2018 ASSESSMENT REPORT

on the

DUNCAN CREEK & SOURDOUGH CLAIMS
KENO SILVER PROJECT, YUKON

NTS: 105M/14
Duncan Creek 63°51'N. Latitude, 135°25'W. Longitude
Sourdough 63°53'N. Latitude, 135°17'W. Longitude
Mayo Mining District

Claims work applied to:
MMG 87-104 (YE55887-55904)
MMG 105-153 (YE55905-55953)
MMG Fr. 16 (YE55816)
MMG Fr. 18 (YE55818)
MMG 19-24 (YE55819- YE55824)

Period of Work:
June 18th to August 16th , 2018

Prepared for:

Suite 904 - 409 Granville Street
Vancouver, BC V6C 1T2

Prepared by:

Paige A. Ahrens, B.Sc.
Junior Geologist, MMG

March 27th, 2019

1 Summary

The Keno Silver Project included in this report ('the Project') is centered approximately 465 km by road northeast of the city of Whitehorse and 60 km by road northeast of the town of Mayo and depending upon the location within the claim block, Keno City is located between 4 and 20 km away (Figure 1). The following claim groups comprise a portion of the Keno Silver Project which was filed on in 2018, and the results of that work is contained within this report.

Claim Group	***No. of Claims***	***Ownership***	***Work Filed***	***Filing Date***
Duncan Creek	124	Metallic Minerals Corp.-100%	Soil Sampling, HROA	December, 2018
Sourdough Fr.	8	Metallic Minerals Corp.-100%	Soil Sampling	December, 2018

Assessment work completed on the Duncan Creek claims consisted of five days of soil sampling between June 18th and August 16th, 2018, resulting in the collection of 96 samples, all of which were analyzed by on-site XRF and subsequently sent to Bureau Veritas for geochemical analysis. Additionally, a Heritage Resource Overview Assessment (HROA) was contracted to Ecofor on July 28th, 2018 to identify and assess the heritage resource potential or sensitivity within the study area and prepare a written report detailing the results. Interpretation of the Duncan Creek 2018 soil sampling program revealed an open multi-elemental Ag-Cu-Pb-Zn anomaly between samples 1496555 and 1496563, along the western end of the lowest contour line . Additionally, a weaker multi-elemental Ag-Zn ± Cu-Pb anomaly was detected along the eastern portion of the 900 m elevation contour line extending approximately 500 m by 1,500 m (Figure 6-9). Additional soil sampling in these two anomalous regions is recommended.

Assessment work completed on the Sourdough claims consisted of seven days of soil sampling between June 21st and August 15th, 2018, resulting in the collection of 229 samples, 165 of which were analyzed by on-site XRF and subsequently 139 samples were sent to Bureau Veritas for geochemical analysis. The Sourdough 2018 soil sampling program did not reveal any significant anomalies (Figures 13-17). However, screening-type data derived from on-site XRF analysis indicated a multi-elemental Cu-Pb-Zn anomaly on claims MMG 23 and MMG 24, and therefore the remaining samples should be sent to Bureau Veritas for geochemical analysis in order to fully assess their mineral potential.

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2 Introduction

Between June 18th and August 16th, 2018, soil sampling was conducted on the Duncan Creek and Sourdough claim groups within the Keno Silver Project. A total of 96 and 229 soil samples were collected on the claim's groupings, respectively. Additionally, a Heritage Resource Overview Assessment (HROA) was conducted on the Duncan Creek claims by Ecofor on July 28th, 2018 to identify and assess the heritage resource potential or sensitivity within the study area.

The following claim groups comprise a portion of the Keno Silver Project which was filed on in 2018, and the results of that work is contained within this report.

Table 1. Filings included in the Duncan Creek and Sourdough assessment report.

Claim Name(s)	*Grant No.(s)*	*No. of Claims*	*Current Expiry*	*New Expiry*	*Years Filed/Claim*	*Work Required*	*Work Completed*
MMG 30 - 86	YE55830-55886	57	2020-01-03	2020-01-03	0	-	-
MMG 87 - 104	YE55887-55904	18	2020-01-03	2021-01-03	1	$1,800.00	$1,800.00
MMG 105 - 153	YE55905-55953	49	2019-01-03	2020-01-03	1	$4,900.00	$4,900.00
MMG Fr. 16	YE55816	1	2018-12-29	2021-12-29	3	$300.00	$369.90
MMG Fr. 18	YE55818	1	2022-12-29	2026-12-29	4	$400.00	$493.20
MMG 19	YE55819	1	2018-12-29	2023-12-29	5	$500.00	$2,096.10
MMG 20	YE55820	1	2018-12-29	2023-12-29	5	$500.00	$1,787.85
MMG 21	YE55821	1	2018-12-29	2023-12-29	5	$500.00	$863.10
MMG 22	YE55822	1	2018-12-29	2023-12-29	5	$500.00	$2,774.25
MMG 23	YE55823	1	2018-12-29	2023-12-29	5	$500.00	$2,466.00
MMG 24	YE55824	1	2018-12-29	2023-12-29	5	$500.00	$3,267.45

The work was prepared to satisfy requirements for Assessment Report filing by the Yukon Mining Recorder, Ministry of Energy, Mines and Resources, Government of Yukon. The work was carried out and funded by Metallic Minerals Corp and its contractors.

This report is based on the observations and information collected by the author, other geologists, and technicians during the 2018 Keno Silver Project field program. In preparation for this report, the author used Government of Yukon and Government of Canada geological maps, geological records, and claim maps, as well as the mineral assessment work reports from the Mayo Mining District area which have been filed with the Yukon Mining Recorder by various companies. Information sourced from previous reports and publications is listed under References.

3 Qualified Persons & Personnel

The 2018 Keno Silver project exploration program was conducted by, and under the supervision of Scott Petsel, P.Geo (the Qualified Person for the program in the context of National Instrument 43-101) and Debbie James, P.Geo. Table 2 below lists all employees and contractors who worked on the Keno Silver Project and indicates if they worked specifically on the Duncan Creek or Sourdough claims.

Table 2. 2018 Keno Silver Project Personnel.

Personnel	***Position***	***Responsibilities***
Geologists		
Scott Petsel, *P.Geo*	Vice President Exploration	Keno Silver Project management, Qualified Person
Debbie James, *B.Sc, P.Geo*	Project Manager & Sr. Geologist	Keno Silver Project management
Stuart Morris, *P.Geo*	Modeller & Sr. Geologist	Geologic modelling, drill program planning
Jacob Longridge, *Ph.D, P.Geo*	Geologist	Core logging, field mapping, geochemical analysis
Barry Penner, *M.Sc candidate*	Geologist	Core logging, geoteching, field mapping, drill program planning
Rex Turna, *B.Sc*	Drill Geologist	Core logging, geoteching, pad staking, drill program planning & execution
Paige Ahrens, *B.Sc*	Junior Geologist	Core logging, geoteching, field assistant, soil sampling, data input & reporting
Samantha Dyck, *B.Sc, Adv Dip GIS*	GIS Specialist	Data input, reporting, GIS
Local Hires		
Patrick Livingstone	Laborer/Field Assistant	Soil sampling, geoteching, core-cutting, construction
Scott Buchanan	Laborer/Field Assistant	Soil sampling
Adam Sharman	Laborer/Field Assistant	Soil sampling, geoteching, core-cutting, construction
Kayla Trudeau	Laborer/Field Assistant	Soil sampling, geoteching, core-cutting, data input
Cooks		
Jayne Dagostin	Cook	Food logistics & preparation for Keno Silver crew
Donna Magee	Bull cook/Cleaning Services	Food logistics & preparation
Beth Hunt	Relief Cook	Food logistics & preparation
Contractors	***Service***	***Headquarters***
Boart Longyear	Diamond Drilling	Salt Lake City, Utah
Heli Dynamics Ltd.	Helicopter Services	Whitehorse, Yukon
Annuk Expediting & Logistics	Expediting	Whitehorse, Yukon
Mammoth Exploration Ltd.	Soil Sampling	Whitehorse, Yukon
Acme Analytical Laboratories Ltd.	Sample Preparation	Whitehorse, Yukon
Acme Analytical Laboratories Ltd.	Sample Analytics	Vancouver, BC
Total North Communications Ltd.	Radio Communications	Whitehorse, Yukon
J&B Contracting	Bulldozer & Excavator	Mayo, Yukon
Winston	Machine Operator	Mayo, Yukon
Brian Diduik	Machine Operator	Courtenay, B.C

*Names in **bold** indicates that they worked specifically on the Duncan Creek or Sourdough claims.

4 Property Description

4.1 Location & Access

The Keno Silver Project included in this report ('the Project') is centered approximately 465 km by road northeast of the city of Whitehorse and 60 km by road northeast of the town of Mayo and depending upon the location within the claim block, Keno City is located between 4 and 20 km away (Figure 1). Mayo is situated on the Silver Trail Highway, a paved all-weather highway running from Whitehorse to Mayo. From Mayo, the Silver Trail continues to Keno City, but turns to gravel just east of Mayo. Subsidiary unpaved roads provide access to a large portion of the Project. The Project is located within the Mayo Mining District and the following claim groups were filed on in 2018 (Table 3).

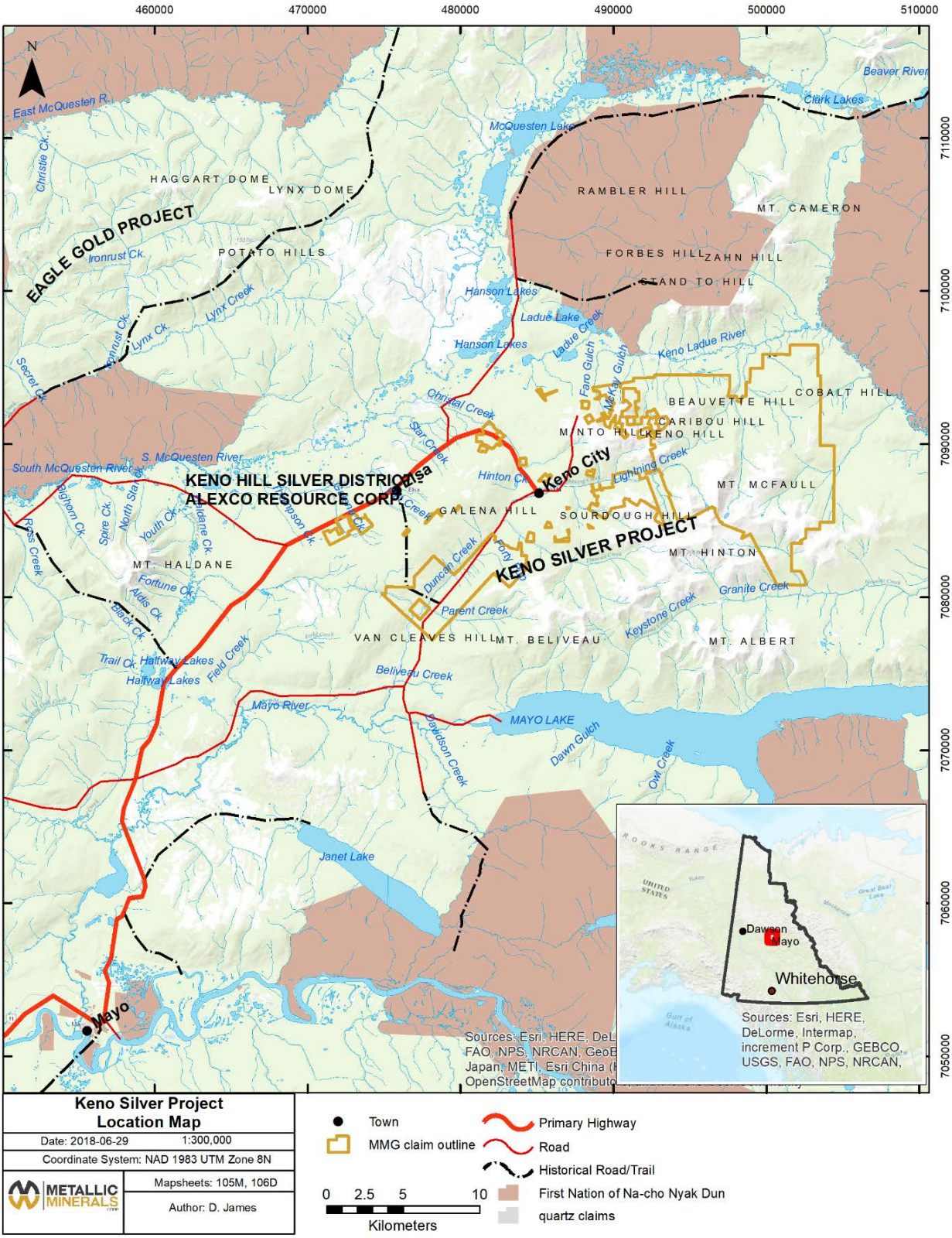

Figure 1. Location of the Keno Silver Project, Yukon.

4.2 Land Tenure

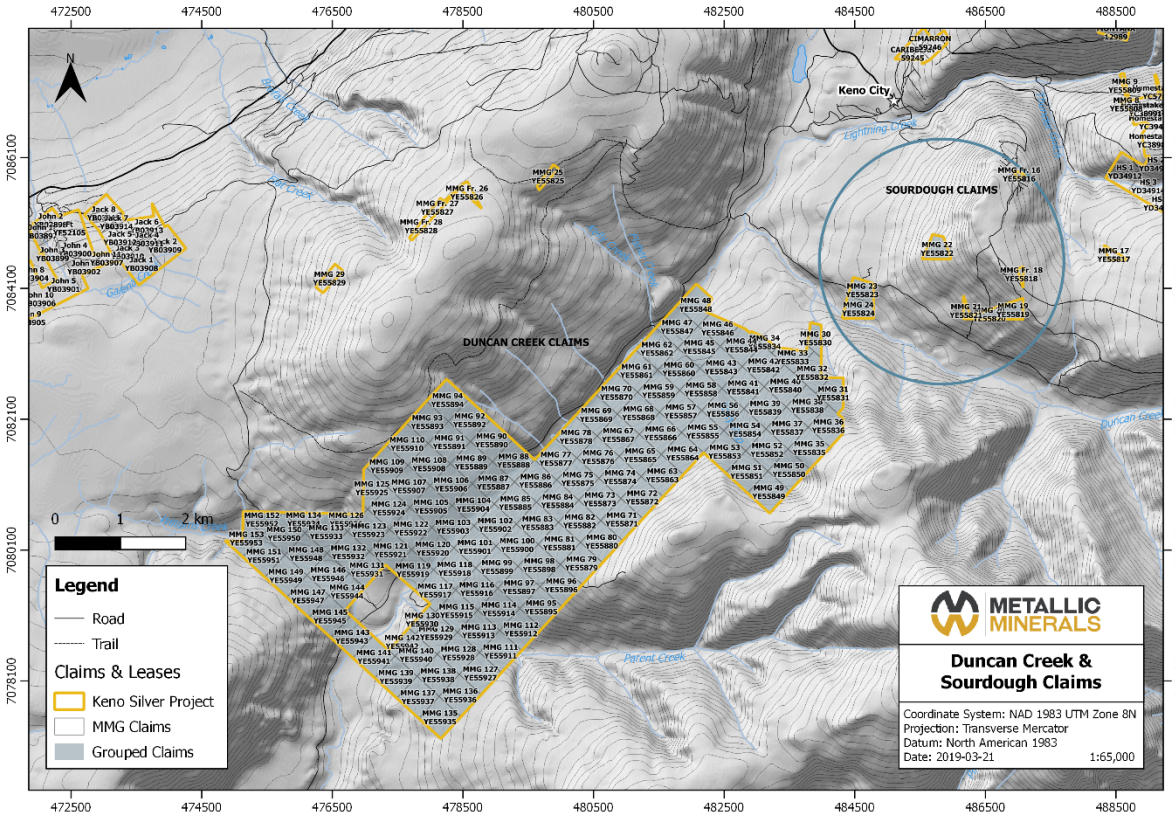

Figure 2. Duncan Creek & Sourdough claims filed for 2018 Assessment Work on the Keno Silver Project.

The Duncan Creek area discussed in this report covers approximately 2,443.3 hectares subdivided into 124 contiguous claims currently 100% owned by Metallic Minerals Corp (Figure 2; Table 3a). The Duncan Creek area is located 4 to 12 km southwest of Keno City along Duncan Creek Road which continues for 5 km through the southernmost claims. The northern claims were accessed by traverse due to topography and heavy vegetation in the area. However, a 7 km trail of undetermined maintenance which runs along Williams Creek may help facilitate future exploration in the area.

Table 3a. Keno Silver Project Duncan Creek claims filed on in 2018.

Claim Name(s)	*Grant No.(s)*	*Ownership**	*No. of Claims*	*Current Expiry*	*New Expiry*	*Years Filed/Claim*	*Work Required*	*Work Completed*
MMG 30 - 86	YE55830-55886	MMG-100%	57	2020-01-03	2020-01-03	0	-	-
MMG 87 - 104	YE55887-55904	MMG-100%	18	2020-01-03	2021-01-03	1	$1,800.00	$1,800.00
MMG 105 - 153	YE55905-55953	MMG-100%	49	2019-01-03	2020-01-03	1	$4,900.00	$4,900.00
			124				**$6,700.00**	**$6,700.00**

The Sourdough target area discussed in this report covers approximately 53.3 hectares comprised of eight separate Sourdough fractional claims, all currently 100% owned by Metallic Minerals Corp. (Figure 2; Table 3b). The Sourdough claims are located 2 to 4 km southeast of Keno City accessible and by a network of well-maintained gravel roads and trails.

Table 3b. Keno Silver Project Sourdough fractional claims filed on in 2018.

Claim Name	*Grant No.*	*Ownership**	*No. of Claims*	*Current Expiry*	*New Expiry*	*Years Filed/Claim*	*Work Required*	*Work Completed*
MMG Fr. 16	YE55816	MMG-100%	1	2018-12-29	2021-12-29	3	$300.00	$369.90
MMG Fr. 18	YE55818	MMG-100%	1	2022-12-29	2026-12-29	4	$400.00	$493.20
MMG 19	YE55819	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$2,096.10
MMG 20	YE55820	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$1,787.85
MMG 21	YE55821	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$863.10
MMG 22	YE55822	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$2,774.25
MMG 23	YE55823	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$2,466.00
MMG 24	YE55824	MMG-100%	1	2018-12-29	2023-12-29	5	$500.00	$3,267.45
			8				**$3,700.00**	**$14,117.85**

**MMG-100% refers to Metallic Minerals Corp.-100% ownership*

4.3 Regional & Property Geology

4.3.1 Regional Geology

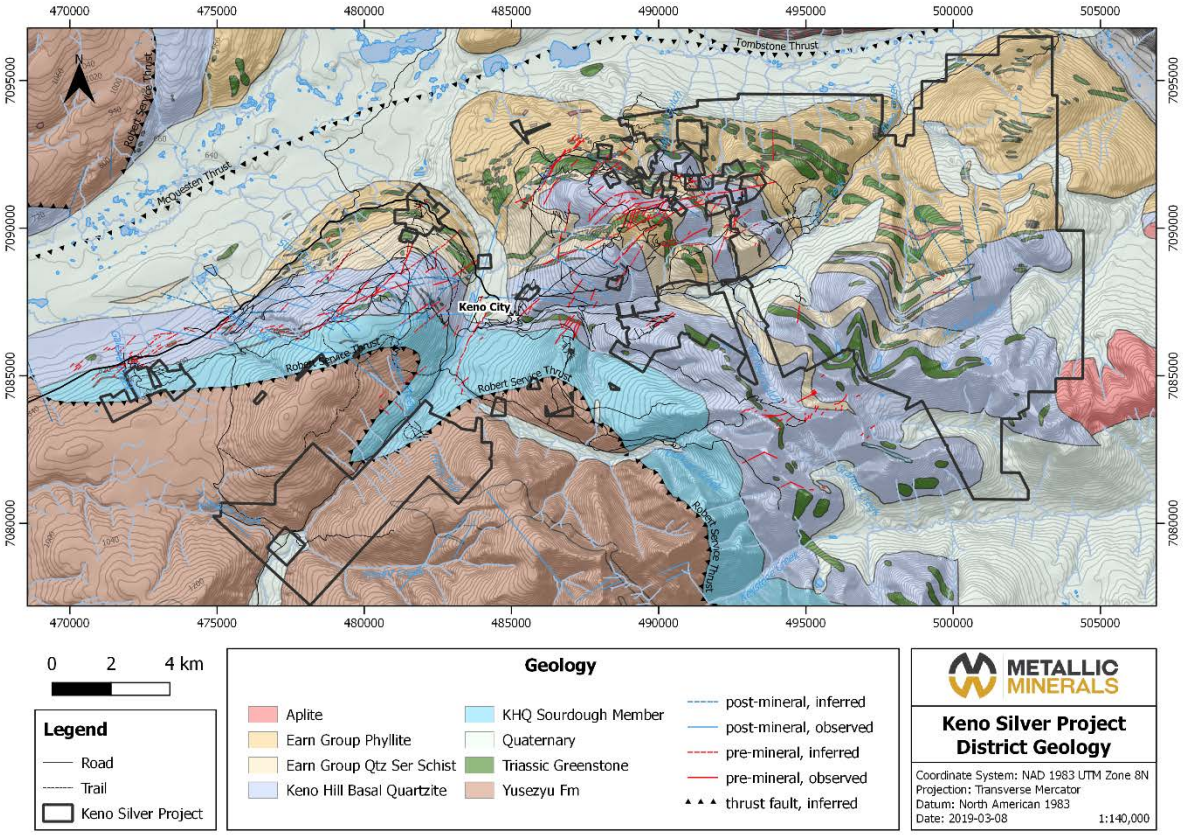

Figure 3. Keno Silver District geology.

The Keno Silver District is located within Neoproterozoic to late-Paleozoic slope-to-basin facies strata of the epicratonic Selwyn Basin. Selwyn Basin strata are characterized by off-shelf deep water clastic rocks (shale, chert, basinal limestone), and are bound by the Mackenzie Platform to the northeast and truncated by the Tintina fault to the southwest (Pigage, 2006).

Northeast directed compression during the Jurassic and early-Cretaceous resulted in thrust faulting, the development of open to tight-similar folds within relatively incompetent Selwyn Basin strata, and greenschist facies metamorphism. Widespread granitic magmatism during the early to mid-Cretaceous led to the formation of at least five main intrusive suits between 112 Ma and 90 Ma and a younger suite at 65 Ma. Strike-slip faulting along the Tintina Fault zone during the late Cretaceous and early-Tertiary displaced the western margin of the Selwyn Basin at least 450 km west into what is now Alaska.

The project is underlain by highly deformed rocks of Mississippian Keno Hill Quartzite and dominantly clastic metasedimentary rocks of the Devono-Mississippian Earn Group, with lesser Mississippian felsic volcanic schist, all of which are intruded by Triassic dolerites (greenstones) and Cretaceous aplite sills and dykes. Deformation of the host rocks, which is characterized by intense foliation, appears to be related to displacement along the Tombstone thrust fault, located northeast of the property. North- to northeast- and northwest-trending faults are evident throughout the area. Refer to Figure 3.

4.3.2 Mineralization Style

Keno Hill type silver deposits consist of high-grade silver veins typically 1-5 meters width grading from 200 g/t to >5000 g/t Ag, with associated lead and zinc sulphides. The largest individual deposits in the district which range from ten to one-hundred million ounces of contained silver, are associated with northeast trending, southeast dipping fault/vein structures which form major ore shoots in the preferred host rocks: quartzite and greenstone (Cathro, 2006). To date, there are twelve known mineralized trends in the Keno Hill silver district, eight of which continue through the eastern portion of the district, which hosts Metallic Minerals' Keno Silver Project.

Lesser explored parts of the district, particularly the eastern portion of the Keno Silver Project, have similar geologic settings and host historic producing mines and mineralized prospects with the potential to host significant new mineral resources.

4.3.3 Property Geology & Lithology

Locally, stratigraphy within the Keno mining camp has been divided into three units; the upper-Proterozoic to lower-Cambrian Hyland Group (Yuseyu Formation), Mississippian Keno Hill Quartzite and Devono-Mississippian Earn Group, often referred to as the Upper Schist, Central Quartzite and Lower Schist packages, respectively.

The Hyland Group comprises graphitic schist and phyllite, thin bedded quartzite, quartz mica-schist, calcareous schist and both minor limestone and quartz-sericite schist. It was thrust over the Keno Hill Quartzite during the Jurassic to early-Cretaceous compression along the Robert Service Thrust.

The Keno Hill Quartzite contains variably bedded quartzite, massive quartzite and minor graphitic phyllite, schist and calcareous-schist; it is divided into two units; the upper Sourdough Member and the lower Basal Quartzite. The latter unit is historically more productive and is thickest at the Homestake claims within the Keno Silver Project. Narrow bands of the Basal Quartzite also underlie the Silver Basin, Caribou, Faith and Duncan prospects.

The Earn Group contains graphitic schist and phyllite, argillite, thin-bedded quartzite, calcareous schist, slate and sericite schist, as well as two bands of bedded quartzite with lesser phyllite and graphitic schist. The stratigraphy principally strikes east-wet and dips 20° to 30° south. Metamorphosed diorite and gabbro (colloquially greenstone) sills and lenses are conformable with stratigraphy.

4.3.4 Mineralization Targets

Silver mineralization is the dominant economic target in the district, yet gold +/- silver, tungsten and tin deposits exist at the periphery of some high-grade silver deposits and in areas overlying the Hyland Group rocks.

Silver mineralization in the Keno district is representative of clastic metasedimentary hosted silver-lead-zinc enriched polymetallic quartz veins. Typically, mineralization is expressed as quartz-carbonate-sulphide veins, with silver minerals most commonly hosted as inclusions in galena. Wall-rock alteration, which consists of sericitization, silicification and pyritization, is typically of limited extent; <1m width. Regional faults, fault sets, and fractures are an important ore control, and veins are typically associated with second order structure which postdates deformation and metamorphism. Significant deposits are restricted to, and dependant upon, competent lithologies.

Two stages of vein mineralization have been recognized in the district. First stage mineralization included quartz, pyrite +/- arsenopyrite, with trace gold and sulphosalts in vein faults. Second stage mineralization is defined by siderite, galena, sphalerite, pyrite, freibergite and pyrargyrite, typical of deposits within the central Keno Hill district. Silver mineralization is hosted by two sets of vein faults; longitudinal veins striking 035° to 080° and transverse veins striking 000° to 035°. Both sets dip between 50° and 80° to the southeast. Historically, longitudinal veins are the main producers of silver due to their significant strike extent. However, transverse veins, which represent dilatational zones between en-echelon longitudinal faults, often contain small deposits of very high-grade.

Gold mineralization is hosted within quartz-arsenopyrite veins in quartzite and schist and is interpreted to be associated with the emplacement of Cretaceous Tombstone suite granitoid intrusions. This style of mineralization is characteristic of intrusion related gold system and is found elsewhere in the Tintina gold belt. In the overlying Hyland Group, gold mineralization is associated with limey beds, aplite dykes and appears to follow the same northeast trending structures as silver mineralization in the district.

4.4 Work History

1898	Placer gold discovery in Duncan Creek brought prospectors from the Klondike goldfields.
1902	Mayo township established
1903	Argentiferous galena discovered at Silver King and mined 1913-1917.
1918	Argentiferous galena discovered on Keno Hill
1919	Keno Hill Ltd staked claims on Keno Hill. Grades had to be more than 125 oz/t to be economic, cost of horse transport to Mayo the same as to smelters in US.
1920	Keno City established.
1921	Treadwell Yukon Company acquired claims at Sadie Ladue on Keno Hill.
1925	Treadwell established mill at Sadie Ladue. Bulldozers significantly reduced the cost of ore haulage.
1927	Treadwell acquired Lucky Queen high grade mine
1932	All operations suspended during Depression
1934	Treadwell Yukon acquired all the Keno Hill Ltd properties.
1924	Elsa vein discovered on Galena Hill, re-opening of Silver King and discovery of Hector–Calumet and optioned by Treadwell Yukon.
1935	Mill moved to Elsa and mining continued until 1941 when all work ceased, and equipment was sold to US Army for construction of Alaska Highway during World War II. Livingstone Wernecke had led Yukon Treadwell and produced 44 Moz silver with 80% milled at 60 oz/t and 20% hand-sorted at 340 oz/t. 60% of production came from Keno Hill.
1946	Treadwell Yukon assets purchased by Keno Hill Mining Company, later named United Keno Hill Mines (UKHM), and mill began re-operating. Power was generated from coal mine purchased in Carmacks, and transport was improved by the government building the Whitehorse – Mayo road.
1951	New discoveries at Hector-Calumet led to construction of a town and a new mill built at Elsa, with power supplied from a new hydro plant in Mayo. UKHM's success bought new companies to the district and another mill was built at Mackeno near Christal Lake.
1950	Zinc recovery became economic.
1963	New exploration
1970	Discovery of the Husky deposit just as the Hector-Calumet was closing.
1972	Husky Mine commenced production.
1977	Economics became uncertain due to fluctuations in silver price, open pit mining commenced unsuccessfully.
1982 -1989	Small scale tribute mining continued until UKHM closed.
1990 -1998	Dominion Mineral Resources and Sterling Frontier Properties acquired 32% of UKHM, conducted exploration but were unsuccessful in reopening mines; rights reverted to UKHM, but environmental liabilities and site maintenance drove UKHM bankrupt. Federal government inherited assets.
2006	Alexco Resource Corp purchased the UKHM property.
2010	Metallic Minerals predecessor Monster Mining acquired Keno Hill claims.

2017 Exploration & Work History Highlights

- Metallic Minerals added to its land position, nearly tripling its total Keno Hill Silver District holdings to 166 square kilometres.
- Between May 8th and Sept 7th, 2017 fourteen diamond drill holes (DDH) were drilled on the Keno Silver Project. In addition, ground geophysics (magnetic and VLF), mapping, prospecting, soil and rock sampling and the collection of satellite imagery were completed.

Table 4. Summary of Keno Silver Project 2017 exploration work.

Exploration Work	***Target Areas***	***Specifics***
Ground Geophysics	Caribou, Homestake, Silver Queen	129-line km, magnetic and VLF
Satellite Photography	Regional (Keno District)	50 cm/pixel, 1m contours
Soil Sampling	Caribou, Homestake, Divide, Vanguard, Duncan, Bounty, Silver Queen, Vancouver	2149 samples, XRF (n=1208), Lab Assay (n=1653)
Trenching	Caribou, Faith, Homestake, Bounty, Gold Hill	18 trenches totalling 493 m
Diamond Drilling	Caribou, Homestake, Duncan	14 holes totalling 1320 m
RAB Drilling	Homestake	3 holes totalling 61 m

5 Duncan Creek Claims Group

5.1 Local Geology

Locally, the claims are underlain almost entirely by Proterozoic to lower-Cambrian Yusezyu Formation (Hyland Group), thrust over the Sourdough Member of the Keno Hill Quartzite by the south dipping Robert Service Thrust fault (Figure 4). Along Duncan Creek Quaternary sediments have been deposited. There are two target types on the Duncan Creek claims: (1) Keno Hill style Ag-Pb-Zn veins and (2) intrusion related gold mineralization.

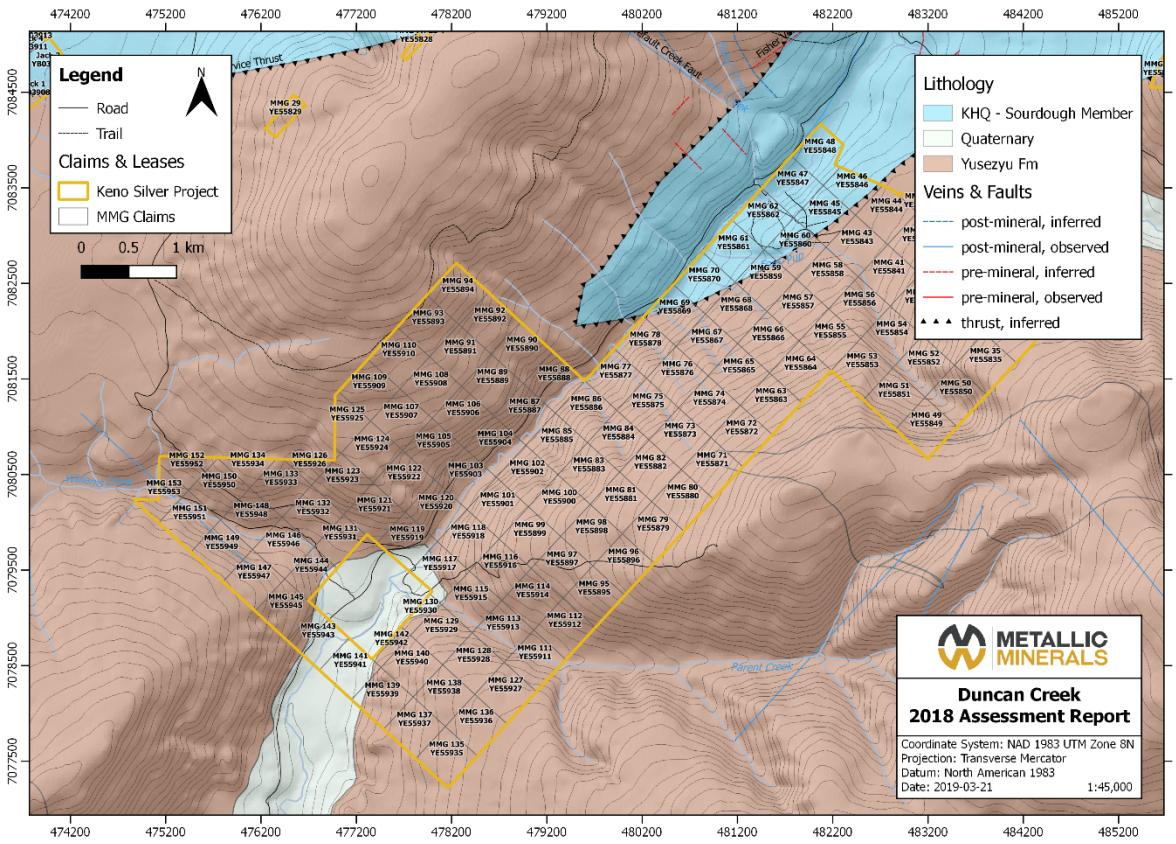

Figure 4. Duncan Creek claims local geology.

5.2 Work History

1954 The Geological Survey of Canada detected a hydro-geochemical anomaly along Parent Creek (Boyle et. al., 1955)

1955 Northwestern Explorations Ltd. performed geological mapping and collected soil and water geochemical samples in order to test for Ag-Pb-Zn mineralization towards the northeastern center of the Duncan Creek claims grouping along Parent Creek. Water chemistry confirmed the GSC anomaly, but no source mineralization was found (Noel, 1955).

1999 Expatriate Resources Ltd. performed geological mapping, prospecting and soil sampling (n=182) on the Fisher claims grouping, northwest of the Sourdough claims. Sampling focused on an area of mineralized float and returned scattered moderate gold values (<620 ppb Au), interpreted to be caused by variable till cover (Becker, 2000).

2011 Under the ownership of Fekete and Ziehe, widespread ridge and spur soil geochemical surveys were performed (n=733) at 50 m spacing. Soil geochemistry returned anomalous and scattered gold values (<35 ppb Au) coincident with elevated arsenic and antimony. Three distinct silver anomalies were detected with up to 5.5 ppm Ag over a continuous extent of 100m (Fekete & Dubois, 2012)

2017 Metallic Minerals Corp. completed soil sampling on two targets: (1) a bench along Duncan Creek at one-hundred-meter grid spacing (n=76) targeting the extension of the Fisher Creek veins and (2) three contours (n=100) upslope from the grid at 1100m, 1200m and 1300m elevation. The strongest multi-element anomaly along Duncan Creek is 1km by 300m in extent. It is located on trend with the Fisher Creek veins but is also situated on an alluvial fan which has transported material downslope from the same vein. The origin of the anomaly is yet undetermined.

5.3 2018 Assessment Work

The Duncan Creek area discussed in this report covers approximately 2,443.3 hectares subdivided into 124 contiguous claims currently 100% owned by Metallic Minerals Corp (Figure 5).

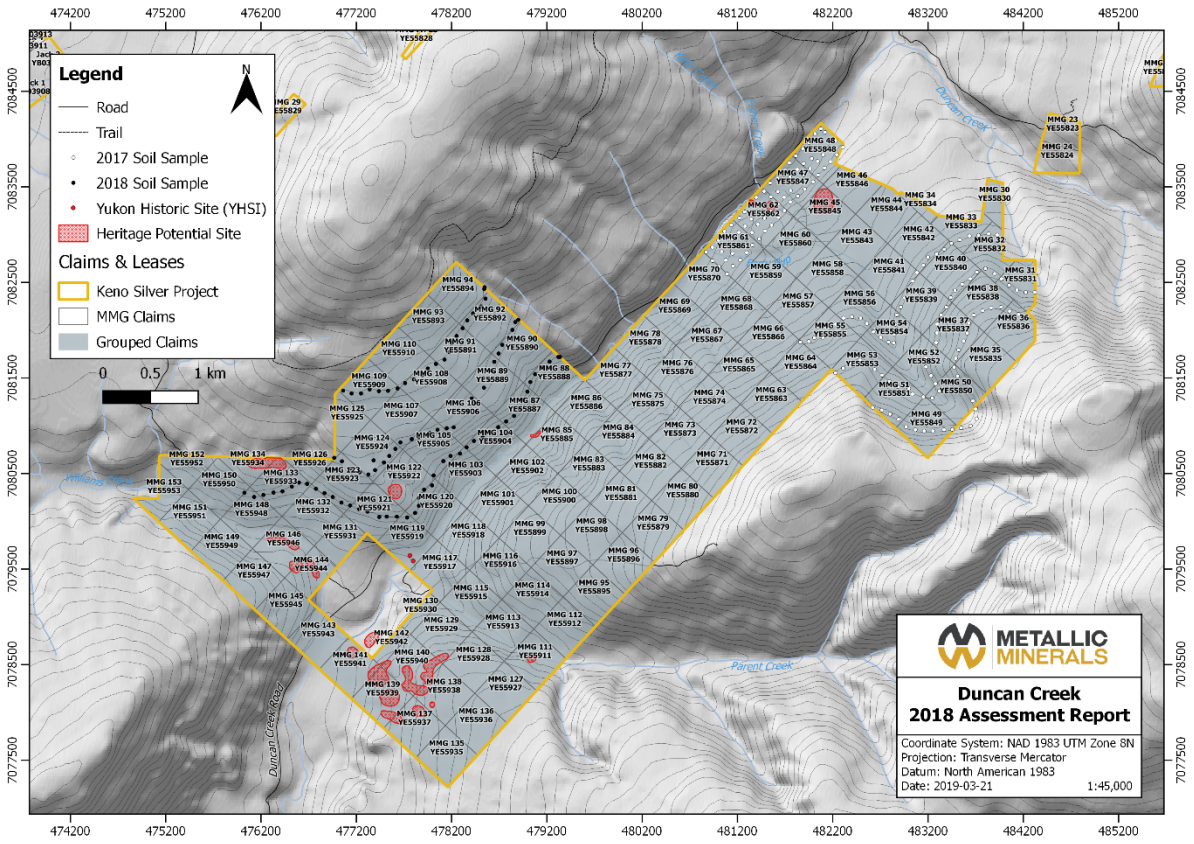

Figure 5. Duncan Creek 2018 assessment work (n=96).

Assessment work completed on the Duncan Creek claims consisted of five days of soil sampling between June 18th and August 16th, 2018, resulting in the collection of 96 samples, all of which were analyzed by on-site XRF and subsequently sent to BV for geochemical analysis. Sampling occurred at 100m intervals along three contour lines at 900m, 1000m and 1100m elevation (Figure 5). The purpose of soil sampling on the Duncan Creek claims was to extend geochemical analysis to the entire claim block, and specifically to test for a continuation of the Fisher Creek Veins.

Sampling occurred over five days but was extended over a two-month period due to accessibility issues as a result of heavy rainfall and pervasive permafrost early in the season. Initial gridding included 99 soil samples, three of which were not collected due to permafrost. Approximately 78.8% of samples were collected from B-horizons, with another 20.2% of undetermined horizon. Elemental highs do not significantly correlate to depth (Table 9).

The Duncan Creek 2018 soil sampling program revealed an open multi-elemental Ag-Cu-Pb-Zn anomaly between samples 1496555 and 1496563, along the western end of the lowest contour line (Figures 6-9). Elemental highs are summarized in Table 8, with sample 1496555 returning 0.80 ppm Ag, 60.1 ppm Cu, 47.0 ppm Pb and 134.0 ppm Zn. Additionally, a weaker multi-elemental Ag-Zn ± Cu-Pb anomaly was detected along the eastern portion of the 900 m elevation contour line extending approximately 500 m by 1,500 m (Figure 6-9).

Table 5. Duncan Creek 2018 soil depths and XRF geochemistry summary (n=96).

	Depth (cm)	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
Ave	41	9.5	12.2	68.8	17.9
Max	100	59.4	82.4	106.1	98.7
Min	0	0.0	0.0	39.4	0.0
STD	27	15.4	14.4	16.0	19.4

Table 6. Duncan Creek 2018 soil XRF highs (n=96).

Sample ID	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
1496549	0.0	**82.4**	98.6	39.3
1496554	**59.4**	32.6	105.1	0.0
1496523	54.6	19.8	**106.1**	17.7
1496571	0.0	10.6	55.3	**98.7**

Table 7. Duncan Creek 2018 soil analytical geochemistry summary (n=96).

Assay	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
Ave	0.01	0.17	28.3	19.3	68.1	31.3
Max	0.15	0.80	74.5	47.0	134.0	171.9
Min	0.00	0.05	11.2	10.5	40.0	10.2
STD	0.02	0.16	11.6	6.5	18.5	26.7

Table 8. Duncan Creek 2018 soil analytical highs (n=96).

Sample ID	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
1496515	**0.15**	0.20	23.2	15.5	65.0	16.3
1496519	0.00	**0.80**	25.3	16.9	63.0	35.6
1496543	0.00	0.30	**74.5**	30.2	116.0	21.8
1496555	0.01	**0.80**	60.1	**47.0**	**134.0**	135.5
1496571	0.01	0.05	28.0	18.0	58.0	**171.9**

Table 9. Duncan Creek 2018 soil analytical geochemistry correlation (n=96).

	Depth (cm)	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
Depth (cm)	1.000						
Au (ppm)	0.015	1.000					
Ag (ppm)	0.144	0.091	1.000				
Cu (ppm)	0.109	-0.001	0.525	1.000			
Pb (ppm)	0.178	0.002	0.689	0.757	1.000		
Zn (ppm)	0.093	0.027	0.645	0.839	0.792	1.000	
As (ppm)	0.082	0.044	0.507	0.353	0.543	0.377	1.000

Additionally, a Heritage Resource Overview Assessment (HROA) was contracted to Ecofor on July 28th, 2018. The objectives of the HROA was to identify and assess the heritage resource potential or sensitivity within the study area and prepare a written report detailing the results. Prior to any ground disturbing work heritage polygons require a site visit from a qualified archaeologist to determine if heritage resources are present. Heritage Potential Site polygons are shown in Figure 5. For the entire Keno Silver Project HROA report refer to Appendix IV.

In summary:

"Consultation with staff at Yukon Heritage revealed that no permitted heritage resource studies have been conducted within the study area. As such, no archaeological sites have been previously recorded within the study area. However, four Yukon Historic Sites Inventory (YHSI) sites have been recorded along Duncan Creek within the most westerly claim block. Moreover, two archaeological sites are known along Duncan Creek approximately half way between the most westerly and most easterly claim blocks." (Ecofor, 2018).

Table 10. Previously recorded YHSI sites. Modified from (Ecofor, 2018).

YHSI ID	*Site Name*	*Site Type*	*Past Use*	*Status*
105M/14/308	Duncan Creek Cabin 1	Architecture	Residence	Abandoned
105M/14/309	Duncan Creek Cabin 2	Architecture	Residence	Abandoned
105M/14/310	Duncan Creek Cabin 3	Architecture	Residence	Abandoned
105M/14/311	Duncan Creek Root Cellar	Architecture	Storage	Abandoned

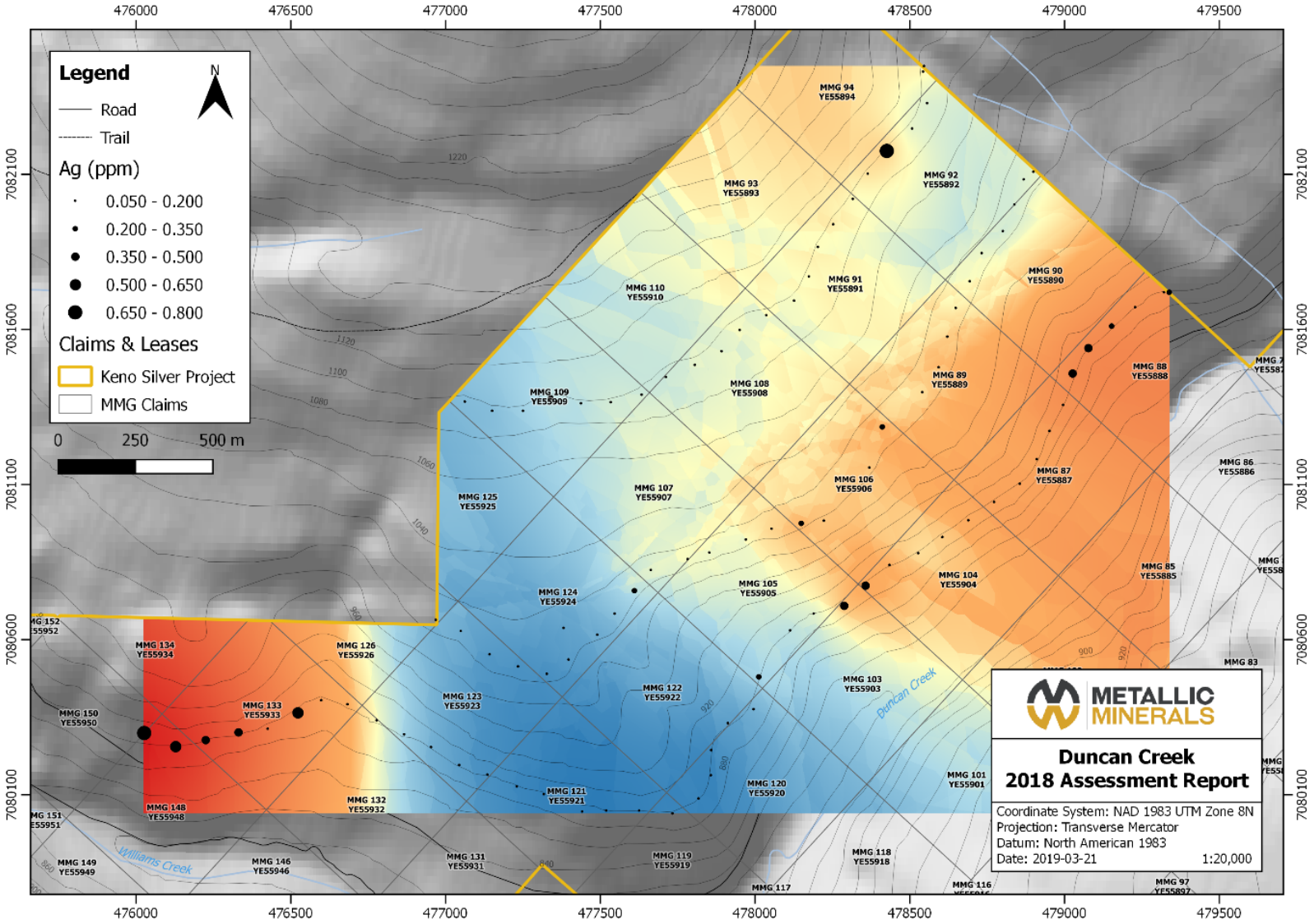

Figure 6. Duncan Creek 2018 soil chemistry- Ag.

