For Richard Billingsley.

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

# TITLE OF REPORT: PROSPECTING AND GEOCHEMICAL ASSESSMENT REPORT ON THE SADIM PROPERTY

**TOTAL COST: \$11654.140** AUTHOR(S): Leopold J. Lindinger, P.Geo. SIGNATURE(S): *Leopold J. Lindinger.*  BC Geological Survey Assessment Report 38804

December 31, 2019

STATEMENT OF WORK EVENT NUMBER(S)/DATE (S): 5760263/October 23, 2019

YEAR OF WORK: **2019** PROPERTY NAME: **SADIM** CLAIM NAME(S) (on which work was done):

COMMODITIES SOUGHT: GOLD, SILVER, COPPER

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE095, 092HNE049, 092HNE054, 092HNE241, 092HNE106, 092HNE119, 092HNE242, 092HNE156, 092HNE113, 092HNE159, 092HNE229, 092HNE230.

MINING DIVISION: SIMILKAMEEN

NTS / BCGS: NTS 092H09W, BCGS 092H068 LATITUDE:49°42'57" LONGITUDE: 120°31'01" (at centre of work) UTM Zone: 10U EASTING: 679000 E, NORTHING: 5510000

OWNER(S): RICHARD J. BILLINGSLEY

# MAILING ADDRESS: 11114 147A ST. SURREY, BC, CANADA, V3R 3W2

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. Late Triassic aged Nicola Group volcanics and sediments are intruded and altered by interpretedly coeval and Jurassic dioritic to granodioritic intrusives that host stockwork and disseminated pyritic with minor chalcopyrite or molybdenum mineralization in possible porphyry cupola environments. Cretaceous aged tectonic intrusive and volcanic activity is interpreted to be responsible for mesothermal northwest striking east dipping shear associated and 2<sup>nd</sup> and 3<sup>rd</sup> order fault hosted gold-silver quartz-carbonate veins systems.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 4227, 9407, 14314, 14044, 15007, 15969, 16206, 16889, 23775, 26421, 26944, 35886, 36317, 37347, 37426, 37685.

For Richard Billingsley.

December 31, 2019

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOCHEMICAL (number of sampl	es analysed for …) 1.5 km	1067868, 1967869	3721
Silt			
Rock Vegetation – Douglas fir bark	1.5 km	1067868, 1967869	5000
RELATED TECHNICAL Sampling / Assaying		1067868, 1967869	2433.14
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)	1:1000-50 hectares	1067868, 1967869	500
		TOTAL COST	11654.14

 Prospecting and Geochemical Assessment Report on the SADIM Property

 For Richard Billingsley.
 December 31, 2019

# PROSPECTING AND GEOCHEMICAL ASSESSMENT REPORT

on the

# **SADIM Property**

Similkameen Mining Division

Missezula Lake Area

N.T.S. 092H/10

Work Centered at Latitude 49<sup>0</sup> 42' 57" N Longitude 120<sup>0</sup> 31' 01" W UTM Zone 10U 679000 E 5510000 N

For

Richard J. Billingsley Owner and Client

11114 147a St. Surrey, BC, Canada, V3R 3W2

by

Leopold J. Lindinger, P.Geo.

December 31, 2019

For Richard Billingsley.

December 31, 2019

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For Richard Billingsley.

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For Richard Billingsley.

December 30, 2019

# SUMMARY

This report documents for assessment purposes the results of a 2019 prospecting and, geochemical sampling exploration program on the 4033.5 hectare SADIM property, Similkameen Mining Division, NTS map sheets 092H10. The report supports Statement of Work and Reclamation Event No 5760263 dated October 23, 2019

The author was responsible for the 2019 program that is reported herein and is solely responsible for the interpretations made, conclusions reached and recommendations made.

The SADIM property straddles the north striking Summers Creek canyon and extends to the plateaus on both sides. The property is centered about 28 kilometres NNW of Princeton B.C. Access to the east side is via the Jura Resource Road to kilometre 14 and numerous active and dormant logging and exploration roads originating westerly from it. The Jura RR originates south from Princeton and extends north to a quadruple junction the access highways west, north and east. Access to the west side is from the north via the Dillard-Ketchan logging road system. Accommodation, food and supplies for most exploration needs can be obtained from Princeton and Merritt.

The property lies in the semi arid intermontane climatic zone. Rainfall is less than 70 cm per year, and temperatures range from 25 to +30 degrees centigrade. The dominant resource activities are logging, mining, mineral exploration, tourism and cattle ranching. Several small industrial mineral deposits occur in the region. Kamloops, 130 km north is the nearest city where exploration and mining supplies can be obtained. Water for exploration purposes is available from several small streams and springs.

The area has an extensive and ongoing exploration and mining history since the late 1800's discovery and development of the Copper Mountain copper-gold-silver deposits near Princeton. Subsequent exploration has resulted in the discovery of over 25 significant copper prospects within 50 kilometres of the SADIM property. Recent exploration has also been directed towards high grade gold vein systems associated with the Spence's bridge rocks of which the SADIM prospect can be considered a probable example. Dozens of junior and many senior exploration and mining companies have explored and continue to explore the area. Many millions of exploration and development dollars are spent every year.

Richard Billingsley acquired the SADIM property by purchasing from Chris Dyakowski and others or by MTO staking several times between late 2005 and 2018.

The area lies within the Intermontane Belt or Super Terrane portion of the western north American Orogen. The lithologies within this terrane are almost entirely comprised of imbricated and deformed portions of accreted late Paleozoic to mid Mesozoic island arc and oceanic assemblages. These include the Harper Ranch, Slocan and Nicola-Stikine rocks of island arc affinity and the Slide Mountain, and Fennel formations of oceanic affinity. The Harper Ranch, Nicola-Stikine and possibly Fennel Formations have coeval intrusives.

For Richard Billingsley. December 31, 2019 Intruding and overlying the accretionary lithologies are late Mesozoic to Miocene sedimentary and volcanic deposits. These include the Cretaceous Spences Bridge Group, Eocene Kamloops Group, Miocene Chilcotin Group and Quaternary to recent volcanics and coeval intrusives.

Pre and post glaciation surficial deposits of variable thickness blanket the region.

A wide variety of dominantly epigenetic and less commonly syngenetic hydrothermally related mineral deposits are found within the region. These include pre and post accretionary porphyry copper-molybdenum+/-gold+/-silver+/-zinc, mesothermal and epithermal gold-silver, porphyry related tungsten, chromite deposits. The syngenetic deposits are primarily pre accretionary and include besshi copper-zinc-silver-gold and Kuroko copper-zinc-lead silver-gold deposits. Placer gold deposits are mostly located along the eastern edge of the terrain adjacent to orogenic gold camps hosted by deformed north American provenance lithologies. Pre and post accretionary industrial mineral deposits include limestone, bentonite, zeolite, diatomaceous earth, post glacial gravel and sand.

The local geology is dominated by early Mesozoic Nicola Group rocks. These are intruded by coeval and later mid Jurassic batholiths and overlain and structurally juxtaposed by early Cretaceous Spences Bridge Group sediments, volcanics and intrusives followed by Eocene Kamloops Group sediments and subareal volcanics. The area is covered by extensive till sheets and post glacial outwash gravel, sand and lake terrace deposits. The pre mid Tertiary rocks are occasionally associated with coeval and post accretionary, porphyry copper-gold-silver, porphyry molybdenum, meso to epithermal gold-silver-copper, zeolite and bentonite deposits.

The property is underlain from west to east Nicola Group sediments and mafic to intermediate volcanics and coeval intrusives, mid Jurassic Osprey Lake intrusives and early Cretaceous 'Summers Creek' intrusives. Most metallic mineralization is associated with relatively undeformed intrusives interpreted to be related to higher level porphyry activity. These include the nearby PRIME-MAN, RUM-COKE, DILLARD copper-gold deposits. The SADIM Minfile occurrence is interpreted to be associated with either Cretaceous tectonic (Spences Bridge?) intrusive or early Tertiary (Otter intrusive) activity.

The 2019 exploration program was limited to prospecting and limited soil and Douglas fir bark sampling south of the SADIM gold zone and to the east, the northern GOLDEN area. From 12 samples sites a total of 22 soil and 24 bark samples were taken. All were sent for analyses to ALS Global Laboratories in Vancouver, B.C.. 11 soil samples were prepped and analyzed by conventional strong acid digestion followed by multielement ICP analyses. A second set of soil samples were prepped and analyzed using a proprietary weak "ionic leach" digestion to determine the quantities of ionically transported metal ions. The first set of Douglas fir back samples were macerated and an approximate 50 gram subsample was ashed at 475 degrees and the approximate 0.25 gram subsample analyzed by a vegetation digestion package. The second set was macerated and milled and a 5 gm subsample was digested and analyzed using the 'ionic leach' procedure. A brief prospecting examination of the east SADIM area revealed variably altered highly deformed Nicola Group sediments and associated intermediate fragmental and flow volcanics. Some of the alteration appears to be a weaker but similar style as seen at the SADIM gold zone.

For Richard Billingsley.

# December 31, 2019

The soil samples digested with the strong acid digestion failed to produce any anomalous values, however each line had at least one relatively elevated base metal element. The soil samples prepped and digested with the ionic leach procedure produced a much wider range of all elements compared to the other soil results. The Douglas fir bark ashed results produced weak anomalies somewhat similar to but often bracketing the ionic leach soil results. The ionic leach bark results produced slightly enhanced copper and zinc anomalies over the other sample-analytical procedures. The bark results also indicate preferential concentration of copper, zinc and lead over iron and many other elements including rare earths relative to the soil results.

Some element anomalies formed apical anomalies near structures and south of the SADIM gold zone. Other elements appeared to produce bracketing anomalies. Silver and copper appeared to form apical patterns relative to known mineralized trends and lead, iron and rare earth elements bracketing ones.

A \$40,000 surficial largely geochemical exploration program is recommended. In addition to more thorough prospecting of the SADIM Property are soil and Douglas fir bark sampling surveys east and west of the SADIM deposit. Both the soil and vegetation sample spacing is planned to be tighter than the prospective 2019 samples.

Additional exploration expenditures are contingent on exploration success and ability to raise project financing for the drill ready SADIM target.

# For Richard Billingsley. INTRODUCTION AND TERMS OF REFERENCE

December 31, 2019

This report documents the work and discusses the results of a prospecting and soil and Douglas fir bark sampling geochemical program on the SADIM property between October 9 and Oct 12, 2019. The program conceived, implemented, conclusions generated, and recommendations made for future exploration expenditures documented in this report are solely those of Leopold J. Lindinger, P.Geo..

The SADIM property in its current configuration protects the SADIM (Minfile 092HNE095), GOLDEN 2 (Minfile 092HNE049), GOLDEN 1 (Minfile 092HNE054), GOLDEN 3 (Minfile 092HNE241), (Minfile BO 092HNE106), EJ (Minfile 092HNE119), MS-4 (Minfile 092HNE242), MS (Minfile 092HNE156), (Minfile FAN 092HNE113), LAIRD LAKE (Minfile 092HNE159), ANITA 14 (Minfile 092HNE229), ANITA (Minfile 16 092HNE230) Occurrences.

# PROPERTY DESCRIPTION AND LOCATION

The SADIM Property lies within SW British Columbia, 28 kilometres bearing  $355^{\circ}$  from Princeton, B.C., within the Similkameen Mining Division (Figure 1). The centre of the property is located within NTS Map Sheet 092H at 49<sup>o</sup> 42' 25" N and 120<sup>o</sup> 31' 30" W or UTM Grid Zone 10U 678500 E 5508800 N.

The property consists of 6 MTO claims totaling 4033.5 hectares (Figure 2, Table 1). Table 1 presents the detailed claim information. The claims are currently 100% owned by Richard J. Billingsley (FMC 1395758). No legal surveys related to mining have been completed on the property.

The SADIM property is not subject to any known environmental liabilities. The surface rights are owned by the Crown except for some lots in the Summers Creek valley.

The current claims cover the SADIM (Minfile 092HNE095), GOLDEN 2 (Minfile 092HNE049), GOLDEN 1 (Minfile 092HNE054), GOLDEN 3 (Minfile 092HNE241), (Minfile BO 092HNE106), EJ (Minfile 092HNE119), MS-4 (Minfile 092HNE242), MS (Minfile 092HNE156), (Minfile FAN 092HNE113), LAIRD LAKE (Minfile 092HNE159), ANITA 14 (Minfile 092HNE229), ANITA (Minfile 16 092HNE230) occurrences and showings (Figure 2, 5 and 6). There are no known mineral resources, mineral reserves or mine workings on the property.

The work program discussed in this report has been filed with the Ministry of Energy, Mines and Petroleum Resources under Statement of Work Event number 5760263, dated October 23, 2019.

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For Richard Billingsley.

December 31, 2019

Title Number	Claim Name	Owner	Issue Date	Good To Date	Area (ha)
1067866	Fan	Billingsley (100%	2019/APR/12	2020/JUN/12*	1087.6747
1067867	Anita	Billingsley (100%	2019/APR/12	2020/JUN/12*	418.0033
1067868	SADIM	Billingsley (100%	2019/APR/12	2020/JUN/12*	751.8893
1067869	GOLDEN	Billingsley (100%	2019/APR/12	2020/JUN/12*	1462.5878
1070581	GOLDEN 1 092H.078	Billingsley (100%	2019/AUG/23	2020/AUG/23	250.6513
1072194	HIT-KEY 092H.068	Billingsley (100%	2019/OCT/29	2020/NOV/01	62.7244
				TOTAL HECT.	4033.5308

**TABLE 1 – SADIM Mineral Claims** 

\* upon acceptance for assessment credit of the work documented in this report under Statement of Work Event number 5760263.

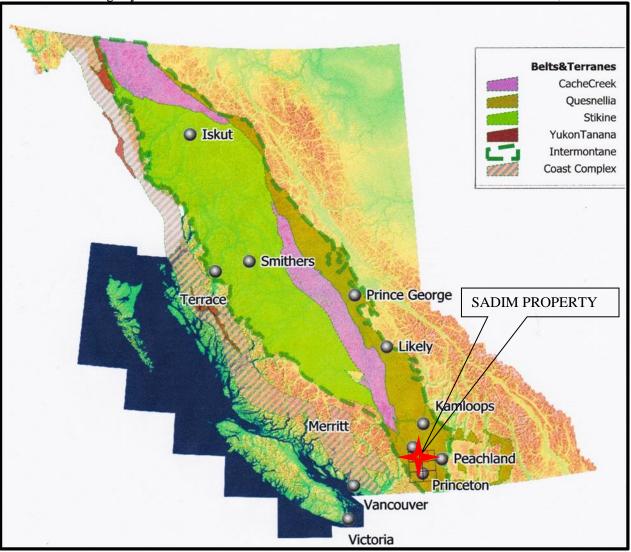
# ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Numerous logging roads in various states of accessibility surround and cross through the property. Access to the east side is via the Jura Resource Road to kilometre 14 and numerous active and dormant logging and exploration roads originating westerly from it. The Jura RR originates south from Princeton and extends north to a quadruple junction the access highways west, north and east. Access to the west side is from the north via the Dillard-Ketchan-Shrimkin logging road system.

Basic accommodation, food, and fuel are available in both Princeton and Merritt. There are several guest ranches that can provide closer accommodation. Basic supplies can be obtained from Princeton 28 kilometres south the property. The City of Merritt, located about 60 road kilometres is the main centre of service and supply for the region. Logging is the primary resource activity in the region with mining a close second. Ranching and tourism are also important economic activities. Numerous equipment contractors are available on relatively short notice.

A high tension power line strikes through the property. Timber, gravel and industrial stone deposits are available for mine development. Sufficient water and room for potential waste disposal, tailings storage, and processing plant sites all exist in the general project area.

The climate is subcontinental. Snowfall can exceed 1.5 metres at higher elevations, and rain showers are common in the summer and fall. Annual wet precipitation averages 70 cm. Temperatures range from  $-25^{\circ}$ C in winter to  $+30^{\circ}$ C in summer. Most surface mineral exploration can be conducted between mid May and mid October. Geophysical exploration, drilling and mining can take place year round.



 Prospecting and Geochemical Assessment Report on the SADIM Property

 For Richard Billingsley.
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# FIGURE 1 - PROPERTY LOCATION MAP

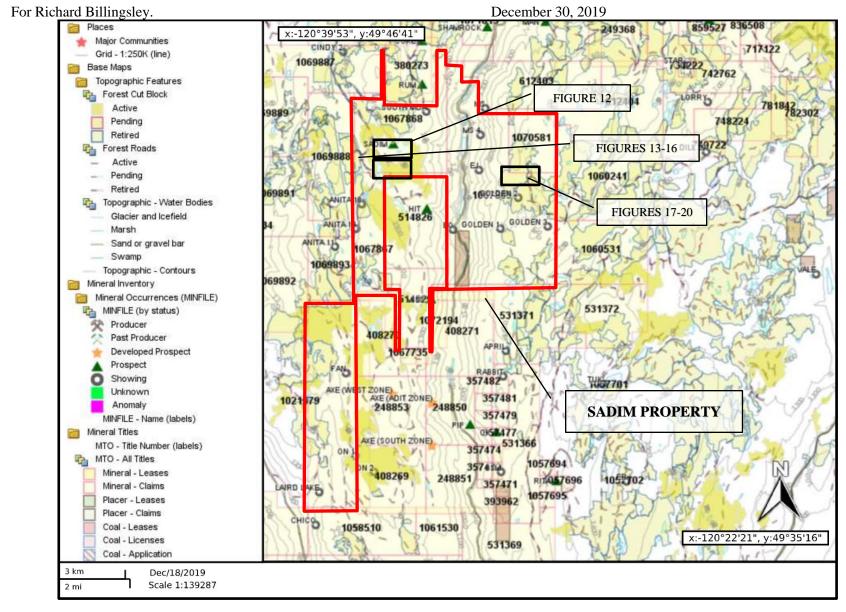


FIGURE 2 – MINERAL TENURE, TOPOGRAPHY, ROADS, CLEARCUTS and INDEX MAP (Source Maplace 2)

RENAISSANCE GEOSCIENCE SERVICES INC. – Leopold. Lindinger, P.Geo. 680 Dairy Road, Kamloops, B.C. V2B-8N5 Email <u>Leojlindinger@gmail.com</u>, Ph/text 2503190717

For Richard Billingsley. **HISTORY** 

The area has an extensive and ongoing exploration and mining history since the discovery and development of the Copper Mountain copper-gold-silver deposits near Princeton, in the late 1800's. Subsequent exploration has resulted in the discovery of over 25 significant copper prospects within 50 kilometres of the SADIM property. In the area many millions of exploration and development dollars are spent every year. Recent exploration has also been directed towards high grade gold vein systems associated with the Spence's bridge rocks of which the SADIM prospect can be considered a probable example. Dozens of junior and many senior exploration and mining companies have explored and continue to explore the area.

The earliest exploratory work in the local area dates back to the 1930's and appeared to focus primarily on volcanic hosted red bed copper mineralization occurring in several small showings in and around the current property boundaries. High grade shear hosted copper mineralization on the Axe prospect south of the Property was also targeted and explored (Preto, 1979).

The following description of the current property's history is partitioned into separate sections based on key Minfile occurrences and/or target areas within and adjacent to the current claim situation at the time of the statement of work filing this report documents.

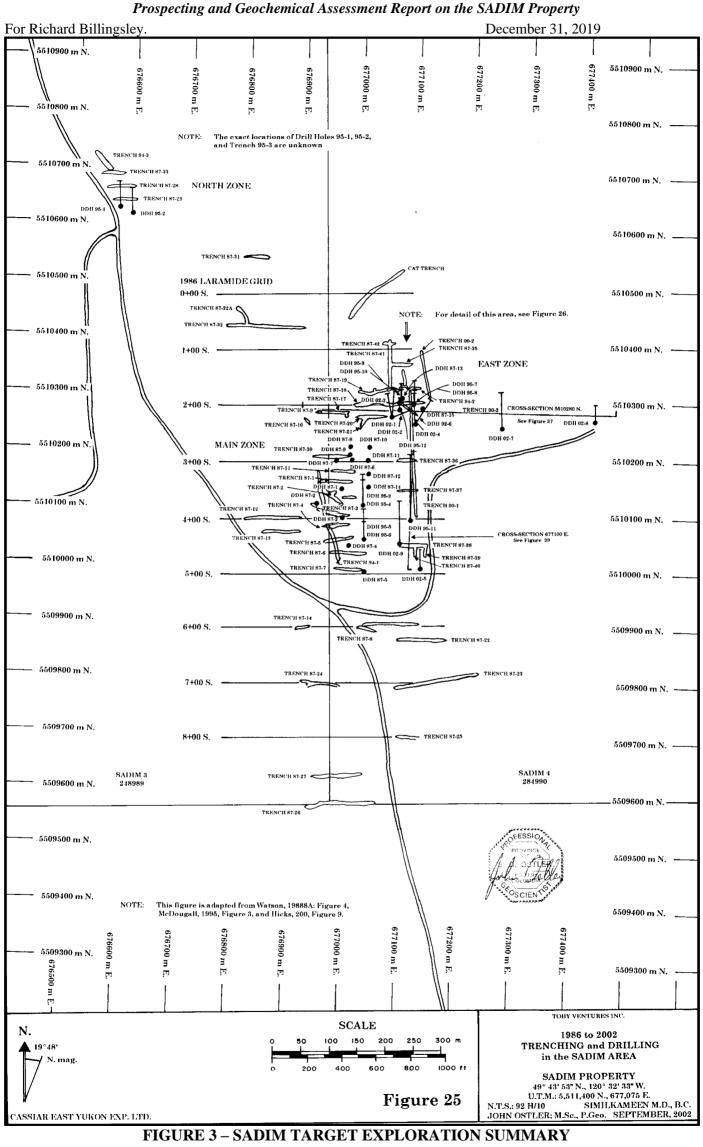
# Sadim

The SADIM prospect (Minfile No 092HNE095) is currently the most important gold-silver target of the current mineral property. It occurs in the north central part of the current property.

In 1985, I.M. Watson supervised field crews while completing follow-up examinations of goldsilver in soil anomalies completed earlier that year discovered gold bearing veins south of the Rum and Coke prospects and discovered the SADIM mineral occurrence. The discovery was aided by completion of a new main line logging road immediately west of the discovery. Watson subsequently transferred the claims to Laramide Resources. Between 1985 and 1987, Laramide conducted a major exploration program at SADIM with soil and rock sampling, VLF electromagnetic survey, 42 m of trenching, and 15 diamond drill holes. Laramide's three year exploration program determined that the gold bearing zones were bounded over an eastward dipping shear zone (Watson, 1988).

Between 1994 and 1995, Harlow Ventures optioned the Sadim claims and conducted another major exploration program consisting of additional ground magnetic and VLF electromagnetic surveys to the north and south of the Laramide surveys, excavated three additional trenches, and drilled 12 diamond drill holes (729 m).

In 2000, Toby Ventures purchased the Sadim Claims from Harlow Ventures. In 2002, Toby Ventures drilled 9 diamond drill holes (862.3 m) targeting the Sadim gold-quartz area. In 2005, Chris Dyakowski purchased the Sadim claims (Ostler, 2002).



Source, Ostler 2002

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For Richard Billingsley. December 31, 2019 In 2009, the Sadim would become part of the Allison Lake Property optioned under Orofino Minerals. In 2010, Orofino conducted a detailed exploration program, the Allison Grid, on the Sadim, Rum and Coke areas.

In early 2014, Colorado Resources purchased the Sadim claims from Chris Dyakowski and incorporated the claims into Colorado's Hit-Aspen Grove Property. Exploration efforts including IP chargeability and resistivity indicated that the SADIM target occupies the western edge of a coincident east dipping geophysical feature that at depth has not been tested. See Figure 4 below.

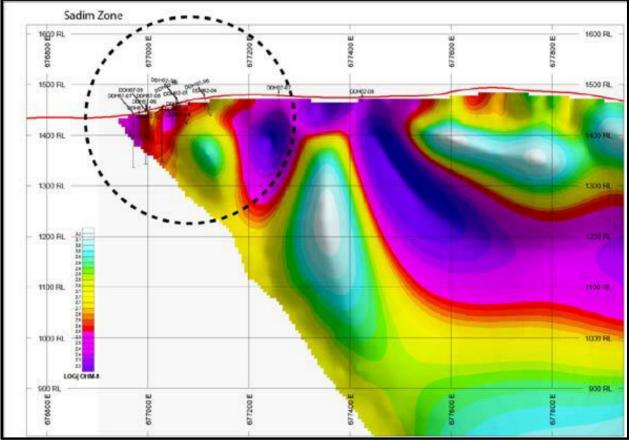


FIGURE 4 - SADIM ZONE - LINE 10200N - MODELLED DC RESISTIVITY SECTION WITH HISTORIC DRILLING – Source Walcott 2018

In late 2018 Colorado returned the Sadim and other parts of the Hit-Aspen Grove Property to Richard J. Billingsley. They as of this report still retain the RUM-COKE and HIT-MISS properties.

# Golden

In 1972, Vargas Mines Limited staked the EJ claims over the now EJ and Golden mineral occurrences and conducted a ground magnetic survey. Then in 1981 Lornex Mining purchased

For Richard Billingsley. December 31, 2019 the Golden claim over the Golden mineral occurrences. Lornex completed a ground magnetometer survey, geologic mapping, and soil grid sampling. The soil sampling detected anomalous copper values (Christopher, 1984, 1985).

The Vale area was not thoroughly explored until the 1990's when Kingsvale Resources staked the Vale claims. In 1991, Kingsvale soil grid and rock sampled the claims. One high anomalous gold soil sample discovered the Vale mineral occurrence (Rowe, 1991). The Vale claims would subsequently be allowed to lapse.

In 2009, the Golden mineral occurrences would become part of the Orofino optioned Allison Lake Property (Allen, 2010).

In late 2011, Colorado Resources purchased the Allison Lake Property and staked the Vale claims as part of Colorado's Hit-Aspen Grove Property. In 2012, Colorado conducted a road cut soil sampling program at the Golden mineral occurrence finding high anomalous copper results and completed an 18.4 line km geophysical I.P. survey in 2012. In 2015, Colorado conducted more soil sampling at Golden along newly constructed forestry service roads (Travis and Jacobs, 2016). Colorado allowed the four Vale claims to lapse in 2017.

# **Adjacent Mineral Property History**

# **Rum-Coke**

The RUM-COKE area lies immediately NNE of the SADIM target. This area has in the past often been part of the SADIM property or vice versa.

In 1962, anomalous copper results in andesite outcrops lead to the discovery of the Rum and Coke mineral occurrences and the staking of claims in the area by Plateau Minerals. Throughout the 1960's, Plateau and Adera Mining conducted exploration activities including bulldozer trenches and 4 diamond drill holes (357.6 m). Adera allowed the claims to lapse in the late 1960's (Lammle, 1966)

In the early 1970's, AMAX staked the Rum claims and conducted exploration work including a 9 hole (572.7 m) percussion drill program. However, AMAX's interest in the Property declined (Christoffersen et al, 1971). Kalco Valley Mines consequently continued exploration activities at the Rum claims conducting a short 4 diamond drill program and some trench sampling. In 1976, Ruskin Development acquired the Rum claims and conducted an extensive soil geochemical survey over the property but let the claims lapse in the late 1970's (Mark, 1976).

In 1980, Cominco acquired the Rum claims around the Rum and Coke mineral occurrences and conducted a magnetic survey but allowed the claims to lapse a year later (Mehner, 1987).

In 1984, Peter Peto staked the Coke claims covering the Rum and Coke mineral occurrence and rock sampled in some old trenches and also conducted a small magnetic survey in 1986. In 1987 Mingold Resources optioned the Coke Claims and conducted a soil survey over the Coke showing (Yarrow, 1987). The claims were allowed to lapse soon after.

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In 1994, Harlow Ventures staked the Rum claims over the Rum and Coke mineral occurrences as part as their option of the Sadim claims to the south.

# **Hit-Miss**

In 1990, the Hit mineral occurrence was discovered when logging activity exposed gold bearing quartz vein float. That same year, Vanco Explorations acquired the Hit Property. In 1990 and 1991, Vanco conducted an extensive exploration program consisting of rock sampling, soil sampling, geological mapping, trenching, and 2 short diamond drill holes (185.93 m).

The claims lapsed in 2001.

In 2001, Cazador Resources Ltd staked the Hit claim around the Hit mineral occurrence.

In 2002, Cassidy Gold optioned the Hit Claim from Cazador and staked claims to the south covering the Miss mineral occurrence. However, Cassidy Gold was unable to raise funds and returned the property.

In 2006, the HIT-MISS property was optioned to Amaryllis Ventures, which became Avanti Mining. Avanti Mining conducted a soil grid sampling and geophysical I.P. survey on the Hit claims. The surveys confirmed results from two lines that the Hit Zone was underlain by a moderate chargeability response and a fairly strong resistivity low. This anomalous feature continues to the south for a short distance and to the north-northwest through the west side of the Hit North zone towards the Sadim gold zone. Several other sub parallel zones labelled from east to west were also identified (Lindinger, 2008). Avanti returned the claims in early 2009.

