0.1	<0.1	<0.1	<1	34.29
3261391	Drill Core	4.06	0.010	0.7	129.0	2.8	17	0.5	2.6	5.5	607	2.66	4	1.3	3.7	892	<0.1	2.8	0.5	152	3.64
3261392	Drill Core	4.29	0.011	2.1	179.2	3.8	24	0.4	2.7	8.6	603	2.87	9	1.1	3.6	752	0.1	3.4	0.1	153	3.85
3261393	Drill Core	3.96	0.009	0.8	286.8	2.7	21	0.5	2.8	6.1	586	2.85	3	1.2	3.6	832	0.1	5.0	<0.1	160	3.56

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261364	Drill Core	0.111	13.5	11	1.17	281	0.362	8.75	5.283	3.22	1.6	67.5	23	0.8	11.8	12.3	0.6	<1	10	8.9	1.0
3261365	Core DUP	0.099	13.1	10	1.16	259	0.345	8.71	5.399	3.25	1.4	63.8	23	0.7	11.3	12.0	0.6	2	11	8.9	0.9
3261366	Drill Core	0.097	13.7	12	1.15	278	0.363	8.69	5.200	3.12	1.0	69.3	24	0.8	11.7	12.2	0.6	1	11	7.3	0.8
3261367	Drill Core	0.096	13.0	11	1.09	207	0.337	8.71	5.290	3.37	1.7	65.0	23	0.7	11.9	12.3	0.7	<1	11	9.8	1.0
3261368	Drill Core	0.101	14.7	12	1.07	240	0.330	8.04	5.254	2.97	1.5	59.7	26	0.7	12.2	12.0	0.6	1	11	10.1	1.2
3261369	Drill Core	0.098	13.2	11	0.97	423	0.281	8.19	5.005	2.87	4.1	53.7	23	0.6	10.6	9.9	0.6	<1	10	9.9	0.9
3261370	Rock	0.006	1.3	3	1.21	15	0.005	0.05	0.029	0.01	<0.1	1.3	1	<0.1	2.4	0.1	<0.1	<1	<1	0.8	<0.1
3261371	Drill Core	0.094	10.7	10	0.93	420	0.207	8.14	5.972	2.68	3.3	46.8	20	0.5	7.3	7.8	0.4	<1	9	2.8	1.1
3261372	Drill Core	0.096	11.4	10	0.81	323	0.284	8.30	5.404	2.62	1.6	53.0	22	0.7	10.0	10.3	0.6	<1	10	6.8	1.0
3261373	Drill Core	0.107	16.3	11	1.10	279	0.335	8.52	5.329	3.24	2.0	59.8	27	0.7	12.4	11.9	0.6	1	11	9.5	1.0
3261374	Drill Core	0.105	14.5	11	1.14	207	0.345	8.57	5.269	3.21	1.5	62.7	25	0.8	12.0	12.2	0.6	2	12	8.2	1.1
3261375	Drill Core	0.096	12.7	11	0.99	171	0.328	8.41	4.988	3.11	3.2	53.9	23	0.7	11.0	11.4	0.6	<1	11	9.2	1.2
3261376	Drill Core	0.104	12.8	12	1.03	154	0.261	8.47	5.453	2.97	5.6	44.5	24	0.7	9.3	9.5	0.5	<1	11	5.7	1.5
3261377	Drill Core	0.104	14.5	10	1.17	236	0.324	7.95	4.968	3.11	3.2	56.3	25	0.6	12.5	11.1	0.6	<1	12	8.8	1.1
3261378	Drill Core	0.109	13.9	9	1.16	259	0.333	8.47	4.517	2.95	6.8	58.1	24	0.6	11.7	11.6	0.7	1	11	10.5	1.0
3261379	Drill Core	0.112	15.1	10	1.23	263	0.354	9.26	4.673	3.16	1.1	62.9	25	0.6	12.6	12.7	0.7	1	11	8.6	1.0
3261380	Rock Pulp	0.105	37.0	87	1.57	1110	0.508	8.21	2.171	3.19	3.8	70.4	74	3.2	25.7	18.3	1.2	4	13	36.1	0.3
3261381	Drill Core	0.113	14.0	10	1.17	419	0.338	8.85	4.647	3.01	2.8	60.9	24	0.7	11.6	12.5	0.6	1	10	8.3	0.8
3261382	Drill Core	0.111	15.6	10	1.22	587	0.347	9.15	4.707	3.08	2.1	64.2	26	0.5	12.8	12.7	0.7	<1	11	10.1	0.8
3261383	Drill Core	0.105	14.2	10	1.18	262	0.350	8.97	4.612	3.01	5.1	63.7	24	0.6	12.3	12.7	0.7	1	11	9.0	1.0
3261384	Drill Core	0.110	15.3	11	1.18	557	0.347	9.18	4.675	2.96	1.0	66.8	26	0.6	12.4	13.0	0.7	1	10	6.0	0.8
3261385	Drill Core	0.118	15.4	9	1.27	230	0.358	9.24	4.597	2.85	2.7	63.1	26	0.7	12.8	12.4	0.6	1	12	10.0	1.0
3261386	Drill Core	0.118	15.8	9	1.24	360	0.362	9.14	4.577	2.99	1.1	68.7	26	0.6	12.6	12.4	0.7	<1	11	9.1	0.7
3261387	Drill Core	0.119	16.8	11	1.24	1492	0.356	9.31	4.816	3.03	1.4	79.7	27	0.5	12.7	13.1	0.6	1	12	8.4	0.8
3261388	Drill Core	0.112	15.9	11	1.21	1244	0.344	9.00	4.932	2.58	1.1	72.1	26	0.6	12.7	12.3	0.6	<1	11	8.1	0.6
3261389	Drill Core	0.092	15.9	3	0.61	1485	0.285	9.63	4.722	3.31	0.3	25.2	26	0.6	15.3	14.2	0.7	<1	3	3.7	0.4
3261390	Rock	0.006	1.5	1	1.62	13	0.005	0.05	0.027	0.01	<0.1	1.1	<1	<0.1	2.4	0.2	<0.1	<1	<1	1.7	<0.1
3261391	Drill Core	0.090	14.6	2	0.63	1550	0.290	9.58	4.488	2.88	0.2	23.3	25	0.5	15.3	14.3	0.7	1	3	3.8	0.2
3261392	Drill Core	0.088	14.6	3	0.66	1445	0.263	9.44	4.361	3.16	0.9	19.9	24	0.5	14.5	12.0	0.6	<1	3	7.2	0.5
3261393	Drill Core	0.091	15.1	3	0.69	1377	0.279	9.63	4.360	3.13	0.2	20.3	25	0.4	14.6	14.1	0.7	1	3	4.1	0.2

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261364	Drill Core	58.0	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261365	Core DUP	56.5	1.7	0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261366	Drill Core	54.8	1.8	0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261367	Drill Core	60.0	1.7	0.07	<0.005	<1	<0.5	<0.5	<0.01	
3261368	Drill Core	51.6	1.5	0.06	<0.005	<1	<0.5	<0.5	<0.01	
3261369	Drill Core	48.7	1.3	<0.05	<0.005	1	0.6	<0.5	<0.01	
3261370	Rock	0.1	<0.1	<0.05	<0.005	<1	1.0	<0.5	<0.01	
3261371	Drill Core	48.7	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261372	Drill Core	45.0	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261373	Drill Core	59.3	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261374	Drill Core	61.4	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261375	Drill Core	56.2	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261376	Drill Core	60.7	1.1	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261377	Drill Core	60.0	1.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261378	Drill Core	54.9	1.6	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261379	Drill Core	59.7	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261380	Rock Pulp	185.1	2.5	0.07	<0.005	1	0.7	1.2	0.02	
3261381	Drill Core	52.8	2.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261382	Drill Core	58.1	1.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261383	Drill Core	55.3	1.9	0.06	<0.005	<1	0.8	<0.5	<0.01	
3261384	Drill Core	52.9	2.2	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261385	Drill Core	53.6	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261386	Drill Core	53.4	2.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261387	Drill Core	57.2	2.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261388	Drill Core	50.1	1.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261389	Drill Core	42.7	1.1	<0.05	0.008	<1	<0.5	<0.5	<0.01	
3261390	Rock	0.6	<0.1	<0.05	<0.005	<1	4.4	<0.5	<0.01	
3261391	Drill Core	40.9	1.1	<0.05	<0.005	<1	0.8	<0.5	<0.01	
3261392	Drill Core	50.6	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261393	Drill Core	45.4	1.1	<0.05	0.005	<1	<0.5	<0.5	<0.01	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261394	Drill Core	4.13	0.005	0.8	117.8	2.8	19	0.2	2.6	7.9	739	3.25	5	1.2	3.2	955	<0.1	10.8	<0.1	161	4.36
3261395	Drill Core	4.12	0.034	17.9	390.1	2.9	34	1.0	2.5	7.8	577	3.10	11	1.0	2.7	798	0.3	71.8	<0.1	156	3.91
3261396	Drill Core	4.02	0.006	0.6	116.5	2.9	20	0.2	3.4	6.3	600	2.75	3	0.9	2.6	908	<0.1	5.5	<0.1	157	3.37
3261397	Drill Core	4.04	0.008	7.0	228.0	4.7	28	0.4	3.4	7.5	560	3.05	4	1.1	3.0	820	0.1	6.1	<0.1	174	3.74
3261398	Drill Core	3.95	0.045	5.1	1056.0	5.3	55	1.9	3.1	7.2	584	2.46	5	0.9	3.1	618	0.5	4.5	0.2	180	4.15
3261399	Drill Core	4.10	0.016	13.2	234.2	2.7	19	0.4	2.1	5.9	499	2.59	2	0.8	2.4	825	0.1	3.1	<0.1	147	3.56
3261400	Rock Pulp	0.10	0.554	35.9	5381.3	59.3	321	2.1	16.6	12.6	903	5.22	71	0.7	3.9	247	1.4	3.2	0.9	99	1.56
3261401	Drill Core	2.79	0.025	6.7	666.7	3.1	30	1.3	2.8	6.7	538	2.77	3	0.9	2.6	821	0.4	7.2	0.1	177	3.87
3261402	Drill Core	1.60	0.016	1.1	368.8	3.1	35	0.6	2.6	8.1	507	2.92	1	0.7	2.3	468	0.2	3.2	<0.1	220	3.93
3261403	Drill Core	3.98	0.034	0.7	401.1	2.6	26	0.6	3.3	8.9	691	3.34	7	1.1	3.1	685	0.2	5.9	<0.1	191	4.98
3261404	Drill Core	4.15	0.041	6.6	472.7	2.5	32	0.7	2.9	8.8	634	3.42	11	1.0	3.0	696	0.1	11.7	<0.1	191	4.54
3261405	Core DUP		0.035	4.4	408.3	2.5	27	0.6	2.9	8.1	607	3.56	11	1.1	3.2	755	<0.1	10.4	<0.1	195	4.65
3261406	Drill Core	4.25	0.024	8.5	1425.1	3.2	59	3.0	3.0	10.9	647	3.27	3	1.1	3.1	647	0.9	6.3	0.2	186	4.33
3261407	Drill Core	4.16	0.015	4.2	631.5	2.4	32	1.2	2.8	9.3	588	3.57	3	1.0	2.9	766	0.3	5.0	<0.1	186	4.49
3261408	Drill Core	4.35	0.010	8.4	679.9	2.5	23	1.1	2.6	8.7	568	3.38	4	1.0	2.6	808	0.4	7.2	<0.1	180	4.78
3261409	Drill Core	4.29	0.008	2.0	159.4	2.4	17	0.3	2.8	7.4	545	3.02	3	1.0	2.8	781	0.1	3.5	<0.1	167	4.25
3261410	Rock	1.58	<0.005	0.3	0.9	0.5	4	<0.1	0.6	0.2	43	0.06	<1	2.4	0.1	132	<0.1	<0.1	<0.1	6	22.42
3261411	Drill Core	4.60	0.008	1.1	170.3	2.7	19	0.3	2.9	7.8	596	3.33	3	1.1	3.8	801	0.2	3.7	<0.1	179	4.52
3261412	Drill Core	4.40	0.006	0.6	118.1	2.2	20	0.1	2.5	8.5	597	3.15	2	0.9	3.0	700	<0.1	2.0	<0.1	157	4.19
3261413	Drill Core	4.40	0.008	3.0	125.6	2.6	19	0.2	2.9	8.1	575	3.22	2	1.4	4.9	753	<0.1	3.1	<0.1	163	4.12
3261414	Drill Core	4.12	0.006	2.6	102.1	2.6	17	0.1	2.6	6.1	426	2.56	2	1.2	3.7	469	<0.1	2.4	<0.1	139	3.32
3261415	Drill Core	2.11	0.005	1.7	74.6	2.8	16	0.1	4.0	6.4	429	2.81	3	1.4	3.7	559	<0.1	3.2	<0.1	154	3.23
3261416	Drill Core	1.88	0.041	1.2	153.3	5.4	22	0.5	2.4	7.9	512	2.50	4	0.8	2.3	541	0.3	2.5	0.2	133	5.68
3261417	Drill Core	2.68	0.013	1.5	223.6	3.6	20	0.7	2.7	7.3	472	3.01	1	1.1	2.8	587	0.2	2.8	0.2	164	3.71
3261418	Drill Core	4.17	0.010	18.1	170.2	2.5	17	0.2	3.4	8.6	504	3.19	2	1.0	2.5	579	<0.1	2.5	<0.1	174	3.86
3261419	Drill Core	3.97	0.015	38.0	129.0	4.2	23	0.2	3.2	7.5	498	2.88	2	1.0	2.6	486	0.2	2.7	0.2	163	3.93
3261420	Rock Pulp	0.12	0.676	312.5	5158.2	20.2	85	0.8	40.1	14.6	549	4.93	30	4.7	17.9	332	0.4	3.6	0.6	123	2.56
3261421	Drill Core	3.46	0.007	1.8	139.8	2.6	18	0.2	4.1	8.0	539	3.14	4	1.0	2.9	542	<0.1	9.0	<0.1	164	3.55
3261422	Drill Core	3.14	0.033	64.2	511.7	4.5	33	1.4	3.8	8.6	500	2.92	20	1.2	2.6	394	0.4	139.8	0.1	164	3.88
3261423	Drill Core	4.36	0.016	47.3	310.1	3.9	25	0.5	3.6	9.8	513	3.12	5	0.8	2.1	433	0.4	4.0	0.3	163	4.18

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BUREAU VERITAS MINERAL LABORATORIES Canada

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261394	Drill Core	0.109	15.5	3	0.77	1430	0.307	9.79	4.380	2.84	0.3	21.9	26	0.4	15.7	13.9	0.7	1	4	4.4	0.3
3261395	Drill Core	0.111	14.1	3	0.76	1306	0.289	9.07	4.064	2.94	0.6	20.3	25	0.9	15.0	12.2	0.6	<1	3	6.2	0.5
3261396	Drill Core	0.089	15.0	5	0.66	1605	0.266	9.36	4.429	2.98	0.2	21.3	26	0.5	14.8	13.0	0.7	1	3	3.4	0.2
3261397	Drill Core	0.098	14.4	4	0.71	1526	0.262	9.97	4.808	3.63	0.6	19.8	26	0.5	15.2	13.3	0.7	1	4	5.6	0.4
3261398	Drill Core	0.087	11.7	3	0.70	1176	0.239	8.96	4.166	3.16	0.7	18.1	23	0.7	13.2	11.5	0.7	<1	3	6.2	0.6
3261399	Drill Core	0.097	11.0	3	0.68	1398	0.264	8.81	4.271	2.95	0.2	19.6	21	0.5	13.4	12.0	0.7	1	3	4.0	0.2
3261400	Rock Pulp	0.085	14.6	27	0.88	403	0.211	8.23	1.192	2.70	5.5	4.1	29	1.4	10.2	3.9	0.3	<1	10	25.6	1.9
3261401	Drill Core	0.112	13.2	3	0.71	1386	0.276	9.50	4.184	3.21	0.3	18.7	24	0.8	14.3	11.3	0.7	1	3	3.2	0.4
3261402	Drill Core	0.102	12.5	3	0.79	1302	0.189	9.78	4.383	3.46	0.5	13.2	24	0.4	11.0	7.0	0.4	1	5	10.3	0.5
3261403	Drill Core	0.151	15.3	2	1.07	1083	0.308	9.18	3.947	3.03	0.6	19.1	28	0.4	16.2	11.3	0.6	<1	5	5.7	0.3
3261404	Drill Core	0.145	12.3	2	1.05	1063	0.329	8.97	3.705	2.96	0.8	20.5	23	0.7	14.7	11.9	0.7	1	5	5.9	0.4
3261405	Core DUP	0.133	12.9	2	1.00	1039	0.330	9.50	3.890	2.98	0.8	20.5	24	0.6	15.4	12.3	0.7	<1	5	5.5	0.5
3261406	Drill Core	0.146	14.2	2	0.99	1088	0.311	8.92	3.430	3.40	0.4	20.5	27	1.1	16.5	12.2	0.7	<1	4	5.5	0.8
3261407	Drill Core	0.141	14.5	2	0.98	1125	0.330	9.26	3.784	2.93	0.2	21.3	27	0.6	15.2	14.4	0.7	1	5	4.2	0.5
3261408	Drill Core	0.127	11.9	3	0.87	1052	0.330	8.88	3.985	2.87	0.3	21.1	23	0.6	14.2	15.0	0.8	<1	4	3.4	0.5
3261409	Drill Core	0.124	11.5	2	0.80	1186	0.319	8.42	4.072	3.12	0.4	22.1	22	0.6	13.9	15.5	0.8	<1	4	3.1	0.4
3261410	Rock	0.060	1.2	1	9.34	139	0.004	0.07	0.015	0.03	<0.1	0.2	1	<0.1	1.9	0.1	<0.1	<1	<1	4.4	<0.1
3261411	Drill Core	0.138	16.7	2	0.94	1229	0.336	9.54	4.148	3.21	0.3	21.4	30	0.6	17.0	15.9	0.9	1	5	4.4	0.2
3261412	Drill Core	0.123	11.3	2	0.82	1092	0.326	8.31	3.666	2.64	0.3	20.3	22	0.6	13.5	14.8	0.8	1	4	5.9	0.1
3261413	Drill Core	0.117	16.6	2	0.87	1162	0.337	9.22	3.920	2.73	0.3	22.1	28	0.9	15.3	16.4	0.9	2	4	4.5	0.2
3261414	Drill Core	0.098	14.7	3	0.72	1065	0.249	8.81	3.495	3.42	0.4	17.7	23	0.7	12.8	12.7	0.6	1	4	5.4	0.1
3261415	Drill Core	0.107	16.2	3	0.78	1257	0.298	9.03	3.587	3.31	0.2	20.1	27	0.7	15.4	13.7	0.8	<1	4	5.0	0.1
3261416	Drill Core	0.091	13.6	2	0.46	571	0.177	7.62	3.517	3.17	1.1	11.3	24	0.6	20.2	8.2	0.5	1	5	5.5	0.8
3261417	Drill Core	0.113	15.1	3	0.82	1068	0.303	8.85	3.415	3.39	0.4	19.8	26	0.9	15.9	13.0	0.8	<1	5	4.3	0.4
3261418	Drill Core	0.113	14.3	4	0.98	1271	0.305	9.12	3.752	2.82	0.1	19.4	23	0.7	15.5	9.8	0.6	1	7	3.6	0.1
3261419	Drill Core	0.093	11.1	4	0.76	1212	0.254	8.06	3.407	3.23	0.5	16.8	20	0.7	14.5	9.4	0.6	<1	5	5.0	0.3
3261420	Rock Pulp	0.096	33.4	62	1.48	983	0.467	7.41	1.925	3.06	4.3	59.5	59	3.1	22.5	14.6	1.1	3	13	28.4	0.5
3261421	Drill Core	0.112	13.9	4	0.89	1158	0.301	8.88	3.751	3.24	0.2	18.9	23	0.7	14.9	10.7	0.6	<1	6	5.2	0.4
3261422	Drill Core	0.103	12.8	4	0.84	298	0.212	8.53	3.566	3.42	0.3	14.7	22	0.8	12.5	7.7	0.5	<1	6	8.2	0.8
3261423	Drill Core	0.106	14.3	3	0.87	390	0.151	8.71	3.953	3.14	0.5	10.9	24	0.4	11.4	5.2	0.3	<1	7	5.1	0.9

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261394	Drill Core	40.0	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261395	Drill Core	46.2	0.9	<0.05	0.020	<1	0.5	<0.5	0.16	
3261396	Drill Core	39.6	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261397	Drill Core	55.2	0.8	0.06	0.006	<1	0.7	<0.5	<0.01	
3261398	Drill Core	49.7	0.8	0.12	<0.005	<1	0.7	<0.5	0.02	
3261399	Drill Core	38.3	0.9	<0.05	0.017	<1	<0.5	<0.5	<0.01	
3261400	Rock Pulp	90.7	0.2	0.09	0.090	3	0.9	1.2	0.04	
3261401	Drill Core	45.6	0.8	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261402	Drill Core	69.9	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261403	Drill Core	52.9	1.0	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261404	Drill Core	47.1	0.9	<0.05	0.008	<1	0.9	<0.5	0.01	
3261405	Core DUP	48.2	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261406	Drill Core	58.4	1.0	0.15	<0.005	<1	<0.5	<0.5	0.03	
3261407	Drill Core	47.2	0.9	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261408	Drill Core	38.5	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261409	Drill Core	39.8	1.1	0.06	<0.005	<1	<0.5	<0.5	<0.01	
3261410	Rock	1.4	<0.1	<0.05	<0.005	<1	3.2	<0.5	<0.01	
3261411	Drill Core	52.3	1.0	<0.05	<0.005	1	0.6	<0.5	<0.01	
3261412	Drill Core	36.3	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261413	Drill Core	49.7	1.0	<0.05	0.005	<1	<0.5	<0.5	<0.01	
3261414	Drill Core	59.1	0.8	<0.05	0.008	<1	<0.5	<0.5	<0.01	
3261415	Drill Core	58.9	1.0	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261416	Drill Core	59.0	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261417	Drill Core	56.3	0.9	<0.05	<0.005	<1	0.6	<0.5	0.01	
3261418	Drill Core	52.5	0.8	<0.05	0.018	<1	<0.5	<0.5	<0.01	
3261419	Drill Core	53.3	0.8	<0.05	0.026	<1	<0.5	<0.5	<0.01	
3261420	Rock Pulp	162.6	2.0	0.10	0.006	1	1.0	0.9	0.04	
3261421	Drill Core	55.2	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261422	Drill Core	66.7	0.7	<0.05	0.060	<1	<0.5	<0.5	0.43	
3261423	Drill Core	68.7	0.4	<0.05	0.060	1	0.6	<0.5	<0.01	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261424	Drill Core	1.41	0.019	3.8	58.8	3.9	41	0.2	7.2	11.2	468	3.69	7	0.8	2.1	361	0.2	3.1	0.3	186	3.22
3261425	Drill Core	2.79	<0.005	0.8	89.5	2.7	20	0.2	5.4	10.4	610	3.75	4	1.1	2.2	771	<0.1	4.4	<0.1	211	4.44
3261426	Drill Core	4.23	<0.005	12.5	96.8	2.9	21	0.2	6.0	10.7	511	3.45	3	1.1	2.1	783	<0.1	3.0	<0.1	192	4.14
3261427	Drill Core	2.11	<0.005	0.6	68.3	2.7	20	0.1	7.5	9.3	564	3.67	3	1.0	2.3	886	0.1	2.3	<0.1	212	4.41
3261428	Drill Core	4.30	0.011	1.1	659.1	2.6	35	1.8	7.1	10.3	429	2.95	1	0.9	2.5	590	0.4	1.5	0.1	194	3.14
3261429	Drill Core	4.26	0.007	7.9	223.8	2.5	21	0.5	7.3	7.7	369	2.28	2	0.9	2.5	594	0.2	0.9	<0.1	170	2.88
3261430	Drill Core	1.85	<0.005	0.1	2.8	0.4	4	<0.1	2.1	0.2	135	0.16	<1	1.1	<0.1	90	<0.1	<0.1	<0.1	8	28.26
3261431	Drill Core	3.60	0.010	2.1	347.5	2.8	23	0.9	3.0	3.1	197	1.11	2	0.8	3.3	372	0.3	0.6	<0.1	111	1.56
3261432	Drill Core	2.64	0.015	6.7	485.6	3.9	39	1.1	8.4	9.7	474	3.24	3	0.9	2.7	835	0.3	2.2	0.2	234	3.85
3261433	Drill Core	4.09	0.016	21.1	423.5	3.1	30	0.9	8.5	10.1	491	3.27	3	1.3	3.8	1071	0.2	1.6	<0.1	209	4.08
3261434	Drill Core	4.42	0.016	29.3	450.7	3.3	35	1.1	8.4	10.4	604	3.39	3	1.1	4.0	807	0.3	2.2	0.2	205	4.66
3261435	Drill Core	4.16	0.022	9.3	584.8	4.8	49	2.7	8.0	9.5	562	3.18	3	1.0	3.6	877	0.8	3.1	1.4	191	4.08
3261436	Drill Core	4.09	0.008	9.0	391.9	3.7	44	1.2	4.3	8.3	446	2.93	2	1.1	3.6	602	0.5	2.7	<0.1	189	2.77
3261437	Drill Core	2.25	0.010	4.7	437.4	3.6	45	1.3	3.4	11.0	632	3.47	4	0.7	3.7	727	1.0	1.7	<0.1	226	3.26
3261438	Drill Core	4.30	0.038	16.9	1344.1	17.8	84	6.0	4.0	10.4	469	2.90	5	1.0	4.0	644	1.9	1.7	0.6	216	3.23
3261439	Drill Core	4.03	0.011	0.9	316.5	3.4	32	0.9	3.3	9.7	439	2.70	2	1.0	4.1	563	0.4	3.0	<0.1	196	2.58
3261440	Rock Pulp	0.10	0.536	36.7	5225.0	56.3	290	2.0	15.4	12.1	845	4.90	73	0.8	4.4	218	1.5	2.9	1.0	96	1.38
3261441	Drill Core	4.11	0.029	41.7	1299.1	3.6	80	3.9	2.8	8.9	445	2.75	22	0.8	3.2	441	2.5	89.7	0.2	218	3.16
3261442	Drill Core	4.10	0.013	2.6	678.6	3.0	52	2.2	2.6	6.6	380	2.15	7	0.9	3.7	478	1.1	3.0	0.1	177	2.41
3261443	Drill Core	4.20	0.017	1.1	972.3	3.2	56	3.0	3.4	9.7	619	3.06	8	0.6	2.3	652	1.1	4.5	0.2	238	3.85
3261444	Drill Core	2.17	0.010	0.6	622.5	4.9	55	2.0	3.2	9.1	554	3.03	2	1.0	3.6	634	0.9	2.7	0.1	227	3.19
3261445	Core DUP		0.010	0.8	621.6	3.1	51	1.9	3.4	8.7	585	2.96	2	1.0	3.6	632	1.0	2.4	<0.1	222	3.15
3261446	Drill Core	2.40	0.014	0.4	857.9	3.2	56	2.4	2.9	7.6	451	2.71	2	1.0	4.1	607	0.7	2.5	<0.1	215	2.88
3261447	Drill Core	3.90	0.013	0.9	409.7	3.1	37	1.2	3.6	8.9	542	3.18	4	0.8	3.2	666	0.7	1.8	0.2	240	3.39
3261448	Drill Core	4.04	0.011	1.0	640.9	5.4	55	1.9	3.9	10.0	562	3.48	4	1.2	5.2	668	0.9	4.2	0.3	257	3.78
3261449	Drill Core	2.00	0.009	2.8	596.4	4.1	50	1.8	4.5	10.5	593	3.77	4	1.1	3.6	717	0.6	2.2	0.2	263	3.89
3261450	Rock	1.26	<0.005	0.3	1.0	0.5	5	<0.1	0.9	<0.2	44	0.07	<1	2.8	0.1	115	<0.1	<0.1	<0.1	6	23.49
3261451	Drill Core	2.52	0.063	0.8	930.3	9.2	70	5.1	4.9	12.5	555	3.69	8	1.6	4.3	640	1.1	3.0	1.8	279	4.16
3261452	Drill Core	3.51	0.016	1.0	772.8	6.4	63	2.4	5.0	14.2	574	3.69	10	1.0	3.6	552	0.9	3.0	0.3	261	3.98
3261453	Drill Core	4.18	0.036	39.1	760.6	15.3	56	2.5	4.4	15.1	662	4.24	6	1.3	3.1	472	0.6	3.0	1.3	238	4.62

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261424	Drill Core	0.165	13.5	6	0.78	317	0.125	8.81	4.222	3.23	0.8	9.0	22	0.5	8.6	3.0	0.2	1	6	4.9	1.2
3261425	Drill Core	0.149	13.3	7	1.10	1196	0.369	8.68	3.353	2.94	0.6	20.8	23	1.0	13.6	9.4	0.5	1	6	5.6	0.3
3261426	Drill Core	0.139	12.9	9	1.07	1143	0.346	8.41	3.357	3.08	0.3	20.4	22	0.8	13.4	9.4	0.6	<1	6	3.4	0.4
3261427	Drill Core	0.134	15.9	13	1.11	1166	0.376	8.78	3.373	2.89	0.3	20.9	25	0.9	13.7	11.2	0.7	<1	7	3.4	0.2
3261428	Drill Core	0.105	12.3	12	0.95	975	0.319	8.53	2.647	4.17	0.2	17.8	20	1.3	10.8	9.4	0.6	<1	6	3.6	0.6
3261429	Drill Core	0.100	13.6	9	0.88	1186	0.300	8.65	2.934	3.73	1.0	20.4	21	1.2	12.9	11.6	0.7	<1	5	3.0	0.4
3261430	Drill Core	0.022	1.3	2	4.43	64	0.008	0.22	0.069	0.05	<0.1	1.0	1	<0.1	2.4	0.2	<0.1	<1	<1	1.8	<0.1
3261431	Drill Core	0.045	8.8	6	0.48	1462	0.193	7.93	2.839	4.43	0.3	20.7	15	0.8	9.1	9.6	0.5	<1	3	2.4	0.2
3261432	Drill Core	0.140	15.2	14	1.12	1005	0.336	8.40	2.740	3.17	2.9	20.6	25	1.1	13.8	13.1	0.7	<1	6	8.4	0.5
3261433	Drill Core	0.127	13.9	15	1.09	1281	0.355	8.58	3.166	3.24	0.5	22.0	23	1.1	12.6	13.2	0.7	1	6	5.6	0.4
3261434	Drill Core	0.125	14.3	15	1.14	803	0.306	8.54	3.317	3.12	1.0	19.0	24	1.0	12.6	11.0	0.5	<1	6	6.1	0.6
3261435	Drill Core	0.118	13.8	15	1.08	1108	0.296	8.25	3.033	3.30	1.0	16.1	23	1.0	12.4	11.3	0.6	1	6	6.6	0.5
3261436	Drill Core	0.113	14.8	5	0.84	710	0.300	8.55	3.418	3.65	0.5	16.3	25	1.1	12.1	11.5	0.6	<1	6	3.7	0.5
3261437	Drill Core	0.127	20.6	3	1.01	1027	0.354	8.94	3.615	3.60	0.4	19.9	31	1.1	17.4	13.3	0.8	<1	9	4.4	0.5
3261438	Drill Core	0.114	16.3	3	0.81	770	0.295	8.71	3.114	3.88	0.6	20.8	26	1.3	14.1	12.2	0.7	1	6	4.7	0.7
3261439	Drill Core	0.095	15.3	3	0.69	882	0.255	8.31	3.303	3.46	0.3	20.8	26	0.7	13.7	11.5	0.6	1	5	4.0	0.5
3261440	Rock Pulp	0.072	17.2	27	0.81	155	0.206	7.71	1.088	2.33	3.6	3.8	30	1.5	10.1	3.5	0.2	<1	11	24.4	1.9
3261441	Drill Core	0.112	11.3	3	0.73	351	0.260	7.77	3.331	3.62	0.7	21.2	21	1.0	11.8	11.6	0.6	<1	5	4.6	0.7
3261442	Drill Core	0.073	11.2	4	0.58	764	0.241	8.08	3.460	3.30	0.5	25.0	22	1.0	12.4	12.6	0.7	1	5	1.9	0.5
3261443	Drill Core	0.116	9.2	4	0.85	573	0.319	7.70	3.489	3.29	0.8	22.8	20	1.1	12.3	13.6	0.7	<1	6	5.0	0.5
3261444	Drill Core	0.124	17.7	3	0.88	1226	0.323	8.85	3.495	3.68	0.3	25.2	29	1.3	15.1	13.2	0.7	1	7	3.7	0.4
3261445	Core DUP	0.115	17.3	3	0.86	1229	0.320	8.81	3.526	3.33	0.4	24.4	28	1.2	15.5	13.8	0.7	<1	7	3.7	0.4
3261446	Drill Core	0.109	15.7	3	0.76	1168	0.304	9.22	3.540	3.46	0.4	21.7	26	1.2	14.7	14.2	0.7	1	6	3.7	0.4
3261447	Drill Core	0.132	17.1	3	0.94	1197	0.338	8.92	3.546	3.06	1.8	24.6	27	1.0	16.1	12.9	0.7	<1	8	5.3	0.4
3261448	Drill Core	0.139	19.6	4	0.99	1202	0.359	9.24	3.637	3.82	0.5	26.0	32	1.4	17.8	13.9	0.7	<1	8	5.6	0.7
3261449	Drill Core	0.164	21.3	3	1.07	1233	0.386	9.32	3.618	3.53	0.4	25.0	33	1.1	18.5	13.6	0.8	<1	8	5.3	0.6
3261450	Rock	0.053	1.2	5	10.16	119	0.003	0.06	0.012	0.02	<0.1	0.2	<1	<0.1	2.0	<0.1	<0.1	<1	<1	4.5	<0.1
3261451	Drill Core	0.178	20.7	5	0.90	322	0.383	9.17	3.418	3.63	1.7	22.2	33	1.8	18.3	13.0	0.7	<1	9	7.1	1.2
3261452	Drill Core	0.199	23.5	3	0.88	179	0.391	9.17	3.615	4.09	1.7	21.7	35	1.8	19.6	13.0	0.7	<1	8	7.9	1.2
3261453	Drill Core	0.143	16.6	4	0.99	99	0.285	9.26	3.899	3.81	1.3	17.8	28	1.1	16.3	11.1	0.6	<1	8	10.4	1.6

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261424	Drill Core	65.3	0.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261425	Drill Core	51.9	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261426	Drill Core	50.1	0.9	<0.05	0.014	<1	<0.5	<0.5	<0.01	
3261427	Drill Core	49.7	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261428	Drill Core	67.6	0.8	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261429	Drill Core	61.5	0.8	<0.05	0.008	<1	<0.5	<0.5	<0.01	
3261430	Drill Core	1.4	<0.1	<0.05	<0.005	<1	4.8	<0.5	<0.01	
3261431	Drill Core	59.8	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261432	Drill Core	58.7	1.0	0.08	0.006	<1	0.8	<0.5	<0.01	
3261433	Drill Core	56.7	1.0	0.05	0.015	<1	<0.5	<0.5	<0.01	
3261434	Drill Core	57.6	0.9	<0.05	0.024	<1	<0.5	<0.5	<0.01	
3261435	Drill Core	63.3	0.8	<0.05	0.008	<1	1.3	<0.5	0.02	
3261436	Drill Core	60.5	0.8	<0.05	0.010	<1	<0.5	<0.5	<0.01	
3261437	Drill Core	63.4	1.0	0.06	0.006	<1	0.5	<0.5	0.01	
3261438	Drill Core	67.5	1.0	0.08	0.012	<1	0.9	<0.5	0.05	
3261439	Drill Core	59.8	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261440	Rock Pulp	86.8	0.1	0.12	0.117	2	<0.5	1.1	0.04	
3261441	Drill Core	56.2	1.0	0.07	0.023	<1	<0.5	<0.5	0.20	
3261442	Drill Core	55.4	1.1	0.07	<0.005	<1	<0.5	<0.5	0.02	
3261443	Drill Core	43.0	1.0	0.09	<0.005	<1	<0.5	<0.5	0.02	
3261444	Drill Core	54.5	1.1	0.06	<0.005	<1	<0.5	<0.5	0.02	
3261445	Core DUP	58.6	1.1	0.06	<0.005	<1	<0.5	<0.5	0.02	
3261446	Drill Core	54.5	0.9	0.07	<0.005	<1	<0.5	<0.5	0.02	
3261447	Drill Core	56.9	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261448	Drill Core	47.9	1.1	0.07	<0.005	<1	<0.5	<0.5	0.01	
3261449	Drill Core	69.8	1.2	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261450	Rock	0.8	<0.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261451	Drill Core	57.6	1.1	0.12	<0.005	<1	1.8	<0.5	0.01	
3261452	Drill Core	75.6	0.9	0.07	<0.005	<1	<0.5	<0.5	0.01	
3261453	Drill Core	78.7	0.7	0.05	0.023	2	<0.5	<0.5	<0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261454	Drill Core	1.92	0.014	1.2	604.0	6.4	38	1.4	5.4	12.0	676	3.57	4	1.1	3.0	573	0.5	2.8	0.3	239	5.16
3261455	Drill Core	2.30	0.011	0.8	162.1	5.6	27	0.6	3.8	9.5	582	3.37	6	1.5	4.3	672	0.1	3.6	0.1	223	3.78
3261456	Drill Core	4.04	0.009	0.9	188.9	4.7	31	0.5	4.3	10.7	638	3.69	4	1.5	4.1	743	0.3	2.9	<0.1	241	3.90
3261457	Drill Core	4.12	0.009	1.4	173.9	6.2	33	0.7	4.0	10.1	553	3.53	5	1.5	4.0	665	0.2	2.2	0.2	233	3.50
3261458	Drill Core	3.92	0.006	1.6	117.5	4.6	27	0.4	4.2	9.4	632	3.44	5	1.5	4.0	719	0.2	2.3	0.1	227	4.08
3261459	Drill Core	4.14	0.010	0.7	123.2	28.5	30	1.0	3.8	9.8	746	3.46	9	1.3	3.7	574	0.2	1.8	0.9	212	5.85
3261460	Rock Pulp	0.10	1.398	269.0	>10000	18.9	99	2.2	24.0	13.1	723	5.12	10	1.3	4.2	423	0.7	2.7	0.4	97	2.10
3261461	Drill Core	4.24	0.006	0.8	60.7	3.1	18	0.2	5.0	11.1	674	3.76	4	1.4	3.0	714	<0.1	0.7	<0.1	202	4.37
3261462	Drill Core	4.42	0.008	5.6	112.6	5.4	22	0.3	5.2	10.2	615	3.73	4	1.1	2.4	694	0.2	0.7	0.1	212	4.54
3261463	Drill Core	4.24	0.008	2.7	139.8	7.7	30	0.4	4.3	12.3	736	4.26	4	1.2	2.4	805	0.2	0.6	0.2	246	5.01
3261464	Drill Core	4.01	0.010	1.2	83.0	4.7	32	0.5	5.5	11.8	801	4.20	2	0.8	1.9	797	<0.1	0.8	0.4	215	4.72
3261465	Drill Core	4.37	0.008	1.7	62.7	3.0	27	0.2	5.7	11.7	788	4.00	4	1.1	2.8	902	<0.1	0.7	0.3	203	4.67
3261466	Drill Core	4.17	0.005	0.9	19.3	2.5	23	<0.1	6.0	11.0	732	3.96	2	0.9	2.2	867	<0.1	0.6	<0.1	194	4.76
3261467	Drill Core	4.48	0.007	1.7	221.5	2.8	32	0.9	7.0	13.4	646	4.01	3	0.9	2.1	842	0.2	0.7	<0.1	191	4.43
3261468	Drill Core	4.22	0.005	0.8	65.6	2.9	21	0.1	6.0	9.7	630	3.80	3	1.1	2.4	882	<0.1	1.0	<0.1	191	4.39
3261469	Drill Core	4.10	0.006	8.3	52.5	4.2	27	0.1	5.2	9.7	640	3.64	3	0.8	2.2	783	0.3	1.0	<0.1	192	4.79
3261470	Rock	1.19	<0.005	0.3	2.0	0.5	4	<0.1	0.6	0.5	43	0.07	<1	2.2	<0.1	122	<0.1	<0.1	<0.1	7	22.16
3261471	Drill Core	4.13	0.010	3.2	114.6	5.3	30	0.3	4.7	9.1	521	3.29	3	1.0	2.6	791	0.3	1.3	0.5	181	4.09
3261472	Drill Core	4.05	0.008	0.9	120.7	4.4	26	0.3	4.9	7.0	494	2.96	5	1.0	2.8	769	0.1	2.7	0.2	165	3.44
3261473	Drill Core	2.84	0.023	2.3	465.7	5.5	34	1.4	6.8	12.5	557	3.18	8	1.0	2.3	697	0.3	3.0	2.3	197	4.08
3261474	Drill Core	3.46	0.031	2.1	364.5	5.6	81	1.3	60.1	25.8	1627	5.01	9	0.5	1.1	623	0.4	2.1	0.9	261	9.80
3261475	Drill Core	2.20	0.008	2.9	133.6	3.8	52	0.3	80.3	37.8	1166	6.09	5	0.6	1.3	477	<0.1	0.6	0.2	247	6.82
3261476	Drill Core	3.67	0.010	1.9	162.9	2.5	45	0.3	73.1	32.1	1198	5.69	6	0.5	1.4	452	0.1	0.9	0.3	242	7.23
3261477	Drill Core	2.81	0.014	2.4	421.2	2.9	41	0.8	60.6	27.4	1173	5.01	8	0.6	0.9	409	0.2	1.3	0.3	207	9.75
3261478	Drill Core	4.50	0.011	4.6	410.3	3.1	44	0.7	69.7	29.4	1199	5.26	10	0.6	1.1	400	0.4	1.3	0.4	226	9.45
3261479	Drill Core	2.15	0.015	14.6	550.5	5.8	47	1.1	68.4	29.9	1164	5.31	6	0.7	1.1	456	0.3	1.6	4.1	242	8.89
3261480	Rock Pulp	0.10	0.609	39.0	5370.2	60.0	304	2.0	15.7	12.9	837	5.13	68	0.8	4.3	233	1.9	3.1	1.0	102	1.56
3261481	Drill Core	2.81	0.013	0.5	70.4	5.3	27	0.1	6.4	7.0	510	2.71	3	1.8	3.4	699	<0.1	1.3	0.3	180	4.94
3261482	Drill Core	1.26	0.007	5.0	418.1	3.5	41	0.7	70.2	29.9	1166	4.84	8	0.6	0.9	577	0.4	1.5	0.3	208	10.37
3261483	Drill Core	2.82	0.019	1.6	181.8	9.9	37	0.9	8.1	13.1	621	3.79	2	1.7	3.6	712	0.2	2.0	1.3	196	4.43