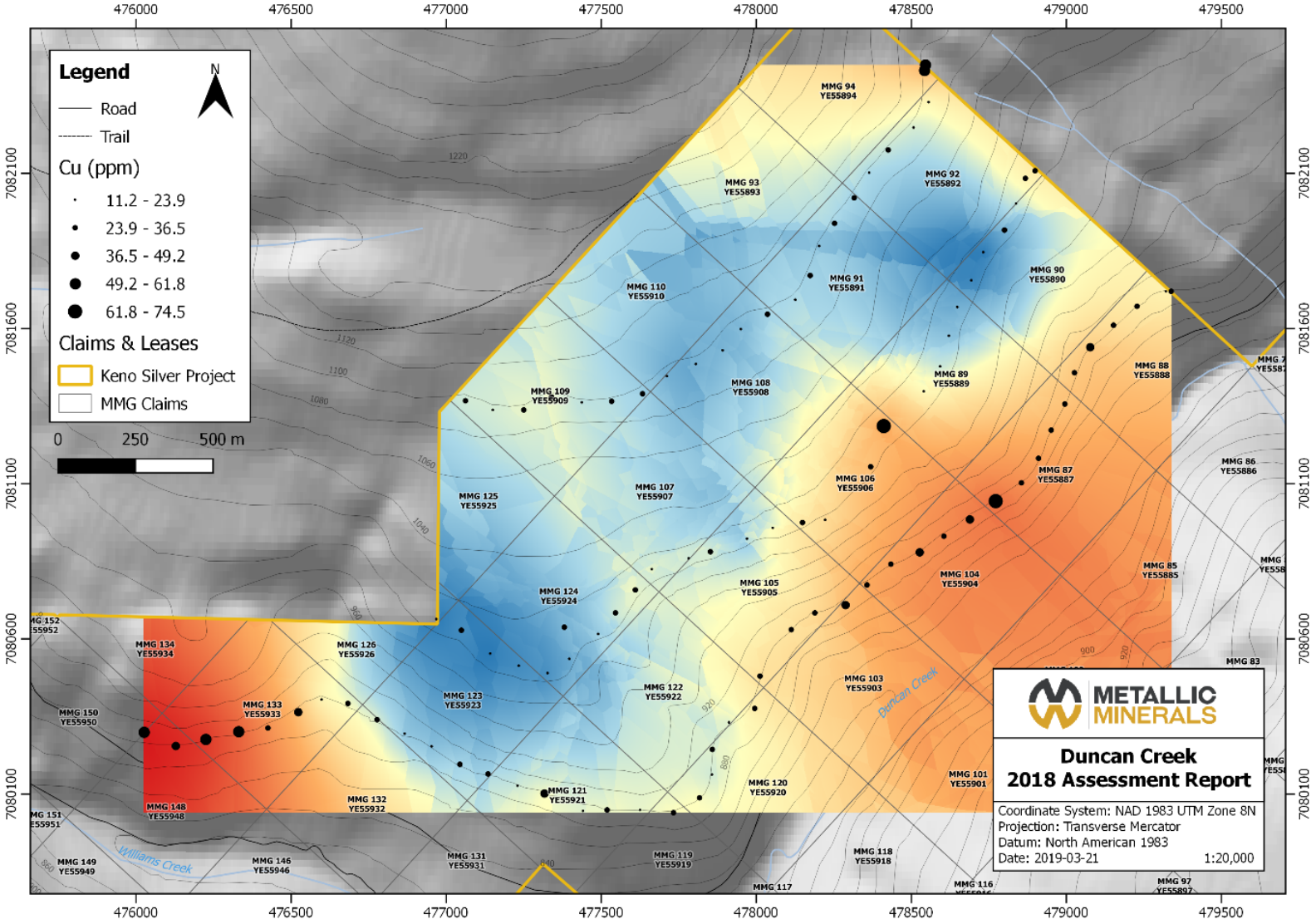

Figure 7. Duncan Creek 2018 soil chemistry- Cu.

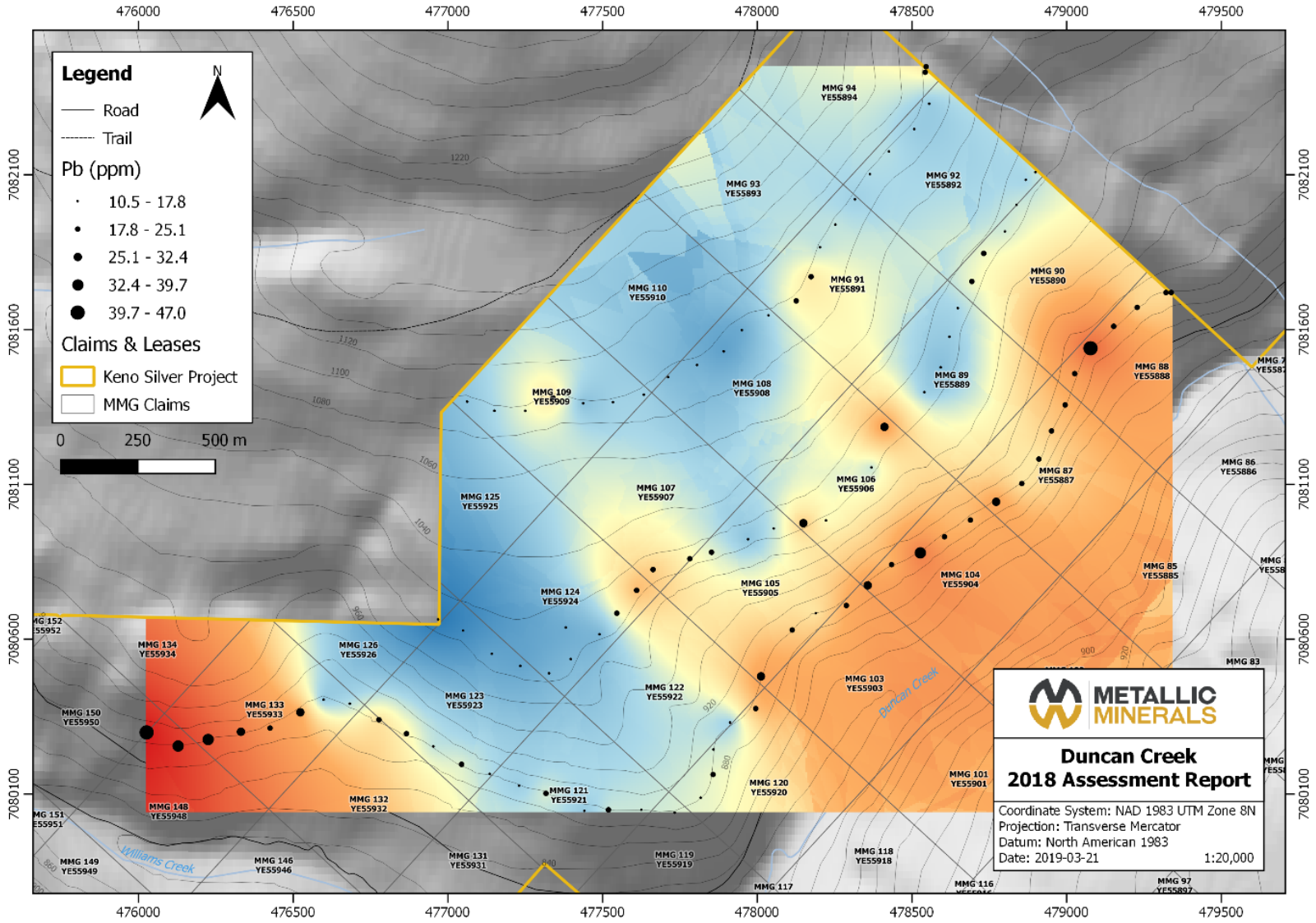

Figure 8. Duncan Creek 2018 soil chemistry- Pb.

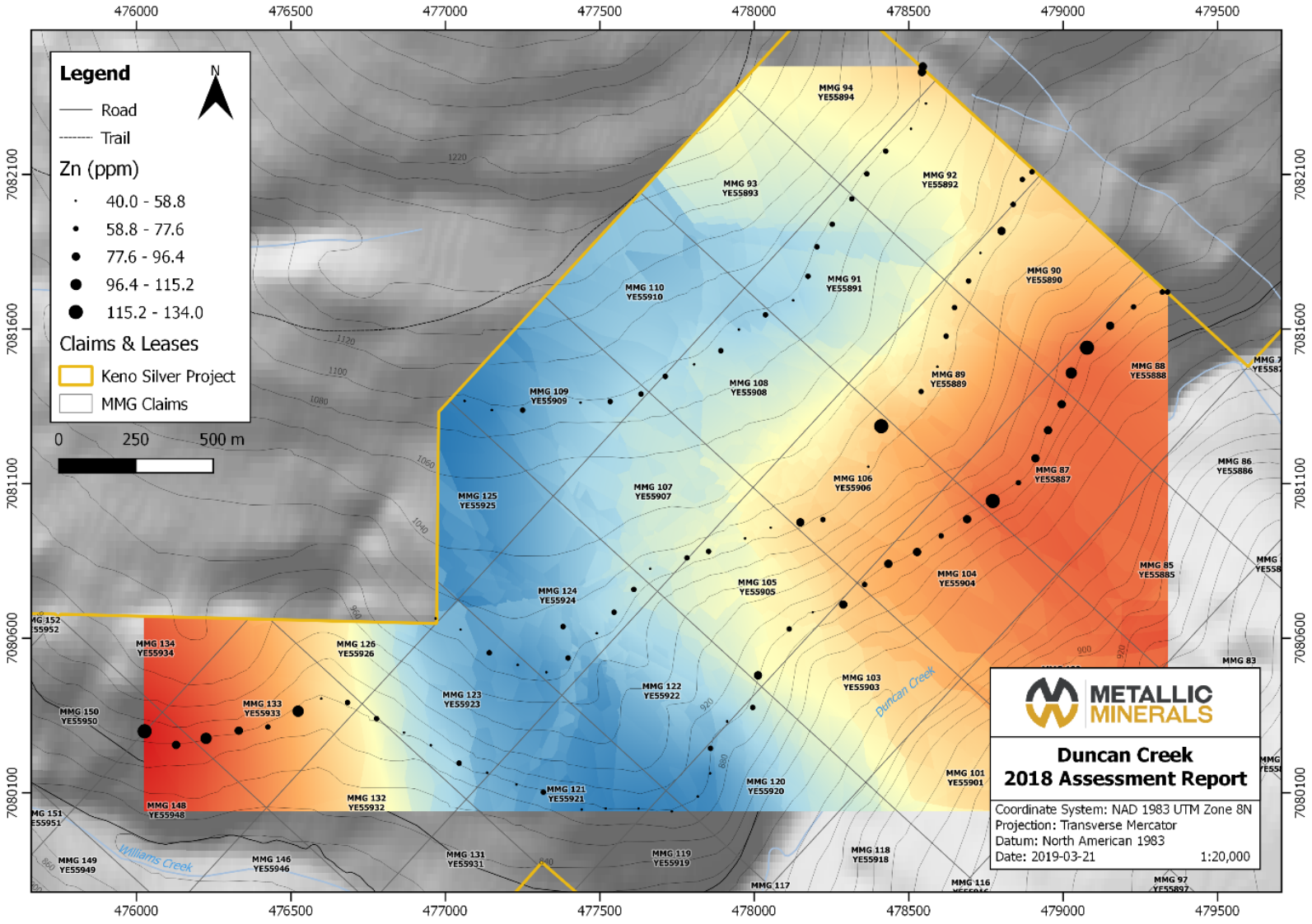

Figure 9. Duncan Creek 2018 soil chemistry-Zn.

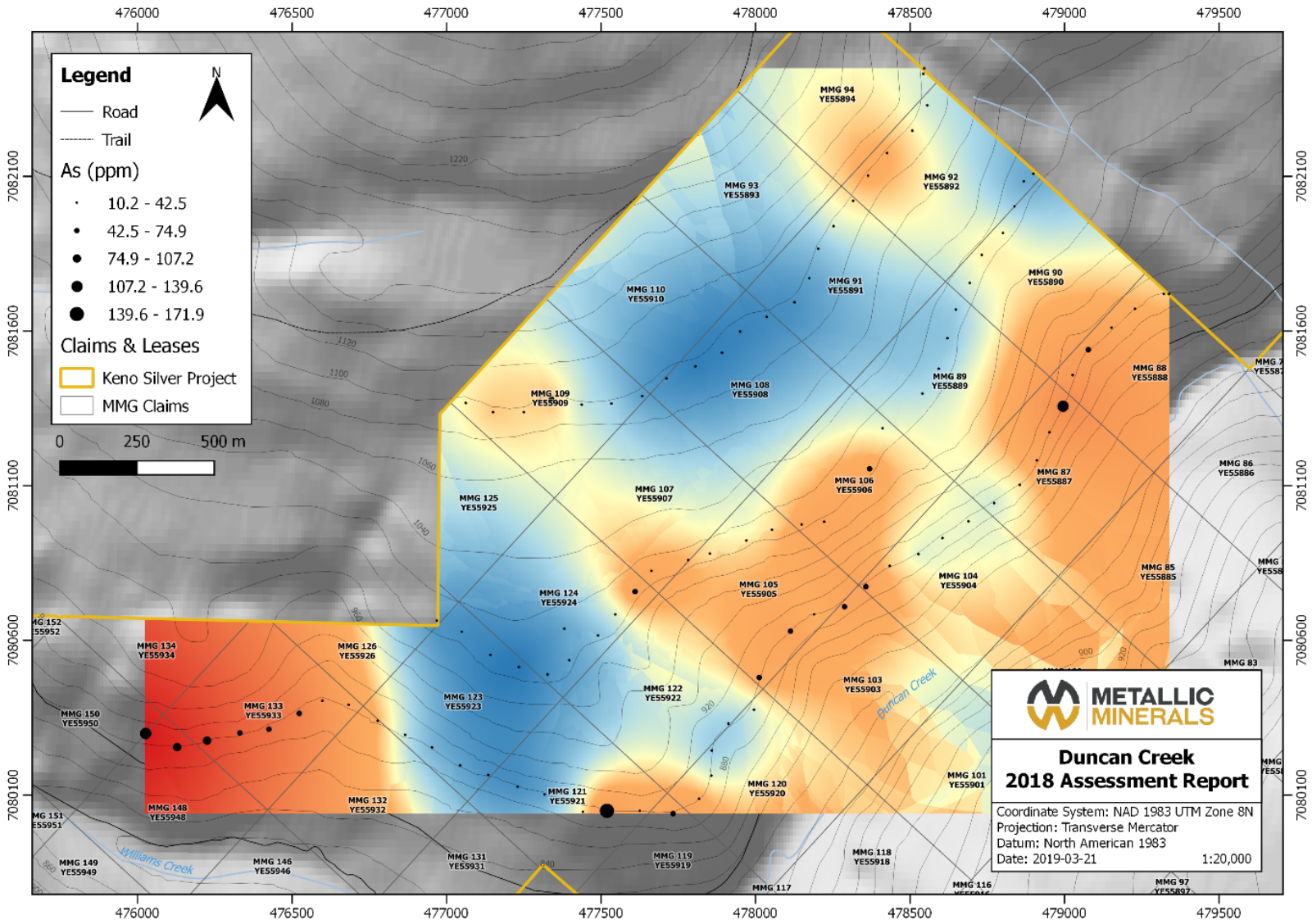

Figure 10. Duncan Creek 2018 soil chemistry- As.

6 Sourdough Claims Group

6.1 Local Geology

Locally, the claims are underlain predominantly by Proterozoic to lower-Cambrian Yusezyu Formation (Hyland Group), thrust over the Sourdough Member of the Keno Hill Quartzite by the south dipping Robert Service Thrust fault (Figure 11). Along Duncan Creek Quaternary sediments have been deposited uniquely underlying claim MMG 24.

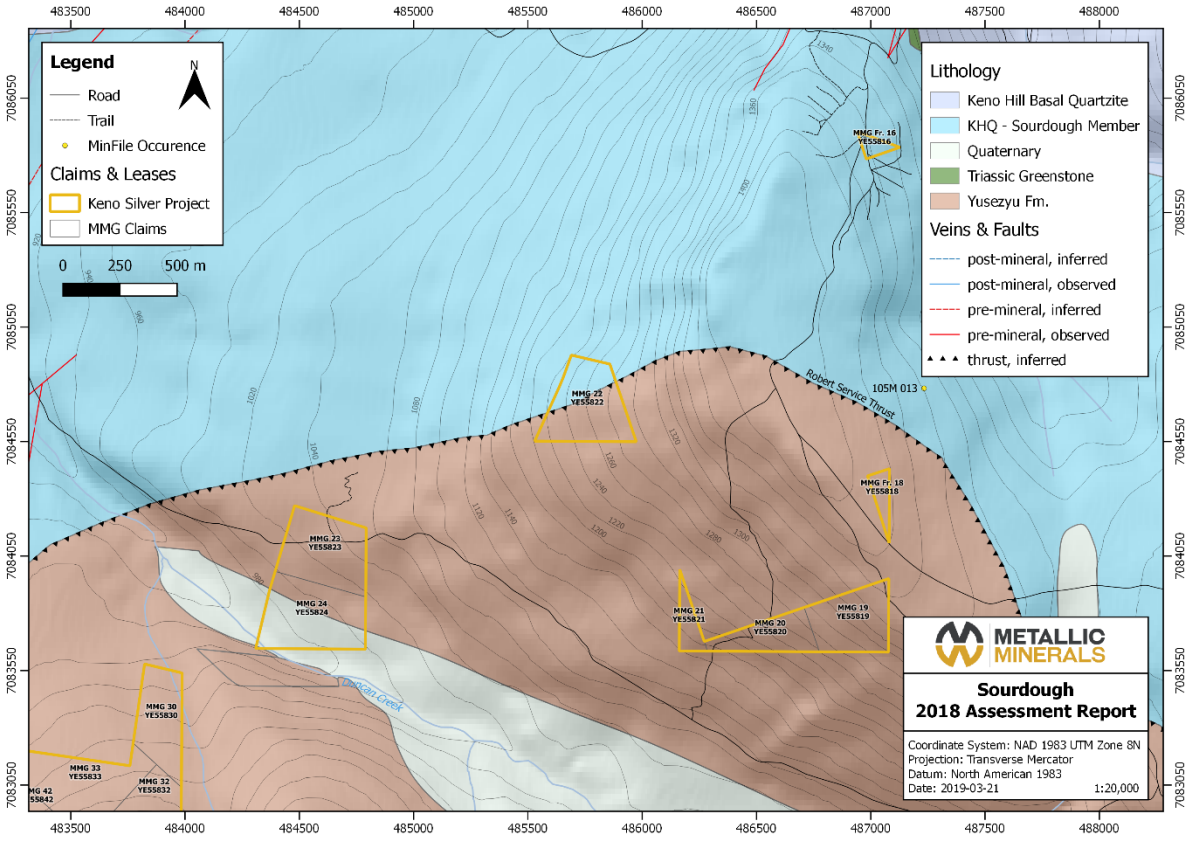

Figure 11. Sourdough claims local geology.

6.2 Work History

Mineral Occurrence MO (105M 013)

Mineral occurrence MO is defined as a polymetallic Ag-Pb-Zn+/-Au vein and is located approximately 380 m north of claim MMG Fr. 18 (Figure 11).

1920 First staked as Cube cl (13207) by A.A. Holenbeck.

1952 Restaked as Rosemary cl (62246) by R.G. Lee; as Rosemary cl (80690) in 1961 by R.G. Anderson; and as Windy, Caroline, Casy cl (83525) in 1965 and Mo cl (Y619) in 1966 by J. Holstrom.

1968 Holstrom's claims were optioned to Fort George Mg & EL, which added the Fort George cl (Yl4889), explored by hand trenching and bulldozing (Croteau, 1968).

1980 Holstrom bulldozer trenched and drove a 2.4 m adit in 1980, performed stripping and shaft sinking in 1981 and built a road in 1984. Two weak, transverse-type veins contain minor galena from which selected hi-grade samples assayed as high as 9771.2 g/t Ag, 1.7 g/t Au and 80.5% Pb. Holstrom's 1980 trenching exposed a 30 cm wide vein containing galena and tetrahedrite, from which specimens assayed up to 13 713.9 g/t Ag.

1995 Tveter and J. Holstrom carried out stripping and trenching on Casy 3 Fr. (YA58193).

2006 Alexco. Resource Corp conducted geophysical, aerial photography and orthophoto assessment of the Keno Hill property. The helicopter magnetic and EM survey did not produce distinct geophysical anomalies that can be directly associated with mineralization. Magnetics and TDEM data did map structures and geology that may be related to ore controls and local geology (O'Connor et. al., 2006).

2007 Archer, Cathro & Associates conducted airborne electromagnetic surveys over the Mount Hinton property revealing several east-west trending conductivity anomalies that may reflect potentially mineralized fault zones (Wengzynowski, 2007).

6.3 2018 Assessment Work

The Sourdough target area discussed in this report covers approximately 53.3 hectares comprised of eight separate Sourdough fractional claims, all currently 100% owned by Metallic Minerals Corp (Figure 12).

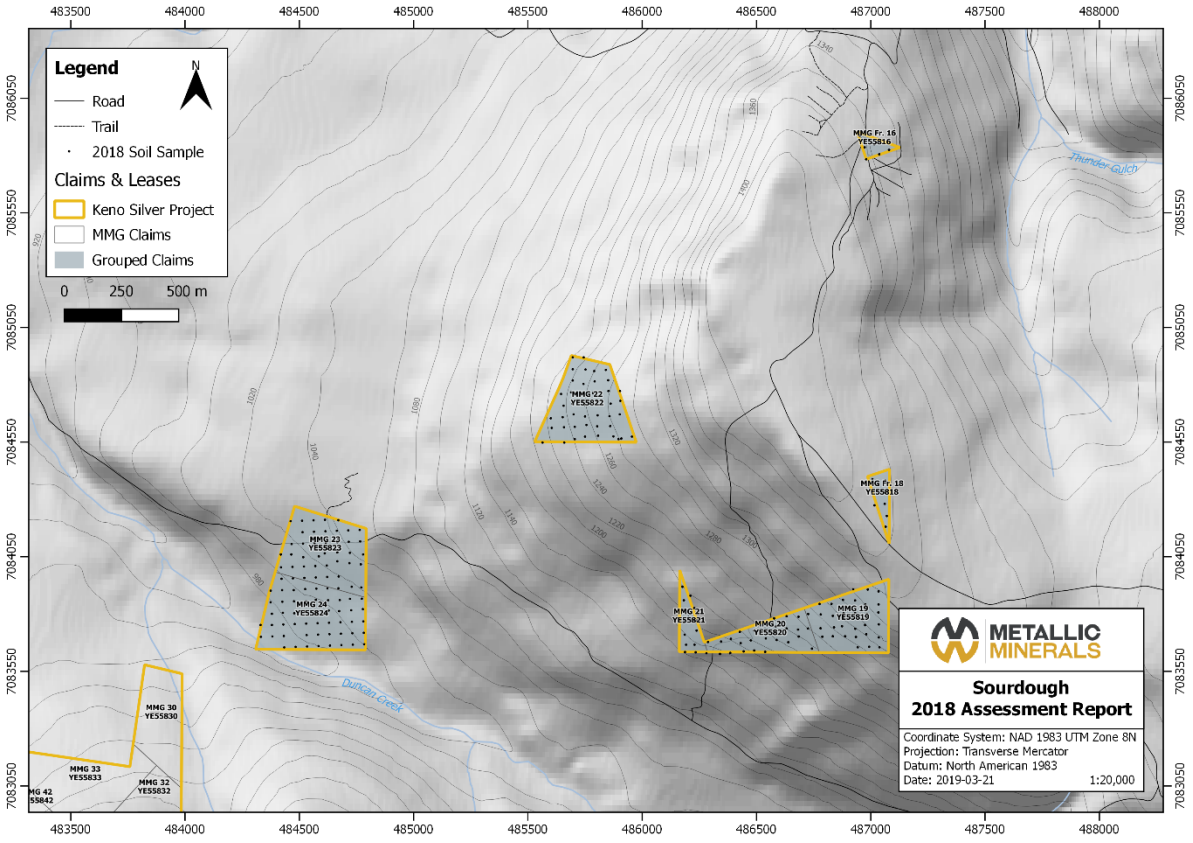

Figure 12. Sourdough 2018 assessment work (n=229).

Assessment work completed on the Sourdough claims consisted of seven days of soil sampling between June 21st and August 15th, 2018, resulting in the collection of 229 samples, 165 of which were analyzed by on-site XRF and subsequently 139 samples were sent to BV for geochemical analysis (Figure 12).

Sampling occurred over seven days but was extended over a month due to accessibility issues as a result of heavy rainfall and pervasive permafrost early in the season. Initial gridding included 234 soil samples at 50m spacing, five of which were not collected due to permafrost. Approximately 67.5% of samples were collected from B-horizons, with 31.2% of undetermined horizon. Elemental highs do not significantly correlate to depth (Table 15).

The Sourdough 2018 soil sampling program did not reveal any significant anomalies (Figures 13-17). However, claims MMG 20 and MMG 23 consistently returned the highest assay results with sample 1496643 returning the highest silver content; 1.20 ppm Ag, 50.5 ppm Cu and 71.0 ppm Zn (Table 14).

Table 11. Sourdough 2018 soil depths and XRF geochemistry summary (n=165).

	Depth (cm)	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
Ave	40	14.9	14.9	85.9	7.6
Max	85	83.5	169.6	170.4	53.9
Min	0	0.0	0.0	24.3	0.0
STD	15	22.5	23.0	32.1	12.2

Table 12. Sourdough 2018 soil XRF highs (n=165).

Sample ID	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
1496798	0.0	**169.6**	121.9	43.2
1496791	**83.5**	21.7	**170.4**	26.4
1496794	0.0	**168.6**	116.2	**53.9**

Table 13. Sourdough 2018 soil sampling analytical geochemistry summary (n=139).

Assay	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*
Ave	0.01	0.15	38.6	17.0	71.4
Max	0.03	1.20	158.2	72.9	126.0
Min	0.00	0.05	10.6	10.3	39.0
STD	0.01	0.14	18.3	6.8	14.9

Table 14. Sourdough 2018 soil sampling analytical highs (n=139).

Sample ID	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*
1496659	**0.03**	0.20	58.0	16.2	69.0
1496643	0.02	**1.20**	50.5	14.6	71.0
1496826	0.02	0.10	**158.2**	20.4	101.0
1496856	0.00	0.10	70.3	**72.9**	112.0
1496806	0.00	0.40	39.8	33.3	**126.0**

Table 15. Sourdough 2018 soil analytical geochemistry correlation (n=139).

	Depth (cm)	*Au (ppm)*	*Ag (ppm)*	*Cu (ppm)*	*Pb (ppm)*	*Zn (ppm)*	*As (ppm)*
Depth (cm)	1.000						
Au (ppm)	-0.122	1.000					
Ag (ppm)	-0.072	0.275	1.000				
Cu (ppm)	0.190	0.436	0.187	1.000			
Pb (ppm)	-0.003	-0.255	0.009	0.206	1.000		
Zn (ppm)	0.282	-0.008	0.218	0.539	0.603	1.000	
As (ppm)	0.075	0.237	0.204	0.635	0.279	0.535	1.000

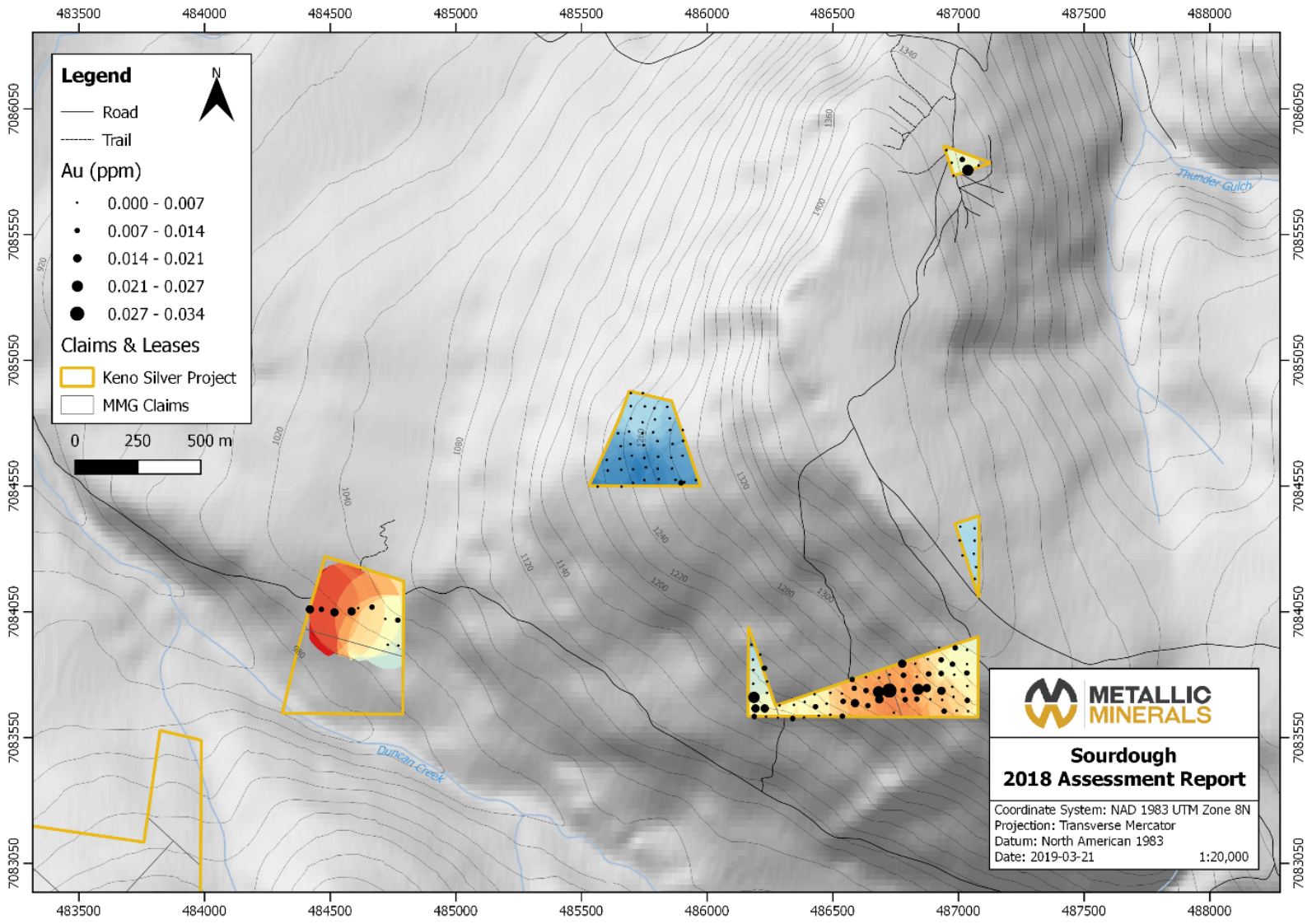

Figure 13. Sourdough 2018 soil chemistry- Au.

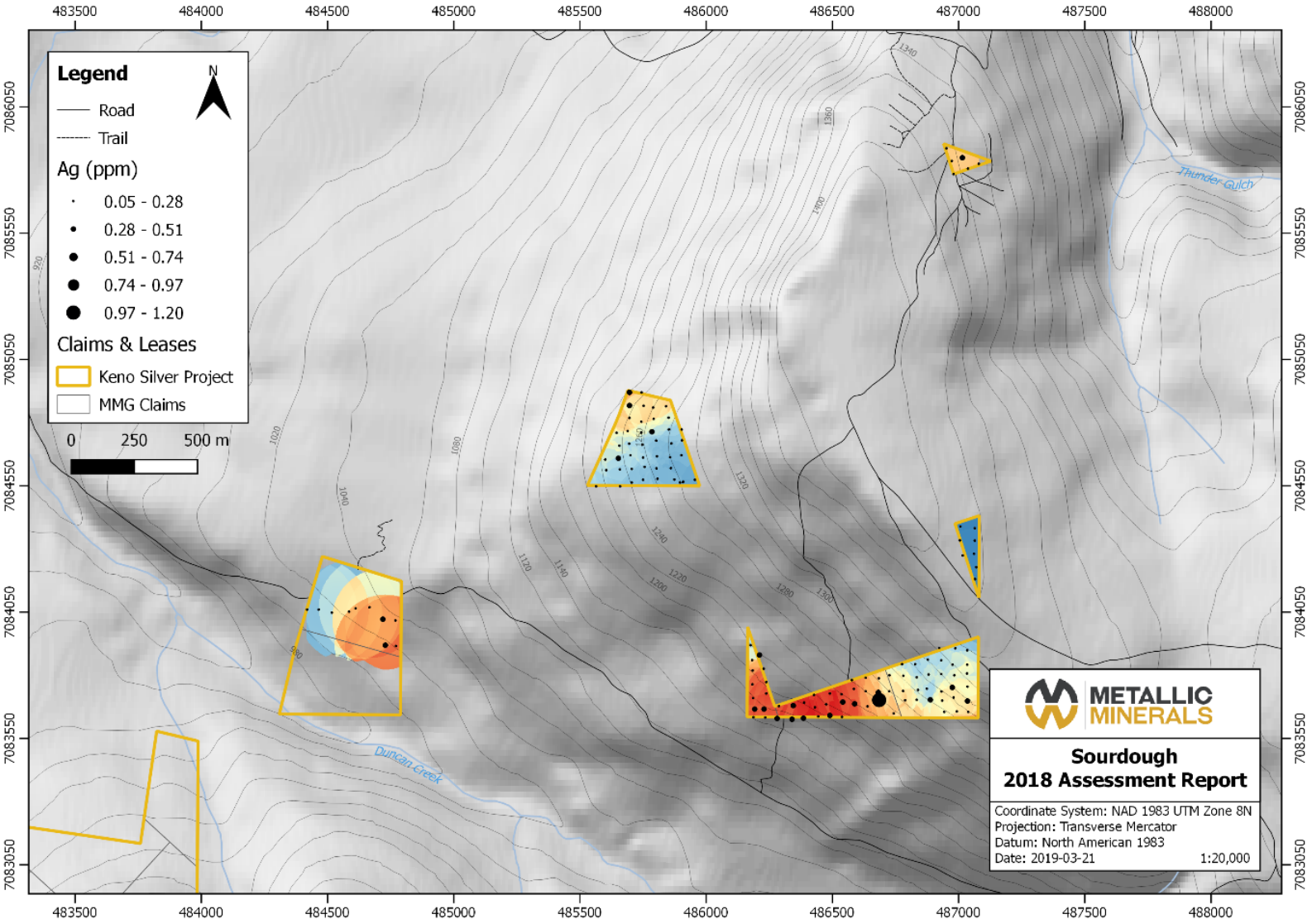

Figure 14. Sourdough 2018 soil chemistry- Ag.

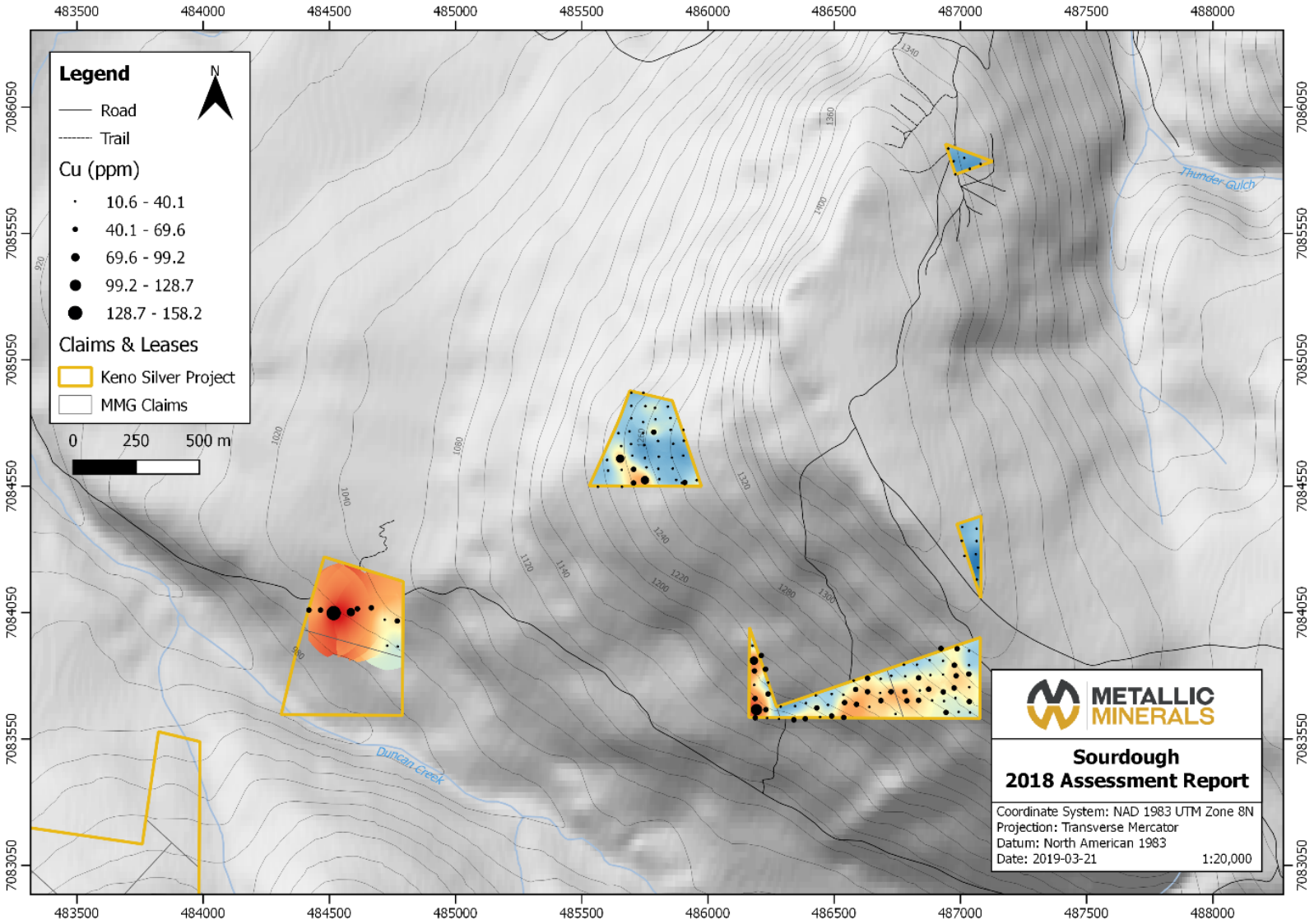

Figure 15. Sourdough 2018 soil chemistry- Cu.

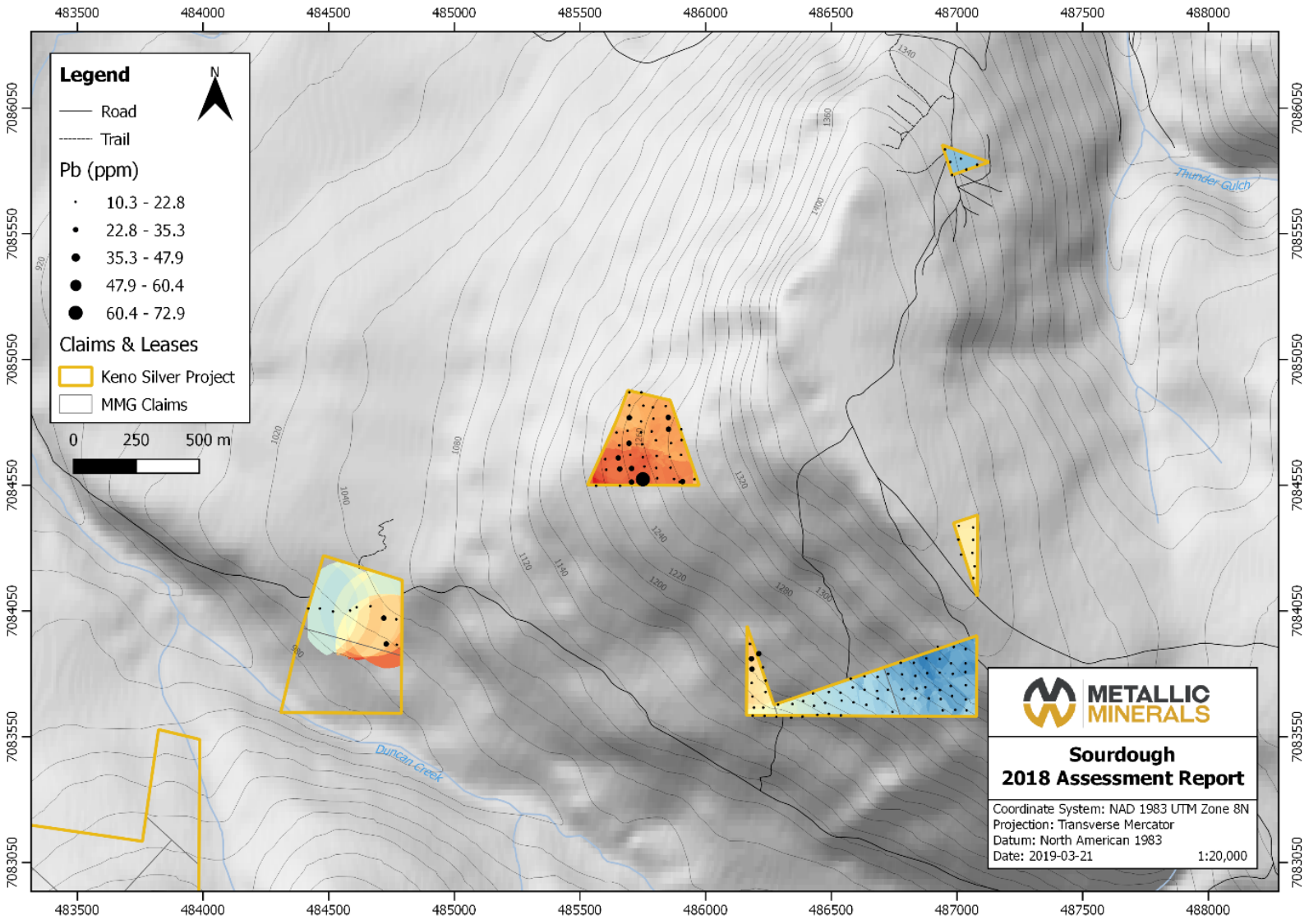

Figure 16. Sourdough 2018 soil chemistry- Pb.

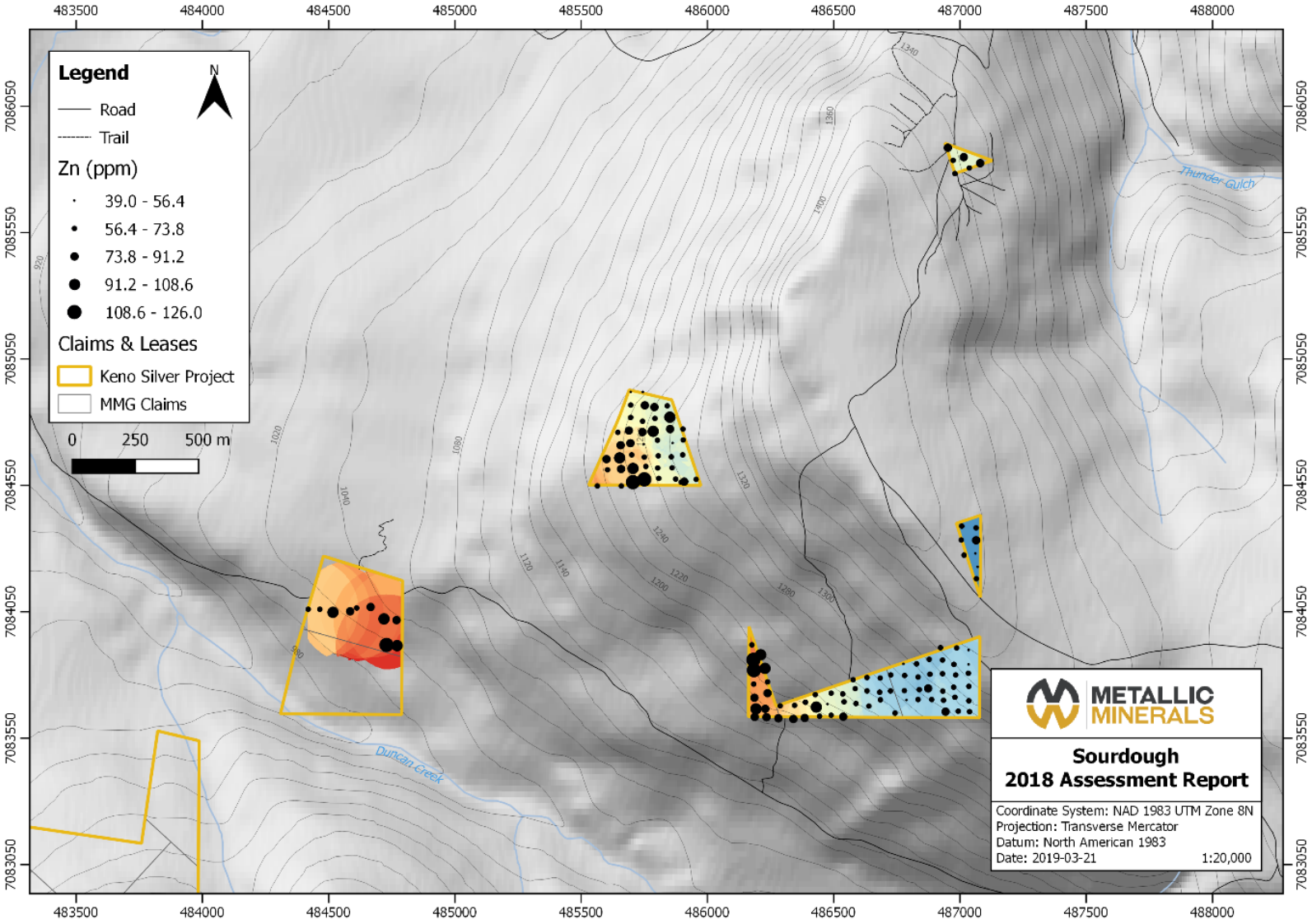

Figure 17. Sourdough 2018 soil chemistry-Zn.

7 Data Collection

7.1 Methodology

Soil sample locations and ID numbers were assigned before sample collection for consistency and ease of sample tracking. Sample tags were placed in the bag prior to collection and the bags labelled ahead of time. Samplers used soil augers for collection and handheld GPS units were used to navigate to pre-determined sample locations. Upon collection, each sample location was recorded to an accuracy of ± 5m. Information collected alongside each sample included: easting & northing, elevation, depth, horizon, colour, texture, % organics, % fragments, variety of fragments, slope angle and aspect and vegetation type. See spreadsheet in appendix # for complete results and recorded information.

7.2 QA/QC & Security

Soil samples were hang-dried and stored in a secure drying tent adjacent to the Bottle House. All soil samples were analyzed by XRF to provide screening type data. Proper handling of XRF analysis required that the XRF analyzer be calibrated prior to each use, and re-calibrated every 50 samples, testing at least one lab quality standard (LOW, PB 145, OREAS 603) every 25 samples. After XRF analysis, samples were packed into labeled plastic bags, then sealed and placed into a labeled rice bag for shipment. The rice bags were delivered by Annuk Expediting & Logistics to Bureau Veritas' Whitehorse preparation facility, then sent internally to their Vancouver analytical facility for analysis. Sample security was maintained by Metallic Minerals Corp. and Annuk Expediting & Logistics personnel from the field to the preparation facility in Whitehorse, at which time sample security was assumed by Bureau Veritas.

Each sample was prepared prior to analysis by drying at 60°C (package SS80) followed by sieving up to 100g of material through 180 µm mesh. Duplicate samples were prepared by collection of an additional 100g split of material. Samples were analyzed for a suite of thirty-six elements by modified aqua regia three acid digestion (1:1:1 HNO3: HCl: H2O) and ICP-ES/MS (package AQ201) on 15g sub-samples.

8 Interpretations & Conclusions

8.1 Duncan Creek Claims Group

Interpretation of the Duncan Creek 2018 soil sampling program revealed an open multi-elemental Ag-Cu-Pb-Zn anomaly between samples 1496555 and 1496563, along the western end of the lowest contour line . Additionally, a weaker multi-elemental Ag-Zn ± Cu-Pb anomaly was detected along the eastern portion of the 900 m elevation contour line extending approximately 500 m by 1,500 m (Figure 6-9). Additional soil sampling in these two anomalous regions is recommended. Sampling should be extended west of sample 1496555 and tighter grid sampling should be completed in the area of the anomaly in order to properly define its extent and source.

8.2 Sourdough Claims Group

Interpretation of the Sourdough 2018 soil sampling program did not reveal any significant anomalies (Figures 13-17). However, claims MMG 20 and MMG 23 consistently returned the highest assay results and, therefore, any future work should be focused within or adjacent to those claims (Table 14). Screening-type data derived from on-site XRF analysis indicated a multi-elemental Cu-Pb-Zn anomaly on claims MMG 23 and MMG 24, and therefore the remaining samples should be sent to BV for lab analysis in order to fully assess their mineral potential.

9 Bibliography

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10 Statement of Qualifications

I, Paige Ahrens, of the City of Montreal, in the Province of Quebec, HEREBY CERTIFY:

1. I am a geologist based out of Montreal, QC.

2. I am a graduate of Carleton University (B.Sc. Hons Earth Sciences, 2016).

3. I have worked in the field of geology and mineral exploration in Canada (Yukon Territory and Quebec) full-time since 2018.