In late 2009 and 2010, Colorado optioned and then purchased the Hit claims from Cazador Resources. Colorado continued the induced polarization (I.P.) survey over the Hit mineral occurrence and to the 'North Hit' area. In 2011, Colorado conducted a trenching program that exposed a 120 by 25 m portion of the main Hit zone, that was channel sampled across its entire width. In total, 736 channel samples were collected. A 26 m section in the southern part of the exposed system was dominated by well mineralized multi-episodic quartz veins that averaged 5.58 g/t Au and 56.8 g/t Ag over an average horizontal width of 1.4 m (Lindinger, 2012).

More recent exploration on the property resulted in the discovery of high grade gold mineralization near the MISS target (Yeomans, 2018). He reports "A high-grade epithermal vein was sampled in outcrop at the Minfile occurrence named "Miss" which reported up to 9,960 ppb Au with anomalous arsenic, lead, zinc and mercury in highly altered quartz sericite quartz porphyry intrusive.".. Additional exploration elsewhere failed to generate any new copper of gold targets.

# For Richard Billingsley. GEOLOGICAL SETTING

December 31, 2019

# **Regional Geology**

The RITA gold-silver-copper-zinc occurrences are located within the Intermontane Belt or Super Terrane portion of the western north American Orogen. The lithologies within this Terrane are almost entirely comprised of imbricated and deformed portions of accreted late Paleozoic to mid Mesozoic island arc and oceanic assemblages. In the region surrounding the SADIM property the rock packages include the Harper Ranch, Slocan and Nicola-Stikine rocks of island arc affinity and the Slide Mountain, and Fennel formations of oceanic affinity. Recent interpretations have these rocks overlying ancestral north American basement due to eastward directed compressive activity.

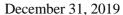
The Harper Ranch, Nicola-Stikine and possibly Fennel Formations have coeval intrusives.

Intruding and overlying the accretionary lithologies are late Mesozoic to Miocene sedimentary and volcanic deposits. These include the Cretaceous Spences Bridge Group, Eocene Kamloops Group, Miocene Chilcotin Group and Quaternary to Recent volcanics.

Pre and post glaciation surficial deposits of variable thickness blanket the region

A wide variety of dominantly epigenetic and less commonly syngenetic hydrothermally related mineral deposits are found within the region. These include pre and post accretionary porphyry copper-molybdenum+/-gold+/-silver+/-zinc, orogenic gold, mesothermal and epithermal gold-silver, porphyry related tungsten, chromite deposits. Pre and post accretionary industrial mineral deposits include limestone, bentonite, diatomaceous earth, post glacial gravel and sand.

For Richard Billingsley.



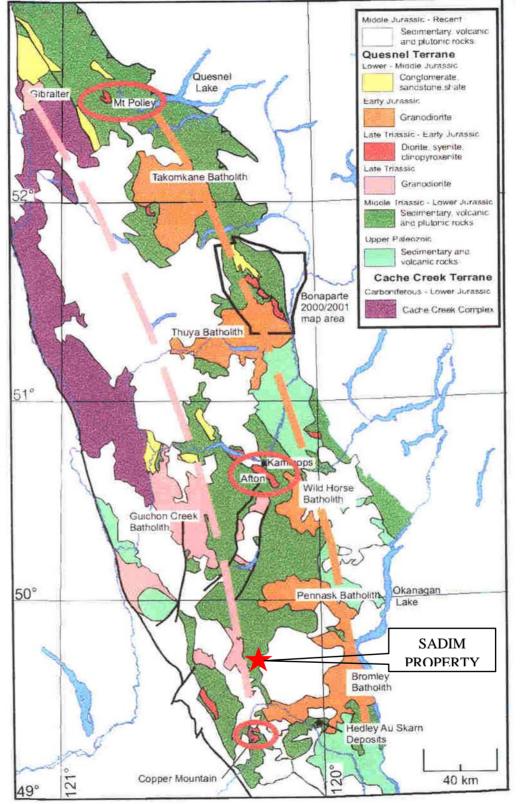


FIGURE 5 - REGIONAL GEOLOGY (Source Logan, et. al. 2006.)

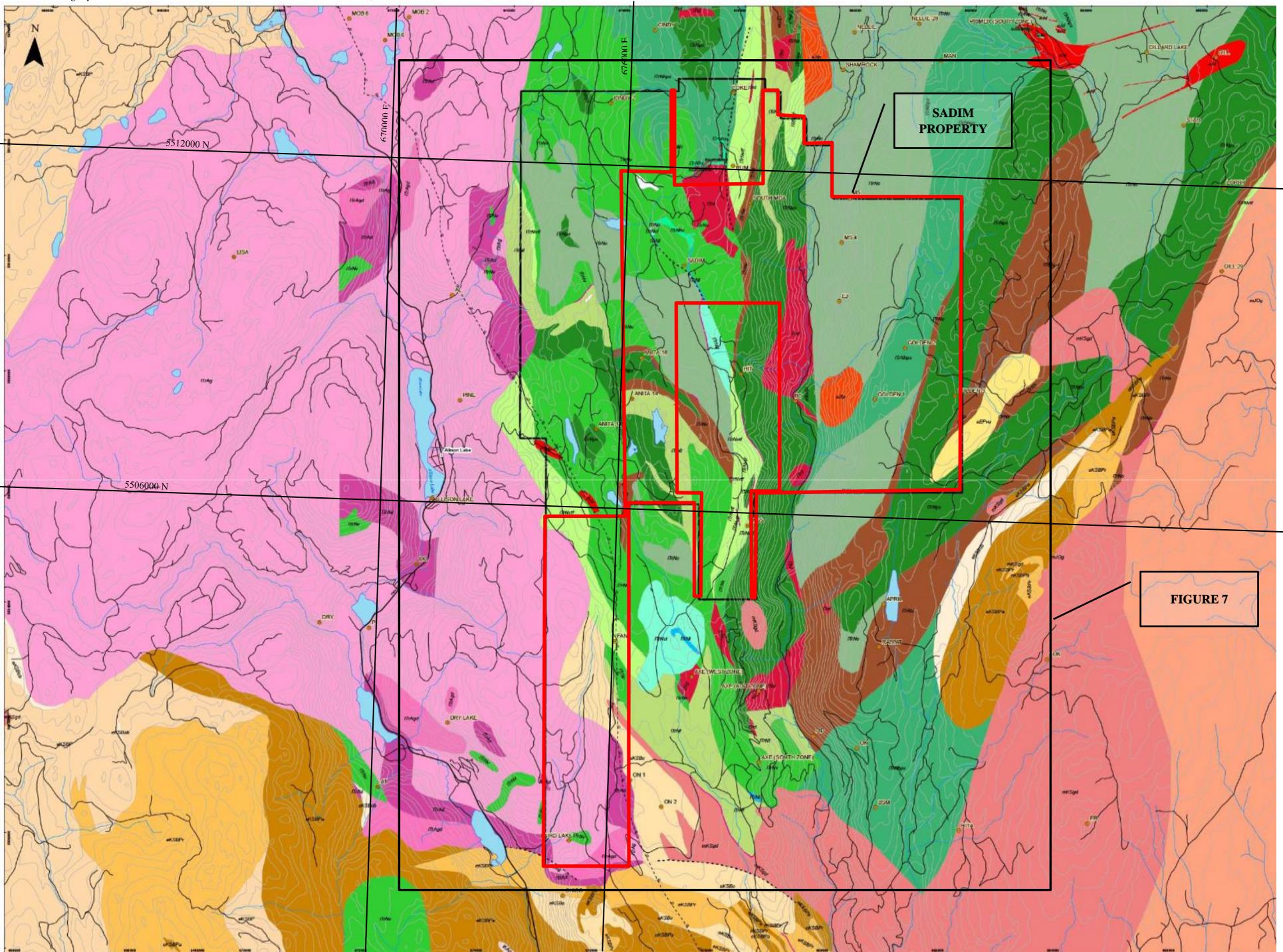


FIGURE 6 – LOCAL GEOLOGY (Source Mihalynuk 2004

Rhyolite flows. White to orange, finely banded, massive to brecciated flows up to tens of metres thick, may include

Rhyolite lapilli tuff. Includes relatively minor welded ash flow. Sparse green and white lapilli in a plagioclase

Andesite breccia and lesser flows. Dark grey-green, medium- to fine-grained plagloclase ±pyroxene-phyric.

Intraformational condomerate, massive to well bedded, including, marcon and green ash and lesser lapilli tuff

and tuffite, including choloritized, flattened pummice lapilli. Detrital zircon age populations reflect the

crystal-rich vitric ash matrix with scattered guartz eves. Ignimbritic subunits in a few localities.

## For Richard Billingsley.



# BC Geological Survey BCGS Open File 2014-5

# Summers Creek Area Preliminary Geology

NTS 92H/9W & 10E (and parts of adjacent sheets north and south)

Mitchell G. Mihalynuk, James M. Logan, Larry J. Diakow, Martha A. Henderson, Johannes Jacob and Andrew K.G. Watson

Scale 1:50 000

# FIGURE 6A - LEGEND FOR FIGURES 6 and 7

### LEGEND

#### LAVERED ROCKS

MIOCENE	
Chilcotin	Group
MICV	Alkali olivine basait flows and rare interflow breccia. Dark brown to tan-weathering and black fresh. K-Ar ages of 9 and 9.2 ± 1.8 Ma were obtained near Coalmont (Mathews, 1989; Breitsprecher and Mortensen, 2004 -location adjusted on may).
EARLY E	OCENE
Princeton	Group
	Upper Volcanic' Formation
eEPvu	Volcanic member, upper. Near Dillard Lake this unit includes oxy-homblende, biotite, sanidine, and plagioclase -phyric rhyolite flows, breccias and flow domes (50.2 ± 0.6 Ma, 40-39Ar, Mihalynuk et al., 2014).
	Allenby Formation
eEPSs	Summer Creek sandstone (<300 - 590m thick). White to orange, massive to well-bedded, tuffaceous, zeolitic sandstone and granule conglourerate (in places largely sourced from the Osprey Lake batholith) with minor sillstone, shale and sparse layers of coalified plant detrifus.
eEPCc	China conglomerate (up to 130m thick). Marker in eEPVsh, is tan to brown, volcanic and quartz-pebble and gra conglomerate, volcanic sharpstone conglomerate (derived from Nicola Gp. and Pimanus Fm.), and coarse w
eEPVsh	Vermillion Bluffs shale (90-1000m thick). Grey to black, locally marcon, carbonaceous to bentonitic shale enclo coal and minor thin sandstone layers. May locally include siliceous sinter, diatomaceous, and dolomitic beds
cEPHs	Hardwicke sandstone (up to 400m thick). White quartzo-feldspathic sandstone with minor sitistone and rare shale interlayers. Green-brown lithic sandstone near basal boulder conglomerate.
	Cedar Formation
eEPCv	Mainly red-brown andestitic to basaltic flows, breccia and lahar; locally light-weathering, aphanitic to sparsely homblende and feldspar-phyric dacite flow and breccia.
eEPCvf	Andesitic - basaltic volcanic rocks; predominantly flows.
FARIYO	RETACEOUS (TO EARLIEST LATE CRETACEOUS)
	Iridge Group
	Pimanus Formation
eKSBP	Pimanus Formation undivided or admixed andesite, rhyolite flow, and tuff (units eKSBPa, r, and rt).

eKS8cb	Basal congiomerate rests atop pre-Cretaceous lithologies from which it is predominantly derived. Includes a tuffaceous component of Pimanus Formation character.
LATE TR	IASSIC TO EARLY JURASSIC NICOLA GROUP
ITrNv	Undivided, where mapped predominantly feldspar porphyritic breccia and minor flows. Pyroxene ± hornblende may be present in subordinate abundances, heterolithic. Significant carbonate in matrix and as late veins.
TrNhpx	Pyroxene and homblende porphyry breccia. Coarse, euhedral mafic crystals are crowded within a tan to green- weathering matrix. An apparently undisturbed 40Ar-39Ar cooling age on homblende of 182 ±1 Ma (Mihalynuk et al., 2014) suggests that at least some of this unit extends to late Early Jurassic.
ITrNhx	Homblende porphyry breccia and flows. Coarse-grained, acicular ±trachytic, with subequal abundances of plagloclase. Interlayered with subaqueous deposits, overlying deposits may contain clasts of this unit.
ITrNc	Conglomerate. Very coarse, olistostromal, metres in diameter to granule-sized clasts, are locally derived from the Nicola arc. Commonly with calcareous volcanic sand and silt matrix. Monomict to polymictic, carbonate clasts are generally minor but conspicuous.
ITrNd	Conglomerate as ITrNc, but with abundant, locally predominant, clasts of limestone. Near Mystery Lake also contains clasts of picrite.
ITrNi	Undivided limestone, typically massive, with poorly preserved fossils including bivatves, crinoids, encrusting corals, and rare belemnoids. Grey-, tan- or white-weathering, commonly with weak to strong S ±L tectonite fabric.
ITrNpx	Pyroxene poryhyry breccia and flows. Medium- to coarse-grained, euhedral pyroxene are commonly crowded within a grey-green felted to aphanitic/devitrified matrix (rarely ochre-coloured as near Miner Mtn.) Flows may be amygdaloidal. Plagioclase glomerocrysts are common, and may contain olivine, and rarely, analcime.
ITrNs	Undivided sedimentary rocks. Mainly volcanic siltstone and wacke and shale and subordinate beds of ITrNc. Tan to dark green or black. Shale may weather rusty.
ITrNt	Tuffite. Well-bedded to massive, predominantly reworked fine lapilli and lithic or crystal ash tuff subunit of ITrNs. May include air-fall pyroclastic units of similar character.

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Locally vesicular and may contain epiclastic interbeds.

enclosing rocks (~103 Ma) and nearby basement (Mihalynuk et al., 2014).

areas of intensely welded ash flow

Felsic tuffite. White to dark green, well-bedded to massive and varying from sharpstone lapili tuffite to waterlain ITrNM ash tuff to felsic boulder conglomerate. Sparse interbeds of polymictic conglomerate. Commonly foliated and may be altered to quartz-sericite phyllite.

#### MIDDLE TRIASSIC

eKSBPr

eKSBP

eKSBPa

eKSBc

Rhyolite flow and tuff. Massive, pyritic, white to rusty flows, lapilli tuff and olistostromal epiclastic strata, includes TrNvf sericite schist near Coalmont and north of the Axe deposit where a sample yielded 4 zircons that overlap the U-Pb isochron at 238.2 ±0.3 Ma. Strongly pyritic zones form gossans exceeding 2 metres thick.

#### INTRUSIVE ROCKS

#### Late Cretaceous

- acke Allison Creek stocks. Pink to dark grey, leucogranitic to dioritic stocks and dykes, many of which cut strata of the Spences Bridge Group. This is a legacy unit (Preto, 1979), future geochronology may show that most LKAg IKAg ina bodies are late Early Cretaceous in age, belonging to the "Mine dykes" and Summers Creek stocks suite.
  - Early Cretaceous "Mine dykes". Cream, yellow-orange to pink, north-trending quartz-orthoclase-plagioclase-biotite ±homblende porphyritic. Commonly pyritic and clay-altered. Probably feeders to coeval Spences Bridge Group, dated near Copper Mountain and in the map area: 102.9 ±0.3 Ma (Mihalynuk et al., 2009) and 103.9 ±0.1 Ma\*. mKSRichn
  - Summers Creek stocks. Probably the deeper level equivalent of MKSBkhp, displaying a similar compositional variability, although typically medium to coarse-grained with xenolith-rich zones. K-Ar cooling ages are mKSgd coeval within error (99.1 ±4.2Ma Breitsprecher and Mortensen, 2005 after Preto, 1979).

#### Middle Jurassic

Osprey Lake batholith. Uniform orthoclase megacrystic granite. White to pinkish-grey, with orthoclase up to 5 cm mJOg long in medium-grained matrix containing biotite > hornblende >> titanite and magnetite. U-Pb ages are: 166 ±1Ma (Parrish and Monger, 1991) and 162 ±2Ma\* from a probable screen inside the Summers Creek pluton.

#### Early Jurassic



Early Jurassic - Late Triassic Granodiorite. Composition ranges to quartz diorite. May display local zones of foliation, as does the Boulder intrusion near Tulameer

Diorite. Composition varies to quartz monzodiorite. Dark grey, blocky, varitextured, may originate as dense dyke

cooling ages are 188 ±3Ma (Mihalynuk et al., 2014) and 162 ±3\*\* from fine-grained secondary biotite.

Feldspar porphyry. Medium-grained feldspar and lesser coarse homblende, locally trachytic alignment in a tan

complex. Homblende locally have cores of pyroxene. Altered with porphyry-style mineralization. 40Ar-39Ar

#### Copper Mountain suite

to green-grey matrix. May be partly extrusive.

- Diorite to lesser granodiorite. Commonly varitextured and tectonically disrupted. Includes bodies at Rum and Axe prospects displaying porphyry copper-style mineralization.
- tourmaline alteration zone around the dioritic intrusion at the Rum prospect, including zone of tourmaline cemented breccia

#### Late Triassic

elfp

- Allison Lake pluton Quartz diorite phase. Distribution and K-Ar age of 204 ±10Ma after Preto (1979, age recalculated by Brietspreche TrAd and Mortensen, 2004).
- Granodiorite Grev homblende-phyric with distribution shown from Preto (1979) TrAnd
- Main granite phase. Red-orange to grey, locally miarolitic and/or graphic granite containing variably altered homblende and biotite. A clast of this intrusion collected from the basal conglomerate of the Spences Bridge ITrAg Gp. yielded a K-Ar cooling age of 207 ±7Ma (Preto, 1979, recalculated, Brietsprecher and Mortensen, 2004).

#### **Tulameen Complex**

Mafic-ultramafic complex and satellite bodies. Dunite to monzosyenite Alaskan-type intrusion is probable root to the Nicola arc. A U-Pb age of 210 ±5 was derived from svenodiorite (Rublee, 1994) west of the map area.

\*unpublished reports by R. Friedman (2014), Pacific Centre for Isotopic and Geochemical Research, University of British Columbia \*\*unpublished reports by J. Gabites (2014), Pacific Centre for Isotopic and Geochemical Research, University of British Columbia

#### SYMBOLS

ITrTu

Geological contact: defined, approximate, inferred
Form lines
Unconformity: defined, approximate, inferred
Fault: defined, approximate, inferred (teeth on downthrown side where known)
Thrust fault: inferred
Axial trace of regional fold: anticline, syncline
Bedding: Inclined, vertical, tops indicated, overturned, horizontal
Fabric: jointng; slaty cleavage or schistosity (inclined, vertical, second phase)
Fold axis, axial cleavage
Lineation: inclined, horizontal
Brittle shear, brittle shear vertical, dyke, dyke vertical
Glacial striae (bidirectional)
Isotopic age date sample site: U-Pb zircon, detrital zircon, 40Ar-39Ar, K-Ar103Ma 🕕 📿 🕢 K
Past producer, developed prospect, showing
Drill Hole, trench, adit
Topographic contour (20 metre intervals) and spot heights
Landslides (ommitted at Miner Mountain for clarity, see Mihalynuk and Logan, 2013)
Alteration zone: pyrite halo (Chapman, 1970)
Lakes; Wetlands (swamps and marshes)
Outcrop (darker shade, symbol where too small to map)
Field station (also on Reliability diagram)
Outline of map areas shown at larger scale in Mihalynuk and Logan (2013a, b)

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For Richard Billingsley. *Local Geology* 

December 31, 2019

The geology of the local area is comprise of late Triassic to early Jurassic allochthonous Nicola Group rocks that host syn and post depositional intrusives. These rocks have been structurally imbricated, folded by Jurassic aged compressional activity as the Nicola island arc collided with north America. Jurassic and later intrusives with coeval volcanic and sediments form more recent manifestations of this orogen. The most recent deposits are unconsolidated pre, syn and post glacial deposits.

The nearest significant metallic mineral occurrences are Nicola Group intermediate calc-alkalic to alkalic intrusives that host porphyry copper-gold-silver mineralization. The AXE and MAN-PRIME developed prospects occurring to the south and northeast of the SADIM claims respectively are the most significant local deposits of this type. Currently lesser deposits include the RUM-COKE deposits that the current property partially envelopes at its north end. The numerous "red bed copper' showings in the area (ANITA) are either difficult to locate or apparently found to be related to porphyry systems. Later interpretedly Cretaceous to early Tertiary structurally hosted precious metal veins systems are now form a popular exploration target. Examples of these deposits (Shovelnose) in the region include several deposits within the Cretaceous Spences Bridge gold belt northwest of the area, The SADIM, HIT and MISS prospects may be southeasterly examples of this deposit type. The early Tertiary ELK and SIWASH gold deposits east of the area also represent an exploration target in the area. Industrial and non-metallic mineral deposits in the area include limestone, gypsum, opal and fire opal, zeolite, decorative and dimension stone and gravel.

# **Property Geology and Mineral Occurrences**

The geology of the SADIM property area is comprised of structurally imbricated and folded late Triassic to early Jurassic Nicola Group rocks. These include from west to east an eastern portion of the Allison Lake pluton, mafic to intermediate volcanics with remnant of coeval sediments including limestone. These rocks have been intruded by dioritic to granodioritic coeval intrusives. The dioritic intrusives appear to host the most important porphyry copper deposits found adjacent to the property. The current property's most significant mineral occurrence is the SADIM gold deposit. Lesser showings are small copper showing historically described as RED BED copper (ANITA, GOLDEN, FAN, LAIRD LAKE). However, with the possible exception of the GOLDEN 1 (Minfile 092HNE 053) these appear to be related to porphyry copper style mineralization. There are no known commercially viable industrial mineral or gravel deposits on the property.

The SADIM prospect currently occurs as a 300 by 150 metre north trending zone of dominantly west striking steeply south dipping white quartz veins that host highly variable quantities of gold with silver. The zone has been tested by several hundred metres of trenching and over 50 drill holes. The deposit has been tested to a ~150 metre depth.

The following description is excerpted from Yeomans 2018.

For Richard Billingsley. December 31, 2019 ... "At the Sadim gold prospect, rocks are cut by a major east-dipping shear zone, possibly a thrust fault, which trends north, and ranges up to 15 m in width. The zone occurs along a dark grey carbonaceous limestone and separates andesitic flows and tuffs to the west from mixed tuffs to the east. The shear has caused intense fracturing and alteration in the adjacent tuffs, especially in the hangingwall. The tuffs are moderately to strongly carbonatized and variably silicified.

A quartz vein stockwork is developed in the hangingwall tuffs, comprised of quartz veins ranging from less than a millimeter to greater than 1 m in width. The quartz veins are erratically mineralized with disseminated sulphides, consisting mostly of pyrite and chalcopyrite, and lesser galena. Petrographic studies also indicate traces of sphalerite and lead and silver tellurides (altaite and hessite). The sulphides commonly occur along vuggy vein margins or in the centre of the veins.

Chip sampling of trenches yielded gold values of 0.050 to 4.35g/t Au over 1 m (Watson, 1987). The precious metals content of the stockwork is directly related to the intensity of quartz veining, fracturing and sulphide content. Galena is strongly associated with higher gold and silver values. Gold to silver ratios are remarkably constant at about 1 to 8 (Watson, 1988). The nature of this mineralization and alteration suggests the deposit is of mesothermal origin (Watson, 1988)."...

As currently interpreted, the veins occur in an section of nearly north striking, variably east dipping isoclinally folded, strongly to intensely ankeritically altered andesitic 'lahar' breccia unit that forms the hangingwall of a moderately east dipping thrust fault. The andesite is conformably underlain by andesitic tuffs and flows and overlain by andesitic tuffs that grade into highly deformed greywacke. The individual veins, although described as a stockwork above are actually generally subparallel east striking and south dipping but highly variable in both strike and dip with similar variations in gold-silver grade. The zone is open to depth and to the east.

Prospecting and Geochemical Assessment Report on the SADIM Property

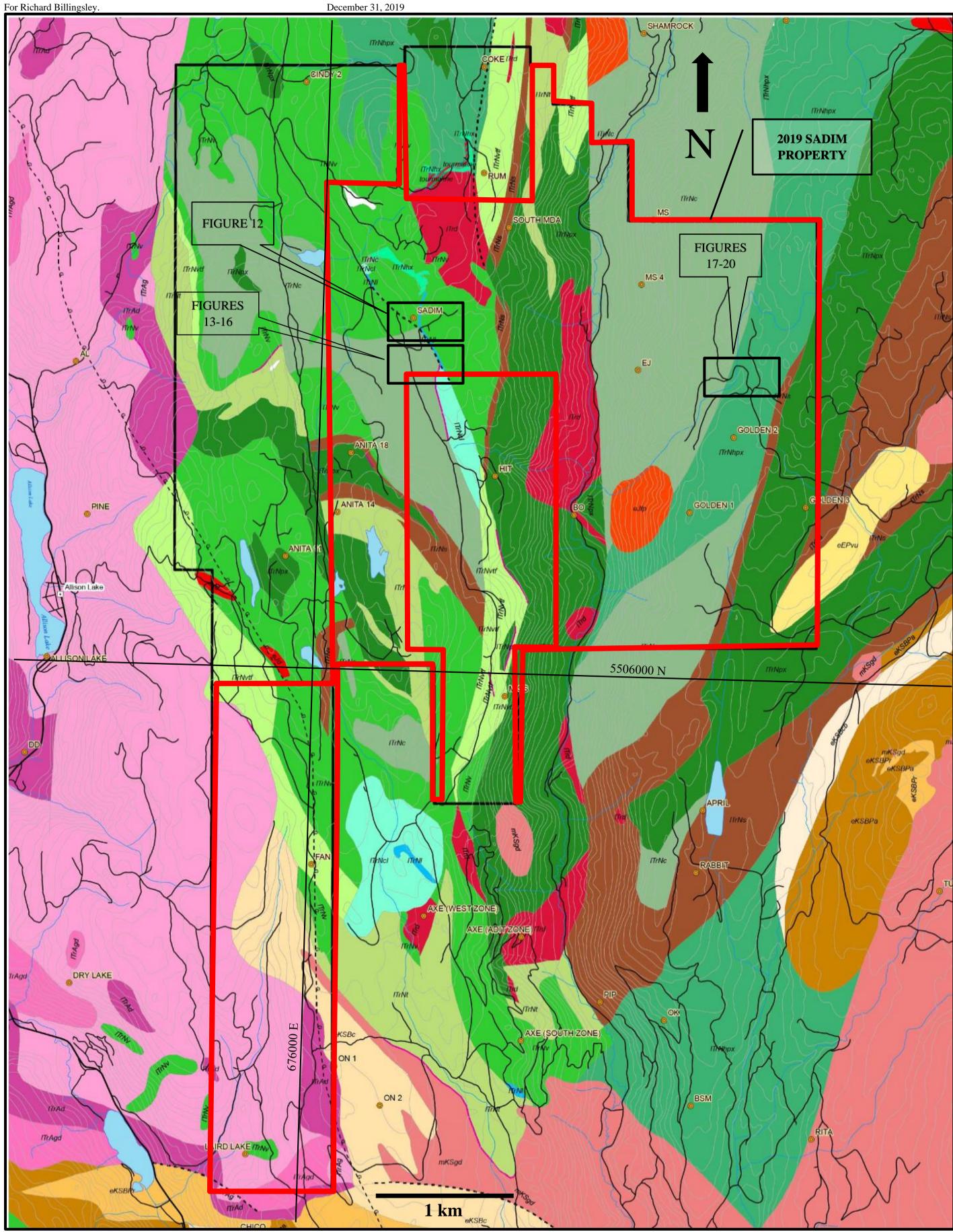


FIGURE 7 – PROPERTY GEOLOGY, MINERAL OCCURENCES AND 2019 FIGURE INDEX PLAN

# Prospecting and Geochemical Assessment Report on the SADIM Property For Richard Billingsley. December 31, 2019 2019 EXPLORATION PROGRAM

The 2019 program was concentrated in two areas; 1) the SADIM prospect area, and 2) the north Golden Area some 3 km to the east. Please refer to Figure 6.

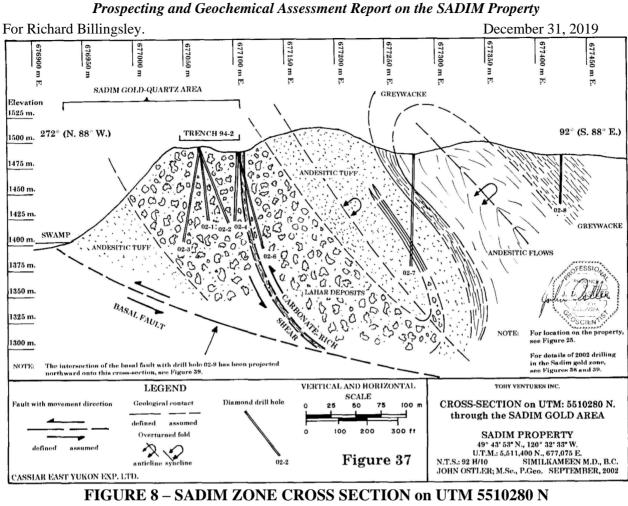
October 9 was spent examining the SADIM main and east area. The SADIM main area to determine the current state of existing trenches, key drill sites and a determination of the extent and degree of alteration east of the SADIM main zone. The examination was hampered by a very early ~ 20 cm snow fall and unseasonably cold temperatures. See Google Dioptra image below. However, the snow did not entirely prevent a basic examination of the site and its purpose.