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CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261454	Drill Core	0.154	18.3	5	1.00	314	0.332	9.07	3.830	3.56	1.0	17.7	29	1.1	16.6	12.4	0.6	<1	9	10.3	1.1
3261455	Drill Core	0.136	17.3	3	0.90	564	0.375	9.53	3.975	3.55	0.4	24.5	28	0.9	17.0	14.6	0.7	<1	9	4.2	0.7
3261456	Drill Core	0.148	18.3	3	1.08	1135	0.400	9.35	3.684	2.95	0.3	27.9	29	1.0	17.7	16.3	0.8	<1	9	4.9	0.5
3261457	Drill Core	0.152	17.7	4	1.07	1246	0.363	9.34	3.679	3.79	0.4	25.2	28	0.9	16.6	14.9	0.7	1	9	6.9	0.4
3261458	Drill Core	0.154	17.5	5	1.09	1177	0.380	9.29	3.596	3.50	0.4	26.0	30	1.0	17.5	15.5	0.7	<1	9	6.3	0.3
3261459	Drill Core	0.138	16.5	4	1.17	1110	0.316	8.75	3.372	2.99	2.3	20.2	25	0.8	16.0	10.6	0.4	<1	9	9.1	0.4
3261460	Rock Pulp	0.071	15.9	41	0.93	72	0.303	7.85	2.432	1.85	1.5	28.5	31	2.8	14.7	6.0	0.3	<1	10	14.9	1.3
3261461	Drill Core	0.121	14.9	4	1.19	1269	0.369	9.18	3.538	2.83	0.2	19.5	24	0.7	15.4	8.2	0.4	<1	11	7.5	0.2
3261462	Drill Core	0.133	14.9	5	1.21	1220	0.384	8.98	3.522	2.70	0.4	19.4	24	0.8	16.1	8.2	0.4	<1	10	7.8	0.4
3261463	Drill Core	0.158	16.0	5	1.36	1295	0.428	9.65	3.534	2.85	0.4	19.2	27	1.0	18.4	8.5	0.5	<1	12	8.9	0.4
3261464	Drill Core	0.141	16.5	8	1.28	1086	0.382	9.04	3.532	2.46	0.7	17.0	27	0.7	16.8	8.9	0.5	<1	9	8.6	0.3
3261465	Drill Core	0.137	16.5	8	1.27	1197	0.391	9.71	3.633	2.77	0.4	19.8	28	0.9	17.8	9.6	0.5	<1	9	8.1	0.3
3261466	Drill Core	0.127	14.0	9	1.21	1216	0.371	9.08	3.639	2.31	0.3	18.3	26	0.6	16.2	9.6	0.5	<1	9	7.5	0.2
3261467	Drill Core	0.119	13.9	10	1.13	1207	0.357	8.73	3.483	2.40	0.2	18.6	25	1.1	16.4	9.1	0.6	<1	8	5.6	0.4
3261468	Drill Core	0.117	15.6	8	1.13	1303	0.371	9.07	3.720	2.68	0.3	19.5	29	0.9	17.3	10.4	0.7	1	8	4.2	0.2
3261469	Drill Core	0.133	16.0	6	1.10	1294	0.357	8.89	3.538	2.82	0.4	18.6	29	0.9	17.1	10.4	0.6	<1	8	6.9	0.3
3261470	Rock	0.059	1.0	2	9.79	139	0.004	0.07	0.013	0.03	0.1	0.3	<1	<0.1	1.8	0.1	<0.1	<1	<1	4.4	<0.1
3261471	Drill Core	0.118	17.7	6	1.05	1198	0.332	9.40	3.731	3.32	0.7	18.9	32	0.9	17.2	10.6	0.6	<1	7	6.7	0.5
3261472	Drill Core	0.118	18.0	6	0.90	983	0.313	9.46	3.953	3.37	0.3	19.7	32	0.9	18.3	11.0	0.6	<1	5	6.0	0.5
3261473	Drill Core	0.119	14.6	11	1.02	1259	0.307	9.11	3.406	3.38	1.1	17.3	25	1.2	14.5	8.4	0.5	1	6	8.5	1.0
3261474	Drill Core	0.152	7.8	182	3.80	641	0.326	6.27	1.911	1.76	1.8	15.6	14	1.0	12.7	2.5	0.1	1	27	16.7	1.1
3261475	Drill Core	0.153	7.1	242	4.76	905	0.366	6.45	1.502	1.93	0.8	14.8	14	0.6	12.6	2.2	0.1	<1	30	25.4	0.4
3261476	Drill Core	0.148	7.6	209	4.43	848	0.354	6.69	1.706	1.87	0.7	14.5	14	0.7	12.0	2.7	0.1	2	27	20.7	0.4
3261477	Drill Core	0.072	7.6	211	3.81	317	0.309	6.88	1.783	1.28	0.6	26.3	12	1.2	10.6	1.8	0.1	<1	31	18.0	1.3
3261478	Drill Core	0.080	7.3	203	4.05	344	0.322	7.19	1.701	1.58	1.5	27.5	12	1.3	11.1	2.3	0.1	1	33	17.0	1.4
3261479	Drill Core	0.062	6.8	221	3.88	241	0.299	6.65	2.048	1.31	0.7	25.3	11	1.0	11.1	2.5	0.1	<1	34	16.6	1.5
3261480	Rock Pulp	0.070	15.4	31	0.86	142	0.215	8.24	1.159	2.61	5.3	4.1	29	1.6	9.6	3.8	0.3	1	10	25.1	2.0
3261481	Drill Core	0.096	15.6	12	1.19	272	0.359	8.80	4.226	2.69	0.8	73.1	26	1.1	11.9	11.5	0.6	1	11	5.7	0.7
3261482	Drill Core	0.057	5.6	207	3.68	147	0.275	6.46	1.849	1.59	1.7	21.9	10	1.1	10.4	2.2	<0.1	<1	32	15.8	1.4
3261483	Drill Core	0.100	13.9	11	1.42	191	0.338	8.28	3.890	2.37	0.5	75.6	24	1.1	12.8	11.6	0.6	<1	11	6.0	1.0

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261454	Drill Core	71.9	0.9	0.07	<0.005	<1	0.5	<0.5	<0.01	
3261455	Drill Core	67.1	1.1	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261456	Drill Core	66.7	1.3	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261457	Drill Core	65.8	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261458	Drill Core	72.1	1.2	0.06	<0.005	1	0.5	<0.5	<0.01	
3261459	Drill Core	67.7	1.0	<0.05	<0.005	<1	1.2	<0.5	<0.01	
3261460	Rock Pulp	53.1	0.9	0.11	0.147	2	<0.5	<0.5	0.04	1.35
3261461	Drill Core	63.9	1.0	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261462	Drill Core	64.1	1.0	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261463	Drill Core	67.5	0.9	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261464	Drill Core	61.9	0.8	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261465	Drill Core	66.3	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261466	Drill Core	56.8	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261467	Drill Core	54.8	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261468	Drill Core	54.9	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261469	Drill Core	60.1	0.9	<0.05	0.006	<1	<0.5	<0.5	<0.01	
3261470	Rock	1.0	<0.1	<0.05	<0.005	<1	7.2	<0.5	<0.01	
3261471	Drill Core	64.7	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261472	Drill Core	73.8	0.9	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261473	Drill Core	65.9	0.9	<0.05	<0.005	1	1.6	<0.5	<0.01	
3261474	Drill Core	45.5	0.8	0.10	<0.005	<1	2.1	<0.5	0.01	
3261475	Drill Core	52.6	0.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261476	Drill Core	46.0	0.6	0.06	<0.005	<1	2.6	<0.5	<0.01	
3261477	Drill Core	44.4	0.9	<0.05	<0.005	2	2.2	<0.5	0.01	
3261478	Drill Core	49.9	0.9	0.09	<0.005	2	0.9	<0.5	0.01	
3261479	Drill Core	38.3	0.8	0.08	<0.005	2	2.7	<0.5	0.01	
3261480	Rock Pulp	92.3	0.1	0.20	0.097	3	<0.5	1.3	0.04	
3261481	Drill Core	56.5	2.0	<0.05	<0.005	<1	0.8	<0.5	<0.01	
3261482	Drill Core	44.3	0.7	0.08	<0.005	2	1.4	<0.5	<0.01	
3261483	Drill Core	51.8	2.2	<0.05	<0.005	2	1.0	<0.5	<0.01	

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261484	Drill Core	3.52	0.020	29.7	525.8	7.3	45	1.3	63.0	32.1	1004	5.01	4	0.6	1.1	480	0.4	0.9	0.5	218	7.33
3261485	Core DUP		0.023	38.0	595.0	8.3	44	1.3	66.0	31.5	1061	5.28	4	0.6	1.1	512	0.4	0.9	0.5	231	7.75
3261486	Drill Core	4.40	0.021	5.4	535.9	2.7	49	1.2	68.5	35.8	1094	5.83	5	0.5	0.8	403	0.3	1.1	0.3	233	8.01
3261487	Drill Core	4.28	0.022	2.4	586.3	2.2	45	1.1	67.3	33.2	998	5.25	9	0.6	1.2	386	0.3	1.4	0.2	214	7.50
3261488	Drill Core	4.35	0.035	17.0	797.1	3.2	48	1.7	46.1	32.3	985	5.13	3	0.7	1.4	484	0.5	2.2	0.4	208	7.04
3261489	Drill Core	4.63	0.027	69.6	1016.5	9.4	60	2.7	43.7	29.8	1026	5.10	5	0.7	1.3	611	0.9	3.1	0.8	199	7.92
3261490	Rock	1.25	<0.005	0.2	1.8	0.7	5	<0.1	1.6	<0.2	43	0.09	<1	2.1	0.3	123	<0.1	<0.1	<0.1	7	21.65
3261491	Drill Core	2.48	0.024	1.5	885.5	5.0	60	1.9	59.4	32.1	1290	5.72	8	0.6	1.1	431	0.6	7.5	0.4	200	8.27
3261492	Drill Core	3.83	0.010	2.6	247.1	3.5	25	0.5	9.8	11.3	458	2.26	1	1.1	2.9	672	0.2	1.7	0.3	148	3.58
3261493	Drill Core	1.97	0.014	9.7	449.4	5.4	25	0.9	7.6	10.1	425	2.05	2	1.2	3.1	766	0.4	2.3	1.0	151	3.38
3261494	Drill Core	2.70	0.018	1.9	403.0	5.1	25	1.2	6.8	9.4	439	1.78	1	1.1	3.2	816	0.3	1.6	4.2	143	3.22
3261495	Drill Core	3.51	0.007	1.7	144.0	2.4	22	0.3	4.8	8.1	562	3.45	2	1.4	2.8	867	0.1	1.8	0.1	180	5.03
3261496	Drill Core	1.65	0.010	0.7	151.8	2.4	17	0.3	6.8	11.0	548	3.66	3	1.2	2.4	792	<0.1	0.8	0.2	170	4.95
3261497	Drill Core	2.66	0.026	1.8	857.0	3.9	43	1.6	41.8	30.2	903	4.76	7	0.8	1.5	679	0.3	1.8	0.5	193	6.59
3261498	Drill Core	4.67	0.027	2.5	1224.3	3.7	55	2.2	57.7	35.8	1293	6.43	10	0.7	1.0	503	0.5	4.6	2.2	205	9.62
3261499	Drill Core	1.69	0.041	22.7	1724.6	4.9	72	3.9	72.2	48.9	1159	7.48	35	0.5	0.6	324	1.0	4.8	2.0	210	8.00
3261500	Rock Pulp	0.12	0.693	315.7	5213.5	20.6	84	0.8	37.8	14.9	518	4.92	32	4.7	16.9	320	0.4	3.4	0.6	128	2.57
3261501	Drill Core	2.65	0.012	2.7	315.5	2.4	21	0.7	3.7	8.0	410	2.94	3	1.4	3.3	630	0.2	4.0	0.1	138	3.83
3261502	Drill Core	4.08	0.019	21.1	1012.8	2.9	55	3.3	4.0	10.5	479	3.24	<1	1.3	2.9	593	0.9	1.5	0.3	162	3.96
3261503	Drill Core	2.83	0.013	11.6	850.7	3.3	41	1.6	6.3	11.3	596	3.04	1	1.1	2.7	514	0.8	2.6	0.3	148	6.48
3261504	Drill Core	2.85	0.018	3.7	571.7	4.6	40	1.1	41.8	24.8	1061	4.39	3	0.7	1.2	394	0.2	6.1	0.5	192	8.49
3261505	Drill Core	2.75	0.014	2.1	140.0	5.6	36	0.5	10.0	9.6	591	3.29	1	1.5	3.2	568	0.2	2.0	0.9	183	4.31
3261506	Drill Core	4.09	0.008	3.4	114.5	7.3	32	0.3	6.5	9.9	516	3.29	<1	1.4	3.3	514	<0.1	2.1	0.4	187	3.94
3261507	Drill Core	4.35	0.006	2.6	98.4	5.8	32	0.2	7.9	9.3	565	3.37	2	1.4	3.3	534	0.1	2.0	0.2	184	3.73
3261508	Drill Core	4.22	0.010	2.1	124.9	6.1	32	0.2	6.7	8.1	536	3.14	1	1.2	2.7	467	0.1	4.7	0.5	166	3.65
3261509	Drill Core	4.37	0.008	4.4	129.9	7.0	31	0.5	6.8	9.6	543	3.20	2	1.4	3.2	548	0.3	2.1	0.6	174	3.75
3261510	Rock	1.34	<0.005	0.2	1.5	0.5	4	<0.1	0.7	<0.2	43	0.08	<1	2.5	0.1	124	0.1	<0.1	<0.1	6	22.48
3261511	Drill Core	4.13	0.011	1.7	187.6	11.0	36	0.6	7.4	10.5	580	3.37	1	1.4	3.2	645	0.3	1.8	1.3	168	3.64
3261512	Drill Core	4.30	0.008	1.3	108.3	5.4	30	0.3	6.6	9.5	607	3.21	2	1.4	3.0	615	<0.1	1.2	0.2	177	3.77
3261513	Drill Core	4.32	0.008	3.0	152.7	10.4	43	0.4	7.3	10.5	640	3.22	1	1.2	2.7	538	0.1	0.7	0.4	181	3.65

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261484	Drill Core	0.067	5.4	179	3.51	101	0.288	6.65	2.008	1.58	0.7	21.5	10	1.1	10.8	2.9	0.1	1	30	18.8	1.4
3261485	Core DUP	0.074	5.6	185	3.69	113	0.303	7.08	2.134	1.70	0.7	22.7	10	1.0	11.1	3.0	0.1	<1	30	20.6	1.5
3261486	Drill Core	0.073	4.7	212	3.96	66	0.304	6.67	1.858	1.36	2.2	20.1	9	0.9	11.0	2.3	0.1	<1	35	23.4	1.7
3261487	Drill Core	0.068	4.8	192	3.67	103	0.316	6.92	1.833	1.63	1.0	17.9	9	0.8	10.7	2.8	0.1	<1	32	22.8	1.4
3261488	Drill Core	0.075	6.0	123	2.66	58	0.263	7.08	2.082	2.86	0.6	22.1	12	1.0	10.5	4.8	0.3	<1	21	17.4	2.0
3261489	Drill Core	0.068	6.4	146	2.65	46	0.263	6.76	2.026	2.40	0.6	23.5	12	1.2	10.9	4.9	0.3	<1	23	11.0	2.2
3261490	Rock	0.048	1.5	2	9.29	173	0.007	0.13	0.024	0.05	<0.1	0.2	2	<0.1	2.1	0.3	<0.1	<1	<1	5.0	<0.1
3261491	Drill Core	0.068	5.3	174	3.17	57	0.261	6.45	2.097	1.40	0.6	20.6	11	1.0	11.2	3.6	0.2	<1	29	16.3	2.1
3261492	Drill Core	0.080	11.2	10	0.83	131	0.209	8.92	2.998	5.27	0.4	23.1	22	0.5	11.7	12.4	0.7	<1	5	6.9	0.9
3261493	Drill Core	0.091	12.5	5	0.71	198	0.205	9.02	2.921	4.94	0.4	22.5	22	0.4	10.5	12.3	0.6	1	4	4.6	0.9
3261494	Drill Core	0.091	12.7	6	0.73	427	0.228	9.32	2.973	4.10	0.3	23.3	24	0.5	12.2	13.4	0.7	1	4	5.2	0.6
3261495	Drill Core	0.115	13.1	6	1.12	1025	0.340	9.06	3.438	2.64	0.3	20.1	23	0.8	14.9	10.2	0.6	1	8	7.3	0.4
3261496	Drill Core	0.124	12.6	9	1.10	883	0.312	8.97	3.373	2.33	0.3	19.2	22	0.7	13.9	10.1	0.6	<1	7	6.9	0.5
3261497	Drill Core	0.087	9.2	105	2.38	43	0.262	7.87	2.574	1.66	0.5	23.9	16	0.9	11.6	6.8	0.3	1	19	15.8	1.8
3261498	Drill Core	0.074	6.7	175	3.32	49	0.280	6.78	1.288	1.03	1.1	23.7	11	1.2	10.6	2.7	0.1	<1	29	17.9	2.5
3261499	Drill Core	0.069	4.8	179	3.46	31	0.279	6.30	0.801	0.95	2.0	21.1	9	1.1	10.1	1.5	<0.1	<1	30	23.0	3.4
3261500	Rock Pulp	0.087	32.7	61	1.49	710	0.442	7.45	1.967	3.25	3.7	58.7	65	3.0	22.1	15.5	1.0	3	13	29.7	0.6
3261501	Drill Core	0.108	12.7	3	0.79	507	0.285	8.58	3.070	3.62	0.3	18.8	23	0.9	15.2	12.3	0.8	<1	5	4.0	0.7
3261502	Drill Core	0.132	13.4	3	0.95	293	0.293	8.67	3.253	3.60	0.3	18.6	24	1.3	16.0	10.9	0.7	<1	6	4.2	0.9
3261503	Drill Core	0.104	12.2	8	0.85	218	0.238	8.50	3.656	2.99	0.9	17.2	22	1.1	14.7	9.8	0.5	1	6	6.3	1.3
3261504	Drill Core	0.069	6.8	164	3.17	81	0.288	6.65	2.223	2.15	1.0	24.4	11	0.8	10.1	2.5	0.1	1	27	16.6	1.5
3261505	Drill Core	0.097	15.3	16	1.28	352	0.329	8.64	4.166	2.55	0.9	64.3	25	0.9	11.9	10.8	0.6	<1	11	7.2	0.9
3261506	Drill Core	0.098	15.0	10	1.20	520	0.346	8.58	4.249	2.67	1.1	63.5	25	0.6	12.3	11.2	0.6	<1	11	6.7	0.8
3261507	Drill Core	0.106	15.3	11	1.22	203	0.349	8.70	4.332	2.86	1.1	63.1	25	0.6	12.2	12.2	0.6	1	11	7.3	0.9
3261508	Drill Core	0.092	13.4	9	1.18	149	0.277	8.34	4.416	2.66	1.1	49.3	23	0.5	10.1	9.6	0.5	1	10	9.3	1.0
3261509	Drill Core	0.101	15.2	10	1.12	339	0.319	8.44	4.175	2.84	1.9	59.5	24	0.6	11.9	11.0	0.6	<1	10	8.2	0.8
3261510	Rock	0.052	1.3	2	9.50	148	0.004	0.07	0.013	0.03	<0.1	0.3	<1	<0.1	1.9	0.1	<0.1	<1	<1	4.0	<0.1
3261511	Drill Core	0.096	15.0	12	1.12	286	0.319	8.63	4.104	3.16	1.4	58.8	24	0.8	11.7	11.7	0.6	1	10	7.1	0.9
3261512	Drill Core	0.100	14.4	9	1.16	302	0.315	8.47	4.123	3.13	1.8	57.4	23	0.6	11.3	11.4	0.6	<1	10	6.5	0.8
3261513	Drill Core	0.097	13.0	9	1.15	123	0.323	8.25	3.927	3.38	2.6	51.1	21	0.6	10.9	11.2	0.6	<1	11	8.0	1.3

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261484	Drill Core	44.2	0.8	0.10	0.016	2	2.9	<0.5	0.01	
3261485	Core DUP	46.6	0.9	0.10	0.017	2	2.1	<0.5	0.01	
3261486	Drill Core	40.5	0.7	0.06	<0.005	2	1.6	<0.5	0.01	
3261487	Drill Core	44.3	0.7	0.06	<0.005	1	1.4	<0.5	0.01	
3261488	Drill Core	56.5	0.8	0.11	0.009	4	0.8	<0.5	0.02	
3261489	Drill Core	47.2	0.8	0.09	0.066	3	2.3	<0.5	0.02	
3261490	Rock	2.3	<0.1	<0.05	<0.005	<1	6.0	<0.5	<0.01	
3261491	Drill Core	41.2	0.6	0.10	<0.005	4	2.0	<0.5	0.02	
3261492	Drill Core	86.0	1.0	<0.05	<0.005	<1	0.6	<0.5	0.01	
3261493	Drill Core	77.6	0.9	<0.05	0.008	1	0.7	<0.5	0.01	
3261494	Drill Core	52.5	0.9	0.07	<0.005	2	2.6	<0.5	<0.01	
3261495	Drill Core	52.8	1.1	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261496	Drill Core	43.8	1.0	<0.05	<0.005	1	0.6	<0.5	<0.01	
3261497	Drill Core	37.2	0.8	0.08	0.006	3	1.3	<0.5	<0.01	
3261498	Drill Core	32.9	0.8	0.11	0.007	4	2.4	<0.5	0.02	
3261499	Drill Core	33.2	0.7	0.19	0.009	6	2.7	<0.5	0.03	
3261500	Rock Pulp	169.5	1.9	<0.05	0.006	4	0.7	0.9	0.04	
3261501	Drill Core	66.5	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261502	Drill Core	69.8	1.0	0.06	0.016	<1	0.5	<0.5	0.03	
3261503	Drill Core	60.0	0.8	0.06	0.012	2	1.1	<0.5	0.01	
3261504	Drill Core	56.1	0.9	0.10	<0.005	2	2.1	<0.5	<0.01	
3261505	Drill Core	54.4	2.0	<0.05	<0.005	1	0.7	<0.5	<0.01	
3261506	Drill Core	53.1	1.9	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261507	Drill Core	57.5	1.9	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261508	Drill Core	70.3	1.4	<0.05	<0.005	<1	0.6	<0.5	0.04	
3261509	Drill Core	57.4	1.8	<0.05	<0.005	<1	0.8	<0.5	<0.01	
3261510	Rock	1.2	<0.1	<0.05	<0.005	<1	5.1	<0.5	<0.01	
3261511	Drill Core	69.9	1.6	<0.05	<0.005	<1	1.1	<0.5	0.02	
3261512	Drill Core	66.5	1.7	<0.05	<0.005	<1	0.6	<0.5	0.02	
3261513	Drill Core	72.8	1.5	0.05	<0.005	<1	0.6	<0.5	<0.01	

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261514	Drill Core	1.70	0.007	2.8	95.5	9.7	36	0.3	6.8	9.3	621	3.01	7	1.2	2.8	518	0.1	0.7	0.2	172	3.39
3261515	Drill Core	2.46	0.007	1.8	132.3	32.2	41	0.8	7.4	10.8	678	3.12	5	1.3	2.8	562	0.2	1.1	1.4	176	3.53
3261516	Drill Core	4.23	0.010	2.0	100.9	13.9	99	0.6	6.6	9.6	733	3.14	24	1.2	2.7	484	0.5	1.7	1.0	167	3.92
3261517	Drill Core	4.02	0.008	2.6	196.9	11.4	71	0.7	7.3	9.9	703	3.25	18	1.2	2.9	541	0.4	1.7	0.4	169	3.67
3261518	Drill Core	4.33	0.008	1.6	82.6	17.5	54	0.3	7.4	10.4	601	3.21	40	1.3	2.9	545	0.3	2.5	0.3	179	3.62
3261519	Drill Core	3.28	0.007	1.7	97.0	16.3	41	0.3	7.3	10.1	636	3.15	8	1.3	3.0	542	0.2	4.7	0.3	168	3.62
3261520	Rock Pulp	0.10	0.617	36.4	5205.5	56.9	297	2.5	15.5	13.3	851	5.00	64	1.1	4.1	214	1.9	2.7	0.9	98	1.41
3261521	Drill Core	2.60	0.010	5.6	82.9	11.9	37	0.3	6.9	9.6	696	3.06	70	1.1	2.7	456	<0.1	3.7	0.5	150	4.00
3261522	Drill Core	3.83	0.010	1.9	53.0	7.5	136	0.3	7.0	9.0	979	3.25	18	1.1	2.6	327	0.8	5.2	1.2	148	4.21
3261523	Drill Core	3.93	0.008	1.9	86.4	5.5	110	0.4	6.9	9.2	756	3.26	12	1.4	3.2	550	0.5	3.1	0.2	180	3.74
3261524	Drill Core	2.67	0.007	1.7	105.2	4.8	30	0.4	7.1	9.3	609	3.23	2	1.4	3.0	632	<0.1	0.9	0.2	172	3.89
3261525	Core DUP		0.008	1.8	101.2	4.5	29	0.3	7.4	9.7	603	3.10	<1	1.3	2.7	653	<0.1	0.9	0.2	170	3.76
3261526	Drill Core	4.31	0.008	2.2	49.1	6.2	29	0.3	6.9	9.7	588	3.29	4	1.3	2.8	638	<0.1	1.7	0.3	177	3.82
3261527	Drill Core	4.34	0.015	4.0	124.5	6.8	36	0.5	7.3	12.1	551	3.45	5	1.2	2.6	517	0.2	2.5	0.7	169	3.72
3261528	Drill Core	4.44	0.009	3.6	109.8	8.1	35	0.4	7.7	10.8	523	3.21	3	1.2	2.9	473	0.1	1.7	0.6	166	3.66
3261529	Drill Core	4.35	0.007	1.4	154.6	5.2	33	0.5	7.9	10.6	597	3.31	3	1.3	3.0	584	0.1	1.1	0.5	179	3.59
3261530	Rock	1.65	0.005	<0.1	1.1	0.4	2	<0.1	2.0	0.3	181	0.15	<1	<0.1	<0.1	83	<0.1	<0.1	<0.1	3	37.06
3261531	Drill Core	4.17	0.008	2.0	98.8	4.0	32	0.3	7.7	11.5	625	3.30	3	1.4	3.3	645	0.1	1.5	0.2	181	3.82
3261532	Drill Core	4.11	0.012	9.7	101.0	4.3	30	0.3	8.0	11.0	582	3.36	3	1.4	3.1	599	<0.1	1.5	0.3	185	3.79
3261533	Drill Core	4.37	0.009	4.2	109.9	7.9	59	0.4	7.2	10.7	662	3.42	2	1.4	3.3	574	0.2	1.3	0.3	188	4.46
3261534	Drill Core	3.81	0.012	4.6	103.5	5.9	44	0.3	8.1	10.9	631	3.36	2	1.3	3.1	502	0.1	1.5	0.3	179	3.65
3261535	Drill Core	1.95	0.015	2.3	101.6	5.6	44	0.3	8.1	10.9	556	3.34	2	1.3	3.2	445	<0.1	2.3	0.5	172	3.95
3261536	Drill Core	3.55	0.007	1.8	74.3	4.0	37	0.1	8.7	10.1	535	3.25	4	1.2	3.0	1221	<0.1	1.9	0.1	179	4.18
3261537	Drill Core	3.50	0.009	8.1	411.6	4.9	60	0.6	76.3	29.2	1325	6.31	23	0.6	1.0	541	0.8	3.8	0.4	198	11.48
3261538	Drill Core	2.78	0.009	3.4	117.5	4.1	33	0.2	8.1	9.6	610	3.49	6	1.5	3.2	1082	<0.1	1.6	0.2	182	4.62
3261539	Drill Core	3.91	0.008	2.7	106.2	4.1	41	0.3	7.5	8.5	551	3.52	2	1.4	3.1	557	<0.1	0.9	0.3	191	3.86
3261540	Rock Pulp	0.13	0.699	323.4	5366.1	21.1	96	0.8	42.4	16.5	535	5.02	29	4.8	18.3	327	0.6	3.3	0.7	125	2.63
3261541	Drill Core	4.07	0.008	2.7	112.3	4.8	31	0.3	8.0	9.7	552	3.55	2	1.4	3.2	598	<0.1	0.9	0.4	197	4.15
3261542	Drill Core	4.22	0.007	3.0	89.7	3.6	31	0.2	7.5	7.9	579	3.16	1	1.5	3.4	646	<0.1	1.7	0.2	182	3.90
3261543	Drill Core	3.99	<0.005	3.1	92.9	4.1	26	0.2	6.9	6.8	535	3.17	2	1.4	3.1	644	<0.1	1.7	0.2	175	4.45

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Project: Mt. Milligan
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CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261514	Drill Core	0.093	13.4	9	1.13	101	0.303	8.40	4.041	3.29	2.3	48.8	22	0.6	10.9	10.9	0.6	1	9	9.6	1.3
3261515	Drill Core	0.099	14.2	10	1.21	92	0.323	8.57	4.019	3.46	3.1	52.6	24	0.7	11.8	11.8	0.6	<1	10	7.9	1.4
3261516	Drill Core	0.094	12.5	10	1.06	105	0.293	8.32	3.662	3.43	3.9	45.9	22	0.6	10.5	10.6	0.6	<1	9	12.4	1.4
3261517	Drill Core	0.095	13.3	10	1.11	101	0.282	8.43	3.855	3.44	2.2	48.6	23	0.5	10.6	10.1	0.5	<1	10	12.0	1.3
3261518	Drill Core	0.096	14.1	9	1.15	105	0.281	8.49	3.979	3.22	1.6	48.5	23	0.6	10.2	10.0	0.6	<1	10	11.6	1.4
3261519	Drill Core	0.094	14.3	9	1.12	104	0.303	8.21	4.119	3.01	1.0	48.9	24	0.7	11.0	10.3	0.5	1	10	12.4	1.5
3261520	Rock Pulp	0.078	14.6	26	0.85	88	0.213	7.68	1.138	2.61	5.6	4.0	26	1.6	9.5	3.6	0.2	<1	10	24.3	2.0
3261521	Drill Core	0.093	14.1	9	0.99	144	0.201	7.96	4.007	2.87	2.3	40.8	23	0.5	8.9	6.6	0.4	<1	10	7.4	1.2
3261522	Drill Core	0.085	12.9	8	0.82	216	0.194	7.84	3.629	2.64	2.4	42.1	21	0.6	7.6	6.3	0.3	<1	8	7.4	1.3
3261523	Drill Core	0.100	16.0	9	1.15	193	0.319	8.66	3.878	3.25	3.6	53.9	25	0.8	10.8	10.9	0.6	<1	11	12.3	1.0
3261524	Drill Core	0.096	14.2	9	1.11	101	0.337	8.69	4.283	3.49	2.5	56.8	22	0.6	12.0	11.4	0.6	<1	10	6.8	1.5
3261525	Core DUP	0.092	14.1	10	1.08	101	0.336	8.56	4.161	2.96	2.6	56.4	23	0.7	11.7	11.4	0.6	1	10	6.9	1.4
3261526	Drill Core	0.098	14.1	11	1.14	110	0.330	8.37	4.039	3.14	2.8	52.8	23	0.7	12.0	11.1	0.6	<1	11	8.3	1.5
3261527	Drill Core	0.105	14.4	11	1.17	85	0.296	8.44	4.042	3.26	1.8	47.6	23	0.7	11.0	9.0	0.5	<1	11	11.0	1.8
3261528	Drill Core	0.103	13.9	11	1.14	116	0.291	8.36	4.168	3.12	1.5	48.0	24	0.7	11.3	9.6	0.5	<1	10	10.8	1.5
3261529	Drill Core	0.099	14.3	11	1.23	113	0.346	8.70	4.298	3.37	1.0	55.1	25	0.7	12.0	11.3	0.6	<1	10	7.5	1.4
3261530	Rock	0.007	1.4	1	1.67	14	0.005	0.07	0.028	0.01	<0.1	1.3	1	<0.1	2.3	0.1	<0.1	<1	<1	0.6	<0.1
3261531	Drill Core	0.106	15.2	10	1.16	221	0.361	8.73	4.503	3.02	0.9	62.4	27	0.8	13.3	12.3	0.7	1	11	7.2	0.9
3261532	Drill Core	0.100	15.6	10	1.22	249	0.353	8.67	4.481	3.03	0.8	56.9	25	0.7	12.4	11.4	0.6	<1	11	7.8	0.9
3261533	Drill Core	0.108	16.2	10	1.18	966	0.348	9.04	4.638	3.17	1.8	58.1	25	0.6	12.6	11.6	0.6	<1	10	11.4	1.0
3261534	Drill Core	0.097	15.2	10	1.18	177	0.329	8.70	4.555	2.88	1.1	56.7	24	0.7	11.9	10.8	0.6	1	11	8.8	0.9
3261535	Drill Core	0.103	15.5	9	1.13	195	0.287	8.82	4.841	2.68	1.1	54.7	25	0.6	11.6	10.1	0.5	<1	10	11.3	1.0
3261536	Drill Core	0.099	14.4	11	1.21	260	0.310	8.38	4.123	2.64	1.0	57.5	24	0.6	11.5	10.6	0.6	1	10	6.9	0.9
3261537	Drill Core	0.087	5.5	192	3.64	274	0.341	7.44	1.397	1.05	1.8	28.7	10	1.1	11.4	2.9	0.1	1	31	24.5	2.0
3261538	Drill Core	0.106	14.7	10	1.22	179	0.343	8.57	4.226	2.80	1.1	62.5	24	0.7	12.7	11.4	0.6	1	11	6.1	0.9
3261539	Drill Core	0.107	14.5	11	1.27	150	0.351	8.86	4.551	2.94	1.5	63.8	24	0.7	12.7	11.5	0.6	<1	11	10.1	0.9
3261540	Rock Pulp	0.097	32.5	64	1.51	863	0.476	7.56	1.957	3.04	4.5	63.9	62	3.1	23.3	15.2	1.1	2	13	30.3	0.5
3261541	Drill Core	0.102	14.6	10	1.27	257	0.373	8.84	4.326	2.85	1.0	67.0	24	0.7	12.8	12.4	0.7	1	12	10.3	0.7
3261542	Drill Core	0.103	15.0	10	1.18	343	0.369	8.55	4.235	3.01	0.9	76.9	25	0.7	12.2	12.3	0.7	1	11	6.7	0.6
3261543	Drill Core	0.095	14.1	9	1.16	230	0.338	8.39	4.335	2.50	0.9	70.7	24	0.7	11.9	11.3	0.6	<1	10	6.7	0.8

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261514	Drill Core	69.9	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261515	Drill Core	76.7	1.5	<0.05	<0.005	<1	0.9	<0.5	<0.01	
3261516	Drill Core	74.5	1.3	<0.05	<0.005	<1	0.9	<0.5	0.02	
3261517	Drill Core	72.2	1.4	<0.05	<0.005	<1	0.7	<0.5	0.02	
3261518	Drill Core	66.3	1.3	<0.05	<0.005	<1	<0.5	<0.5	0.01	
3261519	Drill Core	66.6	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261520	Rock Pulp	85.3	0.1	0.13	0.102	2	<0.5	1.0	0.04	
3261521	Drill Core	68.7	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261522	Drill Core	74.4	1.1	<0.05	<0.005	<1	1.0	<0.5	0.02	
3261523	Drill Core	76.8	1.5	<0.05	<0.005	<1	<0.5	<0.5	0.02	
3261524	Drill Core	72.2	1.6	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261525	Core DUP	67.0	1.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261526	Drill Core	71.8	1.5	<0.05	<0.005	<1	0.5	<0.5	0.01	
3261527	Drill Core	78.1	1.3	<0.05	<0.005	<1	0.7	<0.5	0.01	
3261528	Drill Core	75.9	1.4	<0.05	<0.005	<1	0.7	<0.5	<0.01	
3261529	Drill Core	72.7	1.6	0.06	<0.005	<1	<0.5	<0.5	<0.01	
3261530	Rock	0.2	<0.1	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261531	Drill Core	63.9	1.9	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261532	Drill Core	58.7	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261533	Drill Core	67.2	1.7	<0.05	<0.005	<1	0.6	<0.5	0.01	
3261534	Drill Core	70.6	1.6	0.07	<0.005	<1	<0.5	<0.5	<0.01	
3261535	Drill Core	58.3	1.5	0.05	<0.005	<1	0.6	<0.5	<0.01	
3261536	Drill Core	56.0	1.7	0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261537	Drill Core	31.4	0.9	0.13	<0.005	<1	1.1	<0.5	<0.01	
3261538	Drill Core	65.4	1.7	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261539	Drill Core	65.8	1.9	<0.05	<0.005	<1	0.6	<0.5	<0.01	
3261540	Rock Pulp	177.7	2.0	0.10	<0.005	2	0.5	1.0	0.04	
3261541	Drill Core	61.0	2.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261542	Drill Core	62.7	2.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261543	Drill Core	49.7	1.9	<0.05	<0.005	<1	0.6	<0.5	<0.01	

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

CERTIFICATE OF ANALYSIS VAN19001979.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261544	Drill Core	3.55	0.006	3.3	118.8	3.5	27	0.2	9.3	10.2	588	3.50	2	1.4	3.1	629	<0.1	1.3	0.3	186	5.07
3261545	Drill Core	1.98	0.006	1.0	498.6	2.8	54	0.6	82.3	44.7	1655	6.49	10	0.6	0.6	272	0.2	2.2	0.4	206	11.94

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CERTIFICATE OF ANALYSIS VAN19001979.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261544	Drill Core	0.090	14.4	13	1.21	233	0.336	8.54	4.118	2.24	0.9	71.7	24	0.7	12.1	11.0	0.6	<1	11	5.8	0.8
3261545	Drill Core	0.077	4.4	234	4.20	56	0.344	6.80	0.865	0.90	1.3	30.7	8	0.8	10.4	1.4	<0.1	<1	35	22.8	2.0

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CERTIFICATE OF ANALYSIS VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
3261544	Drill Core	44.7	2.1	0.07	<0.005	<1	0.6	<0.5	<0.01	
3261545	Drill Core	32.9	0.9	0.08	<0.005	1	1.3	<0.5	<0.01	

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QUALITY CONTROL REPORT VAN19001979.1

	Method	WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
Pulp Duplicates																					
3261372	Drill Core	2.47	0.007	1.8	44.4	6.3	38	0.1	7.1	9.8	577	3.03	5	1.1	3.0	549	0.2	2.9	0.1	172	4.17
REP 3261372	QC			2.2	45.4	6.3	41	0.1	7.4	10.6	591	3.08	4	1.2	3.0	565	0.1	2.9	0.2	174	4.23
3261385	Drill Core	4.10	<0.005	1.6	77.3	4.1	31	0.1	7.0	11.4	601	3.60	56	1.4	3.2	701	<0.1	1.2	0.1	192	3.81
REP 3261385	QC																				
3261407	Drill Core	4.16	0.015	4.2	631.5	2.4	32	1.2	2.8	9.3	588	3.57	3	1.0	2.9	766	0.3	5.0	<0.1	186	4.49
REP 3261407	QC			3.7	603.7	2.4	32	1.1	3.1	9.0	563	3.50	3	0.9	2.4	739	0.4	4.8	<0.1	184	4.36
3261409	Drill Core	4.29	0.008	2.0	159.4	2.4	17	0.3	2.8	7.4	545	3.02	3	1.0	2.8	781	0.1	3.5	<0.1	167	4.25
REP 3261409	QC		0.008																		
3261420	Rock Pulp	0.12	0.676	312.5	5158.2	20.2	85	0.8	40.1	14.6	549	4.93	30	4.7	17.9	332	0.4	3.6	0.6	123	2.56
REP 3261420	QC																				
3261428	Drill Core	4.30	0.011	1.1	659.1	2.6	35	1.8	7.1	10.3	429	2.95	1	0.9	2.5	590	0.4	1.5	0.1	194	3.14
REP 3261428	QC		0.012																		
3261455	Drill Core	2.30	0.011	0.8	162.1	5.6	27	0.6	3.8	9.5	582	3.37	6	1.5	4.3	672	0.1	3.6	0.1	223	3.78
REP 3261455	QC																				
3261460	Rock Pulp	0.10	1.398	269.0	>10000	18.9	99	2.2	24.0	13.1	723	5.12	10	1.3	4.2	423	0.7	2.7	0.4	97	2.10
REP 3261460	QC																				
REP 3261476	QC			2.1	180.7	2.6	47	0.4	75.4	33.9	1233	5.94	7	0.5	1.5	475	0.1	1.0	0.4	249	7.49
3261484	Drill Core	3.52	0.020	29.7	525.8	7.3	45	1.3	63.0	32.1	1004	5.01	4	0.6	1.1	480	0.4	0.9	0.5	218	7.33
REP 3261484	QC		0.021																		
3261490	Rock	1.25	<0.005	0.2	1.8	0.7	5	<0.1	1.6	<0.2	43	0.09	<1	2.1	0.3	123	<0.1	<0.1	<0.1	7	21.65
REP 3261490	QC																				
3261502	Drill Core	4.08	0.019	21.1	1012.8	2.9	55	3.3	4.0	10.5	479	3.24	<1	1.3	2.9	593	0.9	1.5	0.3	162	3.96
REP 3261502	QC		0.022																		
3261512	Drill Core	4.30	0.008	1.3	108.3	5.4	30	0.3	6.6	9.5	607	3.21	2	1.4	3.0	615	<0.1	1.2	0.2	177	3.77
REP 3261512	QC			1.3	107.0	5.3	31	0.3	6.9	9.1	632	3.21	1	1.3	2.9	615	0.2	1.2	0.2	178	3.78
3261524	Drill Core	2.67	0.007	1.7	105.2	4.8	30	0.4	7.1	9.3	609	3.23	2	1.4	3.0	632	<0.1	0.9	0.2	172	3.89
REP 3261524	QC																				
3261541	Drill Core	4.07	0.008	2.7	112.3	4.8	31	0.3	8.0	9.7	552	3.55	2	1.4	3.2	598	<0.1	0.9	0.4	197	4.15