4. I am an employee of Metallic Minerals Corp. (2018-present).

5. I consent to the use of this report by Metallic Minerals Corp. for application, assessment and/or regulatory and financing purposes deemed necessary.

Dated at Montreal, Quebec this 27th day of March 2019.

Paige Ahrens, B.Sc.
Metallic Minerals Corp.
2256 Ave du Mont Royal Est.
Montreal, QC, H2H 1K6

Appendix I. Statement of Expenditures

Table A1. Statement of 2018 expenditures applied to the Duncan Creek claims.

Expenditure	*Rate*	*Count*	*Total Cost*
Labour			
Geologist (grid layout)	$500.00	0.5	$250.00
Samplers	$300.00	5	$1,500.00
Rentals			
UTV	$100.00	5	$500.00
Camp/Field Support			
Food & Accommodation	$100.00	5	$500.00
Field gear (gps, flagging, bags)	$40.00	5	$200.00
Geochemical Analysis			
Soils-Lab Analysis	$22.50	96	$2,160.00
Reporting			
Geologist	$500.00	2	$1,000.00
GIS	$400.00	0.5	$200.00
Heritage Survey			
Cost per km^2	$52.03	13.1	$681.59
Cost of Program			**$6,991.59**

Table A2. Statement of 2018 expenditures applied to the Sourdough claims.

Expenditure	*Rate*	*Count*	*Total Cost*
Labour			
Geologist (grid layout)	$400.00	1	$400.00
Samplers	$300.00	12.5	$3,750.00
Rentals			
UTV	$150.00	12.5	$1,875.00
Camp/Field Support			
Food & Accommodation	$100.00	12.5	$1,250.00
Field gear (gps, flagging, bags)	$40.00	12.5	$500.00
Geochemical Analysis			
Soils- XRF Analysis	$11.00	165	$1,815.00
Soils-Lab Analysis	$22.50	139	$3,127.50
Reporting			
Geologist	$500.00	2	$1,000.00
GIS	$400.00	1	$400.00
Cost of Program			**$14,117.50**
Cost/Sample			$61.65

Appendix II. Batch Sheets & 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: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Submitted By: Scott Petsel
Receiving Lab: Canada-Whitehorse
Received: November 30, 2018
Report Date: December 21, 2018
Page: 1 of 3

CERTIFICATE OF ANALYSIS WHI18001159.1

CLIENT JOB INFORMATION

Project:	Keno Silver
Shipment ID:	KS18-16
P.O. Number	Keno Silver
Number of Samples:	33

SAMPLE DISPOSAL

RTRN-PLP	Return After 90 days
DISP-RJT-SOIL	Immediate Disposal of Soil Reject

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	33	Dry at 60C			WHI
SS80	33	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	33	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SHP01	33	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Invoice To: Metallic Minerals Corp.
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2
Canada

CC: Debbie James
Samantha Dyck

KERRY JAY
Geochem Project Specialist

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

BUREAU 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: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: December 21, 2018

CERTIFICATE OF ANALYSIS WHI18001159.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496501	Soil	0.6	27.0	14.9	55	0.1	26.2	11.3	412	2.26	23.2	6.7	4.9	24	<0.1	7.1	0.2	34	0.32	0.053	18
1496502	Soil	0.7	23.8	16.0	45	<0.1	19.6	8.2	224	1.95	37.2	4.9	6.6	20	<0.1	11.1	0.2	33	0.24	0.033	21
1496503	Soil	0.5	28.1	17.7	61	0.1	19.5	8.1	204	2.10	21.5	7.9	6.1	20	0.1	10.6	0.2	30	0.27	0.052	20
1496504	Soil	0.7	28.8	23.0	58	0.3	25.9	11.1	1396	2.71	52.1	5.6	2.7	56	0.4	34.2	0.3	32	0.83	0.071	15
1496505	Soil	0.4	19.2	12.8	56	<0.1	18.4	8.2	215	1.78	14.8	2.1	5.2	16	<0.1	15.6	0.2	26	0.20	0.058	21
1496506	Soil	1.0	25.7	16.3	59	0.2	23.7	11.7	1057	2.46	26.0	4.8	3.5	65	0.2	8.0	0.2	43	1.13	0.056	13
1496507	Soil	0.7	30.6	16.3	72	0.1	24.3	11.5	407	2.60	11.9	0.9	5.7	25	0.1	7.5	0.3	44	0.31	0.049	21
1496508	Soil	0.7	18.6	14.5	63	0.1	18.6	8.3	263	2.21	15.7	<0.5	4.8	21	0.2	5.2	0.2	32	0.29	0.056	17
1496509	Soil	0.6	18.6	14.6	57	0.1	16.6	8.6	331	2.09	11.9	2.3	3.7	31	<0.1	4.8	0.2	42	0.41	0.058	17
1496510	Soil	0.7	21.1	12.8	63	0.1	19.0	9.3	267	2.07	14.4	10.9	4.9	20	<0.1	5.1	0.2	37	0.29	0.058	19
1496511	Soil	0.7	17.7	13.2	49	0.2	20.0	9.2	900	2.17	14.2	4.5	3.6	31	0.1	5.6	0.2	37	0.41	0.059	19
1496512	Soil	0.7	28.3	16.1	59	0.1	21.8	9.9	506	2.06	15.1	0.9	6.1	31	0.3	6.0	0.2	42	0.45	0.055	19
1496513	Soil	0.8	22.8	19.1	44	0.1	18.2	9.1	439	1.91	13.7	5.4	4.3	58	0.1	5.9	0.2	33	0.85	0.054	15
1496514	Soil	0.8	26.4	20.9	61	0.1	19.8	9.8	421	2.40	16.3	4.0	8.6	27	0.1	10.6	0.2	36	0.39	0.045	23
1496515	Soil	0.7	23.2	15.5	65	0.2	18.4	13.2	651	2.17	16.3	152.3	3.3	27	0.2	9.0	0.2	33	0.31	0.065	25
1496516	Soil	0.9	27.3	17.3	69	0.2	22.8	11.3	357	2.52	27.9	5.9	3.6	20	0.1	20.3	0.2	36	0.23	0.058	27
1496517	Soil	1.0	24.5	15.1	59	<0.1	19.9	9.1	310	2.09	23.8	3.7	5.4	13	0.2	13.0	0.2	26	0.15	0.043	25
1496518	Soil	1.2	20.0	16.5	62	0.2	17.0	11.3	502	2.18	41.6	25.9	4.9	12	0.2	22.7	0.2	31	0.15	0.052	26
1496519	Soil	1.1	25.3	16.9	63	0.8	18.9	6.0	170	2.12	35.6	1.6	1.3	17	0.1	15.7	0.2	37	0.20	0.057	18
1496520	Soil	0.6	20.2	15.3	57	<0.1	17.5	7.2	376	1.73	25.8	1.7	6.7	14	0.1	12.0	0.2	23	0.26	0.036	27
1496521	Soil	0.9	12.9	14.3	52	<0.1	12.5	5.3	152	2.27	18.4	3.1	6.4	8	<0.1	6.0	0.2	35	0.08	0.028	27
1496522	Soil	2.2	49.5	17.9	95	0.2	29.2	11.9	716	2.55	21.7	2.2	6.3	79	0.4	10.9	0.3	21	0.96	0.100	28
1496523	Soil	2.2	49.4	21.2	90	0.2	29.3	13.5	474	2.98	24.3	5.1	9.6	47	0.4	10.5	0.3	24	0.65	0.093	36
1496545	Soil	0.6	17.4	14.4	64	0.1	14.1	6.4	292	1.66	20.7	0.9	3.8	17	0.3	5.2	0.1	28	0.31	0.052	17
1496546	Soil	0.7	17.5	14.3	54	0.2	13.5	5.3	175	1.64	18.6	1.2	3.9	9	0.2	2.9	0.2	33	0.13	0.039	17
1496547	Soil	0.8	23.6	15.4	60	0.2	19.1	6.8	286	1.78	14.5	7.8	4.3	17	0.1	2.1	0.2	37	0.25	0.056	20
1496548	Soil	0.6	21.7	15.7	66	0.1	19.6	10.1	962	1.99	15.4	1.3	3.8	44	0.4	4.6	0.2	34	0.70	0.063	20
1496549	Soil	0.7	16.1	18.4	67	<0.1	20.3	10.9	469	2.55	23.9	0.9	8.4	18	0.2	8.1	0.2	23	0.29	0.034	25
1496550	Soil	1.2	11.2	18.1	57	0.2	13.3	16.3	1054	1.94	30.8	2.8	2.5	21	0.3	15.4	0.2	32	0.26	0.052	17
1496551	Soil	0.8	25.6	16.5	78	<0.1	22.7	9.4	324	2.49	38.3	1.9	7.8	15	0.1	12.4	0.2	25	0.24	0.057	26

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: December 21, 2018

CERTIFICATE OF ANALYSIS WHI18001159.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496501	Soil	22	0.31	319	0.013	<1	1.09	0.006	0.03	0.2	0.03	3.8	<0.1	<0.05	3	<0.5	<0.2
1496502	Soil	19	0.26	268	0.012	<1	0.99	0.005	0.04	0.1	0.04	3.0	<0.1	<0.05	3	<0.5	<0.2
1496503	Soil	17	0.26	216	0.013	<1	0.87	0.005	0.03	0.1	0.03	2.7	<0.1	<0.05	2	<0.5	<0.2
1496504	Soil	20	0.28	319	0.009	<1	1.24	0.007	0.04	0.1	0.06	3.0	<0.1	0.05	3	0.6	<0.2
1496505	Soil	16	0.28	258	0.012	<1	1.07	0.004	0.03	0.1	0.04	2.2	<0.1	<0.05	3	<0.5	<0.2
1496506	Soil	24	0.35	383	0.013	1	1.17	0.008	0.05	0.2	0.05	3.6	<0.1	0.06	4	<0.5	<0.2
1496507	Soil	23	0.39	341	0.018	<1	1.40	0.007	0.04	0.2	0.05	3.9	<0.1	<0.05	4	<0.5	<0.2
1496508	Soil	18	0.28	214	0.017	<1	0.90	0.005	0.03	0.2	0.02	2.5	<0.1	<0.05	3	<0.5	<0.2
1496509	Soil	21	0.31	286	0.012	<1	1.17	0.006	0.04	0.2	0.04	2.8	<0.1	<0.05	3	<0.5	<0.2
1496510	Soil	21	0.34	245	0.016	<1	1.08	0.005	0.03	0.2	0.04	2.4	<0.1	<0.05	3	<0.5	<0.2
1496511	Soil	22	0.35	326	0.011	<1	1.15	0.007	0.03	0.2	0.05	2.4	<0.1	<0.05	3	<0.5	<0.2
1496512	Soil	22	0.31	288	0.020	<1	0.99	0.008	0.04	0.2	0.04	3.2	<0.1	<0.05	3	<0.5	<0.2
1496513	Soil	19	0.27	261	0.012	<1	0.94	0.008	0.05	0.1	0.04	2.8	<0.1	0.05	3	<0.5	<0.2
1496514	Soil	18	0.27	249	0.015	<1	1.06	0.007	0.05	0.1	0.04	3.5	<0.1	<0.05	3	0.5	<0.2
1496515	Soil	17	0.25	310	0.014	<1	1.05	0.006	0.04	0.1	0.04	2.7	<0.1	0.05	3	<0.5	<0.2
1496516	Soil	21	0.32	312	0.010	<1	1.32	0.005	0.05	0.2	0.04	2.6	<0.1	<0.05	4	0.5	<0.2
1496517	Soil	16	0.27	175	0.011	<1	0.98	0.004	0.04	0.1	0.03	1.9	0.1	<0.05	3	<0.5	<0.2
1496518	Soil	18	0.29	244	0.010	<1	1.16	0.005	0.04	0.1	0.03	2.2	<0.1	<0.05	3	<0.5	<0.2
1496519	Soil	21	0.28	224	0.012	<1	1.28	0.005	0.05	0.2	0.05	1.9	0.1	<0.05	4	<0.5	<0.2
1496520	Soil	13	0.21	181	0.009	<1	0.79	0.005	0.04	<0.1	0.03	2.2	<0.1	<0.05	2	<0.5	<0.2
1496521	Soil	18	0.28	132	0.011	<1	1.29	0.004	0.04	0.1	0.02	1.6	0.1	<0.05	4	<0.5	<0.2
1496522	Soil	13	0.36	168	0.006	1	0.89	0.006	0.05	<0.1	0.04	1.7	<0.1	0.09	2	1.2	<0.2
1496523	Soil	16	0.42	165	0.006	<1	1.14	0.005	0.05	<0.1	0.03	2.1	<0.1	<0.05	3	1.1	<0.2
1496545	Soil	13	0.22	148	0.014	<1	0.71	0.006	0.05	<0.1	0.02	1.6	<0.1	<0.05	2	<0.5	<0.2
1496546	Soil	17	0.24	130	0.017	<1	0.78	0.005	0.05	0.1	0.02	1.5	<0.1	<0.05	3	<0.5	<0.2
1496547	Soil	20	0.29	268	0.018	<1	1.04	0.007	0.05	0.2	0.04	2.8	<0.1	<0.05	3	<0.5	<0.2
1496548	Soil	19	0.29	263	0.012	<1	1.07	0.008	0.04	0.2	0.04	2.3	<0.1	0.06	3	<0.5	<0.2
1496549	Soil	13	0.22	125	0.011	<1	0.72	0.004	0.04	<0.1	0.02	2.3	<0.1	<0.05	2	<0.5	<0.2
1496550	Soil	19	0.23	286	0.008	<1	0.97	0.005	0.04	0.2	0.06	2.1	<0.1	<0.05	3	<0.5	<0.2
1496551	Soil	13	0.20	150	0.014	<1	0.72	0.005	0.04	0.2	0.02	2.4	<0.1	<0.05	2	0.5	<0.2

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: December 21, 2018

CERTIFICATE OF ANALYSIS WHI18001159.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496552	Soil		0.9	22.3	17.5	61	0.1	19.1	9.0	652	2.20	15.5	2.1	5.0	30	0.2	7.4	0.2	31	0.51	0.069	20
1496553	Soil		0.9	29.8	14.8	64	0.1	23.3	9.7	398	2.46	12.8	3.8	5.9	25	0.1	3.2	0.2	42	0.40	0.050	23
1496554	Soil		1.0	35.0	17.8	75	0.1	25.9	10.5	493	2.71	14.9	8.3	8.0	26	0.3	4.5	0.2	38	0.47	0.055	26

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Report Date: December 21, 2018

CERTIFICATE OF ANALYSIS WHI18001159.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496552	Soil		18	0.28	214	0.011	<1	1.04	0.006	0.04	0.1	0.04	2.5	<0.1	<0.05	3	0.7	<0.2
1496553	Soil		23	0.33	339	0.021	<1	1.19	0.007	0.06	0.2	0.05	3.5	<0.1	<0.05	4	<0.5	<0.2
1496554	Soil		21	0.33	302	0.025	<1	1.10	0.009	0.05	0.2	0.04	3.8	<0.1	<0.05	3	<0.5	<0.2

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Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: December 21, 2018

QUALITY CONTROL REPORT WHI18001159.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																						
1496516	Soil		0.9	27.3	17.3	69	0.2	22.8	11.3	357	2.52	27.9	5.9	3.6	20	0.1	20.3	0.2	36	0.23	0.058	27
REP 1496516	QC		0.9	28.7	17.8	75	0.2	22.0	10.4	362	2.50	28.0	2.9	3.7	20	0.1	23.2	0.2	38	0.22	0.054	27
Reference Materials																						
STD DS11	Standard		15.1	157.7	144.9	356	1.6	84.8	14.2	1022	2.99	45.4	70.8	8.8	64	2.5	8.9	12.6	54	1.06	0.069	21
STD OREAS262	Standard		0.6	123.2	63.9	154	0.4	62.3	29.0	512	3.27	35.8	66.3	10.6	35	0.6	5.1	1.1	20	2.75	0.044	18
STD OXC129	Standard		1.3	30.5	6.9	44	<0.1	79.2	21.7	438	3.20	<0.5	211.0	2.1	191	<0.1	<0.1	<0.1	62	0.67	0.108	15
STD OXC129 Expected			1.3	28	6.2	42.9		79.5	20.3	421	3.065	0.6	195	1.9					51	0.684	0.102	12.5
STD DS11 Expected			14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701	18.6
STD OREAS262 Expected			0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	72	9.33	36	0.61	5.06	0.98	22.5	2.98	0.04	15.9
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	9	<0.01	<0.001	<1

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Project: Keno Silver

Report Date: December 21, 2018

QUALITY CONTROL REPORT WHI18001159.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
1496516	Soil	21	0.32	312	0.010	<1	1.32	0.005	0.05	0.2	0.04	2.6	<0.1	<0.05	4	0.5	<0.2
REP 1496516	QC	22	0.34	308	0.011	<1	1.27	0.005	0.05	0.2	0.04	2.7	<0.1	<0.05	3	<0.5	<0.2
Reference Materials																	
STD DS11	Standard	64	0.78	355	0.096	7	1.04	0.068	0.39	3.1	0.25	3.3	4.8	0.29	5	2.3	4.6
STD OREAS262	Standard	43	1.07	250	0.003	4	1.28	0.061	0.25	0.2	0.16	3.2	0.5	0.27	4	0.5	0.2
STD OXC129	Standard	55	1.57	54	0.416	<1	1.56	0.577	0.34	<0.1	<0.01	1.2	<0.1	<0.05	5	<0.5	<0.2
STD OXC129 Expected		52	1.545	50	0.4	1	1.58	0.59	0.3655			1.1			5.5		
STD DS11 Expected		61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD OREAS262 Expected		41.7	1.17	248	0.0027	4	1.3	0.071	0.295	0.2	0.17	3.24	0.47	0.253	3.73	0.4	0.23
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Submitted By: Scott Petsel
Receiving Lab: Canada-Whitehorse
Received: July 13, 2018
Report Date: August 11, 2018
Page: 1 of 6

CERTIFICATE OF ANALYSIS WHI18000332.1

CLIENT JOB INFORMATION

Project:	Keno Silver
Shipment ID:	KS18-1
P.O. Number	Keno Silver
Number of Samples:	132

SAMPLE DISPOSAL

RTRN-PLP	Return After 90 days
DISP-RJT-SOIL	Immediate Disposal of Soil Reject

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	129	Dry at 60C			WHI
SS80	129	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	129	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SHP01	129	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Duncan Creek soils account for 63 of the 129 samples.
Sourdough soils account for 66 of the 129 samples.

Invoice To: Metallic Minerals Corp.
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2
Canada

CC: Debbie James
Samantha Dyck

KERRY JAY
Geochem Project Specialist

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Client: **Metallic Minerals Corp.**
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Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 11, 2018

CERTIFICATE OF ANALYSIS WHI18000332.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496555	Soil		1.0	60.1	47.0	134	0.8	34.4	14.6	577	2.98	135.5	8.8	10.6	28	0.7	20.0	0.4	25	0.59	0.071	32
1496556	Soil		0.8	48.6	39.3	92	0.6	29.5	13.2	641	2.84	97.9	5.8	10.6	26	0.5	9.3	0.3	24	0.41	0.065	32
1496557	Soil		1.6	60.7	34.9	109	0.5	38.0	19.8	737	3.88	100.0	5.1	12.8	35	0.4	9.7	0.4	27	0.63	0.086	37
1496558	Soil		1.4	50.7	30.3	86	0.4	33.1	13.9	513	3.23	55.3	8.8	11.0	59	0.3	8.5	0.4	23	1.02	0.064	35
1496559	Soil		0.8	33.2	24.8	69	0.2	24.5	11.0	451	2.77	62.7	2.8	9.1	18	0.2	8.4	0.3	22	0.37	0.037	28
1496560	Soil		0.8	40.6	28.0	99	0.6	28.0	10.5	569	2.60	71.6	5.8	6.5	33	0.4	7.0	0.3	29	0.56	0.065	23
1496561	Soil		0.4	12.4	12.3	51	0.1	13.8	7.7	601	1.82	38.9	1.8	4.3	28	0.1	3.2	0.1	25	0.36	0.035	18
1496562	Soil		0.8	24.2	16.4	69	0.2	21.0	8.4	267	2.24	30.3	2.6	7.2	22	0.2	18.7	0.2	29	0.32	0.056	25
1496563	Soil		0.7	32.5	22.0	70	0.2	24.5	9.9	500	2.86	36.1	2.6	8.5	29	0.2	18.1	0.3	29	0.38	0.049	29
1496564	Soil		0.8	17.6	18.8	53	0.1	16.9	8.0	241	2.42	19.6	5.5	7.7	14	<0.1	10.3	0.3	37	0.15	0.025	25
1496565	Soil		0.7	19.9	15.8	57	<0.1	18.6	8.8	342	2.51	14.7	0.5	6.9	15	<0.1	4.8	0.2	33	0.16	0.033	22
1496566	Soil		0.6	28.4	18.2	68	<0.1	23.3	10.7	349	2.98	18.1	2.2	9.1	15	<0.1	3.2	0.3	28	0.16	0.037	27
1496567	Soil		0.7	24.3	16.3	55	0.1	20.5	8.6	390	2.43	14.6	1.5	9.2	21	0.2	2.4	0.3	27	0.30	0.034	30
1496568	Soil		0.6	21.3	14.5	52	<0.1	18.8	8.0	280	2.42	12.5	0.5	9.8	16	<0.1	2.0	0.2	26	0.18	0.029	27
1496569	Soil		0.5	37.4	19.0	65	<0.1	23.3	10.2	332	2.75	10.7	2.2	9.7	18	<0.1	1.5	0.4	18	0.17	0.054	27
1496570	Soil		0.6	23.3	14.0	51	<0.1	18.7	8.3	320	2.15	16.0	4.5	8.9	17	<0.1	2.4	0.2	27	0.20	0.035	25
1496571	Soil		0.4	28.0	18.0	58	<0.1	20.8	8.9	266	2.31	171.9	14.4	11.5	11	<0.1	25.7	0.3	12	0.09	0.022	29
1496572	Soil		0.8	21.2	16.9	49	<0.1	19.2	9.0	259	2.63	17.2	1.9	6.0	7	<0.1	1.6	0.2	27	0.07	0.031	22
1496573	Soil		0.7	28.4	17.2	55	0.1	25.2	9.4	445	2.58	52.4	4.6	10.6	29	0.2	31.1	0.2	31	0.50	0.035	28
1496574	Soil		0.7	30.8	17.5	57	<0.1	23.1	10.1	269	2.54	40.5	1.8	7.2	17	<0.1	5.0	0.2	27	0.23	0.029	24
1496575	Soil		1.3	17.3	18.0	40	<0.1	17.8	6.9	185	2.30	18.8	2.6	5.8	12	0.2	2.7	0.2	34	0.19	0.020	20
1496576	Soil		0.5	29.6	17.6	76	<0.1	23.2	11.1	716	2.54	12.8	0.7	3.9	59	0.3	2.9	0.2	13	1.03	0.049	11
1496577	Soil		1.1	14.0	13.2	41	<0.1	12.6	5.4	182	2.41	14.6	1.2	5.4	10	<0.1	2.8	0.2	48	0.11	0.025	20
1496578	Soil		1.1	34.8	23.9	68	<0.1	27.7	14.3	286	3.48	16.2	<0.5	10.4	9	<0.1	10.3	0.4	20	0.10	0.026	30
1496579	Soil		0.8	36.5	26.5	87	0.3	25.7	10.0	384	2.51	46.6	3.9	7.6	24	0.5	4.3	0.3	30	0.45	0.091	24
1496580	Soil		L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496581	Soil		0.4	28.2	21.4	66	<0.1	27.9	12.8	321	2.63	73.6	4.6	7.8	40	<0.1	82.7	0.3	7	0.98	0.047	22
1496582	Soil		0.4	24.4	17.7	53	<0.1	25.3	13.1	507	2.45	11.0	1.0	15.3	125	<0.1	2.9	0.3	5	4.68	0.052	35
1496583	Soil		0.9	37.7	23.7	82	0.5	24.9	9.9	499	2.49	43.0	13.6	7.1	33	0.4	5.4	0.3	26	0.96	0.075	25
1496584	Soil		0.9	32.0	26.7	75	0.5	22.0	9.4	443	2.35	64.2	10.9	4.9	24	0.3	4.7	0.2	25	0.72	0.064	17

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Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 11, 2018

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	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496555	Soil	23	0.48	150	0.017	<1	0.99	0.008	0.08	<0.1	0.04	2.7	0.1	<0.05	3	<0.5	<0.2
1496556	Soil	18	0.40	160	0.013	<1	1.04	0.006	0.09	<0.1	0.04	2.4	<0.1	<0.05	3	<0.5	<0.2
1496557	Soil	24	0.60	143	0.012	<1	1.37	0.005	0.09	<0.1	0.03	2.7	0.1	<0.05	4	<0.5	<0.2
1496558	Soil	16	0.35	151	0.009	<1	0.96	0.006	0.09	<0.1	0.04	2.4	<0.1	<0.05	3	<0.5	<0.2
1496559	Soil	15	0.27	134	0.009	<1	0.86	0.009	0.07	<0.1	0.03	2.5	<0.1	<0.05	2	<0.5	<0.2
1496560	Soil	20	0.37	228	0.012	<1	1.14	0.008	0.12	<0.1	0.04	2.9	0.1	<0.05	3	<0.5	<0.2
1496561	Soil	13	0.25	169	0.016	<1	0.72	0.006	0.03	0.1	0.02	1.9	<0.1	<0.05	2	<0.5	<0.2
1496562	Soil	18	0.38	196	0.020	<1	1.03	0.007	0.06	0.1	0.04	2.6	<0.1	<0.05	3	<0.5	<0.2
1496563	Soil	19	0.39	201	0.014	<1	1.15	0.007	0.06	0.1	0.03	2.8	<0.1	<0.05	3	<0.5	<0.2
1496564	Soil	17	0.27	137	0.018	<1	1.17	0.005	0.06	0.1	0.01	1.7	<0.1	<0.05	4	<0.5	<0.2
1496565	Soil	19	0.34	172	0.020	<1	1.12	0.006	0.05	0.1	0.01	2.2	<0.1	<0.05	3	<0.5	<0.2
1496566	Soil	22	0.45	155	0.012	<1	1.42	0.006	0.06	<0.1	0.02	2.4	0.1	<0.05	4	<0.5	<0.2
1496567	Soil	17	0.31	199	0.015	<1	1.07	0.007	0.08	0.1	0.03	2.3	<0.1	<0.05	3	<0.5	<0.2
1496568	Soil	16	0.31	177	0.014	<1	0.98	0.007	0.06	<0.1	0.02	2.2	<0.1	<0.05	3	<0.5	<0.2
1496569	Soil	15	0.29	104	0.012	<1	0.95	0.004	0.05	<0.1	0.03	1.8	<0.1	<0.05	2	<0.5	<0.2
1496570	Soil	17	0.28	206	0.020	<1	0.97	0.008	0.05	0.1	0.02	2.6	<0.1	<0.05	2	<0.5	<0.2
1496571	Soil	8	0.12	109	0.004	<1	0.53	0.005	0.05	<0.1	0.02	1.8	<0.1	<0.05	1	<0.5	<0.2
1496572	Soil	17	0.28	98	0.011	<1	1.19	0.004	0.07	0.1	0.02	1.5	<0.1	<0.05	3	<0.5	<0.2
1496573	Soil	19	0.28	297	0.010	<1	1.24	0.007	0.07	<0.1	0.03	3.2	<0.1	<0.05	3	<0.5	<0.2
1496574	Soil	18	0.33	215	0.011	<1	1.16	0.008	0.06	<0.1	0.02	2.4	<0.1	<0.05	3	<0.5	<0.2
1496575	Soil	18	0.21	85	0.020	<1	0.94	0.005	0.06	0.1	0.01	1.6	<0.1	<0.05	3	<0.5	<0.2
1496576	Soil	10	0.27	125	0.005	<1	0.65	0.008	0.05	<0.1	0.03	1.5	<0.1	<0.05	2	<0.5	<0.2
1496577	Soil	18	0.20	100	0.024	<1	1.00	0.006	0.06	0.2	<0.01	1.7	<0.1	<0.05	4	<0.5	<0.2
1496578	Soil	14	0.28	97	0.005	<1	1.10	0.005	0.06	<0.1	<0.01	1.9	<0.1	<0.05	3	<0.5	<0.2
1496579	Soil	21	0.39	143	0.034	<1	1.06	0.009	0.06	0.1	0.03	3.0	<0.1	<0.05	3	<0.5	<0.2
1496580	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496581	Soil	10	0.32	72	0.001	<1	0.84	0.006	0.05	<0.1	0.02	1.7	<0.1	<0.05	2	<0.5	<0.2
1496582	Soil	6	0.25	58	0.004	<1	0.49	0.005	0.09	<0.1	0.02	1.8	<0.1	<0.05	1	<0.5	<0.2
1496583	Soil	16	0.41	196	0.021	<1	0.86	0.009	0.07	<0.1	0.03	2.4	<0.1	<0.05	2	<0.5	<0.2
1496584	Soil	17	0.46	152	0.019	<1	0.83	0.008	0.05	0.1	0.03	2.3	<0.1	<0.05	2	<0.5	<0.2

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		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496585	Soil		0.5	31.7	19.1	80	0.2	27.3	12.3	448	3.00	18.5	2.4	9.0	18	0.2	5.5	0.3	19	0.34	0.059	28
1496586	Soil		0.6	41.6	38.2	80	<0.1	36.0	18.9	534	3.62	15.6	5.0	22.6	24	<0.1	2.3	0.4	9	0.72	0.042	47
1496587	Soil		0.8	31.8	20.7	67	0.1	26.4	13.0	475	3.01	23.3	2.6	8.7	34	<0.1	3.4	0.2	28	0.50	0.035	27
1496588	Soil		1.1	41.2	21.0	93	0.2	29.4	12.0	455	2.92	28.4	3.7	8.6	25	0.2	4.3	0.2	24	0.42	0.060	27
1496589	Soil		4.3	68.9	27.4	118	0.2	44.1	17.7	932	3.77	14.3	3.1	15.2	25	0.4	2.1	0.4	22	0.31	0.106	43
1496590	Soil		0.6	31.1	17.9	73	0.2	24.3	9.4	362	2.45	21.5	5.1	7.3	37	0.2	4.6	0.2	19	0.76	0.053	27
1496591	Soil		0.6	31.0	18.7	81	0.1	24.5	9.2	317	2.57	31.4	4.5	10.3	16	0.2	10.6	0.2	18	0.35	0.046	30
1496592	Soil		0.6	27.8	21.7	87	0.2	23.0	9.4	382	2.44	39.5	6.6	5.9	25	0.2	12.2	0.2	23	0.72	0.044	22
1496593	Soil		1.0	28.0	22.2	79	0.2	21.7	8.2	435	2.46	111.7	3.3	5.0	19	0.4	3.4	0.2	27	0.39	0.079	18
1496594	Soil		0.8	35.0	22.8	110	0.4	23.5	7.7	371	2.15	30.4	3.3	2.8	31	0.7	3.3	0.2	29	0.89	0.070	13
1496595	Soil		1.3	46.9	42.0	133	0.5	30.3	11.2	812	2.74	43.5	6.8	6.3	21	1.0	4.5	0.3	32	0.46	0.075	20
1496596	Soil		0.8	26.7	24.7	83	0.3	20.2	8.4	380	2.18	29.2	2.9	5.2	26	0.4	4.8	0.2	21	0.44	0.053	17
1496597	Soil		0.7	25.8	19.2	68	0.2	20.6	8.5	432	2.16	28.3	4.4	3.8	48	0.2	5.7	0.2	20	1.11	0.057	14
1496598	Soil		0.9	22.0	18.7	66	0.2	20.6	9.0	373	2.21	24.2	9.3	5.6	31	0.2	5.4	0.2	24	0.47	0.047	23
1496599	Soil		0.9	25.5	22.0	70	0.3	21.0	10.4	542	2.33	26.1	3.2	3.7	52	0.1	5.5	0.2	29	0.83	0.059	21
1496640	Soil		1.2	53.5	13.1	69	0.3	28.9	10.1	661	2.88	13.1	7.9	5.9	12	<0.1	2.8	0.2	48	0.09	0.050	25
1496641	Soil		1.3	56.2	15.1	73	0.3	31.1	9.9	634	2.92	13.5	16.3	5.0	14	<0.1	2.1	0.2	46	0.10	0.047	24
1496642	Soil		1.2	39.6	12.8	62	0.2	23.1	7.4	421	2.60	11.2	13.3	6.2	11	<0.1	1.0	0.2	48	0.08	0.038	23
1496643	Soil		1.3	50.5	14.6	71	1.2	30.9	12.8	669	2.76	12.3	17.3	3.9	12	0.1	1.4	0.2	42	0.09	0.065	21
1496644	Soil		1.1	35.4	12.8	57	0.2	19.9	7.1	495	2.44	11.2	4.5	1.4	11	<0.1	0.8	0.2	47	0.09	0.085	17
1496645	Soil		1.3	50.0	18.5	47	<0.1	15.9	11.9	1908	2.49	11.0	12.8	1.8	11	0.1	1.0	0.3	44	0.06	0.100	27
1496646	Soil		1.1	47.1	11.7	63	0.1	26.9	9.5	838	2.33	9.8	8.5	2.3	16	<0.1	1.0	0.2	41	0.15	0.052	22
1496647	Soil		1.2	36.8	13.3	62	0.3	21.5	7.6	756	2.52	11.4	6.3	1.2	12	0.2	0.8	0.2	48	0.09	0.079	20
1496648	Soil		1.0	37.3	12.6	63	0.2	23.5	7.3	324	2.71	12.2	4.9	4.8	11	<0.1	0.8	0.2	50	0.10	0.052	19
1496649	Soil		1.4	32.2	13.6	67	0.1	21.2	7.7	401	2.71	12.9	4.0	1.0	11	<0.1	0.8	0.2	51	0.09	0.072	19
1496650	Soil		1.3	46.7	13.7	62	0.3	29.3	9.6	328	2.78	12.6	9.8	3.5	12	0.2	0.9	0.2	47	0.10	0.055	17
1496651	Soil		1.2	66.3	17.3	82	0.2	34.6	14.2	967	2.77	16.5	24.1	7.4	14	0.1	1.3	0.2	27	0.12	0.047	30
1496652	Soil		1.0	45.2	17.5	82	0.1	32.2	13.4	1018	3.01	8.9	6.2	6.9	15	<0.1	0.5	0.2	31	0.09	0.043	29
1496653	Soil		1.3	34.1	14.5	68	0.2	24.8	6.0	288	2.60	11.1	6.2	1.2	12	<0.1	0.8	0.2	47	0.11	0.057	19
1496654	Soil		1.1	32.4	11.8	64	<0.1	25.6	9.8	496	2.64	11.7	4.6	5.3	13	<0.1	0.6	0.2	46	0.12	0.050	20

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	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496585	Soil	16	0.36	152	0.012	<1	1.05	0.005	0.05	<0.1	0.02	2.6	<0.1	<0.05	3	<0.5	<0.2
1496586	Soil	7	0.16	70	0.003	<1	0.51	0.005	0.06	<0.1	0.03	2.5	<0.1	<0.05	1	<0.5	<0.2
1496587	Soil	23	0.38	230	0.011	<1	1.25	0.006	0.05	0.1	0.03	3.1	<0.1	<0.05	3	0.6	<0.2
1496588	Soil	19	0.40	179	0.012	<1	1.05	0.006	0.06	<0.1	0.03	2.7	<0.1	<0.05	3	0.5	<0.2
1496589	Soil	19	0.58	151	0.009	<1	1.15	0.004	0.06	<0.1	0.05	2.2	<0.1	<0.05	3	0.8	<0.2
1496590	Soil	15	0.33	184	0.008	<1	0.97	0.006	0.06	<0.1	0.04	2.0	<0.1	<0.05	3	0.6	<0.2
1496591	Soil	13	0.28	139	0.008	<1	0.89	0.005	0.06	<0.1	0.02	2.2	<0.1	<0.05	2	<0.5	<0.2
1496592	Soil	16	0.31	184	0.009	1	1.06	0.007	0.06	<0.1	0.03	2.3	<0.1	<0.05	3	<0.5	<0.2
1496593	Soil	17	0.33	153	0.023	<1	0.81	0.007	0.05	<0.1	0.02	2.3	<0.1	<0.05	2	0.5	<0.2
1496594	Soil	18	0.39	200	0.017	2	0.97	0.009	0.06	<0.1	0.05	2.4	<0.1	<0.05	3	<0.5	<0.2
1496595	Soil	20	0.45	237	0.027	1	1.01	0.009	0.06	<0.1	0.03	2.9	<0.1	<0.05	3	<0.5	<0.2
1496596	Soil	14	0.30	123	0.014	<1	0.78	0.006	0.05	<0.1	0.02	1.8	<0.1	<0.05	2	<0.5	<0.2
1496597	Soil	13	0.28	199	0.007	<1	0.88	0.008	0.05	<0.1	0.05	1.8	<0.1	<0.05	2	0.8	<0.2
1496598	Soil	16	0.32	193	0.010	<1	1.03	0.006	0.05	0.1	0.03	1.8	<0.1	<0.05	3	0.7	<0.2
1496599	Soil	18	0.35	237	0.011	<1	1.11	0.008	0.06	0.1	0.04	2.3	<0.1	<0.05	3	0.8	<0.2
1496640	Soil	26	0.45	155	0.024	<1	1.54	0.006	0.04	0.1	0.04	3.0	<0.1	<0.05	5	<0.5	<0.2
1496641	Soil	27	0.44	223	0.023	<1	1.54	0.007	0.05	0.2	0.05	2.8	<0.1	<0.05	4	<0.5	<0.2
1496642	Soil	26	0.40	154	0.032	<1	1.50	0.006	0.05	0.1	0.03	2.9	<0.1	<0.05	5	<0.5	<0.2
1496643	Soil	29	0.39	137	0.021	<1	1.89	0.006	0.04	0.1	0.06	2.2	<0.1	<0.05	4	0.8	<0.2
1496644	Soil	25	0.36	136	0.025	<1	1.37	0.008	0.05	0.2	0.04	2.0	0.1	<0.05	5	<0.5	<0.2
1496645	Soil	22	0.30	123	0.018	<1	1.33	0.006	0.05	0.1	0.03	1.9	0.1	<0.05	5	<0.5	<0.2
1496646	Soil	24	0.40	242	0.033	<1	1.21	0.007	0.05	0.1	0.04	2.6	<0.1	<0.05	4	<0.5	<0.2
1496647	Soil	24	0.33	137	0.023	<1	1.19	0.007	0.05	0.1	0.03	1.6	<0.1	<0.05	5	<0.5	<0.2
1496648	Soil	30	0.45	212	0.035	<1	1.63	0.008	0.05	0.2	0.05	3.3	<0.1	<0.05	5	<0.5	<0.2
1496649	Soil	29	0.41	125	0.024	<1	1.53	0.006	0.06	0.1	0.03	1.8	<0.1	<0.05	5	<0.5	<0.2
1496650	Soil	29	0.41	183	0.026	1	1.81	0.007	0.04	0.2	0.05	2.5	<0.1	<0.05	4	0.6	<0.2
1496651	Soil	20	0.48	136	0.012	<1	1.27	0.005	0.04	0.1	0.02	1.7	<0.1	<0.05	4	0.9	<0.2
1496652	Soil	23	0.51	126	0.012	<1	1.44	0.005	0.04	<0.1	0.02	1.7	<0.1	<0.05	4	0.5	<0.2
1496653	Soil	29	0.43	152	0.022	<1	1.42	0.009	0.05	0.1	0.04	1.8	<0.1	<0.05	5	<0.5	<0.2
1496654	Soil	29	0.45	228	0.031	1	1.61	0.008	0.06	0.2	0.04	3.7	<0.1	<0.05	5	<0.5	<0.2

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Project: Keno Silver
Report Date: August 11, 2018

CERTIFICATE OF ANALYSIS WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496655	Soil	1.1	35.0	12.8	65	0.2	25.7	9.0	395	2.58	11.0	5.5	6.3	10	0.1	0.6	0.2	42	0.10	0.048	20
1496656	Soil	1.3	42.6	12.6	61	0.2	24.8	10.1	486	2.64	12.0	8.0	3.6	11	<0.1	1.6	0.2	46	0.09	0.051	19
1496657	Soil	1.2	50.6	13.6	71	0.1	29.0	11.3	680	2.66	13.6	8.7	4.6	12	<0.1	2.5	0.2	48	0.09	0.039	22
1496658	Soil	1.1	36.2	14.3	67	0.3	26.2	9.9	966	2.73	11.4	27.0	2.4	12	<0.1	1.4	0.2	44	0.10	0.104	20
1496659	Soil	1.2	58.0	16.2	69	0.2	29.5	12.9	1317	2.49	13.4	34.0	1.3	14	<0.1	1.7	0.2	40	0.10	0.076	23
1496660	Soil	1.0	49.6	12.5	69	<0.1	26.4	10.3	476	2.79	12.6	9.6	5.5	14	0.1	0.9	0.2	50	0.10	0.038	20
1496661	Soil	1.1	28.6	10.6	58	0.1	18.7	5.3	349	2.24	9.8	22.2	1.1	10	<0.1	0.8	0.2	44	0.09	0.071	21
1496662	Soil	1.2	57.1	14.0	79	0.2	31.6	9.8	741	2.91	11.8	14.3	4.1	11	0.1	1.4	0.2	43	0.07	0.059	26
1496663	Soil	1.1	41.6	12.8	62	0.2	26.3	9.6	579	2.73	13.3	19.6	4.7	12	0.1	1.0	0.2	49	0.10	0.048	20
1496664	Soil	1.3	45.0	15.1	57	0.4	22.3	6.2	232	2.75	12.8	5.0	0.6	11	0.2	0.8	0.2	50	0.08	0.077	16
1496665	Soil	1.2	40.1	13.9	72	0.2	26.7	10.3	583	2.79	12.7	5.4	1.8	12	0.1	1.0	0.2	49	0.10	0.052	18
1496666	Soil	0.9	36.7	14.8	70	<0.1	28.4	11.3	544	2.66	8.3	3.6	8.3	17	<0.1	0.5	0.2	28	0.19	0.053	24
1496667	Soil	0.7	23.8	14.2	69	0.1	25.6	10.7	385	2.53	5.3	2.1	6.0	13	<0.1	0.3	0.2	26	0.14	0.052	25
1496668	Soil	1.2	34.4	12.5	64	0.1	22.6	7.3	403	2.47	9.5	7.6	1.6	11	<0.1	0.5	0.2	41	0.10	0.065	20
1496669	Soil	1.1	43.2	12.2	66	0.1	27.0	9.0	400	2.71	11.2	5.0	5.4	12	0.1	1.4	0.2	47	0.09	0.039	19
1496670	Soil	1.1	37.6	12.6	70	0.1	27.8	9.7	413	2.70	12.5	3.7	6.6	10	<0.1	1.3	0.2	46	0.08	0.043	19
1496671	Soil	1.1	28.6	11.9	63	<0.1	20.7	6.4	284	2.42	9.3	3.4	3.7	11	<0.1	0.9	0.2	43	0.10	0.056	20
1496672	Soil	1.0	34.7	11.2	60	<0.1	20.8	6.3	300	2.26	9.2	7.9	1.8	11	<0.1	0.7	0.2	44	0.10	0.050	21
1496673	Soil	1.1	49.4	12.3	66	<0.1	27.5	9.6	440	2.64	11.7	6.4	6.0	12	<0.1	0.9	0.2	47	0.10	0.039	19
1496674	Soil	0.9	38.5	11.9	62	0.1	24.2	8.3	414	2.47	10.5	8.8	1.9	13	0.1	0.7	0.2	44	0.12	0.055	19
1496675	Soil	1.2	35.2	12.6	61	<0.1	22.2	8.2	441	2.62	12.1	9.8	3.1	11	<0.1	0.9	0.2	51	0.09	0.063	19
1496676	Soil	1.3	47.1	12.7	67	<0.1	26.3	9.4	530	2.85	14.7	6.1	4.7	13	0.1	0.8	0.2	51	0.12	0.062	20
1496677	Soil	1.3	47.2	14.8	73	0.1	26.8	10.0	477	2.92	13.8	8.8	4.5	13	0.2	1.0	0.2	51	0.10	0.065	18
1496678	Soil	2.0	55.0	25.8	115	0.1	48.1	21.4	941	4.03	35.9	4.8	14.4	25	0.1	2.3	0.3	20	0.30	0.103	37
1496679	Soil	1.1	41.0	13.5	94	0.2	38.9	11.4	556	2.99	10.4	11.6	6.9	20	<0.1	0.5	0.2	28	0.25	0.052	24
1496680	Soil	1.3	33.2	14.5	45	0.2	16.8	4.6	200	2.25	8.7	16.1	0.3	10	<0.1	1.4	0.2	43	0.08	0.075	18
1496681	Soil	1.2	28.3	13.2	63	<0.1	19.9	8.3	392	2.94	12.9	2.6	2.4	10	0.1	0.8	0.2	54	0.10	0.065	18
1496682	Soil	1.1	33.8	10.7	62	<0.1	22.9	7.5	313	2.56	11.0	4.9	4.7	10	0.1	0.7	0.2	47	0.08	0.044	18
1496683	Soil	1.3	29.7	13.3	62	0.1	21.4	8.0	357	2.90	12.6	7.1	2.3	10	0.2	0.7	0.2	53	0.10	0.064	16
1496684	Soil	1.2	52.6	13.0	66	0.1	25.4	9.7	755	2.56	13.2	8.8	2.5	10	0.1	0.9	0.2	42	0.08	0.056	20

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Project: Keno Silver
Report Date: August 11, 2018

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	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496655	Soil	29	0.46	169	0.027	<1	1.75	0.008	0.05	0.2	0.03	3.2	<0.1	<0.05	4	<0.5	<0.2
1496656	Soil	30	0.42	184	0.026	<1	1.69	0.007	0.05	0.2	0.07	2.9	<0.1	<0.05	4	<0.5	<0.2
1496657	Soil	28	0.46	292	0.027	1	1.67	0.007	0.05	0.2	0.05	4.4	<0.1	<0.05	4	<0.5	<0.2
1496658	Soil	24	0.37	135	0.025	1	1.24	0.007	0.05	0.2	0.03	1.9	<0.1	<0.05	4	0.6	<0.2
1496659	Soil	22	0.36	165	0.017	1	1.18	0.006	0.04	0.1	0.03	1.2	<0.1	<0.05	4	<0.5	<0.2
1496660	Soil	29	0.44	350	0.035	<1	1.51	0.007	0.05	0.2	0.04	4.7	<0.1	<0.05	5	<0.5	<0.2
1496661	Soil	21	0.33	77	0.023	<1	0.94	0.005	0.04	0.2	0.02	1.2	<0.1	<0.05	4	<0.5	<0.2
1496662	Soil	26	0.46	124	0.020	<1	1.46	0.006	0.04	0.1	0.04	2.1	<0.1	<0.05	4	<0.5	<0.2
1496663	Soil	27	0.42	184	0.032	<1	1.49	0.007	0.05	0.2	0.03	3.2	<0.1	<0.05	4	<0.5	<0.2
1496664	Soil	28	0.38	154	0.017	<1	1.53	0.008	0.05	0.2	0.05	1.4	<0.1	<0.05	5	<0.5	<0.2
1496665	Soil	29	0.46	287	0.027	<1	1.60	0.008	0.05	0.1	0.04	3.2	<0.1	<0.05	4	<0.5	<0.2
1496666	Soil	22	0.49	189	0.019	<1	1.31	0.006	0.05	0.1	0.03	2.4	<0.1	<0.05	4	<0.5	<0.2
1496667	Soil	21	0.49	145	0.013	<1	1.40	0.005	0.05	<0.1	0.03	1.9	<0.1	<0.05	4	<0.5	<0.2
1496668	Soil	26	0.43	129	0.019	<1	1.42	0.006	0.04	0.1	0.04	1.8	<0.1	<0.05	4	<0.5	<0.2
1496669	Soil	28	0.44	218	0.031	<1	1.50	0.006	0.05	0.2	0.05	3.7	<0.1	<0.05	4	<0.5	<0.2
1496670	Soil	30	0.43	185	0.035	<1	1.62	0.007	0.05	0.2	0.05	4.0	0.1	<0.05	4	<0.5	<0.2
1496671	Soil	26	0.38	132	0.024	<1	1.42	0.006	0.04	0.2	0.04	2.4	<0.1	<0.05	4	<0.5	<0.2
1496672	Soil	25	0.39	114	0.025	<1	1.34	0.005	0.04	0.2	0.02	2.0	<0.1	<0.05	4	<0.5	<0.2
1496673	Soil	29	0.46	222	0.035	<1	1.62	0.007	0.05	0.2	0.04	3.6	<0.1	<0.05	4	<0.5	<0.2
1496674	Soil	25	0.42	243	0.029	<1	1.33	0.007	0.04	0.2	0.04	2.4	<0.1	<0.05	4	<0.5	<0.2
1496675	Soil	29	0.41	159	0.031	<1	1.64	0.006	0.05	0.2	0.04	3.0	0.1	<0.05	5	<0.5	<0.2
1496676	Soil	28	0.46	197	0.035	<1	1.69	0.007	0.06	0.2	0.05	3.2	0.1	<0.05	5	<0.5	<0.2
1496677	Soil	30	0.47	228	0.028	<1	1.73	0.007	0.06	0.1	0.04	3.6	<0.1	<0.05	5	<0.5	<0.2
1496678	Soil	23	0.77	121	0.004	<1	1.74	0.004	0.05	<0.1	0.02	2.2	<0.1	<0.05	4	<0.5	<0.2
1496679	Soil	24	0.52	144	0.010	<1	1.35	0.006	0.04	<0.1	0.04	1.9	<0.1	<0.05	4	<0.5	<0.2
1496680	Soil	25	0.30	123	0.013	<1	1.36	0.006	0.05	0.1	0.04	1.0	0.1	<0.05	5	<0.5	<0.2
1496681	Soil	30	0.44	133	0.032	<1	1.54	0.006	0.05	0.2	0.03	2.2	0.1	<0.05	5	<0.5	<0.2
1496682	Soil	28	0.44	197	0.039	<1	1.53	0.006	0.05	0.2	0.04	3.5	<0.1	<0.05	4	<0.5	<0.2
1496683	Soil	29	0.40	113	0.032	<1	1.66	0.006	0.05	0.2	0.04	2.4	0.1	<0.05	5	<0.5	<0.2
1496684	Soil	25	0.41	127	0.027	<1	1.41	0.005	0.05	0.1	0.03	2.2	<0.1	<0.05	4	<0.5	<0.2