IMAGE A- PARKED AT SADIM ZONE OCT 09, 2019

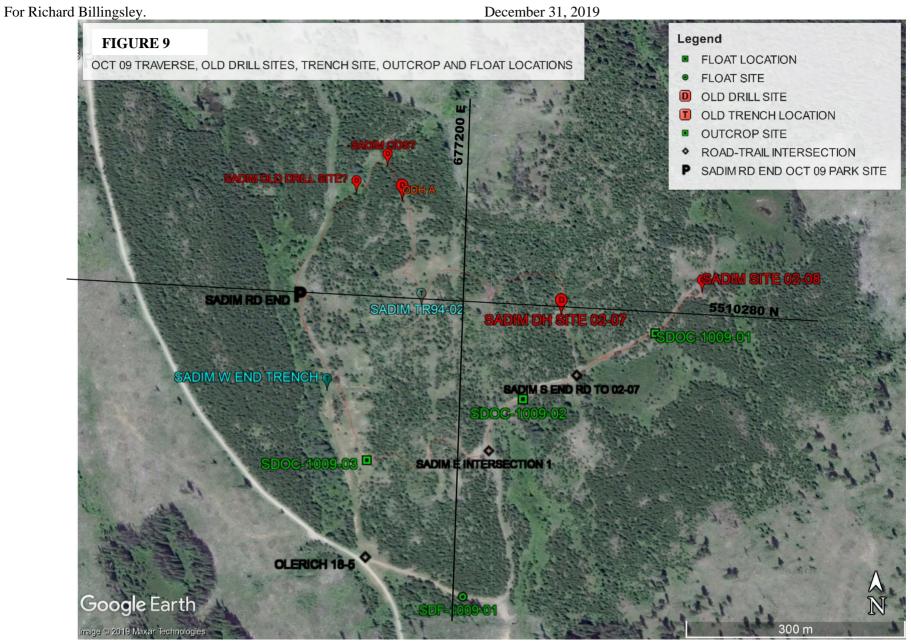
The author in his review noted that past interpretations of the geometry and extent of the mineralization constrained it to an area directly underlying the surface exposures. Two vertical drill holes 02-07 and 02-08 tested to shallow depths the eastern area (see Figure 8 below), however the holes did not extend to the interpreted basal thrust supposedly controlling the flow of the mineralizating fluids. Even though hole 02-07 mentioned silicification and bleaching in the core no samples were taken and analyzed. Hole 02-08 was drill to only 50 metres, less than 1/4 the distance to the interpreted thrust.

The author's purpose was to examine the area of these two drill holes to a) locate the drill sites, and b) located and examine any outcrops to determine their degree of alteration.



Source, Ostler 2002

The outcrop locations examined are presented Figure 9 below, Table 4 below and images B, C and D below. The traverse along the reclaimed logging road that accesses the two drill sites had two outcrop exposures. Both displayed variably hydrothermally altered rock. SOC-1009-01 (IMAGE B below) some 100 m southwest of drill hole 02-08 displays moderately pervasive dominantly carbonate and/or ankerite alteration suggesting that hydrothermal fluids did penetrate that section of the rock mass. Hole 02-08 and SDOC-1009-01 lie a short distance west of an east dipping chargeability and resistivity anomaly (FIGURE 4 above, Walcott, 2018 pp 35-37). It is possible that the alteration seen is an at surface reflection of that geophysical signature and/or a signature of the mapped east dipping andesitic flow volcanic unit (FIGURE 8 above).



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For Richard Billingsley.

December 31, 2019





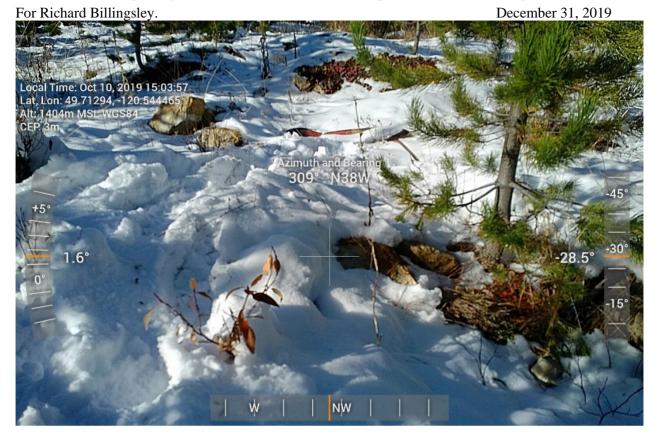
IMAGE C – SDOC-1009-01 detail



**IMAGE D – SDOC-1009-02** 

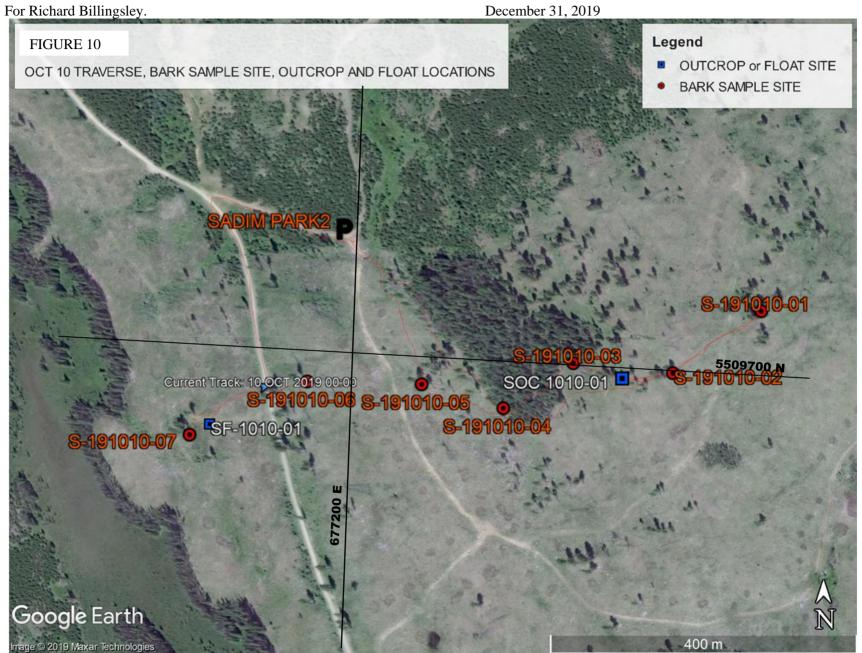
October 10 was directed to taking widely spaced ~ 80-140 metres soil and Douglas Fir bark samples with outcrop mapping along an 800 metre WSW traverse some 500 metres south of the SADIM prospect (Figure 10 below). Outcrops or float locations showing evidence of alteration were noted and GPS recorded. Seven evenly spaced tree bark and soil samples were taken. Sampling procedure are discussed in the "Sampling Method and Approach" section below. Sample preparation, analytical procedures used and security measures taken are discussed in the "Sample Preparation, Analyses and Security" section below. Analytical results are presented in the "Results and Conclusions" section below.

October 11 was directed to taking widely ~150 metres spaced soil and Douglas Fir bark samples with outcrop mapping along a 700 metre E-W traverse overlying some anomalous for copper in soil results (Travis, 2016) and a short distance north of the GOLDEN showings (Figure 11 below). Outcrops or float locations showing evidence of alteration were noted and GPS recorded. Five evenly spaced Douglas Fir tree bark and four soil samples were taken. Sampling procedure are discussed in the "Sampling Method and Approach" section below. Sample preparation, analytical procedures used and security measures taken are discussed in the "Sample Preparation, Analyses and Security" section below. Analytical results are presented in the "Results and Conclusions" section below.

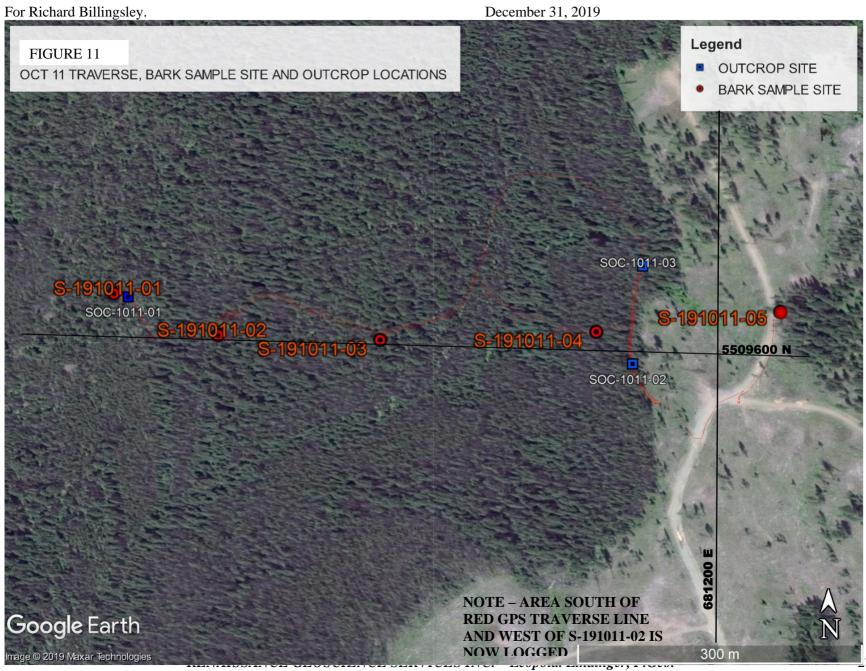


# IMAGE E - FLOAT SITE SF-1010-01

300+ metres S of SADIM Gold Zone. Bleached angular strongly carbonate altered rock in glacial till possibly from a source west of the SADIM zone. The area is bracketed by samples sites S-191010-06 and 7 which produced elevated silver in ionic leach soil and ashed fir bark, copper in bark, lead in soil ionic leach, and zinc in soil and bark ionic leach.



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# Prospecting and Geochemical Assessment Report on the SADIM Property For Richard Billingsley. December 31, 2019 SAMPLING METHOD AND APPROACH December 31, 2019

# Soil samples.

Soil samples were taken at sites within 8 metres of a Douglas fir bark sample site (except for site S-191011-05 where no soil samples were taken due to no undisturbed soils being present within a 10 metre radius) ) in visually undisturbed ground not apparently in the immediate proximal root zone of a large existing or logged off tree. For conventional multielement analyses plus gold samples were taken from the BF horizon between 10 and 20 cm depth. The samples were hand filtered to remove large pebbles and rootlets prior to placing in pre labelled kraft paper bags. The samples chosen for ionic leach analyses were taken from BF mineral soil horizon directly below the organic layer as recommended by ALS guidelines. The average thickness of the sample profile was 5 to 6 cm. The samples were hand filtered to remove large pebbles and rootlets prior to placing in pre labelled and rootlets prior to placing in pre labelled sample profile was 5 to 6 cm. The samples were hand filtered to remove large pebbles and rootlets prior to placing in pre labelled plastic Ziploc bags.

# Douglas Fir Bark Samples.

Due to the extensive pine bark beetle infested tree harvesting virtually no older pine trees, normally the preferred bark sampling host remained in a sufficient density to provide a meaningful survey. Even though there is no easily reference evidence of the use of Douglas fir bark as a geochemical survey medium the author decided to use this medium due to a sufficient density and extent of large old specimens of this species for sampling. The author chose large trees at least 80 cm and preferable over 1.2 metre thick at chest height. A small axe was used to sample the bark. Due to the large deeply ridged growth pattern of the bark an effort to sample as evenly as practical the entire cross section from near the cambium to the oldest bark was made. Refer to Appendix C for bark sample images. The spacing between trees and associated soil samples ranged from 80 to 130 metres.

# SAMPLE PREPARATION, ANALYSES AND SECURITY

The sample bag label method was S for SADIM project, then the year (19), month (10), date (10 or 11) then an "S" suffix for ICP soil analyses. The ionic-enzyme leach soil sample label was the same except for an "E" suffix for 'enzyme leach' analyses.

The samples for bark ash analyses was placed in a prelabelled 20 by 35 cm perforated Hubco bag. The label was the same as above except for a "BA" suffix for bark ashing preparation prior to analyses. The samples for "enzyme leach" analyses were placed in a similar bag then into a clear sealable Ziploc bag. The label was the same as above except for a "BE" suffix for bark 'enzyme or ionic leach' analyses.

The samples were transported from the field to the secure Renaissance Geoscience Services Inc. facility at 680 Dairy Road, Kamloops, B.C. There the sample advice forms were filled out and the samples for each analytical procedure were consolidated in separate bags with the appropriate sample advice sheet in them. The samples were transported by the author to the ALS sample preparation facility in Kamloops B.C.

Due to the prospective nature, limited sample set (and in the case of the bark samples lack of suitable standards) of this program no blanks or standards were used.

For Richard Billingsley.

# Sample Preparation

Samples are catalogued and dried. Soil samples are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Samples unable to produce adequate minus 80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh.

The Douglas fir bark samples weighed an average of 290 grams for the ash samples and at least 300 grams for the ionic leach sample set. The samples chosen for ash analyses were macerated and an approximately 50 grams subsample was taken for ashing at 475 degrees. The approximately 0.25 gram ashed sample was then sent for analyses.

The samples chosen for ionic leach analyses were macerated and milled to <1 mm fragment size. From this material a 5 gram subsample was analyzed. Analytical procedures are presented in the next section.

# Analyses

The 'regular' soil samples were analyzed using ALS Minerals "AuMETL43<sup>TM</sup>25g sample" procedure. The method is 'OK' for "target definition where trace level methods by aqua regia digestion and ICP-MS finish are excellent for regolith, where gold anomalies indicating mineralization below surface are well-characterized."

The soil samples having the "enzyme leach procedure were analyzed using ALS Minerals "*Ionic LeachTM*" procedure which "*is designed to enhance the most subtle labile geochemical anomalies for a wide range of commodities. It is a static sodium cyanide leach using the chelating agents ammonium chloride, citric acid and EDTA with the leachant buffered at an alkaline pH of 8.5."* 

The 50 gram vegetation (bark) sub-samples chosen for ash preparation were ashed at "475°C for 24 hours. Pre- and post-ashing weights are reported." A 0.25 subsample of the ashed material was digested using their "*ME-VEG41a*<sup>TM</sup> ashed" procedure producing a 41 element result including gold.

The 5 gram milled bark subsample was then digested in a proprietary "*Ionic Leach*<sup>TM</sup>" procedure. "*Ionic Leach TM is designed to enhance the most subtle labile geochemical anomalies for a wide range of commodities. It is a static sodium cyanide leach using the chelating agents ammonium chloride, citric acid and EDTA with the leachant buffered at an alkaline pH of 8.5 A 1 gram subsample of the leachate was analyzed using ALS's "<i>ME-VEG41*<sup>TM</sup>" procedure producing a 41 element result including gold.

... "Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results and quality control data are emailed to the client in PDF and text file formats."...

# For Richard Billingsley. DATA VERIFICATION

December 31, 2019

Each batch of samples had a separate QC document of quality control data of laboratory blanks, standards and sample duplicates. This information is presented in Appendix A.

Soil sample S-191011-03E was rerun. For this sample gold, erbium, manganese, lead, yttrium, and ytterbium were slightly outside of the upper and lower bounds. The elements reporting outside of bounds values were very low. A brief review of the standards and blanks did not reveal any issues.

Bark sample S-191011-03BE was also rerun. For this sample platinum, titanium, ytterbium and zirconium were slightly outside of the upper and lower bounds. The elements reporting outside of bounds values were fairly low. A brief review of the standards and blanks did not reveal any issues.

No other samples directly from the program were rerun. There does not appear to be any issues with the QC data for the soil sample analyses.

# **EXPLORATION RESULTS**

The results of the preliminary prospecting, soil and Douglas fir bark sampling program are presented below with supporting information in TABLE 2 – ANALYTICAL RESLUTS SUMMARY in APPENDIX B, and APPENDIX A – ANALYTICAL AND QC affidavits.

The October 09 prospecting trip revealed that weak ankerite bleaching and alteration in outcrop is present a short distance south west of hole 02-08 and southeast of hole 02-07. This alteration may be a distal signature of the eastern extension of the auriferous SADIM system and/or a signature related to a strong IP and resistivity anomaly immediately east of hole 02-08. The area directly to the east of hole 02-08 has little to no outcrop for at least 200 metres. Data from this traverse is presented in Figure 9 above, Figure 12 in Appendix D, and Images B to E above.

The geochemical results of the soil and Douglas fir bark sampling completed on October 10 and 11 provided the following data which is summarized and discussed below with reference to the data from TABLE 2 in APPENDIX B, element and analytical comparison graphs presented in APPENDIX C, and FIGURES 13 to 20, copper, lead, zinc and molybdenum plots of the results of the 4 analytical procedures from the SADIM and GOLDEN areas in APPENDIX D.

Aqua regia soil samples results. The multielement aqua regia results did not produce any precious or base metal anomalies and did not duplicate nearby results from the 2013 soil samples analyzed by XRF. These results were also used as the baseline from which to compare the additional sample medium and analytical procedure results. Relatively elevated copper, lead, zinc were from sites on or near a north trending structure east of the SADIM target (S 191010-03E). and south of the SADIM target (S 191010-06E). Molybdenum results also presented relatively elevated results one sample site west (S 191010-04E and 7E) of the three other elements. The average iron copper ratio was ~800, iron-lead ratio was 4400 and iron-zinc was 350.

For Richard Billingsley.

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Ionic leach soil results. The following observations can be made. The October 10 traverse soil ionic leach results produced the highest elemental contrast of the four procedures used. The October 11 traverse ionic leach results for lead, silver and gold also produced the highest contrast. All the analyses produced one weak gold-silver-copper anomaly (S 191010-03E). This sample also has significantly lower iron, lead, titanium, zinc and rare earth values. This sample and the other anomalous for silver sample S-191010-07E are in north trending structurally recessive areas with nearby altered bedrock or float. Iron, lead and zinc however were higher in the adjacent samples '2' and '6'. Sample S191011-03E in the Golden area has the strongest gold, silver again with lower on average lead and zinc values. A brief review of the results of the ionic leach analysis produced much stronger on average base metal results compared to iron. The average iron copper ratio was ~116, iron-lead ratio was 590 and iron-zinc was 116 and copper ICP/copper Ionic leach was 61. There may be a weak correlation with the XRF and soil ionic leach results.

The Douglas fir bark ashing resulted in concentrations surprisingly ranging from 71 to 213. The ashed results also had higher base metal/iron ratio's than both of the soil sample results. A brief review of the data indicated that elements apparently anomalous in the ashed results also had the lowest ash to bark weight ratios and vice versa. When (for example for copper) the ashed copper value (range 263-1180 ppm) was multiplied by the ash weight/pre ashed weight ratio the results produced an average 4.45 ppm with a range of 2.7 to 6.3. However, even using the ashed – pre-ashed factor iron produced the widest variation (9.2 to 42 ppm) versus 660 to 6400 ppm for the ashed values. The average iron copper ratio was ~4.7, iron-lead ratio was 190 and iron-zinc was 2.65. Direct ash gold results were apparently the best with good contrast however when adjusted to the pre ashed/ashed weight ratio the results were similar to the other methods at or barely above threshold. A tentative conclusion (based on this limited dataset) is that there is a weak lead anomaly at sample site S-1910-05 which partially overlies the southern extension of the SADIM zone.

The Douglas fir bark ionic leach results. From the average 300 gram macerated sample a 5 gram subsample was taken for analyses. The October 11 fir bark ionic leach results produced high contrast results relative to the regular soil aqua regia digestion and bark ash results. Sample S-191011-05BE had the highest gold, chromium, copper, iron, molybdenum, lead, rubidium, thorium and uranium values of the samples (there were no soil samples taken at this site). As stated earlier the source tree is rooted directly into fractured bedrock, and not as most other trees in thick till. The source tree of sample S-191011-01 was similarly sited in a thin overburden area. However, this tree did not produce as striking a set of results. The analytical results produced even more dramatically lower iron to base metal ratios. Zinc relative to other elements in this analytical method produced the highest average values for all samples averaging 12 ppm. The average iron copper ratio was 0.18, iron-lead ratio was 20.7 and iron-zinc was 0.4, and copper ICP/copper Ionic Leach was 1.55.

Additional comparative observations are that for copper and zinc soil and bark produced opposite trends for arsenic, lead and rare earth elements relatively complimentary trends especially for the soil ionic leach and both bark analytical procedures. Iron produced the largest analytical results ranges in the soil ionic leach and bark ash results. Arsenic produced the strongest results with

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relative anomalies in both bark analytical methods except that the highest results in the ionic leach results were displaced by one sample on both days resulting in a westward and eastward drift on October 10 and 11<sup>th</sup> respectively.

ITURES	<b>)</b>	
		Totals
	Subtotal*	
\$775.00	\$2,325.00	
	\$2,325.00	\$2,325.00
	de field days	5
\$880.00		
\$880.00		
\$700.00		
\$880.00	\$264.00	
\$880.00	\$352.00	
\$880.00	\$3,520.00	
	\$5,716.00	\$5,716.00
e captureo	d in Personnel	1
, enditures a		
Rate	Subtotal	
	5 \$1,050.50	
•	\$1,382.64	
457101	\$2,433.14	\$2,433.14
Rate	Subtotal	<i>42,10011</i>
\$110.00		
\$0.50		
φ0.50	\$440.00	\$440.00
	<b>ҙ</b> +т0.00	ş <del>11</del> 0.00
\$120.00	\$240.00	
\$120.00		
•		
\$75.00	· · · ·	+ 4 C F 00
	\$465.00	\$465.00
+= 00	+1= 00	
\$5.00	· · ·	
\$20.00	· · · · · · · · · · · · · · · · · · ·	
	\$75.00	\$75.00
\$0.00		
\$0.00		
	\$200.00	\$200.00
		\$200.00 \$

## Prospecting and Geochemical Assessment Report on the SADIM Property For Richard Billingsley. December 31, 2019 INTERPRETATION AND CONCLUSIONS

The results of a limited prospecting examination east of the SADIM gold zone indicated that weakly hydrothermally altered rocks, possibly reflecting part of the upper levels of a possible down dip to the east extension of the SADIM gold zone is present in the shallow vertical hole 02-08 area and that the hole, due to both its shallow depth and vertical orientation did not adequately test the area. This area is directly above a strong east dipping IP feature and the complete lack of outcrop in the area a moderate distance east of drill hole 02-08 indicates that this area requires further exploration to determine whether the causative source of the IP anomaly reflects a extension of the SADIM gold zone or second economic metal bearing zone.

The geochemical results of the south SADIM and GOLDEN areas indicate that soil ionic leach analyses appears to provide more direct bedrock signatures than the strong acid digestion soil method. The results of the fir bark ash and ionic leach results suggest that the ash method may be slightly better at determining bedrock characteristics than the bark ionic leach method and that the bark results may still be influenced by overburden thickness. However, analytical methods on both Douglas fir bark methods produced relatively complimentary elevated to weakly anomalous element results silver, arsenic base metals. Gold although producing weak variably complimentary results with other elements in the bark ash results was so low averaging less than 1 ppb in raw bark that no conclusive answers could be derived here. It must be stated though that the documentation of Douglas fir bark as a geochemical sampling method is apparently nonexistent.

In conclusion both bark and soil ionic leach methods appear to produce stronger, tentatively associated with the interpreted bedrock potential silver, arsenic and base metal analytical signatures than from 'regular' strong acid digested soil results and that this preliminary test of these methods was a success. The one sample displaced elevated or lower than average pattern between elements may be related to electrochemical ionic flow patterns that produced apical or bracketing metal patterns depending on the metal.

## RECOMMENDATIONS

Based entirely on the potential for locating additional gold mineralization at the SADIM gold zone additional exploration expenditures are recommended. The added knowledge gained from the 2019 program outlined in more detail below did not reduce that opinion and also provided additional tools to possibly using surficial exploration to locate the subsurface signatures precious, indicator and base metal mineralization by utilizing 'remote sensing' geochemical methods.

The 2019 program results indicate that 1) hydrothermally altered rocks occur east of the SADIM gold zone that occur directly up dip of east dipping IP features and that this are has never been subject adequately drill tested or sampled using modern 'remote sensing' analytical methods such as soil selective leach, and vegetation sampling and analytical methods.

Due to the success, especially for base metals and arsenic of the 2019 soil ionic leach and Douglas fir bark from OLD trees procedures used, additional exploration in target areas,

For Richard Billingsley.

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especially those adjacent to existing mineralized bodies and those overlying geophysical features indicating subsurface metal sources is recommended by using these and possibly other vegetation methods. Due to the extensive removal of lodgepole pine for the area this preferred bark sample source is not available. OLD over 1.2 metre diametre Douglas fir trees with extensive and deep root systems are still common in many areas in sufficient density to provide at least a first pass sample source. Continued bark sampling with both ash and ionic leach procedures are recommended within the target areas with a tree spacing of greater than 50 but less than 80 metres. The 2019 program took samples from the entire cross section of bark from the cambium to the bark from the youngest growth years. The average bark sample weight received at the lab was 290 grams for the ash sample and over 300 grams for the ionic leach sample. The average raw bark subsample ashed for analyses was 50 grams. The bark sample results from the ionic leach method was derived from a 5 gram subsample of an average 300 gram original.

From the knowledge gained from the 2019 Douglas fir bark vegetation sampling program, especially the laboratory minimum sample requirements a smaller bark sample from the youngest bark representing the most recent time period (last ~20 years) of 100+ year old trees would be preferentially sampled instead of the entire cross section. The element suite from this material would represent the largest and deepest sample source in the tree's location. Due to the trees size, twig and needle sampling (at least 20 metres up the tree) is not a cost affective option. Due to the elemental variation seen in the 2019 program a denser spacing of 50-70 metres is considered practical and may improve target development.

From the knowledge gained from the strong acid versus 'weak acid digestion – ionic leach' soil analyses procedure the latter procedure on its own is an effective prospecting tool but in conjunction with the results of other sampling and analytical procedures and results appears to produce even from the wide spaced limited dataset of the 2019 program better targets. Care must be taken to ensure in logged areas that the soil profile at the sample site is undisturbed. (This is a problem in the SADIM gold zone as there is little evident undisturbed soil remaining and very few Douglas fir trees).

The following phase 1 recommendations are for the area within the current claim boundaries. The SADIM gold zone and surrounding area remains the primary exploration target.

## Phase I

Recommended is conventional soil, ionic leach soil and Douglas fir bark ash and ionic leach sampling both at least 250 metres east and west of the SADIM gold zone over a 300+ metre north south distance. In conjunction is a rigorous prospecting program over the many new clearcuts and resource roads and trails constructed in the last 5-10 years. Soil sample spacing is spaced at 50 metres and tree bark sampling at a minimum 50 metres and based on tree availability.

This program is budget at \$40,000 with details presented in Table 4 below..

## Phase II

For Richard Billingsley.

December 31, 2019

Depending on exploration results of Phase I and the availability of financing phase II exploration would be contingent on the phase I results as well as recommendations from earlier programs including step out drilling to the east from the SADIM main zone.

TABLE 4 - RECOMMENDFED PHASE I EXPLORATION EXPENDITURES											
ITEM	DETAILS	CHARGE									
Preparation		2,000									
mobilization demobilization		3,500									
Geological mapping	4 DAYS @ \$800 per day*	3,200									
Sampling and prospecting	8 mandays ~\$500/day plus analytical costs*	4,000									
analytical charges	150 soil samples @ \$60.sample	6,000									
analytical charges	70 fir bark samples @ 65/ sample	4,550									
vehicular support	12 vehicle days @ \$120 per day	1,500									
hotel	12 person nights @ \$125/ night	1,500									
project management	2 days @ 800	1,600									
Report and CAD drafting		8,000									
Contingency		4,000									
TOTAL RECOMMENDED	EXPENDITURES:	39,850									

For Richard Billingsley. **REFERENCES** 

December 31, 2019

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For Richard Billingsley.

December 31, 2019

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For Richard Billingsley. **CERTIFICATE** 

December 31, 2019

Leopold Joseph Lindinger, P.Geo. 680 Dairy Road, Kamloops, B.C. V2B-8N5 Tel/text. 250-319 0717 Email leojolindinger@gmail.com

## HEREBY DO CERTIFY THAT:

- 1. I, Leopold Joseph Lindinger, P.Geo. of 680 Dairy Road, Kamloops, B.C..
- 2. I graduated in 1980 from the University of Waterloo, Ontario with a Bachelor of Sciences (BSc) in Honours Earth Sciences.
- 3. I am a member in good standing as a Professional Geoscientist (#19155) with the Association of Professional Engineers and Geoscientists of the Province of British Columbia since 1992.
- 4. I have worked continuously as a geoscientist since graduating in 1980.
- 5. I am responsible for presenting the exploration results, conclusions and recommendations made for the "**Prospecting and Geochemical Report on the SADIM Property**".

Dated this 31<sup>st</sup> day of December, 2019

Leopold J. Lindinger, P.Geo.