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Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
Pulp Duplicates																					
3261372	Drill Core	0.096	11.4	10	0.81	323	0.284	8.30	5.404	2.62	1.6	53.0	22	0.7	10.0	10.3	0.6	<1	10	6.8	1.0
REP 3261372	QC	0.092	12.1	10	0.83	344	0.278	8.46	5.452	2.66	1.7	54.6	22	0.6	10.6	10.8	0.6	1	10	6.2	1.0
3261385	Drill Core	0.118	15.4	9	1.27	230	0.358	9.24	4.597	2.85	2.7	63.1	26	0.7	12.8	12.4	0.6	1	12	10.0	1.0
REP 3261385	QC																				
3261407	Drill Core	0.141	14.5	2	0.98	1125	0.330	9.26	3.784	2.93	0.2	21.3	27	0.6	15.2	14.4	0.7	1	5	4.2	0.5
REP 3261407	QC	0.134	12.3	2	0.90	1066	0.323	8.69	3.809	2.84	0.3	20.0	23	0.8	14.3	14.1	0.7	<1	4	4.1	0.5
3261409	Drill Core	0.124	11.5	2	0.80	1186	0.319	8.42	4.072	3.12	0.4	22.1	22	0.6	13.9	15.5	0.8	<1	4	3.1	0.4
REP 3261409	QC																				
3261420	Rock Pulp	0.096	33.4	62	1.48	983	0.467	7.41	1.925	3.06	4.3	59.5	59	3.1	22.5	14.6	1.1	3	13	28.4	0.5
REP 3261420	QC																				
3261428	Drill Core	0.105	12.3	12	0.95	975	0.319	8.53	2.647	4.17	0.2	17.8	20	1.3	10.8	9.4	0.6	<1	6	3.6	0.6
REP 3261428	QC																				
3261455	Drill Core	0.136	17.3	3	0.90	564	0.375	9.53	3.975	3.55	0.4	24.5	28	0.9	17.0	14.6	0.7	<1	9	4.2	0.7
REP 3261455	QC																				
3261460	Rock Pulp	0.071	15.9	41	0.93	72	0.303	7.85	2.432	1.85	1.5	28.5	31	2.8	14.7	6.0	0.3	<1	10	14.9	1.3
REP 3261460	QC																				
REP 3261476	QC	0.159	8.0	225	4.60	883	0.381	6.99	1.743	1.99	0.7	14.3	15	0.8	12.4	2.7	0.1	<1	30	23.8	0.4
3261484	Drill Core	0.067	5.4	179	3.51	101	0.288	6.65	2.008	1.58	0.7	21.5	10	1.1	10.8	2.9	0.1	1	30	18.8	1.4
REP 3261484	QC																				
3261490	Rock	0.048	1.5	2	9.29	173	0.007	0.13	0.024	0.05	<0.1	0.2	2	<0.1	2.1	0.3	<0.1	<1	<1	5.0	<0.1
REP 3261490	QC																				
3261502	Drill Core	0.132	13.4	3	0.95	293	0.293	8.67	3.253	3.60	0.3	18.6	24	1.3	16.0	10.9	0.7	<1	6	4.2	0.9
REP 3261502	QC																				
3261512	Drill Core	0.100	14.4	9	1.16	302	0.315	8.47	4.123	3.13	1.8	57.4	23	0.6	11.3	11.4	0.6	<1	10	6.5	0.8
REP 3261512	QC	0.097	14.0	10	1.17	254	0.317	8.55	4.143	3.16	1.6	56.5	23	0.6	11.3	11.4	0.6	1	10	5.9	0.8
3261524	Drill Core	0.096	14.2	9	1.11	101	0.337	8.69	4.283	3.49	2.5	56.8	22	0.6	12.0	11.4	0.6	<1	10	6.8	1.5
REP 3261524	QC																				
3261541	Drill Core	0.102	14.6	10	1.27	257	0.373	8.84	4.326	2.85	1.0	67.0	24	0.7	12.8	12.4	0.7	1	12	10.3	0.7

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QUALITY CONTROL REPORT VAN19001979.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402	MA404
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg	Cu
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01	0.01
Pulp Duplicates										
3261372	Drill Core	45.0	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
REP 3261372	QC	46.5	1.4	<0.05	<0.005	<1	<0.5	<0.5		
3261385	Drill Core	53.6	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
REP 3261385	QC								<0.01	
3261407	Drill Core	47.2	0.9	<0.05	<0.005	<1	0.7	<0.5	<0.01	
REP 3261407	QC	43.0	0.9	0.07	0.005	<1	<0.5	<0.5		
3261409	Drill Core	39.8	1.1	0.06	<0.005	<1	<0.5	<0.5	<0.01	
REP 3261409	QC									
3261420	Rock Pulp	162.6	2.0	0.10	0.006	1	1.0	0.9	0.04	
REP 3261420	QC								0.04	
3261428	Drill Core	67.6	0.8	<0.05	<0.005	<1	<0.5	<0.5	0.01	
REP 3261428	QC									
3261455	Drill Core	67.1	1.1	<0.05	<0.005	<1	0.6	<0.5	<0.01	
REP 3261455	QC								<0.01	
3261460	Rock Pulp	53.1	0.9	0.11	0.147	2	<0.5	<0.5	0.04	1.35
REP 3261460	QC									1.35
REP 3261476	QC	48.6	0.6	<0.05	<0.005	<1	1.6	<0.5		
3261484	Drill Core	44.2	0.8	0.10	0.016	2	2.9	<0.5	0.01	
REP 3261484	QC									
3261490	Rock	2.3	<0.1	<0.05	<0.005	<1	6.0	<0.5	<0.01	
REP 3261490	QC								<0.01	
3261502	Drill Core	69.8	1.0	0.06	0.016	<1	0.5	<0.5	0.03	
REP 3261502	QC									
3261512	Drill Core	66.5	1.7	<0.05	<0.005	<1	0.6	<0.5	0.02	
REP 3261512	QC	66.5	1.5	<0.05	<0.005	<1	<0.5	<0.5		
3261524	Drill Core	72.2	1.6	<0.05	<0.005	<1	0.7	<0.5	<0.01	
REP 3261524	QC								<0.01	
3261541	Drill Core	61.0	2.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
REP 3261541	QC			2.5	104.6	4.5	32	0.3	7.9	8.7	570	3.49	2	1.4	3.0	576	<0.1	0.8	0.4	191	4.06
Core Reject Duplicates																					
3261374	Drill Core	2.13	<0.005	1.3	70.7	4.5	28	0.1	7.6	10.8	537	3.20	6	1.4	3.3	867	<0.1	1.4	0.2	187	4.04
DUP 3261374	QC		<0.005	1.2	69.8	4.8	31	0.1	8.2	9.9	579	3.27	9	1.5	3.4	875	<0.1	1.5	0.2	185	4.20
3261408	Drill Core	4.35	0.010	8.4	679.9	2.5	23	1.1	2.6	8.7	568	3.38	4	1.0	2.6	808	0.4	7.2	<0.1	180	4.78
DUP 3261408	QC		0.010	8.1	622.5	2.5	25	1.1	2.7	8.4	561	3.29	4	0.9	2.4	780	0.2	7.2	<0.1	176	4.63
3261442	Drill Core	4.10	0.013	2.6	678.6	3.0	52	2.2	2.6	6.6	380	2.15	7	0.9	3.7	478	1.1	3.0	0.1	177	2.41
DUP 3261442	QC		0.012	3.3	701.1	3.1	50	2.4	2.5	6.8	366	2.14	7	0.9	3.7	491	1.0	2.7	0.2	178	2.41
3261476	Drill Core	3.67	0.010	1.9	162.9	2.5	45	0.3	73.1	32.1	1198	5.69	6	0.5	1.4	452	0.1	0.9	0.3	242	7.23
DUP 3261476	QC		0.009	2.3	175.6	2.7	49	0.4	78.0	35.3	1246	5.93	6	0.5	1.6	484	0.1	1.1	0.5	252	7.48
3261544	Drill Core	3.55	0.006	3.3	118.8	3.5	27	0.2	9.3	10.2	588	3.50	2	1.4	3.1	629	<0.1	1.3	0.3	186	5.07
DUP 3261544	QC		0.006	4.1	127.1	4.0	28	0.3	9.9	10.6	600	3.60	2	1.4	3.2	675	<0.1	1.5	0.3	189	5.23
Reference Materials																					
STD CCU-1E	Standard																				
STD OREAS134B	Standard																				
STD OREAS25A-4A	Standard			2.1	32.9	24.8	45	<0.1	46.1	7.8	522	6.90	10	2.7	15.2	49	<0.1	0.5	0.4	157	0.30
STD OREAS25A-4A	Standard			2.8	31.8	24.2	47	<0.1	45.0	7.8	490	6.43	10	2.7	15.9	44	<0.1	0.7	0.3	153	0.27
STD OREAS25A-4A	Standard			2.1	34.9	23.9	44	<0.1	43.4	7.2	469	6.33	9	2.6	15.5	45	<0.1	0.4	0.4	151	0.29
STD OREAS25A-4A	Standard			2.1	36.1	25.4	50	<0.1	47.3	7.8	486	6.40	11	2.8	16.8	48	<0.1	0.6	0.4	148	0.28
STD OREAS25A-4A	Standard			2.3	36.5	24.9	50	<0.1	48.5	8.0	475	6.48	11	2.7	15.3	49	<0.1	0.5	0.4	152	0.29
STD OREAS25A-4A	Standard			2.5	33.3	24.2	45	<0.1	45.6	7.8	478	6.32	10	2.7	15.6	46	<0.1	0.5	0.4	148	0.29
STD OREAS25A-4A	Standard			2.5	32.8	25.9	50	<0.1	45.6	7.6	482	6.59	9	2.7	15.9	47	<0.1	0.7	0.4	163	0.29
STD OREAS25A-4A	Standard			2.3	35.6	23.5	45	<0.1	48.7	7.7	467	6.52	14	2.6	15.5	44	<0.1	0.7	0.3	155	0.29
STD OREAS45H	Standard			1.7	791.7	12.3	40	0.1	446.4	89.9	384	20.18	18	1.7	7.9	30	<0.1	0.5	0.2	277	0.14
STD OREAS45E	Standard			2.5	752.9	18.8	48	0.3	449.1	59.3	568	24.47	17	2.5	13.9	17	<0.1	0.9	0.3	305	0.06
STD OREAS45E	Standard			2.2	751.0	18.2	49	0.3	464.5	56.8	541	24.37	16	2.4	13.6	17	<0.1	0.6	0.3	320	0.06
STD OREAS45E	Standard			1.9	764.6	18.2	49	0.3	458.5	56.2	546	23.48	17	2.4	13.1	16	<0.1	0.7	0.3	318	0.06
STD OREAS45H	Standard			1.6	805.7	13.0	43	0.1	455.0	96.2	412	20.04	18	1.7	8.1	30	<0.1	0.5	0.2	284	0.14
STD OREAS45H	Standard			1.5	781.6	12.8	42	0.1	443.0	92.2	413	20.12	18	1.7	7.9	29	<0.1	0.3	0.2	272	0.14

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
REP 3261541	QC	0.105	14.0	10	1.24	239	0.361	8.68	4.296	2.88	1.0	64.7	23	0.8	12.2	12.1	0.6	1	11	10.4	0.7
Core Reject Duplicates																					
3261374	Drill Core	0.105	14.5	11	1.14	207	0.345	8.57	5.269	3.21	1.5	62.7	25	0.8	12.0	12.2	0.6	2	12	8.2	1.1
DUP 3261374	QC	0.102	15.4	12	1.16	171	0.351	8.75	5.379	3.30	1.8	63.3	27	0.8	12.7	12.2	0.7	<1	12	9.3	1.2
3261408	Drill Core	0.127	11.9	3	0.87	1052	0.330	8.88	3.985	2.87	0.3	21.1	23	0.6	14.2	15.0	0.8	<1	4	3.4	0.5
DUP 3261408	QC	0.126	11.1	3	0.84	1017	0.319	8.41	3.981	2.73	0.3	20.9	21	0.6	13.9	14.5	0.8	1	4	3.4	0.4
3261442	Drill Core	0.073	11.2	4	0.58	764	0.241	8.08	3.460	3.30	0.5	25.0	22	1.0	12.4	12.6	0.7	1	5	1.9	0.5
DUP 3261442	QC	0.071	10.3	3	0.59	503	0.242	7.96	3.537	3.53	0.3	25.7	21	1.1	12.0	12.7	0.6	<1	4	2.3	0.4
3261476	Drill Core	0.148	7.6	209	4.43	848	0.354	6.69	1.706	1.87	0.7	14.5	14	0.7	12.0	2.7	0.1	2	27	20.7	0.4
DUP 3261476	QC	0.167	8.2	231	4.66	887	0.378	6.99	1.765	2.24	0.7	15.7	15	0.9	12.3	2.9	0.2	1	30	24.4	0.4
3261544	Drill Core	0.090	14.4	13	1.21	233	0.336	8.54	4.118	2.24	0.9	71.7	24	0.7	12.1	11.0	0.6	<1	11	5.8	0.8
DUP 3261544	QC	0.101	13.5	13	1.25	258	0.356	8.54	4.210	2.31	0.9	77.0	23	0.7	12.2	11.1	0.6	2	12	6.3	0.8
Reference Materials																					
STD CCU-1E	Standard																				
STD OREAS134B	Standard																				
STD OREAS25A-4A	Standard	0.053	20.1	118	0.32	155	0.898	9.61	0.122	0.52	1.4	142.3	45	4.0	9.5	17.5	1.2	<1	13	37.0	<0.1
STD OREAS25A-4A	Standard	0.048	20.2	118	0.29	142	0.917	8.84	0.135	0.44	1.7	139.6	45	3.8	9.5	18.4	1.4	<1	13	38.2	<0.1
STD OREAS25A-4A	Standard	0.049	22.4	102	0.30	145	0.830	8.95	0.135	0.47	1.4	145.7	49	3.6	9.7	17.5	1.2	<1	12	36.2	<0.1
STD OREAS25A-4A	Standard	0.047	24.3	115	0.31	139	0.842	9.29	0.118	0.48	1.3	150.8	49	3.7	10.0	20.8	1.2	<1	12	36.7	<0.1
STD OREAS25A-4A	Standard	0.048	23.8	115	0.29	148	0.845	9.37	0.106	0.48	1.5	149.6	48	3.9	10.5	17.3	1.2	<1	12	33.3	<0.1
STD OREAS25A-4A	Standard	0.043	23.3	118	0.32	149	0.842	8.82	0.112	0.50	1.4	136.0	47	3.7	10.0	17.4	1.1	<1	13	35.4	<0.1
STD OREAS25A-4A	Standard	0.051	23.1	117	0.32	145	0.896	9.06	0.116	0.48	2.0	153.6	49	3.9	10.1	19.2	1.4	<1	13	35.5	<0.1
STD OREAS25A-4A	Standard	0.046	21.3	108	0.35	146	0.932	9.20	0.138	0.47	1.6	140.3	47	3.6	10.3	18.6	1.4	<1	12	38.3	<0.1
STD OREAS45H	Standard	0.023	12.9	653	0.24	347	0.892	8.39	0.086	0.21	0.6	117.9	25	1.9	9.5	13.0	0.9	1	60	14.5	<0.1
STD OREAS45E	Standard	0.031	11.3	981	0.15	255	0.517	6.79	0.049	0.32	0.9	91.4	24	1.3	8.2	6.1	0.5	<1	95	7.4	<0.1
STD OREAS45E	Standard	0.033	11.1	945	0.15	247	0.476	6.81	0.051	0.34	0.9	85.3	24	1.2	7.5	5.6	0.4	<1	89	6.6	<0.1
STD OREAS45E	Standard	0.032	11.4	977	0.14	261	0.498	6.85	0.053	0.33	0.7	103.7	22	1.1	7.6	5.4	0.5	<1	92	6.5	<0.1
STD OREAS45H	Standard	0.022	14.2	658	0.24	340	0.896	8.54	0.079	0.20	0.8	124.3	25	2.0	10.0	12.4	0.8	1	58	13.0	<0.1
STD OREAS45H	Standard	0.022	14.4	669	0.23	347	0.870	8.27	0.082	0.22	0.6	111.8	25	1.9	10.1	12.5	0.8	1	56	13.4	<0.1

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
REP 3261541	QC	59.6	2.0	<0.05	<0.005	<1	<0.5	<0.5		
Core Reject Duplicates										
3261374	Drill Core	61.4	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
DUP 3261374	QC	63.1	1.7	<0.05	<0.005	<1	0.5	<0.5	<0.01	
3261408	Drill Core	38.5	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
DUP 3261408	QC	34.7	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
3261442	Drill Core	55.4	1.1	0.07	<0.005	<1	<0.5	<0.5	0.02	
DUP 3261442	QC	55.5	1.0	0.07	<0.005	<1	<0.5	<0.5	0.02	
3261476	Drill Core	46.0	0.6	0.06	<0.005	<1	2.6	<0.5	<0.01	
DUP 3261476	QC	47.9	0.7	<0.05	<0.005	<1	1.2	<0.5	0.01	
3261544	Drill Core	44.7	2.1	0.07	<0.005	<1	0.6	<0.5	<0.01	
DUP 3261544	QC	45.7	2.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
Reference Materials										
STD CCU-1E	Standard									22.60
STD OREAS134B	Standard									0.13
STD OREAS25A-4A	Standard	58.0	4.2	0.11	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	55.1	3.8	0.07	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	58.8	3.8	0.09	<0.005	3	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.9	3.6	0.10	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	60.6	3.7	0.12	<0.005	1	<0.5	<0.5		
STD OREAS25A-4A	Standard	59.2	3.6	0.10	<0.005	2	<0.5	<0.5		
STD OREAS25A-4A	Standard	61.8	4.1	0.10	<0.005	1	<0.5	<0.5		
STD OREAS25A-4A	Standard	60.5	4.0	0.10	<0.005	3	<0.5	<0.5		
STD OREAS45H	Standard	23.1	3.5	0.14	<0.005	<1	<0.5	<0.5		
STD OREAS45E	Standard	21.3	2.8	0.07	<0.005	2	<0.5	<0.5		
STD OREAS45E	Standard	21.4	2.6	0.10	<0.005	3	<0.5	<0.5		
STD OREAS45E	Standard	20.1	2.7	0.13	<0.005	2	<0.5	<0.5		
STD OREAS45H	Standard	22.6	3.2	0.12	<0.005	1	<0.5	<0.5		
STD OREAS45H	Standard	22.8	3.1	0.10	<0.005	2	<0.5	<0.5		

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
STD OREAS45E	Standard			2.6	818.8	19.2	51	0.3	484.2	62.7	575	25.20	18	2.7	14.1	17	<0.1	1.1	0.3	330	0.06
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OXC145	Standard		0.212																		
STD OXC145	Standard		0.209																		
STD OXC145	Standard		0.220																		
STD OXH139	Standard		1.334																		
STD OXH139	Standard		1.345																		
STD OXH139	Standard		1.310																		
STD OXN134	Standard		7.704																		
STD OXN134	Standard		7.661																		
STD OXN134	Standard		7.643																		
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OXC145 Expected			0.212																		
STD OXH139 Expected			1.312																		
STD OXN134 Expected			7.667																		
STD OREAS45H Expected				1.55	767	11.9	39.7	0.147	423	88	380	19.52	16.9	1.68	7.26	27.1		0.63	0.17	263	0.135
STD OREAS45E Expected				2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065

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BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS45E	Standard	0.034	11.8	1082	0.15	260	0.547	7.26	0.055	0.35	1.0	95.0	25	1.4	8.5	6.0	0.5	<1	95	8.0	<0.1
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OXC145 Expected																					
STD OXH139 Expected																					
STD OXN134 Expected																					
STD OREAS45H Expected		0.023	12.4	602	0.238	332	0.878	7.99	0.09	0.205	0.99	131	23.6	1.93	10.4	14.8	1.08	1.09	57	13.1	
STD OREAS45E Expected		0.034	11	979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
STD OREAS45E	Standard	22.3	2.8	0.12	<0.005	2	<0.5	<0.5		
STD OREAS623	Standard								0.74	
STD OREAS620	Standard								2.13	
STD OREAS623	Standard								0.76	
STD OREAS620	Standard								2.07	
STD OREAS623	Standard								0.72	
STD OREAS620	Standard								2.15	
STD OREAS623	Standard								0.73	
STD OREAS620	Standard								2.17	
STD OREAS623	Standard								0.84	
STD OREAS620	Standard								2.04	
STD OREAS623	Standard								0.74	
STD OREAS620	Standard								2.24	
STD OXC145	Standard									
STD OXC145	Standard									
STD OXC145	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXH139	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OXN134	Standard									
STD OREAS623 Expected									0.79	
STD OREAS620 Expected									2.14	
STD OXC145 Expected										
STD OXH139 Expected										
STD OXN134 Expected										
STD OREAS45H Expected		22.5	3.6	0.1		2.02				
STD OREAS45E Expected		21.2	3.11	0.099		2.97	0.1	0.15		

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		WGHT Wgt kg 0.01	FA430 Au ppm 0.005	MA200 Mo ppm 0.1	MA200 Cu ppm 0.1	MA200 Pb ppm 0.1	MA200 Zn ppm 1	MA200 Ag ppm 0.1	MA200 Ni ppm 0.1	MA200 Co ppm 0.2	MA200 Mn ppm 1	MA200 Fe % 0.01	MA200 As ppm 1	MA200 U ppm 0.1	MA200 Th ppm 0.1	MA200 Sr ppm 1	MA200 Cd ppm 0.1	MA200 Sb ppm 0.1	MA200 Bi ppm 0.1	MA200 V ppm 1	MA200 Ca % 0.01
STD OREAS25A-4A Expected				2.41	33.9	25.2	44.4		45.8	7.7	480	6.6	9.94	2.94	15.8	48.5		0.65	0.37	157	0.301
STD OREAS134B Expected																					
STD CCU-1E Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank			<0.1	0.4	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank			<0.1	0.3	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	1.6	<0.1	<1	<0.1	0.2	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.4	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank		0.005																		
BLK	Blank		<0.005																		
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.1	<0.1	1	<0.1	<0.1	<0.2	<1	<0.01	3	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank		0.009	1.1	5.9	3.4	46	<0.1	1.2	4.0	658	2.14	<1	1.5	3.4	223	<0.1	0.2	<0.1	35	1.75
ROCK-VAN	Prep Blank		0.009	1.1	5.5	4.5	37	<0.1	0.8	4.2	649	2.08	3	1.3	3.2	219	<0.1	0.2	<0.1	35	1.70

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS25A-4A Expected		0.048	21.8	115	0.327	147	0.93	8.87	0.131	0.482	2	155	47.3	4.06	10.5	20.9	1.4	0.93	13.7	36.7	0.047
STD OREAS134B Expected																					
STD CCU-1E Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	3	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	0.046	13.7	3	0.51	850	0.221	7.31	3.778	1.78	0.2	55.1	28	0.7	16.7	5.8	0.4	1	7	3.8	<0.1
ROCK-VAN	Prep Blank	0.043	15.1	3	0.50	828	0.214	7.32	3.597	1.78	0.2	53.5	29	0.8	17.9	5.9	0.4	<1	7	3.5	<0.1

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 15, 2019

QUALITY CONTROL REPORT VAN19001979.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01	MA404 Cu % 0.01
STD OREAS25A-4A Expected		61	4.14	0.09		2.4		0.35		
STD OREAS134B Expected										0.1348
STD CCU-1E Expected										22.88
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank								<0.01	
BLK	Blank	0.4	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank									
BLK	Blank	0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank									
BLK	Blank									
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5		
BLK	Blank									<0.01
Prep Wash										
ROCK-VAN	Prep Blank	37.9	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	
ROCK-VAN	Prep Blank	38.2	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01	

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Submitted By: Mt. Milligan Notification List
Receiving Lab: Canada-Vancouver
Received: July 31, 2019
Report Date: August 16, 2019
Page: 1 of 7

CERTIFICATE OF ANALYSIS VAN19002030.1

CLIENT JOB INFORMATION

Project: Mt. Milligan
Shipment ID: TRX19-03_5
P.O. Number M12390
Number of Samples: 163

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
RTRN-RJT Return After 60 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP80-250	151	Crush, split and pulverize 250 g rock to 200 mesh			VAN
SPTRF	4	Split samples by riffle splitter			VAN
PUL85	4	Pulverize to 85% passing 200 mesh			VAN
SLBHP	8	Sort, label and box pulps			VAN
FA430	163	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
EN002	163	Environmental disposal charge-Fire assay lead waste			VAN
MA200	163	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
EN001-MA	163	Environmental disposal fee - Multi-acid neutralization			VAN
CV400	163	Hg by 0.5g/10ml Aqua Regia, CVAA	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Thompson Creek Metals
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8
Canada

CC: Mt. Milligan Data Distribution List

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Production Manager

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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: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261546	Drill Core	1.88	0.009	5.4	314.8	2.9	28	0.5	3.5	5.5	578	2.60	4	0.8	2.5	490	0.2	3.0	<0.1	148	3.02
3261547	Drill Core	4.38	0.009	2.2	262.0	2.6	25	0.4	3.1	5.3	541	2.48	3	0.8	2.4	581	0.1	3.0	<0.1	142	2.67
3261548	Drill Core	4.11	0.010	3.4	210.9	3.6	24	0.4	3.5	6.1	670	2.49	5	0.9	2.8	536	0.2	2.3	0.1	156	3.33
3261549	Drill Core	3.48	0.007	1.6	132.4	2.7	19	0.3	4.1	5.9	588	2.77	3	0.9	2.5	697	<0.1	2.2	<0.1	163	3.26
3261550	Rock	1.64	<0.005	<0.1	1.1	0.3	3	<0.1	5.1	0.8	152	0.16	<1	<0.1	<0.1	67	<0.1	<0.1	<0.1	1	31.10
3261551	Drill Core	4.34	0.008	2.5	105.2	2.9	25	0.2	3.5	5.9	677	2.56	2	0.9	2.5	590	<0.1	1.5	<0.1	153	3.43
3261552	Drill Core	3.49	0.008	1.0	129.8	2.4	24	0.3	3.1	6.2	595	2.90	3	0.7	2.6	818	<0.1	0.9	<0.1	190	3.77
3261553	Drill Core	3.38	0.006	3.6	94.8	2.3	23	0.2	3.3	6.2	579	3.07	2	0.7	2.5	813	<0.1	0.8	<0.1	202	4.13
3261554	Drill Core	4.34	0.006	10.2	127.7	3.5	29	0.2	3.0	7.0	644	3.18	2	0.7	1.9	676	<0.1	2.0	0.1	162	4.14
3261555	Drill Core	4.39	0.010	21.1	139.1	2.9	24	0.2	3.2	6.9	604	3.04	3	0.6	1.6	749	<0.1	2.3	0.3	163	3.92
3261556	Drill Core	3.97	0.008	6.7	85.2	2.8	24	0.2	2.8	7.0	704	3.05	3	0.7	1.8	714	0.1	4.0	0.2	171	4.39
3261557	Drill Core	4.24	0.008	8.4	182.2	2.3	23	0.3	3.2	8.2	622	3.41	3	0.9	2.1	743	0.1	2.2	<0.1	191	4.59
3261558	Drill Core	4.23	0.007	0.8	139.5	1.9	24	0.3	2.7	8.2	635	3.32	2	1.0	2.9	611	0.1	1.2	<0.1	157	4.43
3261559	Drill Core	3.29	0.014	14.8	170.1	2.5	23	0.4	2.8	8.1	639	3.37	3	0.8	2.3	635	<0.1	2.0	0.4	181	4.60
3261560	Rock Pulp	0.11	0.556	37.4	5220.8	55.7	294	2.0	16.3	12.5	838	5.00	61	0.8	3.7	219	1.7	3.0	0.9	96	1.47
3261561	Drill Core	3.77	0.013	117.2	254.9	3.0	24	0.5	2.8	8.5	614	3.49	2	0.8	2.0	672	0.2	1.8	0.3	198	4.24
3261562	Drill Core	4.47	0.011	71.0	180.7	2.6	22	0.3	3.0	8.3	591	3.58	3	0.7	2.0	728	0.1	2.7	0.1	180	4.52
3261563	Drill Core	4.12	0.015	1.5	98.9	2.8	21	0.3	2.7	8.8	593	3.42	3	0.7	1.8	641	0.1	1.4	0.2	163	4.14
3261564	Drill Core	4.33	0.011	0.6	177.1	2.5	23	0.5	3.0	7.9	637	3.30	2	0.8	2.1	651	0.2	2.3	0.3	163	3.63
3261565	Core DUP		0.011	0.6	203.7	2.7	26	0.5	3.2	8.3	678	3.54	2	0.8	2.2	699	0.2	2.3	0.3	184	3.88
3261566	Drill Core	4.22	0.007	0.8	65.5	2.2	20	0.2	2.6	7.3	642	3.52	2	0.9	2.2	648	<0.1	1.4	0.2	176	3.27
3261567	Drill Core	4.30	0.007	0.6	102.1	1.7	21	0.2	5.1	8.7	700	3.76	2	0.9	2.3	578	<0.1	1.1	0.1	180	3.34
3261568	Drill Core	4.41	0.053	2.2	328.5	3.9	24	1.2	4.8	10.0	714	4.01	2	1.0	3.0	560	0.2	1.8	0.7	222	3.89
3261569	Drill Core	4.13	0.018	10.3	294.6	5.3	63	0.8	6.8	12.7	768	4.45	3	1.1	2.9	708	0.8	2.1	0.9	270	5.29
3261570	Rock	1.21	<0.005	<0.1	1.0	0.4	3	<0.1	3.2	0.6	171	0.15	1	<0.1	<0.1	73	<0.1	<0.1	<0.1	1	34.63
3261571	Drill Core	4.00	0.010	61.2	217.2	4.8	38	0.4	6.5	11.0	716	3.94	3	0.8	1.9	668	0.3	1.5	0.3	226	4.56
3261572	Drill Core	4.25	0.013	2.7	350.6	4.3	163	0.7	8.1	14.1	778	4.45	3	0.7	2.1	601	1.7	4.2	0.1	291	4.61
3261573	Drill Core	4.23	0.006	2.0	126.6	4.6	34	0.2	7.8	11.5	762	4.13	2	0.7	2.3	741	0.1	2.3	<0.1	230	4.79
3261574	Drill Core	1.67	0.005	2.1	75.8	4.1	43	0.2	8.8	11.8	782	3.92	3	0.9	2.6	653	0.1	1.6	<0.1	210	4.73
3261575	Drill Core	2.67	0.005	2.4	114.4	10.4	123	0.2	16.9	25.7	1615	6.51	5	1.3	2.7	673	0.2	4.1	<0.1	281	5.47

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BUREAU VERITAS MINERAL LABORATORIES Canada

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261546	Drill Core	0.077	10.2	4	0.64	1293	0.255	8.59	4.877	3.43	0.9	22.3	20	0.9	11.3	12.6	0.7	1	3	8.4	0.4
3261547	Drill Core	0.077	9.9	4	0.66	1315	0.251	8.37	4.570	3.20	0.5	20.9	19	0.8	10.7	12.7	0.7	<1	3	7.6	0.2
3261548	Drill Core	0.081	9.0	5	0.78	874	0.242	8.05	4.261	3.79	0.6	22.3	17	0.8	10.3	11.9	0.6	<1	3	8.4	0.5
3261549	Drill Core	0.088	10.7	5	0.88	1351	0.278	8.71	4.539	3.21	0.3	22.7	21	0.8	12.0	13.4	0.7	1	4	5.9	0.2
3261550	Rock	0.006	1.1	<1	2.84	14	0.005	0.04	0.029	0.01	<0.1	1.2	<1	<0.1	1.9	0.1	<0.1	<1	<1	0.8	<0.1
3261551	Drill Core	0.079	9.7	4	0.77	1209	0.243	7.94	3.904	3.52	0.3	20.1	19	0.7	10.1	12.6	0.6	<1	3	6.1	0.2
3261552	Drill Core	0.083	9.5	4	0.63	1436	0.274	8.58	4.425	3.08	0.3	24.9	19	1.0	11.4	14.2	0.7	<1	3	5.1	0.3
3261553	Drill Core	0.088	9.1	4	0.49	1470	0.294	8.37	4.529	2.91	0.3	26.4	19	1.0	12.0	14.1	0.7	<1	3	4.6	0.2
3261554	Drill Core	0.099	9.0	4	0.66	1224	0.287	8.12	4.089	2.49	0.6	20.9	19	0.9	11.7	11.7	0.6	<1	3	7.9	0.4
3261555	Drill Core	0.088	8.9	4	0.66	1304	0.279	8.32	4.481	2.37	0.6	19.6	19	0.8	11.6	11.1	0.7	<1	3	5.7	0.4
3261556	Drill Core	0.092	8.8	3	0.75	1174	0.292	8.13	4.308	2.69	0.5	19.4	19	0.8	12.0	11.9	0.7	<1	4	5.8	0.2
3261557	Drill Core	0.111	9.2	4	0.82	975	0.325	8.37	3.873	2.96	0.4	23.8	19	0.9	12.2	12.4	0.7	1	4	4.9	0.3
3261558	Drill Core	0.112	9.6	2	0.82	989	0.312	8.39	3.666	3.10	0.4	28.4	19	0.7	12.1	12.3	0.7	1	4	6.2	0.3
3261559	Drill Core	0.123	9.5	2	0.88	1005	0.323	8.42	3.874	2.91	0.7	19.5	20	1.1	12.5	12.2	0.7	<1	4	8.0	0.3
3261560	Rock Pulp	0.072	13.6	28	0.86	173	0.221	7.95	1.157	2.61	4.7	4.5	27	1.7	8.8	4.1	0.3	1	10	26.6	1.9
3261561	Drill Core	0.120	10.2	3	0.85	1063	0.312	8.32	3.587	2.91	0.7	18.2	21	1.3	13.0	12.6	0.7	<1	4	7.3	0.5
3261562	Drill Core	0.122	11.6	3	0.84	1038	0.323	8.50	4.119	2.70	0.5	18.3	22	0.9	13.1	13.7	0.8	<1	4	5.1	0.3
3261563	Drill Core	0.118	10.0	2	0.86	1067	0.315	8.12	4.328	2.74	0.9	17.8	20	0.8	12.2	14.6	0.8	<1	4	6.9	0.4
3261564	Drill Core	0.105	9.8	3	0.86	1027	0.301	8.13	4.079	2.87	0.6	19.4	20	0.7	11.4	14.5	0.8	<1	4	6.5	0.3
3261565	Core DUP	0.109	9.8	3	0.91	1106	0.323	8.44	4.389	3.07	0.6	21.2	20	0.8	11.7	15.6	0.8	1	4	6.9	0.3
3261566	Drill Core	0.117	10.3	2	1.00	1103	0.321	8.71	4.177	3.21	0.6	19.6	21	0.7	12.2	15.8	0.8	<1	4	8.4	0.2
3261567	Drill Core	0.115	10.1	12	1.11	1188	0.325	8.71	4.355	3.22	0.6	20.9	19	0.7	11.8	14.8	0.7	1	5	9.0	0.1
3261568	Drill Core	0.122	10.5	4	1.23	1053	0.330	8.79	3.990	3.09	0.7	20.3	20	0.8	12.9	11.6	0.5	<1	6	9.2	0.4
3261569	Drill Core	0.147	11.7	7	1.22	520	0.361	8.63	3.636	3.05	0.8	21.3	23	1.0	13.6	10.5	0.6	1	7	7.6	0.8
3261570	Rock	0.007	1.7	<1	1.83	14	0.005	0.05	0.033	<0.01	<0.1	1.1	2	<0.1	2.4	<0.1	<0.1	<1	<1	0.7	<0.1
3261571	Drill Core	0.145	12.1	7	1.23	1092	0.366	8.86	3.614	3.50	0.7	21.0	24	1.0	13.9	11.2	0.7	<1	6	8.2	0.4
3261572	Drill Core	0.170	12.1	8	1.37	929	0.339	8.67	3.557	3.28	0.6	18.5	24	1.2	14.1	12.3	0.8	<1	7	10.9	0.6
3261573	Drill Core	0.149	12.1	11	1.36	832	0.379	8.82	3.728	2.83	0.5	21.8	23	1.0	12.9	14.5	0.8	1	7	8.0	0.3
3261574	Drill Core	0.150	12.1	13	1.33	881	0.387	9.10	3.780	2.98	0.5	19.8	23	1.1	12.1	13.2	0.7	<1	7	9.4	0.2
3261575	Drill Core	0.182	10.5	30	2.41	1243	0.486	8.28	2.443	2.73	1.4	38.6	21	0.9	16.1	6.8	0.4	1	22	18.8	<0.1

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261546	Drill Core	47.1	0.9	<0.05	0.006	<1	<0.5	<0.5	<0.01
3261547	Drill Core	45.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261548	Drill Core	48.1	1.0	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261549	Drill Core	40.9	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261550	Rock	0.2	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261551	Drill Core	42.9	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261552	Drill Core	37.5	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261553	Drill Core	35.6	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261554	Drill Core	36.2	0.9	<0.05	0.010	1	<0.5	<0.5	<0.01
3261555	Drill Core	31.2	0.8	<0.05	0.021	<1	<0.5	<0.5	<0.01
3261556	Drill Core	31.9	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261557	Drill Core	39.3	1.0	<0.05	0.006	<1	<0.5	<0.5	<0.01
3261558	Drill Core	48.1	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261559	Drill Core	42.2	0.9	<0.05	0.011	<1	<0.5	<0.5	<0.01
3261560	Rock Pulp	89.6	0.2	0.15	0.121	3	0.6	1.1	0.04
3261561	Drill Core	45.8	0.9	<0.05	0.110	1	<0.5	<0.5	<0.01
3261562	Drill Core	40.2	0.9	<0.05	0.060	<1	<0.5	<0.5	<0.01
3261563	Drill Core	39.1	0.8	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261564	Drill Core	44.2	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.01
3261565	Core DUP	46.1	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261566	Drill Core	53.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261567	Drill Core	55.4	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261568	Drill Core	52.4	1.0	<0.05	<0.005	<1	0.7	<0.5	<0.01
3261569	Drill Core	54.3	1.0	0.06	0.013	2	0.6	<0.5	0.02
3261570	Rock	0.2	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261571	Drill Core	61.3	0.9	<0.05	0.047	1	<0.5	<0.5	0.01
3261572	Drill Core	58.3	0.9	<0.05	<0.005	1	<0.5	<0.5	0.06
3261573	Drill Core	50.8	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261574	Drill Core	55.7	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261575	Drill Core	52.9	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261576	Drill Core	4.22	<0.005	2.4	136.1	7.7	92	0.1	18.7	27.5	1703	6.78	5	1.5	2.9	800	0.1	3.7	<0.1	283	5.82
3261577	Drill Core	2.28	0.006	2.4	135.4	6.6	83	0.1	18.3	27.1	1821	6.86	4	1.4	2.9	743	<0.1	2.8	<0.1	283	5.83
3261578	Drill Core	2.83	0.006	2.3	135.2	8.4	86	0.1	18.1	27.7	1628	6.77	7	1.4	2.8	712	<0.1	4.5	<0.1	286	6.53
3261579	Drill Core	4.02	0.009	105.5	264.2	7.0	40	0.3	5.6	12.7	685	3.81	4	0.9	2.9	645	0.4	2.6	0.2	230	4.01
3261580	Rock Pulp	0.11	0.596	35.9	5064.3	58.2	298	2.2	15.6	13.1	819	4.88	68	0.7	4.1	204	1.9	2.9	0.8	93	1.43
3261581	Drill Core	4.47	0.006	2.1	92.0	3.1	23	0.1	6.2	10.4	648	3.69	4	0.8	2.7	730	<0.1	3.8	<0.1	196	4.41
3261582	Drill Core	4.55	<0.005	0.6	47.0	2.7	24	<0.1	7.5	11.1	613	3.76	4	0.9	2.8	680	0.1	3.4	<0.1	192	4.26
3261583	Drill Core	2.31	<0.005	1.2	66.3	2.7	23	<0.1	7.2	10.3	607	4.00	4	0.9	3.1	724	<0.1	2.5	<0.1	206	4.61
3261584	Drill Core	2.90	0.006	4.6	90.5	4.8	38	0.1	7.3	12.7	709	3.67	6	0.6	2.5	404	0.1	6.4	<0.1	198	4.83
3261585	Drill Core	3.94	<0.005	0.3	120.3	3.0	56	0.1	32.1	33.6	1187	6.64	5	0.5	1.8	398	0.2	8.8	<0.1	370	7.44
3261586	Drill Core	4.16	0.005	1.5	134.0	3.6	28	0.2	8.1	12.5	696	3.48	6	0.5	1.4	338	<0.1	6.9	<0.1	185	4.26
3261587	Drill Core	4.35	0.006	1.0	166.1	3.1	20	0.2	3.9	6.5	574	2.80	5	0.4	1.2	340	0.1	6.6	<0.1	142	3.62
3261588	Drill Core	4.30	0.006	1.9	95.2	3.2	21	<0.1	5.6	8.0	484	2.66	5	0.5	1.6	324	0.1	6.6	<0.1	133	3.68
3261589	Drill Core	3.85	0.009	9.6	152.2	3.1	23	0.2	4.2	7.2	460	2.40	5	0.6	2.3	288	<0.1	5.8	0.1	161	2.77
3261590	Rock	1.18	<0.005	0.1	1.1	0.3	3	<0.1	1.1	<0.2	152	0.15	5	0.1	<0.1	72	<0.1	0.1	<0.1	1	31.72
3261591	Drill Core	4.36	0.009	15.0	104.1	3.3	31	0.1	4.9	8.5	742	2.47	2	0.4	2.6	342	0.1	5.3	0.1	122	4.11
3261592	Drill Core	4.68	0.009	9.4	51.1	3.7	32	0.1	8.9	11.2	560	2.92	3	0.5	2.1	418	0.1	5.2	0.2	149	3.62
3261593	Drill Core	4.43	0.007	6.8	63.0	2.7	24	<0.1	6.3	9.4	437	2.62	3	0.5	1.7	346	<0.1	5.0	<0.1	162	2.71
3261594	Drill Core	4.38	0.007	2.8	198.7	3.6	55	0.2	31.5	31.9	1105	5.62	3	0.6	1.9	419	0.3	7.9	<0.1	316	7.56
3261595	Drill Core	4.91	0.008	0.9	92.5	3.5	45	0.1	19.5	18.9	756	4.31	4	0.7	2.4	374	0.2	7.3	0.1	240	4.98
3261596	Drill Core	4.54	0.013	6.3	127.7	3.3	45	0.2	13.8	18.0	821	4.18	3	0.5	1.8	276	0.1	8.2	0.3	273	4.57
3261597	Drill Core	4.63	0.011	22.7	89.5	3.4	42	0.1	10.8	16.8	950	4.11	2	0.5	1.5	313	0.3	9.1	0.2	263	5.31
3261598	Drill Core	2.18	0.010	5.1	98.1	3.0	38	0.1	8.2	13.4	792	3.30	2	0.5	2.1	312	0.2	6.6	0.2	235	4.04
3261599	Drill Core	2.55	0.012	3.1	85.2	8.6	34	0.1	3.9	8.3	663	3.02	4	0.7	2.1	498	0.1	7.0	0.2	194	3.65
3261600	Rock Pulp	0.13	0.653	318.7	5189.5	21.2	89	0.8	40.9	14.9	536	5.03	26	5.0	18.0	301	0.5	3.5	0.6	121	2.55
3261601	Drill Core	2.55	0.010	12.0	146.5	5.2	40	0.2	3.6	10.2	659	3.51	5	1.5	3.7	449	0.2	3.2	0.6	219	3.92
3261602	Drill Core	1.91	0.009	0.5	65.3	5.0	41	0.1	3.7	9.7	751	3.28	6	0.9	2.8	846	<0.1	2.9	0.4	202	4.18
3261603	Drill Core	2.91	0.007	3.9	72.1	3.9	33	<0.1	3.6	8.8	784	3.19	5	0.9	2.7	743	0.2	2.7	0.3	210	3.48
3261604	Drill Core	3.20	0.057	44.0	135.3	6.9	36	0.5	3.6	8.6	654	3.03	3	0.7	2.3	419	<0.1	4.5	1.8	210	3.71
3261605	Core DUP		0.049	36.9	138.7	6.9	34	0.5	2.9	8.0	658	2.90	3	0.6	2.1	402	0.1	4.3	1.7	204	3.58