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	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496685	Soil	1.3	23.5	12.6	46	<0.1	14.5	5.4	226	2.77	12.3	2.5	2.2	9	0.2	0.6	0.2	55	0.08	0.058	15
1496686	Soil	1.6	83.7	31.0	110	0.1	45.5	21.6	879	4.45	16.6	2.2	17.4	26	<0.1	2.8	0.3	21	0.40	0.115	35
1496687	Soil	1.8	42.0	26.0	101	0.3	39.6	18.4	786	3.81	31.9	1.0	11.6	28	<0.1	1.3	0.3	33	0.35	0.064	35
1496688	Soil	1.1	42.7	12.7	71	<0.1	27.9	11.2	517	2.88	13.2	3.7	5.4	12	0.2	0.8	0.2	58	0.12	0.057	23
1496689	Soil	1.3	43.6	14.1	68	<0.1	27.6	12.1	909	2.88	12.0	7.6	5.5	10	0.2	0.7	0.2	49	0.08	0.054	22
1496690	Soil	1.0	28.9	10.3	56	<0.1	23.6	8.3	262	2.43	10.0	2.3	2.7	12	0.1	0.7	0.2	46	0.13	0.052	18
1496691	Soil	0.7	26.2	13.8	72	0.1	26.9	11.2	450	2.60	5.6	<0.5	7.9	19	<0.1	0.3	0.2	24	0.24	0.050	24
1496524	Soil	0.6	14.2	10.5	47	<0.1	14.7	6.5	209	1.81	10.6	0.7	3.7	18	<0.1	1.8	0.1	32	0.25	0.046	17
1496525	Soil	0.8	29.0	12.3	58	0.1	23.3	7.9	309	2.36	15.3	2.0	5.3	24	<0.1	3.8	0.2	40	0.31	0.045	20
1496526	Soil	1.0	15.0	13.9	59	<0.1	18.5	9.7	409	2.72	15.5	<0.5	6.6	11	<0.1	2.2	0.2	48	0.11	0.018	18
1496527	Soil	0.7	20.4	13.2	44	<0.1	17.7	6.0	193	2.01	10.2	<0.5	6.7	14	<0.1	1.5	0.1	35	0.15	0.027	23
1496528	Soil	1.3	15.4	14.6	52	<0.1	18.9	8.7	221	3.26	16.5	1.8	3.9	10	<0.1	0.9	0.2	54	0.09	0.037	12
1496529	Soil	1.1	21.6	14.8	62	0.1	23.5	11.7	336	3.18	15.8	2.5	6.4	10	0.1	2.0	0.2	55	0.08	0.021	16
1496530	Soil	0.4	25.0	13.7	67	<0.1	22.9	11.1	519	2.63	15.9	1.1	5.1	15	0.1	3.5	0.2	17	0.22	0.044	17
1496531	Soil	0.8	18.8	13.0	49	<0.1	17.2	8.4	259	2.36	16.6	1.6	5.7	14	<0.1	1.4	0.2	39	0.17	0.023	19
1496532	Soil	0.5	35.8	18.2	69	0.1	27.9	11.6	408	3.05	18.7	1.2	9.0	18	0.1	1.5	0.3	18	0.26	0.050	25
1496533	Soil	0.7	32.2	24.7	65	0.3	22.0	10.4	457	2.37	67.1	6.1	7.4	14	0.3	4.9	0.3	22	0.24	0.049	22
1496534	Soil	0.5	23.2	21.1	58	0.2	17.4	8.0	296	2.15	34.0	4.1	5.2	18	0.1	3.6	0.2	30	0.29	0.049	19
1496535	Soil	0.5	20.4	17.9	60	0.2	17.3	7.8	233	2.14	30.7	2.1	4.9	27	<0.1	8.2	0.2	26	0.45	0.045	19
1496536	Soil	0.5	32.5	18.0	67	0.1	24.3	12.1	412	3.19	21.5	3.2	5.5	26	0.1	5.5	0.3	28	0.38	0.034	18
1496537	Soil	0.6	11.9	13.7	54	<0.1	14.2	7.3	332	1.87	20.0	4.6	5.3	26	0.2	2.6	0.2	32	0.40	0.035	17
1496538	Soil	0.6	21.7	16.0	57	0.2	18.4	7.2	249	2.12	19.3	1.8	2.9	27	0.2	3.2	0.2	33	0.41	0.041	16
1496539	Soil	0.9	35.1	25.8	96	0.3	25.5	10.0	405	2.65	37.7	3.4	6.2	16	0.3	3.9	0.2	35	0.24	0.069	22
1496540	Soil	0.8	21.5	16.1	61	0.1	18.2	7.3	229	2.28	41.0	5.0	6.3	14	<0.1	5.6	0.2	33	0.19	0.043	22
1496541	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496542	Soil	0.8	27.6	14.4	58	0.1	21.2	8.2	260	2.37	46.6	6.7	7.2	13	<0.1	4.0	0.2	31	0.18	0.035	25
1496543	Soil	2.8	74.5	30.2	116	0.3	43.8	20.0	1264	3.76	21.8	4.0	14.8	29	0.6	4.1	0.3	22	0.38	0.118	41
1496544	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496601	Soil	0.7	24.3	11.6	61	0.1	22.5	7.2	238	2.25	12.1	5.2	3.2	17	<0.1	0.6	0.2	40	0.25	0.069	18
1496602	Soil	1.1	16.6	14.1	63	0.2	18.2	8.8	400	2.31	19.5	23.5	1.7	16	<0.1	0.6	0.2	40	0.22	0.069	18

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Project: Keno Silver
Report Date: August 11, 2018

CERTIFICATE OF ANALYSIS WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496685	Soil	25	0.31	85	0.032	<1	1.50	0.005	0.04	0.2	0.03	2.0	0.1	<0.05	5	<0.5	<0.2
1496686	Soil	21	0.91	54	0.001	<1	1.91	0.003	0.06	<0.1	0.03	1.8	<0.1	<0.05	5	<0.5	<0.2
1496687	Soil	27	0.65	273	0.007	<1	2.17	0.006	0.07	<0.1	0.04	2.9	<0.1	<0.05	6	<0.5	<0.2
1496688	Soil	33	0.49	309	0.045	<1	1.84	0.008	0.06	0.2	0.06	4.9	0.1	<0.05	5	<0.5	<0.2
1496689	Soil	28	0.44	145	0.030	<1	1.58	0.005	0.05	0.1	0.03	2.7	<0.1	<0.05	5	<0.5	<0.2
1496690	Soil	27	0.42	167	0.035	<1	1.45	0.007	0.05	0.1	0.03	3.0	<0.1	<0.05	4	<0.5	<0.2
1496691	Soil	22	0.55	182	0.008	<1	1.54	0.005	0.05	<0.1	0.04	2.3	<0.1	<0.05	4	<0.5	<0.2
1496524	Soil	19	0.33	171	0.019	<1	1.06	0.006	0.05	0.2	0.02	1.9	<0.1	<0.05	3	<0.5	<0.2
1496525	Soil	25	0.39	331	0.029	<1	1.26	0.009	0.05	0.1	0.03	3.7	<0.1	<0.05	4	<0.5	<0.2
1496526	Soil	27	0.38	184	0.029	<1	1.54	0.006	0.05	0.1	0.01	2.4	<0.1	<0.05	5	<0.5	<0.2
1496527	Soil	21	0.34	192	0.024	<1	1.12	0.006	0.04	0.1	0.03	2.5	<0.1	<0.05	3	<0.5	<0.2
1496528	Soil	32	0.39	158	0.029	1	1.97	0.005	0.06	0.2	0.02	2.7	<0.1	<0.05	5	<0.5	<0.2
1496529	Soil	32	0.43	188	0.042	1	1.79	0.007	0.05	0.2	0.03	3.5	0.1	<0.05	5	<0.5	<0.2
1496530	Soil	13	0.26	137	0.009	<1	0.79	0.005	0.04	<0.1	0.02	1.8	<0.1	<0.05	2	<0.5	<0.2
1496531	Soil	23	0.37	222	0.025	1	1.33	0.008	0.04	0.1	0.02	2.6	<0.1	<0.05	4	<0.5	<0.2
1496532	Soil	15	0.35	141	0.008	<1	0.95	0.006	0.05	<0.1	0.02	2.2	<0.1	<0.05	3	<0.5	<0.2
1496533	Soil	16	0.34	142	0.016	<1	0.94	0.005	0.09	<0.1	0.02	2.3	<0.1	<0.05	3	<0.5	<0.2
1496534	Soil	20	0.34	199	0.017	1	1.05	0.006	0.05	0.1	0.02	2.4	<0.1	<0.05	3	<0.5	<0.2
1496535	Soil	17	0.33	147	0.014	<1	0.92	0.006	0.05	<0.1	0.02	2.0	<0.1	<0.05	3	<0.5	<0.2
1496536	Soil	18	0.34	182	0.010	<1	1.14	0.007	0.05	0.1	0.03	2.7	<0.1	<0.05	3	<0.5	<0.2
1496537	Soil	17	0.30	162	0.020	<1	0.93	0.006	0.07	0.2	0.03	2.0	<0.1	<0.05	3	<0.5	<0.2
1496538	Soil	20	0.34	199	0.011	<1	1.17	0.007	0.05	0.1	0.04	2.0	<0.1	<0.05	4	<0.5	<0.2
1496539	Soil	23	0.45	181	0.023	<1	1.20	0.007	0.07	0.1	0.03	2.9	<0.1	<0.05	3	<0.5	<0.2
1496540	Soil	20	0.33	166	0.024	<1	1.11	0.007	0.05	0.1	0.02	2.1	<0.1	<0.05	3	<0.5	<0.2
1496541	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496542	Soil	20	0.36	223	0.020	<1	1.14	0.006	0.04	0.1	0.02	2.6	<0.1	<0.05	3	<0.5	<0.2
1496543	Soil	19	0.72	170	0.008	<1	1.30	0.004	0.07	<0.1	0.05	2.5	<0.1	<0.05	3	<0.5	<0.2
1496544	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1496601	Soil	24	0.39	159	0.030	1	1.32	0.007	0.04	0.2	0.04	2.7	<0.1	<0.05	4	<0.5	<0.2
1496602	Soil	23	0.33	187	0.019	1	1.25	0.006	0.04	0.2	0.04	2.2	0.1	<0.05	4	<0.5	<0.2

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Project: Keno Silver
Report Date: August 11, 2018

CERTIFICATE OF ANALYSIS WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496603	Soil	1.1	20.4	12.5	74	0.1	20.3	7.4	236	2.22	8.2	3.7	2.2	14	0.1	0.5	0.2	36	0.17	0.067	18
1496604	Soil	1.3	16.3	12.0	60	0.2	16.5	6.1	238	2.13	8.8	2.0	0.8	19	<0.1	0.5	0.2	35	0.24	0.084	16
1496605	Soil	1.3	26.6	12.6	80	0.3	25.4	8.4	325	2.62	10.1	13.5	3.7	20	0.2	0.7	0.2	41	0.25	0.073	18
1496606	Soil	1.4	27.3	16.4	79	0.2	25.0	8.1	338	2.75	10.4	2.5	2.8	14	0.1	0.6	0.3	40	0.18	0.073	20
1496607	Soil	0.8	23.4	16.4	57	<0.1	23.3	8.4	255	2.60	8.6	1.7	1.1	10	<0.1	0.5	0.2	42	0.10	0.041	19
1496608	Soil	1.1	10.6	14.7	39	<0.1	11.3	4.2	132	2.00	7.9	4.7	0.3	9	<0.1	0.4	0.2	40	0.09	0.051	16
1496609	Soil	0.8	23.2	19.3	60	<0.1	21.3	9.2	333	2.60	10.6	3.1	1.5	10	<0.1	0.5	0.2	39	0.10	0.056	23
1496610	Soil	0.7	12.6	21.3	46	<0.1	15.6	5.6	138	2.44	8.8	2.0	0.9	8	<0.1	0.4	0.2	38	0.08	0.035	19
1496611	Soil	0.8	24.4	16.9	63	<0.1	22.1	11.0	379	2.56	9.3	5.3	3.0	9	<0.1	0.4	0.2	41	0.11	0.050	21
1496612	Soil	0.7	35.4	17.7	74	<0.1	28.1	10.9	388	2.61	9.9	3.0	3.0	15	0.1	0.6	0.2	44	0.15	0.064	21
1496613	Soil	0.9	21.3	16.5	59	<0.1	21.2	8.1	278	2.55	8.3	4.4	1.7	10	<0.1	0.4	0.2	41	0.11	0.057	22
1496614	Soil	0.7	27.9	15.6	63	<0.1	24.8	10.3	338	2.44	8.7	2.4	3.9	12	<0.1	0.5	0.2	39	0.14	0.057	21

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Project: Keno Silver
Report Date: August 11, 2018

CERTIFICATE OF ANALYSIS WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496603	Soil	22	0.32	157	0.016	1	1.13	0.006	0.05	0.1	0.04	2.0	0.1	<0.05	4	<0.5	<0.2
1496604	Soil	20	0.30	171	0.011	<1	1.06	0.006	0.04	0.2	0.06	1.3	0.1	<0.05	4	<0.5	<0.2
1496605	Soil	25	0.38	202	0.021	2	1.33	0.007	0.05	0.2	0.07	3.1	0.1	<0.05	4	<0.5	<0.2
1496606	Soil	24	0.37	200	0.017	<1	1.38	0.006	0.05	0.2	0.04	2.8	0.1	<0.05	4	<0.5	<0.2
1496607	Soil	30	0.50	124	0.017	<1	1.59	0.007	0.05	0.1	0.03	1.8	0.1	<0.05	5	<0.5	<0.2
1496608	Soil	24	0.32	73	0.012	<1	1.27	0.006	0.05	0.1	0.04	0.5	0.1	<0.05	5	<0.5	<0.2
1496609	Soil	26	0.43	175	0.019	<1	1.50	0.006	0.05	0.1	0.05	1.9	0.1	<0.05	5	<0.5	<0.2
1496610	Soil	24	0.39	81	0.014	<1	1.37	0.006	0.05	0.1	0.04	1.1	0.2	<0.05	5	<0.5	<0.2
1496611	Soil	28	0.46	122	0.025	<1	1.54	0.005	0.05	0.2	0.04	2.8	0.1	<0.05	5	<0.5	<0.2
1496612	Soil	28	0.50	231	0.029	<1	1.61	0.007	0.06	0.2	0.05	3.8	0.1	<0.05	5	<0.5	<0.2
1496613	Soil	27	0.48	119	0.022	1	1.59	0.006	0.05	0.1	0.03	2.0	0.1	<0.05	5	<0.5	<0.2
1496614	Soil	26	0.47	151	0.033	1	1.54	0.006	0.05	0.2	0.03	3.9	<0.1	<0.05	4	<0.5	<0.2

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Project: Keno Silver
Report Date: August 11, 2018

QUALITY CONTROL REPORT WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
1496578	Soil	1.1	34.8	23.9	68	<0.1	27.7	14.3	286	3.48	16.2	<0.5	10.4	9	<0.1	10.3	0.4	20	0.10	0.026	30
REP 1496578	QC	1.2	33.5	24.3	71	<0.1	28.0	14.8	264	3.56	16.4	1.3	10.8	9	<0.1	10.6	0.4	20	0.10	0.026	29
1496655	Soil	1.1	35.0	12.8	65	0.2	25.7	9.0	395	2.58	11.0	5.5	6.3	10	0.1	0.6	0.2	42	0.10	0.048	20
REP 1496655	QC	1.1	35.8	12.7	65	0.2	25.5	9.1	401	2.68	10.3	4.2	6.1	10	<0.1	0.6	0.2	43	0.09	0.049	20
1496691	Soil	0.7	26.2	13.8	72	0.1	26.9	11.2	450	2.60	5.6	<0.5	7.9	19	<0.1	0.3	0.2	24	0.24	0.050	24
REP 1496691	QC	0.8	26.7	14.1	76	0.1	27.3	11.8	461	2.71	5.5	1.4	8.0	19	<0.1	0.3	0.2	25	0.24	0.051	25
1496611	Soil	0.8	24.4	16.9	63	<0.1	22.1	11.0	379	2.56	9.3	5.3	3.0	9	<0.1	0.4	0.2	41	0.11	0.050	21
REP 1496611	QC	0.8	24.7	16.9	63	<0.1	22.3	10.8	390	2.61	9.4	2.1	2.7	10	<0.1	0.4	0.2	39	0.11	0.047	21
Reference Materials																					
STD DS11	Standard	15.4	158.9	146.8	351	1.7	86.8	14.6	1046	3.25	46.8	87.2	8.8	71	2.6	8.5	12.9	57	1.03	0.080	22
STD DS11	Standard	14.9	154.3	138.7	336	1.6	82.3	14.4	1062	3.29	42.4	67.5	7.8	67	2.4	7.5	11.3	54	1.02	0.072	19
STD DS11	Standard	15.3	149.8	141.6	342	1.7	81.3	13.9	1032	3.22	42.5	74.5	7.8	68	2.4	8.1	11.8	54	1.03	0.073	19
STD DS11	Standard	15.0	152.8	139.5	341	1.7	79.8	14.0	1041	3.11	44.8	66.0	7.7	68	2.4	8.0	11.4	53	1.04	0.072	19
STD DS11	Standard	14.2	145.2	138.4	316	1.7	78.4	13.6	1012	3.18	40.6	81.9	7.3	62	2.0	7.6	10.8	49	1.09	0.068	19
STD OXC129	Standard	1.4	30.9	7.1	44	<0.1	83.0	21.9	429	3.13	0.5	188.0	2.3	206	<0.1	<0.1	<0.1	60	0.82	0.113	14
STD OXC129	Standard	1.3	28.7	6.6	44	<0.1	84.0	21.8	432	3.17	<0.5	191.7	1.9	198	<0.1	<0.1	<0.1	59	0.73	0.107	13
STD OXC129	Standard	1.4	28.3	6.7	43	<0.1	83.8	21.5	433	3.20	0.7	209.3	1.9	200	<0.1	<0.1	<0.1	60	0.75	0.106	13
STD OXC129	Standard	1.3	28.0	6.7	42	<0.1	80.6	20.8	443	3.21	<0.5	202.0	2.0	201	<0.1	<0.1	<0.1	57	0.76	0.104	13
STD OXC129	Standard	1.2	29.1	6.5	47	<0.1	83.3	21.8	436	3.30	0.7	192.3	1.9	197	<0.1	<0.1	<0.1	56	0.75	0.108	13
STD OXC129 Expected		1.3	28	6.2	42.9		79.5	20.3	421	3.065	0.6	195	1.9					51	0.684	0.102	12.5
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701	18.6
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	4	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	4	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

MINERAL LABORATORIES
Canada

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Bureau Veritas Commodities Canada Ltd.
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Project: Keno Silver
Report Date: August 11, 2018

QUALITY CONTROL REPORT WHI18000332.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
1496578	Soil	14	0.28	97	0.005	<1	1.10	0.005	0.06	<0.1	<0.01	1.9	<0.1	<0.05	3	<0.5	<0.2
REP 1496578	QC	14	0.29	90	0.005	<1	1.04	0.005	0.06	<0.1	<0.01	1.9	<0.1	<0.05	3	<0.5	<0.2
1496655	Soil	29	0.46	169	0.027	<1	1.75	0.008	0.05	0.2	0.03	3.2	<0.1	<0.05	4	<0.5	<0.2
REP 1496655	QC	28	0.46	173	0.027	<1	1.75	0.007	0.05	0.1	0.04	3.1	<0.1	<0.05	4	<0.5	<0.2
1496691	Soil	22	0.55	182	0.008	<1	1.54	0.005	0.05	<0.1	0.04	2.3	<0.1	<0.05	4	<0.5	<0.2
REP 1496691	QC	22	0.55	184	0.008	<1	1.56	0.005	0.05	<0.1	0.04	2.2	<0.1	<0.05	4	<0.5	<0.2
1496611	Soil	28	0.46	122	0.025	<1	1.54	0.005	0.05	0.2	0.04	2.8	0.1	<0.05	5	<0.5	<0.2
REP 1496611	QC	27	0.46	121	0.024	<1	1.53	0.005	0.05	0.2	0.04	2.8	0.1	<0.05	5	<0.5	<0.2
Reference Materials																	
STD DS11	Standard	63	0.80	382	0.101	6	1.20	0.069	0.41	2.9	0.25	3.6	5.4	0.24	5	2.3	4.6
STD DS11	Standard	63	0.85	347	0.097	7	1.15	0.075	0.39	2.8	0.26	3.4	4.7	0.20	5	2.1	4.5
STD DS11	Standard	61	0.86	369	0.095	6	1.16	0.071	0.39	2.9	0.27	3.3	5.2	0.19	5	2.4	4.9
STD DS11	Standard	61	0.84	383	0.096	7	1.14	0.069	0.39	2.9	0.24	3.3	4.7	0.19	5	2.0	4.8
STD DS11	Standard	59	0.79	386	0.089	8	1.07	0.073	0.39	3.0	0.26	3.6	4.7	0.25	5	2.2	4.7
STD OXC129	Standard	60	1.58	54	0.438	<1	1.64	0.615	0.39	<0.1	<0.01	1.2	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	57	1.59	51	0.423	<1	1.63	0.621	0.36	<0.1	<0.01	0.9	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	57	1.61	53	0.423	<1	1.66	0.617	0.36	<0.1	<0.01	1.0	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	56	1.55	52	0.418	1	1.60	0.599	0.37	<0.1	<0.01	1.0	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	55	1.64	52	0.421	<1	1.74	0.604	0.38	<0.1	<0.01	1.3	<0.1	<0.05	6	<0.5	<0.2
STD OXC129 Expected		52	1.545	50	0.4	1	1.58	0.59	0.3655			1.1			5.5		
STD DS11 Expected		61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Submitted By: Scott Petsel
Receiving Lab: Canada-Whitehorse
Received: July 13, 2018
Report Date: August 10, 2018
Page: 1 of 8

CERTIFICATE OF ANALYSIS WHI18000336.1

CLIENT JOB INFORMATION

Project:	Keno Silver
Shipment ID:	KS18-3
P.O. Number	Keno Silver
Number of Samples:	194

SAMPLE DISPOSAL

RTRN-PLP	Return After 90 days
DISP-RJT-SOIL	Immediate Disposal of Soil Reject

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	194	Dry at 60C			WHI
SS80	194	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	194	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SHP01	194	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Sourdough soils account for 73 of the 194 samples

Invoice To: Metallic Minerals Corp.
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2
Canada

CC: Debbie James
Samantha Dyck

KERRY JAY
Geochem Project Specialist

BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
[redacted]																				

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.

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#904 - 409 Granville Street
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Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
[redacted]																

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.

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CERTIFICATE OF ANALYSIS WHI18000336.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
[redacted]																					
1496806	Soil	1.3	39.8	33.3	126	0.4	30.1	9.8	395	2.50	23.2	2.9	5.5	37	0.7	1.6	0.2	31	0.52	0.070	18
1496807	Soil	0.5	32.9	22.0	95	0.2	27.1	11.0	228	2.57	10.1	3.2	4.9	54	0.5	0.8	0.2	38	0.67	0.058	17
1496822	Soil	1.4	36.4	23.7	96	0.4	29.1	10.6	572	2.69	18.1	3.9	4.0	31	0.5	1.4	0.2	42	0.56	0.062	16
1496823	Soil	0.9	50.2	12.0	74	0.1	31.6	10.5	728	2.71	11.0	9.2	5.7	13	0.2	2.4	0.2	40	0.14	0.060	23
1496824	Soil	1.0	53.4	11.4	64	0.1	27.9	10.4	567	2.65	11.9	19.0	6.1	12	0.1	1.1	0.2	47	0.10	0.040	20
1496825	Soil	1.3	44.7	12.3	70	0.2	27.3	11.1	589	2.96	14.1	8.9	6.0	12	0.2	0.7	0.2	59	0.09	0.034	21

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
[redacted]																		
1496806	Soil		21	0.38	182	0.023	<1	1.12	0.008	0.05	0.1	0.05	2.9	<0.1	<0.05	3	1.0	<0.2
1496807	Soil		24	0.45	269	0.019	<1	1.41	0.008	0.05	0.1	0.05	3.6	<0.1	<0.05	4	3.0	<0.2
1496822	Soil		24	0.40	411	0.024	2	1.38	0.010	0.06	0.2	0.06	3.7	<0.1	<0.05	4	<0.5	<0.2
1496823	Soil		24	0.44	167	0.029	1	1.26	0.005	0.05	0.1	0.04	3.0	<0.1	<0.05	3	0.7	<0.2
1496824	Soil		27	0.44	194	0.035	2	1.46	0.005	0.04	0.2	0.04	3.3	<0.1	<0.05	4	<0.5	<0.2
1496825	Soil		34	0.49	235	0.043	2	1.91	0.006	0.06	0.2	0.06	5.6	0.1	<0.05	5	<0.5	<0.2

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		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496826	Soil		1.5	158.2	20.4	101	0.1	73.6	21.0	1736	2.95	33.7	17.8	5.2	5	<0.1	4.2	0.5	22	0.03	0.044	32
1496827	Soil		1.2	96.2	15.9	81	0.1	43.5	15.9	1920	2.87	16.4	15.3	5.4	14	0.1	1.7	0.2	39	0.08	0.044	29
1496828	Soil		1.2	66.2	14.4	73	0.1	31.2	12.0	679	3.20	15.3	6.2	4.6	12	0.1	0.9	0.3	56	0.10	0.053	19
1496829	Soil		1.3	59.1	12.4	80	0.2	33.5	10.9	795	2.78	14.2	12.1	6.0	15	0.2	1.2	0.2	45	0.14	0.053	22
1496852	Soil		1.0	31.6	16.2	68	<0.1	27.2	12.2	488	2.87	9.7	6.6	6.5	17	<0.1	0.5	0.2	35	0.19	0.038	24
1496853	Soil		0.8	25.2	15.7	66	<0.1	26.0	10.7	414	2.81	9.9	9.5	6.0	15	<0.1	0.5	0.2	35	0.19	0.039	24
1496854	Soil		0.9	32.1	17.8	69	0.2	27.7	12.2	600	3.02	9.9	1.4	3.7	45	<0.1	1.2	0.2	31	0.61	0.060	18
1496855	Soil		1.8	46.2	34.3	115	0.2	42.6	23.4	1417	3.97	19.1	1.7	7.8	32	0.4	6.0	0.4	23	0.45	0.080	31
1496856	Soil		1.9	70.3	72.9	112	0.1	50.0	28.6	2035	4.80	17.6	1.8	19.8	32	0.2	5.8	0.7	18	0.37	0.065	40
1496857	Soil		1.3	24.7	16.9	71	<0.1	23.1	10.8	385	3.28	10.3	0.8	8.1	9	<0.1	0.6	0.3	36	0.07	0.030	26
1496858	Soil		1.0	23.4	16.2	61	<0.1	21.1	8.5	359	2.61	10.9	2.0	3.3	16	<0.1	0.6	0.2	38	0.16	0.047	20
1496859	Soil		2.0	42.5	26.3	87	0.2	42.6	19.6	978	3.37	11.3	1.5	5.0	68	0.4	4.7	0.3	29	0.78	0.091	29
1496860	Soil		1.1	37.2	18.7	67	<0.1	30.4	12.0	544	2.84	16.2	2.7	6.8	22	<0.1	1.3	0.2	32	0.21	0.050	26
1496861	Soil		0.8	25.6	16.5	62	<0.1	24.1	10.5	425	2.78	6.3	0.8	6.8	24	<0.1	0.9	0.3	28	0.38	0.042	25
1496862	Soil		1.1	34.2	23.2	76	<0.1	32.9	16.8	712	3.29	11.5	0.9	9.6	18	0.1	0.8	0.3	37	0.17	0.033	25
1496863	Soil		1.3	45.7	30.5	104	0.1	48.9	26.7	1590	3.77	16.7	0.8	8.8	29	0.2	4.9	0.5	20	0.35	0.067	38
1496864	Soil		1.1	29.4	18.2	63	<0.1	24.1	11.3	392	2.96	10.0	1.4	6.6	10	0.1	0.7	0.2	37	0.08	0.048	25
1496865	Soil		1.0	25.2	18.4	66	<0.1	23.9	10.3	357	3.13	10.7	2.5	9.3	11	<0.1	0.9	0.3	33	0.07	0.033	28
1496866	Soil		0.9	31.0	21.8	68	<0.1	27.2	13.8	526	3.09	9.8	0.8	8.5	10	<0.1	0.7	0.3	31	0.06	0.030	26
1496867	Soil		1.0	31.7	20.6	73	<0.1	26.9	13.9	526	3.16	9.5	1.5	7.0	10	<0.1	0.7	0.3	31	0.08	0.038	29
1496868	Soil		0.9	27.7	22.3	82	0.1	28.0	16.4	873	2.97	7.9	0.8	5.4	32	0.1	1.1	0.3	25	0.43	0.072	23
1496869	Soil		2.2	70.9	33.3	99	0.3	47.9	24.3	1382	3.92	23.6	4.5	11.0	26	0.3	3.9	0.4	18	0.34	0.089	38
1496870	Soil		0.8	23.3	14.9	60	<0.1	22.5	9.3	339	2.63	8.9	1.5	5.8	18	<0.1	0.8	0.2	32	0.22	0.034	23
1496871	Soil		0.8	25.1	16.9	63	<0.1	22.5	9.8	346	2.68	8.2	3.1	6.6	14	<0.1	1.0	0.3	28	0.16	0.043	24
1496872	Soil		0.8	29.5	19.8	68	<0.1	26.6	11.4	339	2.88	10.4	1.5	9.1	10	<0.1	1.1	0.3	31	0.09	0.033	27
1496873	Soil		1.0	27.2	18.5	66	<0.1	26.0	10.1	333	2.99	9.6	1.4	8.3	11	0.1	0.7	0.3	34	0.11	0.042	22
1496874	Soil		1.2	18.3	16.2	60	0.1	18.7	6.7	249	2.46	13.8	3.4	1.7	17	<0.1	0.6	0.3	28	0.20	0.050	18
1496875	Soil		1.0	38.3	20.7	91	0.1	34.3	15.2	900	2.92	9.6	1.8	8.5	27	0.2	1.4	0.4	22	0.45	0.082	24
1496876	Soil		0.7	29.1	23.7	81	0.1	31.6	15.8	552	2.53	8.4	5.9	6.8	17	<0.1	1.0	0.3	26	0.25	0.066	24
1496877	Soil		0.7	17.2	19.0	55	0.1	18.1	8.2	250	2.30	10.4	1.7	5.1	16	<0.1	0.9	0.3	28	0.26	0.041	22

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Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496826	Soil	13	0.39	90	0.001	<1	1.13	0.001	0.02	<0.1	0.02	1.9	<0.1	<0.05	3	<0.5	0.2
1496827	Soil	25	0.48	240	0.023	<1	1.48	0.005	0.04	0.1	0.06	3.5	<0.1	<0.05	4	<0.5	<0.2
1496828	Soil	36	0.55	225	0.032	1	2.24	0.007	0.06	0.2	0.08	4.0	0.1	<0.05	5	0.7	<0.2
1496829	Soil	26	0.46	252	0.034	2	1.34	0.006	0.05	0.1	0.04	3.3	<0.1	<0.05	4	<0.5	<0.2
1496852	Soil	25	0.49	206	0.023	1	1.56	0.006	0.05	0.1	0.03	3.3	<0.1	<0.05	4	<0.5	<0.2
1496853	Soil	24	0.50	172	0.021	<1	1.60	0.006	0.05	0.1	0.03	2.5	<0.1	<0.05	4	<0.5	<0.2
1496854	Soil	22	0.47	343	0.006	1	1.78	0.006	0.05	<0.1	0.04	2.7	0.1	<0.05	4	<0.5	<0.2
1496855	Soil	19	0.43	203	0.005	1	1.57	0.005	0.05	<0.1	0.04	3.4	<0.1	<0.05	4	<0.5	<0.2
1496856	Soil	20	0.50	197	0.004	<1	1.60	0.004	0.06	<0.1	0.04	4.2	<0.1	<0.05	4	<0.5	<0.2
1496857	Soil	24	0.47	93	0.011	<1	1.74	0.004	0.05	<0.1	0.02	2.1	0.1	<0.05	5	<0.5	<0.2
1496858	Soil	23	0.41	147	0.022	<1	1.38	0.005	0.05	0.2	0.03	2.5	<0.1	<0.05	4	<0.5	<0.2
1496859	Soil	21	0.46	190	0.012	1	1.43	0.007	0.05	<0.1	0.04	3.1	<0.1	<0.05	4	<0.5	<0.2
1496860	Soil	24	0.51	230	0.017	1	1.43	0.006	0.05	0.1	0.03	3.1	<0.1	<0.05	4	<0.5	<0.2
1496861	Soil	22	0.45	188	0.010	<1	1.46	0.005	0.05	<0.1	0.03	2.5	<0.1	<0.05	4	<0.5	<0.2
1496862	Soil	27	0.49	167	0.023	1	1.58	0.005	0.05	0.1	0.03	3.0	<0.1	<0.05	4	<0.5	<0.2
1496863	Soil	19	0.41	174	0.005	1	1.56	0.004	0.05	<0.1	0.03	3.0	0.2	<0.05	3	<0.5	<0.2
1496864	Soil	25	0.44	169	0.019	1	1.55	0.005	0.06	0.1	0.04	3.3	0.1	<0.05	4	<0.5	<0.2
1496865	Soil	25	0.45	144	0.018	<1	1.61	0.004	0.06	0.1	0.03	3.1	<0.1	<0.05	5	<0.5	<0.2
1496866	Soil	24	0.51	152	0.015	<1	1.64	0.004	0.05	<0.1	0.03	3.0	<0.1	<0.05	5	<0.5	<0.2
1496867	Soil	22	0.48	138	0.012	<1	1.57	0.004	0.05	0.1	0.03	2.3	<0.1	<0.05	4	<0.5	<0.2
1496868	Soil	20	0.43	192	0.008	1	1.48	0.005	0.05	<0.1	0.03	2.4	<0.1	<0.05	4	0.5	<0.2
1496869	Soil	17	0.56	169	0.003	<1	1.27	0.003	0.05	<0.1	0.03	2.7	<0.1	<0.05	3	<0.5	0.2
1496870	Soil	21	0.41	152	0.014	<1	1.44	0.005	0.05	0.1	0.03	2.4	<0.1	<0.05	4	<0.5	<0.2
1496871	Soil	20	0.47	131	0.014	1	1.35	0.005	0.04	0.1	0.03	2.4	<0.1	<0.05	4	<0.5	<0.2
1496872	Soil	23	0.51	125	0.017	<1	1.52	0.005	0.05	0.1	0.02	2.8	<0.1	<0.05	4	<0.5	<0.2
1496873	Soil	23	0.42	129	0.020	1	1.41	0.004	0.05	0.1	0.02	2.3	<0.1	<0.05	5	<0.5	<0.2
1496874	Soil	20	0.38	134	0.015	1	1.05	0.004	0.05	0.1	0.03	1.7	<0.1	<0.05	4	<0.5	<0.2
1496875	Soil	19	0.51	151	0.008	<1	1.50	0.005	0.05	<0.1	0.04	2.4	<0.1	<0.05	4	<0.5	<0.2
1496876	Soil	21	0.48	176	0.010	<1	1.51	0.005	0.05	0.1	0.04	2.4	<0.1	<0.05	4	<0.5	<0.2
1496877	Soil	18	0.37	132	0.009	1	1.24	0.004	0.06	0.1	0.03	1.7	<0.1	<0.05	4	<0.5	<0.2

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		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496878	Soil		0.8	20.7	17.7	62	<0.1	22.4	9.1	312	2.65	11.6	2.4	7.6	14	<0.1	1.1	0.3	26	0.16	0.038	28
1496879	Soil		0.7	20.4	19.5	51	0.1	19.0	7.1	269	2.44	13.9	1.3	4.1	17	<0.1	0.7	0.3	27	0.21	0.045	23
1496880	Soil		0.7	30.1	19.1	61	<0.1	27.8	11.6	608	2.35	12.4	5.1	8.3	15	0.3	0.9	0.2	27	0.20	0.061	24
1496881	Soil		0.8	29.0	13.4	70	0.1	25.3	9.7	358	2.09	6.3	7.0	4.6	15	0.1	1.1	0.2	31	0.18	0.055	24
1496882	Soil		0.9	24.6	16.1	79	0.2	22.9	11.4	455	2.54	7.8	2.1	5.0	17	<0.1	1.1	0.3	32	0.23	0.067	24
1496883	Soil		1.0	33.8	19.7	77	0.2	31.6	14.0	670	2.72	9.6	1.8	6.6	16	0.1	1.7	0.3	25	0.25	0.065	24
1496884	Soil		1.2	62.9	19.6	103	0.4	44.8	11.0	407	3.09	9.3	3.2	9.2	23	0.1	2.0	0.3	27	0.18	0.062	28
1496885	Soil		1.1	32.1	28.5	76	<0.1	31.4	16.1	615	3.48	12.1	4.2	10.5	9	0.2	1.7	0.4	32	0.06	0.033	23
1496886	Soil		0.8	35.5	22.8	70	0.1	31.1	12.9	673	3.09	15.8	2.8	7.1	42	0.1	1.1	0.3	29	0.55	0.050	27
1496887	Soil		1.4	32.7	25.0	70	0.2	24.7	9.1	437	3.02	12.7	5.1	1.1	17	0.1	1.2	0.4	39	0.10	0.087	16
1496888	Soil		0.9	25.2	19.3	64	<0.1	22.3	8.8	354	2.64	9.0	4.8	1.8	12	<0.1	1.1	0.3	33	0.14	0.061	24
1496889	Soil		1.0	24.1	19.5	73	<0.1	22.7	10.9	589	2.67	9.1	3.2	3.1	12	0.1	1.4	0.3	30	0.12	0.059	22
1496890	Soil		1.0	33.5	25.8	98	0.1	38.1	15.8	1006	2.87	9.6	2.4	6.8	17	0.3	1.6	0.3	27	0.25	0.069	28
1496891	Soil		1.2	29.6	16.0	63	0.5	20.2	6.2	195	2.59	12.7	6.9	2.5	14	0.2	1.1	0.3	41	0.10	0.069	17
1496892	Soil		1.1	38.0	18.1	74	0.2	27.6	8.8	269	2.81	12.5	3.8	7.2	15	0.1	1.9	0.3	35	0.07	0.041	22
1496893	Soil		0.9	39.9	17.9	76	0.2	28.4	10.0	454	2.45	11.7	3.2	5.4	15	0.2	1.8	0.2	34	0.12	0.064	24
1496894	Soil		1.0	26.7	19.0	58	0.1	21.0	7.1	254	2.62	9.8	2.7	2.1	13	0.1	1.1	0.3	32	0.10	0.065	23
1496895	Soil		1.5	25.7	14.7	54	0.4	18.6	5.7	172	2.65	12.0	2.5	4.1	10	0.2	1.0	0.3	47	0.06	0.032	16
1496896	Soil		1.4	22.1	15.4	55	0.1	18.6	5.5	171	2.65	11.9	2.1	4.3	12	0.1	0.8	0.3	45	0.06	0.042	19
1496615	Soil		1.3	63.5	18.2	88	0.2	35.5	10.3	651	2.98	40.0	12.1	8.5	11	0.1	2.2	0.3	29	0.06	0.038	33
1496616	Soil		1.3	35.5	14.7	74	0.2	30.4	14.9	818	2.72	12.3	6.4	6.4	11	0.2	0.8	0.2	36	0.09	0.036	24
1496617	Soil		1.2	32.6	18.5	76	0.3	27.2	13.4	792	2.85	11.1	5.0	7.7	12	0.2	0.6	0.3	30	0.09	0.053	25
1496618	Soil		1.5	62.2	19.2	81	0.4	32.1	9.5	499	3.38	15.2	10.6	5.0	11	<0.1	1.5	0.3	40	0.07	0.091	21
1496619	Soil		1.4	47.1	14.6	78	0.3	28.5	7.1	436	3.12	13.6	6.6	5.5	12	0.1	1.4	0.3	43	0.08	0.047	22
1496620	Soil		1.1	35.5	13.1	68	0.2	24.5	9.6	444	2.83	12.1	4.9	5.6	9	0.2	0.7	0.2	42	0.08	0.039	17
1496621	Soil		1.1	40.2	13.2	69	0.3	28.7	9.5	313	2.81	12.4	5.5	4.2	11	0.2	0.9	0.2	43	0.08	0.040	19
1496622	Soil		1.1	56.9	15.2	79	0.2	34.3	11.1	696	2.76	11.4	13.4	5.5	12	<0.1	1.6	0.3	39	0.09	0.038	21
1496630	Soil		1.2	40.9	14.6	78	<0.1	27.3	9.2	518	2.77	12.6	8.2	3.9	14	0.2	0.9	0.2	43	0.13	0.067	22
1496631	Soil		1.1	35.2	11.3	63	0.1	23.9	8.4	243	2.70	12.7	5.8	3.2	11	0.2	0.8	0.2	45	0.10	0.057	17
1496632	Soil		1.0	31.5	11.8	64	0.2	28.2	10.2	395	2.65	12.1	5.7	5.1	12	0.2	1.0	0.2	44	0.11	0.058	17

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	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496878	Soil	19	0.40	123	0.011	<1	1.35	0.005	0.05	<0.1	0.02	2.0	<0.1	<0.05	4	<0.5	<0.2
1496879	Soil	18	0.39	147	0.010	<1	1.33	0.005	0.06	0.1	0.03	1.8	0.1	<0.05	4	<0.5	<0.2
1496880	Soil	18	0.40	127	0.024	1	1.03	0.005	0.05	0.1	0.02	2.3	<0.1	<0.05	3	<0.5	<0.2
1496881	Soil	23	0.40	185	0.013	<1	1.19	0.005	0.04	0.1	0.04	2.5	<0.1	<0.05	4	<0.5	<0.2
1496882	Soil	22	0.43	221	0.014	<1	1.40	0.005	0.04	0.1	0.05	2.8	<0.1	<0.05	4	<0.5	<0.2
1496883	Soil	21	0.44	174	0.009	<1	1.25	0.005	0.04	<0.1	0.03	2.5	0.1	<0.05	4	<0.5	<0.2
1496884	Soil	20	0.45	106	0.008	<1	1.15	0.005	0.03	<0.1	0.04	2.5	<0.1	<0.05	3	0.9	<0.2
1496885	Soil	22	0.46	144	0.016	1	1.60	0.005	0.05	0.1	0.03	3.2	<0.1	<0.05	4	<0.5	<0.2
1496886	Soil	20	0.46	215	0.011	<1	1.37	0.007	0.05	0.1	0.04	3.6	0.1	<0.05	4	<0.5	<0.2
1496887	Soil	23	0.36	193	0.011	<1	1.46	0.006	0.06	0.1	0.07	1.9	0.1	<0.05	5	<0.5	<0.2
1496888	Soil	21	0.42	124	0.014	<1	1.36	0.006	0.05	0.1	0.03	1.8	<0.1	<0.05	4	<0.5	<0.2
1496889	Soil	20	0.44	123	0.016	<1	1.37	0.005	0.05	0.1	0.03	2.1	<0.1	<0.05	4	<0.5	<0.2
1496890	Soil	19	0.43	158	0.020	<1	1.16	0.006	0.04	0.1	0.04	2.7	<0.1	<0.05	3	<0.5	<0.2
1496891	Soil	22	0.34	95	0.022	<1	1.35	0.006	0.04	0.1	0.11	2.5	<0.1	<0.05	5	0.7	<0.2
1496892	Soil	22	0.40	118	0.019	<1	1.50	0.005	0.04	0.1	0.05	2.5	<0.1	<0.05	4	0.6	<0.2
1496893	Soil	20	0.39	168	0.020	<1	1.28	0.005	0.05	0.1	0.05	3.7	<0.1	<0.05	4	<0.5	<0.2
1496894	Soil	20	0.38	142	0.012	<1	1.36	0.005	0.05	0.1	0.05	1.7	<0.1	<0.05	4	<0.5	<0.2
1496895	Soil	25	0.30	122	0.018	<1	1.40	0.006	0.04	0.2	0.06	2.5	<0.1	<0.05	5	0.5	<0.2
1496896	Soil	24	0.30	133	0.017	<1	1.57	0.005	0.04	0.1	0.05	2.6	0.1	<0.05	5	0.6	<0.2
1496615	Soil	21	0.46	118	0.006	<1	1.37	0.005	0.04	<0.1	0.03	2.2	<0.1	<0.05	4	0.7	<0.2
1496616	Soil	24	0.48	149	0.018	<1	1.51	0.007	0.05	0.1	0.03	2.4	<0.1	<0.05	4	<0.5	<0.2
1496617	Soil	24	0.45	143	0.010	<1	1.51	0.006	0.05	<0.1	0.05	2.2	<0.1	<0.05	5	<0.5	<0.2
1496618	Soil	30	0.42	181	0.009	<1	1.82	0.006	0.06	0.1	0.09	3.0	<0.1	<0.05	5	<0.5	<0.2
1496619	Soil	24	0.38	178	0.013	<1	1.47	0.006	0.05	0.1	0.04	2.3	<0.1	<0.05	5	<0.5	<0.2
1496620	Soil	26	0.43	121	0.027	<1	1.42	0.006	0.04	0.1	0.03	2.5	<0.1	<0.05	4	<0.5	<0.2
1496621	Soil	25	0.42	166	0.020	<1	1.44	0.006	0.04	0.2	0.05	2.5	<0.1	<0.05	5	<0.5	<0.2
1496622	Soil	26	0.45	224	0.021	<1	1.41	0.005	0.04	0.1	0.05	2.7	<0.1	<0.05	4	<0.5	<0.2
1496630	Soil	25	0.44	151	0.027	<1	1.31	0.006	0.05	0.2	0.04	2.8	<0.1	<0.05	4	<0.5	<0.2
1496631	Soil	26	0.38	196	0.032	1	1.45	0.006	0.04	0.2	0.04	3.5	0.1	<0.05	5	<0.5	<0.2
1496632	Soil	27	0.43	191	0.030	2	1.58	0.005	0.04	0.2	0.03	3.8	<0.1	<0.05	4	<0.5	<0.2

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Bureau Veritas Commodities Canada Ltd.