Prospecting and Geochemical Assessment Report on the SADIM PropertyFor Richard Billingsley.December 31, 2019

# APPENDIX A ANALYTICAL RESULT AFFIDAVITS



ALS Canada Ltd. 2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218 www.alsglobal.com/geochemistry

#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

# CERTIFICATE VA19264844

Project: SADM

This report is for 12 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION										
ALS CODE	DESCRIPTION										
WEI-21	Received Sample Weight										
EXTRA-01	Extra Sample received in Shipment										
DISP-01	Disposal of all sample fractions										
LOG-22	Sample login - Rcd w/o BarCode										
VEG-ASH01	Controlled Ignition - Veg Samp. @ 475C										

	ANALYTICAL PROCEDURES
ALS CODE	DESCRIPTION
ME-VEG41a	Super Trace - Ashed Vegetation Samples

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

Project: SADM

Sample Description	Method	WEI-21	VEG-ASH01	VEG-ASH01	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a
	Analyte	Recvd Wt.	WT. SAMP	WT. ASH	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co
	Units	kg	g	g	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	LOD	0.02	0.01	0.01	0.0002	0.001	0.01	0.01	1	0.1	0.01	0.001	0.01	0.001	0.003	0.002
S-191010-01BA		0.30	50.2	0.39	0.0033	0.256	1.56	17.10	372	945	0.05	0.054	28.2	2.40	1.695	2.80
S-191010-02BA		0.32	49.3	0.26	0.0082	0.441	1.73	21.4	511	336	0.04	0.105	26.7	46.2	0.992	2.79
S-191010-02BA		0.34	48.4	0.46	0.0030	0.313	1.87	105.0	481	1765	0.03	0.025	32.6	23.0	0.610	3.14
S-191010-04BA		0.28	48.5	0.58	0.0026	0.331	0.56	10.25	246	237	0.04	0.053	32.3	8.90	1.250	2.10
S-191010-05BA		0.32	49.1	0.23	0.0073	0.344	2.40	18.55	421	406	0.10	0.231	28.4	35.8	3.20	7.41
S-191010-06BA		0.36	50.0	0.33	0.0047	0.426	1.43	29.8	448	919	0.07	0.096	26.0	9.04	2.70	4.45
S-191010-07BA		0.30	50.2	0.43	0.0037	0.252	1.72	33.3	354	310	0.08	0.110	26.9	4.16	2.33	3.22
S-191011-01BA		0.32	49.3	0.69	0.0017	0.093	0.56	8.40	239	355	0.02	0.027	33.0	2.61	0.440	1.340
S-191011-02BA		0.28	50.0	0.34	0.0054	0.257	2.14	22.9	374	514	0.05	0.066	27.3	2.98	1.225	2.00
S-191011-03BA		0.38	50.8	0.54	0.0030	0.128	0.65	50.5	405	180 <b>.</b> 5	0.06	0.075	31.5	9.51	1.515	3.50
S-191011-04BA		0.28	50.1	0.24	0.0045	0.446	3.09	42.1	619	295	0.06	0.067	23.4	3.19	1.605	4.77
S-191011-05BA		0.28	51.6	0.47	0.0052	0.163	1.10	12.55	357	234	0.03	0.051	32.3	1.875	1.040	1.135



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - B Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

Project: SADM

Sample Description	Method Analyte Units LOD	ME-VEG41a Cr ppm 0.01	ME-VEG41a Cs ppm 0.005	ME-VEG41a Cu ppm 0.01	ME-VEG41a Fe ppm 1	ME-VEG41a Ga ppm 0.004	ME-VEG41a Ge ppm 0.005	ME-VEG41a Hf ppm 0.002	ME-VEG41a Hg ppm 0.001	ME-VEG41a In ppm 0.005	ME-VEG41a K % 0.01	ME-VEG41a La ppm 0.002	ME-VEG41a Li ppm 0.1	ME-VEG41a Mg % 0.001	ME-VEG41a Mn ppm 0.1	ME-VEG41a Mo ppm 0.01
S-191010-01BA		4.39	0.807	709	3000	0.674	0.021	0.039	0.002	0.018	8.34	0.934	1.2	0.880	2710	2.65
S-191010-02BA		6.77	0.372	681	2300	0.426	0.014	0.022	0.002	0.005	>10.0	0.544	0.7	1.050	5860	7.61
S-191010-03BA		3.11	0.165	377	900	0.264	0.011	0.015	0.004	<0.005	6.44	0.438	0.5	0.940	4840	1.08
S-191010-04BA		4.69	0.277	381	2200	0.471	0.014	0.029	0.001	0.005	3.58	0.733	1.0	0.670	4220	2.20
S-191010-05BA		6.15	0.552	584	4800	1.180	0.024	0.068	0.007	0.020	4.00	1.745	1.5	1.310	3990	2.46
S-191010-06BA		9.91	0.896	807	6400	1.145	0.028	0.062	0.001	0.012	6.95	1.465	2.3	0.800	3740	2.48
S-191010-07BA		4.96	1.420	733	4100	0.807	0.022	0.053	0.001	0.020	7.70	1.340	1.8	0.810	2500	2.43
S-191011-01BA		0.84	0.250	263	657	0.151	0.008	0.009	<0.001	<0.005	3.01	0.310	0.3	0.430	4030	1.09
S-191011-02BA		2.48	0.581	514	1900	0.565	0.012	0.029	0.001	0.010	7.25	0.814	1.0	0.690	5150	1.55
S-191011-03BA		2.83	0.413	437	2600	0.612	0.012	0.046	<0.001	0.011	4.65	0.946	1.3	1.140	4920	1.41
S-191011-04BA		4.44	0.413	1180	2800	0.562	0.017	0.030	0.005	0.010	>10.0	0.864	0.8	0.970	2230	11.60
S-191011-05BA		3.64	0.609	474	2000	0.504	0.019	0.033	0.002	0.010	3.58	0.554	1.0	1.220	1690	1.73



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - C Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

Project: SADM

Sample Description	Method	ME-VEG41a														
	Analyte	Na	Nb	Ni	P	Pb	Pd	Pt	Rb	Re	S	Sb	Sc	Se	Sn	Sr
	Units	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOD	0.001	0.002	0.04	0.001	0.01	0.001	0.002	0.01	0.001	0.01	0.01	0.01	0.005	0.01	0.02
S-191010-01BA		0.069	0.103	3.35	3.16	16.60	0.005	<0.002	67.2	0.002	2.93	0.93	1.59	3.50	0.37	926
S-191010-02BA		0.045	0.082	3.42	2.41	10.65	<0.001	<0.002	42.9	0.003	1.99	1.45	1.16	2.85	1.06	1000
S-191010-02BA		0.045	0.082	2.11	1.550	6.20	<0.001	<0.002	42.9	0.003	1.24	0.45	0.60	2.02	0.78	896
S-191010-04BA		0.063	0.081	2.56	1.150	12.50	0.003	<0.002	15.95	0.002	3.00	0.55	0.88	2.14	1.14	1305
S-191010-05BA		0.148	0.159	6.23	2.16	35.7	<0.001	<0.002	39.6	0.003	1.77	1.59	1.60	2.89	0.94	672
S-191010-06BA		0.095	0.175	4.50	1.995	13.15	0.005	<0.002	55.2	0.006	2.81	0.67	2.18	2.89	0.74	914
S-191010-07BA		0.132	0.155	4.79	3.19	16.30	0.006	<0.002	61.1	0.003	2.49	1.08	1.51	3.61	0.56	708
S-191011-01BA		0.028	0.025	0.86	0.706	4.32	0.006	<0.002	21.7	0.002	1.40	0.22	0.43	1.175	0.18	2070
S-191011-02BA		0.072	0.075	1.87	2.16	16.30	0.004	<0.002	45.7	0.004	3.09	0.40	0.90	2.37	0.49	1015
S-191011-03BA		0.142	0.101	2.88	1.225	10.75	0.003	<0.002	28.8	0.007	3.35	0.89	1.05	2.43	0.38	856
S-191011-04BA		0.092	0.095	3.89	3.39	19.40	<0.001	<0.002	56.0	0.005	3.32	0.80	1.44	2.54	0.75	698
S-191011-05BA		0.045	0.092	1.87	1.525	41.4	0.004	<0.002	65.8	0.007	3.02	0.49	0.93	3.28	0.39	973



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - D Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

Project: SADM

Sample Description	Method Analyte Units LOD	ME-VEG41a Ta ppm 0.001	ME-VEG41a Te ppm 0.02	ME-VEG41a Th ppm 0.002	ME-VEG41a Ti % 0.001	ME-VEG41a Tl ppm 0.002	ME-VEG41a U ppm 0.005	ME-VEG41a V ppm 0.05	ME-VEG41a W ppm 0.01	ME-VEG41a Y ppm 0.003	ME-VEG41a Zn ppm 0.1	ME-VEG41a Zr ppm 0.02
S-191010-01BA		<0.001	<0.02	0.110	0.008	0.008	0.066	7.23	0.08	0.781	1365	1.33
S-191010-02BA		<0.001	0.03	0.079	0.005	0.008	0.040	4.93	0.47	0.564	1190	0.78
S-191010-03BA		<0.001	0.05	0.076	0.003	0.005	0.021	2.15	0.21	0.451	2140	0.54
S-191010-04BA		<0.001	0.02	0.089	0.007	0.026	0.042	5.63	0.12	0.664	920	1.09
S-191010-05BA		<0.001	0.04	0.197	0.013	0.054	0.129	12.20	0.55	1.750	1600	2.71
S-191010-06BA		<0.001	<0.02	0.183	0.019	0.048	0.117	16.10	0.11	1.490	803	2.28
S-191010-07BA		<0.001	0.05	0.172	0.011	0.044	0.115	9.96	0.12	1.230	1060	2.07
S-191011-01BA		<0.001	<0.02	0.036	0.001	0.002	0.016	1.54	0.03	0.237	854	0.33
S-191011-02BA		<0.001	0.02	0.081	0.005	0.014	0.049	4.71	0.07	0.889	1410	0.90
S-191011-03BA		<0.001	0.03	0.124	0.008	0.045	0.073	8.20	0.07	0.884	1950	1.63
S-191011-04BA		<0.001	0.03	0.086	0.006	0.030	0.081	6.72	0.63	0.974	1955	1.28
S-191011-05BA		<0.001	<0.02	0.084	0.007	0.038	0.052	5.53	0.08	0.502	425	1.14



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 28-NOV-2019 Account: RENGEO

Project: SADM

		CERTIFICATE COMME	INTS	
Applies to Method:	The concentration of the reported res in the reported concentration ME-VEG41a		AL COMMENTS ple. Weight of the sample and weig	ght of the ash has not been factored
		LABORATO	RY ADDRESSES	
Applies to Method:	Processed at ALS Vancouver located a DISP-01 VEG-ASH01	t 2103 Dollarton Hwy, North \ EXTRA-01 WEI-21	/ancouver, BC, Canada. LOG-22	ME-VEG41a



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 14-NOV-2019 Account: RENGEO

# CERTIFICATE VA19264848

Project: SADIM

This report is for 11 Sediment samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
SCR-41	Screen to -180um and save both	
	ANALYTICAL PROCEDURES	
ALS CODE	DESCRIPTION	
AuME-TL43	25g Trace Au + Multi Element PKG	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 14-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	AuME-TL43 Au ppm 0.001	AuME-TL43 Ag ppm 0.01	AuME-TL43 Al % 0.01	AuME-TL43 As ppm 0.1	AuME-TL43 B ppm 10	AuME-TL43 Ba ppm 10	AuME-TL43 Be ppm 0.05	AuME-TL43 Bi ppm 0.01	AuME-TL43 Ca % 0.01	AuME-TL43 Cd ppm 0.01	AuME-TL43 Ce ppm 0.02	AuME-TL43 Co ppm 0.1	AuME-TL43 Cr ppm 1	AuME-TL43 Cs ppm 0.05
S-191010-01S		0.22	0.002	0.11	2.01	6.5	10	160	0.46	0.08	0.42	0.27	14.00	11.1	20	0.89
S-191010-02S		0.24	0.004	0.19	1.41	3.3	10	130	0.28	0.06	0.42	0.54	9.07	8.2	18	0.50
S-191010-03S		0.24	0.002	0.20	2.20	3.5	10	130	0.54	0.11	0.67	0.50	19.85	9.0	15	0.70
S-191010-04S		0.20	0.001	0.17	1.24	2.3	10	130	0.28	0.07	0.42	0.43	10.05	7.5	10	0.65
S-191010-05S		0.24	0.003	0.10	2.13	4.5	<10	90	0.44	0.09	0.30	0.13	6.73	8.0	12	1.07
S-191010-06S		0.20	0.003	0.14	1.80	3.4	10	130	0.36	0.08	0.35	0.17	9.09	10.1	17	0.88
S-191010-07S		0.28	0.001	0.17	1.60	6.1	10	140	0.40	0.08	0.36	0.13	9.07	12.5	13	1.00
S-191011-01S		0.22	0.002	0.03	1.31	3.1	10	140	0.37	0.08	0.35	0.08	9.40	7.5	6	0.48
S-191011-02S		0.22	0.001	0.11	1.89	6.0	10	170	0.45	0.10	0.21	0.07	9.71	8.2	7	0.99
S-191011-03S		0.24	0.003	0.08	1.76	7.6	10	170	0.45	0.10	0.31	0.09	9.67	9.6	10	0.88
S-191011-04S		0.22	0.003	0.18	1.79	10.9	10	100	0.40	0.10	0.18	0.13	8.20	9.1	11	1.28

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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD **KAMLOOPS BC V2B 8N5**

Page: 2 - B Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 14-NOV-2019 Account: RENGEO

Project: SADIM

## CERTIFICATE OF ANALYSIS VA19264848

Sample Description	Method Analyte Units LOD	AuME-TL43 Cu ppm 0.2	AuME-TL43 Fe % 0.01	AuME-TL43 Ga ppm 0.05	AuME-TL43 Ge ppm 0.05	AuME-TL43 Hf ppm 0.02	AuME-TL43 Hg ppm 0.01	AuME-TL43 In ppm 0.005	AuME-TL43 K % 0.01	AuME-TL43 La ppm 0.2	AuME-TL43 Li ppm 0.1	AuME-TL43 Mg % 0.01	AuME-TL43 Mn ppm 5	AuME-TL43 Mo ppm 0.05	AuME-TL43 Na % 0.01	AuME-TL43 Nb ppm 0.05
S-191010-01S		37.8	2.62	6.30	<0.05	0.08	0.03	0.022	0.06	5.5	11.1	0.47	872	0.79	0.04	0.81
S-191010-02S		24.6	2.23	4.78	<0.05	0.03	0.03	0.016	0.09	3.7	8.5	0.39	820	0.89	0.02	0.54
S-191010-03S		45.4	2.34	6.45	<0.05	0.25	0.04	0.025	0.04	7.9	11.4	0.37	818	0.64	0.02	1.03
S-191010-04S		22.2	1.82	4.56	<0.05	0.02	0.03	0.015	0.08	3.9	8.5	0.22	583	1.12	0.02	0.53
S-191010-05S		22 <u>.</u> 7	2.40	7.14	<0.05	0.11	0.05	0.020	0.03	3.0	9.0	0.21	548	0.63	0.02	1.31
S-191010-06S		30.3	2.59	6.30	<0.05	0.04	0.03	0.022	0.07	3.7	11.6	0.45	648	0.61	0.01	0.59
S-191010-07S		32.8	2.91	5.57	<0.05	0.02	0.03	0.025	0.05	3.7	10.3	0.28	430	1.24	0.01	0.72
S-191011-01S		20.4	2.20	5.09	<0.05	0.04	0.02	0.018	0.06	3.5	9.6	0.44	603	0.39	0.01	0.41
S-191011-02S		31.7	2.31	6.74	<0.05	0.09	0.03	0.023	0.05	3.7	12.3	0.31	692	0.55	0.01	0.43
S-191011-03S		43.2	2.68	6.17	<0.05	0.04	0.02	0.024	0.07	3.9	12.6	0.36	537	0.77	0.01	0.37
S-191011-04S		33.3	2.37	6.23	<0.05	0.12	0.05	0.023	0.05	3.4	12.0	0.36	597	0.90	0.01	0.60



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - C Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 14-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	AuME-TL43 Ni ppm 0.2	AuME-TL43 P ppm 10	AuME-TL43 Pb ppm 0.2	AuME-TL43 Rb ppm 0.1	AuME-TL43 Re ppm 0.001	AuME-TL43 S % 0.01	AuME-TL43 Sb ppm 0.05	AuME-TL43 Sc ppm 0.1	AuME-TL43 Se ppm 0.2	AuME-TL43 Sn ppm 0.2	AuME-TL43 Sr ppm 0.2	AuME-TL43 Ta ppm 0.01	AuME-TL43 Te ppm 0.01	AuME-TL43 Th ppm 0.2	AuME-TL43 Ti % 0.005
S-191010-01S		13.0	1440	6.4	7.5	<0.001	0.01	0.27	3.9	0.3	0.6	33.5	<0.01	0.05	0.7	0.071
S-191010-02S		9.9	700	8.5	5.9	<0.001	0.01	0.33	2.8	0.2	0.4	29.0	<0.01	0.08	0.5	0.073
S-191010-03S		10.3	310	11.8	6.0	<0.001	0.01	0.33	4.2	0.6	0.6	33.8	<0.01	0.05	1.2	0.074
S-191010-04S		7.7	800	4.4	5.9	<0.001	0.01	0.21	2.3	0.2	0.5	25.2	<0.01	0.02	0.5	0.062
S-191010-05S		8.2	1170	6.5	4.4	<0.001	0.01	0.29	2.2	0.2	0.6	17.5	<0.01	0.06	0.7	0.086
S-191010-06S		11.1	1040	5.8	7.6	<0.001	0.01	0.18	3.4	0.2	0.5	26.4	<0.01	0.03	0.6	0.072
S-191010-07S		14.6	350	5.6	6.2	<0.001	0.01	0.41	3.6	0.3	0.6	23.5	<0.01	0.06	0.5	0.054
S-191011-01S		4.2	800	4.1	5.4	<0.001	0.01	0.16	3.0	<0.2	0.5	46.4	<0.01	0.02	0.7	0.059
S-191011-02S		5.7	1140	4.2	5.6	<0.001	0.01	0.17	2.7	0.2	0.6	25.5	<0.01	0.03	1.0	0.036
S-191011-03S		8.0	640	4.0	6.5	<0.001	0.01	0.20	3.3	0.2	0.6	32.5	<0.01	0.03	0.8	0.047
S-191011-04S		7.9	1150	5.0	6.0	<0.001	0.01	0.21	2.8	0.2	0.5	14.3	<0.01	0.03	0.6	0.043



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - D Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 14-NOV-2019 Account: RENGEO

Project: SADIM

	Method	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43		
	Analyte	ΤI	U	V	W	Y	Zn	Zr	
Sample Description	Units LOD	ррт 0.02	ррт 0.05	ppm 1	ррт 0.05	ppm 0.05	ppm 2	ррт 0.5	
S-191010-01S		0.06	0.38	60	0.08	4.32	77	2.9	
S-191010-02S		0.04	0.23	58	0.07	2.61	92 74	1.1	
S-191010-03S S-191010-04S		0.06 0.03	0.57 0.22	52 44	0.06 0.06	8.24 3.02	74 77	10 <u>.</u> 9 1.1	
S-191010-05S		0.05	0.32	60	0.09	2.07	66	4.7	
S-191010-06S		0.05	0.28	68	0.06	2.74	86	1.7	
S-191010-07S S-191011-01S		0.05 0.04	0.27 0.28	62 70	0.07 0.06	2.83 2.54	58 65	1.1 1.9	
S-191011-02S		0.06	0.33	63	0.06	2.44	65	3.6	
S-191011-03S		0.06	0.31	75	0.05	2.76	60	1.7	
S-191011-04S		0.05	0.29	70	0.08	2.40	64	3.8	



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Project: SADIM

	CERTIFICATE CO	MMENTS	
Processed at ALS Vancouver lo AuME-TL43			WEI-21
	Processed at ALS Vancouver lo AuME-TL43	LABOF Processed at ALS Vancouver located at 2103 Dollarton Hwy, N	CERTIFICATE COMMENTS         LABORATORY ADDRESSES         Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. AuME-TL43         CG-22         SCR-41



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 1 Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 18-NOV-2019 Account: RENGEO

# CERTIFICATE VA19278584

Project: SADIM

This report is for 11 Soil samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION	1
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
DISP-01	Disposal of all sample fractions	
	ANALYTICAL PROCEDUR	RES
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS23	IONIC Leach - Complete PKG.	ICP-MS
pH-MS23	MS23 Leach pH	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - A Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 18-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS23 Ag ppb 0.1	ME-MS23 As ppb 0.5	ME-MS23 Au ppb 0.02	ME-MS23 Ba ppb 10	ME-MS23 Be ppb 0.2	ME-MS23 Bi ppb 0.3	ME-MS23 Br ppm 0.05	ME-MS23 Ca ppm 0.2	ME-MS23 Cd ppb 0.2	ME-MS23 Ce ppb 0.1	ME-MS23 Co ppb 0.3	ME-MS23 Cr ppb 1	ME-MS23 Cs ppb 0.1	ME-MS23 Cu ppb 1
S-191010-01E		0.32	6.7	4.4	0.08	1670	3.0	<0.3	0.07	252	39.0	92.5	16.2	5	2.3	884
S-191010-02E		0.38	4.1	9.7	0.08	1680	1.2	<0.3	0.09	352	138.5	68.5	34.9	10	1.4	435
S-191010-03E		0.34	32.3	2.6	0.29	1500	<0.2	<0.3	0.08	524	28.2	18.8	35.5	1	1.2	1590
S-191010-04E		0.40	9.9	5.9	0.03	920	0.7	<0.3	0.10	312	62.3	32.2	11.8	2	1.6	270
S-191010-05E		0.36	2.5	8.2	0.06	860	2.8	<0.3	0.10	126.0	19.0	32.4	18.8	5	3.0	277
S-191010-06E		0.34	1.9	13.4	0.02	3540	4.5	0.5	0.13	218	32.3	77.3	78.2	26	3.5	613
S-191010-07E		0.36	15.4	7.7	0.10	2000	1.3	<0.3	0.05	303	10.7	65.9	47.9	6	2.4	431
S-191011-01E		0.42	7.3	8.5	0.07	1090	0.8	<0.3	0.08	306	11.9	45.7	8.1	2	1.7	333
S-191011-02E		0.34	10.1	13.8	0.05	2540	6.0	<0.3	0.05	81.9	7.2	197.5	21.5	7	6.6	415
S-191011-03E		0.38	14.7	5.8	0.24	4150	1.1	<0.3	0.10	300	7.6	86.1	14.6	3	3.6	610
S-191011-04E		0.30	3.1	25.2	0.04	2350	3.8	0.3	0.11	37.4	22.9	95.9	72.3	15	11.1	759



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Dy ppb 0.1	ME-MS23 Er ppb 0.1	ME-MS23 Eu ppb 0.1	ME-MS23 Fe ppm 0.1	ME-MS23 Ga ppb 0.5	ME-MS23 Gd ppb 0.1	ME-MS23 Ge ppb 0.1	ME-MS23 Hf ppb 0.05	ME-MS23 Hg ppb 0.1	ME-MS23 Ho ppb 0.1	ME-MS23 I ppm 0.01	ME-MS23 In ppb 0.1	ME-MS23 La ppb 0.1	ME-MS23 Li ppb 0.2	ME-MS23 Lu ppb 0.1
S-191010-01E		51.0	28.4	7.8	67.9	6.2	41.8	0.6	1.43	0.4	9.7	0.02	0.1	38.1	1.8	2.4
S-191010-02E		15.1	7.8	2.7	47.6	3.9	13.5	0.3	1.46	0.4	2.8	0.02	<0.1	20.5	3.1	0.7
S-191010-03E		5.7	2.6	1.5	10.8	0.6	8.2	0.1	0.64	0.2	1.0	0.02	<0.1	10.2	<0.2	0.2
S-191010-04E		10.6	5.2	2.1	31.6	2.1	10.2	0.2	0.87	0.4	1.9	0.02	<0.1	12.4	1.1	0.4
S-191010-05E		8.2	4.4	1.3	48.6	11.2	7.1	0.2	1.31	0.8	1.5	0.02	0.1	11.2	2.6	0.3
S-191010-06E		26.5	16.4	3.0	138.0	13.3	16.0	0.7	3.70	0.8	5.5	0.04	0.2	21.2	8.5	1.7
S-191010-07E		12.8	5.6	3.0	44.2	2.4	13.1	0.2	1.06	0.6	2.2	0.02	0.1	18.1	0.8	0.4
S-191011-01E		10.2	4.9	2.1	28.5	2.1	10.8	0.2	1.35	0.7	1.8	0.02	<0.1	15.0	1.1	0.4
S-191011-02E		30.4	16.0	5.7	80.3	12.8	26.5	0.7	5.68	0.6	5.4	0.03	0.2	50.0	5.2	1.5
S-191011-03E		17.8	8.3	3.5	36.6	2.0	16.9	0.2	1.45	0.5	3.1	0.03	0.1	26.4	0.6	0.6
S-191011-04E		32.8	18.5	4.0	97.6	17.0	20.2	0.9	4.10	1.1	6.2	0.04	0.3	23.7	12.9	1.6



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Mg ppm 0.01	ME-MS23 Mn ppm 0.01	ME-MS23 Mo ppb 0.5	ME-MS23 Nb ppb 0.1	ME-MS23 Nd ppb 0.1	ME-MS23 Ni ppb 1	ME-MS23 Pb ppb 0.1	ME-MS23 Pd ppb 0.05	ME-MS23 Pr ppb 0.1	ME-MS23 Pt ppb 0.1	ME-MS23 Rb ppb 0.1	ME-MS23 Re ppb 0.01	ME-MS23 Sb ppb 0.5	ME-MS23 Sc ppb 1	ME-MS23 Se ppb 2
S-191010-01E		36.9	4.92	1.2	0.8	90.3	82	142.5	<0.05	17.3	<0.1	162.0	<0.01	<0.5	45	<2
S-191010-02E		51.0	23.0	7.8	1.1	33.5	105	216	<0.05	7.3	<0.1	112.5	<0.01	0.5	41	3
S-191010-03E		37.9	6.10	8.2	0.3	19.2	20	9.8	0.10	3.6	<0.1	110.0	<0.01	<0.5	5	5
S-191010-04E		25.2	6.14	17.9	0.8	21.1	55	71.6	<0.05	4.6	<0.1	148.0	<0.01	<0.5	22	4
S-191010-05E		14.80	6.02	2.0	1.3	19.7	53	162.0	0.13	4.4	<0.1	117.0	<0.01	<0.5	15	2
S-191010-06E		47.1	16.45	1.7	2.7	35.3	99	258	<0.05	8.0	<0.1	170.0	<0.01	<0.5	69	2
S-191010-07E		28.6	7.12	5.9	0.6	29.8	121	84.3	0.14	6.2	<0.1	86.4	<0.01	<0.5	32	<2
S-191011-01E		26.9	5.19	7.5	1.2	25.2	33	36.2	0.36	5.5	<0.1	162.5	0.01	<0.5	15	<2
S-191011-02E		9.55	8.24	2.3	2.8	80.2	40	117.5	0.10	18.1	0.1	180.5	<0.01	<0.5	44	<2
S-191011-03E		28.9	3.22	5.0	0.5	39.3	32	41.5	<0.05	8.5	<0.1	139.5	<0.01	<0.5	33	<2
S-191011-04E		11.00	8.50	2.8	2.4	46.9	75	175.0	<0.05	9.9	<0.1	241	<0.01	<0.5	53	<2



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Sm ppb 0.1	ME-MS23 Sn ppb 0.2	ME-MS23 Sr ppb 1	ME-MS23 Ta ppb 0.05	ME-MS23 Tb ppb 0.1	ME-MS23 Te ppb 0.5	ME-MS23 Th ppb 0.02	ME-MS23 Ti ppb 5	ME-MS23 Tl ppb 0.05	ME-MS23 Tm ppb 0.1	ME-MS23 U ppb 0.05	ME-MS23 V ppb 0.2	ME-MS23 W ppb 0.1	ME-MS23 Y ppb 0.1	ME-MS23 Yb ppb 0.1
S-191010-01E		28.1	<0.2	994	0.09	7.3	<0.5	6.95	188	0.17	3.1	6.74	8.3	0.1	299	19.0
S-191010-02E		10.0	<0.2	907	0.08	2.3	<0.5	6.45	260	0.10	1.0	3.90	13.2	0.3	72.7	5.7
S-191010-03E		6.3	<0.2	1320	0.05	1.0	<0.5	1.84	22	0.15	0.3	3.65	2.8	0.1	34.8	1.6
S-191010-04E		7.5	<0.2	612	0.05	1.6	0.5	2.30	154	0.06	0.6	3.34	5.5	0.3	55.3	3.7
S-191010-05E		5.5	0.3	302	0.11	1.2	<0.5	5.67	479	0.14	0.5	3.78	19.3	0.1	43.4	2.8
S-191010-06E		11.8	0.3	947	0.17	3.5	<0.5	14.20	840	0.33	2.1	6.16	36.4	0.3	139.5	12.0
S-191010-07E		10.7	<0.2	543	<0.05	2.1	<0.5	5.42	138	0.13	0.6	5.20	5.3	0.1	54.1	3.3
S-191011-01E		8.1	<0.2	1090	0.06	1.6	<0.5	5.06	120	0.14	0.6	5.18	6.5	0.4	50.8	3.5
S-191011-02E		22.9	0.3	403	0.18	4.4	<0.5	21.9	712	0.26	2.1	7.99	27.1	0.3	151.0	12.1
S-191011-03E		13.2	<0.2	1240	0.22	2.8	<0.5	7.29	84	0.18	0.9	6.92	5.6	0.1	82.4	5.6
S-191011-04E		14.2	0.7	213	0.16	4.2	<0.5	14.70	951	0.39	2.4	6.22	54.8	0.4	159.5	14.5