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261576	Drill Core	0.192	11.1	33	2.57	1313	0.505	8.58	2.271	3.41	1.3	48.1	22	1.0	17.0	7.1	0.4	1	24	14.0	<0.1
3261577	Drill Core	0.189	10.8	32	2.38	1231	0.497	8.32	2.172	3.39	1.2	45.7	22	1.0	16.6	7.0	0.4	1	24	13.9	<0.1
3261578	Drill Core	0.188	11.0	29	2.47	1157	0.511	8.42	2.248	2.78	1.7	48.9	21	1.0	16.7	6.9	0.4	1	24	12.6	0.2
3261579	Drill Core	0.122	11.9	6	1.18	509	0.335	8.22	3.412	3.08	0.5	21.8	21	1.0	11.7	12.5	0.7	2	5	5.3	0.8
3261580	Rock Pulp	0.067	13.5	25	0.83	129	0.221	7.57	0.967	2.51	5.1	4.6	27	1.6	8.8	4.2	0.3	<1	9	23.9	1.8
3261581	Drill Core	0.130	11.8	9	1.08	904	0.351	8.36	3.683	2.68	0.6	22.6	22	0.8	11.4	13.2	0.7	<1	5	4.9	0.2
3261582	Drill Core	0.146	12.5	14	1.15	897	0.365	8.33	3.604	2.60	0.4	22.5	22	0.8	10.5	12.6	0.6	1	6	6.9	0.1
3261583	Drill Core	0.145	13.1	11	1.16	849	0.379	8.67	3.644	2.53	0.4	28.6	24	0.9	12.8	13.6	0.7	<1	6	6.5	<0.1
3261584	Drill Core	0.136	9.4	11	1.17	643	0.281	7.80	2.993	2.27	0.7	17.4	19	0.5	9.9	9.4	0.5	<1	7	13.1	0.2
3261585	Drill Core	0.262	13.7	92	2.63	465	0.258	5.88	0.573	2.72	0.6	15.1	28	0.5	11.1	2.2	0.1	1	25	5.0	0.2
3261586	Drill Core	0.131	7.6	19	1.04	690	0.216	7.56	3.928	2.24	0.5	12.0	17	0.7	6.7	6.4	0.4	<1	8	3.1	0.3
3261587	Drill Core	0.085	6.8	6	0.69	1409	0.191	7.69	4.360	2.29	0.6	11.4	17	0.4	5.9	6.8	0.4	1	4	3.4	0.3
3261588	Drill Core	0.086	7.8	7	0.66	1117	0.176	7.92	4.230	2.14	0.4	12.8	17	0.5	5.6	6.0	0.3	<1	4	3.4	0.3
3261589	Drill Core	0.090	7.9	6	0.66	947	0.179	7.85	4.312	2.78	0.5	14.3	16	0.8	5.1	7.0	0.4	<1	4	4.2	0.4
3261590	Rock	0.008	1.2	1	1.88	12	0.005	0.06	0.028	0.01	<0.1	1.2	<1	<0.1	2.1	<0.1	<0.1	<1	<1	0.8	<0.1
3261591	Drill Core	0.085	7.3	7	0.86	1274	0.168	6.52	4.333	1.34	0.7	14.4	14	0.7	7.1	6.5	0.4	<1	4	5.3	0.3
3261592	Drill Core	0.100	8.2	13	1.03	267	0.171	7.50	4.128	1.70	0.6	13.5	17	0.5	7.3	5.5	0.3	1	6	9.3	0.7
3261593	Drill Core	0.092	7.3	8	0.82	487	0.172	7.99	4.537	1.98	0.2	12.0	15	0.5	5.2	5.6	0.3	1	5	3.4	0.5
3261594	Drill Core	0.222	13.9	93	2.62	958	0.274	6.41	1.719	2.64	0.5	8.9	26	0.7	10.6	2.8	0.2	<1	22	4.4	0.4
3261595	Drill Core	0.156	13.4	55	1.65	1265	0.250	7.69	2.771	2.73	0.4	12.3	25	0.8	8.3	4.7	0.3	1	14	5.0	0.4
3261596	Drill Core	0.122	8.4	28	1.60	805	0.238	7.67	2.179	3.30	0.5	12.5	18	0.7	7.0	4.1	0.3	<1	15	7.1	0.5
3261597	Drill Core	0.082	8.6	10	1.75	733	0.258	7.52	2.523	2.85	0.5	7.9	16	1.1	7.9	3.5	0.2	1	17	4.2	0.4
3261598	Drill Core	0.112	7.7	10	1.06	590	0.217	7.48	3.593	2.32	0.5	14.0	16	0.6	6.5	5.6	0.3	1	9	3.1	0.3
3261599	Drill Core	0.126	9.6	4	0.81	1429	0.276	8.02	4.455	2.69	0.4	17.3	19	0.8	8.6	10.7	0.5	1	4	2.5	0.4
3261600	Rock Pulp	0.088	32.7	66	1.51	909	0.490	7.26	1.983	3.23	4.0	66.4	61	3.2	22.7	15.6	1.1	3	13	28.1	0.5
3261601	Drill Core	0.161	11.0	3	0.94	672	0.300	7.98	3.347	3.77	0.4	20.7	21	1.2	12.6	14.0	0.7	1	5	7.0	0.7
3261602	Drill Core	0.129	11.3	5	0.84	1143	0.324	8.14	3.944	2.36	0.3	24.1	21	0.6	12.9	11.6	0.6	<1	4	6.5	0.3
3261603	Drill Core	0.128	10.7	4	0.84	1397	0.319	8.08	3.847	2.90	0.2	27.7	20	0.8	12.3	12.2	0.6	<1	4	5.9	0.2
3261604	Drill Core	0.128	8.2	3	0.68	959	0.262	7.84	3.835	3.16	0.5	17.7	17	0.8	8.0	10.4	0.5	<1	4	4.6	0.6
3261605	Core DUP	0.119	7.8	3	0.64	988	0.255	7.68	3.887	3.23	0.4	17.6	16	0.8	8.0	10.0	0.5	<1	4	5.1	0.6

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261576	Drill Core	71.3	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261577	Drill Core	73.8	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261578	Drill Core	53.7	1.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261579	Drill Core	51.6	1.0	<0.05	0.099	<1	<0.5	<0.5	<0.01
3261580	Rock Pulp	84.8	0.2	0.20	0.116	4	<0.5	1.2	0.04
3261581	Drill Core	41.4	1.0	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261582	Drill Core	41.0	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261583	Drill Core	38.3	1.2	<0.05	<0.005	<1	0.6	<0.5	<0.01
3261584	Drill Core	49.4	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261585	Drill Core	69.4	0.3	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261586	Drill Core	39.1	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261587	Drill Core	37.3	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261588	Drill Core	37.8	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261589	Drill Core	47.4	0.6	<0.05	0.008	<1	<0.5	<0.5	<0.01
3261590	Rock	0.2	<0.1	<0.05	<0.005	1	6.2	<0.5	<0.01
3261591	Drill Core	23.8	0.6	<0.05	0.011	<1	<0.5	<0.5	<0.01
3261592	Drill Core	32.1	0.5	<0.05	0.006	<1	<0.5	<0.5	<0.01
3261593	Drill Core	36.1	0.5	<0.05	0.007	<1	<0.5	<0.5	<0.01
3261594	Drill Core	59.7	0.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261595	Drill Core	58.8	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261596	Drill Core	59.5	0.6	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261597	Drill Core	65.5	0.4	0.05	0.026	<1	0.7	<0.5	<0.01
3261598	Drill Core	45.0	0.5	<0.05	0.005	<1	<0.5	<0.5	<0.01
3261599	Drill Core	39.6	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261600	Rock Pulp	168.5	2.2	0.12	<0.005	3	0.7	1.0	0.03
3261601	Drill Core	50.8	1.0	<0.05	0.010	1	<0.5	<0.5	<0.01
3261602	Drill Core	28.3	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261603	Drill Core	34.9	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261604	Drill Core	49.1	0.8	<0.05	0.034	<1	1.0	<0.5	<0.01
3261605	Core DUP	45.8	0.7	<0.05	0.031	<1	1.0	<0.5	<0.01

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261606	Drill Core	4.45	<0.005	10.6	32.6	3.0	27	<0.1	3.0	7.8	768	2.92	3	0.7	2.6	536	<0.1	1.7	<0.1	211	3.38
3261607	Drill Core	4.59	0.006	16.4	52.9	3.3	22	<0.1	3.2	7.1	740	2.81	3	0.6	2.5	646	<0.1	1.8	<0.1	222	3.06
3261608	Drill Core	3.88	0.010	12.3	103.5	4.0	25	0.1	3.8	7.7	672	2.62	3	0.6	2.1	412	<0.1	1.9	0.1	198	3.13
3261609	Drill Core	4.36	0.005	69.5	135.5	3.0	26	0.1	4.2	9.4	765	3.26	4	0.5	1.9	500	0.1	1.3	0.2	267	3.13
3261610	Rock	1.31	<0.005	<0.1	0.8	0.4	3	<0.1	0.8	<0.2	180	0.15	<1	0.1	<0.1	68	<0.1	<0.1	<0.1	<1	32.69
3261611	Drill Core	4.31	0.008	17.4	138.6	3.4	26	0.2	4.5	9.3	711	3.15	16	0.7	2.4	764	0.1	1.7	0.2	274	3.51
3261612	Drill Core	2.12	0.006	1.3	44.0	3.4	24	<0.1	3.7	8.6	746	3.02	11	0.5	2.2	905	<0.1	1.6	0.1	267	3.61
3261613	Drill Core	2.40	0.007	1.0	40.1	3.4	22	<0.1	4.3	6.7	659	2.63	5	0.5	2.6	693	<0.1	1.1	<0.1	245	2.93
3261614	Drill Core	4.31	0.008	2.5	74.0	3.9	19	0.1	3.0	6.1	518	2.08	12	0.9	4.0	556	0.2	1.6	0.1	192	2.63
3261615	Drill Core	1.32	0.064	1.7	131.2	4.4	20	0.3	3.1	5.7	539	2.17	15	1.0	3.1	358	<0.1	2.9	0.3	171	2.14
3261616	Drill Core	3.01	0.018	1.2	74.7	4.3	19	0.2	3.5	5.5	578	2.39	10	0.6	2.6	477	0.1	2.1	0.1	246	2.66
3261617	Drill Core	4.45	0.007	2.4	153.6	4.2	21	0.2	2.9	7.1	595	2.57	9	0.6	2.2	530	<0.1	1.6	0.1	207	3.25
3261618	Drill Core	4.38	0.006	1.2	119.1	2.9	22	0.1	2.3	6.6	588	2.49	9	0.8	2.7	526	0.1	1.0	0.1	193	2.77
3261619	Drill Core	3.96	0.006	4.5	122.6	3.2	21	0.1	4.2	9.4	623	3.01	5	0.9	2.8	500	<0.1	1.5	0.1	215	3.31
3261620	Rock Pulp	0.13	0.705	316.0	5220.7	20.6	87	0.8	37.9	14.4	550	4.95	26	4.8	18.3	362	0.4	4.3	0.7	124	2.62
3261621	Drill Core	2.46	0.006	1.4	59.0	2.8	28	<0.1	8.6	14.9	804	3.69	5	1.0	2.9	498	<0.1	1.3	<0.1	233	4.17
3261622	Drill Core	4.45	<0.005	2.4	81.8	2.9	35	0.1	7.7	14.0	847	3.81	5	0.8	2.8	554	0.1	1.2	<0.1	235	4.11
3261623	Drill Core	4.38	0.022	1.9	72.9	3.6	42	0.1	10.5	17.0	1082	4.51	4	0.8	1.9	586	<0.1	2.3	0.2	279	5.08
3261624	Drill Core	4.48	<0.005	11.9	66.4	3.4	33	<0.1	7.8	13.3	972	3.85	3	0.8	2.3	603	0.1	1.9	<0.1	273	3.97
3261625	Drill Core	4.11	0.006	0.4	97.4	5.9	30	0.2	4.7	10.5	728	3.19	6	0.7	1.7	480	0.4	2.0	0.1	252	3.74
3261626	Drill Core	4.22	0.005	1.5	88.7	7.2	34	0.1	5.5	11.9	934	3.65	4	0.7	2.0	457	0.2	1.7	<0.1	287	3.96
3261627	Drill Core	4.33	0.007	1.3	124.0	4.5	35	0.2	8.0	14.1	832	3.83	7	0.7	2.2	426	0.1	1.7	0.1	276	4.15
3261628	Drill Core	4.50	0.005	0.9	80.9	3.6	49	0.2	11.3	20.0	967	4.83	7	0.9	2.0	595	0.4	1.4	<0.1	287	5.69
3261629	Drill Core	3.27	<0.005	0.9	48.4	3.1	45	<0.1	11.7	21.4	1051	5.11	7	0.8	2.4	632	0.3	2.2	<0.1	287	6.01
3261630	Rock	1.04	<0.005	<0.1	1.6	0.4	4	0.1	0.8	<0.2	211	0.16	4	<0.1	<0.1	80	<0.1	<0.1	<0.1	1	32.28
3261631	Drill Core	1.43	<0.005	0.5	71.8	2.9	39	0.1	10.7	14.8	882	3.81	5	0.7	2.1	442	<0.1	2.3	<0.1	254	4.92
3261632	Drill Core	2.23	<0.005	1.0	45.8	2.7	46	<0.1	11.9	23.8	1029	5.03	6	0.7	2.1	629	<0.1	2.2	<0.1	280	5.70
3261633	Drill Core	4.65	<0.005	0.3	47.3	2.3	41	<0.1	13.4	23.3	1045	5.13	5	0.7	1.7	609	<0.1	1.6	<0.1	283	6.20
3261634	Drill Core	4.39	0.006	0.9	96.7	2.4	38	0.1	12.7	23.4	991	5.27	5	0.7	1.9	593	0.2	1.4	<0.1	283	6.16
3261635	Drill Core	4.87	<0.005	1.6	61.4	2.2	41	0.1	14.2	24.4	1025	5.27	5	0.7	1.7	631	<0.1	1.4	<0.1	286	6.11

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Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261606	Drill Core	0.108	10.3	4	0.79	1420	0.306	8.37	4.429	2.93	0.3	25.2	20	0.7	11.6	12.4	0.6	1	4	7.0	0.1
3261607	Drill Core	0.104	10.1	4	0.74	1450	0.294	8.47	4.156	3.08	0.3	30.6	19	0.8	12.5	12.0	0.6	<1	3	5.3	0.2
3261608	Drill Core	0.106	8.3	4	0.77	897	0.268	7.78	4.323	2.63	0.7	18.6	16	0.7	9.6	10.6	0.6	<1	3	6.6	0.5
3261609	Drill Core	0.127	7.7	4	1.03	1081	0.320	7.73	3.538	3.39	0.5	19.1	15	0.9	11.0	10.3	0.5	<1	4	6.7	0.4
3261610	Rock	0.006	1.2	2	2.43	12	0.005	0.06	0.031	0.01	<0.1	1.0	1	<0.1	2.1	<0.1	<0.1	<1	<1	0.6	<0.1
3261611	Drill Core	0.128	9.1	5	0.98	1073	0.319	7.88	3.320	3.70	2.3	21.2	18	0.9	12.8	11.5	0.5	1	4	8.0	0.5
3261612	Drill Core	0.122	9.0	4	0.86	1210	0.314	8.06	3.852	3.06	0.6	22.8	18	0.7	12.1	11.5	0.6	<1	4	6.9	0.2
3261613	Drill Core	0.106	9.4	5	0.76	1867	0.339	8.64	3.915	4.13	0.5	24.6	19	0.7	14.6	11.9	0.5	<1	4	5.1	0.2
3261614	Drill Core	0.089	9.1	5	0.66	1327	0.278	8.49	3.605	4.70	0.6	28.8	19	1.1	13.1	12.0	0.5	<1	4	4.8	0.2
3261615	Drill Core	0.060	8.7	4	0.54	908	0.234	8.31	3.252	5.26	1.8	23.9	20	0.7	11.0	11.3	0.5	<1	3	4.8	0.6
3261616	Drill Core	0.078	9.3	5	0.60	1045	0.255	8.41	4.067	3.96	0.7	21.7	21	0.7	13.1	9.3	0.5	<1	4	5.3	0.5
3261617	Drill Core	0.082	8.4	4	0.58	814	0.285	8.14	4.254	3.69	1.3	24.4	20	1.0	12.8	11.0	0.6	<1	3	5.1	0.6
3261618	Drill Core	0.074	9.9	4	0.59	1094	0.297	8.44	4.117	3.99	0.4	28.4	20	0.9	14.6	12.2	0.5	<1	3	4.3	0.4
3261619	Drill Core	0.077	9.8	5	0.89	1167	0.292	8.48	3.881	3.78	0.4	23.1	19	0.9	13.1	9.1	0.5	1	7	6.8	0.5
3261620	Rock Pulp	0.091	31.6	66	1.45	957	0.494	7.27	2.016	3.20	4.4	64.4	62	3.1	24.3	15.5	1.2	3	12	30.9	0.5
3261621	Drill Core	0.076	9.7	10	1.39	1009	0.362	8.10	3.326	3.47	0.2	24.4	19	0.7	14.0	9.1	0.4	<1	13	10.3	0.3
3261622	Drill Core	0.083	10.4	9	1.47	1030	0.385	8.48	3.564	3.30	0.3	22.1	19	0.8	14.5	8.7	0.5	<1	14	10.2	0.4
3261623	Drill Core	0.083	8.7	12	1.96	977	0.421	8.35	3.332	2.92	0.6	19.9	17	0.9	15.6	6.7	0.3	<1	19	14.8	0.3
3261624	Drill Core	0.092	11.2	10	1.60	1059	0.389	8.53	3.783	3.42	0.3	23.6	22	0.9	14.9	9.5	0.4	<1	14	9.8	0.3
3261625	Drill Core	0.089	7.1	5	1.06	1021	0.279	8.16	3.636	3.97	0.4	20.0	15	0.8	10.5	7.8	0.3	<1	7	6.4	0.5
3261626	Drill Core	0.104	10.2	5	1.35	1143	0.347	8.43	3.456	4.09	0.3	24.0	20	0.9	14.9	9.0	0.4	1	9	10.3	0.4
3261627	Drill Core	0.087	10.1	9	1.42	1001	0.392	8.04	3.081	3.99	0.3	25.8	20	0.9	14.2	9.4	0.4	<1	13	10.1	0.5
3261628	Drill Core	0.090	9.3	14	1.93	792	0.467	8.60	3.237	2.51	0.4	21.4	17	0.8	16.5	6.9	0.3	<1	22	17.5	0.4
3261629	Drill Core	0.095	9.3	13	2.06	862	0.490	8.95	3.102	2.41	0.6	20.7	19	0.7	17.0	6.3	0.3	<1	22	16.1	0.2
3261630	Rock	0.005	1.5	2	2.53	12	0.006	0.05	0.037	<0.01	<0.1	1.1	<1	<0.1	2.3	0.2	<0.1	<1	<1	0.7	<0.1
3261631	Drill Core	0.094	8.7	15	1.56	1092	0.396	8.03	3.236	3.99	0.5	21.5	19	0.7	14.6	8.2	0.4	<1	13	14.5	0.2
3261632	Drill Core	0.097	9.1	13	2.05	847	0.496	8.71	3.173	2.53	0.4	20.9	19	0.9	17.8	6.4	0.4	<1	22	17.6	0.2
3261633	Drill Core	0.098	9.1	13	2.09	867	0.482	8.77	3.152	1.97	0.3	19.8	19	0.6	17.4	6.1	0.4	<1	21	17.9	0.2
3261634	Drill Core	0.090	8.4	13	2.04	890	0.496	8.68	3.257	2.11	0.3	19.9	17	0.7	16.6	6.2	0.3	<1	22	19.1	0.2
3261635	Drill Core	0.097	9.2	15	2.14	935	0.461	8.77	3.231	1.99	0.2	21.7	18	0.7	18.3	6.2	0.3	<1	21	19.0	0.2

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261606	Drill Core	40.6	1.0	<0.05	0.009	1	<0.5	<0.5	<0.01
3261607	Drill Core	36.9	1.2	<0.05	0.015	<1	<0.5	<0.5	<0.01
3261608	Drill Core	34.8	0.7	<0.05	0.012	<1	<0.5	<0.5	<0.01
3261609	Drill Core	45.8	0.9	<0.05	0.060	<1	<0.5	<0.5	<0.01
3261610	Rock	0.2	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261611	Drill Core	51.2	0.9	<0.05	0.016	1	<0.5	<0.5	<0.01
3261612	Drill Core	38.2	1.1	<0.05	0.005	<1	<0.5	<0.5	<0.01
3261613	Drill Core	44.4	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261614	Drill Core	56.7	1.1	0.07	0.006	<1	<0.5	<0.5	<0.01
3261615	Drill Core	65.4	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.01
3261616	Drill Core	47.1	1.0	<0.05	<0.005	<1	0.6	<0.5	<0.01
3261617	Drill Core	44.5	1.0	0.05	<0.005	<1	<0.5	<0.5	<0.01
3261618	Drill Core	52.1	1.2	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261619	Drill Core	55.8	0.9	0.06	<0.005	<1	0.6	<0.5	<0.01
3261620	Rock Pulp	177.6	2.0	0.09	0.005	2	0.7	0.9	0.03
3261621	Drill Core	53.3	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261622	Drill Core	53.5	1.0	<0.05	<0.005	<1	1.2	<0.5	<0.01
3261623	Drill Core	52.4	0.8	0.06	<0.005	<1	1.4	<0.5	<0.01
3261624	Drill Core	50.0	1.2	<0.05	0.017	<1	0.7	<0.5	<0.01
3261625	Drill Core	52.4	0.9	<0.05	<0.005	<1	0.9	<0.5	<0.01
3261626	Drill Core	63.7	1.0	0.05	<0.005	<1	0.9	<0.5	0.01
3261627	Drill Core	59.9	1.0	0.05	<0.005	<1	1.4	<0.5	<0.01
3261628	Drill Core	45.6	1.0	0.09	<0.005	<1	1.2	<0.5	<0.01
3261629	Drill Core	44.8	0.9	<0.05	0.007	<1	1.7	<0.5	<0.01
3261630	Rock	0.1	<0.1	<0.05	0.006	<1	3.7	<0.5	<0.01
3261631	Drill Core	56.3	0.9	0.06	<0.005	<1	1.4	<0.5	<0.01
3261632	Drill Core	44.7	1.0	<0.05	<0.005	<1	1.1	<0.5	<0.01
3261633	Drill Core	39.6	1.0	0.07	<0.005	<1	1.5	<0.5	<0.01
3261634	Drill Core	39.9	0.9	<0.05	<0.005	<1	1.7	<0.5	<0.01
3261635	Drill Core	40.2	1.0	<0.05	<0.005	<1	1.5	<0.5	<0.01

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261636	Drill Core	4.27	<0.005	0.4	57.2	2.3	31	<0.1	8.3	15.4	818	4.35	4	0.6	1.8	618	0.1	2.0	<0.1	252	5.32
3261637	Drill Core	4.25	<0.005	1.0	46.9	2.1	24	<0.1	4.4	11.4	640	3.36	3	0.8	2.2	537	<0.1	1.8	<0.1	217	4.20
3261638	Drill Core	4.27	<0.005	0.9	70.3	2.5	24	0.1	4.4	10.2	657	3.24	4	0.9	2.4	504	<0.1	1.8	<0.1	205	4.13
3261639	Drill Core	4.37	<0.005	8.7	74.6	2.5	24	0.1	4.0	8.6	629	3.09	3	1.0	2.7	513	0.1	1.9	<0.1	193	4.19
3261640	Rock Pulp	0.11	0.595	37.0	5133.4	57.9	308	2.1	15.3	12.7	866	5.05	69	0.8	4.1	243	1.9	3.6	1.0	96	1.40
3261641	Drill Core	4.44	0.007	5.0	58.5	2.9	29	<0.1	5.2	13.3	783	4.06	4	1.0	2.7	620	<0.1	3.1	<0.1	231	4.88
3261642	Drill Core	1.36	<0.005	0.2	9.5	1.9	19	<0.1	6.3	11.9	735	3.73	3	0.8	2.0	677	<0.1	2.6	<0.1	200	4.47
3261643	Drill Core	3.04	0.016	0.8	43.9	2.3	18	<0.1	5.8	8.6	543	2.75	9	0.5	1.7	438	<0.1	3.9	<0.1	158	3.95
3261644	Drill Core	3.81	0.017	1.2	41.2	2.6	17	<0.1	5.9	9.0	605	2.72	7	0.6	1.8	466	0.1	3.0	<0.1	153	3.93
3261645	Core DUP		0.017	1.0	38.5	2.4	16	<0.1	5.7	8.3	621	2.69	6	0.7	2.1	463	<0.1	2.9	<0.1	150	3.88
3261646	Drill Core	2.62	<0.005	2.1	40.1	2.6	18	<0.1	5.9	7.5	649	2.93	3	0.8	2.4	753	0.1	1.9	<0.1	171	3.06
3261647	Drill Core	4.47	<0.005	10.7	72.1	3.4	19	<0.1	6.0	7.8	603	2.94	4	0.8	2.7	663	<0.1	1.3	<0.1	182	3.24
3261648	Drill Core	4.38	<0.005	4.7	35.9	5.4	57	<0.1	6.3	9.2	602	2.89	3	0.6	1.8	787	0.3	1.8	<0.1	166	4.02
3261649	Drill Core	4.07	<0.005	1.4	31.7	3.2	17	<0.1	6.0	7.5	520	3.00	3	0.9	2.5	831	<0.1	1.4	<0.1	181	3.30
3261650	Rock	1.09	<0.005	<0.1	1.0	0.6	8	<0.1	1.0	<0.2	176	0.18	3	0.1	<0.1	71	0.1	<0.1	<0.1	1	33.42
3261651	Drill Core	4.31	0.010	2.9	129.8	5.1	35	0.2	6.4	9.1	395	2.92	5	0.8	2.4	731	0.2	1.3	<0.1	176	3.22
3261652	Drill Core	4.31	0.005	15.8	93.9	2.0	17	0.1	5.8	7.3	403	2.80	2	0.9	2.4	736	<0.1	1.1	<0.1	171	3.26
3261653	Drill Core	4.51	<0.005	1.0	53.4	2.3	15	<0.1	6.1	6.2	412	2.52	3	1.0	3.1	747	<0.1	0.6	<0.1	164	2.90
3261654	Drill Core	4.54	0.010	90.8	140.2	3.6	18	0.2	5.4	8.3	439	2.77	3	1.0	2.9	730	0.2	1.2	0.2	170	3.35
3261655	Drill Core	4.60	0.007	3.5	176.1	3.0	19	0.2	6.0	7.6	491	2.69	3	1.0	3.0	658	0.2	1.3	<0.1	170	3.05
3261656	Drill Core	4.28	0.006	1.3	102.8	4.5	31	<0.1	5.2	7.5	515	2.67	2	0.9	2.7	656	0.1	0.9	<0.1	178	3.09
3261657	Drill Core	4.58	0.005	1.4	100.0	2.1	16	<0.1	5.7	7.7	474	2.88	2	0.8	2.4	793	0.2	0.8	<0.1	170	3.43
3261658	Drill Core	4.83	0.013	12.1	115.2	2.6	21	0.1	3.9	7.2	451	2.93	4	1.0	2.6	689	0.2	2.3	<0.1	162	3.61
3261659	Drill Core	4.48	0.008	1.4	81.8	2.1	14	<0.1	3.2	6.6	515	2.88	3	1.1	3.2	814	<0.1	1.4	<0.1	163	3.64
3261660	Rock Pulp	0.13	0.700	322.6	5465.6	20.5	91	0.8	41.0	15.2	559	5.20	29	4.3	16.6	321	0.5	3.8	0.7	128	2.73
3261661	Drill Core	4.53	0.006	2.0	116.3	2.4	16	0.1	2.5	7.6	496	2.90	3	1.1	2.7	802	0.1	1.6	<0.1	165	3.49
3261662	Drill Core	4.19	0.005	0.6	84.5	2.7	19	<0.1	2.2	7.8	783	3.16	3	1.0	2.7	940	<0.1	2.1	<0.1	158	4.12
3261663	Drill Core	4.63	<0.005	0.5	62.3	2.4	19	<0.1	1.9	7.0	621	3.05	3	0.8	2.3	817	<0.1	1.3	<0.1	174	4.07
3261664	Drill Core	4.62	<0.005	3.4	83.2	2.4	22	0.1	2.5	7.2	628	3.38	3	0.9	2.6	814	<0.1	1.1	<0.1	194	4.79
3261665	Drill Core	4.45	<0.005	3.2	86.5	3.0	31	0.1	3.2	8.4	685	3.68	4	0.9	3.1	847	0.1	1.0	<0.1	190	4.76

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261636	Drill Core	0.111	8.1	9	1.54	987	0.392	8.54	3.649	2.38	0.2	19.0	16	0.7	15.1	6.9	0.3	<1	13	10.6	0.2
3261637	Drill Core	0.111	8.0	4	0.98	1046	0.314	8.28	3.906	3.09	0.2	19.1	18	0.6	14.9	8.1	0.4	<1	6	8.0	0.2
3261638	Drill Core	0.104	7.8	4	0.97	1051	0.308	8.26	3.926	3.39	0.3	20.9	16	0.7	12.8	7.8	0.4	<1	5	5.7	0.3
3261639	Drill Core	0.103	9.1	4	0.99	1021	0.303	8.64	4.088	3.24	0.3	21.9	18	0.9	13.9	8.2	0.4	<1	6	6.4	0.3
3261640	Rock Pulp	0.073	13.8	28	0.86	184	0.246	7.69	1.179	2.64	5.1	4.7	29	1.7	10.0	4.1	0.3	1	9	26.0	1.9
3261641	Drill Core	0.130	10.3	5	1.31	914	0.375	8.74	3.657	2.86	0.3	19.6	20	0.7	16.8	7.9	0.4	<1	8	9.4	0.3
3261642	Drill Core	0.125	11.7	9	1.20	1198	0.338	9.00	4.229	2.50	0.2	17.3	23	0.3	16.4	6.5	0.3	1	8	8.4	<0.1
3261643	Drill Core	0.096	7.3	9	0.67	1008	0.197	7.76	4.492	2.92	1.5	10.6	16	0.6	7.8	6.6	0.3	<1	5	5.7	0.5
3261644	Drill Core	0.101	8.4	9	0.82	656	0.206	8.15	4.853	2.57	1.5	12.9	18	0.5	9.1	6.8	0.3	<1	5	8.2	0.6
3261645	Core DUP	0.098	9.2	8	0.84	537	0.205	8.33	4.609	2.58	1.4	11.4	19	0.3	10.2	6.7	0.3	<1	5	8.8	0.6
3261646	Drill Core	0.104	10.7	9	0.95	1269	0.302	8.66	4.910	2.88	0.3	17.5	22	0.5	13.8	10.5	0.5	2	5	7.6	0.2
3261647	Drill Core	0.107	11.2	9	0.86	1155	0.291	8.69	4.902	2.92	0.3	17.3	21	0.6	14.6	9.6	0.5	<1	5	6.2	0.4
3261648	Drill Core	0.102	9.0	10	0.85	1337	0.297	7.81	4.564	2.72	0.5	15.4	19	0.6	12.2	9.1	0.5	1	6	9.2	0.2
3261649	Drill Core	0.105	11.6	9	0.83	1255	0.301	8.73	4.702	2.77	0.2	17.2	22	0.7	13.8	10.5	0.5	<1	5	4.8	0.2
3261650	Rock	0.007	1.4	2	2.67	11	0.006	0.07	0.028	0.02	<0.1	1.1	1	<0.1	2.3	<0.1	<0.1	<1	<1	0.6	<0.1
3261651	Drill Core	0.103	10.8	9	0.85	1285	0.283	8.50	4.601	3.23	0.2	16.1	21	1.1	13.0	9.9	0.5	1	6	4.3	0.5
3261652	Drill Core	0.103	10.3	8	0.83	1272	0.261	8.23	4.465	3.15	0.2	13.9	18	0.8	11.5	8.2	0.4	<1	5	3.8	0.4
3261653	Drill Core	0.097	10.9	8	0.79	1288	0.252	8.54	4.726	3.38	0.1	16.8	19	0.6	11.5	10.1	0.5	1	5	2.4	0.3
3261654	Drill Core	0.101	11.7	8	0.84	1131	0.260	8.59	4.763	3.13	0.3	15.7	20	0.8	11.7	8.9	0.4	1	5	3.7	0.6
3261655	Drill Core	0.100	11.7	8	0.94	1173	0.265	8.82	4.851	3.26	0.3	17.8	20	0.6	12.6	9.2	0.5	<1	5	6.9	0.5
3261656	Drill Core	0.103	11.9	8	0.92	1248	0.268	8.74	4.751	3.30	0.4	15.6	21	0.6	12.4	9.2	0.5	1	5	4.2	0.4
3261657	Drill Core	0.106	12.7	8	0.90	1336	0.272	9.04	4.454	3.09	0.2	13.3	22	0.8	12.8	9.1	0.5	2	5	4.2	0.4
3261658	Drill Core	0.099	12.0	7	0.74	1248	0.268	8.51	4.524	2.87	0.7	15.5	21	0.8	12.1	10.7	0.5	<1	5	6.4	0.5
3261659	Drill Core	0.088	11.6	5	0.67	1385	0.291	8.74	4.813	2.99	0.2	24.5	20	0.8	12.6	13.9	0.7	<1	4	3.2	0.2
3261660	Rock Pulp	0.100	30.7	67	1.52	956	0.475	7.45	2.070	3.48	5.0	61.3	58	3.4	21.5	14.6	1.1	3	12	29.9	0.6
3261661	Drill Core	0.086	10.0	5	0.64	1390	0.291	8.60	4.622	3.08	0.4	19.4	18	0.8	12.3	12.7	0.7	<1	3	5.3	0.4
3261662	Drill Core	0.104	10.8	4	0.78	1429	0.290	8.45	4.385	2.90	0.5	17.6	20	0.6	13.6	11.3	0.6	<1	4	9.0	0.4
3261663	Drill Core	0.102	10.4	4	0.77	1184	0.302	8.69	4.607	2.65	0.2	18.5	21	0.7	14.8	11.5	0.6	<1	4	6.0	0.2
3261664	Drill Core	0.130	11.6	3	0.89	969	0.334	9.04	4.237	2.75	0.3	18.4	21	1.1	15.2	10.6	0.6	<1	5	7.2	0.3
3261665	Drill Core	0.135	12.5	4	0.97	909	0.354	8.92	4.332	2.62	0.3	19.0	22	0.9	15.1	12.3	0.6	1	5	7.0	0.3

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261636	Drill Core	36.9	0.8	<0.05	<0.005	<1	1.2	<0.5	<0.01
3261637	Drill Core	47.5	0.8	<0.05	<0.005	<1	1.0	<0.5	<0.01
3261638	Drill Core	47.6	1.1	<0.05	<0.005	<1	1.0	<0.5	<0.01
3261639	Drill Core	53.5	1.0	<0.05	<0.005	<1	0.8	<0.5	<0.01
3261640	Rock Pulp	95.3	0.2	0.13	0.125	3	<0.5	1.2	0.04
3261641	Drill Core	49.5	0.9	<0.05	<0.005	<1	0.9	<0.5	<0.01
3261642	Drill Core	40.6	0.9	<0.05	<0.005	<1	0.8	<0.5	<0.01
3261643	Drill Core	46.6	0.5	<0.05	<0.005	<1	0.6	<0.5	<0.01
3261644	Drill Core	41.9	0.5	<0.05	<0.005	<1	0.8	<0.5	<0.01
3261645	Core DUP	46.3	0.5	<0.05	<0.005	<1	0.5	<0.5	<0.01
3261646	Drill Core	42.1	0.8	<0.05	0.005	<1	0.7	<0.5	<0.01
3261647	Drill Core	43.6	0.9	<0.05	0.011	<1	0.8	<0.5	<0.01
3261648	Drill Core	37.5	0.7	<0.05	0.006	<1	0.7	<0.5	0.02
3261649	Drill Core	42.3	0.9	<0.05	<0.005	<1	0.6	<0.5	<0.01
3261650	Rock	0.5	<0.1	<0.05	<0.005	2	3.5	<0.5	<0.01
3261651	Drill Core	45.3	0.7	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261652	Drill Core	39.1	0.7	<0.05	0.009	<1	<0.5	<0.5	<0.01
3261653	Drill Core	40.3	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261654	Drill Core	39.9	0.7	<0.05	0.087	<1	<0.5	<0.5	<0.01
3261655	Drill Core	43.8	0.9	<0.05	0.006	<1	<0.5	<0.5	<0.01
3261656	Drill Core	43.6	0.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261657	Drill Core	44.2	0.6	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261658	Drill Core	41.6	0.7	<0.05	0.009	1	<0.5	<0.5	<0.01
3261659	Drill Core	36.5	1.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261660	Rock Pulp	155.2	2.0	0.07	<0.005	3	0.7	0.9	0.03
3261661	Drill Core	36.9	1.0	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261662	Drill Core	42.1	0.8	<0.05	<0.005	1	0.6	<0.5	<0.01
3261663	Drill Core	30.7	0.9	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261664	Drill Core	33.6	0.8	<0.05	0.006	1	0.6	<0.5	<0.01
3261665	Drill Core	32.5	0.8	<0.05	0.006	1	<0.5	<0.5	<0.01

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261666	Drill Core	4.47	<0.005	1.0	77.4	2.6	29	<0.1	3.0	7.8	747	3.75	3	0.9	2.9	1034	<0.1	1.2	<0.1	182	5.20
3261667	Drill Core	4.54	0.007	0.9	116.7	2.8	29	0.2	3.4	8.9	630	3.40	3	0.9	2.5	757	0.1	1.1	<0.1	184	4.20
3261668	Drill Core	4.38	0.006	1.6	123.2	2.6	22	0.2	2.6	7.6	612	3.34	3	0.9	2.6	820	<0.1	1.1	<0.1	169	4.46
3261669	Drill Core	4.46	0.006	3.6	141.8	2.7	23	0.2	2.7	8.8	625	3.23	3	1.0	2.9	940	0.2	1.1	<0.1	169	4.46
3261670	Rock	1.23	<0.005	<0.1	2.2	0.5	4	<0.1	<0.1	<0.2	172	0.15	2	0.1	<0.1	74	<0.1	<0.1	<0.1	<1	34.62
3261671	Drill Core	4.10	<0.005	1.2	98.1	2.9	24	0.1	4.0	8.1	749	3.56	4	1.0	2.6	1213	<0.1	2.5	<0.1	188	5.47
3261672	Drill Core	4.59	0.011	1.1	274.9	2.8	29	0.4	5.4	9.3	731	3.42	3	1.0	2.7	822	0.2	1.6	<0.1	209	5.10
3261673	Drill Core	4.57	0.006	0.8	132.5	2.7	29	0.2	5.5	10.1	685	3.38	3	0.9	2.7	846	<0.1	2.6	<0.1	201	5.06
3261674	Drill Core	4.60	0.005	0.5	83.2	2.8	26	<0.1	5.6	10.4	641	3.87	3	1.0	2.8	809	<0.1	1.5	<0.1	208	4.75
3261675	Drill Core	4.60	0.008	0.6	152.8	2.9	26	0.2	7.5	10.4	666	3.73	3	1.0	2.9	839	0.2	2.2	<0.1	215	4.76
3261676	Drill Core	4.10	<0.005	1.4	101.3	2.5	21	0.1	5.2	8.7	606	3.40	3	1.2	3.3	731	<0.1	1.4	<0.1	199	4.42
3261677	Drill Core	3.84	0.006	4.1	69.9	2.4	25	0.1	7.6	10.0	767	3.87	4	1.0	3.4	754	<0.1	1.3	<0.1	201	4.38
3261678	Drill Core	2.76	0.009	4.2	131.3	3.9	32	0.4	7.5	11.4	1098	3.42	4	1.0	2.7	720	0.1	4.5	0.3	200	6.99
3261679	Drill Core	4.97	0.007	0.8	140.0	3.7	27	0.2	8.8	11.3	801	3.58	5	1.0	3.4	783	<0.1	1.6	<0.1	214	4.25
3261680	Rock Pulp	0.11	0.594	33.3	5343.6	56.4	295	2.1	16.4	12.0	813	5.13	65	0.8	4.1	227	1.9	3.1	0.9	99	1.49
3261681	Drill Core	4.18	0.022	12.7	151.8	6.4	40	0.5	7.3	11.2	1123	4.03	7	1.0	3.0	829	0.2	1.7	0.8	232	4.83
3261682	Drill Core	4.46	0.015	2.5	99.9	8.1	27	0.4	6.1	8.5	899	2.87	4	1.0	2.7	575	0.2	0.9	0.4	202	5.23
3261683	Drill Core	5.18	0.019	15.7	255.8	3.4	29	0.4	8.1	10.0	695	3.13	4	1.0	3.2	643	0.2	1.2	0.5	236	4.16
3261684	Drill Core	5.03	<0.005	1.1	98.0	5.7	47	0.2	9.0	10.8	654	3.72	4	1.0	3.7	745	0.2	1.6	<0.1	217	4.02
3261685	Core DUP		0.006	1.4	117.2	6.7	59	0.2	8.6	10.9	717	3.60	3	1.0	3.5	706	0.2	1.5	<0.1	207	3.87
3261686	Drill Core	4.72	0.008	58.0	187.4	6.6	40	0.3	12.5	12.4	733	3.79	3	1.0	3.5	718	0.1	1.8	0.1	212	4.03
3261687	Drill Core	4.76	0.006	13.0	164.4	4.4	24	0.2	8.8	10.4	827	3.59	5	1.0	3.4	618	0.1	1.8	0.2	189	5.03
3261688	Drill Core	4.54	<0.005	2.0	60.6	4.5	27	<0.1	9.6	9.3	731	3.66	4	1.2	3.8	632	<0.1	1.0	<0.1	191	4.23
3261689	Drill Core	5.04	0.005	0.3	74.5	3.2	18	<0.1	6.9	9.8	703	3.74	3	1.2	3.9	741	<0.1	1.0	<0.1	200	3.90
3261690	Rock	1.17	<0.005	<0.1	2.3	0.4	5	<0.1	1.0	<0.2	173	0.15	4	<0.1	<0.1	65	<0.1	<0.1	<0.1	1	33.54
3261691	Drill Core	4.98	<0.005	12.0	88.4	4.2	20	<0.1	3.6	9.2	620	3.43	3	1.4	3.9	652	<0.1	1.3	<0.1	196	3.94
3261692	Drill Core	4.79	0.008	70.3	74.0	6.0	27	0.1	3.5	10.5	749	3.93	5	1.1	2.8	877	0.2	2.5	0.3	225	4.03
3261693	Drill Core	4.84	0.006	53.3	199.4	3.6	29	0.2	4.3	13.1	640	3.49	5	1.1	3.6	654	<0.1	0.9	<0.1	234	3.31
3261694	Drill Core	4.67	<0.005	2.9	76.3	3.8	37	0.1	3.7	11.2	738	3.75	3	1.0	3.5	737	<0.1	0.9	<0.1	240	3.69
3261695	Drill Core	4.94	0.005	0.4	77.9	3.0	29	<0.1	3.7	11.0	729	3.78	4	1.0	3.4	746	<0.1	0.7	<0.1	247	4.10