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

Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

		Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1496633	Soil		1.4	108.6	17.2	101	0.3	39.1	9.9	794	3.65	47.7	15.7	6.2	8	<0.1	3.8	0.3	32	0.04	0.047	29
1496634	Soil		1.2	56.3	17.4	80	0.3	32.8	14.7	1685	2.86	15.1	17.1	3.2	11	0.2	1.1	0.3	30	0.06	0.044	26
1496635	Soil		0.8	20.6	14.3	67	0.2	21.9	9.6	371	2.62	8.2	2.4	7.0	9	<0.1	0.3	0.2	28	0.08	0.038	25
1496636	Soil		1.1	22.5	14.7	67	0.5	22.2	13.8	770	2.90	13.4	2.9	2.2	10	<0.1	0.7	0.2	39	0.06	0.060	16
1496637	Soil		1.0	32.8	15.5	70	0.1	25.1	10.3	545	2.65	10.5	4.0	3.1	11	0.1	0.6	0.2	32	0.11	0.064	21
1496638	Soil		1.1	50.2	16.0	101	0.2	38.4	11.8	766	2.85	15.4	12.4	6.5	10	<0.1	1.4	0.2	33	0.07	0.055	31
1496639	Soil		1.0	25.8	11.0	53	0.2	19.2	5.5	276	2.23	9.2	6.2	4.6	12	0.1	0.4	0.2	43	0.09	0.032	19

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496633	Soil	19	0.53	81	0.006	<1	1.36	0.003	0.03	<0.1	0.01	1.8	<0.1	<0.05	4	0.8	<0.2
1496634	Soil	22	0.43	129	0.008	<1	1.28	0.004	0.04	<0.1	0.05	1.5	<0.1	<0.05	4	<0.5	<0.2
1496635	Soil	21	0.45	131	0.013	<1	1.44	0.004	0.05	<0.1	0.02	2.4	<0.1	<0.05	4	<0.5	<0.2
1496636	Soil	23	0.39	95	0.013	<1	1.32	0.004	0.05	0.2	0.03	1.5	<0.1	<0.05	4	<0.5	<0.2
1496637	Soil	23	0.44	136	0.016	1	1.40	0.005	0.05	0.1	0.03	2.0	<0.1	<0.05	4	<0.5	<0.2
1496638	Soil	25	0.51	112	0.014	1	1.32	0.004	0.04	<0.1	0.03	1.8	<0.1	<0.05	4	0.5	<0.2
1496639	Soil	20	0.33	217	0.018	<1	1.34	0.005	0.04	0.1	0.02	2.3	<0.1	<0.05	5	<0.5	<0.2

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

CERTIFICATE OF ANALYSIS WHI18000336.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	
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CERTIFICATE OF ANALYSIS WHI18000336.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
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Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	
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	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1496086	Soil	24	0.44	160	0.055	<1	1.36	0.007	0.05	0.2	0.05	3.1	0.1	<0.05	4	<0.5	<0.2
1496087	Soil	35	1.06	263	0.070	<1	1.80	0.009	0.12	0.1	0.07	5.3	0.2	<0.05	6	<0.5	<0.2
1496088	Soil	40	0.92	229	0.058	1	2.08	0.008	0.07	0.1	0.03	5.7	0.1	<0.05	6	<0.5	<0.2
1496089	Soil	25	0.47	147	0.015	<1	1.34	0.004	0.03	0.1	0.05	1.7	0.2	<0.05	3	0.7	<0.2
1496090	Soil	26	0.53	186	0.013	<1	1.54	0.004	0.04	0.1	0.03	1.7	0.2	<0.05	4	1.0	<0.2
1496091	Soil	26	0.52	106	0.024	<1	1.57	0.006	0.05	0.1	0.03	2.2	0.1	<0.05	4	1.6	<0.2
1496092	Soil	26	0.54	116	0.023	<1	1.31	0.004	0.04	0.2	0.04	2.2	0.2	<0.05	4	0.5	<0.2
1496093	Soil	24	0.48	119	0.027	<1	1.32	0.004	0.05	0.2	0.04	2.7	0.1	<0.05	4	<0.5	<0.2
1496094	Soil	29	0.52	99	0.034	<1	1.38	0.005	0.05	0.1	0.03	2.5	0.1	<0.05	4	<0.5	<0.2
1496095	Soil	33	0.44	235	0.037	1	1.34	0.006	0.05	0.3	0.05	2.6	0.1	<0.05	4	<0.5	<0.2
1496096	Soil	29	0.52	142	0.060	<1	1.53	0.006	0.06	0.2	0.04	4.3	0.1	<0.05	4	<0.5	<0.2
1496097	Soil	27	0.47	201	0.060	1	1.43	0.008	0.07	0.3	0.05	4.0	<0.1	<0.05	4	<0.5	<0.2
1496098	Soil	46	1.32	372	0.048	<1	2.43	0.010	0.12	<0.1	0.04	7.2	0.2	<0.05	7	<0.5	<0.2
1496099	Soil	42	0.83	181	0.070	<1	1.86	0.008	0.07	0.2	0.03	4.1	0.1	<0.05	5	<0.5	<0.2

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver

Report Date: August 10, 2018

QUALITY CONTROL REPORT WHI18000336.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
1499052	Soil	0.9	19.5	32.9	79	0.5	20.6	7.5	253	2.44	25.4	9.6	4.0	12	0.3	2.8	0.2	46	0.17	0.067	19
REP 1499052	QC	1.0	20.4	33.2	81	0.5	20.9	7.3	254	2.49	24.9	8.5	4.3	13	0.3	2.6	0.2	47	0.18	0.068	20
1496856	Soil	1.9	70.3	72.9	112	0.1	50.0	28.6	2035	4.80	17.6	1.8	19.8	32	0.2	5.8	0.7	18	0.37	0.065	40
REP 1496856	QC	1.9	68.7	70.9	115	0.1	50.1	29.2	1964	4.73	17.2	1.5	20.1	34	0.1	5.2	0.7	19	0.36	0.065	43
1496892	Soil	1.1	38.0	18.1	74	0.2	27.6	8.8	269	2.81	12.5	3.8	7.2	15	0.1	1.9	0.3	35	0.07	0.041	22
REP 1496892	QC	1.1	37.6	18.3	74	0.2	27.4	9.5	259	2.65	12.2	7.0	7.2	15	0.2	2.1	0.2	34	0.07	0.044	22
1496014	Soil	1.3	52.4	36.5	326	0.6	33.9	13.0	423	2.93	15.1	9.3	0.9	12	1.5	0.9	0.1	54	0.26	0.046	9
REP 1496014	QC	1.3	54.1	37.6	343	0.6	35.7	13.8	446	3.05	15.5	2.1	0.9	13	1.5	0.9	0.1	56	0.29	0.046	10
1496082	Soil	2.4	164.2	63.4	2448	2.2	52.7	20.9	1092	4.25	184.3	7.9	2.2	18	15.9	2.7	0.3	61	0.36	0.108	14
REP 1496082	QC	1.9	156.0	62.4	2393	2.1	49.9	19.6	1141	4.08	179.6	6.5	2.2	18	17.0	2.5	0.3	63	0.36	0.114	13
1496098	Soil	0.8	254.0	60.3	680	2.1	42.7	24.8	1916	4.01	41.8	3.6	2.6	83	7.0	1.4	0.1	87	0.59	0.110	12
REP 1496098	QC	0.8	240.5	61.6	659	2.2	43.0	22.5	1933	3.79	40.5	2.7	2.6	85	7.0	1.6	0.2	90	0.57	0.102	13
Reference Materials																					
STD DS11	Standard	14.3	145.8	137.9	359	1.7	77.2	14.8	971	3.12	44.4	75.2	8.2	66	2.8	8.1	13.3	49	1.06	0.080	19
STD DS11	Standard	15.2	151.3	143.9	337	1.7	85.4	15.1	1108	3.30	44.0	69.3	8.6	72	2.5	7.1	12.7	54	1.05	0.081	22
STD DS11	Standard	14.7	163.3	143.5	350	1.6	80.6	14.5	968	2.94	43.6	64.4	8.1	66	2.5	7.7	12.1	48	1.03	0.074	19
STD DS11	Standard	14.9	159.9	138.5	349	1.8	82.0	14.6	1058	3.33	42.8	93.0	7.5	68	2.3	7.6	11.3	52	1.02	0.069	19
STD DS11	Standard	14.3	151.8	133.4	343	1.6	78.7	13.8	980	3.10	41.0	66.4	7.4	63	2.4	6.7	11.0	51	0.99	0.065	18
STD DS11	Standard	15.3	161.0	142.5	348	1.7	85.3	14.8	1063	3.30	42.9	70.4	8.0	70	2.2	6.7	11.3	53	1.05	0.072	20
STD DS11	Standard	14.3	145.7	136.4	337	1.6	80.6	14.1	979	3.08	41.4	66.5	7.6	60	2.3	6.4	10.9	53	1.00	0.070	19
STD OXC129	Standard	1.3	27.9	6.5	47	<0.1	78.1	21.1	413	3.18	0.6	192.1	2.1	192	<0.1	<0.1	<0.1	56	0.68	0.109	13
STD OXC129	Standard	1.2	30.3	6.6	44	<0.1	78.8	21.3	398	3.19	0.5	193.9	1.9	197	<0.1	<0.1	<0.1	53	0.69	0.109	13
STD OXC129	Standard	1.2	29.0	6.6	43	<0.1	80.6	20.5	438	3.06	<0.5	189.9	1.9	180	<0.1	<0.1	<0.1	52	0.65	0.106	13
STD OXC129	Standard	1.4	30.2	6.7	44	<0.1	84.9	21.5	438	3.30	0.8	198.6	1.9	212	<0.1	<0.1	<0.1	57	0.72	0.103	13
STD OXC129	Standard	1.3	28.4	6.1	43	<0.1	80.5	20.5	425	3.03	0.9	186.3	1.8	190	<0.1	<0.1	<0.1	53	0.69	0.102	13
STD OXC129	Standard	1.2	28.5	6.4	43	<0.1	82.2	21.5	437	3.21	0.5	187.2	1.9	194	<0.1	<0.1	<0.1	55	0.73	0.100	13
STD OXC129	Standard	1.3	28.0	6.3	41	<0.1	82.0	21.9	418	3.08	0.6	192.2	1.9	195	<0.1	<0.1	<0.1	58	0.71	0.099	13
STD OXC129 Expected		1.3	28	6.2	42.9		79.5	20.3	421	3.065	0.6	195	1.9					51	0.684	0.102	12.5

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Client: **Metallic Minerals Corp.**
#904 - 409 Granville Street
Vancouver British Columbia V6C 1T2 Canada

Project: Keno Silver
Report Date: August 10, 2018

QUALITY CONTROL REPORT WHI18000336.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
1499052	Soil	25	0.27	66	0.045	<1	1.05	0.005	0.03	0.5	0.06	2.1	<0.1	<0.05	3	<0.5	<0.2
REP 1499052	QC	25	0.26	70	0.048	<1	1.03	0.005	0.03	0.5	0.06	2.2	<0.1	<0.05	3	<0.5	<0.2
1496856	Soil	20	0.50	197	0.004	<1	1.60	0.004	0.06	<0.1	0.04	4.2	<0.1	<0.05	4	<0.5	<0.2
REP 1496856	QC	20	0.50	198	0.005	<1	1.60	0.007	0.06	<0.1	0.03	4.2	<0.1	<0.05	4	<0.5	<0.2
1496892	Soil	22	0.40	118	0.019	<1	1.50	0.005	0.04	0.1	0.05	2.5	<0.1	<0.05	4	0.6	<0.2
REP 1496892	QC	22	0.39	119	0.018	<1	1.53	0.005	0.04	0.1	0.04	2.5	<0.1	<0.05	4	0.6	<0.2
1496014	Soil	52	0.85	117	0.041	1	1.88	0.006	0.04	0.1	0.02	2.6	<0.1	<0.05	5	0.7	<0.2
REP 1496014	QC	56	0.88	121	0.042	<1	1.82	0.006	0.04	0.2	0.01	2.5	0.1	<0.05	5	0.9	<0.2
1496082	Soil	64	1.02	159	0.051	<1	1.88	0.008	0.08	<0.1	0.03	4.0	0.2	<0.05	5	<0.5	<0.2
REP 1496082	QC	66	1.11	152	0.050	<1	2.02	0.007	0.09	<0.1	0.03	4.2	0.2	<0.05	5	<0.5	<0.2
1496098	Soil	46	1.32	372	0.048	<1	2.43	0.010	0.12	<0.1	0.04	7.2	0.2	<0.05	7	<0.5	<0.2
REP 1496098	QC	47	1.39	382	0.048	<1	2.52	0.011	0.13	<0.1	0.04	8.1	0.2	<0.05	7	<0.5	<0.2
Reference Materials																	
STD DS11	Standard	59	0.76	361	0.092	8	1.06	0.069	0.41	3.0	0.26	3.2	4.7	0.22	5	2.4	4.6
STD DS11	Standard	60	0.87	402	0.101	7	1.24	0.074	0.37	2.7	0.27	3.6	5.1	0.29	5	2.5	4.4
STD DS11	Standard	60	0.83	372	0.093	6	1.05	0.064	0.37	2.8	0.25	3.4	4.9	0.23	5	1.9	4.6
STD DS11	Standard	62	0.83	372	0.091	8	1.11	0.072	0.40	3.0	0.25	3.3	5.0	0.29	5	1.9	4.7
STD DS11	Standard	59	0.82	357	0.089	6	1.12	0.073	0.37	2.8	0.22	3.4	4.9	0.27	5	2.4	4.5
STD DS11	Standard	62	0.86	372	0.098	7	1.21	0.078	0.39	2.8	0.24	3.7	4.9	0.28	5	2.5	4.6
STD DS11	Standard	61	0.82	353	0.091	7	1.17	0.067	0.37	2.7	0.26	3.2	4.8	0.27	5	2.4	4.4
STD OXC129	Standard	53	1.39	49	0.402	<1	1.53	0.579	0.37	<0.1	<0.01	1.4	0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	53	1.63	51	0.399	<1	1.62	0.636	0.32	<0.1	<0.01	1.5	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	52	1.42	51	0.395	1	1.46	0.573	0.35	<0.1	<0.01	1.4	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	55	1.63	51	0.429	1	1.63	0.646	0.35	<0.1	<0.01	1.2	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	52	1.53	50	0.405	2	1.58	0.580	0.35	<0.1	<0.01	1.4	<0.1	<0.05	5	<0.5	<0.2
STD OXC129	Standard	54	1.47	51	0.426	2	1.58	0.563	0.35	<0.1	<0.01	1.2	<0.1	<0.05	6	<0.5	<0.2
STD OXC129	Standard	55	1.49	50	0.430	1	1.62	0.560	0.32	<0.1	<0.01	1.0	<0.1	<0.05	6	<0.5	<0.2
STD OXC129 Expected		52	1.545	50	0.4	1	1.58	0.59	0.3655			1.1			5.5		

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Project: Keno Silver
Report Date: August 10, 2018

QUALITY CONTROL REPORT WHI18000336.1

		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701	18.6
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

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		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Cr	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**
		ppm	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**
		1	**0.01**	**1**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.01**	**0.1**	**0.1**	**0.05**	**1**	**0.5**	**0.2**
STD DS11 Expected		61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

Appendix III. Soil Sample Descriptions & Database Excerpts

Table A3. Soil horizon legend.

Horizon	*Modifier*	*Description*
O		Organic horizon (pre-decomposition)
A		Mineral horizon formed at or near the soil surface
	Ah	Accumulation of decomposed soil organic matter (SOM)
	Ae	Removal of clay, SOM, iron, or aluminum
B		Formed by alteration of the parent material
	Bh	Accumulation of SOM
	Bf	Accumulation of iron and/or aluminum
	Bt	Accumulation of clay
	Bg	Mottling and gleying due to water saturation
	Bm	Slight colour or structural changes from the parent material
	By	Evidence of cryoturbation
C		Horizon with little evidence of pedogenic activity
	Cg	Mottling and gleying due to water saturation

Table A4. Overstory vegetation legend.

Code	*Description*
AM/Tu	Alders or Scrub Brush
BF	Boreal Forest
CC	Closed Canopy
CO	Open Canopy
DE	Deciduous Forest
FR	Fir
Mo	Moss
P	Poplar
SP	Spruce
Ts	Talus Slope
UN	Unvegetated
W	Willow

Soil Sample Descriptions

Target	Grid	Weather	Sampler	Date	Sample_ID	UTM_East	UTM_North	UTM_Elev	Depth_cm	Hor.	Colour	Texture	Frags_Pct	Orgs_Pct	Slope	Aspect	Ground_Cover	Over_Cover	Quality
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496501	477062	7081368	1089	40		Grey	Clay	15	10	20	E	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496502	477150	7081338	1086	35		Brown	Sand	15	10	20	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496503	477250	7081338	1085	35		Brown	Sand	15	10	20	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496504	477340	7081380	1092	55		Grey	Silt	15	10	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496505	477437	7081362	1091	45		Brown	Sand	10	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496506	477534	7081366	1087	40		Grey	Silt	15	20	15	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496507	477633	7081390	1087	45		Brown	Sand	15	10	15	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496508	477712	7081447	1090	40		Brown	Sand	15	10	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496509	477805	7081486	1090	35		Brown	Sand	10	15	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496510	477891	7081530	1087	50		Brown	Sand	15	10	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496511	477950	7081599	1084	45		Grey	Clay	10	5	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496512	478036	7081646	1086	70	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496513	478126	7081693	1083	80	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496514	478174	7081771	1083	80	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496515	478203	7081866	1083	40	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496516	478252	7081939	1082	40	B	Brown	Silt	20	5	20	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496517	478316	7082021	1079	40	B	Brown	Silt	20	5	20	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496518	478364	7082103	1081	40	B	Brown	Silt	30	5	30	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496519	478425	7082176	1082	40	B	Brown	Silt	10	5	30	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496520	478507	7082248	1074	40	B	Brown	Silt	10	5	30	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496521	478556	7082330	1076	40	B	Brown	Silt	20	5	30	W	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496522	478543	7082432	1072	60	B	Grey	Silt	20	5	35	E	Moss	BF	Good
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496523	478546	7082450	1068	40	B	Grey	Silt	20	5	35	E	Moss	BF	Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496524	476968	7080664		35	Bg	Brown	Loam	10	3	3			BF	
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496525	477049	7080628		55	Bt	Dull	Loam	5	1	5			BF	Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496526	477142	7080553		55	Bm	Tan	Silt	5	1	7		Moss	AM/Tu	
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496527	477234	7080514		45	Bm	Brown	Clay	25	2	0		Moss	AM/Tu	
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496528	477327	7080490		35	Bf	Coppery	Loam	2	1	2				
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496529	477397	7080536		35	Bm	Tan	Loam	2	0	3				Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496530	477381	7080638		75	C	Brown	Clay	65	1	5			W	
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496531	477490	7080616		45	Bm	Brown	Clay	15	2	7			BF	Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496532	477546	7080684		45	Bg	Grey	Silt	25	2	5		Grass	BF	Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496533	477610	7080758		40	Bg	Grey	Clay	10	1	10			BF	Good
Duncan Creek	NAD83_Z8	Sunny	S Buchanan	2018-06-20	1496534	477663	7080825		35	Bg	Tan	Clay	15	5	10			BF	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496535	477782	7080860	1005	0	Bg	Brown	Clay	5	5	5	S	Moss	W	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496536	477852	7080881	1001	0	Bg	Brown	Clay	5	10	10	S	Moss	CO	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496537	477970	7080923	1000	0	Bg	Brown	Clay	1	10	10	S	Leaf Litter	BF	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496538	478053	7080958	994	0	Bg	Brown	Clay	10	5	5	S	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496539	478149	7080975	997	0	Bg	Grey	Clay	7	2	5	S	Moss	CC	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496540	478222	7080984	997	50	Bg	Brown	Clay	5	2	10	S	Moss	SP	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496542	478369	7081155	996	0	Bg	Brown	Clay	5	5	5	S	Moss	SP	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-20	1496543	478411	7081286	1004	0	Bg	Grey	Clay	5	5	5	S	Moss	SP	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496545	478540	7081398	998	50		Brown	Sand	20	10	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496546	478593	7081478	997	45		Brown	Sand	20	10	15	W	Moss	BF	Excellent

Soil Sample Descriptions

Target	Grid	Weather	Sampler	Date	Sample_ID	UTM_East	UTM_North	UTM_Elev	Depth_cm	Hor.	Colour	Texture	Frags_Pct	Orgs_Pct	Slope	Aspect	Ground_Cover	Over_Cover	Quality
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496547	478621	7081577	995	45		Grey	Silt	15	5	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496548	478648	7081670	991	45		Grey	Silt	15	5	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	C Blysak	2018-08-16	1496549	478693	7081756	989	35		Brown	Sand	15	10	15	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496550	478732	7081846	997	40	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496551	478800	7081917	993	40	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496552	478838	7082003	999	40	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496553	478868	7082084	1004	40	B	Brown	Silt	15	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Overcast	J Denault	2018-08-16	1496554	478899	7082109	1003	70	B	Brown	Silt	10	5	20	W	Moss	BF	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496555	476026	7080299	913	60	Bg	Brown	Silt	30	5	15	S	Moss	CC	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496556	476128	7080255	899	60	Bg	Brown	Silt	30	5	25	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496557	476225	7080276	895	90	Bg	Brown	Silt	25	2	30	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496558	476331	7080301	899	70	Bg	Brown	Silt	10	0	25	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496559	476425	7080313	892	50	Bg	Brown	Silt	40	1	25	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496560	476523	7080364	914	100	Bg	Grey	Clay	10	1	15	S	Grass	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496561	476598	7080405	912	50	Bg	Black	Silt	5	2	20	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496562	476683	7080392	907	60	Bg	Brown	Clay	20	10	20	S	Moss	CO	Good
Duncan Creek	NAD83_Z8	Overcast	P Ahrens	2018-06-18	1496563	476777	7080340	903	40	Bg	Grey	Clay	10	10	30	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Overcast	P Ahrens	2018-06-18	1496564	476866	7080295	902	40	Bg	Brown	Silt	40	2	20	S	Bare	BF	Good
Duncan Creek	NAD83_Z8	Overcast	P Ahrens	2018-06-18	1496565	476953	7080254	904	55	Bg	Grey	Silt	15	15	30	S	Moss	AM/Tu	Good
Duncan Creek	NAD83_Z8	Overcast	P Ahrens	2018-06-18	1496566	477044	7080196	899	50	Bg	Brown	Silt	10	5	25	S	Moss	AM/Tu	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496567	477135	7080165	899	40	Bg	Brown	Silt	15	5	25	S	Bare	AM/Tu	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496568	477230	7080127	894	50	Bg	Brown	Silt	30	2	25	S	Bare	BF	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496569	477317	7080102	898	25	Bg	Grey	Silt	30	1	5	S	Bare	BF	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496570	477441	7080046	887	40	Bg	Brown	Silt	20	2	20	S	Bare	BF	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496571	477519	7080049	898	70	Bg	Brown	Silt	30	0	20	S	Bare	BF	Poor
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-18	1496572	477625	7080049	899	30	Bg	Tan	Silt	25	10	25	S	Grass	BF	Good
Duncan Creek	NAD83_Z8	Cloudy	A Sharman	2018-06-18	1496573	477733	7080040	896	0	Bg	Greyish	Silt	5	10	20	S	Leaf Litter	P	Good
Duncan Creek	NAD83_Z8	Cloudy	A Sharman	2018-06-19	1496574	477817	7080088	896	100	Bg	Brown	Silt	5	10	25	S	Moss	SP	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496575	477857	7080163	885	0	Bm	Reddish	Silt	5	10	25	S	Moss	SP	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496576	477858	7080244	896	0	Bg	Dark Greyish	Silt	15	5	20	S	Bare	CO	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496578	477995	7080376	893	0	Bg	Coppery	Clay	5	15	30	S	Moss	SP	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496579	478012	7080480	886	0	Bg	Greyish	Clay	10	10	25	S	Moss	SP	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496581	478113	7080630	893	0	Bg	Dark Greyish	Silt	15	10	25	S	Moss	P	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496582	478189	7080684	900	100	Bg	Brown	Silt	20	5	20	S	Moss	CO	Good
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496583	478288	7080709	882	100	Bg	Grey	Silt	10	10	25	S	Leaf Litter	CC	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496584	478357	7080774	890	0	Bg	Dark Greyish	Silt	15	5	15	S	Leaf Litter	CC	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496585	478434	7080841	888	100	Bg	Greyish	Clay	15	10	20	S	Moss	CC	Excellent
Duncan Creek	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496586	478527	7080879	882	100	Bg	Greyish	Silt	25	1	20	S	Moss	CC	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496587	478605	7080931	872	0	Bg	Greyish	Silt	40	1	40	S	Leaf Litter	CC	Poor
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496588	478689	7080985	883	100	Bg	Greyish	Clay	30	1	45	S	Leaf Litter	CC	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496589	478772	7081044	882	0	Bg	Silvery	Clay	40	1	20	S	Bare	P	Poor
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496590	478855	7081103	865	0	Bg	Silvery	Clay	10	1	10	S	Moss	AM/Tu	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496591	478910	7081182	883	0	Bg	Tan	Clay	30	5	40	S	Moss	AM/Tu	Good
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496592	478951	7081273	888	0	Bg	Silvery	Clay	5	1	45	S	Moss	CO	Good

Soil Sample Descriptions

Target	Grid	Weather	Sampler	Date	Sample_ID	UTM_East	UTM_North	UTM_Elev	Depth_cm	Hor.	Colour	Texture	Frags_Pct	Orgs_Pct	Slope	Aspect	Ground_Cover	Over_Cover	Quality
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496593	478995	7081357	882	0	Bg	Greyish	Clay	20	1	45	S	Moss	DE	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496594	479026	7081458	882	0	Bg	Dark Greyish	Clay	5	1	25	S	Moss	AM/Tu	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496595	479077	7081540	883	100	Bg	Tan	Clay	30	1	30	S	Leaf Litter	AM/Tu	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496596	479152	7081611	875	100	Bg	Greyish	Clay	40	1	35	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496597	479228	7081672	878	0	Bg	Dark Greyish	Clay	5	1	30	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496598	479321	7081720	877	0	Bg	Greyish	Clay	10	1	20	S	Moss	CO	Excellent
Duncan Creek	NAD83_Z8	Sunny	P Ahrens	2018-06-19	1496599	479338	7081720	877	0	B	Dark Greyish	Clay	5	1	20	S	Moss	CO	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-19	1496601	486980	7085784	1362	20	Bg	Brown	Clay	5	10	10	NE	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496602	487037	7085806	1349	0	Bg	Reddish	Clay	5	1	15	NE	Moss	BF	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496603	487080	7085825	1342	30	Bg	Dark Greyish	Clay	5	5	10	NE	Moss	SP	Good
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-21	1496604	486973	7085836		20	A/B	Brown	Loam	20	10	5	E	Moss	FR	Poor
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-21	1496605	487015	7085849		52	Bg	Grey	Clay	10	2	10	E	Moss	FR	Good
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-21	1496606	486952	7085886		20	Bg	Grey	Silt	7	2	15	SE	Moss	FR	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496607	487065	7084181	1398	0	Bg	Grey				10	NE	Moss	W	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496608	487070	7084228	1397	0	Bg	Brown	Clay	5	5	5	NE	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496609	487016	7084274	1402	0	Bg	Brown	Clay	5	4	5	NE	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496610	487061	7084281	1398	0	Bg	Orange	Clay	5	1	5	NE	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-21	1496611	487005	7084334		25	Bt	Tan	Clay	7	3	12	SE	Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-21	1496612	487064	7084333		40	Bt	Tan	Clay	5	2	12	SE	Leaf Litter	AM/Tu	Excellent
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-21	1496613	487007	7084389		45	Bt	Tan	Clay	20	3	10	SE	Leaf Litter	AM/Tu	Excellent
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-21	1496614	487064	7084382		25	Bt	Tan	Silt	10	5	10	SE	Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496615	486187	7083634	1169	35	Bg	Brown	Clay	30	2	20	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496616	486234	7083633	1176	30	Bm	Brown	Silt	20	2	15	W	Moss		Poor
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496617	486281	7083629	1178	55	B/C	Brown	Clay	30	2	15	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496618	486340	7083626	1182	45	Bt	Brown	Clay	10	5	3	W	Moss		Excellent
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496619	486385	7083630	1185	35	Bt	Brown	Clay	25	7	5	W	Moss		Poor
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496620	486444	7083637	1190	45	Bf	Brown	Silt	10	2	25	W	Moss		Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496621	486490	7083641	1211	20	Bg	Brown	Silt	15	5	25	SW	Moss	W	
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496622	486538	7083635	1215	30	Bg	Grey	Silt	15	1	20	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496623	486588	7083635	1222	40	Bg	Grey	Clay	10	5	25	SW	Moss	W	Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496624	486636	7083640	1231	30	Bg	Brown	Clay	10	3	10	SW	Moss	W	Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496625	486691	7083644	1244	40	Bg	Brown	Clay	10	5	10	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496626	486741	7083638	1251	30	Bg	Grey	Silt	15	1	15	SW	Rock	Ts	Poor
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496627	486785	7083634	1266	30	Bg	Brown	Silt	15	1	30	SW	Moss	W	Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496628	486840	7083664	1281	40	Bg	Brown	Clay	5	5	40	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496629	486883	7083653	1303	30	Bg	Brown	Silt	10	1	20	SW	Moss	W	Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496630	486943	7083655	1303	50	Bg	Brown	Silt	15	1	20	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496631	486993	7083657	1314	40	Bg	Grey	Clay	10	5	30	SW	Moss	CC	
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496632	487038	7083655	1325	40	Bg	Grey	Clay	5	1	20	SW	Moss	Mo	Excellent
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496633	486192	7083666	1176	35	A/B	Brown	Silt	45	5	25	W	Moss		Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496634	486229	7083666	1186	30	B	Brown	Clay	10	3	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496635	486288	7083678	1194	70	Bt	Grey	Clay	5	2	20		Moss	SP	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496636	486345	7083680	1197	40	Bf	Brown	Clay	10	3	15		Moss	FR	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496637	486388	7083692	1213	40	B	Brown	Clay	15	3	0		Moss	AM/Tu	Good

Soil Sample Descriptions

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Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496638	486431	7083673	1211	40	Bg	Grey	Silt	25	1	30	SW	Rock	W	Good
Sourdough	NAD83_Z8	Overcast	A Sharman	2018-06-24	1496639	486475	7083685	1225	25	Bg	Brown	Silt	15	1	30	SW	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-23	1496640	486541	7083694	1225	45	Bm	Grey	Clay	30	1	30		Moss	AM/Tu	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496641	486588	7083687	1237	50	Bg	Brown	Clay	15	3	30		Moss	AM/Tu	
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-23	1496642	486639	7083677	1244	45	Bm	Grey	Clay	35	2	25		Rock	AM/Tu	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496643	486685	7083702	1261	20	Bg	Brown	Clay	10	5	20	S	Rock	W	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496644	486743	7083649	1275	20	Bg	Brown	Clay	5	15	25	S	Rock	Mo	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496645	486788	7083701	1288	20	Bg	Brown	Clay	10	5	20	S	Moss	SP	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496646	486834	7083703	1297	30	Bg	Brown	Clay	5	1	25	S	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496647	486888	7083703	1303	20	Bg	Brown	Clay	15	10	20	S	Moss	W	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496648	486935	7083700	1312	30	Bg	Brown	Clay	5	1	30	S	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496649	486980	7083712	1325	50	Bg	Brown	Clay	5	5	25	S	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496650	487035	7083698	1331	30	Bg	Brown	Clay	5	10	25	S	Moss	W	Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496651	486186	7083710	1184	40	B/C	Brown	Silt	45	2	20	W	Moss		Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496652	486238	7083728	1196	20	B	Brown	Clay	10	2	10		Moss	FR	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496653	486427	7083722	1227	50	Bg	Grey	Clay	10	1	15	SW	Moss	BF	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496654	486490	7083728	1240	70	Bg	Brown	Clay	5	1	15	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496655	486536	7083725	1248	75	Bg	Grey	Clay	5	1	20	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496656	486585	7083746	1260	50	Bg	Grey	Clay	5	5	10	SW	Leaf Litter	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496657	486632	7083737	1266	50	Bg	Brown	Clay	5	5	20	S	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496658	486682	7083732	1273	20	Bg	Orange	Clay	15	10	35	S	Rock	P	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496659	486725	7083737	1284	30	Bg	Brown	Silt	10	1	35	S	Rock	CO	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496660	486780	7083738	1300	50	Bg	Brown	Clay	5	5	30	S	Rock	CO	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496661	486839	7083742	1311	40	Bg	Grey	Silt	5	1	30	S	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496662	486874	7083747	1319	20	Bg	Brown	Clay	5	5	30	S	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496663	486932	7083736	1323	30	Bg	Brown	Clay	10	5	30	S	Moss	W	Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-23	1496664	486975	7083752	1335	45	Bg	Brown	Clay	5	15	30	S	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-24	1496665	487035	7083755	1348	50	Bg	Grey	Clay	5	5	25	S	Moss	W	Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496666	486183	7083764	1200	55	Bg	Brown	Clay	55	2	25	W	Moss		Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496667	486238	7083773	1209	25	Bt	Brown	Clay	10	5	7		Moss	SP	Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496668	486577	7083781	1261	35	B/C	Brown	Clay	15	15	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496669	486632	7083790	1275	40	Bm	Brown	Silt	15	5	30		Moss	FR	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496670	486684	7083788	1285	55	Bt	Brown	Clay	15	10	25		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	S Buchanan	2018-06-23	1496671	486726	7083800	1295	40	Bg	Brown	Clay	15	3	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Sunny	K Trudeau	2018-06-23	1496672	486781	7083798	1305	60	Bg	Grey	Loam	15	3	10		Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496673	486834	7083792	1317	35	Bm	Grey	Clay	10	3	35		Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496674	486881	7083803	1324	50	Bm	Brown	Silt	20	3	10		Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Cloudy	S Buchanan	2018-06-23	1496675	486931	7083805	1336	35	Bm	Tan	Loam	20	3	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	S Buchanan	2018-06-23	1496676	486983	7083800		70	Bm	Brown	Clay	10	5	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496677	487033	7083807	1362	50	Bt	Grey	Clay	10	10	25		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496678	486184	7083819	1206	70	Bg	Brown	Clay	45	3	7	W	Moss		Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496679	486228	7083826	1214	30	Bg	Grey	Clay	15	3	7		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496680	486776	7083844	1310	35	Bg	Grey	Clay			25		Moss	AM/Tu	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496681	486828	7083844	1317	35	Bf	Grey	Clay	10	3	20		Moss	AM/Tu	Good

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Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-23	1496682	486878	7083862	1333	40	Bt	Brown	Clay	15	3	15		Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Cloudy	S Buchanan	2018-06-23	1496683	486931	7083859	1351	35	Bf	Coppery	Clay	2	5	20		Moss	AM/Tu	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496684	486976	7083842	1362	0	Bg	Brown	Clay	5	1	35	SW	Rock	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-21	1496685	487034	7083842	1374	0	Bg	Brown	Clay	5	5	20	SW	Moss	W	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496686	486182	7083860	1209	85	Bg	Brown	Clay	45	3	15	W	Moss		Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496687	486211	7083880	1226	35	Bg	Grey	Clay	10	3	10		Moss	FR	
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-23	1496688	486923	7083908	1354	50	Bt	Coppery	Silt	2	1	35		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-21	1496689	486987	7083907		55	Bt	Dull	Clay	20	5	20	S	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Sunny	S Buchanan	2018-06-21	1496690	487034	7083899		50	Bt	Tan	Silt	15	1	5	S	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496691	486176	7083919	1215	45	B/C	Grey	Clay	40	1	10	W	Moss		Good
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496781	484380	7083801	963	40	B	Beige	Silt	10	5	20	NW	Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496782	484428	7083805	968	50	B	Beige	Silt	10	5	20	NW	Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496783	484478	7083803	967	50	B	Brown	Silt	50	5	20	NW	Moss	AM/Tu	Poor
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496784	484524	7083809	970	60	B	Beige	Silt	10	5	20	NW	Moss	BF	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496785	484578	7083809	976	40	B	Brown	Silt	10	5	10	NW	Moss	BF	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496786	484629	7083815	980	60	B	Brown	Silt	10	5	20	NW	Moss	FR	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496787	484674	7083813	982	60	B	Brown	Silt	10	5	20	NW	Moss	FR	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496788	484727	7083816	989	60	B	Brown	Silt	10	5	15	NW	Moss	FR	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496789	484778	7083821	1006	40	B	Brown	Clay	10	5	10	NW	Moss	FR	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496790	484374	7083851	967	70	B	Grey	Silt	10	5	10	SW	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496791	484426	7083854	969	80	B	Grey	Silt	15	5	10	SW	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496792	484477	7083856	970	40	B	Beige	Silt	20	5	20	SW	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Stormy	J Denault	2018-08-15	1496793	484529	7083855	977	40	B	Beige	Silt	30	5	10	SW	Moss	AM/Tu	Excellent
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496794	484572	7083862	982	40		Grey	Clay	10	10	5	N	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496795	484626	7083860	987	40		Grey	Clay	15	10	5	N	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496796	484677	7083861	993	40		Grey	Clay	15	10	5	N	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496797	484722	7083866	997	40		Grey	Clay	15	10	5	N	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496798	484773	7083867	1002	40		Grey	Clay	15	10	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496799	484375	7083902	969	40		Grey	Clay	10	5	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496800	484424	7083904	974	40		Grey	Clay	10	5	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496801	484475	7083904	976	50		Grey	Clay	15	15	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496802	484525	7083909	981	50		Grey	Clay	15	15	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496803	484574	7083911	988	40		Grey	Clay	15	15	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496804	484623	7083912	993	40		Grey	Clay	20	10	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8	Overcast	C Blysak	2018-08-15	1496805	484671	7083912	999	40		Grey	Clay	15	10	5	NW	Moss	SP	Good
Sourdough	NAD83_Z8		S Buchanan	2018-06-26	1496806	484729	7083919	1005	45	Bg	Grey	Clay	5	3			Moss	BF	
Sourdough	NAD83_Z8		S Buchanan	2018-06-26	1496807	484771	7083916	1009	40	Bg	Grey	Clay	10	15			Moss	BF	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496821	484666	7084030	1019	50	Bg	Grey	Clay	5	10	0		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496823	484769	7084017	1024	50	Bg	Grey	Clay	10	15	0		Moss	SP	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496824	484419	7084060	1000	30	Bg	Grey	Clay	5	5	5		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496825	484465	7084060	1004	50	Bg	Grey	Clay	10	5	10		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496826	484517	7084048	1005	50	Bg	Grey	Clay	5	10	10		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496827	484585	7084052	1010	40	B/C	Grey	Clay	10	10	15		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496828	484611	7084065	1018	50	Bg	Grey	Clay	5	5	15		Moss	SP	Excellent

Soil Sample Descriptions

Target	Grid	Weather	Sampler	Date	Sample_ID	UTM_East	UTM_North	UTM_Elev	Depth_cm	Hor.	Colour	Texture	Frags_Pct	Orgs_Pct	Slope	Aspect	Ground_Cover	Over_Cover	Quality
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496829	484666	7084069	1021	50	Bg	Grey	Clay	5	10	0		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496830	484721	7084067	1025	50	Bg	Grey	Clay	5	16	0		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496831	484779	7084060	1028	45	Bg	Grey	Clay	5	5	0		Moss	SP	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496852	485564	7084548	1211	50	Bg	Tan	Clay	15	1	15	W	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496853	485896	7084563	1214	40	Bg	Tan	Clay	10	5	20	W	Moss	W	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496854	485659	7084548	1213	40	Ae	Brown	Clay	2	10	25	SW			Poor
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496855	485705	7084563	1228	35	Bg	Tan	Clay	10	1	30	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496856	485750	7084574	1241	20	Bg	Brown	Silt	20	5	35	SW	Rock	UN	Poor
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496857	485807	7084578	1254	45	Bt	Brown	Clay	20	2	10	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496858	485874	7084575	1273	30	Bg	Brown	Clay	5	5	30	W	Moss	W	Good
Sourdough	NAD83_Z8	Rainy	K Trudeau	2018-06-24	1496859	485908	7084565	1293	25	Bt	Grey	Clay	20	2	10		Moss	FR	Good
Sourdough	NAD83_Z8	Rainy	K Trudeau	2018-06-24	1496860	485955	7084574		25	B	Brown	Clay	10	3	15		Moss	AM/Tu	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496861	485604	7084612	1217	70	Bg	Grey	Clay	5	1	15	W	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496862	485658	7084615	1221	30	Bg	Tan	Silt	15	5	25	W	Moss	W	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496863	485705	7084617		45	Bf	Brown	Clay	10	3	5		Moss	FR	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496864	485756	7084625	1246	35	Bm	Brown	Silt	10	4	20		Moss	AM/Tu	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496865	485803	7084619	1259	45	Bt	Brown	Clay	20	2	10	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496866	485860	7084620	1275	50	Bg	Tan	Clay	5	5	30	W	Moss	W	Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496867	485909	7084566	1282	30	Bg	Grey	Clay	10	1	20		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496868	485600	7084654	1215	50	Bg	Tan	Clay	15	1	20	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496869	485652	7084659	1222	50	Bg	Grey	Silt	20	1	15	SW	Rock	W	Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496870	485700	7084671	1234	50	B/C	Brown	Clay	15	1	20		Moss	SP	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496871	485750	7084662	1241	50	Bt	Brown	Clay	10	2	15		Moss	AM/Tu	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496872	485805	7084667	1261	40	Bt	Brown	Clay	15	3	12	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496873	485857	7084663	1280	30	Bg	Brown	Clay	5	5	30	W	Moss	W	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496874	485902	7084671	1295	45	Bm	Brown	Clay	15	2	15		Moss	AM/Tu	
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496875	485656	7084709	1225	40	Bg	Tan	Clay	15	5	25	W	Moss	W	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496876	485695	7084717	1230	40	Bm	Brown	Silt	10	1	10		Moss	AM/Tu	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496877	485748	7084713	1253	30	B	Brown	Clay	15	3	30		Moss	AM/Tu	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496878	485802	7084729	1265	45	Bt	Brown	Clay	10	2	20	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496879	485862	7084718	1282	20	Bg	Brown	Clay	10	5	30	W	Rock	W	Poor
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496880	485904	7084730	1284	50	Bt	Brown	Clay	15	3	10		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Sunny	A Sharman	2018-06-25	1496881	485645	7084760	1227	40	Bg	Grey	Clay	15	1	30	SW	Moss	W	Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496882	485689	7084767	1237	50	Bf	Brown	Clay	25	2	15		Moss	AM/Tu	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496883	485743	7084761	1245	40	B/C	Grey	Silt	15	2	10		Moss	AM/Tu	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496884	485785	7084764	1263	50	B/C	Grey	Clay	45	1	10	W	Moss		Good
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496885	485852	7084773	1282	30	Bg	Brown	Clay	10	1	20	W	Moss	W	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-24	1496886	485903	7084773		30	Bm	Brown	Silt	20	5	15		Moss	SP	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496887	485696	7084819	1242	60	Bt	Grey	Clay	10	2	20		Moss	FR	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496888	485743	7084804	1253	40	By	Brown	Clay	20	2	15		Moss	AM/Tu	
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496889	485792	7084815	1261	40	Bt	Brown	Clay	10	2	5	W	Moss		Excellent
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496890	485851	7084820	1279	50	Bg	Brown	Clay	15	5	30	W	Rock	W	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496891	485696	7084868	1235	30	Bt	Brown	Clay	15	5	30		Moss	AM/Tu	Good
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496892	485752	7084867	1256	35	B	Grey	Clay	10	2	10		Moss	AM/Tu	Good

Soil Sample Descriptions

Target	Grid	Weather	Sampler	Date	Sample_ID	UTM_East	UTM_North	UTM_Elev	Depth_cm	Hor.	Colour	Texture	Frags_Pct	Orgs_Pct	Slope	Aspect	Ground_Cover	Over_Cover	Quality
Sourdough	NAD83_Z8	Rainy	S Buchanan	2018-06-24	1496893	485790	7084860	1265	40	Bt	Grey	Clay	20	2	10	W	Moss		Excellent
Sourdough	NAD83_Z8	Rainy	A Sharman	2018-06-24	1496894	485841	7084865	1280	50	Bg	Grey	Clay	10	1	25	W	Moss	W	Excellent
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496895	485696	7084920	1238	25	Bt	Grey	Clay	20	3	30		Moss	AM/Tu	
Sourdough	NAD83_Z8	Cloudy	K Trudeau	2018-06-25	1496896	485744	7084920	1260	47	Bg	Grey	Silt	10	2	25		Moss	SP	

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Duncan Creek	477062	7081368	120	ppm	kt	1496501	0.00	70.35	0.00	354.99	11715.03	21.49
Duncan Creek	477150	7081338	120	ppm	kt	1496502	0.00	88.36	0.00	349.60	11316.02	20.99
Duncan Creek	477250	7081338	120	ppm	kt	1496503	0.00	74.36	0.00	261.87	9722.54	0.00
Duncan Creek	477340	7081380	120	ppm	kt	1496504	0.00	84.34	0.00	316.17	5780.43	17.82
Duncan Creek	477437	7081362	120	ppm	kt	1496505	30.89	82.96	0.00	352.00	15932.75	20.90
Duncan Creek	477534	7081366	120	ppm	kt	1496506	40.46	62.13	0.00	333.49	8798.93	0.00
Duncan Creek	477633	7081390	120	ppm	kt	1496507	27.57	88.56	0.00	361.55	13314.79	0.00
Duncan Creek	477712	7081447	120	ppm	kt	1496508	0.00	96.61	0.00	267.88	11650.33	16.82
Duncan Creek	477805	7081486	120	ppm	kt	1496509	0.00	79.94	0.00	293.59	9193.27	0.00
Duncan Creek	477891	7081530	120	ppm	kt	1496510	0.00	77.64	0.00	263.13	10323.08	0.00
Duncan Creek	477950	7081599	120	ppm	kt	1496511	25.89	66.08	0.00	295.74	8302.13	0.00
Duncan Creek	478036	7081646	120	ppm	kt	1496512	52.07	89.03	0.00	537.25	17270.13	22.10
Duncan Creek	478126	7081693	120	ppm	kt	1496513	0.00	69.38	0.00	191.98	8064.26	0.00
Duncan Creek	478174	7081771	120	ppm	kt	1496514	20.51	89.49	0.00	331.74	12402.58	0.00
Duncan Creek	478203	7081866	120	ppm	kt	1496515	0.00	64.01	0.00	1069.30	9383.83	0.00
Duncan Creek	478252	7081939	120	ppm	kt	1496516	27.57	87.65	0.00	390.98	13378.98	24.71
Duncan Creek	478316	7082021	120	ppm	kt	1496517	38.41	84.05	0.00	190.21	7889.88	23.66
Duncan Creek	478364	7082103	120	ppm	kt	1496518	19.87	66.21	0.00	149.43	6985.06	46.27
Duncan Creek	478425	7082176	120	ppm	kt	1496519	0.00	69.19	0.00	175.26	10104.96	24.69
Duncan Creek	478507	7082248	120	ppm	kt	1496520	0.00	88.49	0.00	393.43	15082.13	27.66
Duncan Creek	478556	7082330	120	ppm	kt	1496521	0.00	92.86	0.00	338.16	22048.97	24.02
Duncan Creek	478543	7082432	120	ppm	kt	1496522	0.00	60.82	41.25	227.71	6119.90	0.00
Duncan Creek	478546	7082450	120	ppm	kt	1496523	19.77	106.13	54.58	289.17	12664.25	17.71
Duncan Creek	476968	7080664	120	ppm	pa	1496524	10.19	53.99	0.00	238.90	14026.53	9.47
Duncan Creek	477049	7080628	120	ppm	pa	1496525	0.00	51.58	0.00	78.84	11259.24	0.00
Duncan Creek	477142	7080553	120	ppm	pa	1496526	0.00	56.61	24.71	281.79	16184.91	19.10
Duncan Creek	477234	7080514	120	ppm	pa	1496527	0.00	47.63	0.00	111.23	10873.71	0.00
Duncan Creek	477327	7080490	120	ppm	pa	1496528	0.00	49.30	0.00	0.00	15518.78	9.91
Duncan Creek	477397	7080536	120	ppm	pa	1496529	10.98	56.40	0.00	150.77	18340.22	0.00
Duncan Creek	477381	7080638	120	ppm	pa	1496530	0.00	54.05	0.00	309.13	13538.00	0.00
Duncan Creek	477490	7080616	120	ppm	pa	1496531	0.00	45.58	0.00	116.60	13488.04	11.29
Duncan Creek	477546	7080684	120	ppm	pa	1496532	10.12	63.00	0.00	0.00	14811.99	0.00
Duncan Creek	477610	7080758	120	ppm	pa	1496533	21.03	65.30	0.00	176.61	10828.80	46.17
Duncan Creek	477663	7080825	120	ppm	pa	1496534	9.68	54.22	0.00	200.15	12484.39	25.48
Duncan Creek	477782	7080860	120	ppm	pa	1496535	0.00	54.71	0.00	0.00	7917.75	23.81
Duncan Creek	477852	7080881	120	ppm	pa	1496536	20.42	61.97	0.00	235.98	20433.46	0.00
Duncan Creek	477970	7080923	120	ppm	pa	1496537	0.00	51.32	0.00	255.88	13082.81	21.31
Duncan Creek	478053	7080958	120	ppm	pa	1496538	0.00	47.66	0.00	80.59	8693.51	7.65
Duncan Creek	478149	7080975	120	ppm	pa	1496539	12.68	68.84	31.37	160.04	13362.19	16.92
Duncan Creek	478222	7080984	120	ppm	pa	1496540	11.14	51.62	0.00	422.57	14758.01	36.11
Duncan Creek	478369	7081155	120	ppm	pa	1496542	11.02	59.09	0.00	0.00	10186.72	18.96
Duncan Creek	478411	7081286	120	ppm	pa	1496543	10.50	73.98	0.00	373.62	12777.25	0.00
Duncan Creek	478540	7081398	120	ppm	kt	1496545	0.00	59.75	0.00	210.21	6853.64	0.00