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Zn ppb 10	ME-MS23 Zr ppb 0.1	pH-MS23 Final pH Unity 0.1	
S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E		440 4640 70 540 490	49.0 52.9 28.8 28.0 53.2	6.4 6.6 8.0 7.1 6.6	
S-191010-06E S-191010-07E S-191011-01E S-191011-02E S-191011-03E		2770 260 510 330 240	138.0 36.8 53.1 203 59.2	5.6 7.2 7.4 6.7 7.3	
S-191011-04E		750	145.0	5.8	



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Project: SADIM

		CERTIFICATE COMM	ENTS	
Applies to Method:	Processed at ALS Vancouver locate DISP-01 WEI-21		D <b>RY ADDRESSES</b> Vancouver, BC, Canada. ME-MS23	pH-MS23



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# CERTIFICATE VA19278589

Project: SADIM

This report is for 12 Other samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

SAMPLE PREPARATION							
ALS CODE	DESCRIPTION						
WEI-21	Received Sample Weight						
LOG-22	Sample login - Rcd w/o BarCode						
EXTRA-01	Extra Sample received in Shipment						
DISP-01	Disposal of all sample fractions						
VEG-MILL01	Maceration of dry plant material						

	ANALYTICAL PROCEDURES	5
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS23 pH-MS23	IONIC Leach - Complete PKG. MS23 Leach pH	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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Project: SADIM

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS23 Ag ppb 0.1	ME-MS23 As ppb 0.5	ME-MS23 Au ppb 0.02	ME-MS23 Ba ppb 10	ME-MS23 Be ppb 0.2	ME-MS23 Bi ppb 0.3	ME-MS23 Br ppm 0.05	ME-MS23 Ca ppm 0.2	ME-MS23 Cd ppb 0.2	ME-MS23 Ce ppb 0.1	ME-MS23 Co ppb 0.3	ME-MS23 Cr ppb 1	ME-MS23 Cs ppb 0.1	ME-MS23 Cu ppb 1
S-191010-01BE		0.32	0.1	22.8	0.02	1160	<0.2	<0.3	<0.05	479	52.4	6.6	34.3	10	0.5	2970
S-191010-02BE		0.32	0.2	12.9	<0.02	2440	0.2	<0.3	0.15	332	204	6.7	1035	110	0.4	2010
S-191010-03BE		0.40	<0.1	31.3	0.05	1160	0.3	0.3	<0.05	521	149.5	3.9	56.9	12	0.4	1770
S-191010-04BE		0.28	0.2	108.5	<0.02	3060	0.2	0.5	0.21	408	99.5	12.4	46.2	17	0.6	2430
S-191010-05BE		0.38	0.2	23.6	<0.02	1770	0.3	1.0	0.34	470	186.0	15.4	76.5	21	1.5	2490
S-191010-06BE		0.38	0.2	14.7	<0.02	3640	0.2	<0.3	0.14	370	83.3	8.1	42.6	14	1.1	3000
S-191010-07BE		0.38	<0.1	26.1	<0.02	1690	<0.2	<0.3	0.17	336	32.9	6.2	20.0	13	4.8	3450
S-191011-01BE		0.40	0.3	27.9	0.02	5830	0.2	0.6	<0.05	631	63.3	9.6	25.3	10	0.4	2290
S-191011-02BE		0.26	0.1	50.8	<0.02	6080	0.4	0.7	0.23	366	27.8	14.3	25.1	11	1.1	2670
S-191011-03BE		0.40	0.3	79.5	0.04	2730	0.5	0.5	0.40	530	85.2	12.1	25.6	6	0.6	2790
S-191011-04BE		0.28	0.1	25.9	0.04	1430	0.2	0.3	0.17	460	20.4	8.5	32.6	10	0.8	3430
S-191011-05BE		0.30	0.1	16.5	0.06	1600	0.6	1.9	0.15	444	16.8	28.2	187.0	153	2.7	9190



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#### Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Dy ppb 0.1	ME-MS23 Er ppb 0.1	ME-MS23 Eu ppb 0.1	ME-MS23 Fe ppm 0.1	ME-MS23 Ga ppb 0.5	ME-MS23 Gd ppb 0.1	ME-MS23 Ge ppb 0.1	ME-MS23 Hf ppb 0.05	ME-MS23 Hg ppb 0.1	ME-MS23 Ho ppb 0.1	ME-MS23 I ppm 0.01	ME-MS23 In ppb 0.1	ME-MS23 La ppb 0.1	ME-MS23 Li ppb 0.2	ME-MS23 Lu ppb 0.1
S-191010-01BE		0.6	0.3	0.2	0.6	1.0	0.8	0.1	<0.05	0.9	0.1	0.01	<0.1	3.3	1.1	<0.1
S-191010-02BE		0.9	0.4	0.2	0.9	1.1	0.5	0.6	<0.05	<0.1	0.1	0.01	<0.1	3.4	1.6	0.1
S-191010-03BE		0.4	0.2	0.1	1.1	1.7	0.5	0.3	<0.05	<0.1	<0.1	0.01	<0.1	3.7	1.6	<0.1
S-191010-04BE		1.1	0.5	0.3	3.7	2.1	1.4	0.1	0.06	1.1	0.2	0.05	<0.1	6.9	4.1	<0.1
S-191010-05BE		1.3	0.6	0.4	3.1	1.7	1.8	0.2	<0.05	0.5	0.2	0.03	0.1	7.6	2.7	<0.1
S-191010-06BE		0.7	0.4	0.2	1.7	1.6	1.3	<0.1	0.08	0.5	0.3	0.01	<0.1	4.5	2.1	0.1
S-191010-07BE		0.6	0.4	0.2	1.7	1.0	1.0	0.7	<0.05	0.5	0.1	0.02	<0.1	3.0	1.6	<0.1
S-191011-01BE		0.6	0.5	0.2	1.3	2.0	0.8	0.3	<0.05	0.2	0.2	0.02	<0.1	5.5	2.5	<0.1
S-191011-02BE		1.9	0.8	0.5	3.4	2.3	1.9	0.2	0.14	0.2	0.3	0.03	<0.1	8.2	3.3	0.1
S-191011-03BE		1.2	0.6	0.3	2.2	2.1	1.8	0.2	<0.05	1.3	0.2	0.06	0.1	6.7	6.5	<0.1
S-191011-04BE		0.7	0.3	0.3	2.6	1.3	0.9	0.2	<0.05	<0.1	0.2	0.02	0.1	4.9	1.0	0.1
S-191011-05BE		2.3	0.9	0.8	10.7	2.0	2.8	0.2	<0.05	0.8	0.3	0.01	0.1	13.8	1.5	0.2



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Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Mg ppm 0.01	ME-MS23 Mn ppm 0.01	ME-MS23 Mo ppb 0.5	ME-MS23 Nb ppb 0.1	ME-MS23 Nd ppb 0.1	ME-MS23 Ni ppb 1	ME-MS23 Pb ppb 0.1	ME-MS23 Pd ppb 0.05	ME-MS23 Pr ppb 0.1	ME-MS23 Pt ppb 0.1	ME-MS23 Rb ppb 0.1	ME-MS23 Re ppb 0.01	ME-MS23 Sb ppb 0.5	ME-MS23 Sc ppb 1	ME-MS23 Se ppb 2
S-191010-01BE		122.5	23.8	<0.5	0.2	4.0	18	113.0	0.06	0.9	<0.1	179.5	<0.01	0.8	10	20
S-191010-02BE		77.3	29.3	0.9	0.2	3.2	129	105.0	0.07	0.7	<0.1	97.2	0.02	1.1	11	31
S-191010-03BE		92.1	54.2	0.6	0.1	2.5	14	53.0	0.10	0.6	<0.1	201	<0.01	1.1	7	30
S-191010-04BE		86.7	49.9	<0.5	0.2	6.9	23	186.0	0.08	1.4	<0.1	119.0	<0.01	1.7	7	21
S-191010-05BE		85.5	34.0	<0.5	<0.1	7.3	50	222	0.05	1.8	0.1	186.5	<0.01	0.9	9	4
S-191010-06BE		54.6	33.6	0.9	0.1	4.5	14	51.1	<0.05	1.1	0.3	172.5	0.02	0.8	13	<2
S-191010-07BE		55.4	16.75	<0.5	<0.1	4.8	18	79.1	0.25	0.8	0.1	292	<0.01	1.5	8	16
S-191011-01BE		73.2	57.2	0.5	0.1	5.7	11	158.0	0.11	1.2	0.3	122.5	0.03	<0.5	6	14
S-191011-02BE		52.4	37.5	0.9	<0.1	8.9	22	237	0.11	2.1	0.1	145.5	<0.01	1.3	9	12
S-191011-03BE		103.5	47.4	<0.5	<0.1	6.5	14	99.9	<0.05	1.6	0.3	114.5	<0.01	0.5	7	25
S-191011-04BE		55.8	16.40	0.5	0.1	4.6	15	138.0	0.18	1.1	<0.1	175.0	<0.01	0.5	6	30
S-191011-05BE		77.9	17.70	2.0	<0.1	13.0	56	233	0.13	3.5	<0.1	339	0.05	0.5	7	9



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - D Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Sm ppb 0.1	ME-MS23 Sn ppb 0.2	ME-MS23 Sr ppb 1	ME-MS23 Ta ppb 0.05	ME-MS23 Tb ppb 0.1	ME-MS23 Te ppb 0.5	ME-MS23 Th ppb 0.02	ME-MS23 Ti ppb 5	ME-MS23 Tl ppb 0.05	ME-MS23 Tm ppb 0.1	ME-MS23 U ppb 0.05	ME-MS23 V ppb 0.2	ME-MS23 W ppb 0.1	ME-MS23 Y ppb 0.1	ME-MS23 Yb ppb 0.1
S-191010-01BE		1.7	0.6	1120	<0.05	0.1	<0.5	0.19	6	0.24	<0.1	0.26	0.7	0.9	2.8	0.3
S-191010-02BE		1.1	1.3	1080	<0.05	0.2	<0.5	0.23	7	0.12	0.1	0.23	<0.2	11.0	2.7	0.3
S-191010-03BE		0.7	1.2	824	<0.05	<0.1	<0.5	0.15	31	0.16	0.1	0.11	0.3	0.3	3.0	0.2
S-191010-04BE		1.8	0.2	1750	<0.05	0.1	<0.5	1.13	13	0.32	0.1	0.45	1.8	1.1	5.6	0.3
S-191010-05BE		2.6	0.9	792	<0.05	0.2	<0.5	0.70	9	0.28	0.1	0.44	0.7	1.5	7.2	0.4
S-191010-06BE		1.5	0.3	1190	<0.05	0.1	<0.5	0.25	6	0.39	0.1	0.26	<0.2	0.7	4.3	0.3
S-191010-07BE		1.2	0.4	663	<0.05	0.2	<0.5	0.36	21	0.20	<0.1	0.23	0.7	0.1	3.6	0.1
S-191011-01BE		2.1	0.9	3520	<0.05	0.2	<0.5	0.37	21	0.40	0.1	0.24	<0.2	<0.1	4.6	0.3
S-191011-02BE		2.6	0.5	1470	<0.05	0.3	<0.5	0.48	8	0.23	0.1	0.35	0.9	0.6	9.3	0.7
S-191011-03BE		2.6	<0.2	1120	<0.05	0.1	<0.5	1.24	30	0.31	0.1	0.82	2.0	0.2	7.1	0.2
S-191011-04BE		1.4	0.8	718	<0.05	0.1	<0.5	0.24	5	0.31	<0.1	0.35	1.1	0.4	4.1	0.3
S-191011-05BE		3.2	0.2	1200	0.17	0.4	<0.5	1.38	8	0.51	0.2	2.69	8.7	15.0	13.3	1.2



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - E Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Zn ppb 10	ME-MS23 Zr ppb 0.1	pH-MS23 Final pH Unity 0.1	
S-191010-01BE S-191010-02BE S-191010-03BE S-191010-04BE S-191010-05BE		13600 6310 25200 12900 8980	0.6 <0.1 <0.1 2.0 1.2	5.7 5.9 5.4 5.4 5.5	
S-191010-06BE S-191010-07BE S-191011-01BE S-191011-02BE S-191011-03BE		6580 5730 16800 10700 19100	0.6 0.3 1.0 2.0 1.4	5.6 5.5 5.4 5.4 5.2	
S-191011-04BE S-191011-05BE		13500 5010	0.4 1.2	5.3 5.1	



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

		CERTIFICATE COMMENTS	5	
Applies to Method:	Processed at ALS Vancouver located DISP-01 pH-MS23	LABORATORY A d at 2103 Dollarton Hwy, North Vanco EXTRA-01 VEG-MILL01		ME-MS23



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#### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

# QC CERTIFICATE VA19264844

Project: SADM

This report is for 12 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION							
ALS CODE	DESCRIPTION							
WEI-21	Received Sample Weight							
EXTRA-01	Extra Sample received in Shipment							
DISP-01	Disposal of all sample fractions							
LOG-22	Sample login - Rcd w/o BarCode							
VEG-ASH01	Controlled Ignition - Veg Samp. @ 475C							

	ANALYTICAL PROCEDURES
ALS CODE	DESCRIPTION
ME-VEG41a	Super Trace - Ashed Vegetation Samples

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

### Project: SADM

Method Analyte Sample Description LOD	ME-VEG41a Au ppm 0.0002	ME-VEG41a Ag ppm 0.001	ME-VEG41a Al % 0.01	ME-VEG41a As ppm 0.01	ME-VEG41a B ppm 1	ME-VEG41a Ba ppm 0.1	ME-VEG41 a Be ppm 0.01	ME-VEG41a Bi ppm 0.001	ME-VEG41a Ca % 0.01	ME-VEG41a Cd ppm 0.001	ME-VEG41a Ce ppm 0.003	ME-VEG41a Co ppm 0.002	ME-VEG41a Cr ppm 0.01	ME-VEG41a Cs ppm 0.005	ME-VEG41 a Cu ppm 0.01
						STAN	DARDS								
VEG-ASH-10 VEG-ASH-10 Target Range - Lower Bound Upper Bound VEG-ASH-12 VEG-ASH-12 Target Range - Lower Bound Upper Bound	0.0012 0.0011 0.0006 0.0015 0.0003 <0.0003 <0.0002 0.0004	0.211 0.208 0.202 0.250 0.211 0.206 0.178 0.220	0.09 0.07 0.12 0.06 0.06 0.04 0.08	1.21 1.01 1.04 1.29 0.93 1.06 0.87 1.08	785 743 732 897 741 746 680 833	282 270 255 346 270 276 238 323	0.02 0.02 <0.01 0.04 0.02 0.02 <0.01 0.04	0.210 0.079 0.072 0.090 0.052 0.056 0.048 0.060	17,50 17,30 16,60 20,3 16,15 16,75 14,50 17,70	0.635 0.653 0.622 0.762 0.417 0.442 0.411 0.505	0.830 0.845 0.784 0.964 0.640 0.620 0.605 0.747	1.190 1.155 1.165 1.430 0.962 1.060 0.913 1.120	2.14 1.95 1.94 2.39 1.65 1.70 1.66 2.06	5.98 5.92 5.42 6.63 6.18 6.19 5.96 7.29	78.7 72.8 74.3 85.5 68.4 73.1 64.9 74.7
						BLA	ANKS								
BLANK BLANK Target Range - Lower Bound Upper Bound	<0.0002 <0.0002 <0.0002 0.0004	<0.001 <0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	0.01 0.01 <0.01 0.02	2 <2 <1 2	<0.5 <0.5 <0.1 0.2	<0.01 <0.01 <0.01 0.02	<0.001 0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	<0.001 0.001 <0.001 0.002	<0.003 <0.003 <0.003 0.006	<0.002 <0.002 <0.002 0.004	0.01 <0.01 <0.01 0.02	<0.005 <0.005 <0.005 0.010	0.01 0.01 <0.01 0.02
						DUPL	CATES								
ORIGINAL DUP Target Range - Lower Bound Upper Bound	0.0051 0.0036 0.0039 0.0048	0.705 0.687 0.660 0.732	0.47 0.48 0.44 0.51	2.49 2.47 2.35 2.61	468 469 444 493	1450 1460 1345 1565	0.17 0.18 0.16 0.19	0.131 0.129 0.123 0.138	21.4 21.5 20.4 22.5	1.125 1.115 1.065 1.175	8.34 8.26 7.88 8.72	2.31 2.27 2.17 2.41	5.62 5.54 5.29 5.87	4.36 4.29 4.10 4.55	140.0 141.5 136.0 145.5



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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## Project: SADM

Sample Descriptio	Method Analyte Units n LOD	ME-VEG41 a Fe ppm 1	ME-VEG41a Ga ppm 0.004	ME-VEG41a Ge ppm 0.005	ME-VEG41a Hf ppm 0.002	ME-VEG41a Hg ppm 0.001	ME-VEG41a In ppm 0.005	ME-VEG41a K % 0.01	ME-VEG41a La ppm 0.002	ME-VEG41a Li ppm 0.1	ME-VEG41a Mg % 0.001	ME-VEG41a Mn ppm 0.1	ME-VEG41a Mo ppm 0.01	ME-VEG41a Na % 0.001	ME-VEG41a Nb ppm 0.002	ME-VEG41a Ni ppm 0.04
	STANDARDS															
VEG-ASH-12 VEG-ASH-12 Target Range - Low	per Bound	1100 1100 1040 1270 932 998 839 1025	0.225 0.212 0.205 0.259 0.158 0.175 0.131 0.169	<0.005 <0.005 <0.005 0.016 0.005 <0.005 <0.005 0.010	0.019 0.020 0.012 0.022 0.012 0.013 0.006 0.015	<0.001 <0.001 <0.003 0.001 0.004 <0.001 0.002	0.006 0.005 0.017 0.008 0.007 <0.005 0.014	>10.0 >10.0 15.20 10.00 >10.0 >10.0 13.50 10.00	0.466 0.441 0.426 0.525 0.364 0.385 0.327 0.404	1.5 1.5 1.2 1.8 1.6 1.9 1.5 2.1	4.68 4.50 4.43 5.42 4.52 4.64 4.14 5.06	19350 18350 22700 15300 15450 14150 17300	0.90 0.93 0.83 1.04 0.97 1.06 0.91 1.13	0.051 0.055 0.049 0.063 0.041 0.043 0.036 0.046	0.064 0.058 0.054 0.070 0.045 0.047 0.039 0.052	23.4 30.7 22.5 27.6 16.40 16.00 15.25 18.70
	Jer Bound	1020	0.100	0.010	0.010	0.002		NKS	0.404	2.1	0.00	17000	1.10	0.040	0.032	10.70
BLANK BLANK Target Range - Low Upj	er Bound ber Bound	<1 <1 <1 2	<0.004 <0.004 <0.004 0.008	<0.005 <0.005 <0.005 0.010	<0.002 <0.002 <0.002 0.004	<0.001 0.003 <0.001 0.002	<0.005 <0.005 <0.005 0.010	<0.01 <0.01 <0.01 0.02	<0.002 <0.002 <0.002 0.004	<0.1 <0.1 <0.1 0.2	<0.010 <0.010 <0.001 0.002	0.1 0.1 <0.1 0.2	<0.01 <0.01 <0.01 0.02	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	<0.04 <0.04 <0.04 0.08
ORIGINAL DUP Target Range - Low Upj	er Bound ber Bound	5100 5100 4840 5360	1.250 1.220 1.170 1.300	0.018 0.014 0.010 0.022	0.088 0.090 0.083 0.095	0.025 0.005 0.013 0.017	0.009 0.010 <0.005 0.010	>10.0 >10.0 9.49 10.00	4.53 4.48 4.28 4.73	4.0 4.0 3.7 4.3	2.21 2.23 2.11 2.33	39000 39400 37200 41200	0.93 0.90 0.86 0.97	0.072 0.084 0.073 0.083	0.273 0.259 0.251 0.281	8.19 8.64 7.95 8.88

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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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## Project: SADM

Method Analyte Sample Description LOD	ME-VEG41a P % 0.001	ME-VEG41a Pb ppm 0.01	ME-VEG41a Pd ppm 0.001	ME-VEG41a Pt ppm 0.002	ME-VEG41a Rb ppm 0.01	ME-VEG41a Re ppm 0.001	ME-VEG41 a S % 0.01	ME-VEG41a Sb ppm 0.01	ME-VEG41a Sc ppm 0.01	ME-VEG41a Se ppm 0.005	ME-VEG41a Sn ppm 0.01	ME-VEG41a Sr ppm 0.02	ME-VEG41a Ta ppm 0.001	ME-VEG41a Te ppm 0.02	ME-VEG41a Th ppm 0.002
						STAN	DARDS								
VEG-ASH-10 VEG-ASH-10 Target Range - Lower Bound Upper Bound VEG-ASH-12 VEG-ASH-12 Target Range - Lower Bound	4.96 4.64 4.86 5.00 4.36 4.39 4.02	5.97 5.95 5.66 6.94 4.65 4.69 4.32	0.002 <0.001 <0.001 0.004 <0.001 <0.001 <0.001	<0.002 <0.002 <0.002 0.006 <0.002 <0.002 <0.002	384 357 351 429 421 412 382	0.002 0.002 <0.001 0.004 0.001 0.001 <0.001	1.62 1.62 1.55 1.91 1.33 1.40 1.25	0.20 0.20 0.16 0.24 0.19 0.22 0.17	3.40 3.19 2.29 2.82 2.89 2.88 2.88 2.82	0.116 0.108 0.137 0.179 0.105 0.099 0.078	0.20 0.21 0.18 0.24 0.16 0.16 0.15	231 218 217 265 206 207 189.5	<0.005 <0.005 <0.001 0.002 <0.005 <0.005 <0.001	<0.02 <0.02 0.07 <0.02 <0.02 <0.02 <0.02	0.099 0.102 0.093 0.118 0.072 0.075 0.066
Upper Bound	4.92	5.30	0.003	0.004	466	0.003	1.55	0.25	3.47	0.108	0.21	231	0.002	0.04	0.086
BLANK BLANK Target Range - Lower Bound Upper Bound	<0.001 <0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	<0.01 0.01 <0.01 0.02	8LA <0.001 <0.001 0.002	<pre>ANKS         &lt;0.01         &lt;0.01         &lt;0.01         &lt;0.01         0.02         </pre>	<0.01 0.01 <0.01 0.02	<0.01 0.01 <0.01 0.02	0.005 <0.005 <0.005 0.010	<0.01 <0.01 <0.01 0.02	0.02 <0.02 <0.02 0.04	<0.005 <0.005 <0.001 0.002	<0.02 <0.02 <0.02 0.04	<0.002 <0.002 <0.002 0.004
						DUPL	CATES								
ORIGINAL DUP Target Range - Lower Bound Upper Bound	2.78 2.86 2.68 2.96	12.20 12.10 11.55 12.75	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	264 262 250 276	0.001 <0.001 <0.001 0.002	0.74 0.75 0.70 0.79	1.87 2.19 1.87 2.19	2.07 1.92 1.89 2.10	0.707 0.724 0.675 0.756	0.66 0.67 0.62 0.71	282 285 269 298	0.006 0.007 0.005 0.008	0.03 <0.02 <0.02 0.04	0.889 0.863 0.830 0.922



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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### Project: SADM



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Project: SADM

		CERTIFICATE COMME	INTS								
Applies to Method:	ANALYTICAL COMMENTS The concentration of the reported result is based on the ashed sample. Weight of the sample and weight of the ash has no in the reported concentration ME-VEG41a										
		LABORATO	RY ADDRESSES								
Applies to Method:	Processed at ALS Vancouver located a DISP-01 VEG-ASH01	tt 2103 Dollarton Hwy, North V EXTRA-01 WEI-21	/ancouver, BC, Canada. LOG-22	ME-VEG41a							



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# QC CERTIFICATE VA19264844

Project: SADM

This report is for 12 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION								
ALS CODE	DESCRIPTION								
WEI-21	Received Sample Weight								
EXTRA-01	Extra Sample received in Shipment								
DISP-01	Disposal of all sample fractions								
LOG-22	Sample login - Rcd w/o BarCode								
VEG-ASH01	Controlled Ignition - Veg Samp. @ 475C								

	ANALYTICAL PROCEDURES
ALS CODE	DESCRIPTION
ME-VEG41a	Super Trace - Ashed Vegetation Samples

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-NOV-2019 Account: RENGEO

### Project: SADM

Method Analyte Sample Description LOD	ME-VEG41a Au ppm 0.0002	ME-VEG41a Ag ppm 0.001	ME-VEG41a Al % 0.01	ME-VEG41a As ppm 0.01	ME-VEG41a B ppm 1	ME-VEG41a Ba ppm 0.1	ME-VEG41 a Be ppm 0.01	ME-VEG41a Bi ppm 0.001	ME-VEG41a Ca % 0.01	ME-VEG41a Cd ppm 0.001	ME-VEG41a Ce ppm 0.003	ME-VEG41a Co ppm 0.002	ME-VEG41a Cr ppm 0.01	ME-VEG41a Cs ppm 0.005	ME-VEG41 a Cu ppm 0.01
						STAN	DARDS								
VEG-ASH-10 VEG-ASH-10 Target Range - Lower Bound Upper Bound VEG-ASH-12 VEG-ASH-12 Target Range - Lower Bound Upper Bound	0.0012 0.0011 0.0006 0.0015 0.0003 <0.0003 <0.0002 0.0004	0.211 0.208 0.202 0.250 0.211 0.206 0.178 0.220	0.09 0.07 0.12 0.06 0.06 0.04 0.08	1.21 1.01 1.04 1.29 0.93 1.06 0.87 1.08	785 743 732 897 741 746 680 833	282 270 255 346 270 276 238 323	0.02 0.02 <0.01 0.04 0.02 0.02 <0.01 0.04	0.210 0.079 0.072 0.090 0.052 0.056 0.048 0.060	17,50 17,30 16,60 20,3 16,15 16,75 14,50 17,70	0.635 0.653 0.622 0.762 0.417 0.442 0.411 0.505	0.830 0.845 0.784 0.964 0.640 0.620 0.605 0.747	1.190 1.155 1.165 1.430 0.962 1.060 0.913 1.120	2.14 1.95 1.94 2.39 1.65 1.70 1.66 2.06	5.98 5.92 5.42 6.63 6.18 6.19 5.96 7.29	78.7 72.8 74.3 85.5 68.4 73.1 64.9 74.7
						BLA	ANKS								
BLANK BLANK Target Range - Lower Bound Upper Bound	<0.0002 <0.0002 <0.0002 0.0004	<0.001 <0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	0.01 0.01 <0.01 0.02	2 <2 <1 2	<0.5 <0.5 <0.1 0.2	<0.01 <0.01 <0.01 0.02	<0.001 0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	<0.001 0.001 <0.001 0.002	<0.003 <0.003 <0.003 0.006	<0.002 <0.002 <0.002 0.004	0.01 <0.01 <0.01 0.02	<0.005 <0.005 <0.005 0.010	0.01 0.01 <0.01 0.02
						DUPL	CATES								
ORIGINAL DUP Target Range - Lower Bound Upper Bound	0.0051 0.0036 0.0039 0.0048	0.705 0.687 0.660 0.732	0.47 0.48 0.44 0.51	2.49 2.47 2.35 2.61	468 469 444 493	1450 1460 1345 1565	0.17 0.18 0.16 0.19	0.131 0.129 0.123 0.138	21.4 21.5 20.4 22.5	1.125 1.115 1.065 1.175	8.34 8.26 7.88 8.72	2.31 2.27 2.17 2.41	5.62 5.54 5.29 5.87	4.36 4.29 4.10 4.55	140.0 141.5 136.0 145.5



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

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## Project: SADM

Sample Descriptio	Method Analyte Units n LOD	ME-VEG41 a Fe ppm 1	ME-VEG41a Ga ppm 0.004	ME-VEG41a Ge ppm 0.005	ME-VEG41a Hf ppm 0.002	ME-VEG41a Hg ppm 0.001	ME-VEG41a In ppm 0.005	ME-VEG41a K % 0.01	ME-VEG41a La ppm 0.002	ME-VEG41a Li ppm 0.1	ME-VEG41a Mg % 0.001	ME-VEG41a Mn ppm 0.1	ME-VEG41a Mo ppm 0.01	ME-VEG41a Na % 0.001	ME-VEG41a Nb ppm 0.002	ME-VEG41a Ni ppm 0.04
	STANDARDS															
VEG-ASH-12 VEG-ASH-12 Target Range - Low	per Bound	1100 1100 1040 1270 932 998 839 1025	0.225 0.212 0.205 0.259 0.158 0.175 0.131 0.169	<0.005 <0.005 <0.005 0.016 0.005 <0.005 <0.005 0.010	0.019 0.020 0.012 0.022 0.012 0.013 0.006 0.015	<0.001 <0.001 <0.003 0.001 0.004 <0.001 0.002	0.006 0.005 0.017 0.008 0.007 <0.005 0.014	>10.0 >10.0 15.20 10.00 >10.0 >10.0 13.50 10.00	0.466 0.441 0.426 0.525 0.364 0.385 0.327 0.404	1.5 1.5 1.2 1.8 1.6 1.9 1.5 2.1	4.68 4.50 4.43 5.42 4.52 4.64 4.14 5.06	19350 18350 22700 15300 15450 14150 17300	0.90 0.93 0.83 1.04 0.97 1.06 0.91 1.13	0.051 0.055 0.049 0.063 0.041 0.043 0.036 0.046	0.064 0.058 0.054 0.070 0.045 0.047 0.039 0.052	23.4 30.7 22.5 27.6 16.40 16.00 15.25 18.70
	Jer Bound	1020	0.100	0.010	0.010	0.002		NKS	0.404	2.1	5.00	17000	1.10	0.040	0.032	10.70
BLANK BLANK Target Range - Low Upj	er Bound ber Bound	<1 <1 <1 2	<0.004 <0.004 <0.004 0.008	<0.005 <0.005 <0.005 0.010	<0.002 <0.002 <0.002 0.004	<0.001 0.003 <0.001 0.002	<0.005 <0.005 <0.005 0.010	<0.01 <0.01 <0.01 0.02	<0.002 <0.002 <0.002 0.004	<0.1 <0.1 <0.1 0.2	<0.010 <0.010 <0.001 0.002	0.1 0.1 <0.1 0.2	<0.01 <0.01 <0.01 0.02	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	<0.04 <0.04 <0.04 0.08
ORIGINAL DUP Target Range - Low Upj	er Bound ber Bound	5100 5100 4840 5360	1.250 1.220 1.170 1.300	0.018 0.014 0.010 0.022	0.088 0.090 0.083 0.095	0.025 0.005 0.013 0.017	0.009 0.010 <0.005 0.010	>10.0 >10.0 9.49 10.00	4.53 4.48 4.28 4.73	4.0 4.0 3.7 4.3	2.21 2.23 2.11 2.33	39000 39400 37200 41200	0.93 0.90 0.86 0.97	0.072 0.084 0.073 0.083	0.273 0.259 0.251 0.281	8.19 8.64 7.95 8.88