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
Unit		%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261666	Drill Core	0.138	12.8	4	1.00	1006	0.342	9.08	4.221	2.53	0.3	17.4	23	0.7	15.2	12.3	0.7	<1	5	7.2	0.2
3261667	Drill Core	0.124	12.7	5	0.94	1141	0.315	8.70	4.242	3.46	0.4	18.3	23	0.7	15.4	11.8	0.6	<1	5	6.0	0.3
3261668	Drill Core	0.116	11.8	4	0.85	1112	0.310	8.82	3.901	3.59	0.5	18.3	22	0.8	13.5	11.9	0.6	1	4	4.8	0.4
3261669	Drill Core	0.125	12.4	4	0.90	1091	0.344	9.20	4.050	3.41	0.2	22.5	23	0.8	15.0	14.0	0.8	<1	5	4.3	0.3
3261670	Rock	0.006	1.2	1	2.08	11	0.004	0.06	0.026	0.01	<0.1	0.9	<1	<0.1	2.2	<0.1	<0.1	<1	<1	0.8	<0.1
3261671	Drill Core	0.134	11.4	5	1.00	1072	0.326	8.34	3.873	2.80	0.3	19.9	21	0.7	12.5	11.1	0.5	1	6	4.6	0.2
3261672	Drill Core	0.144	12.1	7	1.15	1135	0.353	8.78	3.785	3.30	0.4	18.1	22	0.8	13.6	11.4	0.6	2	6	6.7	0.4
3261673	Drill Core	0.141	11.5	7	1.06	966	0.341	8.52	3.792	3.32	0.5	17.5	21	0.7	13.4	11.3	0.6	<1	7	6.0	0.4
3261674	Drill Core	0.151	13.5	7	1.16	980	0.356	9.04	3.832	3.29	0.3	18.5	25	0.6	14.7	12.6	0.7	<1	6	5.6	0.2
3261675	Drill Core	0.155	12.7	8	1.11	968	0.352	8.70	3.968	3.24	0.2	18.7	24	0.6	14.9	13.3	0.8	<1	6	5.5	0.2
3261676	Drill Core	0.139	12.5	8	1.08	1016	0.342	8.88	4.042	3.47	0.2	19.2	24	0.7	14.2	14.3	0.7	<1	6	5.6	0.3
3261677	Drill Core	0.151	13.7	10	1.27	1117	0.365	8.87	4.205	3.20	0.4	22.2	25	0.6	14.7	12.4	0.7	<1	7	6.9	0.3
3261678	Drill Core	0.116	11.8	11	1.28	733	0.301	7.56	3.314	2.48	0.6	13.9	21	0.8	11.6	10.5	0.5	<1	6	21.2	0.5
3261679	Drill Core	0.144	12.3	14	1.41	986	0.361	8.79	3.860	3.67	0.7	18.4	23	0.8	13.3	13.6	0.7	<1	7	10.5	0.5
3261680	Rock Pulp	0.077	15.1	27	0.88	108	0.234	8.36	1.148	2.73	3.8	4.1	30	1.7	10.4	4.0	0.3	<1	11	27.1	1.9
3261681	Drill Core	0.140	12.4	10	1.36	191	0.258	8.34	2.632	4.51	4.8	12.3	24	1.1	12.7	9.6	0.5	1	6	17.0	1.3
3261682	Drill Core	0.145	11.7	11	0.81	199	0.255	8.28	2.920	5.10	4.2	16.5	23	1.1	12.3	9.7	0.5	<1	6	10.2	1.3
3261683	Drill Core	0.142	12.4	13	1.11	676	0.337	8.44	3.178	4.55	1.0	20.4	23	1.3	13.2	13.3	0.7	2	7	8.2	0.7
3261684	Drill Core	0.147	13.2	15	1.32	1052	0.360	8.71	3.908	3.60	0.4	21.0	25	0.8	14.1	14.2	0.7	<1	7	7.0	0.3
3261685	Core DUP	0.146	12.3	15	1.29	1060	0.371	8.32	3.570	3.37	0.5	22.6	23	0.9	12.9	14.4	0.7	<1	7	8.4	0.2
3261686	Drill Core	0.124	11.7	20	1.29	995	0.374	8.10	3.624	2.83	0.7	23.1	23	1.2	12.9	14.8	0.7	1	7	6.3	0.4
3261687	Drill Core	0.108	13.4	17	1.15	910	0.325	7.94	3.134	3.08	2.1	21.5	25	1.1	14.6	13.8	0.7	<1	7	11.9	0.7
3261688	Drill Core	0.121	14.4	17	1.17	1069	0.367	8.41	3.638	2.98	0.6	21.5	28	1.1	14.2	15.8	0.8	2	7	11.9	0.2
3261689	Drill Core	0.120	15.7	11	1.18	1137	0.348	8.53	3.924	3.01	0.2	22.9	29	1.1	15.3	14.9	0.8	<1	6	9.1	0.2
3261690	Rock	0.004	1.3	<1	1.86	11	0.005	0.06	0.030	0.01	<0.1	0.8	1	<0.1	2.0	<0.1	<0.1	<1	<1	0.5	<0.1
3261691	Drill Core	0.123	15.0	3	0.97	1193	0.329	8.44	3.729	3.14	0.9	23.7	27	0.9	14.0	13.6	0.7	<1	6	10.0	0.4
3261692	Drill Core	0.140	14.5	3	1.12	1219	0.348	8.06	3.499	2.93	0.8	22.2	28	0.8	16.0	13.0	0.7	<1	8	7.7	0.5
3261693	Drill Core	0.135	14.5	3	1.15	965	0.360	8.46	3.506	3.84	0.3	25.1	27	1.2	15.2	14.4	0.8	<1	9	8.7	0.7
3261694	Drill Core	0.130	13.6	3	1.14	1172	0.370	8.53	3.600	3.41	0.3	25.8	25	1.0	15.1	14.3	0.8	<1	9	7.3	0.2
3261695	Drill Core	0.138	14.2	3	1.12	1195	0.378	8.63	3.778	3.26	0.2	26.1	27	0.9	15.6	15.8	0.8	<1	9	5.7	0.1

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BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261666	Drill Core	33.3	0.7	<0.05	<0.005	<1	<0.5	<0.5	0.01
3261667	Drill Core	44.7	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261668	Drill Core	44.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261669	Drill Core	42.7	0.9	<0.05	<0.005	3	<0.5	<0.5	<0.01
3261670	Rock	0.2	<0.1	<0.05	<0.005	1	1.9	<0.5	<0.01
3261671	Drill Core	35.4	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261672	Drill Core	47.2	0.8	0.06	<0.005	1	<0.5	<0.5	<0.01
3261673	Drill Core	46.2	0.8	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261674	Drill Core	46.0	0.8	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261675	Drill Core	43.7	0.8	<0.05	<0.005	1	0.5	<0.5	<0.01
3261676	Drill Core	52.5	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261677	Drill Core	52.7	0.9	<0.05	0.005	<1	<0.5	<0.5	0.01
3261678	Drill Core	39.3	0.6	<0.05	<0.005	1	<0.5	<0.5	0.01
3261679	Drill Core	60.1	0.8	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261680	Rock Pulp	87.3	0.1	0.14	0.077	4	<0.5	1.3	0.04
3261681	Drill Core	71.5	0.7	<0.05	<0.005	2	0.7	<0.5	<0.01
3261682	Drill Core	87.0	0.8	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261683	Drill Core	73.9	0.9	<0.05	0.009	2	0.6	<0.5	<0.01
3261684	Drill Core	56.9	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261685	Core DUP	53.7	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261686	Drill Core	49.9	1.0	0.05	0.046	<1	<0.5	<0.5	<0.01
3261687	Drill Core	61.2	1.0	0.05	0.008	<1	0.7	<0.5	<0.01
3261688	Drill Core	65.8	1.1	<0.05	0.006	<1	<0.5	<0.5	<0.01
3261689	Drill Core	63.8	1.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
3261690	Rock	0.2	<0.1	<0.05	<0.005	<1	3.0	<0.5	<0.01
3261691	Drill Core	62.4	1.1	<0.05	0.006	2	<0.5	<0.5	0.01
3261692	Drill Core	50.9	1.0	0.05	0.072	<1	<0.5	<0.5	<0.01
3261693	Drill Core	68.7	1.1	<0.05	0.045	<1	<0.5	<0.5	<0.01
3261694	Drill Core	59.6	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261695	Drill Core	54.4	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261696	Drill Core	4.95	0.006	0.5	143.8	3.6	28	<0.1	4.0	11.6	690	3.80	6	1.1	3.4	796	<0.1	1.4	<0.1	243	4.05
3261697	Drill Core	4.81	0.007	2.9	117.1	3.0	23	0.1	4.1	9.5	658	3.68	6	1.2	3.9	813	<0.1	1.5	<0.1	238	4.19
3261698	Drill Core	4.70	0.014	44.8	236.3	3.1	27	0.3	4.4	11.4	692	3.94	3	1.3	4.3	853	0.2	1.5	0.2	247	4.20
3261699	Drill Core	4.91	0.007	0.8	126.2	2.6	25	0.1	4.0	9.2	635	3.68	4	1.3	4.0	732	<0.1	0.5	<0.1	233	3.98
3261700	Rock Pulp	0.13	0.680	316.0	5112.1	20.3	83	0.8	40.9	15.2	549	4.98	26	4.3	16.8	325	0.5	3.8	0.6	122	2.55
3261701	Drill Core	2.38	0.005	0.4	53.8	3.1	25	<0.1	4.0	9.0	685	3.73	3	1.3	4.4	777	<0.1	0.3	<0.1	235	4.03
3261702	Drill Core	3.51	<0.005	0.4	57.5	13.9	106	<0.1	4.5	8.2	725	3.40	2	1.1	2.8	727	0.7	0.3	<0.1	210	4.16
3261703	Drill Core	1.08	0.006	1.6	124.7	9.6	175	0.1	14.7	24.7	1731	5.97	4	1.2	2.6	732	0.7	1.2	<0.1	251	5.11
3261704	Drill Core	2.75	<0.005	1.3	131.7	3.1	35	<0.1	5.1	8.2	708	3.32	3	1.5	2.8	709	0.1	0.6	<0.1	191	3.98
3261705	Drill Core	4.73	<0.005	0.4	38.5	3.8	27	<0.1	4.2	7.0	687	3.16	4	1.5	2.5	668	<0.1	0.4	<0.1	180	3.83
3261706	Drill Core	4.42	0.007	12.6	72.2	2.9	22	<0.1	4.1	7.6	621	3.27	4	1.4	2.7	624	<0.1	0.6	<0.1	175	3.52
3261707	Drill Core	4.67	<0.005	0.4	50.8	2.2	21	<0.1	4.4	6.9	661	3.55	4	1.3	2.7	660	<0.1	0.6	<0.1	182	3.54
3261708	Drill Core	3.58	<0.005	0.4	31.9	2.5	19	<0.1	3.8	6.9	617	3.21	5	1.4	2.7	611	<0.1	1.9	<0.1	180	3.83

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
3261696	Drill Core	0.152	15.9	4	1.12	1281	0.389	8.78	3.668	3.41	0.2	28.4	29	1.1	17.2	16.0	0.8	<1	10	7.9	0.2
3261697	Drill Core	0.134	15.0	3	1.04	1163	0.344	8.33	3.565	3.10	0.3	26.2	28	1.1	15.9	14.2	0.7	1	9	5.6	0.3
3261698	Drill Core	0.141	14.9	3	1.10	1138	0.361	8.41	3.590	3.25	0.2	28.4	27	1.1	15.8	15.0	0.7	1	9	6.3	0.4
3261699	Drill Core	0.138	14.5	4	1.06	1122	0.350	8.40	3.541	3.53	0.1	28.6	26	1.2	15.6	15.0	0.7	<1	8	6.5	0.2
3261700	Rock Pulp	0.090	33.8	64	1.49	939	0.471	7.22	1.969	3.22	3.8	67.0	66	3.3	24.7	15.6	1.1	2	13	34.0	0.5
3261701	Drill Core	0.156	14.3	4	1.08	1206	0.375	8.42	3.567	3.48	<0.1	29.6	26	1.1	15.2	15.6	0.8	1	9	6.6	<0.1
3261702	Drill Core	0.125	12.8	4	1.08	1119	0.342	8.36	3.572	3.38	0.1	22.2	24	1.1	14.7	11.7	0.6	<1	8	5.3	<0.1
3261703	Drill Core	0.164	11.0	24	2.18	1845	0.458	8.12	1.818	3.36	0.8	39.0	21	0.9	17.2	6.7	0.4	1	20	17.0	<0.1
3261704	Drill Core	0.113	13.7	5	1.10	1103	0.343	8.47	3.818	3.19	0.2	19.7	25	1.0	16.9	9.5	0.6	1	9	8.0	0.1
3261705	Drill Core	0.115	13.2	4	1.14	1169	0.316	8.33	3.685	3.21	0.3	18.7	23	1.0	16.4	9.4	0.6	<1	9	8.7	<0.1
3261706	Drill Core	0.110	12.9	4	1.10	1150	0.329	8.53	3.605	3.42	0.2	18.6	23	1.0	17.0	9.9	0.6	<1	9	8.8	<0.1
3261707	Drill Core	0.109	13.0	4	1.21	1222	0.325	8.58	3.716	3.33	0.3	18.2	24	1.1	16.2	10.0	0.6	2	9	9.8	<0.1
3261708	Drill Core	0.102	12.8	4	1.02	1119	0.304	8.16	3.588	3.21	0.4	16.0	23	1.1	15.0	9.2	0.6	1	8	7.9	0.1

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

CERTIFICATE OF ANALYSIS VAN19002030.1

Method		MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
Analyte		Rb	Hf	In	Re	Se	Te	Tl	CVHg
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
3261696	Drill Core	62.4	1.3	0.07	<0.005	2	<0.5	<0.5	<0.01
3261697	Drill Core	58.2	1.1	<0.05	<0.005	<1	0.5	<0.5	<0.01
3261698	Drill Core	61.0	1.2	<0.05	0.039	<1	<0.5	<0.5	<0.01
3261699	Drill Core	57.6	1.3	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261700	Rock Pulp	170.5	1.9	0.10	0.005	3	<0.5	1.0	0.03
3261701	Drill Core	57.6	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261702	Drill Core	56.1	1.0	<0.05	<0.005	<1	<0.5	<0.5	0.05
3261703	Drill Core	84.2	1.3	<0.05	<0.005	<1	<0.5	<0.5	0.01
3261704	Drill Core	67.7	1.0	<0.05	<0.005	2	<0.5	<0.5	<0.01
3261705	Drill Core	66.4	0.9	<0.05	<0.005	<1	0.7	<0.5	<0.01
3261706	Drill Core	66.9	1.0	<0.05	0.007	<1	<0.5	<0.5	<0.01
3261707	Drill Core	66.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261708	Drill Core	62.2	0.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01

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Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

	Method	WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
Pulp Duplicates																					
3261550	Rock	1.64	<0.005	<0.1	1.1	0.3	3	<0.1	5.1	0.8	152	0.16	<1	<0.1	<0.1	67	<0.1	<0.1	<0.1	1	31.10
REP 3261550	QC		<0.005																		
3261564	Drill Core	4.33	0.011	0.6	177.1	2.5	23	0.5	3.0	7.9	637	3.30	2	0.8	2.1	651	0.2	2.3	0.3	163	3.63
REP 3261564	QC			0.6	182.8	2.6	25	0.5	3.0	8.0	647	3.35	2	0.8	2.2	669	0.2	2.3	0.3	168	3.74
3261568	Drill Core	4.41	0.053	2.2	328.5	3.9	24	1.2	4.8	10.0	714	4.01	2	1.0	3.0	560	0.2	1.8	0.7	222	3.89
REP 3261568	QC																				
3261592	Drill Core	4.68	0.009	9.4	51.1	3.7	32	0.1	8.9	11.2	560	2.92	3	0.5	2.1	418	0.1	5.2	0.2	149	3.62
REP 3261592	QC		0.010																		
3261598	Drill Core	2.18	0.010	5.1	98.1	3.0	38	0.1	8.2	13.4	792	3.30	2	0.5	2.1	312	0.2	6.6	0.2	235	4.04
REP 3261598	QC			5.5	95.9	3.1	37	0.1	8.3	12.7	798	3.34	3	0.4	2.0	321	0.2	6.8	0.2	239	4.09
3261603	Drill Core	2.91	0.007	3.9	72.1	3.9	33	<0.1	3.6	8.8	784	3.19	5	0.9	2.7	743	0.2	2.7	0.3	210	3.48
REP 3261603	QC																				
3261624	Drill Core	4.48	<0.005	11.9	66.4	3.4	33	<0.1	7.8	13.3	972	3.85	3	0.8	2.3	603	0.1	1.9	<0.1	273	3.97
REP 3261624	QC		<0.005																		
3261634	Drill Core	4.39	0.006	0.9	96.7	2.4	38	0.1	12.7	23.4	991	5.27	5	0.7	1.9	593	0.2	1.4	<0.1	283	6.16
REP 3261634	QC			0.9	93.8	2.3	43	0.1	12.5	23.8	919	5.18	5	0.6	1.7	595	0.1	1.3	<0.1	278	6.06
3261639	Drill Core	4.37	<0.005	8.7	74.6	2.5	24	0.1	4.0	8.6	629	3.09	3	1.0	2.7	513	0.1	1.9	<0.1	193	4.19
REP 3261639	QC																				
3261668	Drill Core	4.38	0.006	1.6	123.2	2.6	22	0.2	2.6	7.6	612	3.34	3	0.9	2.6	820	<0.1	1.1	<0.1	169	4.46
REP 3261668	QC		0.006																		
3261669	Drill Core	4.46	0.006	3.6	141.8	2.7	23	0.2	2.7	8.8	625	3.23	3	1.0	2.9	940	0.2	1.1	<0.1	169	4.46
REP 3261669	QC			3.6	142.2	2.6	23	0.2	2.9	9.0	644	3.20	4	0.9	2.9	894	<0.1	1.1	<0.1	169	4.45
3261674	Drill Core	4.60	0.005	0.5	83.2	2.8	26	<0.1	5.6	10.4	641	3.87	3	1.0	2.8	809	<0.1	1.5	<0.1	208	4.75
REP 3261674	QC																				
3261698	Drill Core	4.70	0.014	44.8	236.3	3.1	27	0.3	4.4	11.4	692	3.94	3	1.3	4.3	853	0.2	1.5	0.2	247	4.20
REP 3261698	QC			43.4	240.7	3.1	26	0.3	4.7	11.2	679	3.95	4	1.4	4.0	845	0.1	1.5	0.2	240	4.14
3261699	Drill Core	4.91	0.007	0.8	126.2	2.6	25	0.1	4.0	9.2	635	3.68	4	1.3	4.0	732	<0.1	0.5	<0.1	233	3.98
REP 3261699	QC		0.007																		

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	P	La	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S
	Unit	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1
Pulp Duplicates																					
3261550	Rock	0.006	1.1	<1	2.84	14	0.005	0.04	0.029	0.01	<0.1	1.2	<1	<0.1	1.9	0.1	<0.1	<1	<1	0.8	<0.1
REP 3261550	QC																				
3261564	Drill Core	0.105	9.8	3	0.86	1027	0.301	8.13	4.079	2.87	0.6	19.4	20	0.7	11.4	14.5	0.8	<1	4	6.5	0.3
REP 3261564	QC	0.107	10.7	3	0.89	1065	0.310	8.26	4.250	2.95	0.5	20.1	21	0.7	12.0	14.9	0.8	1	4	6.6	0.3
3261568	Drill Core	0.122	10.5	4	1.23	1053	0.330	8.79	3.990	3.09	0.7	20.3	20	0.8	12.9	11.6	0.5	<1	6	9.2	0.4
REP 3261568	QC																				
3261592	Drill Core	0.100	8.2	13	1.03	267	0.171	7.50	4.128	1.70	0.6	13.5	17	0.5	7.3	5.5	0.3	1	6	9.3	0.7
REP 3261592	QC																				
3261598	Drill Core	0.112	7.7	10	1.06	590	0.217	7.48	3.593	2.32	0.5	14.0	16	0.6	6.5	5.6	0.3	1	9	3.1	0.3
REP 3261598	QC	0.112	7.2	10	1.08	606	0.217	7.40	3.548	2.36	0.5	14.4	15	0.8	6.2	5.7	0.3	1	8	3.5	0.3
3261603	Drill Core	0.128	10.7	4	0.84	1397	0.319	8.08	3.847	2.90	0.2	27.7	20	0.8	12.3	12.2	0.6	<1	4	5.9	0.2
REP 3261603	QC																				
3261624	Drill Core	0.092	11.2	10	1.60	1059	0.389	8.53	3.783	3.42	0.3	23.6	22	0.9	14.9	9.5	0.4	<1	14	9.8	0.3
REP 3261624	QC																				
3261634	Drill Core	0.090	8.4	13	2.04	890	0.496	8.68	3.257	2.11	0.3	19.9	17	0.7	16.6	6.2	0.3	<1	22	19.1	0.2
REP 3261634	QC	0.089	7.9	14	2.02	845	0.497	8.59	3.180	1.92	0.3	20.3	17	0.8	16.1	6.0	0.3	<1	22	20.0	0.2
3261639	Drill Core	0.103	9.1	4	0.99	1021	0.303	8.64	4.088	3.24	0.3	21.9	18	0.9	13.9	8.2	0.4	<1	6	6.4	0.3
REP 3261639	QC																				
3261668	Drill Core	0.116	11.8	4	0.85	1112	0.310	8.82	3.901	3.59	0.5	18.3	22	0.8	13.5	11.9	0.6	1	4	4.8	0.4
REP 3261668	QC																				
3261669	Drill Core	0.125	12.4	4	0.90	1091	0.344	9.20	4.050	3.41	0.2	22.5	23	0.8	15.0	14.0	0.8	<1	5	4.3	0.3
REP 3261669	QC	0.125	12.2	3	0.90	1134	0.339	9.17	4.045	3.41	0.2	22.0	23	0.8	15.3	13.9	0.7	<1	5	5.4	0.3
3261674	Drill Core	0.151	13.5	7	1.16	980	0.356	9.04	3.832	3.29	0.3	18.5	25	0.6	14.7	12.6	0.7	<1	6	5.6	0.2
REP 3261674	QC																				
3261698	Drill Core	0.141	14.9	3	1.10	1138	0.361	8.41	3.590	3.25	0.2	28.4	27	1.1	15.8	15.0	0.7	1	9	6.3	0.4
REP 3261698	QC	0.136	16.0	3	1.08	1140	0.365	8.27	3.379	3.33	0.3	29.1	28	1.3	15.7	15.3	0.7	<1	8	5.7	0.4
3261699	Drill Core	0.138	14.5	4	1.06	1122	0.350	8.40	3.541	3.53	0.1	28.6	26	1.2	15.6	15.0	0.7	<1	8	6.5	0.2
REP 3261699	QC																				

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	CV402
	Analyte	Rb	Hf	In	Re	Se	Te	Tl	CVHg
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.1	0.1	0.05	0.005	1	0.5	0.5	0.01
Pulp Duplicates									
3261550	Rock	0.2	<0.1	<0.05	<0.005	1	<0.5	<0.5	<0.01
REP 3261550	QC								
3261564	Drill Core	44.2	0.9	<0.05	<0.005	<1	<0.5	<0.5	0.01
REP 3261564	QC	46.6	0.9	<0.05	<0.005	1	<0.5	<0.5	
3261568	Drill Core	52.4	1.0	<0.05	<0.005	<1	0.7	<0.5	<0.01
REP 3261568	QC								<0.01
3261592	Drill Core	32.1	0.5	<0.05	0.006	<1	<0.5	<0.5	<0.01
REP 3261592	QC								
3261598	Drill Core	45.0	0.5	<0.05	0.005	<1	<0.5	<0.5	<0.01
REP 3261598	QC	44.3	0.5	<0.05	<0.005	<1	0.8	<0.5	
3261603	Drill Core	34.9	1.2	<0.05	<0.005	<1	<0.5	<0.5	<0.01
REP 3261603	QC								<0.01
3261624	Drill Core	50.0	1.2	<0.05	0.017	<1	0.7	<0.5	<0.01
REP 3261624	QC								
3261634	Drill Core	39.9	0.9	<0.05	<0.005	<1	1.7	<0.5	<0.01
REP 3261634	QC	38.3	0.9	<0.05	0.005	<1	2.0	<0.5	
3261639	Drill Core	53.5	1.0	<0.05	<0.005	<1	0.8	<0.5	<0.01
REP 3261639	QC								0.02
3261668	Drill Core	44.1	0.9	<0.05	<0.005	<1	<0.5	<0.5	<0.01
REP 3261668	QC								
3261669	Drill Core	42.7	0.9	<0.05	<0.005	3	<0.5	<0.5	<0.01
REP 3261669	QC	42.4	0.9	<0.05	<0.005	<1	0.5	<0.5	
3261674	Drill Core	46.0	0.8	<0.05	<0.005	1	<0.5	<0.5	<0.01
REP 3261674	QC								<0.01
3261698	Drill Core	61.0	1.2	<0.05	0.039	<1	<0.5	<0.5	<0.01
REP 3261698	QC	61.3	1.1	<0.05	0.028	1	<0.5	<0.5	
3261699	Drill Core	57.6	1.3	<0.05	<0.005	<1	<0.5	<0.5	<0.01
REP 3261699	QC								

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177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
3261701	Drill Core	2.38	0.005	0.4	53.8	3.1	25	<0.1	4.0	9.0	685	3.73	3	1.3	4.4	777	<0.1	0.3	<0.1	235	4.03
REP 3261701	QC																				
Core Reject Duplicates																					
3261552	Drill Core	3.49	0.008	1.0	129.8	2.4	24	0.3	3.1	6.2	595	2.90	3	0.7	2.6	818	<0.1	0.9	<0.1	190	3.77
DUP 3261552	QC		0.007	0.9	127.3	2.4	23	0.3	3.3	6.3	589	2.90	3	0.7	2.6	811	0.1	0.9	<0.1	190	3.76
3261586	Drill Core	4.16	0.005	1.5	134.0	3.6	28	0.2	8.1	12.5	696	3.48	6	0.5	1.4	338	<0.1	6.9	<0.1	185	4.26
DUP 3261586	QC		0.006	1.5	120.5	3.4	28	0.1	8.9	11.2	682	3.36	7	0.4	1.3	340	<0.1	6.9	<0.1	181	4.13
3261654	Drill Core	4.54	0.010	90.8	140.2	3.6	18	0.2	5.4	8.3	439	2.77	3	1.0	2.9	730	0.2	1.2	0.2	170	3.35
DUP 3261654	QC		0.010	85.6	145.0	3.4	16	0.2	5.2	7.8	437	2.73	3	1.1	2.9	712	0.1	1.2	0.2	165	3.34
3261688	Drill Core	4.54	<0.005	2.0	60.6	4.5	27	<0.1	9.6	9.3	731	3.66	4	1.2	3.8	632	<0.1	1.0	<0.1	191	4.23
DUP 3261688	QC		<0.005	2.3	61.3	4.5	23	<0.1	10.5	9.2	728	3.67	3	1.2	3.7	625	<0.1	1.1	<0.1	190	4.24
Reference Materials																					
STD OREAS25A-4A	Standard			2.7	37.4	24.4	47	<0.1	47.4	7.8	468	6.51	9	2.8	15.9	43	<0.1	0.6	0.3	155	0.29
STD OREAS25A-4A	Standard			2.4	31.6	22.9	44	<0.1	45.6	7.6	473	6.40	9	2.6	14.7	46	<0.1	0.6	0.3	147	0.29
STD OREAS256	Standard		7.465																		
STD OREAS25A-4A	Standard			2.4	33.1	23.2	43	<0.1	44.8	8.0	492	6.87	10	2.7	15.8	52	<0.1	0.6	0.3	165	0.31
STD OREAS25A-4A	Standard			2.3	35.6	23.5	45	<0.1	48.7	7.7	467	6.52	14	2.6	15.5	44	<0.1	0.7	0.3	155	0.29
STD OREAS25A-4A	Standard			2.3	31.7	23.7	45	<0.1	43.5	7.7	491	6.55	10	2.7	14.8	46	<0.1	0.6	0.4	155	0.28
STD OREAS25A-4A	Standard			2.3	35.1	24.6	40	<0.1	45.2	7.3	533	6.49	11	2.9	15.6	53	<0.1	0.7	0.4	151	0.29
STD OREAS45H	Standard			1.5	776.9	12.6	43	0.1	429.3	94.4	400	19.69	17	1.8	7.6	28	<0.1	0.6	0.2	276	0.14
STD OREAS45E	Standard			2.4	802.5	18.2	47	0.2	502.5	62.6	571	24.80	16	2.5	13.1	17	<0.1	0.9	0.3	352	0.06
STD OREAS45H	Standard			1.9	810.6	12.2	42	0.1	444.6	94.7	399	21.07	18	1.6	8.1	31	<0.1	0.6	0.2	269	0.14
STD OREAS45E	Standard			2.3	784.6	18.6	51	0.3	469.0	59.3	589	25.46	17	2.5	13.8	19	<0.1	0.8	0.3	338	0.07
STD OREAS45E	Standard			2.6	759.2	17.9	45	0.3	475.3	56.9	635	23.95	18	2.5	13.9	18	<0.1	1.0	0.2	335	0.06
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				

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Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
3261701	Drill Core	0.156	14.3	4	1.08	1206	0.375	8.42	3.567	3.48	<0.1	29.6	26	1.1	15.2	15.6	0.8	1	9	6.6	<0.1
REP 3261701	QC																				
Core Reject Duplicates																					
3261552	Drill Core	0.083	9.5	4	0.63	1436	0.274	8.58	4.425	3.08	0.3	24.9	19	1.0	11.4	14.2	0.7	<1	3	5.1	0.3
DUP 3261552	QC	0.082	9.4	4	0.62	1421	0.273	8.52	4.471	3.07	0.3	24.6	19	1.0	11.3	14.1	0.7	<1	3	5.2	0.3
3261586	Drill Core	0.131	7.6	19	1.04	690	0.216	7.56	3.928	2.24	0.5	12.0	17	0.7	6.7	6.4	0.4	<1	8	3.1	0.3
DUP 3261586	QC	0.127	7.3	19	1.01	763	0.197	7.34	3.723	2.24	0.4	11.7	15	0.6	6.6	6.0	0.3	<1	7	3.3	0.3
3261654	Drill Core	0.101	11.7	8	0.84	1131	0.260	8.59	4.763	3.13	0.3	15.7	20	0.8	11.7	8.9	0.4	1	5	3.7	0.6
DUP 3261654	QC	0.097	11.1	8	0.82	979	0.256	8.41	4.748	3.08	0.3	15.3	19	0.7	11.3	8.7	0.5	1	5	4.4	0.5
3261688	Drill Core	0.121	14.4	17	1.17	1069	0.367	8.41	3.638	2.98	0.6	21.5	28	1.1	14.2	15.8	0.8	2	7	11.9	0.2
DUP 3261688	QC	0.124	14.4	17	1.18	1033	0.355	8.49	3.692	2.96	0.5	21.2	27	1.2	13.9	15.4	0.9	1	7	11.5	0.2
Reference Materials																					
STD OREAS25A-4A	Standard	0.044	21.9	114	0.29	140	0.912	8.93	0.111	0.45	1.8	143.7	46	3.9	9.9	18.5	1.4	1	12	33.4	<0.1
STD OREAS25A-4A	Standard	0.047	21.3	116	0.32	142	0.899	9.04	0.129	0.47	1.7	145.7	46	3.7	9.9	18.6	1.3	<1	13	35.9	<0.1
STD OREAS256	Standard																				
STD OREAS25A-4A	Standard	0.052	22.0	108	0.35	146	0.955	9.45	0.138	0.53	1.7	143.7	47	3.6	10.7	18.9	1.4	<1	13	36.0	<0.1
STD OREAS25A-4A	Standard	0.046	21.3	108	0.35	146	0.932	9.20	0.138	0.47	1.6	140.3	47	3.6	10.3	18.6	1.4	<1	12	38.3	<0.1
STD OREAS25A-4A	Standard	0.045	21.6	117	0.32	140	0.965	8.88	0.115	0.49	2.0	151.2	46	3.7	9.9	20.0	1.4	<1	11	36.5	<0.1
STD OREAS25A-4A	Standard	0.050	22.7	120	0.36	149	0.893	9.29	0.126	0.48	1.9	150.5	52	4.0	11.2	19.3	1.4	<1	13	35.2	<0.1
STD OREAS45H	Standard	0.023	13.2	626	0.22	322	0.894	8.11	0.075	0.19	0.9	122.3	25	1.9	9.8	13.0	0.9	1	53	12.3	<0.1
STD OREAS45E	Standard	0.034	11.5	1070	0.16	259	0.547	7.28	0.063	0.35	1.0	96.5	25	1.3	7.9	6.3	0.5	<1	94	6.8	<0.1
STD OREAS45H	Standard	0.023	13.3	666	0.26	341	0.908	8.60	0.087	0.22	0.8	119.2	26	2.1	10.7	13.4	0.9	2	60	12.2	<0.1
STD OREAS45E	Standard	0.031	11.6	1080	0.16	259	0.563	7.21	0.062	0.36	1.0	99.5	25	1.4	8.8	6.3	0.5	<1	99	6.6	<0.1
STD OREAS45E	Standard	0.033	11.7	900	0.17	243	0.519	7.09	0.058	0.31	1.0	96.4	27	1.3	9.4	6.3	0.5	<1	89	7.3	<0.1
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				

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QUALITY CONTROL REPORT VAN19002030.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01
3261701	Drill Core	57.6	1.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01
REP 3261701	QC								<0.01
Core Reject Duplicates									
3261552	Drill Core	37.5	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
DUP 3261552	QC	37.7	1.1	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261586	Drill Core	39.1	0.5	<0.05	<0.005	<1	<0.5	<0.5	<0.01
DUP 3261586	QC	38.5	0.4	<0.05	<0.005	<1	<0.5	<0.5	<0.01
3261654	Drill Core	39.9	0.7	<0.05	0.087	<1	<0.5	<0.5	<0.01
DUP 3261654	QC	39.5	0.8	<0.05	0.092	1	<0.5	<0.5	<0.01
3261688	Drill Core	65.8	1.1	<0.05	0.006	<1	<0.5	<0.5	<0.01
DUP 3261688	QC	64.1	1.0	<0.05	0.005	2	<0.5	<0.5	0.01
Reference Materials									
STD OREAS25A-4A	Standard	58.5	3.9	0.08	<0.005	3	<0.5	<0.5	
STD OREAS25A-4A	Standard	61.1	4.0	0.08	<0.005	2	<0.5	<0.5	
STD OREAS256	Standard								
STD OREAS25A-4A	Standard	56.8	3.6	0.11	<0.005	3	<0.5	<0.5	
STD OREAS25A-4A	Standard	60.5	4.0	0.10	<0.005	3	<0.5	<0.5	
STD OREAS25A-4A	Standard	58.7	4.3	0.05	<0.005	4	<0.5	<0.5	
STD OREAS25A-4A	Standard	62.4	4.2	0.07	<0.005	1	<0.5	<0.5	
STD OREAS45H	Standard	22.8	3.4	0.11	<0.005	2	<0.5	<0.5	
STD OREAS45E	Standard	23.1	2.8	0.10	<0.005	2	<0.5	<0.5	
STD OREAS45H	Standard	22.3	3.2	0.10	<0.005	2	<0.5	<0.5	
STD OREAS45E	Standard	21.4	2.9	0.11	<0.005	4	<0.5	<0.5	
STD OREAS45E	Standard	22.6	3.1	0.11	<0.005	2	<0.5	<0.5	
STD OREAS623	Standard								0.72
STD OREAS620	Standard								2.08
STD OREAS623	Standard								0.69
STD OREAS620	Standard								2.16
STD OREAS623	Standard								0.68

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Client: **Thompson Creek Metals**
177 Victoria Street, Suite 100
Prince George British Columbia V2L 5R8 Canada

Project: Mt. Milligan
Report Date: August 16, 2019

QUALITY CONTROL REPORT VAN19002030.1

		WGHT	FA430	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OXC145	Standard		0.214																		
STD OXC145	Standard		0.210																		
STD OXC145	Standard		0.214																		
STD OXH139	Standard		1.355																		
STD OXH139	Standard		1.331																		
STD OXH139	Standard		1.280																		
STD OXN134	Standard		7.817																		
STD OXN134	Standard		7.626																		
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OXN134 Expected			7.667																		
STD OXC145 Expected			0.212																		
STD OXH139 Expected			1.312																		
STD OREAS256 Expected			7.66																		
STD OREAS45H Expected				1.55	767	11.9	39.7	0.147	423	88	380	19.52	16.9	1.68	7.26	27.1		0.63	0.17	263	0.135
STD OREAS25A-4A Expected				2.41	33.9	25.2	44.4		45.8	7.7	480	6.6	9.94	2.94	15.8	48.5		0.65	0.37	157	0.301
STD OREAS45E Expected				2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank		<0.005																		

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QUALITY CONTROL REPORT VAN19002030.1

		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OREAS623	Standard																				
STD OREAS620	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXC145	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXH139	Standard																				
STD OXN134	Standard																				
STD OXN134	Standard																				
STD OREAS623 Expected																					
STD OREAS620 Expected																					
STD OXN134 Expected																					
STD OXC145 Expected																					
STD OXH139 Expected																					
STD OREAS256 Expected																					
STD OREAS45H Expected		0.023	12.4	602	0.238	332	0.878	7.99	0.09	0.205	0.99	131	23.6	1.93	10.4	14.8	1.08	1.09	57	13.1	
STD OREAS25A-4A Expected		0.048	21.8	115	0.327	147	0.93	8.87	0.131	0.482	2	155	47.3	4.06	10.5	20.9	1.4	0.93	13.7	36.7	0.047
STD OREAS45E Expected		0.034	11	979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				

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QUALITY CONTROL REPORT VAN19002030.1

		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01
STD OREAS620	Standard								1.96
STD OREAS623	Standard								0.68
STD OREAS620	Standard								1.95
STD OREAS623	Standard								0.68
STD OREAS620	Standard								1.95
STD OXC145	Standard								
STD OXC145	Standard								
STD OXC145	Standard								
STD OXH139	Standard								
STD OXH139	Standard								
STD OXH139	Standard								
STD OXN134	Standard								
STD OXN134	Standard								
STD OREAS623 Expected									0.79
STD OREAS620 Expected									2.14
STD OXN134 Expected									
STD OXC145 Expected									
STD OXH139 Expected									
STD OREAS256 Expected									
STD OREAS45H Expected		22.5	3.6	0.1		2.02			
STD OREAS25A-4A Expected		61	4.14	0.09		2.4		0.35	
STD OREAS45E Expected		21.2	3.11	0.099		2.97	0.1	0.15	
BLK	Blank								<0.01
BLK	Blank								<0.01
BLK	Blank								<0.01
BLK	Blank								<0.01
BLK	Blank								<0.01
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5	
BLK	Blank								

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QUALITY CONTROL REPORT VAN19002030.1

		WGHT Wgt kg 0.01	FA430 Au ppm 0.005	MA200 Mo ppm 0.1	MA200 Cu ppm 0.1	MA200 Pb ppm 0.1	MA200 Zn ppm 1	MA200 Ag ppm 0.1	MA200 Ni ppm 0.1	MA200 Co ppm 0.2	MA200 Mn ppm 1	MA200 Fe % 0.01	MA200 As ppm 1	MA200 U ppm 0.1	MA200 Th ppm 0.1	MA200 Sr ppm 1	MA200 Cd ppm 0.1	MA200 Sb ppm 0.1	MA200 Bi ppm 0.1	MA200 V ppm 1	MA200 Ca % 0.01
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank		<0.005																		
BLK	Blank		<0.005																		
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	0.1	<0.2	1	<0.01	1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.1	<0.1	1	<0.1	<0.1	<0.2	<1	<0.01	3	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
BLK	Blank			<0.1	0.2	<0.1	<1	<0.1	0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
Prep Wash																					
ROCK-VAN	Prep Blank		<0.005	1.0	3.8	2.6	35	<0.1	1.0	3.7	606	2.03	2	1.2	2.8	200	<0.1	0.2	<0.1	32	1.50
ROCK-VAN	Prep Blank		<0.005	1.1	4.0	2.5	35	<0.1	1.0	3.8	617	2.07	2	1.2	2.8	203	<0.1	0.2	<0.1	33	1.52

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		MA200 P % 0.001	MA200 La ppm 0.1	MA200 Cr ppm 1	MA200 Mg % 0.01	MA200 Ba ppm 1	MA200 Ti % 0.001	MA200 Al % 0.01	MA200 Na % 0.001	MA200 K % 0.01	MA200 W ppm 0.1	MA200 Zr ppm 0.1	MA200 Ce ppm 1	MA200 Sn ppm 0.1	MA200 Y ppm 0.1	MA200 Nb ppm 0.1	MA200 Ta ppm 0.1	MA200 Be ppm 1	MA200 Sc ppm 1	MA200 Li ppm 0.1	MA200 S % 0.1
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.003	<0.01	0.4	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.001	<0.1	1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	0.3	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	0.004	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
BLK	Blank	<0.001	<0.1	1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1
Prep Wash																					
ROCK-VAN	Prep Blank	0.038	12.0	3	0.48	773	0.196	7.23	3.525	1.60	0.2	52.0	23	0.8	14.8	5.3	0.4	<1	6	3.1	<0.1
ROCK-VAN	Prep Blank	0.040	12.8	3	0.49	792	0.201	7.11	3.589	1.63	0.2	53.5	25	0.8	15.4	5.5	0.4	1	6	3.3	<0.1