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Duncan Creek	478593	7081478	120	ppm	kt	1496546	37.44	92.73	0.00	372.00	13513.91	29.79
Duncan Creek	478621	7081577	120	ppm	kt	1496547	0.00	71.13	0.00	329.16	14318.42	20.26
Duncan Creek	478648	7081670	120	ppm	kt	1496548	16.04	62.11	40.67	319.90	6665.98	0.00
Duncan Creek	478693	7081756	120	ppm	kt	1496549	82.41	98.57	0.00	506.05	18384.63	39.30
Duncan Creek	478732	7081846	120	ppm	kt	1496550	44.61	71.40	0.00	350.26	9437.84	38.39
Duncan Creek	478800	7081917	120	ppm	kt	1496551	40.21	94.07	0.00	481.02	19928.81	41.24
Duncan Creek	478838	7082003	120	ppm	kt	1496552	20.26	83.75	56.28	317.85	10414.58	16.75
Duncan Creek	478868	7082084	120	ppm	kt	1496553	22.05	98.08	0.00	457.49	21605.11	22.77
Duncan Creek	478899	7082109	120	ppm	kt	1496554	32.64	105.12	59.41	330.57	12338.14	0.00
Duncan Creek	476026	7080299	120	ppm	pa	1496555	30.05	97.95	26.47	292.41	16668.30	76.67
Duncan Creek	476128	7080255	120	ppm	pa	1496556	24.99	82.58	30.16	351.29	17432.21	53.16
Duncan Creek	476225	7080276	120	ppm	pa	1496557	25.65	95.30	31.84	386.29	21547.73	63.17
Duncan Creek	476331	7080301	120	ppm	pa	1496558	11.04	79.09	37.83	286.75	24626.28	36.33
Duncan Creek	476425	7080313	120	ppm	pa	1496559	16.10	62.26	0.00	321.33	18505.95	45.34
Duncan Creek	476523	7080364	120	ppm	pa	1496560	19.13	68.17	32.03	251.37	11910.25	38.32
Duncan Creek	476598	7080405	120	ppm	pa	1496561	0.00	48.09	0.00	365.88	11407.20	43.97
Duncan Creek	476683	7080392	120	ppm	pa	1496562	10.63	69.01	25.84	122.96	11807.25	25.23
Duncan Creek	476777	7080340	120	ppm	pa	1496563	0.00	72.57	0.00	170.18	15033.35	33.80
Duncan Creek	476866	7080295	120	ppm	pa	1496564	11.04	67.89	0.00	97.98	16081.09	19.42
Duncan Creek	476953	7080254	120	ppm	pa	1496565	10.51	60.11	25.97	180.86	12803.09	0.00
Duncan Creek	477044	7080196	120	ppm	pa	1496566	0.00	63.17	23.09	152.52	13629.94	0.00
Duncan Creek	477135	7080165	120	ppm	pa	1496567	0.00	51.30	23.00	105.23	10543.96	0.00
Duncan Creek	477230	7080127	120	ppm	pa	1496568	0.00	45.86	0.00	206.89	14617.78	0.00
Duncan Creek	477317	7080102	120	ppm	pa	1496569	11.62	53.32	0.00	138.83	15641.96	0.00
Duncan Creek	477441	7080046	120	ppm	pa	1496570	0.00	51.14	0.00	173.82	10498.36	0.00
Duncan Creek	477519	7080049	120	ppm	pa	1496571	10.57	55.31	0.00	99.31	11499.83	98.69
Duncan Creek	477625	7080049	120	ppm	pa	1496572	9.74	51.19	24.42	174.31	16471.75	9.69
Duncan Creek	477733	7080040	120	ppm	pa	1496573	0.00	56.18	0.00	142.18	12025.51	30.04
Duncan Creek	477817	7080088	120	ppm	pa	1496574	0.00	48.55	0.00	203.75	15348.63	31.35
Duncan Creek	477857	7080163	120	ppm	pa	1496575	0.00	50.96	0.00	87.89	14128.79	0.00
Duncan Creek	477858	7080244	120	ppm	pa	1496576	0.00	52.89	26.64	98.26	10374.25	0.00
Duncan Creek	477912	7080331	120	ppm	pa	1496577	10.15	43.80	22.77	0.00	8081.64	0.00
Duncan Creek	477995	7080376	120	ppm	pa	1496578	11.06	72.12	28.94	296.25	22605.32	0.00
Duncan Creek	478012	7080480	120	ppm	pa	1496579	23.44	74.28	0.00	263.29	12562.60	30.31
Duncan Creek	478113	7080630	120	ppm	pa	1496581	0.00	39.40	0.00	110.21	8663.37	22.84
Duncan Creek	478189	7080684	120	ppm	pa	1496582	0.00	59.49	28.77	204.75	12271.96	0.00
Duncan Creek	478288	7080709	120	ppm	pa	1496583	0.00	71.35	0.00	223.07	10390.24	26.13
Duncan Creek	478357	7080774	120	ppm	pa	1496584	23.68	64.11	26.06	140.47	12350.16	39.04
Duncan Creek	478434	7080841	120	ppm	pa	1496585	11.63	76.01	28.56	326.70	21494.21	8.95
Duncan Creek	478527	7080879	120	ppm	pa	1496586	13.40	71.10	0.00	325.96	17066.15	0.00
Duncan Creek	478605	7080931	120	ppm	pa	1496587	9.48	59.04	26.90	181.30	13096.29	8.91
Duncan Creek	478689	7080985	120	ppm	pa	1496588	10.49	79.85	25.94	277.68	19563.96	20.35
Duncan Creek	478772	7081044	120	ppm	pa	1496589	0.00	99.34	32.18	456.77	24256.00	0.00

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Duncan Creek	478855	7081103	120	ppm	pa	1496590	9.65	64.97	0.00	187.75	14547.18	0.00
Duncan Creek	478910	7081182	120	ppm	pa	1496591	12.44	75.16	0.00	222.61	19080.11	14.10
Duncan Creek	478951	7081273	120	ppm	pa	1496592	12.56	72.33	0.00	223.50	16480.97	25.22
Duncan Creek	478995	7081357	120	ppm	pa	1496593	21.31	66.32	0.00	149.78	12528.18	74.86
Duncan Creek	479026	7081458	120	ppm	pa	1496594	8.32	70.83	0.00	79.35	9050.68	9.80
Duncan Creek	479077	7081540	120	ppm	pa	1496595	33.09	94.45	27.54	348.45	13764.92	20.70
Duncan Creek	479152	7081611	120	ppm	pa	1496596	19.39	69.69	27.20	229.29	16485.40	26.74
Duncan Creek	479228	7081672	120	ppm	pa	1496597	0.00	46.61	0.00	148.24	8089.46	15.30
Duncan Creek	479321	7081720	120	ppm	pa	1496598	9.42	59.23	0.00	210.46	13831.88	10.61
Duncan Creek	479338	7081720	120	ppm	pa	1496599	11.00	53.79	20.41	277.07	11932.49	0.00
Sourdough	486980	7085784	120	ppm	pa	1496601	0.00	59.51	0.00	253.96	15357.29	0.00
Sourdough	487037	7085806	120	ppm	pa	1496602	11.18	64.16	0.00	232.12	14315.29	18.72
Sourdough	487080	7085825	120	ppm	pa	1496603	10.75	60.32	0.00	127.47	12391.05	0.00
Sourdough	486973	7085836	120	ppm	pa	1496604	0.00	41.39	0.00	86.23	10613.34	0.00
Sourdough	487015	7085849	120	ppm	pa	1496605	0.00	67.78	0.00	238.07	14174.20	0.00
Sourdough	486952	7085886	120	ppm	pa	1496606	0.00	62.58	0.00	271.19	17304.34	0.00
Sourdough	487065	7084181	120	ppm	pa	1496607	9.98	65.30	0.00	219.80	18517.49	0.00
Sourdough	487070	7084228	120	ppm	pa	1496608	0.00	31.89	0.00	0.00	10221.40	0.00
Sourdough	487016	7084274	120	ppm	pa	1496609	11.07	55.57	0.00	214.34	18026.03	0.00
Sourdough	487061	7084281	120	ppm	pa	1496610	0.00	42.32	28.05	0.00	9227.74	0.00
Sourdough	487005	7084334	120	ppm	pa	1496611	12.89	71.32	0.00	310.85	16864.85	0.00
Sourdough	487064	7084333	120	ppm	pa	1496612	21.17	55.05	60.42	453.32	17480.07	0.00
Sourdough	487007	7084389	120	ppm	pa	1496613	10.32	51.50	0.00	184.27	14317.64	0.00
Sourdough	487064	7084382	120	ppm	pa	1496614	0.00	72.21	26.63	239.25	18571.40	0.00
Sourdough	486187	7083634	120	ppm	pa	1496615	15.99	71.15	32.73	428.55	15947.59	31.62
Sourdough	486234	7083633	120	ppm	pa	1496616	10.69	68.04	25.25	576.22	14183.04	0.00
Sourdough	486281	7083629	120	ppm	pa	1496617	0.00	53.83	25.50	77.96	8893.59	0.00
Sourdough	486340	7083626	120	ppm	pa	1496618	0.00	53.37	21.90	159.50	9397.58	0.00
Sourdough	486385	7083630	120	ppm	pa	1496619	11.23	56.53	27.82	217.86	14952.34	0.00
Sourdough	486444	7083637	120	ppm	pa	1496620	0.00	59.43	0.00	230.83	12201.21	8.71
Sourdough	486490	7083641	120	ppm	pa	1496621	0.00	58.78	25.45	210.97	10959.39	0.00
Sourdough	486538	7083635	120	ppm	pa	1496622	0.00	64.97	37.10	274.13	9838.62	0.00
Sourdough	486541	7083694	120	ppm	pa	1496640	0.00	51.81	26.78	459.07	19344.67	0.00
Sourdough	486588	7083687	120	ppm	pa	1496641	0.00	52.30	34.67	369.58	14491.59	0.00
Sourdough	486639	7083677	120	ppm	pa	1496642	0.00	48.00	23.27	184.51	11228.91	10.03
Sourdough	486685	7083702	120	ppm	pa	1496643	9.30	64.64	0.00	428.57	13936.77	0.00
Sourdough	486743	7083649	120	ppm	pa	1496644	0.00	43.99	0.00	128.73	8413.17	0.00
Sourdough	486788	7083701	120	ppm	pa	1496645	0.00	24.27	51.38	563.54	9195.09	0.00
Sourdough	486834	7083703	120	ppm	pa	1496646	13.71	50.23	0.00	419.28	9079.16	0.00
Sourdough	486888	7083703	120	ppm	pa	1496647	0.00	51.93	53.43	454.94	11041.66	0.00
Sourdough	486935	7083700	120	ppm	pa	1496648	0.00	51.80	26.69	134.54	11674.42	0.00
Sourdough	486980	7083712	120	ppm	pa	1496649	0.00	48.28	0.00	92.54	8612.92	0.00
Sourdough	487035	7083698	120	ppm	pa	1496650	0.00	39.50	0.00	179.96	10170.96	0.00

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Sourdough	486186	7083710	120	ppm	pa	1496651	0.00	58.06	27.28	408.41	12446.97	0.00
Sourdough	486238	7083728	120	ppm	pa	1496652	0.00	61.13	0.00	350.60	9172.20	0.00
Sourdough	486427	7083722	120	ppm	pa	1496653	0.00	77.78	0.00	473.34	18369.71	0.00
Sourdough	486490	7083728	120	ppm	pa	1496654	0.00	57.45	0.00	288.09	13676.86	0.00
Sourdough	486536	7083725	120	ppm	pa	1496655	0.00	52.67	62.65	175.74	13184.61	0.00
Sourdough	486585	7083746	120	ppm	pa	1496656	0.00	52.09	23.73	74.28	9284.78	0.00
Sourdough	486632	7083737	120	ppm	pa	1496657	0.00	50.84	59.80	332.19	12226.52	0.00
Sourdough	486682	7083732	120	ppm	pa	1496658	0.00	54.58	33.10	548.85	12749.86	0.00
Sourdough	486725	7083737	120	ppm	pa	1496659	0.00	59.24	29.31	766.00	10039.74	0.00
Sourdough	486780	7083738	120	ppm	pa	1496660	0.00	51.40	0.00	124.19	9585.03	0.00
Sourdough	486839	7083742	120	ppm	pa	1496661	0.00	49.32	0.00	353.32	15487.42	7.81
Sourdough	486874	7083747	120	ppm	pa	1496662	11.17	61.30	32.18	466.74	15532.41	0.00
Sourdough	486932	7083736	120	ppm	pa	1496663	0.00	39.23	23.78	75.64	8768.09	0.00
Sourdough	486975	7083752	120	ppm	pa	1496664	0.00	40.74	0.00	139.54	13632.25	0.00
Sourdough	487035	7083755	120	ppm	pa	1496665	9.93	69.48	63.43	227.92	13155.03	9.63
Sourdough	486183	7083764	120	ppm	pa	1496666	10.17	67.41	25.18	412.31	16811.39	0.00
Sourdough	486238	7083773	120	ppm	pa	1496667	0.00	56.85	0.00	179.22	8793.48	0.00
Sourdough	486577	7083781	120	ppm	pa	1496668	0.00	54.36	0.00	197.62	12387.44	0.00
Sourdough	486632	7083790	120	ppm	pa	1496669	0.00	51.83	0.00	223.91	11693.62	0.00
Sourdough	486684	7083788	120	ppm	pa	1496670	0.00	63.31	0.00	217.19	11748.56	0.00
Sourdough	486726	7083800	120	ppm	pa	1496671	0.00	59.56	0.00	250.43	15216.59	0.00
Sourdough	486781	7083798	120	ppm	pa	1496672	0.00	40.69	0.00	132.75	11545.38	0.00
Sourdough	486834	7083792	120	ppm	pa	1496673	0.00	58.12	0.00	176.64	15219.86	0.00
Sourdough	486881	7083803	120	ppm	pa	1496674	19.35	124.86	30.75	255.64	10640.87	9.11
Sourdough	486931	7083805	120	ppm	pa	1496675	0.00	53.82	30.28	255.04	11316.51	0.00
Sourdough	486983	7083800	120	ppm	pa	1496676	0.00	60.72	24.67	100.33	10233.67	7.67
Sourdough	487033	7083807	120	ppm	pa	1496677	0.00	65.91	68.44	192.19	13606.51	0.00
Sourdough	486184	7083819	120	ppm	pa	1496678	9.39	67.62	65.39	232.85	11577.28	9.36
Sourdough	486228	7083826	120	ppm	pa	1496679	0.00	69.37	26.70	285.83	13262.75	0.00
Sourdough	486776	7083844	120	ppm	pa	1496680	9.65	38.86	0.00	0.00	6919.09	0.00
Sourdough	486828	7083844	120	ppm	pa	1496681	0.00	49.07	0.00	196.90	10764.34	0.00
Sourdough	486878	7083862	120	ppm	pa	1496682	0.00	45.40	0.00	188.16	12214.74	7.31
Sourdough	486931	7083859	120	ppm	pa	1496683	0.00	55.20	28.17	95.68	9693.55	0.00
Sourdough	486976	7083842	120	ppm	pa	1496684	0.00	68.99	61.99	594.21	20193.39	0.00
Sourdough	487034	7083842	120	ppm	pa	1496685	0.00	33.27	26.84	0.00	10901.49	0.00
Sourdough	486182	7083860	120	ppm	pa	1496686	16.96	63.63	30.43	186.53	14032.85	0.00
Sourdough	486211	7083880	120	ppm	pa	1496687	22.17	64.57	24.90	285.55	12866.09	0.00
Sourdough	486923	7083908	120	ppm	pa	1496688	0.00	46.38	26.91	248.28	10448.63	0.00
Sourdough	486987	7083907	120	ppm	pa	1496689	0.00	53.80	29.59	404.81	14882.56	0.00
Sourdough	487034	7083899	120	ppm	pa	1496690	0.00	54.31	0.00	225.53	13692.73	9.53
Sourdough	486176	7083919	120	ppm	pa	1496691	15.73	79.49	35.06	348.81	15863.69	0.00
Sourdough	484434	7083654	120	ppm	kt	1496753	23.65	127.18	57.43	538.45	18707.47	27.16
Sourdough	484484	7083656	120	ppm	kt	1496754	25.97	130.33	61.49	441.45	20657.49	0.00

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Sourdough	484534	7083658	120	ppm	kt	1496755	0.00	95.91	64.51	272.53	10934.00	19.82
Sourdough	484584	7083660	120	ppm	kt	1496756	25.47	101.18	0.00	341.86	18347.49	0.00
Sourdough	484634	7083662	120	ppm	kt	1496757	0.00	108.82	0.00	242.37	11447.13	0.00
Sourdough	484684	7083664	120	ppm	kt	1496758	29.01	132.73	0.00	263.83	20728.43	31.92
Sourdough	484734	7083666	120	ppm	kt	1496759	21.70	86.04	0.00	256.34	11643.18	0.00
Sourdough	484784	7083668	120	ppm	kt	1496760	32.37	130.31	0.00	547.80	20153.71	23.15
Sourdough	484332	7083700	120	ppm	kt	1496761	18.87	88.24	0.00	317.66	6455.15	0.00
Sourdough	484382	7083702	120	ppm	kt	1496762	26.90	114.96	0.00	463.79	13198.97	18.90
Sourdough	484432	7083704	120	ppm	kt	1496763	30.44	94.08	48.46	331.72	14085.90	0.00
Sourdough	484532	7083708	120	ppm	kt	1496765	0.00	63.35	0.00	188.47	8190.57	0.00
Sourdough	484582	7083710	120	ppm	kt	1496766	0.00	106.72	0.00	322.39	12182.15	0.00
Sourdough	484632	7083712	120	ppm	kt	1496767	0.00	102.24	49.90	392.61	15259.23	0.00
Sourdough	484682	7083714	120	ppm	kt	1496768	24.95	90.76	54.54	459.81	13091.60	17.27
Sourdough	484732	7083716	120	ppm	kt	1496769	22.76	106.86	75.41	457.80	13525.39	20.41
Sourdough	484782	7083718	120	ppm	kt	1496770	19.24	114.07	0.00	278.29	14747.67	20.29
Sourdough	484330	7083752	120	ppm	kt	1496771	19.47	99.39	0.00	547.98	14835.65	0.00
Sourdough	484380	7083752	120	ppm	kt	1496772	20.66	107.67	49.98	276.07	15921.84	17.71
Sourdough	484430	7083754	120	ppm	kt	1496773	0.00	94.27	0.00	1004.15	19354.83	20.78
Sourdough	484480	7083756	120	ppm	kt	1496774	0.00	73.72	0.00	417.43	14366.62	0.00
Sourdough	484530	7083758	120	ppm	kt	1496775	0.00	104.64	0.00	327.98	9646.18	19.20
Sourdough	484580	7083760	120	ppm	kt	1496776	0.00	56.16	0.00	0.00	2233.18	0.00
Sourdough	484630	7083762	120	ppm	kt	1496777	0.00	100.38	0.00	173.55	6180.21	0.00
Sourdough	484680	7083764	120	ppm	kt	1496778	21.44	98.96	0.00	2714.02	23478.81	21.22
Sourdough	484730	7083766	120	ppm	kt	1496779	0.00	107.73	56.72	419.79	13240.18	21.14
Sourdough	484780	7083768	120	ppm	kt	1496780	0.00	88.85	0.00	391.86	11330.76	0.00
Sourdough	484380	7083801	120	ppm	kt	1496781	43.72	145.35	0.00	540.74	23709.93	24.86
Sourdough	484428	7083805	120	ppm	kt	1496782	25.55	101.45	0.00	260.96	12604.34	0.00
Sourdough	484478	7083803	120	ppm	kt	1496783	37.89	106.54	54.85	360.91	12037.04	0.00
Sourdough	484524	7083809	120	ppm	kt	1496784	33.18	133.77	0.00	283.37	17551.26	0.00
Sourdough	484578	7083809	120	ppm	kt	1496785	21.50	104.56	0.00	543.89	13493.75	27.89
Sourdough	484629	7083815	120	ppm	kt	1496786	0.00	83.80	0.00	261.22	12543.22	0.00
Sourdough	484674	7083813	120	ppm	kt	1496787	0.00	47.07	0.00	147.22	2430.27	0.00
Sourdough	484727	7083816	120	ppm	kt	1496788	0.00	123.73	50.50	294.28	11185.34	20.76
Sourdough	484778	7083821	120	ppm	kt	1496789	34.63	140.57	0.00	664.14	23064.26	0.00
Sourdough	484374	7083851	120	ppm	kt	1496790	23.37	120.55	63.32	2164.48	19341.49	37.82
Sourdough	484426	7083854	120	ppm	kt	1496791	21.71	170.37	83.50	569.40	16257.72	26.42
Sourdough	484477	7083856	120	ppm	kt	1496792	21.25	94.83	0.00	284.10	9463.93	0.00
Sourdough	484529	7083855	120	ppm	kt	1496793	22.02	128.55	0.00	689.66	16416.47	23.37
Sourdough	484572	7083862	120	ppm	kt	1496794	168.55	116.17	0.00	371.69	11768.33	53.92
Sourdough	484626	7083860	120	ppm	kt	1496795	36.77	118.79	0.00	318.18	11856.83	21.93
Sourdough	484677	7083861	120	ppm	kt	1496796	28.50	103.56	0.00	280.29	8771.17	19.64
Sourdough	484722	7083866	120	ppm	kt	1496797	79.04	98.73	0.00	341.63	14811.11	28.55
Sourdough	484773	7083867	120	ppm	kt	1496798	169.55	121.92	0.00	579.12	21479.20	43.21

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Sourdough	484375	7083902	120	ppm	kt	1496799	0.00	115.18	0.00	322.38	14300.77	19.16
Sourdough	484424	7083904	120	ppm	kt	1496800	64.95	115.57	53.37	238.72	12231.30	38.28
Sourdough	484475	7083904	120	ppm	kt	1496801	26.73	71.11	0.00	225.32	5293.92	0.00
Sourdough	484525	7083909	120	ppm	kt	1496802	62.14	97.55	0.00	227.35	7852.48	0.00
Sourdough	484574	7083911	120	ppm	kt	1496803	21.26	120.67	0.00	451.24	17180.91	18.53
Sourdough	484623	7083912	120	ppm	kt	1496804	36.50	148.42	0.00	598.65	17688.14	23.46
Sourdough	484671	7083912	120	ppm	kt	1496805	58.14	104.22	0.00	228.29	9186.45	28.04
Sourdough	484422	7083954	120	ppm	kt	1496808	0.00	138.21	0.00	450.62	17697.66	39.38
Sourdough	484472	7083956	120	ppm	kt	1496809	31.50	149.25	0.00	312.96	13915.33	51.18
Sourdough	484522	7083958	120	ppm	kt	1496810	36.99	127.55	0.00	535.59	19314.79	0.00
Sourdough	484572	7083960	120	ppm	kt	1496811	22.83	119.11	0.00	442.66	17077.61	23.69
Sourdough	484622	7083962	120	ppm	kt	1496812	26.02	102.70	0.00	369.23	8423.61	0.00
Sourdough	484672	7083964	120	ppm	kt	1496813	0.00	86.68	0.00	357.37	14836.37	23.14
Sourdough	484420	7084004	120	ppm	kt	1496816	39.57	161.45	0.00	514.42	21417.77	34.26
Sourdough	484470	7084006	120	ppm	kt	1496817	29.02	119.95	0.00	369.58	15816.21	24.47
Sourdough	484520	7084008	120	ppm	kt	1496818	24.44	117.48	0.00	346.66	12659.26	0.00
Sourdough	484570	7084010	120	ppm	kt	1496819	24.69	113.97	0.00	407.94	18076.33	0.00
Sourdough	484620	7084011	120	ppm	kt	1496820	29.44	125.97	0.00	445.06	18102.64	0.00
Sourdough	484666	7084030	120	ppm	kt	1496821	25.81	117.85	0.00	514.07	19635.16	0.00
Sourdough	484769	7084017	120	ppm	kt	1496823	20.15	111.05	0.00	308.31	10603.02	0.00
Sourdough	484419	7084060	120	ppm	kt	1496824	24.63	116.95	0.00	382.71	16883.69	18.59
Sourdough	484465	7084060	120	ppm	kt	1496825	43.91	127.66	0.00	520.13	19972.30	0.00
Sourdough	484517	7084048	120	ppm	kt	1496826	23.35	93.75	0.00	250.13	7709.75	0.00
Sourdough	484585	7084052	120	ppm	kt	1496827	27.66	93.96	0.00	424.78	10508.88	0.00
Sourdough	484611	7084065	120	ppm	kt	1496828	0.00	116.87	65.48	375.68	11981.13	0.00
Sourdough	484666	7084069	120	ppm	kt	1496829	19.80	110.96	56.86	281.27	8484.19	19.69
Sourdough	484721	7084067	120	ppm	kt	1496830	0.00	99.65	0.00	389.68	20054.97	0.00
Sourdough	484779	7084060	120	ppm	kt	1496831	34.78	144.57	0.00	452.64	19975.45	0.00
Sourdough	484466	7084105	120	ppm	kt	1496832	27.41	135.36	0.00	574.67	21918.10	29.49
Sourdough	484516	7084107	120	ppm	kt	1496833	27.49	137.63	0.00	576.96	19568.75	22.02
Sourdough	484566	7084109	120	ppm	kt	1496834	0.00	92.92	0.00	364.84	9828.12	0.00
Sourdough	484616	7084111	120	ppm	kt	1496835	22.34	96.45	0.00	267.85	10889.78	0.00
Sourdough	484666	7084113	120	ppm	kt	1496836	28.04	101.94	0.00	458.64	20960.17	20.32
Sourdough	484716	7084115	120	ppm	kt	1496837	0.00	89.93	0.00	405.29	16992.39	0.00
Sourdough	484766	7084117	120	ppm	kt	1496838	0.00	104.35	0.00	332.48	9427.94	0.00
Sourdough	484514	7084157	120	ppm	kt	1496840	34.24	141.88	0.00	488.74	20968.69	25.24
Sourdough	484564	7084159	120	ppm	kt	1496841	27.59	99.22	0.00	278.44	10548.72	0.00
Sourdough	484614	7084161	120	ppm	kt	1496842	0.00	89.70	49.23	248.22	8458.07	0.00
Sourdough	484664	7084163	120	ppm	kt	1496843	21.66	97.19	0.00	280.66	16589.64	0.00
Sourdough	484714	7084165	120	ppm	kt	1496844	18.87	89.21	0.00	359.07	15617.04	0.00
Sourdough	484764	7084167	120	ppm	kt	1496845	20.42	97.53	0.00	478.02	20043.80	19.34
Sourdough	484462	7084205	120	ppm	kt	1496846	25.88	156.39	0.00	628.93	21836.54	21.90
Sourdough	484512	7084207	120	ppm	kt	1496847	0.00	92.56	0.00	319.40	14633.27	16.75

XRF Database Excerpt

Target	UTM_East	UTM_North	Duration	Units	Inspector	Sample_ID	Pb_XRF	Zn_XRF	Cu_XRF	Mn_XRF	Fe_XRF	As_XRF
Sourdough	484562	7084209	120	ppm	kt	1496848	26.34	95.57	0.00	319.58	5756.13	0.00
Sourdough	484612	7084211	120	ppm	kt	1496849	0.00	94.85	0.00	331.64	18249.14	0.00
Sourdough	484670	7084209	120	ppm	kt	1496850	26.83	105.06	49.47	328.46	13648.74	0.00

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Duncan Creek	1496501	WHI18001159	1.3065	0.0067	0.1	14.9	55	27	23.2
Duncan Creek	1496502	WHI18001159	1.0298	0.0049	0.1	16	45	23.8	37.2
Duncan Creek	1496503	WHI18001159	1.4586	0.0079	0.1	17.7	61	28.1	21.5
Duncan Creek	1496504	WHI18001159	1.4961	0.0056	0.3	23	58	28.8	52.1
Duncan Creek	1496505	WHI18001159	0.8007	0.0021	0.1	12.8	56	19.2	14.8
Duncan Creek	1496506	WHI18001159	1.2708	0.0048	0.2	16.3	59	25.7	26
Duncan Creek	1496507	WHI18001159	0.9935	0.0009	0.1	16.3	72	30.6	11.9
Duncan Creek	1496508	WHI18001159	0.7446	0.0003	0.1	14.5	63	18.6	15.7
Duncan Creek	1496509	WHI18001159	0.8731	0.0023	0.1	14.6	57	18.6	11.9
Duncan Creek	1496510	WHI18001159	1.5981	0.0109	0.1	12.8	63	21.1	14.4
Duncan Creek	1496511	WHI18001159	1.0849	0.0045	0.2	13.2	49	17.7	14.2
Duncan Creek	1496512	WHI18001159	0.8958	0.0009	0.1	16.1	59	28.3	15.1
Duncan Creek	1496513	WHI18001159	1.1163	0.0054	0.1	19.1	44	22.8	13.7
Duncan Creek	1496514	WHI18001159	1.1489	0.0040	0.1	20.9	61	26.4	16.3
Duncan Creek	1496515	WHI18001159	12.7931	0.1523	0.2	15.5	65	23.2	16.3
Duncan Creek	1496516	WHI18001159	1.4339	0.0059	0.2	17.3	69	27.3	27.9
Duncan Creek	1496517	WHI18001159	1.0151	0.0037	0.1	15.1	59	24.5	23.8
Duncan Creek	1496518	WHI18001159	2.8691	0.0259	0.2	16.5	62	20	41.6
Duncan Creek	1496519	WHI18001159	1.6403	0.0016	0.8	16.9	63	25.3	35.6
Duncan Creek	1496520	WHI18001159	0.7984	0.0017	0.1	15.3	57	20.2	25.8
Duncan Creek	1496521	WHI18001159	0.7902	0.0031	0.1	14.3	52	12.9	18.4
Duncan Creek	1496522	WHI18001159	1.5486	0.0022	0.2	17.9	95	49.5	21.7
Duncan Creek	1496523	WHI18001159	1.7627	0.0051	0.2	21.2	90	49.4	24.3
Duncan Creek	1496524	WHI18000332	0.5733	0.0007	0.1	10.5	47	14.2	10.6
Duncan Creek	1496525	WHI18000332	0.9667	0.0020	0.1	12.3	58	29	15.3
Duncan Creek	1496526	WHI18000332	0.6279	0.0003	0.1	13.9	59	15	15.5
Duncan Creek	1496527	WHI18000332	0.6079	0.0003	0.1	13.2	44	20.4	10.2
Duncan Creek	1496528	WHI18000332	0.7195	0.0018	0.1	14.6	52	15.4	16.5
Duncan Creek	1496529	WHI18000332	0.9518	0.0025	0.1	14.8	62	21.6	15.8
Duncan Creek	1496530	WHI18000332	0.8541	0.0011	0.1	13.7	67	25	15.9
Duncan Creek	1496531	WHI18000332	0.7203	0.0016	0.1	13	49	18.8	16.6
Duncan Creek	1496532	WHI18000332	1.0711	0.0012	0.1	18.2	69	35.8	18.7
Duncan Creek	1496533	WHI18000332	1.6207	0.0061	0.3	24.7	65	32.2	67.1
Duncan Creek	1496534	WHI18000332	1.2039	0.0041	0.2	21.1	58	23.2	34
Duncan Creek	1496535	WHI18000332	1.0103	0.0021	0.2	17.9	60	20.4	30.7
Duncan Creek	1496536	WHI18000332	1.1768	0.0032	0.1	18	67	32.5	21.5
Duncan Creek	1496537	WHI18000332	0.9035	0.0046	0.1	13.7	54	11.9	20
Duncan Creek	1496538	WHI18000332	0.9771	0.0018	0.2	16	57	21.7	19.3
Duncan Creek	1496539	WHI18000332	1.6152	0.0034	0.3	25.8	96	35.1	37.7
Duncan Creek	1496540	WHI18000332	1.1467	0.0050	0.1	16.1	61	21.5	41
Duncan Creek	1496542	WHI18000332	1.3273	0.0067	0.1	14.4	58	27.6	46.6
Duncan Creek	1496543	WHI18000332	2.2543	0.0040	0.3	30.2	116	74.5	21.8
Duncan Creek	1496545	WHI18001159	0.7861	0.0009	0.1	14.4	64	17.4	20.7

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Duncan Creek	1496546	WHI18001159	0.8567	0.0012	0.2	14.3	54	17.5	18.6
Duncan Creek	1496547	WHI18001159	1.4815	0.0078	0.2	15.4	60	23.6	14.5
Duncan Creek	1496548	WHI18001159	0.8849	0.0013	0.1	15.7	66	21.7	15.4
Duncan Creek	1496549	WHI18001159	0.7557	0.0009	0.1	18.4	67	16.1	23.9
Duncan Creek	1496550	WHI18001159	0.9414	0.0028	0.2	18.1	57	11.2	30.8
Duncan Creek	1496551	WHI18001159	0.9958	0.0019	0.1	16.5	78	25.6	38.3
Duncan Creek	1496552	WHI18001159	0.9362	0.0021	0.1	17.5	61	22.3	15.5
Duncan Creek	1496553	WHI18001159	1.1607	0.0038	0.1	14.8	64	29.8	12.8
Duncan Creek	1496554	WHI18001159	1.6466	0.0083	0.1	17.8	75	35	14.9
Duncan Creek	1496555	WHI18000332	3.1352	0.0088	0.8	47	134	60.1	135.5
Duncan Creek	1496556	WHI18000332	2.3040	0.0058	0.6	39.3	92	48.6	97.9
Duncan Creek	1496557	WHI18000332	2.3622	0.0051	0.5	34.9	109	60.7	100
Duncan Creek	1496558	WHI18000332	2.2886	0.0088	0.4	30.3	86	50.7	55.3
Duncan Creek	1496559	WHI18000332	1.2966	0.0028	0.2	24.8	69	33.2	62.7
Duncan Creek	1496560	WHI18000332	2.1940	0.0058	0.6	28	99	40.6	71.6
Duncan Creek	1496561	WHI18000332	0.7180	0.0018	0.1	12.3	51	12.4	38.9
Duncan Creek	1496562	WHI18000332	1.1353	0.0026	0.2	16.4	69	24.2	30.3
Duncan Creek	1496563	WHI18000332	1.2649	0.0026	0.2	22	70	32.5	36.1
Duncan Creek	1496564	WHI18000332	1.1097	0.0055	0.1	18.8	53	17.6	19.6
Duncan Creek	1496565	WHI18000332	0.7034	0.0005	0.1	15.8	57	19.9	14.7
Duncan Creek	1496566	WHI18000332	1.0067	0.0022	0.1	18.2	68	28.4	18.1
Duncan Creek	1496567	WHI18000332	0.8750	0.0015	0.1	16.3	55	24.3	14.6
Duncan Creek	1496568	WHI18000332	0.6870	0.0005	0.1	14.5	52	21.3	12.5
Duncan Creek	1496569	WHI18000332	1.1004	0.0022	0.1	19	65	37.4	10.7
Duncan Creek	1496570	WHI18000332	1.0154	0.0045	0.1	14	51	23.3	16
Duncan Creek	1496571	WHI18000332	1.9006	0.0144	0.1	18	58	28	171.9
Duncan Creek	1496572	WHI18000332	0.7905	0.0019	0.1	16.9	49	21.2	17.2
Duncan Creek	1496573	WHI18000332	1.1698	0.0046	0.1	17.2	55	28.4	52.4
Duncan Creek	1496574	WHI18000332	0.9415	0.0018	0.1	17.5	57	30.8	40.5
Duncan Creek	1496575	WHI18000332	0.7561	0.0026	0.1	18	40	17.3	18.8
Duncan Creek	1496576	WHI18000332	0.9436	0.0007	0.1	17.6	76	29.6	12.8
Duncan Creek	1496577	WHI18000332	0.5906	0.0012	0.1	13.2	41	14	14.6
Duncan Creek	1496578	WHI18000332	0.9566	0.0003	0.1	23.9	68	34.8	16.2
Duncan Creek	1496579	WHI18000332	1.6258	0.0039	0.3	26.5	87	36.5	46.6
Duncan Creek	1496581	WHI18000332	1.1962	0.0046	0.1	21.4	66	28.2	73.6
Duncan Creek	1496582	WHI18000332	0.7831	0.0010	0.1	17.7	53	24.4	11
Duncan Creek	1496583	WHI18000332	2.5578	0.0136	0.5	23.7	82	37.7	43
Duncan Creek	1496584	WHI18000332	2.2563	0.0109	0.5	26.7	75	32	64.2
Duncan Creek	1496585	WHI18000332	1.2797	0.0024	0.2	19.1	80	31.7	18.5
Duncan Creek	1496586	WHI18000332	1.5395	0.0050	0.1	38.2	80	41.6	15.6
Duncan Creek	1496587	WHI18000332	1.1344	0.0026	0.1	20.7	67	31.8	23.3
Duncan Creek	1496588	WHI18000332	1.5718	0.0037	0.2	21	93	41.2	28.4
Duncan Creek	1496589	WHI18000332	2.0155	0.0031	0.2	27.4	118	68.9	14.3

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Duncan Creek	1496590	WHI18000332	1.4404	0.0051	0.2	17.9	73	31.1	21.5
Duncan Creek	1496591	WHI18000332	1.3390	0.0045	0.1	18.7	81	31	31.4
Duncan Creek	1496592	WHI18000332	1.6116	0.0066	0.2	21.7	87	27.8	39.5
Duncan Creek	1496593	WHI18000332	1.3157	0.0033	0.2	22.2	79	28	111.7
Duncan Creek	1496594	WHI18000332	1.7671	0.0033	0.4	22.8	110	35	30.4
Duncan Creek	1496595	WHI18000332	2.4945	0.0068	0.5	42	133	46.9	43.5
Duncan Creek	1496596	WHI18000332	1.4023	0.0029	0.3	24.7	83	26.7	29.2
Duncan Creek	1496597	WHI18000332	1.3026	0.0044	0.2	19.2	68	25.8	28.3
Duncan Creek	1496598	WHI18000332	1.6276	0.0093	0.2	18.7	66	22	24.2
Duncan Creek	1496599	WHI18000332	1.3292	0.0032	0.3	22	70	25.5	26.1
Sourdough	1496601	WHI18000332	1.1741	0.0052	0.1	11.6	61	24.3	12.1
Sourdough	1496602	WHI18000332	2.6355	0.0235	0.2	14.1	63	16.6	19.5
Sourdough	1496603	WHI18000332	1.0848	0.0037	0.1	12.5	74	20.4	8.2
Sourdough	1496604	WHI18000332	0.9263	0.0020	0.2	12	60	16.3	8.8
Sourdough	1496605	WHI18000332	2.1561	0.0135	0.3	12.6	80	26.6	10.1
Sourdough	1496606	WHI18000332	1.2176	0.0025	0.2	16.4	79	27.3	10.4
Sourdough	1496607	WHI18000332	0.8413	0.0017	0.1	16.4	57	23.4	8.6
Sourdough	1496608	WHI18000332	0.8203	0.0047	0.1	14.7	39	10.6	7.9
Sourdough	1496609	WHI18000332	0.9780	0.0031	0.1	19.3	60	23.2	10.6
Sourdough	1496610	WHI18000332	0.7016	0.0020	0.1	21.3	46	12.6	8.8
Sourdough	1496611	WHI18000332	1.1688	0.0053	0.1	16.9	63	24.4	9.3
Sourdough	1496612	WHI18000332	1.1814	0.0030	0.1	17.7	74	35.4	9.9
Sourdough	1496613	WHI18000332	1.0386	0.0044	0.1	16.5	59	21.3	8.3
Sourdough	1496614	WHI18000332	0.9773	0.0024	0.1	15.6	63	27.9	8.7
Sourdough	1496615	WHI18000336	2.4509	0.0121	0.2	18.2	88	63.5	40
Sourdough	1496616	WHI18000336	1.5841	0.0064	0.2	14.7	74	35.5	12.3
Sourdough	1496617	WHI18000336	1.5692	0.0050	0.3	18.5	76	32.6	11.1
Sourdough	1496618	WHI18000336	2.4856	0.0106	0.4	19.2	81	62.2	15.2
Sourdough	1496619	WHI18000336	1.8574	0.0066	0.3	14.6	78	47.1	13.6
Sourdough	1496620	WHI18000336	1.4272	0.0049	0.2	13.1	68	35.5	12.1
Sourdough	1496621	WHI18000336	1.6353	0.0055	0.3	13.2	69	40.2	12.4
Sourdough	1496622	WHI18000336	2.4123	0.0134	0.2	15.2	79	56.9	11.4
Sourdough	1496630	WHI18000336	1.6593	0.0082	0.1	14.6	78	40.9	12.6
Sourdough	1496631	WHI18000336	1.3587	0.0058	0.1	11.3	63	35.2	12.7
Sourdough	1496632	WHI18000336	1.4150	0.0057	0.2	11.8	64	31.5	12.1
Sourdough	1496633	WHI18000336	3.4286	0.0157	0.3	17.2	101	108.6	47.7
Sourdough	1496634	WHI18000336	2.8100	0.0171	0.3	17.4	80	56.3	15.1
Sourdough	1496635	WHI18000336	1.0566	0.0024	0.2	14.3	67	20.6	8.2
Sourdough	1496636	WHI18000336	1.4200	0.0029	0.5	14.7	67	22.5	13.4
Sourdough	1496637	WHI18000336	1.2471	0.0040	0.1	15.5	70	32.8	10.5
Sourdough	1496638	WHI18000336	2.3769	0.0124	0.2	16	101	50.2	15.4
Sourdough	1496639	WHI18000336	1.3242	0.0062	0.2	11	53	25.8	9.2
Sourdough	1496640	WHI18000332	1.9791	0.0079	0.3	13.1	69	53.5	13.1

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Sourdough	1496641	WHI18000332	2.6980	0.0163	0.3	15.1	73	56.2	13.5
Sourdough	1496642	WHI18000332	2.0982	0.0133	0.2	12.8	62	39.6	11.2
Sourdough	1496643	WHI18000332	3.5959	0.0173	1.2	14.6	71	50.5	12.3
Sourdough	1496644	WHI18000332	1.3345	0.0045	0.2	12.8	57	35.4	11.2
Sourdough	1496645	WHI18000332	1.9783	0.0128	0.1	18.5	47	50	11
Sourdough	1496646	WHI18000332	1.7118	0.0085	0.1	11.7	63	47.1	9.8
Sourdough	1496647	WHI18000332	1.6207	0.0063	0.3	13.3	62	36.8	11.4
Sourdough	1496648	WHI18000332	1.4193	0.0049	0.2	12.6	63	37.3	12.2
Sourdough	1496649	WHI18000332	1.2150	0.0040	0.1	13.6	67	32.2	12.9
Sourdough	1496650	WHI18000332	2.0127	0.0098	0.3	13.7	62	46.7	12.6
Sourdough	1496651	WHI18000332	3.3850	0.0241	0.2	17.3	82	66.3	16.5
Sourdough	1496652	WHI18000332	1.6388	0.0062	0.1	17.5	82	45.2	8.9
Sourdough	1496653	WHI18000332	1.5189	0.0062	0.2	14.5	68	34.1	11.1
Sourdough	1496654	WHI18000332	1.1897	0.0046	0.1	11.8	64	32.4	11.7
Sourdough	1496655	WHI18000332	1.4507	0.0055	0.2	12.8	65	35	11
Sourdough	1496656	WHI18000332	1.7132	0.0080	0.2	12.6	61	42.6	12
Sourdough	1496657	WHI18000332	1.8205	0.0087	0.1	13.6	71	50.6	13.6
Sourdough	1496658	WHI18000332	3.2623	0.0270	0.3	14.3	67	36.2	11.4
Sourdough	1496659	WHI18000332	3.9858	0.0340	0.2	16.2	69	58	13.4
Sourdough	1496660	WHI18000332	1.8131	0.0096	0.1	12.5	69	49.6	12.6
Sourdough	1496661	WHI18000332	2.5321	0.0222	0.1	10.6	58	28.6	9.8
Sourdough	1496662	WHI18000332	2.4793	0.0143	0.2	14	79	57.1	11.8
Sourdough	1496663	WHI18000332	2.6140	0.0196	0.2	12.8	62	41.6	13.3
Sourdough	1496664	WHI18000332	1.6975	0.0050	0.4	15.1	57	45	12.8
Sourdough	1496665	WHI18000332	1.5457	0.0054	0.2	13.9	72	40.1	12.7
Sourdough	1496666	WHI18000332	1.2085	0.0036	0.1	14.8	70	36.7	8.3
Sourdough	1496667	WHI18000332	0.9811	0.0021	0.1	14.2	69	23.8	5.3
Sourdough	1496668	WHI18000332	1.5009	0.0076	0.1	12.5	64	34.4	9.5
Sourdough	1496669	WHI18000332	1.4108	0.0050	0.1	12.2	66	43.2	11.2
Sourdough	1496670	WHI18000332	1.2666	0.0037	0.1	12.6	70	37.6	12.5
Sourdough	1496671	WHI18000332	1.0463	0.0034	0.1	11.9	63	28.6	9.3
Sourdough	1496672	WHI18000332	1.4504	0.0079	0.1	11.2	60	34.7	9.2
Sourdough	1496673	WHI18000332	1.5437	0.0064	0.1	12.3	66	49.4	11.7
Sourdough	1496674	WHI18000332	1.6295	0.0088	0.1	11.9	62	38.5	10.5
Sourdough	1496675	WHI18000332	1.6166	0.0098	0.1	12.6	61	35.2	12.1
Sourdough	1496676	WHI18000332	1.5004	0.0061	0.1	12.7	67	47.1	14.7
Sourdough	1496677	WHI18000332	1.8046	0.0088	0.1	14.8	73	47.2	13.8
Sourdough	1496678	WHI18000332	1.8609	0.0048	0.1	25.8	115	55	35.9
Sourdough	1496679	WHI18000332	2.1567	0.0116	0.2	13.5	94	41	10.4
Sourdough	1496680	WHI18000332	2.1585	0.0161	0.2	14.5	45	33.2	8.7
Sourdough	1496681	WHI18000332	0.9864	0.0026	0.1	13.2	63	28.3	12.9
Sourdough	1496682	WHI18000332	1.2137	0.0049	0.1	10.7	62	33.8	11
Sourdough	1496683	WHI18000332	1.3995	0.0071	0.1	13.3	62	29.7	12.6

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Sourdough	1496684	WHI18000332	1.8223	0.0088	0.1	13	66	52.6	13.2
Sourdough	1496685	WHI18000332	0.8281	0.0025	0.1	12.6	46	23.5	12.3
Sourdough	1496686	WHI18000332	1.9937	0.0022	0.1	31	110	83.7	16.6
Sourdough	1496687	WHI18000332	1.5367	0.0010	0.3	26	101	42	31.9
Sourdough	1496688	WHI18000332	1.2825	0.0037	0.1	12.7	71	42.7	13.2
Sourdough	1496689	WHI18000332	1.5883	0.0076	0.1	14.1	68	43.6	12
Sourdough	1496690	WHI18000332	0.9188	0.0023	0.1	10.3	56	28.9	10
Sourdough	1496691	WHI18000332	0.8791	0.0003	0.1	13.8	72	26.2	5.6
Sourdough	1496806	WHI18000336	1.9276	0.0029	0.4	33.3	126	39.8	23.2
Sourdough	1496807	WHI18000336	1.4504	0.0032	0.2	22	95	32.9	10.1
Sourdough	1496822	WHI18000336	1.7597	0.0039	0.4	23.7	96	36.4	18.1
Sourdough	1496823	WHI18000336	1.8634	0.0092	0.1	12	74	50.2	11
Sourdough	1496824	WHI18000336	2.6103	0.0190	0.1	11.4	64	53.4	11.9
Sourdough	1496825	WHI18000336	1.8551	0.0089	0.2	12.3	70	44.7	14.1
Sourdough	1496826	WHI18000336	3.9923	0.0178	0.1	20.4	101	158.2	33.7
Sourdough	1496827	WHI18000336	2.9379	0.0153	0.1	15.9	81	96.2	16.4
Sourdough	1496828	WHI18000336	1.8235	0.0062	0.1	14.4	73	66.2	15.3
Sourdough	1496829	WHI18000336	2.3288	0.0121	0.2	12.4	80	59.1	14.2
Sourdough	1496852	WHI18000336	1.3787	0.0066	0.1	16.2	68	31.6	9.7
Sourdough	1496853	WHI18000336	1.5168	0.0095	0.1	15.7	66	25.2	9.9
Sourdough	1496854	WHI18000336	1.1412	0.0014	0.2	17.8	69	32.1	9.9
Sourdough	1496855	WHI18000336	1.6551	0.0017	0.2	34.3	115	46.2	19.1
Sourdough	1496856	WHI18000336	2.0128	0.0018	0.1	72.9	112	70.3	17.6
Sourdough	1496857	WHI18000336	0.8636	0.0008	0.1	16.9	71	24.7	10.3
Sourdough	1496858	WHI18000336	0.8852	0.0020	0.1	16.2	61	23.4	10.9
Sourdough	1496859	WHI18000336	1.4081	0.0015	0.2	26.3	87	42.5	11.3
Sourdough	1496860	WHI18000336	1.1464	0.0027	0.1	18.7	67	37.2	16.2
Sourdough	1496861	WHI18000336	0.8241	0.0008	0.1	16.5	62	25.6	6.3
Sourdough	1496862	WHI18000336	1.0399	0.0009	0.1	23.2	76	34.2	11.5
Sourdough	1496863	WHI18000336	1.4020	0.0008	0.1	30.5	104	45.7	16.7
Sourdough	1496864	WHI18000336	0.9292	0.0014	0.1	18.2	63	29.4	10
Sourdough	1496865	WHI18000336	0.9826	0.0025	0.1	18.4	66	25.2	10.7
Sourdough	1496866	WHI18000336	0.9449	0.0008	0.1	21.8	68	31	9.8
Sourdough	1496867	WHI18000336	1.0290	0.0015	0.1	20.6	73	31.7	9.5
Sourdough	1496868	WHI18000336	1.0334	0.0008	0.1	22.3	82	27.7	7.9
Sourdough	1496869	WHI18000336	2.1745	0.0045	0.3	33.3	99	70.9	23.6
Sourdough	1496870	WHI18000336	0.8334	0.0015	0.1	14.9	60	23.3	8.9
Sourdough	1496871	WHI18000336	1.0052	0.0031	0.1	16.9	63	25.1	8.2
Sourdough	1496872	WHI18000336	0.9725	0.0015	0.1	19.8	68	29.5	10.4
Sourdough	1496873	WHI18000336	0.9207	0.0014	0.1	18.5	66	27.2	9.6
Sourdough	1496874	WHI18000336	0.9791	0.0034	0.1	16.2	60	18.3	13.8
Sourdough	1496875	WHI18000336	1.2771	0.0018	0.1	20.7	91	38.3	9.6
Sourdough	1496876	WHI18000336	1.4495	0.0059	0.1	23.7	81	29.1	8.4

Assay Database Excerpt

Target	Sample_ID	Certificate	Ag_Equiv	Au_ppm	Ag_ppm	Pb_ppm	Zn_ppm	Cu_ppm	As_ppm
Sourdough	1496877	WHI18000336	0.8197	0.0017	0.1	19	55	17.2	10.4
Sourdough	1496878	WHI18000336	0.8970	0.0024	0.1	17.7	62	20.7	11.6
Sourdough	1496879	WHI18000336	0.8071	0.0013	0.1	19.5	51	20.4	13.9
Sourdough	1496880	WHI18000336	1.2200	0.0051	0.1	19.1	61	30.1	12.4
Sourdough	1496881	WHI18000336	1.4268	0.0070	0.1	13.4	70	29	6.3
Sourdough	1496882	WHI18000336	1.1531	0.0021	0.2	16.1	79	24.6	7.8
Sourdough	1496883	WHI18000336	1.2443	0.0018	0.2	19.7	77	33.8	9.6
Sourdough	1496884	WHI18000336	2.0355	0.0032	0.4	19.6	103	62.9	9.3
Sourdough	1496885	WHI18000336	1.2979	0.0042	0.1	28.5	76	32.1	12.1
Sourdough	1496886	WHI18000336	1.2196	0.0028	0.1	22.8	70	35.5	15.8
Sourdough	1496887	WHI18000336	1.4767	0.0051	0.2	25	70	32.7	12.7
Sourdough	1496888	WHI18000336	1.1558	0.0048	0.1	19.3	64	25.2	9
Sourdough	1496889	WHI18000336	1.0670	0.0032	0.1	19.5	73	24.1	9.1
Sourdough	1496890	WHI18000336	1.3289	0.0024	0.1	25.8	98	33.5	9.6
Sourdough	1496891	WHI18000336	1.8008	0.0069	0.5	16	63	29.6	12.7
Sourdough	1496892	WHI18000336	1.4265	0.0038	0.2	18.1	74	38	12.5
Sourdough	1496893	WHI18000336	1.4118	0.0032	0.2	17.9	76	39.9	11.7
Sourdough	1496894	WHI18000336	1.0259	0.0027	0.1	19	58	26.7	9.8
Sourdough	1496895	WHI18000336	1.2568	0.0025	0.4	14.7	54	25.7	12
Sourdough	1496896	WHI18000336	0.8918	0.0021	0.1	15.4	55	22.1	11.9

Appendix IV. HROA Report & Invoice

*Pages removed for submittal with Duncan Creek 2018 assessment report on March 27th, 2019. Maps showing heritage polygons outside of Duncan Creek removed.