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## Project: SADM

Method Analyte Sample Description LOD	ME-VEG41a P % 0.001	ME-VEG41a Pb ppm 0.01	ME-VEG41a Pd ppm 0.001	ME-VEG41a Pt ppm 0.002	ME-VEG41a Rb ppm 0.01	ME-VEG41a Re ppm 0.001	ME-VEG41 a S % 0.01	ME-VEG41a Sb ppm 0.01	ME-VEG41a Sc ppm 0.01	ME-VEG41a Se ppm 0.005	ME-VEG41a Sn ppm 0.01	ME-VEG41a Sr ppm 0.02	ME-VEG41a Ta ppm 0.001	ME-VEG41a Te ppm 0.02	ME-VEG41a Th ppm 0.002
						STAN	DARDS								
VEG-ASH-10 VEG-ASH-10 Target Range - Lower Bound Upper Bound VEG-ASH-12 VEG-ASH-12 Target Range - Lower Bound	4.96 4.64 4.86 5.00 4.36 4.39 4.02	5.97 5.95 5.66 6.94 4.65 4.69 4.32	0.002 <0.001 <0.001 0.004 <0.001 <0.001 <0.001	<0.002 <0.002 <0.002 0.006 <0.002 <0.002 <0.002	384 357 351 429 421 412 382	0.002 0.002 <0.001 0.004 0.001 0.001 <0.001	1.62 1.62 1.55 1.91 1.33 1.40 1.25	0.20 0.20 0.16 0.24 0.19 0.22 0.17	3.40 3.19 2.29 2.82 2.89 2.88 2.88 2.82	0.116 0.108 0.137 0.179 0.105 0.099 0.078	0.20 0.21 0.18 0.24 0.16 0.16 0.15	231 218 217 265 206 207 189.5	<0.005 <0.005 <0.001 0.002 <0.005 <0.005 <0.001	<0.02 <0.02 0.07 <0.02 <0.02 <0.02 <0.02	0.099 0.102 0.093 0.118 0.072 0.075 0.066
Upper Bound	4.92	5.30	0.003	0.004	466	0.003	1.55	0.25	3.47	0.108	0.21	231	0.002	0.04	0.086
BLANK BLANK Target Range - Lower Bound Upper Bound	<0.001 <0.001 <0.001 0.002	<0.01 <0.01 <0.01 0.02	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	<0.01 0.01 <0.01 0.02	8LA <0.001 <0.001 0.002	<pre>ANKS         &lt;0.01         &lt;0.01         &lt;0.01         &lt;0.01         0.02         </pre>	<0.01 0.01 <0.01 0.02	<0.01 0.01 <0.01 0.02	0.005 <0.005 <0.005 0.010	<0.01 <0.01 <0.01 0.02	0.02 <0.02 <0.02 0.04	<0.005 <0.005 <0.001 0.002	<0.02 <0.02 <0.02 0.04	<0.002 <0.002 <0.002 0.004
						DUPL	CATES								
ORIGINAL DUP Target Range - Lower Bound Upper Bound	2.78 2.86 2.68 2.96	12.20 12.10 11.55 12.75	<0.001 <0.001 <0.001 0.002	<0.002 <0.002 <0.002 0.004	264 262 250 276	0.001 <0.001 <0.001 0.002	0.74 0.75 0.70 0.79	1.87 2.19 1.87 2.19	2.07 1.92 1.89 2.10	0.707 0.724 0.675 0.756	0.66 0.67 0.62 0.71	282 285 269 298	0.006 0.007 0.005 0.008	0.03 <0.02 <0.02 0.04	0.889 0.863 0.830 0.922



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### Project: SADM



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Project: SADM

		CERTIFICATE COMME	INTS								
Applies to Method:	ANALYTICAL COMMENTS The concentration of the reported result is based on the ashed sample. Weight of the sample and weight of the ash has no in the reported concentration ME-VEG41a										
		LABORATO	RY ADDRESSES								
Applies to Method:	Processed at ALS Vancouver located a DISP-01 VEG-ASH01	tt 2103 Dollarton Hwy, North V EXTRA-01 WEI-21	/ancouver, BC, Canada. LOG-22	ME-VEG41a							



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

pH-MS23

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## QC CERTIFICATE VA19278584

Project: SADIM

This report is for 11 Soil samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
DISP-01	Disposal of all sample fractions	
	ANALYTICAL PROCEDUR	ES
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS23	IONIC Leach - Complete PKG.	ICP-MS

MS23 Leach pH

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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Project: SADIM

QC CERTIFICATE OF ANALYSIS VA19278584	(ALS																
Analyte Sample Description         Ag ppb         As ppb         Au ppb         Ba ppb         Au ppb         Ba ppb         Be ppb         Br ppb         Ca ppb         Cd ppb         Ca         Cd         Cd         Ca         Ca         Ca <thca< th=""></thca<>										QC	CERTI	ICATE	OF AN	ALYSIS	VA1	927858	34
OREAS 501b         0.8         13.6         240         710         c0.2         1.2         0.05         445         11.1         27.3         140.5         4         139.5         81900         3.7           Target Range - Lower Bound Upper Bound         0.6         13.3         211         660         -0.2         0.7         -0.05         378         10.4         26.8         137.0         3         127.0         75500         3.7           SRM-21A-1         4.4         7.6         4.41         30         -0.2         -0.3         0.30         105.5         2.5         37.9         25.9         12         0.9         448         3.0           Target Range - Lower Bound Upper Bound         4.3         7.6         4.42         700         -0.2         -0.2         95.7         2.5         37.9         25.9         12         0.9         448         3.2           BLANK         -5.5         10.5         5.20         50         0.5         2.7         0.46         117.5         3.6         47.6         38.4         21         12.3         550         4.2           BLANK         -0.1         -0.5         -0.02         -0.02         -0.03         -0.05	Sample Description	Analyte Units	Ag ppb	As ppb	Au ppb	Ba ppb	Be ppb	Bi ppb	Br ppm	Ca ppm	Cd ppb	Ce ppb	Co ppb	Cr ppb	Cs ppb	Cu ppb	ppb
Target Range - Lower Bound Upper Bound         0.6         13.3         211         660         <0.2         0.7         <0.05         378         10.4         26.8         137.0         3         127.0         75500         3.7           SRM-21A-1         1.0         17.3         25.9         920         0.6         2.1         0.19         462         13.2         33.0         168.0         7         155.0         92300         4.7           SRM-21A-1         4.4         7.6         4.41         30         <0.2								STAN	IDARDS								
BLANK         Solution       Colspan="5">COLSPANKS         BLANK       Colspan="5">COLSPANKS         Conspan="5">Conspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan="5">COLSPANKS         BLANK       Colspan="5">COLSPANKS         Conspan="5">Colspan="5"Colspan="5">Colspan="5"Colspan="5"Colspan="5">Colspan="5"Colspa="5"Colspa="5"Colspa="5"Colspan="5"Colspan="5"Colspa="5"Colspa="5	Target Range - Lower Upper SRM-21A-1	r Bound	0.6 1.0 4.4	13.3 17.3 7.6	211 259 4.41	660 920 30	<0.2 0.6 <0.2	0.7 2.1 <0.3	<0.05 0.19 0.30	378 462 105.5	10.4 13.2 2.5	26.8 33.0 37.9	137.0 168.0 25.9	3 7 12	127.0 155.0 10.5	75500 92300 405	3.7 4.7 3.0
BLANK       <0.1       <0.5       <0.02       <10       <0.2       <0.3       <0.2       <0.2       <0.1       <0.3       <1       <0.1       <1       <0.1         Target Range - Lower Bound Upper Bound       <0.1								2.7	0.46								
S-191011-03E       14.7       5.8       0.24       4150       1.1       <0.3       0.10       300       7.6       86.1       14.6       3       3.6       610       17.8         DUP       16.1       5.5       0.14       4440       1.5       <0.3	Target Range - Lower		<0.1	<0.5	<0.02	<10	<0.2	<0.3 <0.3	<0.05 <0.05	<0.2	<0.2	<0.1	<0.3	<1	<0.1	<1	<0.1
DUP       16.1       5.5       0.14       4440       1.5       <0.3       0.07       311       9.3       95.6       14.4       3       3.5       602       20.4         Target Range - Lower Bound       14.1       4.7       0.16       3960       1.0       <0.3								DUPL	ICATES								
	DUP Target Range - Lower		16.1 14.1	5.5 4.7	0.14 0.16	4440 3960	1.5 1.0	<0.3 <0.3	0.07 <0.05	311 282	9.3 7.6	95.6 83.9	14.4 13.1	3 2	3.5 3.2	602 560	20.4 17.6



Sample Description

Target Range - Lower Bound

Target Range - Lower Bound

OREAS 501b

SRM-21A-1

ALS Canada Ltd.

ME-MS23

Er

ppb

0.1

3.1 3.1

4.0

1.1 1.1

1.7

Method

Analyte

Units

LOD

Upper Bound

Upper Bound

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Project: SADIM

							QC	CERTIF	ICATE	OF AN	ALYSIS	VA19	927858	34
3	ME-MS23 Eu ppb 0.1	ME-MS23 Fe ppm 0.1	ME-MS23 Ga ppb 0.5	ME-MS23 Gd ppb 0.1	ME-MS23 Ge ppb 0.1	ME-MS23 Hf ppb 0.05	ME-MS23 Hg ppb 0.1	ME-MS23 Ho ppb 0.1	ME-MS23 I ppm 0.01	ME-MS23 In ppb 0.1	ME-MS23 La ppb 0.1	ME-MS23 Li ppb 0.2	ME-MS23 Lu ppb 0.1	ME-MS23 Mg ppm 0.01
					STAN	DARDS								
	0.4	20.2	<0.5	2.1	0.2	0.07	0.1	0.9	0.01	<0.1	19.3	105.0	0.4	75.7
	0.2	19.3	<0.5	2.2	<0.1	<0.05	<0.1	0.8	<0.01	<0.1	18.6	99.7	0.3	67.4
	0.6	23.9	1.5	2.9	0.3	0.17	0.4	1.3	0.03	0.3	23.0	122.5	0.7	82.4
	1.0	3.6	1.5	5.2	0.1	0.50	5.6	0.5	0.12	<0.1	13.0	0.7	0.1	19.95
	1.0	4.8	1.0	5.2	<0.1	0.47	6.3	0.4	0.11	<0.1	13.2	0.6	<0.1	17.55
	1.6	6.0	3.2	6.6	0.3	0.73	7.9	0.8	0.17	0.2	16.4	1.5	0.3	21.5
					BL	ANKS								

						BL/	ANKS								
BLANK	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.05	<0.1	<0.1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.01
Target Range - Lower Bound	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.05	<0.1	<0.1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.01
Upper Bound	0.2	0.2	0.2	1.0	0.2	0.2	0.10	0.2	0.2	0.02	0.2	0.2	0.4	0.2	0.02
							ICATES								
						DUIL									
S-191011-03E	8.3	3.5	36.6	2.0	16.9	0.2	1.45	0.5	3.1	0.03	0.1	26.4	0.6	0.6	28.9
DUP	10.1	4.1	40.2	2.4	19.2	0.2	1.50	0.4	3.6	0.03	<0.1	30.4	0.9	0.8	31.0
Target Range - Lower Bound	8.4	3.4	35.4	1.5	16.6	<0.1	1.31	0.3	3.0	0.02	<0.1	26.2	0.5	0.5	27.7
Upper Bound	10.0	4.2	41.4	2.9	19.5	0.3	1.64	0.6	3.7	0.04	0.2	30.6	1.0	0.9	32.2



Upper Bound

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3.86

5.5

0.6

45.6

36

51.0

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Project: SADIM

									QC	CERTI	ICATE	OF AN	ALYSIS	VA1	927858	34
Sample Description	Method Analyte Units LOD	ME-MS23 Mn ppm 0.01	ME-MS23 Mo ppb 0.5	ME-MS23 Nb ppb 0.1	ME-MS23 Nd ppb 0.1	ME-MS23 Ni ppb 1	ME-MS23 Pb ppb 0.1	ME-MS23 Pd ppb 0.05	ME-MS23 Pr ppb 0.1	ME-MS23 Pt ppb 0.1	ME-MS23 Rb ppb 0.1	ME-MS23 Re ppb 0.01	ME-MS23 Sb ppb 0.5	ME-MS23 Sc ppb 1	ME-MS23 Se ppb 2	ME-MS23 Sm ppb 0.1
							STAN	IDARDS								
OREAS 501b		0.62	1285	0.2	8.0	55	106.0	1.57	2.7	0.1	2220	0.14	10.7	11	164	1.5
Target Range - Lower	Bound	0.60	1105	<0.1	9.4	59	102.5	1.38	2.6	<0.1	2110	0.13	9.9	8	142	1.6
Uppe	r Bound	0.76	1355	0.4	11.8	75	125.5	1.80	3.4	0.3	2590	0.19	13.2	13	178	2.2
SRM-21A-1		0.16	12.1	0.1	22.9	251	296	3.42	5.3	0.7	119.5	<0.01	0.5	3	<2	6.3
Target Range - Lower	Bound	0.17	13.5	<0.1	25.9	346	323	3.37	5.3	0.7	120.5	<0.01	<0.5	2	<2	5.9
Uppe	r Bound	0.23	17.7	0.4	31.9	425	395	4.23	6.7	1.1	147.5	0.02	1.7	6	8	7.5
							BL	ANKS								
BLANK		<0.01	<0.5	<0.1	<0.1	<1	<0.1	<0.05	0.1	<0.1	0.1	<0.01	<0.5	<1	<2	<0.1
Target Range - Lower	Bound	<0.01	<0.5	<0.1	<0.1	<1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.01	<0.5	<1	<2	<0.1
Uppe	r Bound	0.02	1.0	0.2	0.2	2	0.2	0.10	0.2	0.2	0.2	0.02	1.0	2	4	0.2
							DUPL	ICATES								
S-191011-03E		3.22	5.0	0.5	39.3	32	41.5	<0.05	8.5	<0.1	139.5	<0.01	<0.5	33	<2	13.2
DUP		3.95	4.3	0.5	45.3	34	53.2	<0.05	9.9	<0.1	147.0	<0.01	<0.5	38	<2	14.8
Target Range - Lower	Bound	3.31	3.8	0.4	39.0	30	43.7	<0.05	8.4	<0.1	132.5	<0.01	<0.5	32	<2	12.9
		0.00		0.0	45.0	00	= 1 0	0 1 0	10.0	0.0	1 = 1 0	0.00	1 0	00		

0.10

10.0

0.2

154.0

0.02

39

4

1.0

15.2



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Project: SADIM

									QC	CERTI	ICATE	OF AN	ALYSIS	VA1	927858	34
Sample Description	Method Analyte Units LOD	ME-MS23 Sn ppb 0.2	ME-MS23 Sr ppb 1	ME-MS23 Ta ppb 0.05	ME-MS23 Tb ppb 0.1	ME-MS23 Te ppb 0.5	ME-MS23 Th ppb 0.02	ME-MS23 Ti ppb 5	МЕ-МS23 ТІ ррb 0.05	ME-MS23 Tm ppb 0.1	ME-MS23 U ppb 0.05	ME-MS23 V ppb 0.2	ME-MS23 W ppb 0.1	ME-MS23 Y ppb 0.1	ME-MS23 Yb ppb 0.1	ME-MS23 Zn ppb 10
							STAN	IDARDS								
OREAS 501b Target Range - Lower Upper SRM-21A-1	Bound r Bound	2.2 1.9 2.9 <0.2	3310 2830 3460 192	<0.05 <0.05 0.14 <0.05	0.5 0.3 0.7 0.6	<0.5 <0.5 1.3 <0.5	11.20 10.95 13.45 13.80	<5 <5 15 33	3.18 2.72 3.44 0.23	0.5 0.3 0.7 0.1	16.25 15.85 19.45 10.10	8.9 34.3	9.0 9.6 12.0 0.1	32.6 32.2 39.6 12.9	3.1 3.0 3.8 0.5	380 350 450 370
Target Range - Lower	Bound r Bound	5.8 7.6	182 224	<0.05 <0.10	0.5 0.9	<0.5 <0.5 1.0	14.65 17.95	24 48	0.09	<0.1 0.3	10.65 13.15	34.0	<0.1 0.2	16.1 19.9	0.5 0.9	430 550
							BL	ANKS								
BLANK Target Range - Lower Upper	Bound r Bound	<0.2 <0.2 0.4	<1 <1 2	<0.05 <0.05 0.10	<0.1 <0.1 0.2	<0.5 <0.5 1.0	<0.02 <0.02 0.04	<5 <5 10	<0.05 <0.05 0.10	<0.1 <0.1 0.2	<0.05 <0.05 0.10	0.3	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<10 <10 20
S-191011-03E DUP Target Range - Lower Upper	Bound r Bound	<0.2 <0.2 <0.2 0.4	1240 1210 1130 1320	0.22 0.14 0.12 0.24	2.8 3.1 2.6 3.3	<0.5 <0.5 <0.5 1.0	7.29 7.56 6.85 8.00	84 105 82 107	0.18 0.19 0.12 0.25	0.9 1.2 0.9 1.2	6.92 6.72 6.26 7.38	5.6 6.3 5.3 6.6	0.1 0.2 <0.1 0.2	82.4 101.5 85.0 98.9	5.6 7.0 5.7 6.9	240 300 240 300



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - E Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 18-NOV-2019 Account: RENGEO

Project: SADIM

Sample Description	Method Analyte Units LOD	ME-MS23 Zr ppb 0.1	pH-MS23 Final pH Unity 0.1	
				STANDARDS
OREAS 501b		3.9	8.7	
Target Range - Lower	Bound	3.6	7.9	
Upper SRM-21A-1	<sup>-</sup> Bound	5.2 16.2	9.9 8.7	
Target Range - Lower	Bound	16.2	7.9	
Upper	Bound	22.2	9.9	
				BLANKS
BLANK		<0.1	8.7	
Target Range - Lower	Bound	<0.1	8.0	
Upper	<sup>-</sup> Bound	0.2	10.0	
				DUPLICATES
S-191011-03E		59.2	7.3	
DUP		61.1	7.2	
Target Range - Lower	Bound Bound	55.5 64.8	6.8 7.7	
	200110			



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 18-NOV-2019 Account: RENGEO

Project: SADIM

		CERTIFICATE COMMENTS	
Applies to Method:	Processed at ALS Vancouver located at DISP-01 WEI-21	<b>LABORATORY ADI</b> 2103 Dollarton Hwy, North Vancouve LOG-22	pH-MS23



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 1 Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

## QC CERTIFICATE VA19278589

Project: SADIM

This report is for 12 Other samples submitted to our lab in Vancouver, BC, Canada on 18-OCT-2019.

The following have access to data associated with this certificate:

RICHARD BILLINGSLEY

LEOPOLD LINDINGER

SAMPLE PREPARATION	
DESCRIPTION	
Received Sample Weight	
Sample login - Rcd w/o BarCode	
Extra Sample received in Shipment	
Disposal of all sample fractions	
Maceration of dry plant material	
	DESCRIPTION Received Sample Weight Sample login - Rcd w/o BarCode Extra Sample received in Shipment Disposal of all sample fractions

	ANALYTICAL PROCEDUR	RES
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS23	IONIC Leach - Complete PKG.	ICP-MS
pH-MS23	MS23 Leach pH	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, General Manager, North Vancouver

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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### To: **RENAISSANCE GEOSCIENCE** 680 DAIRY RD **KAMLOOPS BC V2B 8N5**

Page: 2 - A Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

(ALS	)															
									QC	CERTI	-ICATE	OF AN	ALYSIS	VAI	927858	<u>}9</u>
Sample Description	Method Analyte Units LOD	ME-MS23 Ag ppb 0.1	ME-MS23 As ppb 0.5	ME-MS23 Au ppb 0.02	ME-MS23 Ba ppb 10	ME-MS23 Be ppb 0.2	ME-MS23 Bi ppb 0.3	ME-MS23 Br ppm 0.05	ME-MS23 Ca ppm 0.2	ME-MS23 Cd ppb 0.2	ME-MS23 Ce ppb 0.1	ME-MS23 Co ppb 0.3	ME-MS23 Cr ppb 1	ME-MS23 Cs ppb 0.1	ME-MS23 Cu ppb 1	ME-MS23 Dy ppb 0.1
							STAN	DARDS								
SRM-21A-1 Target Range - Lower	r Bound	0.8 0.6 1.0 4.4 4.3 5.5	16.8 13.3 17.3 7.1 7.6 10.5	244 211 259 4.47 4.22 5.20	670 660 920 20 <10 50	0.2 <0.2 0.6 <0.2 <0.2 0.5	1.3 0.7 2.1 <0.3 1.3 2.7	0.11 <0.05 0.19 0.26 0.22 0.46	459 378 462 100.5 95.7 117.5	11.9 10.4 13.2 2.3 2.5 3.6	27.3 26.8 33.0 30.8 38.8 47.6	138.5 137.0 168.0 22.2 30.8 38.4	4 3 7 12 15 21	134.5 127.0 155.0 10.0 9.9 12.3	84600 75500 92300 421 448 550	3.9 3.7 4.7 2.8 3.2 4.2
							BL/	ANKS								
BLANK Target Range - Lower Upper	Bound r Bound	<0.1 <0.1 0.2	<0.5 <0.5 1.0	<0.02 <0.02 0.04	<10 <10 20	<0.2 <0.2 0.4	<0.3 <0.3 0.6	<0.05 <0.05 0.10	<0.2 <0.2 0.4	<0.2 <0.2 0.4	<0.1 <0.1 0.2	<0.3 <0.3 0.6	<1 <1 2	<0.1 <0.1 0.2	<1 <1 2	<0.1 <0.1 0.2
							DUPL	ICATES								
S-191011-03BE DUP Target Range - Lower Upper	Bound r Bound	0.3 0.2 <0.1 0.4	79.5 67.4 67.4 79.5	0.04 0.05 <0.02 0.07	2730 2830 2560 3000	0.5 <0.2 <0.2 0.4	0.5 0.4 <0.3 0.6	0.40 0.25 0.25 0.40	530 545 497 578	85.2 89.3 80.5 94.0	12.1 11.0 10.6 12.5	25.6 27.8 24.4 29.0	6 5 4 7	0.6 0.5 0.4 0.7	2790 2870 2620 3040	1.2 1.4 1.1 1.5



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### To: **RENAISSANCE GEOSCIENCE** 680 DAIRY RD **KAMLOOPS BC V2B 8N5**

Page: 2 - B Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

									QC	CERTIF	ICATE	OF AN	ALYSIS	VA1	927858	39
Sample Description	Method Analyte Units LOD	ME-MS23 Er ppb 0.1	ME-MS23 Eu ppb 0.1	ME-MS23 Fe ppm 0.1	ME-MS23 Ga ppb 0.5	ME-MS23 Gd ppb 0.1	ME-MS23 Ge ppb 0.1	ME-MS23 Hf ppb 0.05	ME-MS23 Hg ppb 0.1	ME-MS23 Ho ppb 0.1	ME-MS23 I ppm 0.01	ME-MS23 In ppb 0.1	ME-MS23 La ppb 0.1	ME-MS23 Li ppb 0.2	ME-MS23 Lu ppb 0.1	ME-MS23 Mg ppm 0.01
							STAN	DARDS								
SRM-21A-1 Target Range - Lower	<sup>-</sup> Bound	3.2 3.1 4.0 0.8 1.1 1.7	0.3 0.2 0.6 1.1 1.0 1.6	20.7 19.3 23.9 3.7 4.8 6.0	0.5 <0.5 1.5 1.5 1.0 3.2	2.2 2.2 2.9 4.3 5.2 6.6	0.3 <0.1 0.3 0.1 <0.1 0.3	0.05 <0.05 0.17 0.50 0.47 0.73	0.1 <0.1 0.4 5.6 6.3 7.9	1.0 0.8 1.3 0.5 0.4 0.8	0.01 <0.01 0.03 0.11 0.11 0.17	<0.1 <0.1 0.3 <0.1 <0.1 0.2	19.0 18.6 23.0 10.8 13.2 16.4	108.0 99.7 122.5 0.7 0.6 1.5	0.5 0.3 0.7 0.1 <0.1 0.3	77.8 67.4 82.4 18.65 17.55 21.5
							BL/	ANKS								
BLANK Target Range - Lower Upper	Bound <sup>-</sup> Bound	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.5 <0.5 1.0	<0.1 <0.1 0.2	0.1 <0.1 0.2	<0.05 <0.05 0.10	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.01 <0.01 0.02	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.2 <0.2 0.4	<0.1 <0.1 0.2	<0.01 <0.01 0.02
							DUPL	ICATES								
S-191011-03BE DUP Target Range - Lower Upper	Bound <sup>-</sup> Bound	0.6 0.9 0.6 0.9	0.3 0.3 0.2 0.4	2.2 2.3 2.0 2.5	2.1 1.9 1.4 2.7	1.8 1.6 1.5 1.9	0.2 0.3 <0.1 0.4	<0.05 <0.05 <0.05 0.10	1.3 0.8 0.9 1.2	0.2 0.2 <0.1 0.3	0.06 0.06 0.05 0.07	0.1 0.1 <0.1 0.2	6.7 7.3 6.4 7.6	6.5 4.9 5.1 6.3	<0.1 0.1 <0.1 0.2	103.5 107.0 97.3 113.0



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### To: **RENAISSANCE GEOSCIENCE** 680 DAIRY RD **KAMLOOPS BC V2B 8N5**

Page: 2 - C Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

Analyte Units LOD         Mn         Mo         Nb         Nd         Ni         Pb         Pd         Pr         Pt         Rb         Re         Sb           Sample Description         Units LOD         0.01         0.5         0.1         0.1         1         0.1         0.05         0.1 <th>E-MS23 ME-MS23 Sc Se ppb ppb 1 2 11 174 8 142 13 178 3 2 2 &lt;2</th> <th>ME-MS23 Sm ppb 0.1 1.6 1.6 2.2 5.1</th>	E-MS23 ME-MS23 Sc Se ppb ppb 1 2 11 174 8 142 13 178 3 2 2 <2	ME-MS23 Sm ppb 0.1 1.6 1.6 2.2 5.1
OREAS 501b       0.61       1295       0.2       9.5       51       104.0       1.49       2.6       0.1       2470       0.16       11.2         Target Range - Lower Bound Upper Bound       0.60       1105       <0.1       9.4       59       102.5       1.38       2.6       <0.1       2110       0.13       9.9       9.5       51       104.0       1.49       2.6       <0.1       2110       0.13       9.9       9.5       9.5       51       102.5       1.38       2.6       <0.1       2110       0.13       9.9       9.5       51       125.5       1.80       3.4       0.3       2590       0.19       13.2       13.2       12.5       1.80       3.4       0.3       2590       0.19       13.2       13.2       11.5       0.2       22.5       214       282       3.80       4.5       1.1       110.5       <0.01       <0.5        <0.5       <0.1       <0.5       <0.1       <0.5       <0.1       <0.5       <0.1       <0.5       <0.1       <0.5       <0.1       <0.5       <0.1       <0.5       <0.5       <0.1       <0.5       <0.5       <0.6       <0.1       <0.5       <0.5       <0.6       <0.5 <th>8 142 13 178 3 2</th> <th>1.6 2.2</th>	8 142 13 178 3 2	1.6 2.2
Target Range - Lower Bound Upper Bound       0.60       1105       <0.1       9.4       59       102.5       1.38       2.6       <0.1       2110       0.13       9.9         SRM-21A-1       0.15       1135       0.4       11.8       75       125.5       1.80       3.4       0.3       2590       0.19       13.2         SRM-21A-1       0.15       11.5       0.2       22.5       214       282       3.80       4.5       1.1       110.5       <0.01	8 142 13 178 3 2	1.6 2.2
	6 8	5.9 7.5
	<1 3 <1 <2 2 4	0.1 <0.1 0.2
DUPLICATES		
S-191011-03BE       47.4       <0.5       <0.1       6.5       14       99.9       <0.05       1.6       0.3       114.5       <0.01       0.5         DUP       50.3       0.5       0.1       6.5       12       100.5       0.15       1.3       0.8       115.5       0.03       0.8         Target Range - Lower Bound       45.2       <0.5	7     25       6     13       5     16       8     22	2.6 2.4 2.2 2.8