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		MA200 Rb ppm 0.1	MA200 Hf ppm 0.1	MA200 In ppm 0.05	MA200 Re ppm 0.005	MA200 Se ppm 1	MA200 Te ppm 0.5	MA200 Tl ppm 0.5	CV402 CVHg ppm 0.01
BLK	Blank								
BLK	Blank								
BLK	Blank								
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5	
BLK	Blank								
BLK	Blank								
BLK	Blank	0.1	<0.1	<0.05	<0.005	2	<0.5	<0.5	
BLK	Blank	<0.1	<0.1	<0.05	<0.005	<1	<0.5	<0.5	
BLK	Blank	<0.1	<0.1	<0.05	<0.005	1	<0.5	<0.5	
BLK	Blank	<0.1	<0.1	<0.05	0.005	<1	<0.5	<0.5	
Prep Wash									
ROCK-VAN	Prep Blank	34.5	1.7	<0.05	<0.005	<1	<0.5	<0.5	<0.01
ROCK-VAN	Prep Blank	35.0	1.8	<0.05	<0.005	<1	<0.5	<0.5	<0.01

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Appendix 7

Drill Logs

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
0	CASE	0 to 6.1m: CASE														
5																
10	MNDR	6.1 to 21.39m: MNDR - Medium grey plagioclase porphyritic diorite. This unit has ~18% subhedral to euhedral plagioclase phenocrysts; phenocrysts are tabular or blocky and range in size from 0.5 to 2 mm. There are two distinct populations of phenocryst (larger 2mm sized) and smaller (0.5-1mm sized). Anhedral mafics minerals are seen ~0.5-1mm in size and are ~3% of the rock. The groundmass is grey/black and aphanitic with sections of very fine grained plag/mafics. This uit seem slike it could be a very plagioclase rich clastic rock. This rock is weakly magnetic. There is a small HMZP dike ~50cm in size from 17.4-17.90 m.	44.13	6.57									3			FRZ
			101.64	22.95												
			88.85	28.2												
15			91.12	23.68												
			104.92	27.21												
20			70.82	0				1		3	2		3			
25	HMZP	21.39 to 31.48m: HMZP - White/green mottled with pink patches plagioclase porphyritic dike. This unit has ~45% euhedral tabular plagioclase phenos ~1-2mm wide and ~3mm long. The groundmass is dark green chlorite/epidote altered mafics. Possibly anhedral altered mafic phenos? Magnetite occurs as disseminations ~1% in abundance.	78.69	0												FRZ
			56.83	0												
			59.34	0												
30			126.32	52.63												
	MNDR	31.48 to 32.4m: MNDR - Medium grey plagioclase porphyritic diorite. This unit has ~18% subhedral to euhedral plagioclase phenocrysts; phenocrysts are tabular or blocky and range in size from 0.5 to 2 mm. There are two distinct populations of phenocryst (larger 2mm sized) and smaller (0.5-1mm sized). Anhedral mafics minerals are seen ~0.5-1mm in size and are ~3% of the rock. The groundmass is grey/black and aphanitic with sections of very fine grained plag/mafics. This uit seem slike it could be a very plagioclase rich clastic rock. This rock is weakly magnetic.	90.35	28.57									3			CN
	HMZP		90.85	0												FRZ
35			91.97	51.82	0.1	0		2			2		3			
			106.01	47.54												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3260947	6.1	8	0.008	0.3	171
3260948	8	10	0.007	0.3	115.9
3260949	10	12	0.006	0.2	111.8
3260951	12	14	0.0025	0.1	47.7
3260952	14	16	0.0025	0.1	39.2
3260953	16	18	0.008	0.2	111.9
3260954	18	20	0.012	0.4	218.9
3260955	20	21.39	0.007	0.3	130.3
3260956	21.39	23	0.006	0.4	147.2
3260957	23	25	0.006	0.4	153.5
3260958	25	27	0.009	0.7	160.9
3260959	27	29	0.008	0.6	148.1
3260961	29	30	0.007	0.6	191.2
3260962	30	31.48	0.01	0.6	253.2
3260963	31.48	32.4	0.005	0.4	131.7
3260964	32.4	34	0.007	0.8	295.1
3260966	34	36	0.008	1.1	244.4
3260967	36	38	0.006	0.8	213.8

Depth (m)	Azimuth	Dip	Tool
0	61.63	-89.28	Reflex EZ-Gyro
15.24	31.42	-89.39	Reflex EZ-Gyro
30.48	35.56	-89.26	Reflex EZ-Gyro

Legend

Lith Code

- CASE — Casing : No core recovered
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry

Structure Type

- FRZ — Fracture Zone
- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
40	HMZP	32.4 to 52.33m: HMZP - White/green mottled with pink patches plagioclase porphyritic dike. This unit has ~45% euhedral tabular plagioclase phenos ~1-2mm wide and ~3mm long. The groundmass is dark green chlorite/epidote altered mafics. Possibly anhedral altered mafic phenos? Kfeldspar is seen mostly as E1 kf veins/veinlets or as selvages to E2 veins. Magnetite occurs as disseminations ~1% in abundance.	106.01	47.54												
			96.07	66.23												
			102.19	73.22												
45			98.36	81.97	0.1	0		2			2		3			
			97.04	59.21												
			102.62	87.21												
50			99.02	90.16												
					0.2	0										
55			100	75.41	60	0										
	HYBX	52.33 to 64.81m: HYBX - Hydrothermal breccia of HMZP seen above (32.4-52.33m) and plagioclase phyric kfeldspar fluid. The breccia rangesi from crackle to mosaic with cement accounting for ~10-15% of the rock. The cement has ~10% plag phenos supported by pink kfeldspar. HYBX in general is fairly weak.	100.98	65.57				3			1		3			
60					0.1	0										
			100.33	81.91												
			101.97	70.49												
65																
			92.79	54.43												
70	ANLT	64.81 to 76.17m: ANLT - Light green; pyroxene porphyritic andesite lapilli tuff. This lapilli tuff has ~7% porphyritic pyroxene phenos ranging in size from 3-10mm. Plagioclase phenos are seen as 0.5-1mm phenos and are euhedral. The lapilli have bpth fo these phenocryst types seen supported by a light green aphanitic groundmass. The matrix that the lapilli are set in is a pyroxene crystal tuff with ~12% subhedral to euhedral pyroxene phenos in a chl altered very fine grained ash matrix. There are few sections in this unit that are intrusive fluid blowouts (some are kfs fluid and some are kfs with plag phenos). Likely a remnant of the above HYBX.	85.57	25.57	0.1	0		2		2		2	3			
			72.13	3.93												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Structure Type
3260967	36	38	0.006	0.8	213.8	
3260968	38	40	0.031	1.2	419.8	
3260969	40	42	0.008	0.6	254.1	
3260971	42	44	0.01	0.5	244.1	
3260972	44	46	0.011	1.4	666.7	
3260973	46	48	0.021	2.6	1,851.8	
3260974	48	50	0.025	2.2	1,422.2	
3260975	50	51	0.021	1.7	917.9	
3260976	51	52.33	0.009	0.9	465.4	
3260977	52.33	54	0.011	1.1	505.8	
3260978	54	56	0.018	2.3	959.3	
3260979	56	58	0.012	2	806.7	
3260981	58	60	0.014	1.4	609.8	
3260982	60	62	0.013	1.4	481.7	
3260983	62	64	0.014	1.3	541.2	
3260984	64	64.81	0.032	1.2	595.8	
3260985	64.81	66	0.019	1.2	834.8	
3260986	66	68	0.035	1.2	979.2	
3260987	68	70	0.035	1.2	945.8	
3260988	70	72	0.029	0.9	587.4	
3260989	72	74	0.021	0.9	689.5	
3260991	74	75	0.017	1.4	487.4	FRZ
3260992	75	76.17	0.017	1.8	535.1	

Depth (m)	Azimuth	Dip	Tool
45.72	37.47	-89	Reflex EZ-Gyro
60.96	46.47	-88.84	Reflex EZ-Gyro

Legend

Lith Code

- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- HYBX — MBX and SS Stocks: Hydrothermal breccia
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

- FRZ — Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
80	ANLT	64.81 to 76.17m: ANLT - Light green; pyroxene porphyritic andesite lapilli tuff. This lapilli tuff has ~7% porphyritic pyroxene phenos ranging in size from 3-10mm. Plagioclase phenos are seen as 0.5-1mm phenos and are euhedral. The lapilli have bpth fo these phenocryst types seen supported by a light green aphanitic groundmass. The matrix that the lapilli are set in is a pyroxene crystal tuff with ~12% subhedral to euhedral pyroxene phenos in a chl altered very fine grained ash matrix. There are few sections in this unit that are intrusive fluid blowouts (some are kfs fluid and some are kfs with plag phenos). Likely a remnant of the above HYBX.	72.13	3.93	0.1	0		2		2		2	3			FRZ	3260992	75	76.17	0.017	1.8	535.1	76.2	53.17	-88.37	Reflex EZ-Gyro
	APXT		89.14	49.34	0.2	0.1				2		1	2				3260993	76.17	78	0.01	1.1	658.1				
																	3260994	78	78.66	0.014	1.9	867.4				
	MNDR				0.2	0				3	2		2			CN	3260995	78.66	79.37	0.007	0.2	103.2				
			100.33	97.38												CN	3260996	79.37	81	0.014	1.6	988.6				
		76.17 to 78.66m: APXT - Medium to light green pyroxene porphyritic andesite tuff. This tuff has ~40% large (2-6mm) euhedral to subhedral pyroxene phenocrysts (Ac altered). The phenos are set in an aphanitic matrix (variably cl/ab/se altered). Possibly a porphyry flow; difficult to say as the only flow characterisitcs are the porphryitic crystals.															3260997	81	83	0.012	1.5	947.3				
			90.16	88.2																						
		78.66 to 79.37m: MNDR - Light grey/white with green specjles plagioclase porphyritic diorite dike. This dike has ~55% subhedral to euhedral plagioclase phenocrysts. There are anhedral mafic (phenos/clustered groundmass?). These are ~1mm in size and chl altered. The groundmass is otherwise grey and aphanitic.															3260998	83	85	0.011	1.6	932.3				
85	APXT		104.59	93.77	1	0				2			2				3260999	85	87	0.013	1.6	900.9				
		79.37 to 92.53m: APXT - Medium to light green pyroxene porphyritic andesite tuff. This tuff has ~40% large (2-6mm) euhedral to subhedral pyroxene phenocrysts (Ac altered). The phenos are set in an aphanitic matrix (variably cl/ab/se altered). Possibly a porphyry flow; difficult to say as the only flow characterisitcs are the porphryitic crystals.															3261001	87	89	0.016	2.9	1,493.1				
			100	100																						
90																	3261002	89	91	0.026	2.2	1,051.5				
			101.97	88.16													3261003	91	92.53	0.009	1.6	929.9	91.44	48.32	-88.4	Reflex EZ-Gyro
			100	21.31													3261004	92.53	94	0.009	0.1	59				
95			97.54	76.23													3261006	94	96	0.012	0.3	113.9				
	MNDR	92.53 to 100.79m: MNDR - Medium to light green/greyplagioclase-hornblende porphyritic diorite dike. This dike has ~35% euhedral plagioclase phenocrysts; these phenos are ~0.5 to 1mm in size. There is a population of hbl pheos as well they are euhedral and ~0.5 to 1mm in size and account for ~0.2% of the whole rock. The groundmass is chl altered mafics as well as aphanitic grey plag (ab alt?).			0.1	0				2	2		3				3261007	96	98	0.007	0.05	54.8				
			93.11	53.77													3261008	98	100	0.01	0.3	174.6				
100																FRZ	3261009	100	100.79	0.042	2.4	982.1				
	ANTF	100.79 to 102.12m: ANTF - Medium green pyroxene phyric andesitic ash tuff. This tuff has ~3% pyroxene phenos (subhedral to anhedral) ~1-2mm in size and are supported by a very fine grained ash matrix. Above and below are MNDR porphyry dikes with clean contacts.	69.34	34.67	0.5	0							2				3261011	100.79	102.12	0.019	1.5	673.2				
			61.96	11.96													3261012	102.12	104	0.029	1.1	407.9				
			94.51	60.44																						
105			93.46	60.78													3261013	104	106	0.008	0.3	206.5				
	MNDR	102.12 to 114.74m: MNDR - Medium to light green/greyplagioclase-hornblende porphyritic diorite dike. This dike has ~40% euhedral plagioclase phenocrysts; these phenos are ~0.5 to 2mm in size. There is a population of hbl pheos as well they are euhedral and ~0.5 to 1mm in size and account for ~1% of the whole rock. The groundmass is chl altered mafics as well as aphanitic grey plag (ab alt?).	102.32	56.76	0.7	0				3	1		1				3261014	106	108	0.009	0.4	279.8	106.68	43.51	-88.35	Reflex EZ-Gyro
			71.7	0													3261015	108	110	0.007	0.2	132.6				
110			90.16	58.2													3261016	110	112	0.009	0.3	172.9				
			107.65	71.04													3261017	112	113	0.0025	0.05	21.6				

Legend

Lith Code

- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- APXT — Andesitic Volcanic Rocks: Px andesite crystal tuff
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- ANTF — Andesitic Volcanic Rocks: Andesitic tuff

Structure Type

- FRZ — Fracture Zone
- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%) 0 100	RQD (%) 0 100	Pyrite (%) 0 10	Chalcopyrite (%) 0 5	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
115	MNDR	102.12 to 114.74m: MNDR - Medium to light green/greyplagioclase-hornblende porphyritic diorite dike. This dike has ~40% euhedral plagioclase phenocrysts; these phenos are ~0.5 to 2mm in size. There is a population of hbl pheos as well they are euhedral and ~0.5 to 1mm in size and account for ~1% of the whole rock. The groundmass is chl altered mafics as well as aphanitic grey plag (ab alt?).	107.65	71.04	0.7	0				3	1		1			
			90.16	37.7												
	APXT		102.3	94.1												
120		114.74 to 127.1m: APXT - Medium to light green pyroxene porphyritic andesite tuff. This tuff has ~40% large (2-6mm) euhedral to subhedral pyroxene phenocrysts (Ac altered). The phenos are set in an aphanitic matrix (variably cl/ab/se altered). Possibly a porphyry flow; difficult to say as the only flow characterisitcs are the porphryitic crystals.	100	98.03	2	0.2				3			2			
			97.04	76.32												
125			99.34	83.28												
			100.66	98.03												
130	APFW	127.1 to 139.24m: APFW - Medium green/grey andesitic flow. This flow has ~22% 0.5mm euhedral plagioclase phenocrysts. This rock has ~1% euhedral hornblende phenocrysts ~1mm in size. There are trace (0.1%) euhedral pyroxene phenos (1-2mm in size).	98.69	86.89	0.2	0				2			2			
			97.7	90.82												
135			100.66	95.39												
140	APXT	139.24 to 142.64m: APXT - Medium to light green pyroxene porphyritic andesite tuff. This tuff has ~40% large (2-6mm) euhedral to subhedral pyroxene phenocrysts (Ac altered). The phenos are set in an aphanitic matrix (variably cl/ab/se altered). Possibly a porphyry flow; difficult to say as the only flow characterisitcs are the porphryitic crystals.	98.69	96.72	0.8	0.1				4						
	MNDR	142.64 to 144.89m: MNDR - Medium green to dark grey plagioclase-hornblende-pyroxene phyric diorite dike. This dike has 25% euhedral tabular plagioclase phenocrysts ~2mm in size. There are euhedral hornblende phenocysts ~0.5-2mm in size accounting for ~18% of the rock. The groundmass is greyish black and aphanitic.	100.98	89.18	1	0				2			2			CN
145	APXT	144.89 to 149.4m: APXT - Light to medium green pyroxene-plagioclase phyric andesitic crystal tuff. This tuff has ~20% anhedral to subhedral pyroxene phenocrysts ranging in size from 0.5 to 4mm; aveaging ~1mm in size. The plagioclase phenocrysts were euhedral; accounted for ~7% of the rock; and were 1-2mm in size. The matrix was a very fine grained darl green ash. There were few small ~10cm dikelets in this unit from 147 to 149.40 m.	98.03	89.51	0.2	0.1					2		3	4		CN
150	MZPP	149.4 to 152.35m: MZPP - Light grey with a buff pink tinge plagiocalse poprhyritic monzonite dike. This dike has ~25% euhedral plagioclase phenocysts ~2mm in size. The	98.69	60.66	2	0.1		4					2	3		CN

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261017	112	113	0.0025	0.05	21.6
3261018	113	114.74	0.006	0.05	31.9
3261019	114.74	116	0.018	2.9	2,242
3261021	116	118	0.008	1.2	951.6
3261022	118	120	0.011	1.7	1,425.8
3261023	120	122	0.015	2.1	1,588
3261024	122	124	0.115	8.2	3,082.9
3261025	124	126	0.022	5.4	3,156.6
3261026	126	127.1	0.014	2.2	1,529.1
3261027	127.1	129	0.008	0.7	655.8
3261028	129	131	0.009	0.4	340.5
3261029	131	133	0.01	0.6	275.1
3261031	133	135	0.008	0.5	282.8
3261032	135	137	0.007	2.1	711
3261033	137	138	0.018	1.2	447.6
3261034	138	139.24	0.014	0.3	213.1
3261035	139.24	141	0.008	0.7	541.6
3261036	141	142.64	0.013	1.4	1,135.9
3261037	142.64	144	0.022	0.8	375.6
3261038	144	144.89	0.015	0.6	293.5
3261039	144.89	146	0.046	0.5	219.7
3261041	146	148	0.02	0.5	268
3261042	148	149.4	0.016	0.8	364.4
3261043	149.4	151	0.047	5.3	1,015.4

Depth (m)	Azimuth	Dip	Tool
121.92	46.83	-88.35	Reflex EZ-Gyro
137.16	47.91	-88.31	Reflex EZ-Gyro

Legend

Lith Code

- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- APXT — Andesitic Volcanic Rocks: Px andesite crystal tuff
- APFW — Andesitic Volcanic Rocks: Px andesite porphyry flow
- MZPP — MBX and SS Stocks: Plag monzonite porphyry

Structure Type

- CN
- Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
	MZPP	149.4 to 152.35m: MZPP - Light grey with a buff pink tinge plagiocalse poprhyritic monzonite dike. This dike has ~25% euhedral plagioclase phenocysts ~2mm in size. The groundmass is a buff pinkish grey and aphanitic. There is a weak shear sense on some local sections. There is a strongly altered/sheared section at the end fom 151.8 to 152.35 m. Sheared section has PO/CP/PY as well as a high amount of carbonates.	98.69	60.66	2	0.1		4					2	3			3261043	149.4	151	0.047	5.3	1,015.4	152.4	48.15	-88.43	Reflex EZ-Gyro
																SZ	3261044	151	152.35	0.018	1.9	582.3				
			95.39	46.05													3261046	152.35	154	0.013	1.7	766.3				
155	APXT	152.35 to 158.73m: APXT - Light to medium green pyroxene-plagioclase phyric andesitic crystal tuff. This tuff has ~20% anhedral to subhedral pyroxene phenocrysts ranging in size from 0.5 to 4mm; aveaging ~1mm in size. The plagioclase phenocrysts were euhedral; accounted for ~7% of the rock; and were 1-2mm in size. The matrix was a very fine grained darl green ash.	100	91.8	4	0.2				5	2		3	2			3261047	154	156	0.022	1.4	1,424.7				
																	3261048	156	158	0.038	1.7	1,697.5				
																SZ	3261049	158	158.73	0.032	1.5	1,158.8				
			98.36	63.93													3261051	158.73	160	0.032	2.9	2,003.4				
160	MNDR	158.73 to 163.86m: MNDR - Medium green to dark grey plagioclase-hornblende-pyroxene phyric diorite dike. This dike has 25% euhedral tabular plagioclase phenocrysts ~2mm in size. There are euhedral hornblende phenocysts ~0.5-2mm in size accounting for ~18% of the rock. The groundmass is greyish black and aphanitic.			1	0.1				3	2		2	2			3261052	160	162	0.022	0.4	510.2				
			98.69	55.74													3261053	162	163.86	0.018	0.3	439.9				
																	3261054	163.86	165	0.067	1.2	1,227.1				
165			96.39	83.93													3261055	165	167	0.093	1	1,842.6				
																	3261056	167	169	0.032	0.9	1,408.8	167.64	46.1	-88.41	Reflex EZ-Gyro
			93.09	58.88													3261057	169	171	0.012	0.3	708.1				
170																	3261058	171	173	0.022	0.5	1,092.7				
			96.39	66.23	3	0											3261059	173	175	0.039	0.6	916.4				
		163.86 to 186.1m: ANLT - Light green pyroxene poprhyritic andesitic lapilli tuff. This tuff has ~40% lapilli. The lapilli have ~30% euhedral pyoxene phenocrysts ~3-6mm in size; supported in a light green aphanitic groundmass. Lapilli are commonly ~5cm or more; but are also seen in the 1cm or less range. The lapilli ae supported by a matix of ash and crystals. The crystals are euhedral pyroxene (~10%) and minor subhedral plagioclase (2%).	98.03	82.62													3261061	175	177	0.034	0.9	1,209.7				
175	ANLT									3	2		2				3261062	177	179	0.079	1.5	1,658.8				
			94.43	79.34													3261063	179	181	0.036	2.1	1,606.9				
180			100	78.03													3261064	181	183	0.027	1.7	1,468.1				
			102.19	78.1	1	0											3261065	183	185	0.031	2.2	1,725.4	182.88	49.24	-88.32	Reflex EZ-Gyro
185																	3261066	185	186.1	0.02	1.1	1,093.5				
	HMZP	186.1 to 189.11m: HMZP - Grey with very slight pinkn tinge hornblende-plagiocalse pophyritic monzonite dike. This dike has ~20% subhedral plagioclase phenocysts 0.5-2mm (average 1mm) in size. There are ~5% elongate euhedral honblende	96.07	57.7	0.1	0		3									3261067	186.1	188	0.032	0.3	315.9				
			100	69.08																						

Legend

Lith Code

- MZPP — MBX and SS Stocks: Plag monzonite porphyry
- APXT — Andesitic Volcanic Rocks: Px andesite crystal tuff
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry

Structure Type

- SZ — Shear Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

MOUNTMILLIGAN

centerraGOLD

Depth	Lith Code	Description	Recovery (%) 0 100	RQD (%) 0 100	Pyrite (%) 0 10	Chalcopyrite (%) 0 5	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
190	HMZP	186.1 to 189.11m: HMZP - Grey with very slight pinkn tinge hornblende-plagioclase pophyritic monzonite dike. This dike has ~20% subhedral plagioclase phenocysts 0.5-2mm (average 1mm) in size. There are ~5% elongate euhedral honblende phenocrysts ~1-2mm in size. The groundmass is slightly pink grey and aphanitic. Micro feldspars are also seen ~0.2mm in size.	100	69.08	0.1	0		3								
195			101.64	75.08	2	0.1				4	1					
200			100	80.66												
205			100.33	89.18												
210	ANLT		91.04	88.66	2	0.2				5	2					
215		189.11 to 237.06m: ANLT - Light green pyroxene poprhyritic andesitic lapilli tuff. This tuff has ~40% lapilli. The lapilli have ~30% euhedral pyoxene phenocrysts ~3-6mm in size; supported in a light green aphanitic groundmass. Lapilli are commonly ~5cm or more; but are also seen in the 1cm or less range. The lapilli ae supported by a matix of ash and crystals. The crystals are euhedral pyroxene (~10%) and minor subhedral plagioclase (2%). This section has a notble increase in albite alteration and in some places obscures the primary texture to a high degree.	100.66	90.49												
220			99.67	85.9												
225			99.67	85.25												
			100.99	88.82												
			99.34	92.13												
			100.66	100.66	0.8	0				3			2			
			100	93.77												
			100	86.23												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
3261067	186.1	188	0.032	0.3	315.9				
3261068	188	189.11	0.013	0.2	252.4				
3261069	189.11	191	0.035	1.1	1,490.6				
3261071	191	193	0.038	1.3	1,631.6				
3261072	193	194.4	0.041	1.3	1,512.4				
3261073	194.4	196	0.037	1.7	1,404.7				
3261074	196	198	0.016	1.1	1,096.8				
3261075	198	200	0.018	1.1	979.5	198.12	47.55	-88.26	Reflex EZ-Gyro
3261076	200	202	0.015	0.9	897				
3261077	202	204	0.013	0.6	577				
3261078	204	206	0.016	1.1	929.7				
3261079	206	208	0.009	0.5	437.2				
3261081	208	210	0.027	1.8	1,176.2				
3261082	210	212	0.013	0.9	963.8				
3261083	212	212.67	0.021	0.7	872.7				
3261084	212.67	214	0.011	0.6	841.9	213.36	54.09	-88.26	Reflex EZ-Gyro
3261086	214	216	0.014	0.5	855.9				
3261087	216	218	0.011	0.5	712.5				
3261088	218	220	0.01	0.4	519.2				
3261089	220	222	0.008	0.3	271.1				
3261091	222	224	0.014	0.2	302.1				
3261092	224	226	0.011	0.5	442.2				

Legend

Lith Code

- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

- CN
- Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

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centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
230	ANLT	189.11 to 237.06m: ANLT - Light green pyroxene poprhyritic andesitic lapilli tuff. This tuff has ~40% lapilli. The lapilli have ~30% euhedral pyoxene phenocrysts ~3-6mm in size; supported in a light green aphanitic groundmass. Lapilli are commonly ~5cm or more; but are also seen in the 1cm or less range. The lapilli ae supported by a matix of ash and crystals. The crystals are euhedral pyroxene (~10%) and minor subhedral plagioclase (2%). This section has a notble increase in albite alteration and in some places obscures the primary texture to a high degree.	100	86.23												3261092	224	226	0.011	0.5	442.2				
																	3261093	226	228	0.01	0.7	805.8				
			100.33	94.74													3261094	228	230	0.016	0.8	735.3	228.6	54.06	-88.22	Reflex EZ-Gyro
																	3261095	230	232	0.008	0.4	337.3				
			99.34	93.77	0.8	0				3			2				3261096	232	234	0.008	0.4	353.4				
235																	3261097	234	236	0.008	0.7	489.1				
			98.69	97.05													3261098	236	237.06	0.009	0.4	316.3				
	HMZP	237.06 to 239.19m: HMZP - Medium buff/grey hornblende-plagioclase porphyritic monzonite dike. This dike has ~5% euhedral plagioclase phenocrysts ~1mm in size, These plag phenos are difficult to discern as the groundmass is nearly the exact same colour. The subhedral hornblende phenos are 1-2mm in size and account for ~12% of the rock. The groundmass is a buff/tan kfeldpspar/sericite with pathcy albite. The rock is weak to moderately magnetic. The contacts above and below are clear and hairline (~55 TCA).						2		2		4		2	2	CN	3261099	237.06	238	0.008	0.3	356.9				
			100.33	93.77	0.5	0											3261101	238	239.19	0.011	0.2	253.3				
240																CN	3261102	239.19	241	0.01	0.6	588.9				
			97.7	97.7													3261103	241	243	0.012	0.9	741.9				
																	3261104	243	245	0.011	0.6	576.6	243.84	52.52	-88.18	Reflex EZ-Gyro
245	ANLT	239.19 to 251.87m: ANLT - Light to medium green pyroxene poprhyritic andesitic lapilli tuff. This tuff has ~35% lapilli. The lapilli have ~20% euhedral pyoxene phenocrysts ~2-4mm in size; supported in a light green aphanitic groundmass. Lapilli are commonly ~2cm or more; but are also seen in the 1cm or less range. The lapilli are supported by a matix of ash and crystals. The crystals are euhedral pyroxene (~10%) and minor subhedral plagioclase (2%).	102.63	101.64	1	0.1				4			2				3261105	245	247	0.007	0.6	505.1				
																	3261106	247	249	0.06	5.6	867				
			98.36	92.13													3261107	249	250.77	0.012	1.5	788.5				
250			100.98	92.46	2	0.1		2		3		4	2	3		CN	3261108	250.77	251.87	0.027	1.8	515				
																	3261109	251.87	253	0.012	0.3	135.5				
			99.34	93.11													3261111	253	255	0.009	0.1	139.6				
255	MZPD	251.87 to 259.44m: MZPD - Dark green hornblende porphyritic plagioclase phyric late diorite dike. This unit has ~8% subhedral hornblende phenos ~2mm in size. There is a population of euhedral to subhedral plagioclase ~0.5mm in size accounting for 30% of the rock. The groundmass is chlorite altered mafic crystals and aphanitic groundmass. Contacts above and below are clear and hairline.									2		3				3261112	255	257	0.009	0.1	141.9				
			101.31	99.34													3261113	257	258	0.008	0.1	130				
																	3261114	258	259.44	0.009	0.05	144.2				
260			98.03	92.76												CN	3261115	259.44	261	0.012	1.5	731	259.08	54.71	-88.22	Reflex EZ-Gyro
	ANLT				0.5	0.1				3	1		3	1			3261116	261	263	0.01	0.9	569.8				
			100.98	96.39													3261117	263	265	0.007	0.7	639.9				

Legend

Lith Code

- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- MZPD — Post-Mineral Dykes: Plag monzonite porphyry

Structure Type

- CN
- Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			100.98	96.39													3261117	263	265	0.007	0.7	639.9				
265			85.09	68.36												FRZ	3261118	265	267	0.009	1	1,028.2				
			102.3	102.3													3261119	267	269	0.009	0.6	670.2				
270			96.88	76.25													3261121	269	271	0.011	0.6	679.5				
	ANLT	259.44 to 282.55m: ANLT - Light to medium green pyroxene porphyritic andesite lapilli tuff. The lapill account for ~30% of the rock. Lapilli are pyroxene porphyritic with a light green aphanitic groundmass. Pyroxene crystals are euhedral and 0.5 to 2mm in size. The matrix has crystals and ash; crystals are ~15% subhedral to anhedral pyroxene; ~1mm in size. The matrix aslso has ~1% subhedral to anhedral plagioclase phenos. The rest of the matrix is very fine grained ash. Patches of albite alter lapilli and matrix. A small ~30cm MNDR dikelet is seen from 260.34-260.64m. The upper and lower contacts of this dikelet are carb/sulphide rich (veins) minor cp and mostly PO/PY			0.5	0.1				3	1		3	1			3261122	271	273	0.011	0.9	1,013.4				
			95.31	85.31													3261123	273	275	0.012	0.9	1,008.8	274.32	49.41	-88.22	Reflex EZ-Gyro
275																	3261124	275	277	0.011	0.9	975.7				
			100.66	96.07													3261126	277	279	0.013	1.3	1,093.9				
																	3261127	279	281	0.01	1.1	791.5				
280			99.02	97.7													3261128	281	282.55	0.02	4.8	1,576.6				
																SZ	3261129	282.55	284	0.0025	0.3	134.8				
	MNDR	282.55 to 285.49m: MNDR - Dark to light green hornblende-plagioclase diorite porphyry dike. This dike has ~20% euhedral to subhedral hornblende phenos ~0.8mm in size. The euhedral to subhedral plagioclase phenos account for ~22% and are ~1mm in size. This rock has been highly albite altered to the point of intense textural andmafic destruction. There is a darker less altered section where albite alteration is nuclating and 'ghosting' the plagioclase phenos making them difficult to discern. The light section of this rock is intensely albite altered and much of the primary texture as well as maifc have been destroyed. The alteratino is much too hard to be sericitized (too white/light coloured to be sericitized and silicified also).	100.98	80.98	0.5	0				5				1			3261131	284	285.49	0.0025	0.5	242.9				
285					1	0.7							4	5			3261132	285.49	286.67	0.029	8.3	2,515.2				
	ANLT	285.49 to 291.31m: ANLT - Light to medium green pyroxene porphyritic andesite lapilli tuff. The lapill account for ~30% of the rock. Lapilli are pyroxene porphyritic with a light green aphanitic groundmass. Pyroxene crystals are euhedral and 0.5 to 2mm in size. The matrix has crystals and ash; crystals are ~15% subhedral to anhedral pyroxene; ~1mm in size. The matrix aslso has ~1% subhedral to anhedral plagioclase phenos. The rest of the matrix is very fine grained ash. Patches of albite alter lapilli and matrix. Notably rich sections of PY/CP/PO/Carbonates occur with intense cl/ca alteration; scale ranges from 10s of cm to cm scale.	98.69	86.23													3261133	286.67	288	0.011	2.1	985.3				
					2	0.2				4			2	4			3261134	288	290	0.011	2.5	1,210.3				
290			101.32	87.17													3261135	290	291.31	0.013	2.8	1,163.6	289.56	53.44	-88.19	Reflex EZ-Gyro
																CN	3261136	291.31	293	0.009	1.7	631.1				
	MNDR	291.31 to 295.7m: MNDR - Dark to light green hornblende-plagioclase diorite porphyry dike. This dike has ~20% euhedral to subhedral hornblende phenos ~0.8mm in size. The euhedral to subhedral plagioclase phenos account for ~22% and are ~1mm in size. This rock has been highly albite altered to the point of intense textural andmafic destruction. There is a darker less altered section where albite alteration is nuclating and 'ghosting' the plagioclase phenos making them difficult to discern. The light section of this rock is intensely albite altered and much of the primary texture as well as maifc have been destroyed. The alteratino is much too hard to be sericitized (too white/light coloured to be sericitized and silicified also).	99.34	99.34	1	0.2				5							3261137	293	295	0.007	0.9	430.8				
295																	3261138	295	295.7	0.139	13.9	6,988.6				
			99.02	94.43													3261139	295.7	297	0.007	2.2	973.7				
	ANLT				0.3	0.1				4				2			3261141	297	299	0.013	2.9	1,164.1				
			100	100													3261142	299	301	0.012	2.3	1,273.9				
300																										

Legend

Lith Code

- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

- FRZ — Fracture Zone
- SZ — Shear Zone
- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

N side of mag high donut feature (potassic alteration halo around Heidi stock?) in moderate mag signature; infill gap for shalllow Cu mineralization between historical holes 91-879 and 18-1106; Main target zone is 100-300m depth which will test for downdip extension of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu)and strong to weak magsus alteration shell from 18-1106 from ~170 to 270m) (19-HS02 is ~90m N of 18-1106)

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
305	ANLT	Andesitic Volcanic Rocks: Px andesite lapilli tuff	100	100												
			100	95.74												
			99.01	95.07												
			100.33	100.33												
310			100.98	100.98	0.3	0.1				4				2		
			98.69	89.51												
315			100.98	90.82												
			97.37	88.82												
320			100	97.7	0.2	0.1					3		4	5		SZ
			99.67	99.67												
325			100.98	90.82	1	0.1				4		2		2		
			99.02	95.74												
330			98.36	91.45												
			100.33	87.54												
335																

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261142	299	301	0.012	2.3	1,273.9
3261143	301	303	0.012	2.1	1,501.4
3261144	303	305	0.009	1.5	814.3
3261145	305	307	0.009	2	1,173
3261146	307	309	0.005	1.1	639.2
3261147	309	311	0.005	1.2	658.8
3261148	311	313	0.0025	1.1	706.2
3261149	313	315	0.005	0.9	589.2
3261151	315	317	0.006	0.8	512
3261152	317	319	0.005	1.5	805.5
3261153	319	320	0.006	5.3	591.7
3261154	320	321.34	0.005	2.8	446.6
3261155	321.34	322.35	0.036	6.1	871.4
3261156	322.35	324	0.006	1.5	678.9
3261157	324	326	0.007	0.9	584.5
3261158	326	328	0.0025	0.5	401.7
3261159	328	330	0.008	2.1	391.6
3261161	330	332	0.006	1.1	681.9
3261162	332	334	0.005	1.2	420.6
3261163	334	336	0.009	2.1	732.5
3261164	336	338	0.009	0.9	590.3
3261166	338	340	0.008	1	770.2

Depth (m)	Azimuth	Dip	Tool
304.8	49.53	-88.12	Reflex EZ-Gyro
320.04	52.42	-88.22	Reflex EZ-Gyro
335.28	51.78	-88.17	Reflex EZ-Gyro

Legend

Lith Code

ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

SZ
Shear Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

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MOUNTMILLIGAN

centerragold

Legend

Lith Code

ANLT

Andesitic Volcanic Rocks: Px andesite lapilli tuff

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
340	ANLT	295.7 to 392.28m: ANLT - Light to medium green pyroxene porphyritic andesite lapilli tuff. The lapilli account for ~60% of the rock. Lapilli are pyroxene porphyritic with a light green aphanitic groundmass. Pyroxene crystals are euhedral and 0.5 to 2mm in size. The matrix has crystals and ash; crystals are ~15% subhedral to anhedral pyroxene; ~1mm in size. The matrix aslso has ~1% subhedral to anhedral plagioclase phenos. The rest of the matrix is very fine grained ash. Patches of albite alter lapilli and matrix. Notably rich sections of PY/CP/PO/Carbonates occur with intense cl/ca alteration; scale ranges from 10s of cm to cm scale. 305.8m; 320.75m; and 321.34 to 322.35 m. (possible shear zone?)	100.33	87.54						4		2		2			3261166	338	340	0.008	1	770.2				
			99.34	97.05													3261167	340	342	0.007	0.5	497.3				
																	3261168	342	344	0.006	0.5	498.4				
345			99.67	97.7													3261169	344	346	0.006	0.6	680.8				
																	3261171	346	348	0.006	0.5	660.6				
			98.69	86.23													3261172	348	350	0.007	0.5	749.6				
350			100.33	92.76	1	0.1											3261173	350	352	0.006	0.4	767	350.52	51.12	-88.23	Reflex EZ-Gyro
			100.66	99.67													3261174	352	354	0.007	0.4	730.7				
355																	3261175	354	356	0.007	0.3	422.9				
			99.02	99.02													3261176	356	358	0.007	0.2	513				
																	3261177	358	360	0.006	0.2	515.5				
360			98.69	95.08													3261178	360	362	0.005	0.2	531.4				
			100	100													3261179	362	364	0.0025	0.2	364.2				
365																	3261181	364	366	0.006	0.2	375.3	365.76	53.2	-88.2	Reflex EZ-Gyro
			99.67	98.36													3261182	366	368	0.0025	0.1	306				
			98.36	97.05	0.5	0											3261183	368	370	0.007	0.8	263.6				
370																	3261184	370	372	0.006	0.1	143.4				
			98.69	95.41													3261185	372	374	0.006	0.1	137.6				
375			100.98	99.67													3261186	374	376	0.006	0.1	103.2	374.9	50.4	-88.13	Reflex EZ-Gyro

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1174	Heidi	392.28	05-Jul-2019	10-Jul-2019	430891.64	6109361.27	1156.54	61.63	-89.28	NQ	Mike Warner	Mt Milligan Mine

Purpose

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MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
380	ANLT	295.7 to 392.28m: ANLT - Light to medium green pyroxene porphyritic andesite lapilli tuff. The lapill account for ~60% of the rock. Lapilli are pyroxene porphyritic with a light green aphanitic groundmass. Pyroxene crystals are euhedral and 0.5 to 2mm in size. The matrix has crystals and ash; crystals are ~15% subhedral to anhedral pyroxene; ~1mm in size. The matrix aslso has ~1% subhedral to anhedral plagioclase phenos. The rest of the matrix is very fine grained ash. Patches of albite alter lapilli and matrix. Notably rich sections of PY/CP/PO/Carbonates occur with intense cl/ca alteration; scale ranges from 10s of cm to cm scale. 305.8m; 320.75m; and 321.34 to 322.35 m. (possible shear zone?)	100.98	99.67												
			99.67	99.67	0.5	0				4		2		2		
			99.34	99.34												
385			100	95.08				2		3		4		2		
			99.02	99.02	1	0										
390			99.34	94.75												
					0.1	0				4				2		

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261186	374	376	0.006	0.1	103.2
3261187	376	378	0.007	0.2	102.5
3261188	378	380	0.008	0.2	107.6
3261189	380	381.9	0.007	0.2	139.6
3261191	381.9	383	0.008	0.3	138.2
3261192	383	385	0.007	0.4	140.3
3261193	385	387	0.007	0.3	133.3
3261194	387	389	0.008	0.2	92.7
3261195	389	390	0.006	0.2	97.9
3261196	390	391.16	0.007	0.1	86
3261197	391.16	392.28	0.007	0.2	96.1

Depth (m)	Azimuth	Dip	Tool
381	50.4	-88.13	Reflex EZ-Gyro

Legend

Lith Code

ANLT

Andesitic Volcanic Rocks: Px andesite lapilli tuff

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
0	CASE	0 to 19m: CASE - Recovery of boulders and till from 12.1 to 19m.	17.31	0																						
			4.92	0																						
			26.89	0																						
20	HMZP	19 to 22.76m: HMZP - Light pinkish green/brown hornblende-plagiocalse poprhyritic monzonite dike. This dike has ~25% euhedral plagioclase phenocrysts ranging in size from 1-3mm in size. Euhedral to subhedral hornblede phenos account for ~7-10% of the rock and are 1-2mm in size. The matrix I greyish pink with minor dark mafic patches and aphanitic. This interval ha a moderate amount of brown oxide coating fracture surfaces.	88.52	12.13	0.1	0	3				1			2			3261198	19	21	0.009	0.7	306				
																	3261199	21	22.76	0.008	0.4	186.1				
25	ANLT	22.76 to 29.51m: ANLT - Light to medium green and brown andesitic lapilli tuff. This tuff has ~25% lapilli ranging in size from 2-40mm with most ~10mm in size. The matrix is composed of crystal and ash9anhedral pyroxene; subhedral plag). Lapilli are pyroxene porphyritic with an aphanitic light green groundmass; pyroxene phenos in this lapilli are ~1-3mm in size and account for ~7% of the lapilli. This interval is heavily oxidized and rubbled; fracture surfaces/cracks/crevices in core are oxidized and brown.	89.51	6.56	1	0					2			3		FRZ	3261201	22.76	24	0.027	1.2	659.3				
																	3261202	24	26	0.254	5.8	1,853.7				
			64.92	0													3261203	26	28	0.331	8.7	2,755.6				
																	3261204	28	29.51	0.327	11.7	3,670.5				
30	MZPP	29.51 to 33.05m: MZPP - Medium to dark pink plagioclase-hornblende porphyritic monzonite dike. This dike has ~7% euhedral plagioclase phenos ~1mm in size. Anhedral hornblende phenos are ~1mm in size and account for ~2% of the rock. The matrix is pink kfeldspar and aphanitic; patchy mafics in groundmass are visible and aphanitic (~2%). This interval has moderate oxidation on fracture surfaces.	81.58	15.46	1	0	5							2			3261206	29.51	31	0.046	4.7	1,381.2	29.57	185.57	-89.5	Reflex EZ-Trac
																	3261207	31	32	0.058	3.8	521.6				
																	3261208	32	33.05	0.015	1	350				
			44.26	0																						
35	ANLT	33.05 to 39.35m: ANLT - Light to medium green and brown andesitic lapilli tuff. This tuff has ~25% lapilli ranging in size from 2-40mm with most ~10mm in size. The matrix is composed of crystal and ash9anhedral pyroxene; subhedral plag). Lapilli are pyroxene porphyritic with an aphanitic light green groundmass; pyroxene phenos in this lapilli are ~1-3mm in size and account for ~7% of the lapilli. This interval is heavily oxidized and rubbled; fracture surfaces/cracks/crevices in core are oxidized	85.57	0	1	0				2	2			3		FRZ	3261209	33.05	35	0.021	3.1	2,378.7				
																	3261211	35	37	0.033	4.8	1,889.3				
																	3261212	37	38	0.035	6	992				