ECOFOR
natural and cultural resource consultants

Heritage Resource Overview Assessment: Class 3 Quartz Exploration: Keno Silver Project

(NOT TO BE INCLUDED IN YESAB MATERIALS – SITE SENSITIVE DATA)

Prepared for:

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Report also submitted to:
Na-Cho Nyak Dun First Nation

July 24, 2018

EXECUTIVE SUMMARY

On behalf of Metallic Minerals Corp., Ecofor Consulting Ltd. has conducted a Heritage Resource Overview Assessment (HROA) for the Class 3 Quartz Exploration: Keno Silver Project. The proposed project involves mineral exploration and mining activities on 474 claims located in the area surrounding Keno City. The total study area covers approximately 9,040 ha and lies within the traditional territory of the Na-Cho Nyak Dun First Nation. The project area overlaps with trapping concessions #82, #83, #85, and #86, and outfitting concession #7.

The objectives of this HROA are to assess the heritage resource potential and sensitivity within the Class 3 Quartz Exploration: Keno Silver Project area. To accomplish these objectives, Ecofor has completed a desktop review of the physical/environmental and cultural/historical setting of the study area, and used the data produced by that study to identify areas with elevated potential for encountering previously undocumented heritage resources. Elevated potential for encountering heritage resources is determined through review of multiple factors, including, but not limited to, landform, viewshed, proximity to natural resources (e.g. water, food gathering areas, lithic quarries), and proximity to previously recorded heritage resource sites. This methodology is commonly used in cultural resource management and is designed to err on the side of caution by identifying areas of potential concern before the commencement of any ground disturbing activities. No traditional knowledge/traditional land use information was collected or reviewed as part of this study.

This HROA identified multiple areas of elevated heritage potential for surface/subsurface heritage resource sites. Surface/subsurface site potential areas are primarily associated with high elevation ridgelines, and knolls and terraces on the slopes and low-lying valley bottoms; especially those valley bottoms associated with watercourses. Some areas are also associated with historic mining infrastructure. Elevated potential is also predicted within a 50 m radius of these historic locales. Potential for culturally modified trees (CMTs) was not specifically assessed in this HROA due to a lack of available vegetation inventory data. Should old growth pine-leading stands of forest be encountered during any future field assessments, crews should be vigilant for CMTs. If pine-leading stands are not encountered, minor potential for certain types of CMT, such as blazes, trap trees, and Historic claim markers, may still exist in stands of spruce and/or aspen.

Based on the results of this HROA, **Heritage Resources Impact Assessments (HRIAs) are recommended for multiple areas of elevated potential for surface/subsurface heritage resource sites. Avoidance is recommended for all documented heritage sites. If avoidance is not feasible, then HRIA is recommended for all heritage sites that may be impacted.** Review of this HROA by the Na-Cho Nyak Dun First Nation, and field participation of Na-Cho Nyak Dun

representatives in any future fieldwork (e.g. HRIA), is also recommended and encouraged before any development is approved to proceed.

CREDITS

Report Author:	Tim Bennett, MA
HROA Research:	Tim Bennett, MA
Report Editing:	James Mooney, MA, RPA, RPCA
Graphics/GIS Technicians:	Margie Massier, BA, BSc.

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1.0 INTRODUCTION

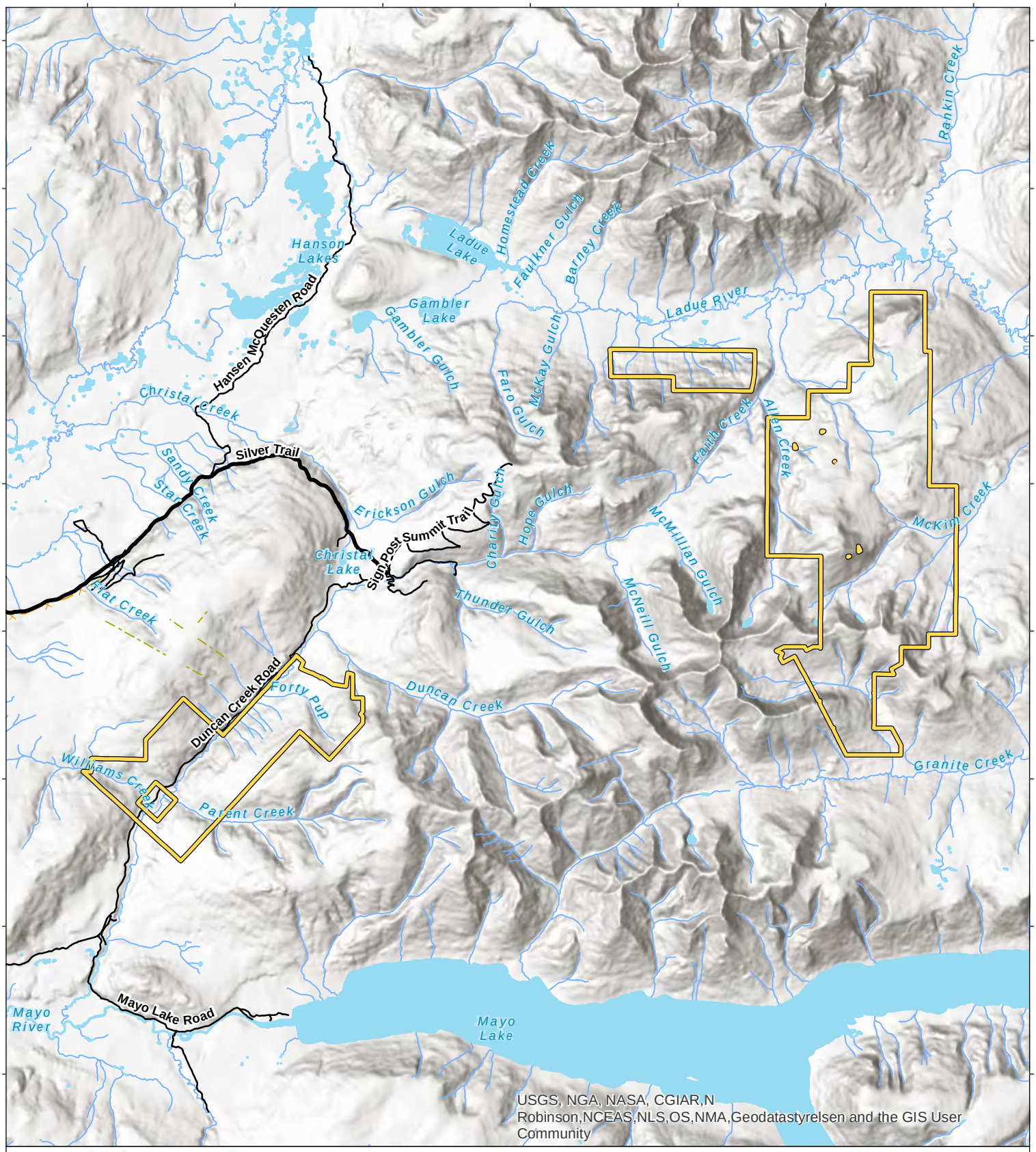
On behalf of Metallic Minerals Corp., Ecofor Consulting Ltd. has conducted a Heritage Resource Overview Assessment (HROA) for the Class 3 Quartz Exploration: Keno Silver Project (Figure 1; see Appendix A). The proposed project involves mineral exploration and mining activities on 474 claims located in the area surrounding Keno City. The total study area covers approximately 9,040 ha and lies within the traditional territory of the Na-Cho Nyak Dun First Nation. The project area overlaps with trapping concessions #82, #83, #85, and #86, and outfitting concession #7.

1.1 HROA Objectives

The objectives of this HROA are to assess the heritage resource potential and sensitivity within the Class 3 Quartz Exploration: Keno Silver Project area. To accomplish these objectives, Ecofor has completed a desktop review of the physical/environmental and cultural/historical setting of the study area, and used the data produced by that study to identify areas with elevated potential for encountering previously undocumented heritage resources. Elevated potential for encountering heritage resources is determined through review of multiple factors, including, but not limited to, landform, viewshed, proximity to natural resources (e.g. water, food gathering areas, lithic quarries), and proximity to previously recorded heritage resource sites. This methodology is commonly used in cultural resource management and is designed to err on the side of caution by identifying areas of potential concern before the commencement of any ground disturbing activities. No traditional knowledge/traditional land use information was collected or reviewed as part of this study.

1.2 Report Format

The report begins with a basic outline of the project and the objectives of the work undertaken. The proposed activities and their impacts are then discussed in Section 2.0. Section 3.0 describes the methods employed in assessing the archaeological potential. Section 4.0 provides a description of the physical/environmental and cultural/historical setting of the study area. Section 5.0 presents an evaluation of the heritage resource potential within the various localities being considered within the study area, Section 6.0 provides a summary of this analysis and a series of heritage resource management recommendations for the study area, and Section 7.0 lists the references cited. Two appendices are included at the end of the report. Appendix A presents mapping illustrating and supporting the recommendations, and Appendix B presents the Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon.



METALLIC MINERALS CORP

FIGURE 1
Keno Silver HROA Overview Map

ECOFOR natural and cultural resource consultants

Ecofor Consulting Ltd. June-11-18 (MM)

1:175,000
(At Original Document Size of 8.5"x11")

0 4 8Km

NAD 1983 UTM Zone 8N

Disclaimer: Base layers were obtained from the National Topographic Database (NTDB), GeoYukon and ArcGIS Online.

- Highway
- Main Road
- Cut Line
- Transmission line
- Watercourse
- Waterbody
- Study Area

2.0 PROJECT DETAILS AND PROPOSED ACTIVITIES WITHIN THE STUDY AREA[1]

The purpose of this project is to explore and delineate AG-Pb-Zn ± Au mineralized ore shoots discovered on the claims comprising the Keno Silver Project via geological mapping, prospecting, soil sampling, geophysics, trenching, bedrock sampling (may include rotary air blast, reverse circulation, and diamond drilling), and possibly bulk sampling. Activities are proposed to occur annually from April 15 to November 1 for five years.

Proposed project activities include:

- Geologic mapping, sampling, and geophysical surveys
- Helicopter use: up to two flights per day
- Existing and new access:
  - Road upgrades: 30 km x <15 m
  - New roads: 20 km x <15 m
  - New trails: 30 km x <15 m
  - Use of existing fords (2)
  - Possible construction of new fords (2)
- Clearings: up to 20/claim (20 m by 20 m each)
- Trenching: up to 450 m; <100,000 m^3 over 5 years
- Drilling (rotary air blast, reverse circulation, and diamond): up to 150,000 m over 1,050 holes
- Line cutting: 20 km x 1.5 m
- Fuel use/storage: diesel (12,000 L), gasoline (2,200 L), jet A/B (2,200 L), propane (1,000 L)
- Bulk sampling: 5,000 tons
- Use of explosives: <1,000 kg
- Water use: <300 m^3/day
- Timber use
- Establishment of one base camp (for 30 people) and temporary fly-camps (with 2-4 people)
- Waste management
- Progressive and final reclamation

[1] The information presented in this section is adapted from the Class 3 Quartz Exploration: Keno Silver Project YESAB project proposal summary and Project Proposal (Form 1) available at http://www.yesabregistry.ca/wfm/lamps/yesab/lowspeed/projectdetails.jsp;time=1528477206509

3.0 METHODOLOGY

This report presents the results of a desktop study designed to predict the potential for encountering heritage resources within the Class 3 Quartz Exploration: Keno Silver Project area. The methodology used in this desktop HROA to develop these predictions is described below.

The desktop review relies on two primary lines of evidence, the physical/environmental and cultural/historical setting of the study area:

1. The first line of evidence is predicated upon attributes of the physical/ environmental setting. These attributes are derived from an analysis of the biogeoclimatic zones, physiography, hydrology, bedrock and surficial geology, and vegetation and wildlife distributions. Aerial photographs and topographic maps were also reviewed. This approach relies on the assumption that specific geographic features, such as elevated landforms (e.g. ridges, knolls, terraces, etc.), water features (e.g. lakes, rivers, creeks, wetlands, and their associated banks/margins), and resource patches (e.g. hunting and foraging locales, quarry sources), can be linked to specific settlement and resource exploitation patterns. Close proximity to these types of landforms is considered to be an indicator of high potential for heritage resources regardless of whether previous heritage resources studies have identified sites of interest in the vicinity.

2. The second approach is built upon a review of previous heritage resource management research conducted within the study area and adjacent lands aimed at understanding the area's cultural/historical setting. The review includes a general overview of the culture historical context of the study area, and a detailed review of previous archaeological studies and historical records. In this stage of the analysis, closer proximity to previously recorded heritage resource sites is considered to be evidence for human use of the area, and it is therefore interpreted as an indicator of elevated potential for heritage resources.

The data obtained through these reviews will then be used to assess the potential for development related impacts to both known and previously undocumented heritage resource sites. In terms of the physical/ environmental setting, the analysis will be based upon the criteria described in section 3.1 of this report. A list of potential site types expected for the study area, and the physical/environmental attributes they are expected to be correlated with, are presented below in Section 3.2. The cultural/historical assessment will be based on a general review of the documented Precontact (Section 4.2.1), Protohistoric (Section 4.2.2), and Historic

(Section 4.2.3) periods in the broader region and modern First Nations whose traditional/ asserted territory overlaps with the proposed project area (Section 4.2.4), as well as specific reviews of previous heritage resource studies, documented archaeological site inventory, and Historic sites on file with the Yukon Government Heritage Resource Unit (Section 4.2.5).

3.1 Landforms and Geographic Features with High Heritage Resource Potential

In addition to the areas around known sites, a number of landforms and landscape features can be used to help identify areas of heightened heritage resource potential. They include:

1. Elevated landforms such as valley edges, terraces, ridges, mid-slope benches, and knolls. These landforms are considered areas of potential for heritage resources because they often offer better drained soils, relative proximity to water and game, and larger viewsheds. Elevated landforms with south-facing margins are considered especially high potential because of their warmer temperatures and better airflow which helps reduce insects. These types of landforms are associated with a wide variety of site types including campsites, lookout sites, cache sites, etc.

2. Areas within close proximity to water are also considered to be areas of potential for heritage resources. The potential of these areas is bolstered both by human water needs, but also those of large game animals, fish, and bird species. The easy access to water makes these areas ideal for habitation and hunting sites.

3. Areas near lithic raw material sources are considered to have potential for heritage resources due to their value as quarry sites.

4. Caves, rockshelters, and tors, are listed as possessing increased potential for heritage resources due to possible use as temporary shelters from poor weather, as possible quarries for lithic raw materials, and as special places on the landscape that may be associated with spiritualism, ritual practices, and rock art in traditional cultures.

5. Sedimentary rock beds with the potential to contain palaeontological remains.

6. A final component of assessing the physical environment is determining the level of previous disturbance in the area. If areas have been severely disturbed in the past it reduces the potential of finding intact archaeological remains. Disturbance can include previous activities such as mining, oil and gas exploration, winter road or airport construction, etc. Disturbance is determined through analysis of the maps and historical

information which indicate locations of previous known industrial activities. Professional judgment is used to determine the level of impact resulting from a given disturbance.

3.2 Potential Site Types Expected in Study Area

Eleven broad site types are considered in this heritage resource assessment for their likelihood to be present within the study areas. Definitions of these site types, and the physical/ environmental attributes they are expected to be correlated with, are presented below. These general assumptions are extrapolated from previous archaeological studies and known sites in the larger area. Please note these broad site types overlap and are not mutually exclusive (e.g. a habitation site may also have been used as a hunting or fishing site).

3.2.1 Permanent/Long-Term Habitation Sites

Permanent/long-term habitation sites would indicate prolonged or repeated occupation of a locality. In this area, permanent/long-term habitation sites could be considered those sites which are returned to seasonally year after year, such as a summer campsite. Based on previous archaeological and ethnographic research, these sites are considered most likely to be associated with high, well-drained, south-facing landforms with grassy margins and/or open, pine dominated forests, and good access to water. Essentially, permanent/long-term habitation sites are only expected in optimal locations.

3.2.2 Temporary Habitation/Subsistence Sites

Temporary habitation sites tend to be associated with resource gathering activities such as hunting and foraging, but can sometimes be related to ceremonial activities. Subsistence related sites are typically represented by lithic tools, evidence of tool production/maintenance, hearths, hunting blinds, and possibly faunal remains. Ceremonial sites related to puberty and shamanistic rituals are often represented by cairns, isolated hearths, and lithics. The locations of hunting related temporary habitation sites are heavily influenced by landforms that also attract animals (e.g. water features) or that offer a commanding view of areas where animals are likely to congregate (e.g. elevated lookouts). Foraging related temporary habitation sites will be focused on areas that support commonly foraged resources such as berries. The exact criteria for these sites will vary depending on the resource being foraged. Ceremonial sites will not necessarily be connected to any specific type of resource, but are often found in difficult to reach places such as high elevation ridges and plateaus. One final area of potential for temporary habitation sites is along travel corridors such as trails. Typically, if found along a travel corridor, these sites will also be associated with some other noteworthy geographic feature such as a lookout or clearing (anything to make the area stand out relative to its surroundings).

3.2.3 Quarry Sites

These sites are found in areas where natural stone was quarried for the fabrication of stone tools. Desirable qualities in raw material types for stone tool manufacture include conchoidal fracture properties and low occurrences of internal flaws and inclusions. Such materials are typically found in a number of contexts including natural veins in bedrock, volcanic formations, or in secondary deposits (e.g. riverbeds).

3.2.4 Rock Art Sites

Rock art is man-made markings or etchings/peckings on natural stone surfaces. Rock art tends to be located along major watercourses, trails, or at boundaries of traditional territories.

3.2.5 Fishing Sites

Fishing sites typically include fish weirs or natural narrowing of major rivers and streams where fish could be caught more easily. Some potential also exists in lakes, but most lakes in the study area, besides the Yukon River, are not associated with waterways that are utilized by high yield fish resources such as salmon.

3.2.6 Human Remains

Unexpected human remains are rarely encountered during heritage resource studies, however the potential for their presence always exists, especially in areas where higher densities of people are known to have congregated in the past. Prior to the influence of Christian missionaries, First Nations people would often place graves and spirit houses on prominent points or terraces near village/camp sites, or on low, level ground near trails. Once Christian practices became commonplace, graveyard burials became the norm for most people.

3.2.7 Culturally Modified Trees

Culturally modified trees (CMTs) are trees that have been altered by humans for a variety of purposes including cambium, sap, kindling, and/or bark collection, marking trails (blazes), and communicating messages. Most documented CMTs in the Yukon are pine trees.

3.2.8 Trails

Trails are pedestrian travel routes that may be marked by a well-worn trail bed, blazed trees and/or other CMT types, and/or cairns. Trails are often associated with natural corridors such as rivers and elevated ridges.

3.2.9 Historic Sites

European trading began in the region in the 1840s, and it is likely that Europeans stuck closer to their trading routes (rivers and trails), relying on First Nations to procure items from further away. As such, early Historic Period sites are most frequently encountered along documented travel corridors and settlement sites, but could also be found away from these areas in association with early European trapping and prospecting activities. Moreover, artifacts of European origin could have been traded to First Nations persons then transported to locations generally considered to be more indicative of Precontact sites. Early historic sites aside, most historic sites within the study area are likely to be associated with 20th century mining and prospecting.

3.2.10 Isolated Finds

Isolated finds are small scale archaeological sites, typically of a single artifact. Due to the scale of these sites, they offer little behavioural insight into the people who created them, but they do document human use of the land in the past.

3.2.11 Palaeontological Sites

Depending on the bedrock geology of the study area, palaeontological remains may be associated with hardrock exposures. Sedimentary bedrock provides the best potential. Pleistocene/ Holocene palaeontological remains may also be present within placer deposits.

4.0 ANALYSIS OF STUDY AREA[2]

The proposed project involves mineral exploration and mining activities on 474 claims located in the area surrounding Keno City. The total study area covers approximately 9,040 ha and lies within the traditional territory of the Na-Cho Nyak Dun First Nation. The project area overlaps with trapping concessions #82, #83, #85, and #86, and outfitting concession #7.

The Keno Silver Project is located in the historic Keno Silver District on the slopes of Galena, Keno, Beauvette, Caribou, and Cobalt Hills south of the South McQuesten and Keno-Ladue Rivers. The landscape in this region is characterized by rolling hills and mountains forming the northern Gustavus Range. Elevations within these hills and valleys range from approximately 550 m a.s.l. to 1,965 m a.s.l., with heavy talus slopes at higher elevations and spruce-willow forests in the valleys. Permafrost coverage is variable, but may reach depths of 80 m on north facing slopes. Primary drainage within the study area is provided by Galena, Duncan, and Lightning Creeks and the Keno-Ladue River.

Portions of the study area has also been the focus of mineral prospecting and mining activities since ca. 1919. As such, some locales have been subject to varying levels of previous disturbance. The total extent of this past disturbance is not well documented, but it appears that the majority of the study area is in undisturbed condition.

Further information regarding the broader physical/environmental and cultural/historical setting of the study area are presented below.

4.1 Physical/Environmental Setting

The study area is located within Boreal Cordillera Ecozone and the Yukon Plateau – North Ecoregion. The following Section provides a summary of this ecoregion to provide environmental context to the results of this HROA (see Smith et al. 2004 for full ecozone and ecoregion discussion).

The Yukon Plateau – North Ecoregion is the largest ecoregion entirely inside the Yukon and contains a large portion of the Tintina Trench. The ecoregion generally consists of relatively rolling highlands with an east-west orientation. It includes the Stewart Plateau, the Macmillan Highland, and the Ross Lowland (Mathews 1986). Terrain ranges from 320 m a.s.l. to 2,160 m

[2] Some information presented in Section 4.0 is adapted from the Class 3 Quartz Exploration: Keno Silver Project YESAB Project Proposal (Form 1) available at http://www.yesabregistry.ca/wfm/lamps/yesab/lowspeed/projectdetails.jsp;time=1528477206509

a.s.l., with an average elevation of 995 m a.s.l. (Smith et al. 2004). Rivers within the ecoregion include the Pelly, Ross, Macmillan, Stewart, Hess, McQuesten and Klondike (Smith et al. 2004).

The mean annual temperature in the Yukon Plateau – North Ecoregion is near -5°C, but seasonal variability is pronounced (Smith et al. 2004). Mean temperatures for January range from below -30°C in the lower valleys to above -20°C in higher terrain (Smith et al. 2004). This is drastically different by July as mean temperatures in the lower valleys are 15°C and close to 8°C in higher terrain (Smith et al. 2004). Frost can occur at any time of the year, but is less likely from mid-June to late July (Smith et al. 2004). Precipitation is moderate with an increase in higher elevation sections in the eastern part of the ecozone. Annual precipitation ranges from 300 to 600 mm (Smith et al. 2004). The winter months have mean precipitation of 20 to 30 mm while the summer months can expect 40 to 80 mm of rainfall (Smith et al. 2004). Winds are generally light, however they may increase to moderate/high during unusually active weather systems or thunderstorms (Smith et al. 2004).

The bedrock geology of this ecoregion includes sections of two geological provinces of metamorphosed sedimentary rock. In the northern half of the ecoregion, variably deformed sedimentary rocks have been deposited on the outer continental shelf of ancestral North America, the Selwyn Basin. The bedrock geology in the southeast part of the ecoregion includes siliceous sedimentary and volcanic rocks of the Yukon-Tanana terrane and metabasaltic flows of the Slide Mountain terrane. The origin of these materials is not well-known due to deformation before and during transportation onto the Selwyn Basin strate (Smith et al. 2004). The southeast section of the ecoregion between Faro and Ross River also includes exposed river and stream cut banks along the Tintina Trench (a 450 km fault) that contains rhyolite and olivine basalt which may have provided materials for prehistoric stone tool making. Also of interest, in the northern Anvil Range, are jet-black or gun steel-blue weathering siliceous siltstone and conglomerate containing chert pebbles. These materials may also have been used for making stone tools.

Soils in the valleys of this ecoregion tend to be underlain by glacial parent materials. Soil development also reflects the presence of extensive discontinuous permafrost and a strong continental climate (Smith et al. 2004). Of interest is the presence of the Wounded Moose and the Diversion Creek palaeosols. These two palaeosols are buried soils formed a great deal of time before the current environmental conditions and may reflect past stable ground surfaces. The Wounded Moose palaeosol developed on glacial surfaces of pre-Reid age and the Diversion Creek palaeosol developed between the Reid and the McConnell glaciations. Both of these palaeosols would predate the known cultural history in the Yukon.

The glacial history of the Yukon Plateau – North Ecoregion was dominated by the actions of the Cordilleran ice sheet and local glaciers. More recent glaciations were less extensive. Most current glacial features are remnants from the McConnell glaciation (Smith et al. 2004), however some older features and glacial erratics are present from the older Reid and pre-Reid glaciations. Some uplands and valley floors were extensively eroded into "whalebacks" or rock drumlins by the glacial flow. The western edge of the ecoregion was approximately the terminus for the ice sheet of the McConnell glaciation. As the ice retreated through regional stagnation and wasting it left behind kame and kettle topography and glacial lake deposits in many valleys (Smith et al. 2004).

The vegetation of the Yukon Plateau – North ranges from boreal to alpine. Northern boreal forest exists at elevations up to 1500 m a.s.l. (Smith et al. 2004). Open black spruce with a moist moss, or drier lichen understory is the dominant forest type in the boreal zone (Smith et al. 2004). Shrub and lichen tundra dominate the higher elevations (Smith et al. 2004). The alpine vegetation is characterized by low ericaceous shrubs, prostrate willows, and lichens. In the subalpine areas, shrub birch, with scattered pine, white spruce, subalpine fir, and a lichen understory is extensive (Smith et al. 2004). Extensive shrub lands exist at mid-elevations and on valley bottoms that are subject to cold air drainage. Black spruce is the dominate tree type in the ecoregion, however white spruce, occasionally with aspen or lodgepole pine, occur in warmer, better-drained areas and in forest fire burn areas (Smith et al. 2004).

The Yukon Plateau–North Ecoregion supports wildlife populations typical of Yukon's boreal forest. Moose, woodland caribou, Stone sheep, Dall sheep, grizzly bear, black bear, wolverine, and marten are all abundant. This ecoregion supports the greatest proportion of brown-coloured black bears in the Yukon, occurring between the Stewart and Pelly rivers (Yukon Department of Renewable Resources 1988). Lynx, beaver, chestnut cheeked vole, mule deer, coyotes, and red fox are also present in some sections of the Yukon Plateau – North (Smith et al. 2004). Of particular interest in the larger area are the Tay River Caribou herd, and an overlap of Stone and Dall Sheep, while mountain goats are uncommon. The Tintina Trench forms an important part of a migration corridor for Sandhill Crane and waterfowl (Smith et al. 2004). Wetlands provide habitat for Pacific, Red-throated and Common Loons, Trumpeter Swan, Canada Goose, American Widgeon, Green-winged Teal, scaup, and scoters (Dennington et al. 1983; Dennington 1985; McKelvey and Hawkings 1990). Osprey and Bald Eagle also breed around lakes (Dennington et al. 1983). Forested areas host Ruffed, Blue, and Sharptailed Grouse, Common Nighthawk, Yellow-bellied Sapsucker, Hairy Woodpecker, Western Wood-Pewee, Hermit Thrush, Townsend's Warbler, Spruce Grouse, Great Horned Owl, Three-toed Woodpecker, Black-capped and Boreal Chickadees, Gray Jay, Common Raven, Red-tailed Hawk, Northern Flicker, Olive-sided Flycatcher,

Rubycrowned Kinglet, Swainson's Thrush, Varied Thrush, Yellow-Rumped Warbler, Blackpoll Warbler, and Dark-eyed Junco (Osgood 1909; Rand 1946; Johnston and McEwen 1983; Frisch 1987). And finally, in alpine areas Gyrfalcon, Rock and White-tailed Ptarmigan, Wandering Tattler, Gray-Crowned Rosy Finch, American Pipits, Willow Ptarmigan, Wilson's Warbler, American Tree Sparrow, and Golden-Crowned Sparrow can be found (Osgood 1909; Beckel 1975).

4.2 Cultural/Historical Setting

The following is an overview of the culture history for the broader region surrounding the study area including south-central and southwestern Yukon, and northern British Columbia. Many researchers have reviewed the cultural history of this broader area and have presented the information using a variety of terms and temporal ranges (Clark 1981; West 1996; Workman 1978; J. V. Wright 1995, 1999).

4.2.1 Precontact Period (ca. 11,000 BP to ca. AD1700s)

The earliest Precontact occupation, which dates to early post-glacial times, is known as the Northern Cordilleran Tradition (Clark 1983; Hare 1995). The earliest Northern Cordilleran Tradition occupation known at present is a site located near Beaver Creek, dated to 10,670 BP (Heffner 2002). The majority of sites appear to date older than 7,000 to 8,000 BP. The Northern Cordilleran Tradition, with some overlap, predates the introduction of microlithic technology from Alaska into the interior of the central and southern Yukon (Clark 1983; Hare 1995).

The Northern Cordilleran Tradition was followed by the Little Arm Phase, which dates from 7,000 to 4,500 BP (Clark and Gotthardt 1999; Workman 1978) and can be defined by the use of microlithic technologies. After about 4,500 BP, there is less evidence of microblade use in the Yukon, and an increase in the use of notched projectile points and a variety of scraping and carving tools. This new tool industry is known as the Taye Lake Phase in southwest Yukon, or more broadly in Yukon and Alaska as the Northern Archaic Tradition (Hare 1995; Workman 1978).

The most recent archaeological culture of southern Yukon is that of the Aishihik Phase (Workman 1978). This phase is thought to be a cultural development from the earlier Taye Lake culture, although there are some significant differences in technology. The most notable is the introduction of the bow and arrow, replacing a type of throwing spear known as an atlatl (Hare et al. 2004). These Aishihik Phase sites are found above the White River Volcanic Ash layer (also known as White River Tephra) that is dated to about 1,250 BP (Clague et al. 1995).

The Aishihik Phase has been evaluated as ranging from approximately AD 750 to AD 1750, and also includes the use of native copper tools, stemmed projectile points, and gorges. Also indicative of the Aishihik Phase are small stemmed Kavik points, end and side scrapers, and ground adzes (Hare 1995). The poor preservation of organic materials makes the task of diet reconstruction more difficult than at the coastal sites, but there is evidence of continued use of a variety of large and small mammals, fish, and birds. In the high elevations of the southern Yukon ice patches, examples of the transition from the older atlatl technology to the bow and arrow use has been clearly documented by recent finds (Hare at al. 2004). The shift to the new technology was a rather abrupt one at roughly AD 750 based on a good sample of preserved and dated atlatl dart shafts and bow and arrow remains.

4.2.2 Protohistoric Period (ca. AD1700s to ca AD1840s)

The Protohistoric Period, as presented here, can be defined by the appearance of non-native goods, other early trade items, and foreign (western or eastern) influences, but not the documented accounts of non-native peoples themselves. As such, it spans the time between the first introduction of non-native influences or artifacts, and the recording of first hand or primary written accounts. Other indicators of the Protohistoric Period are the arrival of the first non-native diseases and information concerning non-natives. Unlike other cultural periods with more specific temporal ranges it is difficult and perhaps impossible to determine when the first 'outside' influences from Russian, Asian, European, or other more distant cultures began to impact First Nations people in the Yukon interior.

Some of these far reaching effects may have been passed along from Russian exploration in the early and mid-1700s (Veniaminov 1984) and other Asian and European (Andreev 1944, Quimby 1985) exploration and contact with coastal communities. The Chilkat Tlingit from the Northwest Coast travelled and traded with many interior First Nation peoples throughout this Protohistoric Period including the Northern Tutchone from the Dawson and Mayo areas and occasionally the Mountain Dene people from as far away as Fort Norman on the Mackenzie River. The Tlingit protected and controlled the trading routes into the interior and fiercely defended those routes when they were threatened. News of early non-native explorers and traders would have travelled inland along with foreign items such as metals, cloths, glass beads, and later tobacco and other goods.

In some of the earliest cases the impacts of these foreign cultures could have had significant impacts even without the presence of the foreigners themselves. Such is the case for what is called 'drift-iron' whereby metals and other materials from Asian or European shipwrecks wash

ashore in wood debris. Historical accounts of shipwrecks have been reported in the mid-1700s, but much earlier wrecks were possible. Metals and other foreign trade items have been derived from shipwrecks off what is now British Columbia, Southeast Alaska, and perhaps the Northwest Alaska as well.

4.2.3 Historic Period (post ca. AD1840s)

4.2.3.1 Historic Period Overview

During the early years of this period the Russians were exploring along the Pacific coast and up the major rivers of the Alaskan interior, while the British were exploring eastward into what would become Canada's Northwest and Yukon Territories, and Alaska. In the 1840s, representatives of the Hudson Bay Company (HBC) established trading posts throughout the northern territories. The closest trading post to the study area would have been the HBC Fort Francis post, located on the north side of Frances Lake, at the junction of the East and West Arms. In 1840 Robert Campbell of the HBC built "Glenlyon House" and began trading there in 1842. When trading began Campbell changed the name from Glenlyon House to Fort Francis, after Lady Francis Simpson the wife of the governor of the HBC. It was the first trading post in the Yukon Territory and was successful for the first few years however when Fort Selkirk and Fort Pelly Banks were established it deteriorated and eventually shut down in 1852 (Coutts 1980). The location of Fort Selkirk was known to upset the Chilkat Tlingit who controlled the trade routes from the coast to the central Yukon. In 1852, a Chilkat Tlingit raiding party travelled inland and forced Robert Campbell and his crew to leave the trading post, which was consequently burned by the Northern Tutchone (Castillo 2012). After the post at Frances Lake and the Fort at Pelly Banks were abandoned by the Hudson's Bay Company by 1851-1852, Fort Halkett remained open until 1865.

In 1867, US Secretary of State William Seward was able to focus increasing American interests, and he convinced the United States Senate to purchase Alaska from Russia. Soon after the purchase, the US Army sent Captain Raymond up the Yukon River on the first sternwheeler steamer to reach Fort Yukon (Grauman 1977). Raymond surveyed the location of Fort Yukon and proved that it was within US territory. The British sold the Fort to the US Government and relocated east across the 141st Meridian.

The inland fur industry continued to drive exploration and settlement into the late 1800s, but mining would shift the focus to the placer gold found in streams and alluvial deposits. Mining in the second half of the nineteenth century was a risky, but often very lucrative enterprise. The impacts of mining would spread quickly and drastically change the project area.

Mineral prospecting and mining efforts in the second half of the nineteenth century were, in some ways, very dependent on the existing infrastructure of the fur trading and missionary efforts. As the competition for the inland fur trade grew, so would the number of sternwheelers on the Yukon River. These steamers could better supply the small number of trading posts along the Yukon and its tributaries and reduce the risk of prospectors running short of supplies. Therefore, more of the fur traders and other explorers turned their attention to search for gold and other minerals. Three key prospectors to the north were L.S. (Jack) McQuesten, Al Mayo, and Arthur Harper. They wrote to miners in the United States to encourage them to come north. They also established outposts along the Yukon River, including Fort Reliance, established in 1874 near the confluence of the Klondike River (what would become Dawson City) (A. A. Wright 1976).

Harper and another man may have been the first to travel up the Fortymile in search of gold in 1881 (Buzzell 2003). They collected a very rich sample but were unable to relocate the exact location. In 1886, McQuesten, Harper, and Mayo built a post on the confluence of the Stewart and Yukon Rivers which provided supplies for additional prospectors. Also in 1886, Howard Franklin made a richer find on the Fortymile River. Others rushed in and these claims along the Fortymile River attracted miners from across Central and Eastern Alaska, and even Southeast Alaska. Fortymile was the first town to grow to over a thousand people by the mid-1890s (Buzzell 2003), and in 1887 the Stewart River post was deserted. Some prospectors that did not find easy success in Fortymile returned to the Stewart and continued work in the area. In 1890, Harper re-established a trading post at the site of the old HBC post at Selkirk as interest in the area grows. This was followed by Jack Dalton who developed a series of existing First Nation trails from tide water at Haines Alaska, into Fort Selkirk.

Then, on August 16, 1896, George Carmack, Skookum Jim, and Tagish Charlie discovered a very rich claim on Bonanza Creek, a tributary to the Klondike River near Dawson. This discovery sparked one of the largest gold rushes in history.

It would take almost a year for the news of the Klondike gold fields to spread south, even to places relatively close by in southeast Alaska. Most of the prospectors and traders in the Alaskan and Yukon interior had already converged on the Dawson area during the winter and spring, and supplies ran dangerously low. That would quickly change in the summer of 1897 and spring of 1898 as new towns and supply posts sprang up along the Gold Rush routes to cash in on the increased demand.

The population of Dawson City grew very fast and in 1898 reached a peak of over 30,000. However, the boom period did not last long, and the vast majority of population moved on very

quickly with the news of other discoveries and hopes of other bonanzas. The Gold Rush period saw greatly increased steamer traffic on the entire Yukon River drainage basin and across the interior. Just prior to the Gold Rush there were only a few steamers, while at its peak there would be hundreds of vessels working the rivers. These shallow draft steamers were supported by a network of wood camps, shipyards, and a large workforce which kept the river traffic moving. This network provided the infrastructure backbone for trading posts, fish camps, missionaries, and mail routes, while meeting the needs of the growing number of prospectors and traders.

The boom period around Dawson did not last long and when gold was discovered on Duncan Creek in 1901, the area was the focus of enough people that a Mining District was created with an office at the mouth of Duncan Creek on the Mayo River. This boom was likely responsible for bringing in additional prospecting around Mayo Lake (Mayo Lake had been named by Alexander MacDonald in 1887 after Captain Alfred Mayo).

At its peak the placer mining on Duncan Creek drove the establishment of a trading post and trail head named Gordon Landing near the confluence of Janet Creek and the Stewart River. From there a two-mile trail up Janet Creek to Janet Lake allowed people and goods to travel further north along Davidson Creek to what was called Mayo Bridge which was close to where Duncan Creek drained into the Mayo River. People could take one of two trails to Mayo Bridge from the southeast end of Janet Lake. These trails are roughly mapped on the 1905 Geological Survey of Canada map of a portion of the Duncan Creek Mining District (Mayo Historical Society 1999:32). One trail continued north crossing north-northeast to Davidson Creek then down Davison Creek almost to the Mayo River then west along the south side to close the Duncan Creek confluence. The second trail followed along the north side of Janet Lake to about the midway point on the north shore of the lake then turned approximately due north to the Mayo River, near Duncan Creek confluence (near what is believed to be “Old Town”). The early communities are mapped in E. L. Bleiler’s map showing creeks and rivers in the Mayo Area (Mayo Historical Society 1999:34). Of interest is the mapped community of Mayo Bridge shown west (or upstream on Mayo River) of the Duncan River confluence. This Mayo Bridge area may overlap with what some informants call “Old Town” (downstream of the current bridge over the Mayo River to Davidson Creek).

The travel route from Gordon Landing on the Stewart River up to Duncan Creek was used primarily from 1902 till 1903 when the townsite of Mayo was established at the mouth of the Mayo River. In this short period the entire length of Duncan Creek from its mouth to its headwaters had been staked.

In 1902, Frank Brain and Percival Nash, accompanied by a group of families from Fort Good Hope, established a post at the confluence of the Stewart and Lansing Rivers (Mayo Historical Society 1999). In 1902 a winter road was also built to connect Whitehorse and Dawson, and in 1903 the community of Mayo Landing was established at the confluence of the Mayo and Stewart Rivers. Mayo Landing would later be known as Mayo following improved road access which replaced the sternwheeler traffic. By 1903 several of the creeks draining into Mayo Lake had been prospected and worked including Steep, Ledge, Cascade, Anderson, Gull, and Edmonton Creeks. Also in 1903, Jacob Davidson stated "Hell's Gate" claim, found galena near Duncan Creek, and was the first to record the silver-lead ore and stake a silver claim in the area.

In 1904, an overland trail was built from Dawson to Duncan Creek which linked a good wagon road from Duncan Creek to Mayo Landing. In 1912, Harry McWhorter along with Grant Huffman and Jack Alverson returned to the area previously stated by Jacob Davidson known as the Silver King. In 1913 Huffman staked the "Mabel" claim after his daughter and Alverson staked the "Webfoot" claim. By 1914, after significant efforts, Huffman and Alverson netted roughly five thousand dollars profit each (based on a lease agreement with McWhorter) and the area began its long standing and continuing association with galena. In 1918, Grant Huffman built a farmstead on the Mayo Canyon associated with the road to Keno and in the 1920s was a market hunter for the Treadwell Yukon Company (Mayo Historical Society 1999). He was said to have supplemented his hunting with produce from his farmstead including cabbages, carrots, and potatoes. He was known to have built two cabins in the Silver King area and two others near the Mayo Canyon, the remains of which were identified during past fieldwork.

Following the success of Huffman and Alverson, McWhorter cancelled the lease and optioned the property to Thomas Aitken who in turn purchased the property for $75,000. Over the winter of 1916-1917, with the help of a large crew Aitken mined approximately 1,386 tons of high grade silver. He then optioned the property to his partners and left them with little high grade remaining. Overall Aitken was said to have earned roughly $500,000 from Silver King (Mayo Historical Society 1999).

In July 1919, Alfred Schellinger staked the Keno claim on Keno Hill and over that winter more than 500 additional claims were staked. Another boom began in what would be become associated with the community of Elsa. However, unlike other quickly lived communities, this Mayo-Elsa-Keno area provided jobs and revenue that carried the Territory between World War I and World War II.

Further detail specific to the history of the Keno Silver District area is presented in the following section.

4.2.3.2 Keno Silver District History

The Keno Silver District is a polymetallic silver-lead-zinc vein district, consisting of a cluster of deposits and occurrences that have a similar mineralogy and geological setting, and contain one of the richest Ag-Pb-Zn vein deposits ever mined in the world (Cathro 2006). Following a brief period of small scale hand mining between 1913 and 1917, larger scale production was almost continuous from 1919 to 1989, except from 1942 to 1945 during World War II (McOnie 2016). Between 1921 and 1989, more than 213 million ounces of silver were produced in the Keno Silver District (MM 2018).

The first miners came to the Keno Silver Hill District in search of placer gold, but soon after the focus turned to silver. The first silver claim in the area was the Hell's Gate claim staked on Galena Creek by Jacob Davidson in 1903. Early results from the claim were positive, but it was not considered viable by assayer Harry McWhorter because of the small claim size and lack of gold in the assayed samples. McWhorter later returned in 1912 and re-staked Hell's Gate as Silver King, which marked the beginning of a claim rush on Galena Hill. Despite this claim rush, mining efforts remained small scale, relying primarily on hand mining, with shafts being sunk with the aid of boilers and steam compressors to melt the frozen overburden and windlass and bucket rigging to clear materials. Ore was then transported by pack horse to Mayo where it was loaded onto steamers to Whitehorse, then on to San Francisco for smelting.

By ca. 1917, some larger scale exploration and mining programs were also beginning to come online. Major mines founded during this period include those at the Fisher claim in 1919 and Bermingham in 1921. In 1920, Keno Hill Ltd. was founded by the Yukon Gold Co. to manage claims it had acquired in the area. As more people began coming to the area, John Kinman's cabin became a popular stopping point along the mining haul road. This location would go on to become Keno City. In 1921, Treadwell Yukon Co. geologist and engineer Livingston Wernecke came to the Keno Silver Hill area. Wernecke utilized a number of innovative techniques to scale up mining activities including the use of diamond drills to investigate deep deposits, bulk floatation mills to crush ore and make slurry, and aerial tramlines to move ore. Caterpillar type tractors also replaced pack horses for hauling ore during this time. Mining activities scaled up again in 1924 with the discovery of rich deposits at Elsa by Charlie Brefalt. The Lucky Queen and Sadie-Ladue mines also began operating during this period.