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### To: **RENAISSANCE GEOSCIENCE** 680 DAIRY RD **KAMLOOPS BC V2B 8N5**

Page: 2 - D Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

(ALS								110J	CCL SADI	*1							
									QC	CERTI	ICATE	OF AN	ALYSIS	VA1	927858	39	
Sample Description	Method Analyte Units LOD	ME-MS23 Sn ppb 0.2	ME-MS23 Sr ppb 1	ME-MS23 Ta ppb 0.05	ME-MS23 Tb ppb 0.1	ME-MS23 Te ppb 0.5	ME-MS23 Th ppb 0.02	ME-MS23 Ti ppb 5	ME-MS23 Tl ppb 0.05	ME-MS23 Tm ppb 0.1	ME-MS23 U ppb 0.05	ME-MS23 V ppb 0.2	ME-MS23 W ppb 0.1	ME-MS23 Y ppb 0.1	ME-MS23 Yb ppb 0.1	ME-MS23 Zn ppb 10	
							STAN	IDARDS									
OREAS 501b Target Range - Lower Upper SRM-21A-1	Bound Bound	2.0 1.9 2.9 0.3	3290 2830 3460 182	<0.05 <0.05 0.14 <0.05	0.5 0.3 0.7 0.5	<0.5 <0.5 1.3 <0.5	11.25 10.95 13.45 11.90	8 <5 15 45	3.35 2.72 3.44 0.20	0.4 0.3 0.7 0.1	16.30 15.85 19.45 8.59	8.5 33.6	10.0 9.6 12.0 0.2	33.8 32.2 39.6 12.4	3.3 3.0 3.8 0.4	390 350 450 380	
Target Range - Lower Upper	Bound Bound	5.8 7.6	182 224	<0.05 0.10	0.5 0.9	<0.5 1.0	14.65 17.95	24 48	0.09 0.31	<0.1 0.3	10.65 13.15		<0.1 0.2	16.1 19.9	0.5 0.9	430 550	
							BL	ANKS									
BLANK Target Range - Lower Upper	Bound Bound	0.2 <0.2 0.4	<1 <1 2	<0.05 <0.05 0.10	<0.1 <0.1 0.2	<0.5 <0.5 1.0	<0.02 <0.02 0.04	<5 <5 10	<0.05 <0.05 0.10	<0.1 <0.1 0.2	<0.05 <0.05 0.10	<0.2	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<0.1 <0.1 0.2	<10 <10 20	
							DUPL	ICATES									
S-191011-03BE DUP Target Range - Lower Upper	Bound Bound	<0.2 0.6 <0.2 0.6	1120 1160 1055 1225	<0.05 <0.05 <0.05 0.10	0.1 0.1 <0.1 0.2	<0.5 <0.5 <0.5 1.0	1.24 1.37 1.19 1.42	30 15 16 29	0.31 0.36 0.26 0.41	0.1 0.1 <0.1 0.2	0.82 0.45 0.54 0.73	2.0 1.5 1.4 2.1	0.2 0.4 0.2 0.4	7.1 7.2 6.5 7.8	0.2 0.6 0.3 0.5	19100 20400 18250 21200	



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: 2 - E Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

	Method	ME-MS23	pH-MS23	
	Analyte	Zr	Final pH	
	Units	ppb	Unity	
ample Description	LOD	0.1	0.1	
				STANDARDS
OREAS 501b		4.8	8.6	
Target Range - Lower	Bound	3.6	7.9	
Upper	Bound	5.2	9.9	
SRM-21A-1		15.0	8.6	
Target Range - Lower	Bound	16.2	7.9	
Upper	Bound	22.2	9.9	
				BLANKS
		0.1	0.7	
BLANK Target Range - Lower	Round	<0.1 <0.1	8.7 8.0	
Lower	Bound	<0.1 0.2	10.0	
Opper	bound	0.2	10.0	
				DUPLICATES
S-191011-03BE		1.4	5.2	
DUP		2.1	5.3	
Target Range - Lower	Bound	1.5	4.9	
Upper	Bound	2.0	5.6	



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### To: RENAISSANCE GEOSCIENCE 680 DAIRY RD KAMLOOPS BC V2B 8N5

Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 23-NOV-2019 Account: RENGEO

Project: SADIM

		CERTIFICATE COMMENTS		
Applies to Method:	Processed at ALS Vancouver located DISP-01 pH-MS23	DDRESSES uver, BC, Canada. LOG-22 WEI-21	ME-MS23	

Prospecting and Geochemical Assessment Report on the SADIM PropertyFor Richard Billingsley.December 31, 2019

APPENDIX B TABLE 2 - ANALYTICAL RESULTS SUMMARY

SOIL AR DIG.			AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43
SAMPLE			AdiviL-11243	Adivit-1143	Aume-reas As	Aume-re43	B	Ba	Be
DESCRIPTION			се ppm	%	ppm	ppm	ppm	ppm	ppm
S-191010-01S			0.11	2.01	6.5	0.002	10	160	0.46
S-191010-013			0.19	1.41	3.3	0.002	10	130	0.40
S-191010-023			0.19	2.2	3.5	0.004	10	130	0.28
S-191010-033			0.2	1.24	2.3	0.002	10	130	0.28
S-191010-043			0.17	2.13	2.3 4.5	0.001	<10	90	0.28
S-191010-055			0.14	1.8	4.5 3.4	0.003	10	90 130	0.44
S-191010-003			0.14	1.8	5.4 6.1	0.003	10	130	0.30
S-191010-073			0.03	1.31	3.1	0.001	10	140	0.4
S-191011-013			0.03	1.89	6	0.002	10	140	0.37
S-191011-025							10		
			0.08	1.76	7.6	0.003		170	0.45
S-191011-04S			0.18	1.79	10.9	0.003	10	100	0.4
SOIL ION LCH			ME-MS23		ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE			Ag		As	Au		Ва	Ве
DESCRIPTION			ppb		ppb	ppb		ppb	ppb
S-191010-01E			6.7		4.4	0.08		1670	3
S-191010-02E			4.1		9.7	0.08		1680	1.2
S-191010-03E			32.3		2.6	0.29		1500	<0.2
S-191010-04E			9.9		5.9	0.03		920	0.7
S-191010-05E			2.5		8.2	0.06		860	2.8
S-191010-06E			1.9		13.4	0.02		3540	4.5
S-191010-07E			15.4		7.7	0.1		2000	1.3
S-191011-01E			7.3		8.5	0.07		1090	0.8
S-191011-02E			10.1		13.8	0.05		2540	6
S-191011-03E			14.7		5.8	0.24		4150	1.1
S-191011-04E			3.1		25.2	0.04		2350	3.8
BARK ASH	VEG-ASH01	VEG-ASH01	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a

BARK ASH	VEG-ASH01	VEG-ASH01	ME-VEG41a						
SAMPLE	WT. SAMP USED	WT. ASH	Ag	AI	As	Au	В	Ва	Ве
DESCRIPTION	g	g	ppm	%	ppm	ppm	ppm	ppm	ppm
S-191010-01BA	50.2	0.39	0.256	1.56	17.1	0.0033	372	945	0.05
S-191010-02BA	49.3	0.26	0.441	1.73	21.4	0.0082	511	336	0.04
S-191010-03BA	48.4	0.46	0.313	1.87	105	0.003	481	1765	0.03
S-191010-04BA	48.5	0.58	0.331	0.56	10.25	0.0026	246	237	0.04
S-191010-05BA	49.1	0.23	0.344	2.4	18.55	0.0073	421	406	0.1
S-191010-06BA	50	0.33	0.426	1.43	29.8	0.0047	448	919	0.07
S-191010-07BA	50.2	0.43	0.252	1.72	33.3	0.0037	354	310	0.08
S-191011-01BA	49.3	0.69	0.093	0.56	8.4	0.0017	239	355	0.02
S-191011-02BA	50	0.34	0.257	2.14	22.9	0.0054	374	514	0.05
S-191011-03BA	50.8	0.54	0.128	0.65	50.5	0.003	405	180.5	0.06
S-191011-04BA	50.1	0.24	0.446	3.09	42.1	0.0045	619	295	0.06
S-191011-05BA	51.6	0.47	0.163	1.1	12.55	0.0052	357	234	0.03
BARK ION LCH			ME-MS23		ME-MS23	ME-MS23		ME-MS23	ME-MS23

BARK ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Ag	As	Au	Ва	Be
DESCRIPTION	ppb	ppb	ppb	ppb	ppb
S-191010-01BE	0.1	22.8	0.02	1160	<0.2
S-191010-02BE	0.2	12.9	<0.02	2440	0.2
S-191010-03BE	<0.1	31.3	0.05	1160	0.3
S-191010-04BE	0.2	108.5	<0.02	3060	0.2
S-191010-05BE	0.2	23.6	<0.02	1770	0.3
S-191010-06BE	0.2	14.7	<0.02	3640	0.2
S-191010-07BE	<0.1	26.1	<0.02	1690	<0.2
S-191011-01BE	0.3	27.9	0.02	5830	0.2
S-191011-02BE	0.1	50.8	<0.02	6080	0.4
S-191011-03BE	0.3	79.5	0.04	2730	0.5
S-191011-04BE	0.1	25.9	0.04	1430	0.2
S-191011-05BE	0.1	16.5	0.06	1600	0.6

			A	ANAE TI 42	ANAE TI 42			ANAE TI 42	
SOIL AR DIG. SAMPLE	AuME-TL43 Bi		AuME-TL43 Ca	AuME-TL43 Cd	AuME-TL43 Ce	AuME-TL43 Co	AuME-TL43 Cr	AuME-TL43 Cs	AuME-TL43 Cu
			%						
DESCRIPTION	ppm			ppm	ppm 14	ppm	ppm	ppm	ppm
S-191010-01S	0.08		0.42	0.27		11.1	20	0.89	37.8
S-191010-02S	0.06		0.42	0.54	9.07	8.2	18	0.5	24.6
S-191010-03S	0.11		0.67	0.5	19.85	9	15	0.7	45.4
S-191010-04S	0.07		0.42	0.43	10.05	7.5	10	0.65	22.2
S-191010-05S	0.09		0.3	0.13	6.73	8	12	1.07	22.7
S-191010-06S	0.08		0.35	0.17	9.09	10.1	17	0.88	30.3
S-191010-07S	0.08		0.36	0.13	9.07	12.5	13	1	32.8
S-191011-01S	0.08		0.35	0.08	9.4	7.5	6	0.48	20.4
S-191011-02S	0.1		0.21	0.07	9.71	8.2	7	0.99	31.7
S-191011-03S	0.1		0.31	0.09	9.67	9.6	10	0.88	43.2
S-191011-04S	0.1		0.18	0.13	8.2	9.1	11	1.28	33.3
SOIL ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Bi	Br	Ca	Cd	Ce	Со	Cr	Cs	Cu
DESCRIPTION	ppb	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb
S-191010-01E	<0.3	0.07	252	39	92.5	16.2	5	2.3	884
S-191010-02E	<0.3	0.09	352	138.5	68.5	34.9	10	1.4	435
S-191010-03E	<0.3	0.08	524	28.2	18.8	35.5	1	1.2	1590
S-191010-04E	<0.3	0.1	312	62.3	32.2	11.8	2	1.6	270
S-191010-05E	<0.3	0.1	126	19	32.4	18.8	5	3	277
S-191010-06E	0.5	0.13	218	32.3	77.3	78.2	26	3.5	613
S-191010-07E	<0.3	0.05	303	10.7	65.9	47.9	6	2.4	431
S-191011-01E	<0.3	0.08	306	11.9	45.7	8.1	2	1.7	333
S-191011-02E	<0.3	0.05	81.9	7.2	197.5	21.5	7	6.6	415
S-191011-03E	<0.3	0.05	300	7.6	86.1	14.6	3	3.6	610
S-191011-03E	0.3	0.11	37.4	22.9	95.9	72.3	15	11.1	759
5-151011-046	0.5	0.11	57.4	22.5	55.5	72.5	15	11.1	755
BARK ASH	ME-VEG41a		ME-VEG41a						
SAMPLE	Bi		Ca	Cd	Ce	Со	Cr	Cs	Cu
DESCRIPTION	ppm		%	ppm	ppm	ppm	ppm	ppm	ppm
S-191010-01BA	0.054		28.2	2.4	1.695	2.8	4.39	0.807	709
S-191010-02BA	0.105		26.7	46.2	0.992	2.79	6.77	0.372	681
S-191010-03BA	0.025		32.6	23	0.61	3.14	3.11	0.165	377
S-191010-04BA	0.053		32.3	8.9	1.25	2.1	4.69	0.277	381
S-191010-05BA	0.231		28.4	35.8	3.2	7.41	6.15	0.552	584
S-191010-06BA	0.096		26	9.04	2.7	4.45	9.91	0.896	807
S-191010-07BA	0.11		26.9	4.16	2.33	3.22	4.96	1.42	733
S-191011-01BA	0.027		33	2.61	0.44	1.34	0.84	0.25	263
S-191011-02BA	0.066		27.3	2.98	1.225	2	2.48	0.581	514
S-191011-03BA	0.075		31.5	9.51	1.515	3.5	2.83	0.413	437
S-191011-04BA	0.067		23.4	3.19	1.605	4.77	4.44	0.413	1180
S-191011-05BA	0.051		32.3	1.875	1.04	1.135	3.64	0.609	474
BARK ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Bi	Br	Ca	Cd	Ce	Со	Cr	Cs	Cu
DESCRIPTION	ppb	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb
S-191010-01BE	<0.3	<0.05	479	52.4	6.6	34.3	10	0.5	2970
S-191010-02BE	<0.3	0.15	332	204	6.7	1035	110	0.4	2010
S-191010-03BE	0.3	<0.05	521	149.5	3.9	56.9	12	0.4	1770
S-191010-04BE	0.5	0.21	408	99.5	12.4	46.2	17	0.6	2430
S-191010-05BE	1	0.34	470	186	15.4	76.5	21	1.5	2490
S-191010-06BE	<0.3	0.14	370	83.3	8.1	42.6	14	1.1	3000
S-191010-07BE	<0.3	0.17	336	32.9	6.2	20	13	4.8	3450
S-191011-01BE	0.6	<0.05	631	63.3	9.6	25.3	10	0.4	2290
S-191011-02BE	0.7	0.23	366	27.8	14.3	25.1	11	1.1	2670
S-191011-03BE	0.5	0.4	530	85.2	12.1	25.6	6	0.6	2790
S-191011-04BE	0.3	0.17	460	20.4	8.5	32.6	10	0.8	3430
S-191011-05BE	1.9	0.15	444	16.8	28.2	187	153	2.7	9190

SOIL AR DIG.				AuME-TL43	AuME-TL43		AuME-TL43	AuME-TL43	AuME-TL43
SAMPLE				Fe	Ga		Ge	Hf	Hg
DESCRIPTION				%	ppm		ppm	ppm	ppm
S-191010-01S				2.62	6.3		<0.05	0.08	0.03
S-191010-02S				2.23	4.78		<0.05	0.03	0.03
S-191010-03S				2.34	6.45		<0.05	0.25	0.04
S-191010-04S				1.82	4.56		<0.05	0.02	0.03
S-191010-05S				2.4	7.14		<0.05	0.11	0.05
S-191010-06S				2.59	6.3		<0.05	0.04	0.03
S-191010-07S				2.91	5.57		<0.05	0.02	0.03
S-191011-01S				2.2	5.09		<0.05	0.04	0.02
S-191011-02S				2.31	6.74		<0.05	0.09	0.03
S-191011-03S				2.68	6.17		<0.05	0.04	0.02
S-191011-04S				2.37	6.23		<0.05	0.12	0.05
SOIL ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SOIL ION LCH SAMPLE	ME-MS23 Dy	ME-MS23 Er	ME-MS23 Eu	ME-MS23 Fe	ME-MS23 Ga	ME-MS23 Gd	ME-MS23 Ge	ME-MS23 Hf	ME-MS23 Hg
SAMPLE	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Hg
SAMPLE DESCRIPTION	Dy ppb	Er ppb	Eu ppb	Fe ppm	Ga ppb	Gd ppb	Ge ppb	Hf ppb	Hg ppb
SAMPLE DESCRIPTION S-191010-01E	Dy ppb 51	Er ppb 28.4	Eu ppb 7.8	Fe ppm 67.9	Ga ppb 6.2	Gd ppb 41.8	Ge ppb 0.6	Hf ppb 1.43	Hg ppb 0.4
SAMPLE DESCRIPTION S-191010-01E S-191010-02E	Dy ppb 51 15.1	Er ppb 28.4 7.8	Eu ppb 7.8 2.7	Fe ppm 67.9 47.6	Ga ppb 6.2 3.9	Gd ppb 41.8 13.5	Ge ppb 0.6 0.3	Hf ppb 1.43 1.46	Hg ppb 0.4 0.4
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E	Dy ppb 51 15.1 5.7	Er ppb 28.4 7.8 2.6	Eu ppb 7.8 2.7 1.5	Fe ppm 67.9 47.6 10.8	Ga ppb 6.2 3.9 0.6	Gd ppb 41.8 13.5 8.2	Ge ppb 0.6 0.3 0.1	Hf ppb 1.43 1.46 0.64	Hg ppb 0.4 0.4 0.2
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E	Dy ppb 51 15.1 5.7 10.6	Er ppb 28.4 7.8 2.6 5.2	Eu ppb 7.8 2.7 1.5 2.1	Fe ppm 67.9 47.6 10.8 31.6	Ga ppb 6.2 3.9 0.6 2.1	Gd ppb 41.8 13.5 8.2 10.2	Ge ppb 0.6 0.3 0.1 0.2	Hf ppb 1.43 1.46 0.64 0.87	Hg ppb 0.4 0.4 0.2 0.4
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E	Dy ppb 51 15.1 5.7 10.6 8.2	Er ppb 28.4 7.8 2.6 5.2 4.4	Eu ppb 7.8 2.7 1.5 2.1 1.3	Fe ppm 67.9 47.6 10.8 31.6 48.6	Ga ppb 6.2 3.9 0.6 2.1 11.2	Gd ppb 41.8 13.5 8.2 10.2 7.1	Ge ppb 0.6 0.3 0.1 0.2 0.2	Hf ppb 1.43 1.46 0.64 0.87 1.31	Hg ppb 0.4 0.4 0.2 0.4 0.8
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E S-191010-06E	Dy ppb 51 15.1 5.7 10.6 8.2 26.5	Er ppb 28.4 7.8 2.6 5.2 4.4 16.4	Eu ppb 7.8 2.7 1.5 2.1 1.3 3	Fe ppm 67.9 47.6 10.8 31.6 48.6 138	Ga ppb 6.2 3.9 0.6 2.1 11.2 13.3	Gd ppb 41.8 13.5 8.2 10.2 7.1 16	Ge ppb 0.6 0.3 0.1 0.2 0.2 0.7	Hf ppb 1.43 1.46 0.64 0.87 1.31 3.7	Hg ppb 0.4 0.4 0.2 0.4 0.8 0.8
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E S-191010-06E S-191010-07E	Dy ppb 51 15.1 5.7 10.6 8.2 26.5 12.8	Er ppb 28.4 7.8 2.6 5.2 4.4 16.4 5.6	Eu ppb 7.8 2.7 1.5 2.1 1.3 3 3	Fe ppm 67.9 47.6 10.8 31.6 48.6 138 44.2	Ga ppb 6.2 3.9 0.6 2.1 11.2 13.3 2.4	Gd ppb 41.8 13.5 8.2 10.2 7.1 16 13.1	Ge ppb 0.6 0.3 0.1 0.2 0.2 0.7 0.2	Hf ppb 1.43 1.46 0.64 0.87 1.31 3.7 1.06	Hg ppb 0.4 0.2 0.4 0.8 0.8 0.6
SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-05E S-191010-05E S-191010-07E S-191011-01E	Dy ppb 51 15.1 5.7 10.6 8.2 26.5 12.8 10.2	Er ppb 28.4 7.8 2.6 5.2 4.4 16.4 5.6 4.9	Eu ppb 7.8 2.7 1.5 2.1 1.3 3 3 2.1	Fe ppm 67.9 47.6 10.8 31.6 48.6 138 44.2 28.5	Ga ppb 6.2 3.9 0.6 2.1 11.2 13.3 2.4 2.1	Gd ppb 41.8 13.5 8.2 10.2 7.1 16 13.1 10.8	Ge ppb 0.6 0.3 0.1 0.2 0.2 0.7 0.2 0.2	Hf ppb 1.43 1.46 0.64 0.87 1.31 3.7 1.06 1.35	Hg ppb 0.4 0.4 0.2 0.4 0.8 0.8 0.8 0.6 0.7

BARK ASH				ME-VEG41a	ME-VEG41a		ME-VEG41a	ME-VEG41a	ME-VEG41a
SAMPLE				Fe	Ga		Ge	Hf	Hg
DESCRIPTION				ppm	ppm		ppm	ppm	ppm
S-191010-01BA				3000	0.674		0.021	0.039	0.002
S-191010-02BA				2300	0.426		0.014	0.022	0.002
S-191010-03BA				900	0.264		0.011	0.015	0.004
S-191010-04BA				2200	0.471		0.014	0.029	0.001
S-191010-05BA				4800	1.18		0.024	0.068	0.007
S-191010-06BA				6400	1.145		0.028	0.062	0.001
S-191010-07BA				4100	0.807		0.022	0.053	0.001
S-191011-01BA				657	0.151		0.008	0.009	<0.001
S-191011-02BA				1900	0.565		0.012	0.029	0.001
S-191011-03BA				2600	0.612		0.012	0.046	<0.001
S-191011-04BA				2800	0.562		0.017	0.03	0.005
S-191011-05BA				2000	0.504		0.019	0.033	0.002
BARK ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Hg
DESCRIPTION	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
S-191010-01BE	0.6	0.3	0.2	0.6	1	0.8	0.1	<0.05	0.9
S-191010-02BE	0.9	0.4	0.2	0.9	1.1	0.5	0.6	<0.05	<0.1
S-191010-03BE	0.4	0.2	0.1	1.1	1.7	0.5	0.3	<0.05	<0.1
S-191010-04BE	1.1	0.5	0.3	3.7	2.1	1.4	0.1	0.06	1.1
S-191010-05BE	1.3	0.6	0.4	3.1	1.7	1.8	0.2	<0.05	0.5
S-191010-06BE	0.7	0.4	0.2	1.7	1.6	1.3	<0.1	0.08	0.5
S-191010-07BE	0.6	0.4	0.2	1.7	1	1	0.7	<0.05	0.5
S-191011-01BE	0.6	0.5	0.2	1.3	2	0.8	0.3	<0.05	0.2
S-191011-02BE	1.9	0.8	0.5	3.4	2.3	1.9	0.2	0.14	0.2
S-191011-03BE	1.2	0.6	0.3	2.2	2.1	1.8	0.2	<0.05	1.3
S-191011-04BE	0.7	0.3	0.3	2.6	1.3	0.9	0.2	< 0.05	<0.1
S-191011-05BE	2.3	0.9	0.8	10.7	2	2.8	0.2	< 0.05	0.8