Legend

Lith Code

- CASE — Casing : No core recovered
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- MZPP — MBX and SS Stocks: Plag monzonite porphyry

Structure Type

- FRZ — Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
40	ANLT	33.05 to 39.35m: ANLT - Light to medium green and brown andesitic lapilli tuff. This tuff has ~25% lapilli ranging in size from 2-40mm with most ~10mm in size. The matrix is composed of crystal and ash9anhedral pyroxene; subhedral plag). Lapilli are pyroxene porphyritic with an aphanitic light green groundmass; pyroxene phenos in this lapilli are ~1-3mm in size and account for ~7% of the lapilli. This interval is heavily oxidized and rubbled; fracture surfaces/cracks/crevices in core are oxidized and brown.	85.57	0	1	0				2	2		3			FRZ
	HMZP		47.87	0	0.5	0		5								
		39.35 to 42.81m: HMZP - Dark pink hornblende-plagiocalse poprhyritic monzonite dike. This dike has ~20% euhedral plagioclase phenocrysts ranging in size from 1-2mm in size. Subhedral hornblede phenos account for ~5% of the rock and are 1-2mm in size. The matrix is pink with minor dark mafic patches and aphanitic. This interval has a moderate amount of brown oxide coating fracture surfaces.	93.44	15.41												
45	ANLT	42.81 to 50.32m: ANLT - Light to medium green and brown andesitic lapilli tuff. This tuff has ~25% lapilli ranging in size from 2-40mm with most ~10mm in size. The matrix is composed of crystal and ash9anhedral pyroxene; subhedral plag). Lapilli are pyroxene porphyritic with an aphanitic light green groundmass; pyroxene phenos in this lapilli are ~1-3mm in size and account for ~7% of the lapilli. This interval is heavily oxidized and rubbled; fracture surfaces/cracks/crevices in core are oxidized and brown.	79.93	8.88	4	0					3		3			FRZ
			97.7	3.93												
50			98.36	29.84												
55			96.07	28.2												
			90.82	7.21												FRZ
60			94.74	29.93												
	APFW	50.32 to 79.23m: APFW - Light to medium green with a brown tinge andesitic porphyry flow. This flow has ~35% euhedral pyroxene phenocrysts ~1-5mm in size. The groundmass supporting these phenos is weak to moderate albite altered and aphanitic. This unit ranges from moderate to high oxidation; mostly on fracture surfaces with minor amounts where oxidation is pervasive.	100	46.89	0.3	0				4	2					
65			92.35	7.1												
			102.55	22.99												
70			86.91	12.36												
			95	37.81												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261212	37	38	0.035	6	992
3261213	38	39.35	0.028	5.1	1,697.7
3261214	39.35	41	0.033	5.9	1,140.8
3261215	41	42.81	0.029	5.7	1,018
3261216	42.81	44	0.019	4.8	1,568.9
3261217	44	46	0.027	6.9	2,561.4
3261218	46	48	0.033	5.3	2,987.9
3261219	48	49	0.011	2.8	1,611.9
3261221	49	50.32	0.035	3.8	1,336.5
3261222	50.32	52	0.04	3.1	1,562.8
3261223	52	54	0.027	2	1,144.6
3261224	54	56	0.047	1.3	1,026
3261225	56	58	0.115	1.5	2,264.7
3261226	58	60	0.089	3.1	2,099.2
3261227	60	62	0.025	2.3	977.5
3261228	62	64	0.118	3.6	1,920.3
3261229	64	66	0.06	2.8	1,599.3
3261231	66	68	0.027	3.8	1,727.4
3261232	68	70	0.016	2.9	1,674.3
3261233	70	72	0.026	4.3	1,837.4
3261234	72	74	0.027	2.4	1,539.3
3261235	74	76	0.013	1.3	834.3

Depth (m)	Azimuth	Dip	Tool
60.05	158.27	-88.3	Reflex EZ-Trac

Legend

Lith Code

- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- APFW — Andesitic Volcanic Rocks: Px andesite porphyry flow

Structure Type

- FRZ — Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
80	APFW	50.32 to 79.23m: APFW - Light to medium green with a brown tinge andesitic porphyry flow. This flow has ~35% euhedral pyroxene phenocrysts ~1-5mm in size. The groundmass supporting these phenos is weak to moderate albite altered and aphanitic. This unit ranges from moderate to high oxidation; mostly on fracture surfaces with minor amounts where oxidation is pervasive.	95	37.81	0.3	0				4	2						3261235	74	76	0.013	1.3	834.3				
																	3261236	76	78	0.024	2.6	1,325.2				
			95.31	57.5													3261237	78	79.23	0.029	2.8	1,396.1				
	HMZP	79.23 to 82.87m: HMZP - Dark pink hornblende-plagiocalse porphyritic monzonite dike. This dike has ~20% euhedral plagioclase phenocrysts ranging in size from 1-2mm in size. Subhedral hornblede phenos account for ~5% of the rock and are 1-2mm in size. The matrix is pink with minor dark matic patches and aphanitic. This interval has a low amount of brown oxide coating fracture surfaces.	79.92	9.02	2	0		4					2				3261238	79.23	81	0.011	0.9	303.4				
																	3261239	81	82.87	0.01	1.3	709.4				
85	ANLT	82.87 to 86.17m: ANLT - Light green/brown pyroxene porphyritic andesite lapilli tuff. This tuff has ~30% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are generally large ~40-60mm. The matrix is a crystal rich ash mix. Heavy albite/epidote/chlorite alteration patches can make it difficult to dicern lapilli boundaries.	95.31	21.6	4	0				4	2					FRZ	3261241	82.87	84	0.019	1.5	2,138.4				
																	3261242	84	85	0.013	3	2,262.9				
			99.67	29.51													3261243	85	86.17	0.018	2.8	1,776				
																	3261244	86.17	88	0.021	2.6	1,752.8				
			99.34	91.8													3261246	88	90	0.028	1.7	1,167.6				
90																	3261247	90	92	0.016	2.5	1,735.4	90.53	156.27	-88.5	Reflex EZ-Trac
			100	94.74													3261248	92	94	0.011	0.9	843.4				
			98.36	89.51													3261249	94	96	0.008	0.9	788.9				
95	ANLT	86.17 to 105.48m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~30% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are generally large ~40-60mm. The matrix is a crystal rich ash mix. Heavy albite/epidote/chlorite alteration patches can make it difficult to dicern lapilli boundaries.			5	0				2	3		3	2													
			97.38	75.08													3261251	96	98	0.016	2.5	1,756.2				
																	3261252	98	100	0.024	4.3	2,304.1				
100			97.7	59.02													3261253	100	102	0.008	0.8	550				
																	3261254	102	104	0.013	2.3	1,153.2				
			99.67	89.84													3261255	104	105.48	0.0025	0.8	177.8				
105	HYBX	105.48 to 107.73m: HYBX - Dark green with white mottles; calcite/qz brecciated andesite tuff. This breccia is crackle to mosaic with calcite/qz brecciating dark green fine grained tuff. Large veins of calcite/pyrite/hematite/sphalerite/pyrrhotite account for ~30% of the interval. The breccia cement accounts for ~20% of the interval with clasts accounting for 60%. Minor fault gouge is seen in intensely brecciated zones. This area is highly calcite/chlorite altered.			5	0.4			3				4	5		SZ	3261256	105.48	106	0.008	4	297				
			100	90.13												FL	3261257	106	107.73	0.018	32.4	1,339.7				
	ANLT	107.73 to 110.11m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~30% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are generally large ~40-60mm. The matrix is a crystal rich ash mix. Heavy albite/epidote/chlorite alteration patches can make it difficult to dicern lapilli boundaries.			7	0				3			3	2			3261258	107.73	109	0.011	2.8	652.7				
																	3261259	109	110.11	0.016	5.4	774.7				
110	HYBX	110.11 to 110.72m: HYBX - Dark green with white mottles; more of a masive veined section than a true breccia. Large veins of calcite/pyrite/hematite/magnetite/chalcopyrite/pyrrhotite account for ~30% of the interval. The breccia cement accounts for ~20% of the interval with clasts accounting for 60%. Minor fault gouge is seen in intensely brecciated zones. This area is highly calcite/chlorite altered.	99.67	91.48	6	0.2	5		3				3	5		SZ	3261261	110.11	110.72	0.016	18.4	865.7				
	ANLT				4	0				4			3				3261262	110.72	112	0.012	1.4	806.1				
			99.02	90.49													3261263	112	114	0.011	0.9	810.6				

Legend

Lith Code

- APFW — Andesitic Volcanic Rocks: Px andesite porphyry flow
- HMZP — MBX and SS Stocks: Plag-Hbl monzonite porphyry
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- HYBX — MBX and SS Stocks: Hydrothermal breccia

Structure Type

- FRZ — Fracture Zone
- SZ — Shear Zone
- FL — Fault

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
115	ANLT	110.72 to 166.26m: ANLT - Light green pyroxene porphyritic andesite lapilli/block tuff. The lapilli account for ~70% of the rock and range in size from 2mm to blocks ~1m or more. The lapilli and blocks have ~45% euhedral pyroxene phenocrysts set in a lighter green aphanitic groundmass (minor plag present). The matrix is mostly subhedral to anhedral pyroxene crystals with ash support (35% crystals and 65% ash). This interval may be a porphyry flow autobreccia (but is likely too wide?). The albite/chlorite alteration of the rock is variably intense in patches. A small KF/SE/CA alteration zone from 162.41-162.62 m. (associated with L3/L4 calcite/pyrite veins) also a small interval at 165 to 165.36 m that has Cp in veins.	99.02	90.49												
			99.67	87.54												
120			95.74	95.74												
			102.63	95.72												
125			99.67	97.38												
			100	100												
130			99.34	99.34	4	0				4			3			
			97.38	84.26												
135			98.68	85.86												
			100.98	90.82												
140			97.7	97.7												
			96.39	94.1												
145			96.72	90.16												
150																

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
3261263	112	114	0.011	0.9	810.6				
3261264	114	116	0.014	8.8	911				
3261265	116	118	0.008	0.8	533.8				
3261266	118	120	0.007	0.4	439.6				
3261267	120	122	0.006	0.5	509.7	121.01	64.07	-89.6	Reflex EZ-Trac
3261268	122	124	0.007	0.5	474.2				
3261269	124	126	0.007	0.3	364.3				
3261271	126	128	0.007	0.3	321.3				
3261272	128	130	0.006	0.4	334.8				
3261273	130	132	0.006	0.2	183.9				
3261274	132	134	0.006	0.3	317.3				
3261275	134	136	0.007	1.3	484.3				
3261276	136	138	0.009	1.2	571				
3261277	138	140	0.006	0.5	403.2				
3261278	140	142	0.009	1	792.6				
3261279	142	144	0.01	1.2	876.1				
3261281	144	146	0.009	0.9	827				
3261282	146	148	0.011	0.8	762.8				
3261283	148	150	0.009	0.8	841.2				
3261284	150	152	0.009	0.6	808.7				

Legend

Lith Code

ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

CN
Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

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centerraGOLD

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
155	ANLT	110.72 to 166.26m: ANLT - Light green pyroxene porphyritic andesite lapilli/block tuff. The lapilli account for ~70% of the rock and range in size from 2mm to blocks ~1m or more. The lapilli and blocks have ~45% euhedral pyroxene phenocrysts set in a lighter green aphanitic groundmass (minor plag present). The matrix is mostly subhedral to anhedral pyroxene crystals with ash support (35% crystals and 65% ash). This interval may be a porphyry flow autobreccia (but is likely too wide?). The albite/chlorite alteration of the rock is variably intense in patches. A small KF/SE/CA alteration zone from 162.41-162.62 m. (associated with L3/L4 calcite/pyrite veins) also a small interval at 165 to 165.36 m that has Cp in veins.	96.72	90.16												
			103.29	98.36												
			100	97.05	4	0				4			3			
160			100	87.87												
			99.34	91.8												
165			98.36	81.64	0.4	0.1										
	MNDR	166.26 to 167.74m: MNDR - Medium to light green plagioclase-hornblende porphyritic diorite dike. This dike has ~25% subhedral to euhedral plagioclase phenos; 1-2mm in size. Euhedral to subhedral hornblende phenos are observed accounting for 7% of the rock; 0.5-1mm in size. The groundmass is a mixture of mafics and grey plagioclase. Epidote selvage to some veins; mafics are chlorite altered									3		2			
	GABR	167.74 to 169.84m: GABR - Dark green pyroxene-hornblende-plagioclase porphyritic magnetite phyric gabbro dike. This dike has ~50% or more euhedral to subhedral pyroxene phenocrysts ~1-2mm in size; some megacrysts up to 12mm in size. Euhedral hornblede phenos account for ~3% of the rock ~1mm in size. Euhedral to blocky/subhedral plagioclae phenos account for ~7% of the rock and are ~1mm in size. The groundmass is a mixture of <0.5mm mafic/plag minerals which is varibaly altered. Patchy albite alteration as well as intermittent but pervasive epidote alteration; chlorite alterion of mafic minerals. The groundmass is heavily calcite altered. Contacts with above intruive and below lapilli tuff are sharp. Possibly a later dike (trace py and ,much more ca alt than surrounding rock).	98.03	93.42	0.1	0					4		4	5		
170	ANLT				4	0				3	2		2			CN
	MNDR	169.84 to 171.13m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~45% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are 5-60mm. The matrix is a crystal rich ash mix.	100.98	91.8												CN
		171.13 to 178.63m: MNDR - Medium to light green plagioclase-hornblende porphyritic diorite dike. This dike has ~40% subhedral to euhedral plagioclase phenos; 1-2mm in size. Euhedral to subhedral hornblende phenos are observed accounting for 20% of the rock; 0.5-1mm in size. The groundmass is a mixture of mafics and grey plagioclase. Epidote selvage to some veins; mafics are chlorite altered	98.36	95.08	5	0			1	3			3	1		
175			99.34	91.48												
			99.34	95.41												CN
180	ANLT															
			100.33	100.33	2	0.1				4		2	3	2		
185		178.63 to 193.33m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~45% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are 5-60mm. The matrix is a crystal rich ash mix.	99.67	99.67												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261284	150	152	0.009	0.6	808.7
3261286	152	154	0.0025	0.6	669.9
3261287	154	156	0.015	1.1	1,019.4
3261288	156	158	0.017	1	810.6
3261289	158	160	0.011	1	886.5
3261291	160	162	0.01	1.2	824.2
3261292	162	164	0.009	0.5	629.9
3261293	164	165	0.006	1.3	767
3261294	165	166.26	0.011	0.7	480.3
3261295	166.26	167.74	0.008	0.1	121.5
3261296	167.74	169	0.011	0.05	65.3
3261297	169	169.84	0.009	0.05	76.5
3261298	169.84	171.13	0.02	0.7	664.7
3261299	171.13	173	0.009	0.3	291.4
3261301	173	175	0.01	0.8	373.8
3261302	175	177	0.007	0.7	314
3261303	177	178.63	0.008	0.3	188.8
3261304	178.63	180	0.011	0.8	671.8
3261305	180	182	0.009	0.4	342.9
3261306	182	184	0.009	0.5	459.9
3261307	184	186	0.014	0.6	456.9
3261308	186	188	0.011	0.6	485.3

Depth (m)	Azimuth	Dip	Tool
151.49	91.77	-89.1	Reflex EZ-Trac
181.97	77.57	-89.2	Reflex EZ-Trac

Legend

Lith Code

- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- GABR — Mafic Intrusive Rocks: Gabbro

Structure Type

- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerraGOLD

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
190	ANLT	178.63 to 193.33m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~45% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are 5-60mm. The matrix is a crystal rich ash mix.	99.67	99.67	2	0.1				4		2	3	2			3261308	186	188	0.011	0.6	485.3				
			97.7	92.79													3261309	188	190	0.017	1.1	750.6				
																	3261311	190	192	0.025	1	749.3				
			98.36	94.1													3261312	192	193.33	0.01	0.3	243.2				
195	MNDR	193.33 to 195.28m: MNDR - Medium green plagioclase-hornblende porphyritic diorite dike. This dike has ~25% subhedral to euhedral plagioclase phenos; ~1mm in size. Euhedral to subhedral hornblende phenos are observed accounting for 7% of the rock; 0.5-1mm in size. The groundmass is a mixture of mafics and grey plagioclase.			0.4	0				2			3			CN	3261313	193.33	195.28	0.021	4.5	2,571.6				
	ANLT	195.28 to 197.12m: ANLT - Dark to medium green pyroxene porphyritic andesite lapilli tuff. This tuff has ~45% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are 5-60mm. The matrix is a crystal rich ash mix.	100.33	95.74	3	0						3	3	4	2	CN	3261314	195.28	197.12	0.017	0.7	429.1				
																CN	3261315	197.12	199	0.012	0.6	434.8				
			98.03	79.61																						
200	MNDR	197.12 to 208.17m: MNDR - Medium to dark green medium to fine grained plagioclase porphyritic diorite dike. This dike has ~17% subhedral to anhedral plagioclae phenocrysts ~1mm in size. Euhedral to subhedral hornblende phenos are ~0.5-1mm in size and account for 2% of the rock. The groundmass is green and aphanitic; some micro plag (~0.2mm) can be seen ~5% . Patchy ab and qz alteration; overall cl/ab/ep altered	99.34	98.03	0.2	0.1				3			4	2	2		3261316	199	201	0.021	1.1	920				
																	3261317	201	203	0.01	0.2	224.4				
																	3261318	203	205	0.013	0.3	296.2				
205			99.34	90.16													3261319	205	207	0.011	0.2	187.4				
			98.69	94.1													3261321	207	208.17	0.012	0.2	252				
																CN	3261322	208.17	210	0.009	0.2	389.5				
210			99.02	99.02													3261323	210	212	0.009	0.3	432.6				
																	3261324	212	214	0.016	0.6	710.3	212.45	62.37	-89.3	Reflex EZ-Trac
			99.01	97.37																						
215	ANLT	208.17 to 222.83m: ANLT - Light green pyroxene porphyritic andesite lapilli tuff. This tuff has ~45% andesite lapilli with ~5% euhedral pyroxenes ranging in size from 2-5mm. The lapilli are 5-60mm. The matrix is a crystal rich ash mix.			3	0				3			3				3261326	214	216	0.02	1.4	1,257.1				
			99.67	96.39													3261327	216	218	0.037	1.6	1,220.4				
																	3261328	218	220	0.021	1.1	816.1				
220			99.67	99.67													3261329	220	222	0.011	0.5	351.3				
																	3261331	222	222.83	0.012	0.5	263.7				
			100.66	100.66												CN	3261332	222.83	224	0.013	0.8	288.1				
	MNDR	222.83 to 231.1m: MNDR - Light to dark green			0.6	0.1				4		3	2	3			3261333	224	226	0.032	1.6	391				
225			97.38	56.72																						

Legend

Lith Code

ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

CN
Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
230	MNDR	222.83 to 231.1m: MNDR - Light to dark green plagioclase-hornblende porphyritic diorite dike. This dike has 15% euhedral to subhedral plagioclase ~1mm in size. The hornblende phenocrysts are 0.5-1mm in size and account for ~3% of the rock. The groundmass is dark green with minor amounts of grey (aphanitic mafic and plag). The rock has patchy to pervasive albite/sericite alteration that destroys the mafics and leaves the rock a whitish tan colour. Patchy calcite alteration occurs inversely to ab/se alt.	97.38	56.72	0.6	0.1				4		3	2	3			3261333	224	226	0.032	1.6	391				
																SZ	3261334	226	228	0.014	0.7	218.4				
			96.71	67.11													3261335	228	230	0.018	0.7	260.7				
																	3261336	230	231.1	0.013	0.5	236.9				
			93.46	27.45													3261337	231.1	233	0.012	0.2	98.7				
235	MNDR	231.1 to 237.69m: MNDR - Dark green plagioclase porphyritic diorite dike. This dike has ~10% euhedral plagioclase phenos ~2mm in size. Rare (0.2%) hbl phenos are present ~0.5mm in size. The groundmass is dark green and aphanitic with a population of 0.2mm altered relict crystal shapes (actinolite altered pyx?).	65.57	9.29	0.4	0					2		3				3261338	233	235	0.026	0.6	345.9				
			68.98	31.75													3261339	235	237	0.016	0.1	105.8				
																	3261341	237	237.69	0.02	0.7	461.7				
																CN	3261342	237.69	239	0.014	0.9	456.6				
240			99.34	88.85													3261343	239	241	0.011	0.4	500.6				
			98.69	88.85													3261344	241	243	0.012	0.3	510.3				
245			100.33	90.79													3261345	243	245	0.02	0.3	397.8	242.93	57.57	-89.3	Reflex EZ-Trac
			98.36	97.7													3261346	245	247	0.02	0.2	356.3				
																	3261347	247	249	0.024	0.2	346.7				
250	ANLT		99.67	86.89	0.5	0				1	1		2				3261348	249	251	0.027	0.2	431				
																	3261349	251	253	0.087	0.3	437.3				
			99.67	94.75													3261351	253	255	0.033	0.2	432.7				
255		237.69 to 276.45m: ANLT - Medium green with light green mottles andesitic lapilli tuff. This tuff has ~60% sub-rounded lapilli. The lapilli are pyroxene porphyritic with a lighter green aphanitic groundmass (groundmass does have micro plag ~0.2mm in size). The matrix is dark green crystal rich and ash. The crystals are pyroxene and account for ~45% of the matrix with very fine grained ash making up the other 55%. Pyroxene phenos are altered to actinolite/chlorite. Lapilli are albite altered. The alteration could be creating apparent clastic texture. Zone of dark green/black py veinlets from 267-272 m. Possibly Bi in veins? Increasd pyrite abundance around these veins (Au anomaly)?	100.66	91.8													3261352	255	257	0.012	0.2	430				
																	3261353	257	259	0.008	0.05	342.8				
260			98.68	96.71													3261354	259	261	0.008	0.2	497.8				
																	3261355	261	263	0.008	0.1	390				
			100.98	98.69													3261356	263	265	0.006	0.1	280.9				

Legend

Lith Code

- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

- SZ — Shear Zone
- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1179	Heidi	276.45	11-Jul-2019	14-Jul-2019	430861.56	6109439.09	1164.05	185.57	-89.5	NQ	Mike Warner	Mt Milligan Mine

Purpose
N-edge of mag high donut feature; testing for downdip shallow Cu zone and MZPP intersected in 91-879 (collar is ~90m SW of 91-879)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
265	ANLT	237.69 to 276.45m: ANLT - Medium green with light green mottles andesitic lapilli tuff. This tuff has ~60% sub-rounded lapilli. The lapilli are pyroxene porphyritic with a lighter green aphanitic groundmass (groundmass does have micro plag ~0.2mm in size). The matrix is dark green crystal rich and ash. The crystals are pyroxene and account for ~45% of the matrix with very fine grained ash making up the other 55%. Pyroxene phenos are altered to actinolite/chlorite. Lapilli are albite altered. The alteration could be creating apparent clastic texture. Zone of dark green/black py veinlets from 267-272 m. Possibly Bi in veins? Increasd pyrite abundance around these veins (Au anomaly)?	100.98	98.69													3261356	263	265	0.006	0.1	280.9				
			96.07	87.54													3261357	265	267	0.007	0.05	150				
			97.7	47.21													3261358	267	269	0.005	0.05	148				
270					0.5	0				1	1		2				3261359	269	271	0.006	0.05	203.8				
			100.33	70.16													3261361	271	273	0.007	0.05	162.5				
																	3261362	273	275	0.0025	0.05	165.3	273.41	335.17	-89.6	Reflex EZ-Trac
275			99.01	92.11													3261363	275	276.45	0.0025	0.05	162.9				

Legend
Lith Code
ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose
ReRegional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; Main target zone is 100-145m depth which will test the downdip of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu) and strong to weak magsus alteration shell from 18-1106 (19-HS04 stock is ~140m S from 18-1106)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
0	CASE	0 to 13.41m: CASE - No recovery																								
13.41	MNDR	13.41 to 49.8m: MNDR - Dark grey with white speckles hornblende phyric plagioclase porphyritic diorite dike. This dike has ~35% euhedral to subhedral; tabular to blocky; plagioclase pehnocrysts; ranging in size from 1-4mm; averaging ~2-3mm. Euhedral hornblende phenocrysts account for 5% of the rock and are ~0.5 to 1mm in size. The groundmass is dark grey and aphanitic (mafic and plag component).There is a smaller population of euhedral to subhedral plagioclase components ~0.5mm in size. Hbl phenos are chlorite calcite altered. Dark grey holocrystalline sub-rounded dioritic/andesitic xenoliths py mineralize at ~2-3%.	100	59.78	2	0							3	3			3261364	13.41	15	0.011	0.2	86.4				
			99.34	71.71													3261366	15	17	0.012	0.1	74				
			100.33	74.75													3261367	17	19	0.013	0.2	77.1				
			96.39	83.61	2.5	0							5	2			3261368	19	21	0.0025	0.1	74.3				
			100	78.03	2	0							3	4			3261369	21	22.05	0.008	0.1	65.2				
			100	84.92	3	0							4	4			3261371	22.05	22.81	0.014	0.1	43.5				
			100.66	70.07	2	0							3	3			3261372	22.81	24	0.007	0.1	44.4				
			98.69	68.52													3261373	24	26	0.0025	0.1	68.1				
			97.7	84.59													3261374	26	27	0.0025	0.1	70.7				
																	3261375	27	28.42	0.006	0.1	77.7				
																	3261376	28.42	29.1	0.027	0.2	63.6				
																	3261377	29.1	31	0.011	0.2	60.8	29.57	103.07	-89.6	Reflex EZ-Trac
																	3261378	31	33	0.01	0.2	70.4				
																	3261379	33	35	0.0025	0.2	88.1				
																	3261381	35	37	0.005	0.2	61				
																	3261382	37	39	0.005	0.2	68.5				

Legend

Lith Code

CASE
Casing : No core recovered

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

CN
Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose

ReRegional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; Main target zone is 100-145m depth which will test the downdip of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu) and strong to weak magsus alteration shell from 18-1106 (19-HS04 stock is ~140m S from 18-1106)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
40	MNDR	13.41 to 49.8m: MNDR - Dark grey with white speckles hornblende phyric plagioclase porphyritic diorite dike. This dike has ~35% euhedral to subhedral; tabular to blocky; plagioclase pehnocrysts; ranging in size from 1-4mm; averaging ~2-3mm. Euhedral hornblende phenocrysts account for 5% of the rock and are ~0.5 to 1mm in size. The groundmass is dark grey and aphanitic (mafic and plag component).There is a smaller population of euhedral to subhedral plagioclase components ~0.5mm in size. Hbl phenos are chlorite calcite altered. Dark grey holocrystalline sub-rounded dioritic/andesitic xenoliths py mineralize at ~2-3%.	97.7	84.59	2	0					2		3	3		
45			100	85.25												
			98.03	60.98												
			99.67	87.83												
50			100	79.67												CN
			100	99.34												
55			97.38	80												
			97.05	86.23												
60	MNDR		100.99	92.11	0.2	0		3	2			3	3	2		E1 + E2
			98.36	82.3												
65			100.33	100.33												
70			100.33	87.54	0.3	0.1		4	2				2	4		
			98.36	80.33	0.2	0.1		2	2			3	3			

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261382	37	39	0.005	0.2	68.5
3261383	39	41	0.011	0.5	92.9
3261384	41	43	0.0025	0.1	62.2
3261385	43	45	0.0025	0.1	77.3
3261386	45	47	0.0025	0.2	73.4
3261387	47	49	0.0025	0.1	66
3261388	49	49.8	0.0025	0.2	69
3261389	49.8	51	0.008	0.8	368.2
3261391	51	53	0.01	0.5	129
3261392	53	55	0.011	0.4	179.2
3261393	55	57	0.009	0.5	286.8
3261394	57	59	0.005	0.2	117.8
3261395	59	61	0.034	1	390.1
3261396	61	63	0.006	0.2	116.5
3261397	63	65	0.008	0.4	228
3261398	65	67	0.045	1.9	1,056
3261399	67	69	0.016	0.4	234.2
3261401	69	70.44	0.025	1.3	666.7
3261402	70.44	71.11	0.016	0.6	368.8
3261403	71.11	73	0.034	0.6	401.1
3261404	73	75	0.041	0.7	472.7
3261406	75	77	0.024	3	1,425.1

Depth (m)	Azimuth	Dip	Tool
60.05	151.97	-89	Reflex EZ-Trac

Legend

Lith Code

MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

CN — Contact

Structure Type

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose

ReRegional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; Main target zone is 100-145m depth which will test the downdip of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu) and strong to weak magsus alteration shell from 18-1106 (19-HS04 stock is ~140m S from 18-1106)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
80	MNDR	49.8 to 108m: MNDR - Light greenish white phaneritic plagioclase- hornblende phyric diorite. This dike has ~60% euhedral to subhedral; tabular to blocky; plagioclase phenocrysts; ~1mm in size. The hornblende phencrysts are highly altered and anhedral ~0.5mm in size and accounting for ~10% of the rock. The groundmass is largely white aphanitic plagioclase with minor amounts of pink aphanitic kfeldpsar. Disseminated magnetite occurs at 1-2% and disseminations are very fine grained (0.2mm). The hbl phenos are anhedral and very hydrothermally altered (chlorite after biotite), they also have epidote replacement (locally variable). Patchy intense potassic (kf/chl after bi) alteration selvages of E veins (generally E1 kf veins).	98.36	80.33													3261406	75	77	0.024	3	1,425.1				
			99.01	88.49													3261407	77	79	0.015	1.2	631.5				
			99.34	88.2													3261408	79	81	0.01	1.1	679.9				
			98.36	87.87	0.2	0.1		2	2		3		3			BX	3261409	81	83	0.008	0.3	159.4				
85																	3261411	83	85	0.008	0.3	170.3				
			99.67	90.16													3261412	85	87	0.006	0.1	118.1				
			99.67	89.84													3261413	87	89	0.008	0.2	125.6				
90																	3261414	89	91	0.006	0.1	102.1	90.53	127.07	-88.7	Reflex EZ-Trac
			99.67	90.13	0.2	0	4	2		2		2	4				3261415	91	91.96	0.005	0.1	74.6				
																	3261416	91.96	92.83	0.041	0.5	153.3				
			97.7	85.25	0.3	0	3	2	3		3		3				3261417	92.83	94	0.013	0.7	223.6				
95																	3261418	94	96	0.01	0.2	170.2				
			96.39	69.51												FL	3261419	96	98	0.015	0.2	129				
																	3261421	98	99.56	0.007	0.2	139.8				
100			102.95	88.2	0.2	0.1	4	3		2		2					3261422	99.56	101	0.033	1.4	511.7				
																	3261423	101	103	0.016	0.5	310.1				
																	3261424	103	103.7	0.019	0.2	58.8				
105			100	65.57													3261425	103.7	105	0.0025	0.2	89.5				
					0.1	0	2	2	4				3				3261426	105	107	0.0025	0.2	96.8				
			101.32	80.26													3261427	107	108	0.0025	0.1	68.3				
	HYBX	108 to 113.73m: HYBX - Whitish green with pink matrix hydrothermal breccia. This breccia has clasts of ; MNDR (Light greenish white phaneritic plagioclase- hornblende phyric diorite. This dike has ~60% euhedral to subhedral; tabular to blocky; plagioclase phenocrysts; ~1mm in size. The hornblende phencrysts are highly altered and anhedral ~0.5mm in size and accounting for ~10% of the rock. The groundmass is largely white aphanitic plagioclase with minor amounts of pink aphanitic kfeldpsar.) The cement is dark pink kfeldspar with anhedral to euhedral plagiocalse and hbl (picked up from fracturing MNDR). The cement is ~30% of the whole rock with clasts being 70%.														3261428	108	110	0.011	1.8	659.1				
110			100	94.43	0.3	0	3	2			2		3				3261429	110	112	0.007	0.5	223.8				
			98.69	74.43													3261431	112	113.73	0.01	0.9	347.5				

Legend

Lith Code

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

HYBX
MBX and SS Stocks: Hydrothermal breccia

Structure Type

BX
Breccia

FL
Fault

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose

ReRegional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; Main target zone is 100-145m depth which will test the downdip of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu) and strong to weak magsus alteration shell from 18-1106 (19-HS04 stock is ~140m S from 18-1106)

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
115	HYBX	108 to 113.73m: HYBX - Whitish green with pink matrix hydrothermal breccia. This breccia has clasts of ; MNDR (Light greenish white phaneritic plagioclase- hornblende phyric diorite. This dike has ~60% euhedral to subhedral; tabular to blocky; plagioclase phenocrysts; ~1mm in size. The hornblende phencrysts are highly altered and anhedral ~0.5mm in size and accounting for ~10% of the rock. The groundmass is largely white aphanitic plagioclase with minor amounts of pink aphanitic kfeldpsar.) The cement is dark pink kfeldspar with anhedral to euhedral plagiocalse and hbl (picked up from fracturing MNDR). The cement is ~30% of the whole rock with clasts being 70%. Breccia ranges from crackle to chaotic; chaotic breccias occur from 108.5-113.73 m. Breccia is ~40 degrees TCA.	98.69	74.43	0.3	0		3	2		2		3			
120	MNDR	113.73 to 122.97m: MNDR - Light greenish white phaneritic plagioclase- hornblende phyric diorite. This dike has ~60% euhedral to subhedral; tabular to blocky; plagioclase phenocrysts; ~1mm in size. The hornblende phencrysts are highly altered and anhedral ~0.5-1mm in size and accounting for ~10% of the rock. The groundmass is largely white aphanitic plagioclase with minor amounts of pink aphanitic kfeldpsar. Disseminated magnetite occurs at 1-2% and disseminations are very fine grained (0.2mm). The hbl phenos are anhedral and very hydrothermally altered (chlorite after biotite), they also have epidote replacement (locally variable). Patchy intense potassic (kf/chl after bi) alteration selvages of E veins (generally E1 kf veins).	100	82.95												
			97.7	68.85	0.2	0.1		3	3	2	3		2			FL
			101.32	97.37												
125			100	91.15												
			98.69	86.89	0.2	0		3	2	1	2		2			
130			99.02	91.48												
			100.33	83.61												
135	MNDR		98.03	84.21	0.1	0			1		3		3	2		
			99.34	89.51												
140			100.98	71.8	3	0		3	3				3	4		
			100	85.57												
145			99.34	75.74	0.1	0		2	2		3		3			
150		122.97 to 179.32m: MNDR - White with green speckles diorite dike. This dike has ~50% subhedral plagioclase phenos														

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261431	112	113.73	0.01	0.9	347.5
3261432	113.73	115	0.015	1.1	485.6
3261433	115	117	0.016	0.9	423.5
3261434	117	119	0.016	1.1	450.7
3261435	119	121	0.022	2.7	584.8
3261436	121	122.97	0.008	1.2	391.9
3261437	122.97	124	0.01	1.3	437.4
3261438	124	126	0.038	6	1,344.1
3261439	126	128	0.011	0.9	316.5
3261441	128	130	0.029	3.9	1,299.1
3261442	130	132	0.013	2.2	678.6
3261443	132	134	0.017	3	972.3
3261444	134	135	0.01	2	622.5
3261446	135	136.14	0.014	2.4	857.9
3261447	136.14	138	0.013	1.2	409.7
3261448	138	140	0.011	1.9	640.9
3261449	140	141	0.009	1.8	596.4
3261451	141	142.27	0.063	5.1	930.3
3261452	142.27	144	0.016	2.4	772.8
3261453	144	146	0.036	2.5	760.6
3261454	146	146.92	0.014	1.4	604
3261455	146.92	148	0.011	0.6	162.1
3261456	148	150	0.009	0.5	188.9
3261457	150	152	0.009	0.7	173.9

Depth (m)	Azimuth	Dip	Tool
121.01	120.77	-88.9	Reflex EZ-Trac

Legend

Lith Code

- HYBX — MBX and SS Stocks: Hydrothermal breccia
- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

- FL
- Fault

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
155	MNDR	122.97 to 179.32m: MNDR - White with green speckles diorite dike. This dike has ~50% subhedral plagioclase phenos ~0.2-0.5mm in size. Mafic phenocrysts are anhedral; account for ~15% of the rock and are ~0.5-1mm in size. Magnetite disseminations account for ~3% of the rock; but can vary up to ~6%. E veins cut this rock with KPOT selvages (bi/kf); mafic minerals are texturally destroyed and chlorite altered (chlorite after biotite); minor kf alteration is seen in groundmass (patchy).	99.34	75.74												
			98.03	83.88												
			100	90.82												
160			100	100												
			98.36	91.15												
165			100	97.05	0.1	0		2	2		3		3			
			97.37	97.37												
170			100.66	98.03												
			94.75	89.51												
175			101.64	99.02												
			98.69	98.69												CN
180	GABR	179.32 to 183.76m: GABR - Dark green pyroxene-plagioclase-hornblende porphyritic gabbro dike. This dike has ~20% euhedral pyroxene/hornblende phenos that are ~2-3mm in size. Euhedral tabular plagioclase phenos account for ~7% of the rock and are 1-2mm in size. The groundmass is dark green and microcrystalline. Micro-plag/pyx/hbl are seen making up the groundmass amon aphanitic material. The micro-phenos are ~0.2-0.5mm in size. Contacts above and below are sharp; contact below is very obvious and sharp.	102.3	100.33	1.5	0.1							2			
																CN
185	ANLT	183.76 to 189.34m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). Few ~4cm MNDR dikelets are seen crosscutting this tuff. The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs	98.69	98.69	3	0						1	3			

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261457	150	152	0.009	0.7	173.9
3261458	152	154	0.006	0.4	117.5
3261459	154	156	0.01	1	123.2
3261461	156	158	0.006	0.2	60.7
3261462	158	160	0.008	0.3	112.6
3261463	160	162	0.008	0.4	139.8
3261464	162	164	0.01	0.5	83
3261465	164	166	0.008	0.2	62.7
3261466	166	168	0.005	0.05	19.3
3261467	168	170	0.007	0.9	221.5
3261468	170	172	0.005	0.1	65.6
3261469	172	174	0.006	0.1	52.5
3261471	174	176	0.01	0.3	114.6
3261472	176	178	0.008	0.3	120.7
3261473	178	179.32	0.023	1.4	465.7
3261474	179.32	181	0.031	1.3	364.5
3261475	181	182	0.008	0.3	133.6
3261476	182	183.76	0.01	0.3	162.9
3261477	183.76	185	0.014	0.8	421.2
3261478	185	187	0.011	0.7	410.3
3261479	187	188	0.015	1.1	550.5

Depth (m)	Azimuth	Dip	Tool
151.49	116.77	-88.7	Reflex EZ-Trac
181.97	95.87	-88.1	Reflex EZ-Trac

Legend

Lith Code

- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- GABR — Mafic Intrusive Rocks: Gabbro
- ANLT — Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

- CN — Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			(%) 0 100	(%) 0 100	(%) 0 10	(%) 0 5																				
190	ANLT	183.76 to 189.34m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). Few ~4cm MNDR dikelets are seen crosscutting this tuff. The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix	98.69	98.69	3	0					1		3				3261479	187	188	0.015	1.1	550.5				
																CN	3261481	188	189.34	0.013	0.1	70.4				
	MNDR		98.03	87.87	0.1	0					2		2				3261482	189.34	190	0.007	0.7	418.1				
																	3261483	190	191.44	0.019	0.9	181.8				
																CN	3261484	191.44	193	0.02	1.3	525.8				
			100.66	100.66																						
		189.34 to 191.44m: MNDR - Dark green plag porphyritic hornblende-phyric diorite dike. This dike has ~25% euhedral porphyritic plagioclase ~2-4mm in size. Hbl phenos are 0.5-1mm in size and account for ~5% of the rock. The groundmass is dark green/grey and aphanitic.															3261486	193	195	0.021	1.2	535.9				
195																										
	ANLT	191.44 to 202.15m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). Few ~4cm MNDR dikelets are seen crosscutting this tuff. The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix	98.69	93.44	3	0					2		2				3261487	195	197	0.022	1.1	586.3				
			98.36	94.08													3261488	197	199	0.035	1.7	797.1				
200																	3261489	199	201	0.027	2.7	1,016.5				
			100.33	91.48													3261491	201	202.15	0.024	1.9	885.5				
	MNDR	202.15 to 206.35m: MNDR - Light green with medium green patches variably altered diorite dike. This diorite has ~40% blocky subhedral to eihedral and tabular plagioclase phenocrysts ranging in size from 0.5-1mm in size. The groundmass is apahanitic and light green. Patchy cl/qz/se (QSPC) alteration is on some vein selvages (veins seem to be cl but are whispy)	99.34	99.34	0.2	0						2	2		2		3261492	202.15	204	0.01	0.5	247.1				
																	3261493	204	205	0.014	0.9	449.4				
205																	3261494	205	206.35	0.018	1.2	403				
	MNDR	206.35 to 208.8m: MNDR - Whitish with green speckles plagioclase-hornblende phaneritic diorite dike. This dike has ~55% tabular euhedral plag phenos ~1mm in size. Subhedral hornblende phenos account for 10% of the rock and are ~1mm in size. The groundmass is aphanitic and light grey. Few xenliths are seen in this unit (ANTF) and are 10-15cm in size and subrounded.	99.02	91.8	1	0					1		3				3261495	206.35	208	0.007	0.3	144				
																	3261496	208	208.8	0.01	0.3	151.8				
																CN	3261497	208.8	210	0.026	1.6	857				
210	ANLT	208.8 to 212.66m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix. Sections of this unt have MNDR dikelets as seen from 206.35-208.8m as well as from 202.15 to 206.35m.	101.64	95.74	5	0	1	1			2		3				3261498	210	212	0.027	2.2	1,224.3				
																CN	3261499	212	212.66	0.041	3.9	1,724.6	212.45	83.17	-88	Reflex EZ-Trac
			99.34	98.68													3261501	212.66	214	0.012	0.7	315.5				
215	MNDR	212.66 to 217.34m: MNDR - Whitish with green speckles plagioclase-hornblende phaneritic diorite dike. This dike has ~55% tabular euhedral plag phenos ~1mm in size. Subhedral hornblende phenos account for 10% of the rock and are ~1mm in size. The groundmass is aphanitic and light grey. QSPC altered from 217-217.34m	100	95.41	0.2	0.1					2		3		2		3261502	214	216	0.019	3.3	1,012.8				
																	3261503	216	217.34	0.013	1.6	850.7				
	ANLT	217.34 to 218.67m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix.			0.2	0					2		3			CN	3261504	217.34	218.67	0.018	1.1	571.7				
																CN	3261505	218.67	220	0.014	0.5	140				
220			100.98	89.84													3261506	220	222	0.008	0.3	114.5				
	MNDR				1.5	0					1		2													
			97.05	73.77													3261507	222	224	0.006	0.2	98.4				
225			98.36	54.75													3261508	224	226	0.01	0.2	124.9				