Proper large scale mining operations began ca. 1928, when Wernecke optioned the Elsa claims for the Treadwell Yukon Co., and continued through to the late 1980s. Operations at these Elsa claims led to the development of a Treadwell Yukon Co. company town at Elsa that replaced many of the small, isolated mining camps scattered throughout the Keno Silver Hill District (Bleile et al. 2012). Elsa continued to grow when the mill, former located at the Wernecke camp, was moved to the town following the exhaustion of the Lucky Queen and Sadie-Ladue claims. Eventually, this upscaling of activities culminated in the take over of the claims run by the Treadwell Yukon Co. by United Keno Hill Mines Ltd. in 1947. A second mill, the Mackeno Mill, was operated near Christal Lake from ca. 1953-1959 to service ore from Bellekeno and Galkeno. United Keno Hill Mines Ltd. eventually became the 2nd largest silver producer in Canada and the 4th largest in the world.

United Keno Hill Mines Ltd.'s tenure in the Keno Silver Hill District came to an end in 1989 when the company succumbed to low metal prices, declared bankruptcy, and ceased mining operations. Despite the end of the United Keno Mines era, mining continues to be important to the regional economy, and many new companies, including Metallic Minerals Ltd., have moved in to continue the tradition of exploration and mining in the Keno Silver District.

4.2.4 Modern First Nations

The Na-Cho Nyak Dun First Nation (NND) is part of the Northern Tutchone language and culture group. In the past, the Tutchone peoples were highly mobile, travelling in small groups in order to exploit the greatest number of resources. They would modify their movements depending on the patterns of large game animals and fish, or in later years to trade their furs with Westerners. In the summer, small domestic units gathered together to catch fish so that they could dry and store it for the winter months. By mid-summer several family groups moved upland together in order to kill large game mammals that they would dry and store in caches scattered in a variety of areas. From there some units moved away independently during the coldest months to trap and live off of the cached foods. The leanest months were March and April. In spring, several units often came together at this point to catch spawning whitefish or trap muskrat and beaver. May was the most plentiful month, with migrating waterfowl, fat ground squirrels, larger and more abundant fish, as well as the arrival of the Coastal Tlingit traders (McClellan 1981).

The principal ethnographic descriptions of the Tutchone are available in Cruikshank (1974, 1975), Johnson and Raup (1964), McClellan (1950, 1964, 1970a, 1970b, 1975), and Tanner (1966). Additional information on camp and village locations can be found in Schwatka (1885). Although villages were not inhabited year round, people would return to good fishing and/or hunting spots

year after year. This would eventually change with the influence of Westerners. Watercraft were constructed for use, however during the summer months Tutchone people preferred to walk overland, rather than brave the sudden winds on the large lakes or the treacherous river rapids. Boats were not the preferred method of transport.

The NND First Nation remained somewhat isolated until the discovery of gold in the area in 1883 (Mayo Historical Society 1999). The NND are known to have used many traditional camps, lookout sites, hunting areas, berry patches, and trails in the larger project area with extensive use of rivers. McClellan (1981) summarized the common seasonal activities beginning in the spring with grayling fishing following spring break up. The NND people remained almost completely isolated from non-First Nation people, except for a few explorers passing through, until miners set up a supply post along the McQuesten River in 1886. The supply post soon turned into a village and from then on permanent camps and villages have existed in the larger area surrounding Mayo Lake. During the Duncan Creek gold rush, a trading post called Gordon Landing was established near the confluence of Janet Creek and the Stewart River. From there a trail allowed people to travel north partially along Davidson Creek to the confluence of Duncan Creek on the Mayo River. The Town of Mayo was established in 1903 and the people of McQuesten and a few other small encampments moved there or to the "Old Village" just outside of town (Mayo Historical Society 1999). This village made it possible for people to receive a western education, live close to Mayo, and continue their preferred way of life and cultural celebrations. Eventually the "Old Village" was abandoned when in 1958 the local health officials determined the drinking water was polluted and the NND were requested to move to the Town of Mayo. The First Nations people in the Mayo area officially chose the name "Na-Cho Nyak Dun" in 1987 which means "Big River People" in reference to the now named Stewart River.

4.2.5 Previous Heritage Investigations

Consultation with staff at Yukon Heritage revealed that no permitted heritage resource studies have been conducted within the study area. As such, no archaeological sites have been previously recorded within the study area. However, four Yukon Historic Sites Inventory (YHSI) sites have been recorded along Duncan Creek within the most westerly claim block. Moreover, two archaeological sites are known along Duncan Creek approximately half way between the most westerly and most easterly claim blocks. Further detail on these sites is presented in Sections 5.2 and 5.3 of this report.

5.0 RESULTS

This section presents the results of the HROA analysis. These results are divided into three categories: areas of elevated potential for previously undocumented heritage resource sites (Section 5.1), previously recorded archaeological sites (Section 5.2), previously recorded YHSI sites (Section 5.3). Potential for culturally modified trees (CMTs) was not specifically assessed in this HROA due to a lack of available vegetation inventory data. CMT potential is primarily identified through the presence or absence of old growth pine-leading stands, with the presence of such stands being interpreted as a potential elevating factor. Should old growth pine-leading stands of forest be encountered during any future field assessments, crews should be vigilant for CMTs. If pine-leading stands are not encountered, minor potential for certain types of CMT, such as blazes, trap trees, and historic claim markers, may still exist in stands of spruce and/or aspen.

It should be noted that although all efforts were made during the production of this report to make its assessment of heritage resource potential as comprehensive and accurate as possible, the methods employed provide relatively coarse resolution. As such, small undocumented areas of heritage resource potential may be present within the study area that were not captured by this overview. Moreover, there is always a possibility that chance finds of heritage resources will be made in areas of low perceived potential. If such areas or finds are encountered at any point during development, all work in the find area should cease and staff at the Yukon Government Heritage Resources Unit should be contacted immediately.

5.1 Areas of Elevated Potential for Previously Undocumented Heritage Resource Sites

This HROA identified multiple areas of elevated heritage potential for surface/subsurface heritage resource sites. Surface/subsurface site potential areas are primarily associated with high elevation ridgelines, and knolls and terraces on the slopes and low-lying valley bottoms; especially those valley bottoms associated with watercourses. Maps showing the identified areas of elevated heritage resource potential are presented in Appendix A, and an assessment of the potential for encountering each of the eleven site types outlined in Section 3.2 of this report is presented in Table 1.

5.2 Previously Recorded Archaeological Sites

Consultation with staff at Yukon Heritage revealed that no archaeological sites have been previously recorded within the study area. This lack of sites more likely reflects the lack of previous archaeological survey work within the study area than a true lack of sites. The closest known sites are two archaeological sites located along Duncan Creek approximately half way between the most westerly and most easterly claim blocks. Borden numbers for these sites had

Site Type	Potential	Comments
Permanent/ Long-Term Habitation	Low	Permanent/long-term habitation sites tend to be located near significant landscape features that provide optimal places for campsites such as major rivers and lakes. Such features are largely absent within the study area, but the Keno-Ladue River does pass close to the study area, and Lightning Creek crosses small portions of the westernmost block.
Temporary Habitation/ Subsistence	High	The probability of finding temporary habitation sites is high within the study area. The most likely temporary habitation sites to be encountered are those related to subsistence activities. They are most likely to be located on well-drained terraces above creeks and prominent landforms in well-drained upland areas (e.g. knolls, ridgelines, and tors).
Quarry Sites	Low	Review of geological bedrock mapping shows that the study area is located primarily a clastic/carbonate sedimentary domain, with one small section extending into a plutonic domain. Common rock types include shale, limestone, quartzite, siltstone, sandstone, conglomerate, and granite. Some quartzites and siltstones are suitable for the manufacture of stone tools, but the quality of such rocks in this area is unknown. Some potential exists for other knappable rocks, such as chert, in the creekbeds.
Rock Art Sites	Low	The potential for rock art is considered to be low.
Fishing Sites	Low	The potential for finding fishing sites within the study area is low, but some minor potential may be present along the larger creeks.
Human Remains	Low	Organic preservation conditions in the study area is not considered to be favorable for the preservation of undocumented human remains. However, considering the intensive use of the study area throughout the Historic Period, there is some potential for the identification of relatively recent graves associated with prospectors and miners who worked in the area.
Culturally Modified Trees	Unknown	CMT potential is primarily identified through the presence or absence of old growth pine-leading stands, with the presence of such stands being interpreted as a potential elevating factor. Should old growth pine-leading stands of forest be encountered during any future field assessments, crews should be vigilant for CMTs. If pine-leading stands are not encountered, minor potential for certain types of CMT, such as blazes, trap trees, and historic claim markers, may still exist in stands of spruce and/or aspen.

Table 1: Assessment of the probability of encountering predicted site types (continued on following page).

Site Type	Potential	Comments
Trails	Moderate	No previously documented heritage trails are present within the study area. However, given the intensive mining activity in the area over the past 100 years, it is likely that undocumented Historic Period trails exist. Potential also exists for Precontact First Nations trails.
Historic	High	Four YHSI registered sites have been documented within the study area. Moreover, the area has a long history of intensive mineral exploration and mining activities. As such, the potential for encountering significant Historic Period sites is high.
Isolated Finds	High	The potential for isolated finds exists throughout the study area. If other site types are present, the probability of identifying additional associated isolated finds in their vicinity will be elevated.
Palaeonto-logical Sites	Moderate-High	The study area is primarily located within a clastic/carbonate sedimentary geological domain. As such, potential for hardrock palaeontological remains is present. Holocene remains may also be present in placer deposits.

Table 1: Assessment of the probability of encountering predicted site types (continued).

not yet been assigned at the time this report was prepared, and no site details were available, but they do speak to the potential for additional sites to be identified within the study area.

5.3 Previously Recorded YHSI Sites

Consultation with staff at Yukon Heritage revealed that four YHSI sites have been previously recorded within the study area. These sites are summarized in Table 2. The site forms for these structures also mention a covered work bench and overgrown mine shaft in the area, but those sites have not been documented.

YHSI ID	Site Name	Site Type	Past Use	Current Use
105M/14/308	Duncan Creek Cabin 1	Architecture	Residence	Abandoned
105M/14/309	Duncan Creek Cabin 2	Architecture	Residence	Abandoned
105M/14/310	Duncan Creek Cabin 3	Architecture	Residence	Abandoned
105M/14/311	Duncan Creek Root Cellar	Architecture	Storage	Abandoned

Table 2: Previously recorded YHSI sites.

6.0 SUMMARY AND RECOMMENDATIONS

The goal of this study was to identify areas of archaeological potential within the Class 3 Quartz Exploration: Keno Silver Project area. This was accomplished through a detailed review of the physical/environmental setting, cultural/historical setting, previous heritage studies/identified sites within the study area, topographic maps, geological maps, aerial photographs, and LiDAR-based elevation profile imagery.

Through this review, multiple areas of elevated heritage potential for surface/subsurface heritage resource sites were identified. Surface/subsurface site potential areas are primarily associated with high elevation ridgelines, and knolls and terraces on the slopes and low-lying valley bottoms; especially those valley bottoms associated with watercourses. Some areas are also associated with previously recorded heritage resource sites (buffered with a 50 m potential radius for additional heritage resources). Potential for CMTs was not specifically assessed in this HROA due to a lack of available vegetation inventory data. Should old growth pine-leading stands of forest be encountered during any future field assessments, crews should be vigilant for CMTs. If pine-leading stands are not encountered, minor potential for certain types of CMT, such as blazes, trap trees, and Historic claim markers, may still exist in stands of spruce and/or aspen.

Heritage resource management recommendations for the Class 3 Quartz Exploration: Keno Silver Project area directly follow the assessment of heritage resource potential discussed in Section 5.0. These recommendations include:

1. Heritage Resource Impact Assessments (HRIAs) are recommended for all lands with elevated heritage resource potential, as illustrated in the potential areas identified in this study before any development be approved to proceed within them. Should additional areas of potential be identified within a proposed development area during HRIA work, they should be assessed following the same standards recommended for the areas of potential identified in this report. HRIA work should be conducted under a Class 2 archaeological research permit issued by the Heritage Resources Unit of Yukon Tourism and Culture. HRIAs should, at minimum, include provisions for surficial survey and subsurface testing within the boundaries of the HRIA area identified in this document and any associated areas of potential that are identified in the field which are at risk of being impacted by proposed developments. Additional recommendations may be made following an HRIA depending on the results obtained.

2. Avoidance is recommended for all known heritage resource sites. If avoidance is not feasible, then HRIA is recommended for all heritage sites that may be impacted. This HRIA work should be conducted to the standard described above.

3. No specific recommendations are made in regard to CMTs due to a lack of available vegetation inventory data. However, field crews should be vigilant for CMTs in all forested areas.

4. No Further Work (NFW) is recommended in areas identified as having low heritage resource potential prior to allowing development. However, development should only be allowed to proceed on the condition that all chance finds of heritage resource materials be reported immediately to the Heritage Resources Unit of Yukon Tourism and Culture, and that all work at the location of a chance find cease until the Heritage Resources Unit is able to assess the finds and issue a response (clearance to proceed or requirements for avoidance/further mitigative work).

It is also recommended that this HROA report be submitted to the Na-Cho Nyak Dun First Nation for review and consultation with regard to traditional knowledge/traditional land use. Moreover, if further heritage resource work is conducted within the Class 3 Quartz Exploration: Keno Silver Project area, it is recommended that representatives from the Na-Cho Nyak Dun First Nation be given opportunity to participate in any field investigations.

Should future HRIA work be conducted, all heritage resource sites identified, whether new or revisited, should be recorded as per the requirements outlined in the Yukon Archaeological Sites Regulation (O.I.C. 2003/73). Once recorded/revisited, specific heritage resource management recommendations should be made for each site that reflect the potential impacts associated with the proposed development that spurred the HRIA.

Lastly, although all efforts were made during the production of this report to make its assessment of heritage resource potential as comprehensive and accurate as possible, the methods employed provide relatively coarse resolution. As such, small undocumented areas of heritage resource potential may be present within the study area. Moreover, there is always a possibility that chance finds of heritage resources will be made in areas of low perceived potential. The recommendations contained herein are intended to be used for planning purposes. Should intensive development be proposed for areas within the Class 3 Quartz Exploration: Keno Silver Project area in the future, further assessment, focused on the specific footprint of the proposed development is recommended.

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APPENDIX A: HROA Mapping

Keno Silver HROA

Map 1 of 5

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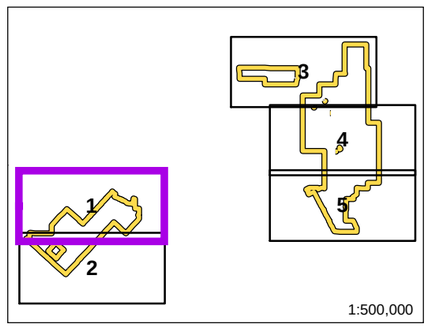
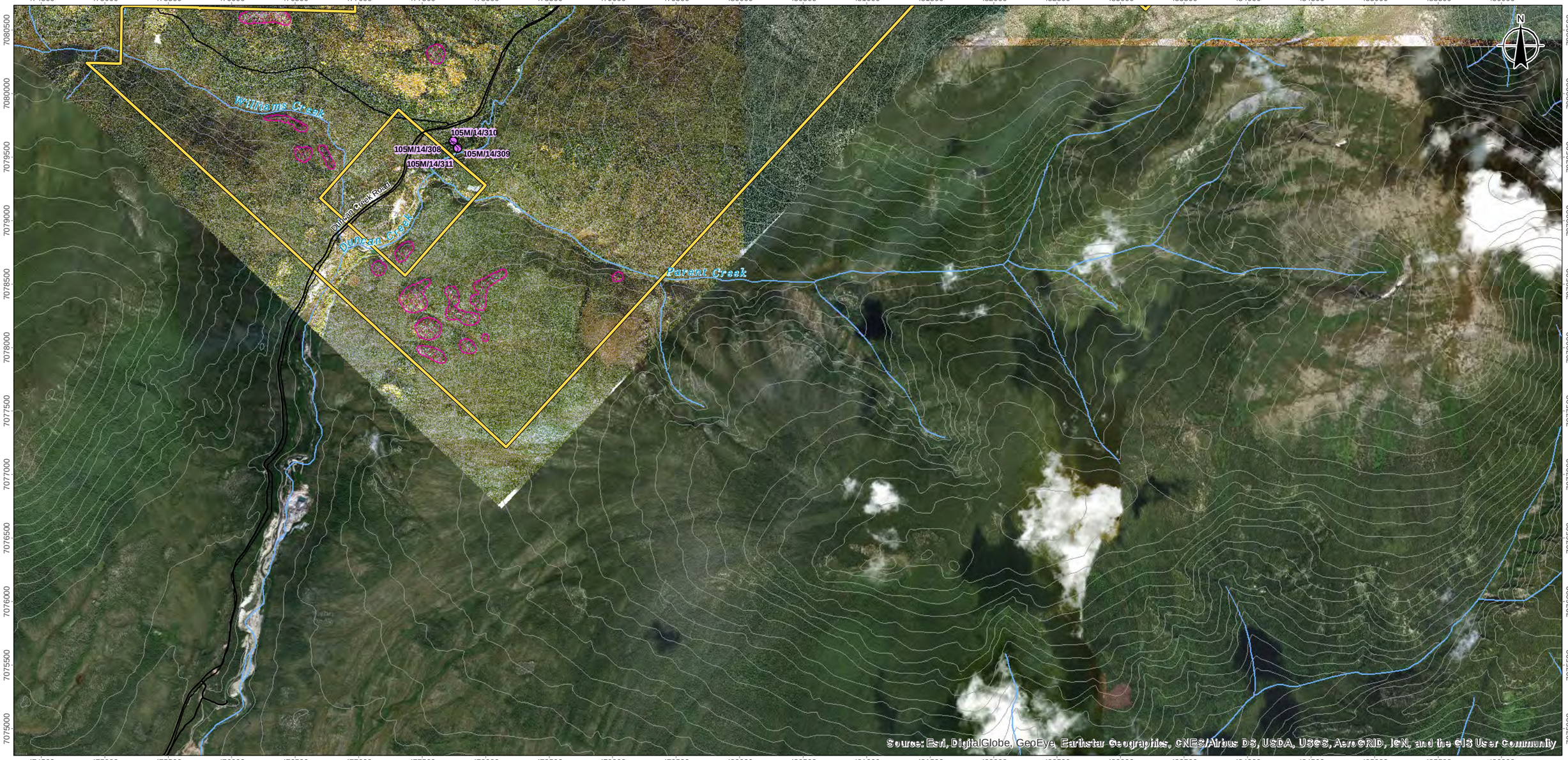


Base Features
- Main Road
- Road
- Trail
- Cut Line
- Contour (100ft)
- Watercourse

Assessment Features
- Keno Silver Project Boundary
- Ecofor Heritage Potential (2018)

Ecofor Consulting Ltd. Date: July-24-18 (MM)



Keno Silver HROA

Map 2 of 5

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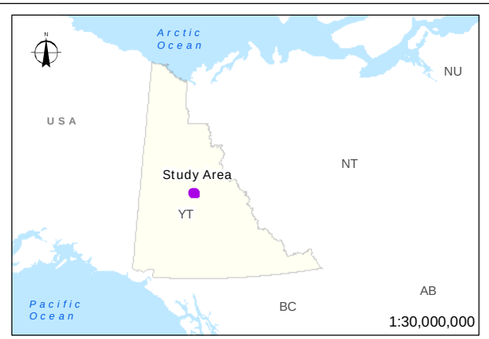
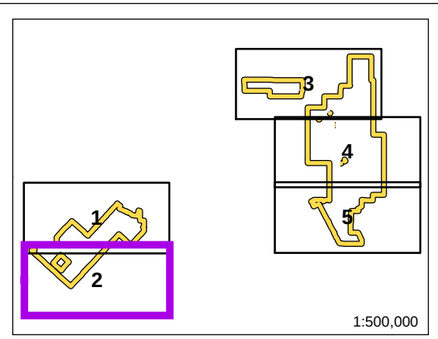




Base Features

- Main Road
- Road
- Contour (100ft)
- Watercourse
- Waterbody

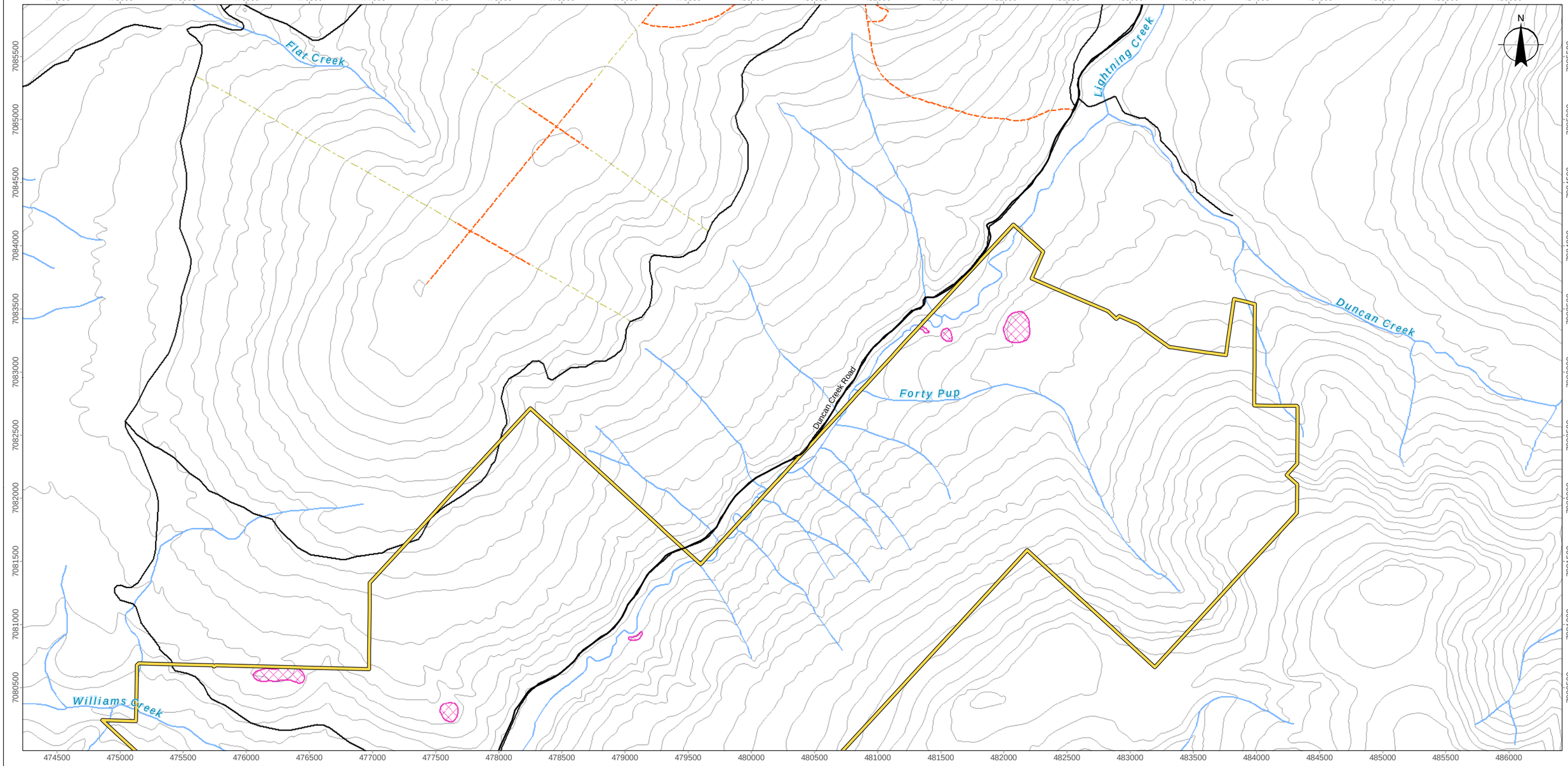
Assessment Features

- YHSI
- Keno Silver Project Boundary
- Ecofor Heritage Potential (2018)

METALLIC MINERALS CORP

ECOFOR natural and cultural resource consultants

Ecofor Consulting Ltd. Date: July-24-18 (MM)



Keno Silver HROA

Map 1 of 5

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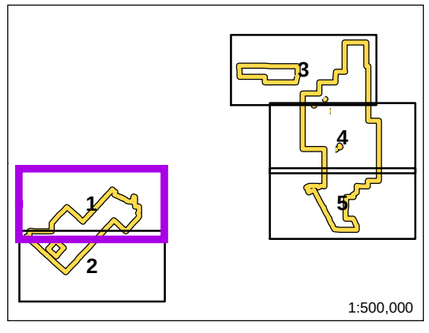

Base Features

- Main Road
- Road
- Trail
- Cut Line
- Contour (100ft)
- Watercourse

Assessment Features

- Keno Silver Project Boundary
- Ecofor Heritage Potential (2018)

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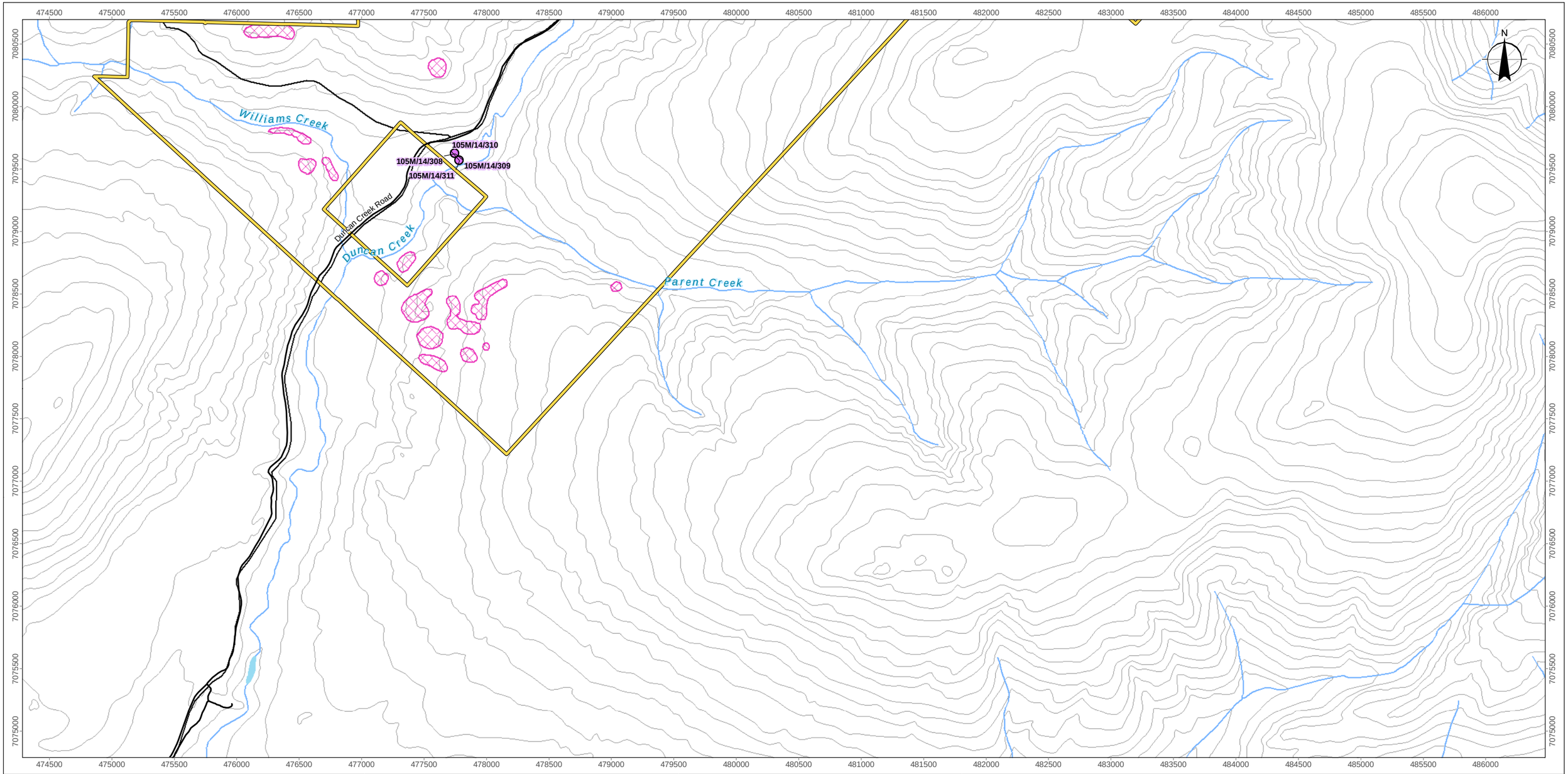
Ecofor Consulting Ltd. Date: July-24-18 (MM)



Keno Silver HROA

Map 2 of 5

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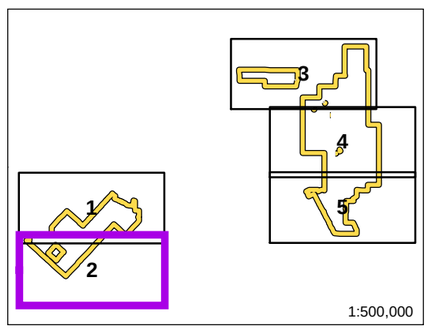
NAD 1983 UTM Zone 8N

Disclaimer:
This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Base layers were obtained from the National Topographic Database (NTDB), GeoYukon, and Metallic Minerals.



Base Features

- Main Road
- Road
- Contour (100ft)
- Watercourse
- Waterbody

Assessment Features

- YHSI
- Keno Silver Project Boundary
- Ecofor Heritage Potential (2018)

METALLIC MINERALS

ECOFOR natural and cultural resource consultants

Ecofor Consulting Ltd. Date: July-24-18 (MM)

APPENDIX B: Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon

Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon

With approvals as of August 1999

This document was prepared pursuant to provisions of
Yukon First Nation Final Agreements
and the Yukon Transboundary Agreement with the Gwich'in Tribal Council

Yukon
Tourism
Heritage Branch

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List of Figures and Appendices

Introduction and Background

The treatment of every burial site requires respect. Legislation of various types protects burial sites and cemeteries from being disturbed. Government agencies and First Nations keep and consult records of known sites so that land use plans or proposals can avoid such sites.

There are many historic and First Nation graves in the Yukon however which are no longer marked and which may be disturbed accidentally through land use or development. Other sites may be disturbed by natural forces, such as erosion, leading to the exposure of human remains.

As more people travel in backcountry areas, for work or pleasure, it is expected that the number of such discoveries may increase. It is important therefore to have guidelines for reporting, investigating and managing such sites in a coordinated and effective manner, to give them proper respect.

Yukon First Nation (YFN) Final Agreements (Section 13.9.0) and the transboundary agreement with the Gwich'in Tribal Council (Tetlit Gwich'in) (Section 9.5) require the development of procedures to protect and manage YFN or TG burial sites, and specify certain actions when such sites are discovered.

Consistent with these obligations, these guidelines were developed at two workshops held jointly in March and October l998, involving First Nation Elders, heritage and implementation staff, the RCMP, Coroner and other Yukon and federal government officials.

Purpose

To provide direction on the reporting, identification, treatment and disposition of human remains found outside of recognized cemeteries in the Yukon, to ensure these remains are respected and protected consistent with legislation and Yukon land claims agreements.

Scope and Application

These guidelines apply to anyone who discovers human remains or grave goods outside of recognized cemeteries in the Yukon, and to the Yukon, Federal and First Nation government officials involved in protecting and caring for such sites.

The guidelines reflect existing practices in many ways. They do not replace legislation or regulations protecting burial sites, but are intended to integrate obligations contained in Yukon land claim agreements with land use permitting regimes and the Development Assessment Process . These guidelines may apply on Settlement Lands at the discretion of each First Nation. Government approval is required for management plans for sites on non-Settlement Land.

Existing known burial sites that are marked or otherwise recorded are protected by existing legislation. Management plans for these sites may be developed on a case by case basis.

Burial sites discovered within the boundaries of a designated heritage site may be subject to the management plan for that site.

The guidelines do not apply within National Historic Sites or National Parks. Parks Canada has its own guidelines respecting burial sites and human remains.

Evaluation and Revision of Guidelines

The implementation of these guidelines will be evaluated as necessary to ensure that they are fulfilling their purpose.

GUIDING PRINCIPLES

All human remains, and items found at graves (grave offerings, markers etc.) shall be treated with respect and dignity regardless of their cultural affiliation.

Actions taken following the discovery of sites will be consistent with Yukon and transboundary land claim agreement provisions respecting Yukon First Nation and Tetlit Gwich'in Burial Sites.

Each discovery will be handled on a case by case basis in consultation with the affected parties, in a coordinated and timely manner.

Definitions - see Appendix 1
References - see Appendix 2
Land claims provisions - see Appendix 3

Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites

See also Figure 1.

These guidelines cover five steps: discovery and notification; site protection and investigation; investigation and reporting; and site disposition or management agreements. A final step, arbitration, is provided for where no disposition agreement is reached.

1. Discovery and Notification

If human burial remains are accidentally discovered the following guidelines apply:

a) The finder will immediately cease any further activity at the site and report the site to the RCMP.

b) *If the finder is operating under a land use licence or permit*, the site must also be reported immediately to the land manager/permitting authority, as set out on the permit. The land manager/permitting authority shall confirm that the site is reported to the RCMP.

c) Based on the information it receives, the RCMP will notify: 1) the Coroner's office if the site is of a forensic or criminal nature; or 2) both the First Nation(s) in whose Traditional Territory the Site is located and the Heritage Branch, if the site is a suspected historic or First Nation burial site.

2. Site Protection and Identification

a) the land manager/permitting authority shall take reasonable measures to protect the site from environmental factors and any form of unauthorized interference or disturbance.

b) based on the evidence reported at the scene, the RCMP/Coroner will investigate the site and make a preliminary determination as to the nature of the remains.

c) *if the site is of a criminal or forensic nature* (potential crime scene or missing person), then the Coroner's office and police will assume authority over the site/remains.

d) Heritage Branch may recommend that an archaeologist assist police or coroner in the preliminary assessment of the site.

e) *If the site is **not** of police/coroner interest* then the Director, Heritage Branch, the affected First Nation(s) and the land manager will assume interim responsibility for protection and investigation of the site. If it's a suspected First Nation site, the Heritage Branch and First Nation would assume this responsibility.

f) the Director, Heritage Branch, the affected First Nation(s) and land manager shall take reasonable measures to restrict access and ensure that the human remains and any grave offerings are not further disturbed pending the investigation and identification of the remains. The RCMP may be consulted about protecting the site.

Figure 1

Guidelines respecting the Discovery of Human Remains and First Nation* Burial Sites

2. Site Protection and Investigation
-protection/no disturbance or access

If not a criminal matter, Heritage Branch takes lead with affected FN or transboundary group. RCMP may assist if requested.

- *First Nation, Minister*
- *permitting authority - person may continue activity*

with FN consent. If consent is not provided, proceed according to terms and conditions of arbitrator(UFA 26.7.0 TG Ch.18)

or

- *rebury, relocate or remove remains*
- *restrict/specify access if necessary and possible*
- *may designate existing or new site as burial site/cemetery or heritage site*
- *management plan (jointly prepared/approved by FN and Government on Non-Settlement Lands)*

Maps, inventories, reports, plans, agreements.

**the Tetlit Gwich'in will be involved in steps to protect and manage Tetlit Gwich'in burial sites discovered within their Primary Use Area (Fort McPherson Group Trapping area within the Peel River Basin).*

g) Where human remains are at risk of being destroyed or damaged, the Minister of Tourism for Heritage may issue a stop work order prohibiting any further activities and may make an agreement with the First Nation or the Tetlit Gwich'in or land owner or user for any investigation, excavation, examination and preservation and removal of the remains, consistent with land claim provisions. (s.*72, Historic Resources Act- This would address concerns about unknown remains.)*

Existing site inventories, land use records, affected First Nations and community elders, and military authorities, should be consulted as soon as possible about possible identification of the remains.

Some examination of the site/remains may be required to determine its cultural affiliation and age, and whether or not the site is modern or historic.

3. Investigation and Reporting

a) The Heritage Branch/land manager will direct an archaeologist or qualified examiner to carry out an investigation under any required permits, in consultation with the affected First Nation and other affected parties, to make an initial report citing, if possible*, the cultural affiliation of the human remains.

b) Within a reasonable time to be specified by the Minister, and the affected First Nation(s), the archaeologist or qualified examiner shall deliver a written report and any notification not yet made, to:

- the Minister, and the affected First Nation(s) if appropriate;
- the Director of the Heritage Branch;
- the land manager/permitting authority;
- any other representative of the interred, if known.

c) The written report shall attempt *to identify:

- the representative group of the interred;
- the geographic boundaries of the site;
- the grave offerings or other heritage resources that may be associated with the remains or the site.

d) The archaeologist or examiner may, with the agreement of the proper authority and the representative of the interred, if known, remove all or part of the human remains for further analysis or for temporary custody where the remains may otherwise be at risk.

e) Any exhumation, examination and reburial of human remains from a YFN/TG burial site shall be at the discretion of the affected YFN/TG; and if ordered by an arbitrator pursuant to land claim provisions, will be done or supervised by the YFN or Tetlit Gwich'in.

*it is often difficult to determine the cultural ancestry or affiliation of fragmentary human remains

3.1 Reporting

a) If the site is determined to be a Yukon First Nation Burial Site, or Tetlit Gwich'in burial site, the appropriate representative will be contacted in writing to provide further direction on the disposition of the remains. *

b) A person carrying out Government or First Nation authorized activity where a First Nation site is discovered can continue that activity with the consent of the First Nation in whose Traditional Territory the Yukon site is located. The consent of the Tetlit Gwich'in is required if the site is in the Tetlit Gwich'in primary use area. If consent is denied, the person can seek terms and conditions from an arbitrator about continuing the activity (see Section 5).

c) If after the final report, the human remains are found to be those of a different aboriginal people than those mentioned previously, the proper authority of that group shall be notified in order that they may assume the role of the representative.

d) Where a site is **not** found to be a Yukon First Nation or Tetlit Gwich'in burial site, or a military or mariner's burial site, the Director, Heritage Branch may publish notice of the discovery in a newspaper or other public notice seeking information on the remains.

4. Site Disposition Agreement (Management Plan)

4.1 When the site or remains are identified

a) The site shall not be disturbed and the Director, Heritage Branch or First Nation if on Settlement Land, shall initiate discussions towards entering into a site disposition agreement with the representative of the interred.

b) If the site is a Yukon First Nation Burial Site or a Tetlit Gwich'in burial site on non-settlement land, there must be joint approval of the site management plan by the Yukon First Nation in whose Traditional Territory the site is located and the Government. If the site is a Tetlit Gwich'in burial site located off Tetlit Gwich'in land but in the primary use area, the management plan must be jointly approved by the Tetlit Gwich'in and the Government.

c) Decisions regarding reburial, relocation or other disposition should be determined on a case by case basis in consultation with those concerned and in a timely manner.

Site disposition agreements shall determine such things as:
1. the interim care of the human remains*;*

2. the scope and extent of analysis to be performed on the human remains, if any;
3. the exact location of the place where the human remains are to remain or to be interred;
4. the style and manner of disinterment, if applicable;
5. the style and manner of reinterment, if applicable;
6. the time period in which disinterment and reinterment is to take place;
7. the procedures relating to, and the final disposition of any grave offerings discovered with the human remains and any additional analysis of them;
8. the provision for future maintenance of the cemetery or site where the human remains are to be located;
9. access to the site and ways to prevent disturbance;
10. any other issue agreed upon.

*it is often difficult to determine the cultural ancestry or affiliation of fragmentary human remains

4.2 When no representative is identified or no disposition is specified:

If disposition is not specified by a representative, or the remains are not claimed or no affiliation is established within a reasonable time, the Minister, or First Nation if on Settlement Land, shall with the necessary permits and approvals provide for the following disposition:

a) cover and leave the remains where they were found and have the site recorded as a burial site/ heritage site, if on land suitable for a burial site; or
b) have the remains disinterred and reinterred in the nearest appropriate cemetery; or
c) remove the remains from the site for analysis and may have them reinterred in a recognized cemetery or;
d) may act as the temporary repository of the remains.

(Where the remains were found on Settlement Land but are not considered First Nations remains, the Government may remove the remains in consultation with the First Nation.)

5. Arbitration

a) If no disposition agreement or management plan is reached within a reasonable time the matter may be referred to arbitration for settlement. If this matter concerns a Yukon First Nation Burial Site, this shall be done pursuant to 26.7.0 of the UFA; or Chapter 18, if the matter concerns a Tetlit Gwich'in site in the primary use area.

6. Records

a) A record of the site and a report of the discovery and disposition plan shall by kept by the Government and the affected First Nation(s)/representative for future reference to protect the site.

b) Access to information about discovered sites will be addressed in any site management plan developed under these guidelines, and will be protected under the *Access to Information and Protection of Privacy Act*, and the *Historic Resources Act* or *any similar First Nations legislation.*

Appendix 1

Definitions

burial site

the location of any human grave or remains that have been interred, cremated or otherwise placed, and include ossuaries, single burials, multiple burials; rock cairns; cave or cache burials etc. not situated within a cemetery

First Nation Burial Site

This refers to a Yukon First Nation Burial Site or a Tetlit Gwich'in burial site, which is defined as: a place outside a recognized cemetery where the remains of a cultural ancestor of a Yukon Indian Person (or the Tetlit Gwich'in) have been interred, cremated or otherwise placed."

[from the Definitions section of the *Umbrella Final Agreement for the Council for Yukon Indians (now Council of Yukon First Nations) and the Transboundary Agreement between Canada and the Gwich'in Tribal Council*]

human remains

mean the remains of a dead human body and include partial skeletons, bones, cremated remains and complete human bodies that are found outside a recognized cemetery" *(adapted from Historic Resources Act)*

grave offering

any object or objects associated with the human remains which may reflect the religious practices, customs or belief system of the interred.

historic

under the Historic Resources Act this generally means something older than 45 years.

land manager

Agency responsible for the administration of the land on which the site is located. For example, currently territorial parks are managed by Yukon Parks and Outdoor Recreation; gravel pits and rural airports are administered by Community and Transportation Services. Settlement Land is administered by the First Nation. Private land is administered by the land owner. (Burial sites may not be disturbed on any land without proper authorization.)

Recognized cemetery

a defined area of land that is set aside for the burial of human bodies.

representative

means a descendant of the interred or of the person whose remains are found, or where no descendant survives or is identified, an official representative of the appropriate First Nation in whose Traditional Territory the burial site is located or the closest culturally affiliated group, religious denomination, military or marine authority as evidenced by the location or mode of burial.

Where no representative can be determined the Minister shall act as the representative on Non-Settlement Lands and on Settlement Lands at the discretion and with the consent of the First Nation

representative group

means the appropriate Yukon First Nation or the closest culturally affiliated group, religious denomination, military or marine authority as evidenced by mode and style of burial which is willing to act as a representative.

Site disposition agreement

means a written agreement to be reached between the Director of the Heritage Branch and the representative of the interred regarding the disposition of the remains, including any disinterment and reinterment, and management plan

Management plan

means a plan to identify the roles of the representative, Government and land owner or manager respecting the care and protection of the site, including a consideration of site records, site access, and ways to protect a site from disturbance.

Appendix 2

References

The following include requirements to protect burial sites and were considered in the development of these Guidelines.

Umbrella and Yukon First Nation Final Agreements, Sections 13.9.0 and 26.7.0, and Implementation Plans
Yukon Transboundary Agreement (Gwich'in Tribal Council), Sections 9 and 18, and Implementation Plan
Yukon Historic Resources Act, Part 6
Criminal Code
Cemeteries and Burial Sites Act
Coroner's Act
Territorial Land Use Regulations
Yukon Archaeological Sites Regulations
Yukon Quartz Mining Act, and Regulations
Yukon Placer Mining Act, and Regulations
Yukon Surface Rights Act
Vital Statistics Act

Appendix 3

Land Claims Provisions Relating to Burial Sites

13.9.0 Yukon First Nation Burial Sites*

13.9.1 Government and Yukon First Nations shall each establish procedures to manage and protect Yukon First Nation Burial Sites which shall:

13.9.1.1 restrict access to Yukon First Nation Burial Sites to preserve the dignity of the Yukon First Nation Burial Sites;

13.9.1.2 where the Yukon First Nation Burial Site is on Non-Settlement Land, require the joint approval of Government and the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located for any management plans for the Yukon First Nation Burial Site; and

13.9.1.3 provide that, subject to 13.9.2, where a Yukon First Nation Burial Site is discovered, the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located shall be informed, and the Yukon First Nation Burial Site shall not be further disturbed.

13.9.2 Where a Person discovers a Yukon First Nation Burial Site in the course of carrying on an activity authorized by Government or a Yukon First Nation, as the case may be, that Person may carry on the activity with the agreement of the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located.

13.9.3 In the absence of agreement under 13.9.2, the Person may refer the dispute to arbitration under 26.7.0 for a determination of the terms and conditions upon which the Yukon First Nation Burial Site may be further disturbed.

13.9.4 Any exhumation, examination, and reburial of human remains from a Yukon First Nation Burial Site ordered by an arbitrator under 13.9.3 shall be done by, or under the supervision of, that Yukon First Nation.

13.9.5 Except as provided in 13.9.2 to 13.9.4, any exhumation, scientific examination and reburial of remains from Yukon First Nation Burial Sites shall be at the discretion of the affected Yukon First Nation.

13.9.6 The management of burial sites of a transboundary claimant group in the Yukon shall be addressed in that Transboundary Agreement.

*This is an excerpt from the Umbrella Final Agreement between Canada, the Council for Yukon Indians and the Government of the Yukon (l993),Ch. 13, pp. 128-129, and subsequent Yukon First Nation Final Agreements.

9.5. Tetlit Gwich'in Burial Sites*

9.5.1 Government and Tetlit Gwich'in shall each establish procedures to manage and protect Tetlit Gwich'in burial sites which shall:

(a) restrict access to Tetlit Gwich'in burial sites to preserve the dignity of Tetlit Gwich'in burial sites;

(b) where the Tetlit Gwich'in burial site is outside the primary use area *(Fort McPherson Group Trapping Area)*, require the joint approval of government and the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located for any management plans for the Tetlit Gwich'in burial site;

(c) where the Tetlit Gwich'in burial site is on land in the primary use area which is not Tetlit Gwich'in Yukon land, require the joint approval of government and the Tetlit Gwich'in for any management plans for the Tetlit Gwich'in burial site; and

(d) provide that, subject to 9.5.2, where a Tetlit Gwich'in burial site is discovered, the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located or the Tetlit Gwich'in, if the Tetlit Gwich'in burial site is in the primary use area, shall be informed and the Tetlit Gwich'in burial site shall not be further disturbed.

9.5.2 Where a person discovers a Tetlit Gwich'in burial site in the course of carrying on an activity authorized by government, a Yukon First Nation or the Tetlit Gwich'in, as the case may be, that person may carry on the activity with the agreement of the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located or the Tetlit Gwich'in if the Tetlit Gwich'in burial site is in the primary use area.

9.5.3 In the absence of agreement under 9.5.2, the person may refer the dispute to arbitration under chapter 18 of this appendix for a determination of the terms and conditions upon which the Tetlit Gwich'in burial site may be further disturbed.

9.5.4 Any exhumation, examination and reburial of human remains from a Tetlit Gwich'in burial site ordered by an arbitrator under 9.5.3 shall be done by, or under the supervision of, the Tetlit Gwich'in.

9.5.5. Except as provided in 9.5.2 to 9.5.4, any exhumation, scientific examination and reburial of remains from Tetlit Gwich'in burial sites shall be at the discretion of the Tetlit Gwich'in**.**

*This is an excerpt from Appendix C - Yukon Transboundary Agreement between Canada and the Gwich'in Tribal Council, (l992), p. 32.

ECOFOR
natural and cultural resource consultants

Invoice: 00013420
Date: July 31, 2018
Page: 1

Metallic Minerals
P.O. Box 31215
Whitehorse, YT Y1A 5P7

Attention: Debbie James

INVOICE

Program Keno Silver Project HROA
2018-1262-002
Period Ending: July 28, 2018

Description	Quantity	Unit	Rate	Amount
Project Coordination				
Sr. Archaeologist	6.00	HR	95.00	570.00
Mapping				
Mapper/GIS	8.00	HR	85.00	680.00
HROA Reporting				
Sr. Archaeologist	34.00	HR	95.00	3,230.00
Subtotal				4,480.00
GST (#885156216)				224.00
Total				$4,704.00

Area of survey = 90.4 square km
Cost per square km=4704/90.4=52.03

area of claim group=13.1 square km=681.59

Notes:

Please Remit Payment To:
Direct Deposit: Scotiabank-Main Branch 390 Victoria Street, Prince George, BC V2L 4X4
Account: 03020-002-00520-19
Canada Post: Ecofor Consulting BC Ltd. 1575 2nd Avenue Prince George BC V2L3B8
Phone: 250-960-1155 Fax: 250-960-1144 www.ecofor.ca