Legend

Lith Code

ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

CN

Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
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MOUNTMILLIGAN

centerragold

Lithology | Geotechnical | Mineralisation | Alteration Mineral Intensity | Assays | DH Survey

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
230	MNDR	218.67 to 268.86m: MNDR - Dark green plag porphyritic hornblende-phyric diorite dike. This dike has ~25% euhedral porphyritic plagioclase ~2-4mm in size. Hbl phenos are 0.5-1mm in size and account for ~5% of the rock. This unit has ~4% andesitic tuff xenoliths which are subrounded and similarly mineralized as the intrusion. This unit is weakly magnetic. The groundmass is dark green/grey and aphanitic. A KPOT altered MNDR clast is seen from 228.6 to 228.7m. From 235 to 244m this dike is potassically altered. Weak Kf alteration is seen in the groundmass (greyish pink) and the mafics have been biotite altered (reddish brown and soft). The mafics still have a good euhedral to subhdral crystal shape which makes the logger think it may not be biotite. IF this is the case it is likely qz alteration of the groundmass being coloured by the red/brown mafics.	98.36	54.75	1.5	0					1		2				3261508	224	226	0.01	0.2	124.9				
																	3261509	226	228	0.008	0.5	129.9				
			100.99	73.68													3261511	228	230	0.011	0.6	187.6				
																	3261512	230	232	0.008	0.3	108.3				
			98.03	75.41													3261513	232	234	0.008	0.4	152.7				
235																	3261514	234	234.86	0.007	0.3	95.5				
			97.7	50.16													3261515	234.86	236	0.007	0.8	132.3				
																	3261516	236	238	0.01	0.6	100.9				
			100	83.28	2.5	0		3	3					3			3261517	238	240	0.008	0.7	196.9				
240																	3261518	240	242	0.008	0.3	82.6				
			100	75.74													3261519	242	243.64	0.007	0.3	97	242.93	67.17	-88.4	Reflex EZ-Trac
																	3261521	243.64	245	0.01	0.3	82.9				
245			99.01	92.43	1	0		2	2			3		2	3	FL	3261522	245	247	0.01	0.3	53				
																	3261523	247	248.76	0.008	0.4	86.4				
			99.34	88.2													3261524	248.76	250	0.007	0.4	105.2				
250																	3261526	250	252	0.008	0.3	49.1				
			98.36	77.05													3261527	252	254	0.015	0.5	124.5				
			96.07	51.8												FRZ	3261528	254	256	0.009	0.4	109.8				
255																	3261529	256	258	0.007	0.5	154.6				
			100	48.52	1.5	0		1					2				3261531	258	260	0.008	0.3	98.8				
																	3261532	260	262	0.012	0.3	101				
260			98.03	63.49													3261533	262	264	0.009	0.4	109.9				
			96.07	44.59																						

Legend

Lith Code

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

FL
Fault

FRZ
Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1182	Heidi	282.55	15-Jul-2019	18-Jul-2019	430934.29	6109141.8	1097.94	103.07	-89.6	NQ	Mike Warner	Mt Milligan Mine

Purpose

ReRegional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; Main target zone is 100-145m depth which will test the downdip of HMZP (Heidi stock) intersected in 18-1106 (33.6m @ 0.2% Cu) and strong to weak magsus alteration shell from 18-1106 (19-HS04 stock is ~140m S from 18-1106)

MOUNTMILLIGAN

centerraGOLD

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
265	MNDR	218.67 to 268.86m: MNDR - Dark green plag porphyritic hornblende-phyric diorite dike. This dike has ~25% euhedral porphyritic plagioclase ~2-4mm in size. Hbl phenos are 0.5-1mm in size and account for ~5% of the rock. This unit has ~4% andesitic tuff xenoliths which are subrounded and similarly mineralized as the intrusion. This unit is weakly magnetic. The groundmass is dark green/grey and aphanitic. A KPOT altered MNDR clast is seen from 228.6 to 228.7m. From 235 to 244m this dike is potassically altered. Weak Kf alteration is seen in the groundmass (greyish pink) and the mafics have been biotite altered (reddish brown and soft). The mafics still have a good euhedral to subhdral crystal shape which makes the logger think it may not be biotite. IF this is the case it is likely qz alteration of the groundmass being coloured by the red/brown mafics.	96.07	44.59													3261533	262	264	0.009	0.4	109.9				
			91.48	20	1.5	0		1					2				3261534	264	266	0.012	0.3	103.5				
																	3261535	266	267	0.015	0.3	101.6				
																	3261536	267	268.86	0.007	0.1	74.3				
			88.52	28.52												FRZ										
270	ANLT	268.86 to 270.52m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix.			5	0				1	2		3	2		CN	3261537	268.86	270.52	0.009	0.6	411.6				
			93.44	49.51													3261538	270.52	272	0.009	0.2	117.5				
																	3261539	272	274	0.008	0.3	106.2	273.41	84.57	-87.9	Reflex EZ-Trac
275	MNDR	270.52 to 281.73m: MNDR - Dark green plag porphyritic hornblende-phyric diorite dike. This dike has ~25% euhedral porphyritic plagioclase ~2-4mm in size. Hbl phenos are 0.5-1mm in size and account for ~5% of the rock. This unit has ~4% andesitic tuff xenoliths which are subrounded and similarly mineralized as the intrusion. This unit is weakly magnetic. The groundmass is dark green/grey and aphanitic. A KPOT altered MNDR clast is seen from 228.6 to 228.7m. From 235 to 244m this dike is potassically altered. Weak Kf alteration is seen in the groundmass (greyish pink) and the mafics have been biotite altered (reddish brown and soft). The mafics still have a good euhedral to subhdral crystal shape which makes the logger think it may not be biotite. IF this is the case it is likely qz alteration of the groundmass being coloured by the red/brown mafics.	99.34	91.45	0.3	0					2		2	1			3261541	274	276	0.008	0.3	112.3				
			98.69	76.72													3261542	276	278	0.007	0.2	89.7				
																	3261543	278	280	0.0025	0.2	92.9				
280			80.65	29.03																						
		281.73 to 282.55m: ANLT - Dark green pyroxene porphyritic andesitic lapilli tuff. This tuff has ~20% lapilli set in an ash/crystal matrix. The lapilli are generally ~1-2cm in size; sub-rounded; and have porphyritic euhedral pyroxene in an aphanitic light green to pink groundmass (minor 0.2mm plag phenos are seen in groundmass). The matrix has broken to euhedral pyx and plag phenos accounting for ~8% of the whole rock. Very fine grained green ash accounts for the rest of the rock. Pink kfs alteration is seen rarely in lapilli; chlorite alteration is seen in mafics and ash matrix.															3261544	280	281.73	0.006	0.2	118.8				
	ANLT		100.73	84.31	2	0				1	1		3			CN	3261545	281.73	282.55	0.006	0.6	498.6				

Legend

Lith Code

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

ANLT
Andesitic Volcanic Rocks: Px andesite lapilli tuff

Structure Type

FRZ
Fracture Zone

CN
Contact

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose
Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
0	CASE	0 to 18.69m: CASE - No recovery.																								
18.69	MNDR		49.77	5.63	0.1	0	2	3		4			3			FRZ	3261546	18.69	20	0.009	0.5	314.8	30.48	253.7	-87.1	Reflex EZ-Trac
			100	22.3													3261547	20	22	0.009	0.4	262				
			69.84	3.93													3261548	22	24	0.01	0.4	210.9				
			80	9.51													3261549	24	26	0.007	0.3	132.4				
			72.37	13.16													3261551	26	28	0.008	0.2	105.2				
			87.87	26.23													3261552	28	30	0.008	0.3	129.8				
			93.44	42.95													3261553	30	32	0.006	0.2	94.8				
																	3261554	32	34	0.006	0.2	127.7				
																	3261555	34	36	0.01	0.2	139.1				
																FRZ	3261556	36	38	0.008	0.2	85.2				

Legend

Lith Code

CASE
Casing : No core recovered

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

FRZ
Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose
Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
40	MNDR	18.69 to 66.8m: MNDR - Light greenish white phaneritic holocrystalline diorite dike. This dike has ~65% euhedral tabular phenocrysts ~0.5-1mm in size. Anhedral to subhedral horblende phenos account for ~8% of the rock ranging in size from 0.5-1mm. The groundmass is dark grey with rare pink patches. This unit has rare xenoliths and patchy kfeldspar alteration; chlorite after biotite alteration of hornblendes. The rock has ~2% disseminated magnetite. A small kfeldspar cemented hydrothermal breccia (HYBX) is noted from 39-3.3m. The cement accounts for ~60% of the rock with entrained clasts of MNDR and anhedral/broken plagioclase phenocrysts (brecciated).	93.44	42.95				2	3		4		3				3261556	36	38	0.008	0.2	85.2				
																	3261557	38	40	0.008	0.3	182.2				
45			92.79	32.79													3261558	40	42	0.007	0.3	139.5				
			65.57	0												FRZ	3261559	42	44	0.014	0.4	170.1				
																	3261561	44	46	0.013	0.5	254.9				
50			101.32	57.57													3261562	46	48	0.011	0.3	180.7				
			97.05	64.59													3261563	48	50	0.015	0.3	98.9				
																	3261564	50	52	0.011	0.5	177.1				
			97.38	41.97	0.1	0											3261566	52	54	0.007	0.2	65.5				
55			99.34	80.98													3261567	54	56	0.007	0.2	102.1				
																	3261568	56	58	0.053	1.2	328.5				
			98.03	90.16													3261569	58	60	0.018	0.8	294.6				
60			101.97	79.61													3261571	60	62	0.01	0.4	217.2	60.96	269.3	-87.4	Reflex EZ-Trac
																	3261572	62	64	0.013	0.7	350.6				
			100.33	89.18													3261573	64	66	0.006	0.2	126.6				
65																	3261574	66	66.8	0.005	0.2	75.8				
			98.69	75.41													3261575	66.8	68	0.005	0.2	114.4				
	ANTF	66.8 to 72.24m: ANTF - Dark green; fine grained; magnetic andesite tuff. This rock has ~5% 0.2-0.5mm anhedral mafic phenocrysts in a green ash matrix. The phenocrysts are cl/ca altered.															3261576	68	70	0.0025	0.1	136.1				
70			99.67	94.1	0	0					2		3	2			3261577	70	71	0.006	0.1	135.4				
																	3261578	71	72.24	0.006	0.1	135.2				
	MNDR	72.24 to 80.2m: MNDR - Light greenish white with weak pink tinge plagioclase porphyritic diorite dike. This dike has 40%	100	86.23	0.1	0		2	3		3		3	1			3261579	72.24	74	0.009	0.3	264.2				
																	3261581	74	76	0.006	0.1	92				

Legend

Lith Code

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

ANTF
Andesitic Volcanic Rocks: Andesitic tuff

Structure Type

FRZ
Fracture Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose
Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	DH Survey Depth (m)	Azimuth	Dip	Tool
			(%)	(%)	(%)	(%)																				
			0 100	0 100	0 10	0 5																				
80	MNDR	72.24 to 80.2m: MNDR - Light greenish white with weak pink tinge plagioclase porphyritic diorite dike. This dike has 40% subhedral to euhedral plagioclase ranging in size from 0.5-2mm. The anhedral hornblende phenos account for ~10% of the rock ranging in size from .5-2mm. The groundmass is greyish white; plagioclase with minor kfeldspar alteration. The rock has weak to moderate magnetism with magnetite disseminations accounting for ~2% of the rock.	100	86.23	0.1	0		2	3		3		3	1			3261581	74	76	0.006	0.1	92				
			98.68	50.66													3261582	76	78	0.0025	0.05	47				
																	3261583	78	79	0.0025	0.05	66.3				
			93.77	51.8													3261584	79	80.2	0.006	0.1	90.5				
85																	3261585	80.2	82	0.0025	0.1	120.3				
			100.66	71.15													3261586	82	84	0.005	0.2	134				
			98.69	88.2													3261587	84	86	0.006	0.2	166.1				
																	3261588	86	88	0.006	0.05	95.2				
90			95.41	54.1													3261589	88	90	0.009	0.2	152.2				
	FALT	80.2 to 106.11m: FALT - Light whitish beige to gray texturally destroyed; silicified; fault. This fault has a stockwork late veinlet texture with highly altered obscured rock. Few slickensides are seen on fractre surfaces. Shear textures and slickensides have an angle of 5-10 degrees TCA with some having an angle of 25 degrees TCA. From 105.24 to 106.11m The texture of a potassic/phyllic altered monzonite can barely be made out through the phllic alteration front.	102.3	95.07	0.1	0						5		4	4	FL	3261591	90	92	0.009	0.1	104.1	91.44	270.6	-88.1	Reflex EZ-Trac
																	3261592	92	94	0.009	0.1	51.1				
95			98.03	96.07													3261593	94	96	0.007	0.05	63				
																	3261594	96	98	0.007	0.2	198.7				
			98.69	98.69													3261595	98	100	0.008	0.1	92.5				
100			100	83.28													3261596	100	102	0.013	0.2	127.7				
																	3261597	102	104	0.011	0.1	89.5				
		106.11 to 107.22m: MNDR - Pinkish grey plagioclase porphyritic hornblende phyric monzonite dike. This dike has ~50% subhedral plagioclase phenocrysts raning in size from 0.5-2mm in size. Anhedral hornblende phenos account for 15% fo the rock and are ~1mm in size. The groundmass is greyish pink and phanitic (kfeldspar altered with plag) . The hornblendes are chlorite after biotite altered and the plagioclase phenos are weakly sericitized. This unit is very simialr to the unit from 72.24 to 80.2m and seem to be the same intrusive just more altered (KPOT).	100	81.64													3261598	104	105	0.01	0.1	98.1				
105																	3261599	105	106.11	0.012	0.1	85.2				
	MNDR		98.68	78.29	0.2	0		3	3				2	2		CN	3261601	106.11	107.22	0.01	0.2	146.5				
																CN	3261602	107.22	108	0.009	0.1	65.3				
	MNDR	107.22 to 109.35m: MNDR - Light green/grey plagioclase-hornblende phyric diorite dike. This dike has ~27% subhedral and blocky plagioclase phenocrysts (white kfs?) with rare euhedral tabular phenos 0.5mm in size. The anhedral mafic phenos (hbl?) account for ~2% of the rock and 0.5mm in size. The groundmass is greenish grey and aphanitic. This rock is magnetic (disseminated magnetite crystals at ~3% in groundmass). Epidote and chlorite alteration is pervasive and strong. With epidote disseminations as well as patches.			0.1	0					4		4				3261603	108	109.35	0.007	0.05	72.1				
110			95.08	66.89													3261604	109.35	111	0.057	0.5	135.3				
	MNDR				2	0	2	4	3		2		3	2		SZ										
			104.26	56.07													3261606	111	113	0.0025	0.05	32.6				

Legend

Lith Code
- MNDR: Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- FALT: Fault

Structure Type
- FL: Fault
- CN: Contact
- SZ: Shear Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose
Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			0 100	0 100	0 10	0 5																				
115	MNDR	109.35 to 123.1m: MNDR - Pinkish grey plagioclase porphyritic hornblende phyric monzonite dike. The subhedral to euhedral tabular plagioclase phenos account for 32% of the rock and are 1mm in size. Anhedral hornblendes/mafics account for 15% of the rock and are ~0.5-1mm in size. The groundmass is pink/grey aphanitic kfs and plag. The hornblendes have chlorite after biotite alteration. Feldspar alteration of groundmass nucleates around plagioclase phenocrysts. Few small ~2cm white MNDR dikelets crosscut this unit. (similar MNDR as seen from 18-67m) This rock is magnetic (disseminated among mafics) A small very coarse grained Dikelet of similar composition is seen from 117.6-117.96 m. The larger plag phenos in this unit are ~5mm in size and account for 10% of the rock (smaller plag crystals exist also ~1mm in size at 25%).	104.26	56.07	2	0	2	4	3		2		3	2		CN	3261606	111	113	0.0025	0.05	32.6	121.92	276.8	-87.1	Reflex EZ-Trac
																CN	3261607	113	115	0.006	0.05	52.9				
			96.39	58.36													3261608	115	117	0.01	0.1	103.5				
																CN	3261609	117	119	0.005	0.1	135.5				
120			100	55.41													3261611	119	121	0.008	0.2	138.6				
																	3261612	121	122	0.006	0.05	44				
			100.66	72.04													3261613	122	123.1	0.007	0.05	40.1				
	HYBX	123.1 to 125.58m: HYBX - Pink pervasive crackle hydrothermally brecciated HMZP. This breccia ranges from a crackle breccia to a intense pervasive flooding of kfeldspar fluid among HMZP dike. The sections of intense floodin have broken plag crystals (brecciated). The HMZP dike is the same as seen over the interval 109.35 to 123 m. Mafic minerals are chlorite after biotite altered where they are not wiped out by lfs alteration. The groundmass is intensely kfs altered. The rock is magnetic (disseminated mag among mafics).			0.6	0		5	3				2				3261614	123.1	125	0.008	0.1	74				
125			100	40.66													3261615	125	125.58	0.064	0.3	131.2				
	MNDR	125.58 to 132.91m: MNDR - Pinkish grey plagioclase porphyritic hornblende phyric monzonite dike. The subhedral to euhedral tabular plagioclase phenos account for 32% of the rock and are 1mm in size. Anhedral hornblendes/mafics account for 15% of the rock and are ~0.5-1mm in size. The groundmass is pink/grey aphanitic kfs and plag. The hornblendes have chlorite after biotite alteration. Feldspar alteration of groundmass nucleates around plagioclase phenocrysts. This rock is magnetic (disseminated among mafics)															3261616	125.58	127	0.018	0.2	74.7				
			98.69	74.75	0.3	0		3	3		1		3				3261617	127	129	0.007	0.2	153.6				
130																	3261618	129	131	0.006	0.1	119.1				
			99.67	67.21													3261619	131	132.91	0.006	0.1	122.6				
																CN	3261621	132.91	134	0.006	0.05	59				
135			98.36	86.89													3261622	134	136	0.0025	0.1	81.8				
																	3261623	136	138	0.022	0.1	72.9				
			99.67	78.95													3261624	138	140	0.0025	0.05	66.4				
140	MNDR	132.91 to 149.26m: MNDR - Light to medium green plagioclase-hornblende phyric monzonite dike. This unit has ~30% subhedral t oeuhedral plagioclase phenocrysts ranging in size from 0.5 to 1mm. The hornblendes are anhedral to subhedral and account for ~25% of the rock. Magnetite is seen disseminated at ~1.5%. Small DRPD dikelet from 144.3 144.57m The groundmass is aphanitic kfeldspar and minor plag. The plagioclase phenos and groundmass have been epidote altered ; mafics have chlorite after biotite alteration.	99.34	97.7	0.1	0		4	4		4		4	1			3261625	140	142	0.006	0.2	97.4				
																	3261626	142	144	0.005	0.1	88.7				
			99.67	69.84													3261627	144	146	0.007	0.2	124				
145																										
			101.31	92.13												BX	3261628	146	148	0.005	0.2	80.9				
																BX										
																BX	3261629	148	149.26	0.0025	0.05	48.4				
	HYBX	149.26 to 149.92m: HYBX - Pink kfeldspar cemented mosaic to chaotic hydrothermally brecciated diorite dike. This breccia has ~10-60% kfeldspar cement (locally variable). The clasts are diorite clasts from the intrusion below MNDR. Some plagioclase entrained in kfeldspar fluid are up to 4mm in sze and anhedral	97.38	79.34	0.2	0		5			4		4				3261631	149.26	149.92	0.0025	0.1	71.8				
150	MNDR				0.1	0				1	4		4				3261632	149.92	151	0.0025	0.05	45.8				

Legend

Lith Code

- MNDR — Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
- HYBX — MBX and SS Stocks: Hydrothermal breccia

Structure Type

- CN — Contact
- BX — Breccia

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose

Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
	Lithology		Geotechnical		Mineralisation		Alteration Mineral Intensity										Assays						DH Survey			
			0 100	0 100	0 10	0 5																				
155	MNDR		97.38	79.34	0.1	0				1	4		4				3261632	149.92	151	0.0025	0.05	45.8	152.4	282.6	-87.3	Reflex EZ-Trac
			98.68	95.07													3261633	151	153	0.0025	0.05	47.3				
			100	92.46													3261634	153	155	0.006	0.1	96.7				
160			100	91.15													3261635	155	157	0.0025	0.1	61.4				
			98.03	88.85													3261636	157	159	0.0025	0.05	57.2				
			99.67	95.08													3261637	159	161	0.0025	0.05	46.9				
165			100.33	89.14													3261638	161	163	0.0025	0.1	70.3				
			98.69	73.11												BX	3261639	163	165	0.0025	0.1	74.6				
			101.31	81.31													3261641	165	167	0.007	0.05	58.5				
170			96.39	94.43													3261642	167	167.55	0.0025	0.05	9.5				
			99.34	96.72	0.2	0		1	2	2	2		3				3261643	167.55	169	0.016	0.05	43.9				
			98.36	88.82													3261644	169	170.64	0.017	0.05	41.2				
175			100.98	90.16													3261646	170.64	172	0.0025	0.05	40.1				
																	3261647	172	174	0.0025	0.05	72.1				
																	3261648	174	176	0.0025	0.05	35.9				
																	3261649	176	178	0.0025	0.05	31.7				
180																	3261651	178	180	0.01	0.2	129.8				
																	3261652	180	182	0.005	0.1	93.9				
																	3261653	182	184	0.0025	0.05	53.4	182.88	258.9	-87.4	Reflex EZ-Trac
185																	3261654	184	186	0.01	0.2	140.2				
																	3261655	186	188	0.007	0.2	176.1				

Legend

Lith Code

MNDR

Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

BX

Breccia

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose

Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
190	MNDR	149.92 to 267.33m: MNDR - Light green to white-greenplagioclase-hornblednе phyric diorite dike. This dike has ~30% subhedral to euhedral plag pheos ~0.5-1mm in size. The hornblende phenos are very anhedral and altered (almost indiscernable from mess that is the groundmass). The horblendes account for ~30% of the rock and are 0.5-1mm in size. The plag phenos are epidote altered; hbls are chl altered. The groundmass (where less altered) is micro plag/hbl phenos ~0.2mm in size. Patchy ab alteration of groundmass is seen rarely. This unit is moderately magnetic. Disseminations of mag (0.1mm) account for ~0.5% of the rock (maybe 1%).	100.98	90.16	0.2	0	1	2	2	2	3					
195			98.03	87.21												
200			99.34	86.23												
205			99.67	91.15												
210			94.74	84.87												FL
215			100	96.07												
220			95.41	86.89												
225			97.7	59.34												
			100.33	96.39												
			99.01	76.64												
			96.39	89.51												
			99.34	96.07												
			100.66	95.74												
			96.72	91.15												

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
3261655	186	188	0.007	0.2	176.1				
3261656	188	190	0.006	0.05	102.8				
3261657	190	192	0.005	0.05	100				
3261658	192	194	0.013	0.1	115.2				
3261659	194	196	0.008	0.05	81.8				
3261661	196	198	0.006	0.1	116.3				
3261662	198	200	0.005	0.05	84.5				
3261663	200	202	0.0025	0.05	62.3				
3261664	202	204	0.0025	0.1	83.2				
3261665	204	206	0.0025	0.1	86.5				
3261666	206	208	0.0025	0.05	77.4				
3261667	208	210	0.007	0.2	116.7				
3261668	210	212	0.006	0.2	123.2				
3261669	212	214	0.006	0.2	141.8	213.36	282.3	-87	Reflex EZ-Trac
3261671	214	216	0.0025	0.1	98.1				
3261672	216	218	0.011	0.4	274.9				
3261673	218	220	0.006	0.2	132.5				
3261674	220	222	0.005	0.05	83.2				
3261675	222	224	0.008	0.2	152.8				
3261676	224	226	0.0025	0.1	101.3				

Legend

Lith Code

MNDR

Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

FL

Fault

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose

Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

centerragold

Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type	SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)	Depth (m)	Azimuth	Dip	Tool
			(%) 0 100	(%) 0 100	(%) 0 10	(%) 0 5																				
230	MNDR	149.92 to 267.33m: MNDR - Light green to white-greenplagioclase-hornblednе phyric diorite dike. This dike has ~30% subhedral to euhedral plag pheos ~0.5-1mm in size. The hornblende phenos are very anhedral and altered (almost indiscernable from mess that is the groundmass). The horblendes account for ~30% of the rock and are 0.5-1mm in size. The plag phenos are epidote altered; hbls are chl altered. The groundmass (where less altered) is micro plag/hbl phenos ~0.2mm in size. Patchy ab alteration of groundmass is seen rarely. This unit is moderately magnetic. Disseminations of mag (0.1mm) account for ~0.5% of the rock (maybe 1%).	96.72	91.15	0.2	0	1	2	2	2	3		3261676	224	226	0.0025	0.1	101.3	243.84	266.7	-87.2	Reflex EZ-Trac
			100	71.38													3261677	226	227.69	0.006	0.1	69.9				
																	3261678	227.69	229	0.009	0.4	131.3				
																	3261679	229	231	0.007	0.2	140				
235			97.7	55.08													3261681	231	233	0.022	0.5	151.8				
																	3261682	233	235	0.015	0.4	99.9				
			99.67	76.72													3261683	235	237	0.019	0.4	255.8				
			100	98.69													3261684	237	239	0.0025	0.2	98				
240																	3261686	239	241	0.008	0.3	187.4				
			94.43	95.08													3261687	241	243	0.006	0.2	164.4				
245			100	80.59													3261688	243	245	0.0025	0.05	60.6				
																	3261689	245	247	0.005	0.05	74.5				
			99.34	92.13													3261691	247	249	0.0025	0.05	88.4				
250			100	94.43													3261692	249	251	0.008	0.1	74				
																	3261693	251	253	0.006	0.2	199.4				
			96.72	87.87													3261694	253	255	0.0025	0.1	76.3				
255																	3261695	255	257	0.005	0.05	77.9				
			100.66	92.79													3261696	257	259	0.006	0.05	143.8				
																	3261697	259	261	0.007	0.1	117.1				
260			98.03	84.21													3261698	261	263	0.014	0.3	236.3				
			98.36	70.16													3261699	263	265	0.007	0.1	126.2				

Legend

Lith Code

MNDR

Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

Structure Type

SZ

Shear Zone

Hole ID	Prospect	Depth (m)	Start Date	End Date	Easting	Northing	Elevation	Azimuth	Dip	Core Size	Geologist	Core Storage
19-1184	Heidi	276.45	19-Jul-2019	21-Jul-2019	430758.02	6109150.85	1097.55	253.7	-87.1	NQ	Mike Warner	Mt Milligan Mine

Purpose

Regional government geology map- Heidi stock; S side of mag high donut feature (potassic alteration halo around Heidi stock?) in mag high; same targets as HS04 downdip and same mag feature as HS04; if HS04 is a big duster may want to consider skipping this hole

MOUNTMILLIGAN

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Depth	Lith Code	Description	Recovery (%)	RQD (%)	Pyrite (%)	Chalcopyrite (%)	Magnetite	K-Feldspar	Biotite	Albite	Epidote	Sericite	Chlorite	Calcite	Quartz	Structure Type
			0 100	0 100	0 10	0 5										
265	MNDR	149.92 to 267.33m: MNDR - Light green to white-greenplagioclase-hornblende phyric diorite dike. This dike has ~30% subhedral to euhedral plag pheos ~0.5-1mm in size. The hornblende phenos are very anhedral and altered (almost indiscernable from mess that is the groundmass). The horblendes account for ~30% of the rock and are 0.5-1mm in size. The plag phenos are epidote altered; hbls are chl altered. The groundmass (where less altered) is micro plag/hbl phenos ~0.2mm in size. Patchy ab alteration of groundmass is seen rarely. This unit is moderately magnetic. Disseminations of mag (0.1mm) account for ~0.5% of the rock (maybe 1%).	98.36	70.16	0.2	0		1	2	2	2		3			
			100	89.84												
	ANTF				0	0					3		4			
		267.33 to 267.83m: ANTF - Dark green andesitic ash tuff. This tuff has ~5% euhedral plagioclase phenocrysts ~0.4mm in size. This tuff has ~9% 0.5mm subhedral mafic phenos. The matrix and phenos are chlorite altered with plag phenos altering to epidote. The contacts are altered due to the MNDR. The contact alteration is a higher amount of epidote. Possibly MZPD?	100	67.54												
270																
	MNDR	267.83 to 276.45m: MNDR - Light green to white-greenplagioclase-hornblende phyric diorite dike. This dike has ~30% subhedral to euhedral plag pheos ~0.5-1mm in size. The hornblende phenos are very anhedral and altered (almost indiscernable from mess that is the groundmass). The horblendes account for ~30% of the rock and are 0.5-1mm in size. The plag phenos are epidote altered; hbls are chl altered. The groundmass (where less altered) is micro plag/hbl phenos ~0.2mm in size. This unit is moderately magnetic. Disseminations of mag (0.1mm) account for ~0.5% of the rock (maybe 1%).	98.69	81.64	0.1	0		1	2		2		3			
			97.37	86.51												
275																

SampleID	From (m)	To (m)	Au (ppm)	Ag (ppm)	Cu (ppm)
3261699	263	265	0.007	0.1	126.2
3261701	265	266	0.005	0.05	53.8
3261702	266	267.33	0.0025	0.05	57.5
3261703	267.33	267.83	0.006	0.1	124.7
3261704	267.83	269	0.0025	0.05	131.7
3261705	269	271	0.0025	0.05	38.5
3261706	271	273	0.007	0.05	72.2
3261707	273	275	0.0025	0.05	50.8
3261708	275	276.45	0.0025	0.05	31.9

Depth (m)	Azimuth	Dip	Tool
274.32	266	-87.3	Reflex EZ-Trac

Legend

Lith Code

MNDR
Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry

ANTF
Andesitic Volcanic Rocks: Andesitic tuff

Detail Land Tenure and 2019 Drill Collars

430000 000000

432000 000000

6110000 000000

N

595146

512887

631503

512888

Heidi Lake

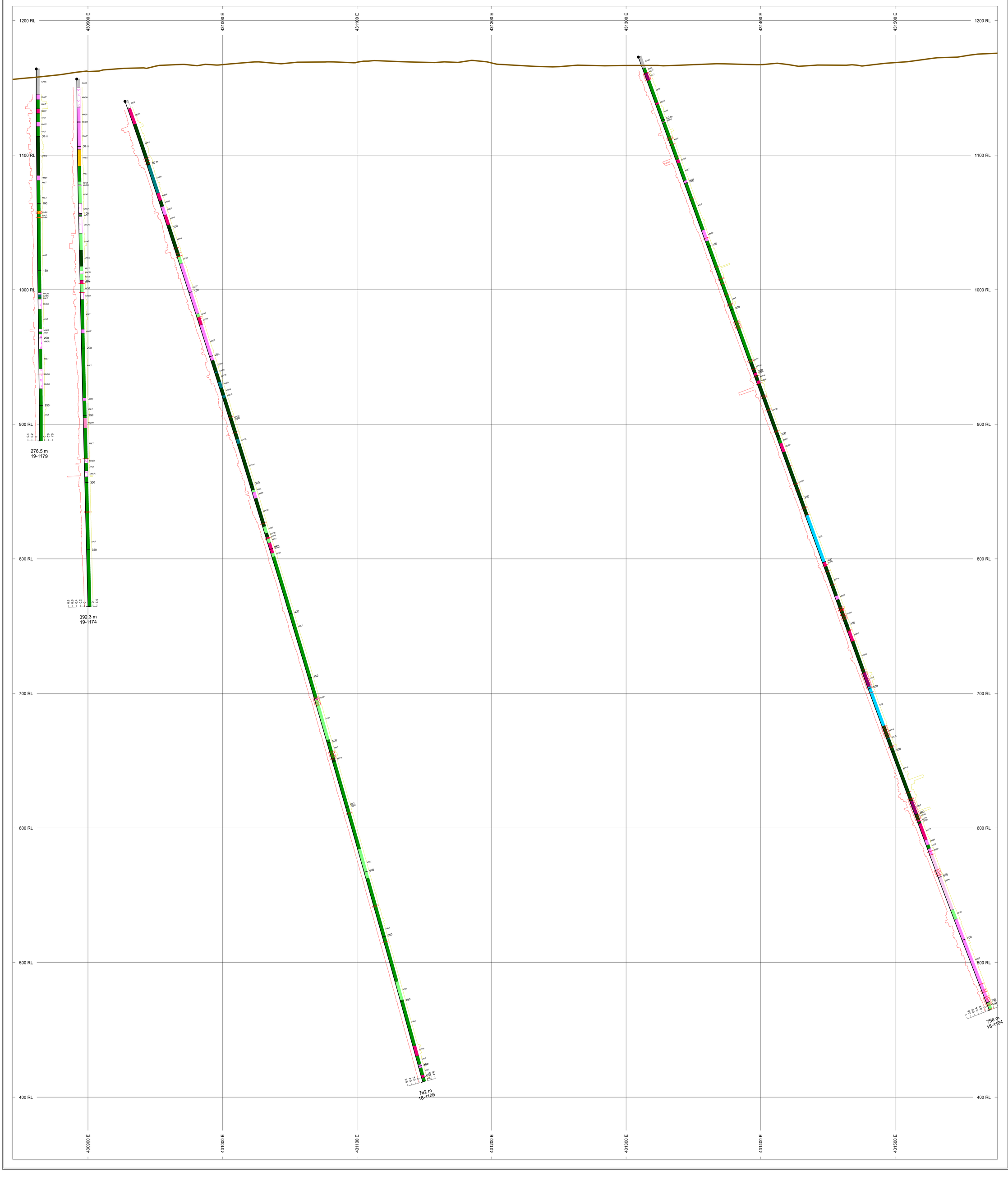
19-1174
19-1179
18-1104
18-1106
19-1182
19-1184
18-1089
18-1097
18-1107
18-1091
18-1086
18-1088
18-1094
18-1087
18-1092

Legend

- MtM Lease
- 2019 Heidi Holes
- Pre-2019 Drill Holes
- 2019_DDH_Skid_Trail_re-open
- Mitzi_Trails_2015 & 2016
- 2015_re-open_access_trail

1:10,000

0 125 250 500 750 1,000 Meters



HOLES PLOTTED

TOTAL 4

18-1104 18-1106 19-1174 19-1179

PROFILES	L/R	COL	RANGE
Au_gpt_BESTEL	R		Min 0 Max 1
Cu_pct_BESTEL_D	L		Min 0 Max 1

ROCK CODES	PAT	LABEL	DESCRIPTION
Lith1		ANDS	Andesitic Volcanic Rocks: Andesitic rocks - undifferentiated
		ANLT	Andesitic Volcanic Rocks: Px andesite lapilli tuff
		ANTF	Andesitic Volcanic Rocks: Andesitic tuff
		APFW	Andesitic Volcanic Rocks: Px andesite porphyry flow
		APXT	Pyroxene Andesitic Crystal Tuff
		CASE	Casing : No core recovered
		DRPD	Plagioclase Diorite Porphyry
		FALT	Fault
		GABR	Mafic Intrusive Rocks: Gabbro
		HMZP	MBX and SS Stocks: Plag-Hbl monzonite porphyry
		HYBX	MBX and SS Stocks: Hydrothermal breccia
		MNDR	Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
		MZPD	Post-Mineral Dykes: Plag monzonite porphyry
		MZPP	MBX and SS Stocks: Plag monzonite porphyry
		OVB	Soil Overburden : Undivided surficial materials
		SED	Undifferentiated Epiclastic Rocks: Sediments

ROCK CODES	PAT	LABEL	DESCRIPTION
Struct_Type		BX	Breccia
		FL	Fault
		FZ	Fault Zone
		SZ	Shear Zone

POSTED TEXT	L/R	TEXT	ITEMS
Lith1	R	-------	All

SECTION SPECS:

REF. PT. E, N	431210 m	6109350 m
EXTENTS	732.1 m	856.9 m
SECTION TOP, BOT	1211 m	353.8 m
TOLERANCE +/-	100 m	

SCALE 1 : 1000

(m)

-10 0 10 20 30

NAD83 / UTM zone 10N

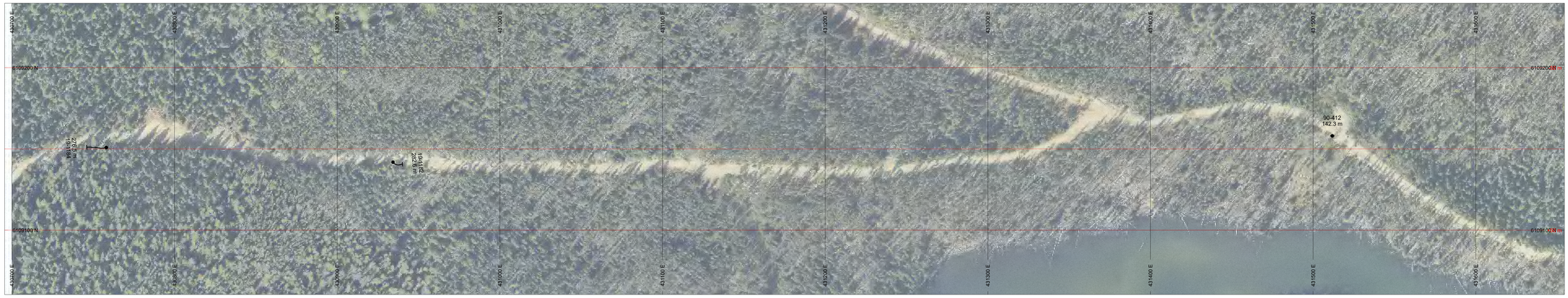
AZIMUTH = 90°

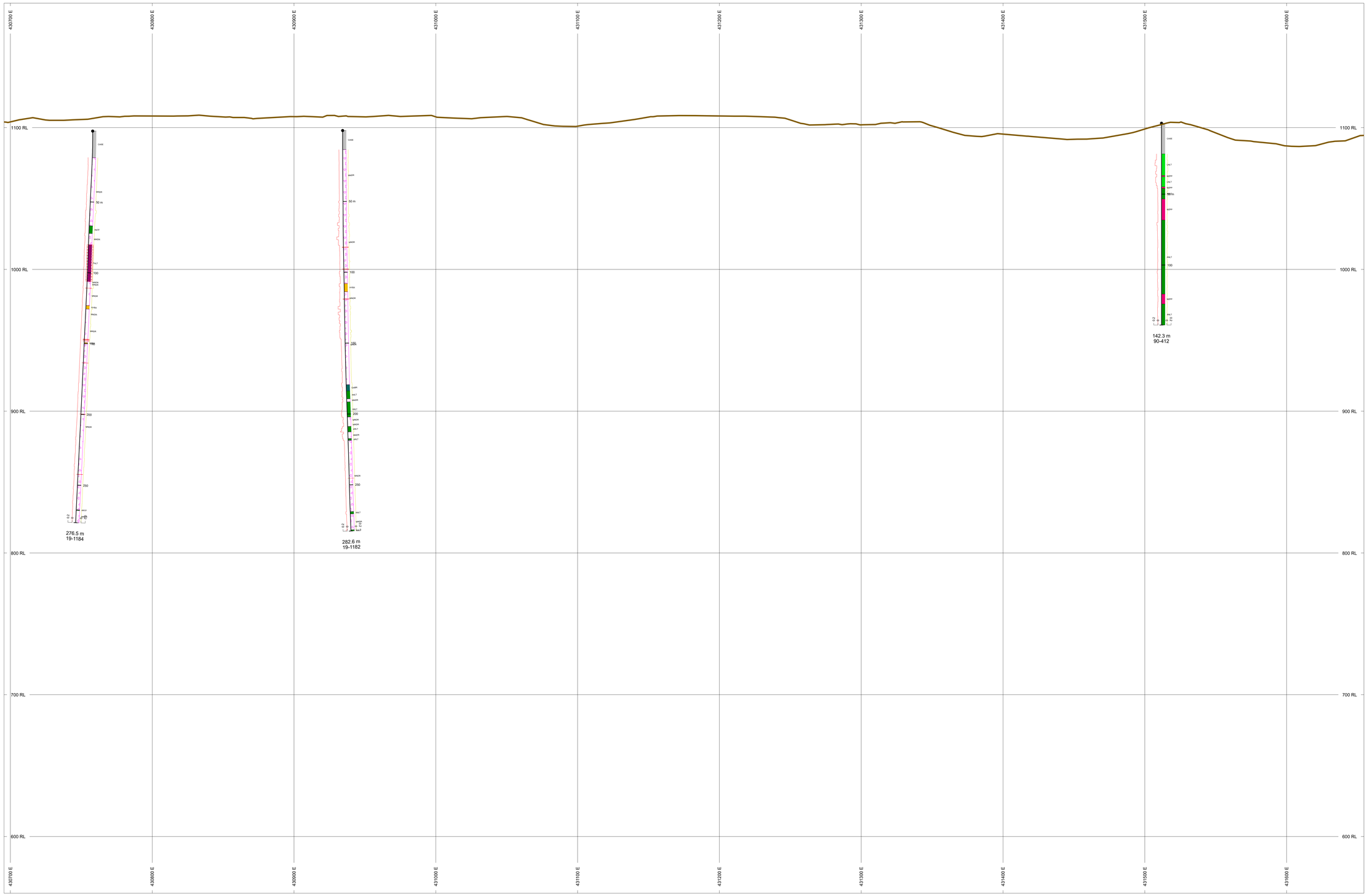
N W E S

Centerra Gold Services

Mt. Milligan

6109350N SECTION





HOLES PLOTTED

TOTAL 3

19-1182 19-1184 90-412

PROFILES L/R COL RANGE
Au_gpt_BESTEL R Min 0 Max 1
Cu_pct_BESTEL_D L Min 0 Max 1

ROCK CODES Lith1	PAT	LABEL	DESCRIPTION
		ANLT	Andesitic Volcanic Rocks: Px andesite lapilli tuff
		ANTF	Andesitic Volcanic Rocks: Andesitic tuff
		CASE	Casing : No core recovered
		FALT	Fault
		GABR	Mafic Intrusive Rocks: Gabbro
		HYBX	MBX and SS Blocks: Hydrothermal breccia
		LNLT	Lattic Tuff
		MNDR	Intermediate Intrusive Rocks: Plagioclase (+/-) porphyry
		MZPP	MBX and SS Blocks: Plag monzonite porphyry

ROCK CODES Struct_Type	PAT	LABEL	DESCRIPTION
		BX	Breccia
		FL	Fault
		SZ	Shear Zone

POSTED TEXT L/R TEXT ITEMS
Lith1 R All

SECTION SPECS:

REF. PT. E, N	431175 m	6109150 m
EXTENTS	959 m	627.7 m
SECTION TOP, BOT	1188 m	560 m
TOLERANCE +/-	50 m	

SCALE 1 : 1000

(m)

-10 0 10 20 30 40

NAD83 / UTM zone 10N

AZIMUTH = 90°

N W E S

Centerra Gold Services

Mt. Milligan

6109150N SECTION