SAMPLE         In         K         La         Li         Mg         Mn           DESCRIPTION         ppm         %         ppm         ppm         %         ppm           S-191010-01S         0.022         0.06         5.5         11.1         0.47         872           S-191010-02S         0.016         0.09         3.7         8.5         0.39         820           S-191010-03S         0.025         0.04         7.9         11.4         0.37         818           S-191010-04S         0.015         0.08         3.9         8.5         0.22         583           S-191010-05S         0.02         0.03         3         9         0.21         548           S-191010-05S         0.022         0.07         3.7         11.6         0.45         648           S-19101-01S         0.018         0.06         3.5         9.6         0.44         603           S-191011-02S         0.023         0.05         3.7         12.3         0.31         692           S-191011-02S         0.023         0.05         3.4         12         0.36         597           SOLION LCH         ME-MS23         ME-MS23         ME-MS				AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43		AuME-TL43	AuME-TL43
S-191010-01S       0.022       0.06       5.5       11.1       0.47       872         S-191010-02S       0.016       0.09       3.7       8.5       0.39       820         S-191010-03S       0.025       0.04       7.9       11.4       0.37       818         S-191010-04S       0.015       0.08       3.9       8.5       0.22       583         S-191010-05S       0.02       0.03       3       9       0.21       548         S-191010-05S       0.02       0.07       3.7       11.6       0.45       648         S-191010-07S       0.025       0.05       3.7       10.3       0.28       430         S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOILION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         S-191010-02E	SAMPLE			In	К	La	Li		Mg	Mn
S-191010-02S       0.016       0.09       3.7       8.5       0.39       820         S-191010-03S       0.025       0.04       7.9       11.4       0.37       818         S-191010-04S       0.015       0.08       3.9       8.5       0.22       583         S-191010-05S       0.022       0.07       3.7       11.6       0.45       648         S-19101-05S       0.025       0.05       3.7       10.3       0.28       430         S-19101-01S       0.018       0.06       3.5       9.6       0.44       603         S-19101-02S       0.023       0.05       3.7       12.3       0.31       692         S-19101-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOILION LCH       ME-MS23       <	DESCRIPTION			ppm	%	ppm	ppm		%	ppm
S-191010-03S       0.025       0.04       7.9       11.4       0.37       818         S-191010-04S       0.015       0.08       3.9       8.5       0.22       583         S-191010-05S       0.02       0.03       3       9       0.21       548         S-191010-06S       0.022       0.07       3.7       11.6       0.45       648         S-191010-07S       0.025       0.05       3.7       10.3       0.28       430         S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.024       0.07       3.9       12.6       0.66       537         S-191011-04S       ME-MS23	S-191010-01S			0.022	0.06	5.5	11.1		0.47	872
S-191010-04S       0.015       0.08       3.9       8.5       0.22       583         S-191010-05S       0.02       0.03       3       9       0.21       548         S-191010-06S       0.022       0.07       3.7       11.6       0.45       648         S-191010-07S       0.025       0.05       3.7       10.3       0.28       430         S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         S       0.024       0.07       3.9       12.6       0.36       597         S       0.024       0.07       3.9       12.6       0.36       597         S       0.024       0.07       3.9       12.6       0.36       597         S       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         S       Pppm <t< td=""><td>S-191010-02S</td><td></td><td></td><td>0.016</td><td>0.09</td><td>3.7</td><td>8.5</td><td></td><td>0.39</td><td>820</td></t<>	S-191010-02S			0.016	0.09	3.7	8.5		0.39	820
S-191010-05S       0.02       0.03       3       9       0.21       548         S-191010-06S       0.022       0.07       3.7       11.6       0.45       648         S-191010-07S       0.025       0.05       3.7       10.3       0.28       430         S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SAMPLE       Ho       I       In       La       Li       Lu       Mg       Mn         DESCRIPTION       ppb       ppm       ppb       ppb       ppm       ppm       24       36.9       4.92         S-191010-01E       9.7       0.02       0.1       38.1       1.8       2.4       36.9       4.92         S-191010-02E       2.8       0.	S-191010-03S			0.025	0.04	7.9	11.4		0.37	818
S-191010-06S       0.022       0.07       3.7       11.6       0.45       648         S-191010-07S       0.025       0.05       3.7       10.3       0.28       430         S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         S       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SAMPLE       Ho       I       In       La       Li       Lu       Mg       Mn         DESCRIPTION       ppb       ppm       ppm       ppb       ppb       ppm       ppm       51       23	S-191010-04S			0.015	0.08	3.9	8.5		0.22	583
S-191010-075       0.025       0.05       3.7       10.3       0.28       430         S-191011-015       0.018       0.06       3.5       9.6       0.44       603         S-191011-025       0.023       0.05       3.7       12.3       0.31       692         S-191011-035       0.024       0.07       3.9       12.6       0.36       537         S-191011-045       0.023       0.05       3.4       12       0.36       597         S       S       0.023       0.05       3.4       12       0.36       597         S       NE-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SAMPLE       Ho       I       In       La       Li       Lu       Mg       Mn         DESCRIPTION       ppb       ppm       ppb       ppb       ppm       ppm       9.7       2.3       3.1       0.7       51       23         S-191010-02E       2.8       0.02       <0.1	S-191010-05S			0.02	0.03	3	9		0.21	548
S-191011-01S       0.018       0.06       3.5       9.6       0.44       603         S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       0.05       3.4       12       0.36       597         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SOIL ION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SOIL ION LCH       Ho       I       In       In       La       Li       Lu       Mg	S-191010-06S			0.022	0.07	3.7	11.6		0.45	648
S-191011-02S       0.023       0.05       3.7       12.3       0.31       692         S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       537         SOLION LCH       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23       ME-MS23         SAMPLE       Ho       I       In       La       Li       Lu       Mg       Mn         DESCRIPTION       ppb       ppm       ppb       ppb       ppb       ppm       ppm         S-191010-01E       9.7       0.02       0.1       38.1       1.8       2.4       36.9       4.92         S-191010-02E       2.8       0.02       <0.1	S-191010-07S			0.025	0.05	3.7	10.3		0.28	430
S-191011-03S       0.024       0.07       3.9       12.6       0.36       537         S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOIL ION LCH       ME-MS23       M	S-191011-01S			0.018	0.06	3.5	9.6		0.44	603
S-191011-04S       0.023       0.05       3.4       12       0.36       597         SOIL ION LCH       ME-MS23       ME-MS2	S-191011-02S			0.023	0.05	3.7	12.3		0.31	692
SOIL ION LCH         ME-MS23         ME         ME         ME         MS23	S-191011-03S			0.024	0.07	3.9	12.6		0.36	537
SAMPLEHoIInLaLiLuMgMnDESCRIPTIONppbppmppmppbppbppbppmppmS-191010-01E9.70.020.138.11.82.436.94.92S-191010-02E2.80.02<0.1	S-191011-04S			0.023	0.05	3.4	12		0.36	597
SAMPLEHoIInLaLiLuMgMnDESCRIPTIONppbppmppmppbppbppbppmppmS-191010-01E9.70.020.138.11.82.436.94.92S-191010-02E2.80.02<0.1										
DESCRIPTION         ppb         ppm         ppb         ppb <th< td=""><td></td><td>N 45 N 4600</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		N 45 N 4600								
S-191010-01E9.70.020.138.11.82.436.94.92S-191010-02E2.80.02<0.1	SOIL ION LCH	IVIE-IVIS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
S-191010-02E2.80.02<0.120.53.10.75123S-191010-03E10.02<0.1										
S-191010-03E10.02<0.110.2<0.20.237.96.1S-191010-04E1.90.02<0.1	SAMPLE	Но	I	In		La	Li	Lu	Mg	Mn
S-191010-04E1.90.02<0.112.41.10.425.26.14S-191010-05E1.50.020.111.22.60.314.86.02S-191010-06E5.50.040.221.28.51.747.116.45S-191010-07E2.20.020.118.10.80.428.67.12S-191011-01E1.80.02<0.1	SAMPLE DESCRIPTION	Ho ppb	l ppm	ln ppb		La ppb	Li ppb	Lu ppb	Mg ppm	Mn ppm
S-191010-05E1.50.020.111.22.60.314.86.02S-191010-06E5.50.040.221.28.51.747.116.45S-191010-07E2.20.020.118.10.80.428.67.12S-191011-01E1.80.02<0.1	SAMPLE DESCRIPTION S-191010-01E	Ho ppb 9.7	l ppm 0.02	In ppb 0.1		La ppb 38.1	Li ppb 1.8	Lu ppb 2.4	Mg ppm 36.9	Mn ppm 4.92
S-191010-06E         5.5         0.04         0.2         21.2         8.5         1.7         47.1         16.45           S-191010-07E         2.2         0.02         0.1         18.1         0.8         0.4         28.6         7.12           S-191011-01E         1.8         0.02         <0.1         15         1.1         0.4         26.9         5.19	SAMPLE DESCRIPTION S-191010-01E S-191010-02E	Ho ppb 9.7 2.8	l ppm 0.02 0.02	In ppb 0.1 <0.1		La ppb 38.1 20.5	Li ppb 1.8 3.1	Lu ppb 2.4 0.7	Mg ppm 36.9 51	Mn ppm 4.92 23
S-191010-07E         2.2         0.02         0.1         18.1         0.8         0.4         28.6         7.12           S-191011-01E         1.8         0.02         <0.1	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E	Ho ppb 9.7 2.8 1	l ppm 0.02 0.02 0.02	In ppb 0.1 <0.1 <0.1		La ppb 38.1 20.5 10.2	Li ppb 1.8 3.1 <0.2	Lu ppb 2.4 0.7 0.2	Mg ppm 36.9 51 37.9	Mn ppm 4.92 23 6.1
S-191011-01E 1.8 0.02 <0.1 15 1.1 0.4 26.9 5.19	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E	Ho ppb 9.7 2.8 1 1.9	I ppm 0.02 0.02 0.02 0.02	In ppb 0.1 <0.1 <0.1 <0.1		La ppb 38.1 20.5 10.2 12.4	Li ppb 1.8 3.1 <0.2 1.1	Lu ppb 2.4 0.7 0.2 0.4	Mg ppm 36.9 51 37.9 25.2	Mn ppm 4.92 23 6.1 6.14
	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E	Ho ppb 9.7 2.8 1 1.9 1.5	l ppm 0.02 0.02 0.02 0.02 0.02	In ppb 0.1 <0.1 <0.1 <0.1 0.1		La ppb 38.1 20.5 10.2 12.4 11.2	Li ppb 1.8 3.1 <0.2 1.1 2.6	Lu ppb 2.4 0.7 0.2 0.4 0.3	Mg ppm 36.9 51 37.9 25.2 14.8	Mn ppm 4.92 23 6.1 6.14 6.02
S-191011-02E 5.4 0.03 0.2 50 5.2 1.5 9.55 8.24	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E S-191010-06E	Ho ppb 9.7 2.8 1 1.9 1.5 5.5	l ppm 0.02 0.02 0.02 0.02 0.02 0.02 0.04	In ppb 0.1 <0.1 <0.1 <0.1 0.1 0.2		La ppb 38.1 20.5 10.2 12.4 11.2 21.2	Li ppb 1.8 3.1 <0.2 1.1 2.6 8.5	Lu ppb 2.4 0.7 0.2 0.4 0.3 1.7	Mg ppm 36.9 51 37.9 25.2 14.8 47.1	Mn ppm 4.92 23 6.1 6.14 6.02 16.45
	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E S-191010-07E	Ho ppb 9.7 2.8 1 1.9 1.5 5.5 2.2	I ppm 0.02 0.02 0.02 0.02 0.02 0.02 0.04 0.02	In ppb 0.1 <0.1 <0.1 <0.1 0.1 0.2 0.1		La ppb 38.1 20.5 10.2 12.4 11.2 21.2 18.1	Li ppb 1.8 3.1 <0.2 1.1 2.6 8.5 0.8 1.1	Lu ppb 2.4 0.7 0.2 0.4 0.3 1.7 0.4	Mg ppm 36.9 51 37.9 25.2 14.8 47.1 28.6	Mn ppm 4.92 23 6.1 6.14 6.02 16.45 7.12
S-191011-03E 3.1 0.03 0.1 26.4 0.6 0.6 28.9 3.22	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-04E S-191010-05E S-191010-07E	Ho ppb 9.7 2.8 1 1.9 1.5 5.5 2.2	I ppm 0.02 0.02 0.02 0.02 0.02 0.02 0.04 0.02	In ppb 0.1 <0.1 <0.1 <0.1 0.1 0.2 0.1		La ppb 38.1 20.5 10.2 12.4 11.2 21.2 18.1	Li ppb 1.8 3.1 <0.2 1.1 2.6 8.5 0.8	Lu ppb 2.4 0.7 0.2 0.4 0.3 1.7 0.4	Mg ppm 36.9 51 37.9 25.2 14.8 47.1 28.6	Mn ppm 4.92 23 6.1 6.14 6.02 16.45 7.12
S-191011-04E 6.2 0.04 0.3 23.7 12.9 1.6 11 8.5	SAMPLE DESCRIPTION S-191010-01E S-191010-02E S-191010-03E S-191010-05E S-191010-05E S-191010-07E S-191011-01E S-191011-02E	Ho ppb 9.7 2.8 1 1.9 1.5 5.5 2.2 1.8 5.4	I ppm 0.02 0.02 0.02 0.02 0.02 0.02 0.04 0.02 0.02	In ppb 0.1 <0.1 <0.1 <0.1 0.1 0.2 0.1 <0.1 0.2		La ppb 38.1 20.5 10.2 12.4 11.2 21.2 18.1 15 50	Li ppb 1.8 3.1 <0.2 1.1 2.6 8.5 0.8 1.1 5.2	Lu ppb 2.4 0.7 0.2 0.4 0.3 1.7 0.4 0.4 1.5	Mg ppm 36.9 51 37.9 25.2 14.8 47.1 28.6 26.9 9.55	Mn ppm 4.92 23 6.1 6.14 6.02 16.45 7.12 5.19 8.24

BARK ASH			ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a		ME-VEG41a	ME-VEG41a
SAMPLE			In	к	La	Li		Mg	Mn
DESCRIPTION			ppm	%	ppm	ppm		%	ppm
S-191010-01BA			0.018	8.34	0.934	1.2		0.88	2710
S-191010-02BA			0.005	>10.0	0.544	0.7		1.05	5860
S-191010-03BA			<0.005	6.44	0.438	0.5		0.94	4840
S-191010-04BA			0.005	3.58	0.733	1		0.67	4220
S-191010-05BA			0.02	4	1.745	1.5		1.31	3990
S-191010-06BA			0.012	6.95	1.465	2.3		0.8	3740
S-191010-07BA			0.02	7.7	1.34	1.8		0.81	2500
S-191011-01BA			<0.005	3.01	0.31	0.3		0.43	4030
S-191011-02BA			0.01	7.25	0.814	1		0.69	5150
S-191011-03BA			0.011	4.65	0.946	1.3		1.14	4920
S-191011-04BA			0.01	>10.0	0.864	0.8		0.97	2230
S-191011-05BA			0.01	3.58	0.554	1		1.22	1690
BARK ION LCH	ME-MS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Но	I	In		La	Li	Lu	Mg	Mn
DESCRIPTION	ppb	ppm	ppb		ppb	ppb	ppb	ppm	ppm
S-191010-01BE	0.1	0.01	<0.1		3.3	1.1	<0.1	122.5	23.8
S-191010-02BE	0.1	0.01	<0.1		3.4	1.6	0.1	77.3	29.3
S-191010-03BE	<0.1	0.01	<0.1		3.7	1.6	<0.1	92.1	54.2
S-191010-04BE	0.2	0.05	<0.1		6.9	4.1	<0.1	86.7	49.9
S-191010-05BE	0.2	0.03	0.1		7.6	2.7	<0.1	85.5	34
S-191010-06BE	0.3	0.01	<0.1		4.5	2.1	0.1	54.6	33.6
S-191010-07BE	0.1	0.02	<0.1		3	1.6	<0.1	55.4	16.75
S-191011-01BE	0.2	0.02	<0.1		5.5	2.5	<0.1	73.2	57.2
S-191011-02BE	0.3	0.03	<0.1		8.2	3.3	0.1	52.4	37.5
S-191011-03BE	0.2	0.06	0.1		6.7	6.5	<0.1	103.5	47.4
S-191011-04BE	0.2	0.02	0.1		4.9	1	0.1	55.8	16.4
S-191011-05BE	0.3	0.01	0.1		13.8	1.5	0.2	77.9	17.7

SOIL AR DIG. SAMPLE	AuME-TL43 Mo	AuME-TL43 Na	AuME-TL43 Nb		AuME-TL43 Ni	AuME-TL43 P	AuME-TL43 Pb	AuME-TL43	AUIVIE-1143
DESCRIPTION		Na %	ppm						
S-191010-01S	ppm 0.79	0.04	0.81		ppm 13	ppm 1440	ppm 6.4		
S-191010-013	0.79	0.04	0.81		9.9	700	0.4 8.5		
S-191010-023	0.89	0.02	1.03		9.9 10.3	310	8.5 11.8		
		0.02	0.53		7.7	800	4.4		
S-191010-04S	1.12 0.63	0.02			8.2	800 1170	4.4 6.5		
S-191010-05S	0.63	0.02	1.31 0.59		8.2 11.1	1170	6.5 5.8		
S-191010-06S S-191010-07S	1.24	0.01	0.59		11.1	350	5.8 5.6		
		0.01	0.72		4.2				
S-191011-01S	0.39	0.01	0.41		4.2 5.7	800	4.1 4.2		
S-191011-02S	0.55				5.7	1140			
S-191011-03S	0.77	0.01	0.37			640	4		
S-191011-04S	0.9	0.01	0.6		7.9	1150	5		
SOIL ION LCH	ME-MS23		ME-MS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23
SAMPLE	Мо		Nb	Nd	Ni		Pb	Pd	Pr
DESCRIPTION	ppb		ppb	ppb	ppb		ppb	ppb	ppb
S-191010-01E	1.2		0.8	90.3	82		142.5	<0.05	17.3
S-191010-02E	7.8		1.1	33.5	105		216	<0.05	7.3
S-191010-03E	8.2		0.3	19.2	20		9.8	0.1	3.6
S-191010-04E	17.9		0.8	21.1	55		71.6	<0.05	4.6
S-191010-05E	2		1.3	19.7	53		162	0.13	4.4
S-191010-06E	1.7		2.7	35.3	99		258	<0.05	8
S-191010-07E	5.9		0.6	29.8	121		84.3	0.14	6.2
S-191011-01E	7.5		1.2	25.2	33		36.2	0.36	5.5
S-191011-02E	2.3		2.8	80.2	40		117.5	0.1	18.1
S-191011-03E	5		0.5	39.3	32		41.5	<0.05	8.5
S-191011-04E	2.8		2.4	46.9	75		175	<0.05	9.9
BARK ASH	ME-VEG41a	ME-VEG41a	ME-VEG41a		ME-VEG41a	ME-VEG41a		ME-VEG41a	
SAMPLE	Mo	Na	Nb		Ni	Р	Pb	Pd	
DESCRIPTION	ppm	%	ppm		ppm	%	ppm	ppm	
S-191010-01BA	2.65	0.069	0.103		3.35	3.16	16.6	0.005	
S-191010-02BA	7.61	0.045	0.082		3.42	2.41	10.65	<0.001	
S-191010-03BA	1.08	0.129	0.04		2.11	1.55	6.2	<0.001	
S-191010-04BA	2.2	0.063	0.081		2.56	1.15	12.5	0.003	
S-191010-05BA	2.46	0.148	0.159		6.23	2.16	35.7	<0.001	
S-191010-06BA	2.48	0.095	0.175		4.5	1.995	13.15	0.005	
S-191010-07BA	2.43	0.132	0.155		4.79	3.19	16.3	0.006	
S-191011-01BA	1.09	0.028	0.025		0.86	0.706	4.32	0.006	
S-191011-02BA	1.55	0.072	0.075		1.87	2.16	16.3	0.004	
S-191011-03BA	1.41	0.142	0.101		2.88	1.225	10.75	0.003	
S-191011-04BA	11.6	0.092	0.095		3.89	3.39	19.4	<0.001	
S-191011-05BA	1.73	0.045	0.092		1.87	1.525	41.4	0.004	
BARK ION LCH	ME-MS23		ME-MS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23
SAMPLE	Mo		Nb	Nd	Ni		Pb	Pd	Pr
DESCRIPTION	ppb		ppb	ppb	ppb		ppb	ppb	ppb
S-191010-01BE	<0.5		0.2	4	18		113	0.06	0.9
S-191010-01BE	<0.9		0.2	3.2	129		105	0.00	0.7
S-191010-02BE S-191010-03BE	0.9		0.2	3.2 2.5	129		53	0.07	0.7
S-191010-03BE	0.6 <0.5		0.1	2.5 6.9	14 23		53 186	0.1	0.6
S-191010-04BE	<0.5 <0.5		<0.2 <0.1	0.9 7.3	23 50		222	0.08	1.4
S-191010-05BE S-191010-06BE	<0.5 0.9		<0.1 0.1	7.3 4.5	50 14		51.1	0.05 <0.05	
									1.1
S-191010-07BE	<0.5		<0.1	4.8	18 11		79.1	0.25	0.8
S-191011-01BE	0.5		0.1	5.7	11		158	0.11	1.2
S-191011-02BE	0.9		<0.1	8.9 6 F	22		237	0.11	2.1
S-191011-03BE	<0.5		<0.1	6.5	14		99.9	< 0.05	1.6
S-191011-04BE	0.5		0.1	4.6	15		138	0.18	1.1
S-191011-05BE	2		<0.1	13	56		233	0.13	3.5

SOIL AR DIG.	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43		AuME-TL43
SAMPLE		Rb	Re	S	Sb	Sc	Se		Sn
DESCRIPTION		ppm	ppm	%	ppm	ppm	ppm		ppm
S-191010-01S		7.5	<0.001	0.01	0.27	3.9	0.3		0.6
S-191010-02S		5.9	<0.001	0.01	0.33	2.8	0.2		0.4
S-191010-03S		6	<0.001	0.01	0.33	4.2	0.6		0.6
S-191010-04S		5.9	<0.001	0.01	0.21	2.3	0.2		0.5
S-191010-05S		4.4	<0.001	0.01	0.29	2.2	0.2		0.6
S-191010-06S		7.6	<0.001	0.01	0.18	3.4	0.2		0.5
S-191010-07S		6.2	<0.001	0.01	0.41	3.6	0.3		0.6
S-191011-01S		5.4	<0.001	0.01	0.16	3	<0.2		0.5
S-191011-02S		5.6	<0.001	0.01	0.17	2.7	0.2		0.6
S-191011-03S		6.5	<0.001	0.01	0.2	3.3	0.2		0.6
S-191011-04S		6	<0.001	0.01	0.21	2.8	0.2		0.5
SOIL ION LCH	ME-MS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Pt	Rb	Re		Sb	Sc	Se	Sm	Sn
DESCRIPTION	ppb	ppb	ppb		ppb	ppb	ppb	ppb	ppb
S-191010-01E	<0.1	162	<0.01		<0.5	45	<2	28.1	<0.2
S-191010-02E	<0.1	112.5	< 0.01		0.5	41	3	10	<0.2
S-191010-03E	<0.1	110	<0.01		<0.5	5	5	6.3	<0.2
S-191010-04E	<0.1	148	<0.01		<0.5	22	4	7.5	<0.2
S-191010-05E	<0.1	117	<0.01		<0.5	15	2	5.5	0.3
S-191010-06E	<0.1	170	<0.01		<0.5	69	2	11.8	0.3
S-191010-07E	<0.1	86.4	<0.01		<0.5	32	<2	10.7	<0.2
S-191011-01E	<0.1	162.5	0.01		<0.5	15	<2	8.1	<0.2
S-191011-02E	0.1	180.5	<0.01		<0.5	44	<2	22.9	0.3
S-191011-03E	<0.1	139.5	< 0.01		<0.5	33	<2	13.2	<0.2
S-191011-04E	<0.1	241	< 0.01		<0.5	53	<2	14.2	0.7
0 10 10 11 0 11									017
BARK ASH	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a		ME-VEG41a
SAMPLE	Pt	Rb	Re	S	Sb	Sc	Se		Sn
DESCRIPTION	ppm	ppm	ppm	%	ppm	ppm	ppm		ppm
S-191010-01BA	<0.002	67.2	0.002	2.93	0.93	1.59	3.5		0.37
S-191010-02BA	< 0.002	42.9	0.003	1.99	1.45	1.16	2.85		1.06
S-191010-03BA	< 0.002	40.2	0.002	1.24	0.45	0.6	2.02		0.78
S-191010-04BA	< 0.002	15.95	0.002	3	0.55	0.88	2.14		1.14
S-191010-05BA	<0.002	39.6	0.002	1.77	1.59	1.6	2.89		0.94
S-191010-06BA	<0.002	55.2	0.005	2.81	0.67	2.18	2.89		0.74
S-191010-00BA	<0.002	61.1	0.000	2.49	1.08	1.51	3.61		0.56
S-191011-01BA	<0.002	21.7	0.003	1.4	0.22	0.43	1.175		0.18
S-191011-01BA	<0.002	45.7	0.002	3.09	0.22	0.43	2.37		0.18
S-191011-02BA	<0.002	28.8	0.004	3.35	0.4	1.05	2.43		0.38
S-191011-04BA	<0.002	28.8 56	0.007	3.33	0.89	1.03	2.43		0.38
S-191011-04BA	<0.002	65.8	0.005	3.02	0.49	0.93	3.28		0.39
3-191011-03BA	<0.002	05.8	0.007	5.02	0.45	0.95	5.20		0.39
BARK ION LCH	ME-MS23	ME-MS23	ME-MS23		ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
		Rb	Re		Sb	SC		Sm	
SAMPLE	Pt						Se		Sn
DESCRIPTION	ppb	ppb	ppb		ppb	ppb	ppb	ppb	ppb
S-191010-01BE	<0.1	179.5	< 0.01		0.8	10	20	1.7	0.6
S-191010-02BE	<0.1	97.2	0.02		1.1	11	31	1.1	1.3
S-191010-03BE	<0.1	201	< 0.01		1.1	7	30	0.7	1.2
S-191010-04BE	<0.1	119	<0.01		1.7	7	21	1.8	0.2
S-191010-05BE	0.1	186.5	< 0.01		0.9	9	4	2.6	0.9
S-191010-06BE	0.3	172.5	0.02		0.8	13	<2	1.5	0.3
S-191010-07BE	0.1	292	<0.01		1.5	8	16	1.2	0.4
S-191011-01BE	0.3	122.5	0.03		<0.5	6	14	2.1	0.9
S-191011-02BE	0.1	145.5	<0.01		1.3	9	12	2.6	0.5
S-191011-03BE	0.3	114.5	<0.01		0.5	7	25	2.6	<0.2
S-191011-04BE	<0.1	175	<0.01		0.5	6	30	1.4	0.8
S-191011-05BE	<0.1	339	0.05		0.5	7	9	3.2	0.2

SOIL AR DIG.	AuME-TL43	AuME-TL43		AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43		AuME-TL43
SAMPLE	Sr	Та		Те	Th	Ti	TI		U
DESCRIPTION	ppm	ppm		ppm	ppm	%	ppm		ppm
S-191010-01S	33.5	<0.01		0.05	0.7	0.071	0.06		0.38
S-191010-02S	29	<0.01		0.08	0.5	0.073	0.04		0.23
S-191010-03S	33.8	<0.01		0.05	1.2	0.074	0.06		0.57
S-191010-04S	25.2	<0.01		0.02	0.5	0.062	0.03		0.22
S-191010-05S	17.5	<0.01		0.06	0.7	0.086	0.05		0.32
S-191010-06S	26.4	<0.01		0.03	0.6	0.072	0.05		0.28
S-191010-07S	23.5	<0.01		0.06	0.5	0.054	0.05		0.27
S-191011-01S	46.4	<0.01		0.02	0.7	0.059	0.04		0.28
S-191011-02S	25.5	<0.01		0.03	1	0.036	0.06		0.33
S-191011-03S	32.5	<0.01		0.03	0.8	0.047	0.06		0.31
S-191011-04S	14.3	<0.01		0.03	0.6	0.043	0.05		0.29
SOIL ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Sr	Та	Tb	Те	Th	Ti	TI	Tm	U
DESCRIPTION	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
S-191010-01E	994	0.09	7.3	<0.5	6.95	188	0.17	3.1	6.74
S-191010-02E	907	0.08	2.3	<0.5	6.45	260	0.1	1	3.9
S-191010-03E	1320	0.05	1	<0.5	1.84	22	0.15	0.3	3.65
S-191010-04E	612	0.05	1.6	0.5	2.3	154	0.06	0.6	3.34
S-191010-05E	302	0.11	1.2	<0.5	5.67	479	0.14	0.5	3.78
S-191010-06E	947	0.17	3.5	<0.5	14.2	840	0.33	2.1	6.16
S-191010-07E	543	< 0.05	2.1	<0.5	5.42	138	0.13	0.6	5.2
S-191011-01E	1090	0.06	1.6	<0.5	5.06	120	0.14	0.6	5.18
S-191011-02E	403	0.18	4.4	<0.5	21.9	712	0.26	2.1	7.99
S-191011-03E	1240	0.22	2.8	<0.5	7.29	84	0.18	0.9	6.92
S-191011-04E	213	0.16	4.2	<0.5	14.7	951	0.39	2.4	6.22
BARK ASH	ME-VEG41a	ME-VEG41a		ME-VEG41a	ME-VEG41a	ME-VEG41a	ME-VEG41a		ME-VEG41a
SAMPLE	Sr	Та		Те	Th	Ti	TI		U
DESCRIPTION	ppm	ppm		ppm	ppm	%	ppm		ppm
S-191010-01BA	926	<0.001		<0.02	0.11	0.008	0.008		0.066
S-191010-02BA	1000	<0.001		0.03	0.079	0.005	0.008		0.04
S-191010-03BA	896	<0.001		0.05	0.076	0.003	0.005		0.021
S-191010-04BA	1305	<0.001		0.02	0.089	0.007	0.026		0.042
S-191010-05BA	672	<0.001		0.02	0.197	0.013	0.054		0.129
S-191010-05BA	914	<0.001		<0.04	0.137	0.019	0.048		0.125
S-191010-00BA	708	< 0.001		0.02	0.183	0.013	0.048		0.117
S-191010-07BA	2070	<0.001		<0.02	0.036	0.001	0.002		0.016
S-191011-01BA	1015	<0.001		0.02	0.030	0.001	0.002		0.010
	856	< 0.001		0.02	0.081		0.014		
S-191011-03BA	698	<0.001		0.03	0.124	0.008 0.006			0.073
S-191011-04BA	973	< 0.001		<0.03	0.080		0.03 0.038		0.081
S-191011-05BA	975	<0.001		<0.02	0.084	0.007	0.058		0.052
BARK ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23
SAMPLE	Sr	Та	Tb	Те	Th	Ti	TI	Tm	U
DESCRIPTION	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
S-191010-01BE	1120	<0.05	0.1	<0.5	0.19	6	0.24	<0.1	0.26
S-191010-02BE	1080	<0.05	0.2	<0.5	0.23	7	0.12	0.1	0.23
S-191010-03BE	824	<0.05	<0.1	<0.5	0.15	31	0.16	0.1	0.11
S-191010-04BE	1750	<0.05	0.1	<0.5	1.13	13	0.32	0.1	0.45
S-191010-05BE	792	<0.05	0.2	<0.5	0.7	9	0.28	0.1	0.44
S-191010-06BE	1190	<0.05	0.1	<0.5	0.25	6	0.39	0.1	0.26
S-191010-07BE	663	<0.05	0.2	<0.5	0.36	21	0.2	<0.1	0.23
S-191011-01BE	3520	< 0.05	0.2	<0.5	0.37	21	0.4	0.1	0.24
S-191011-02BE		< 0.05	0.3	<0.5	0.48	8	0.23	0.1	0.35
	1470	<0.0J	0.5						
2-131011-03RF	1470 1120								
S-191011-03BE S-191011-04BE	1120	<0.05	0.1	<0.5	1.24	30	0.31	0.1	0.82
S-191011-03BE S-191011-04BE S-191011-05BE									

SOIL AR DIG.	AuME-TL43	AuME-TL43	AuME-TL43		AuME-TL43	AuME-TL43	
SAMPLE	V	W	Y		Zn	Zr	
DESCRIPTION	ppm	ppm	ppm		ppm	ppm	
S-191010-01S	60	0.08	4.32		77	2.9	
S-191010-02S	58	0.07	2.61		92	1.1	
S-191010-03S	52	0.06	8.24		74	10.9	
S-191010-04S	44	0.06	3.02		77	1.1	
S-191010-05S	60	0.09	2.07		66	4.7	
S-191010-06S	68	0.06	2.74		86	1.7	
S-191010-07S	62	0.07	2.83		58	1.1	
S-191011-01S	70	0.06	2.54		65	1.9	
S-191011-02S	63	0.06	2.44		65	3.6	
S-191011-03S	75	0.05	2.76		60	1.7	
S-191011-04S	70	0.08	2.4		64	3.8	
SOIL ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	pH-MS23
SAMPLE	V	W	Y	Yb	Zn	Zr	Final pH
DESCRIPTION	ppb	ppb	ppb	ppb	ppb	ppb	Unity
S-191010-01E	8.3	0.1	299	19	440	49	6.4
S-191010-02E	13.2	0.3	72.7	5.7	4640	52.9	6.6
S-191010-03E	2.8	0.1	34.8	1.6	70	28.8	8
S-191010-04E	5.5	0.3	55.3	3.7	540	28	7.1
S-191010-05E	19.3	0.1	43.4	2.8	490	53.2	6.6
S-191010-06E	36.4	0.3	139.5	12	2770	138	5.6
S-191010-07E	5.3	0.1	54.1	3.3	260	36.8	7.2
S-191011-01E	6.5	0.4	50.8	3.5	510	53.1	7.4
S-191011-02E	27.1	0.3	151	12.1	330	203	6.7
S-191011-03E	5.6	0.1	82.4	5.6	240	59.2	7.3
S-191011-04E	54.8	0.4	159.5	14.5	750	145	5.8
BARK ASH	ME-VEG41a	ME-VEG41a	ME-VEG41a		ME-VEG41a	ME-VEG41a	
SAMPLE	V	W	Y		Zn	Zr	
DESCRIPTION	ppm	ppm	ppm		ppm	ppm	
S-191010-01BA	7.23	0.08	0.781		1365	1.33	
S-191010-02BA	4.93	0.47	0.564		1190	0.78	
S-191010-03BA	2.15	0.21	0.451		2140	0.54	
S-191010-04BA	5.63	0.12	0.664		920	1.09	
S-191010-05BA	12.2	0.55	1.75		1600	2.71	
S-191010-06BA	16.1	0.11	1.49		803	2.28	
S-191010-07BA	9.96	0.12	1.23		1060	2.07	
S-191011-01BA	1.54	0.03	0.237		854	0.33	
6 404044 0004	4 74	0.07	0.000		4 4 4 0	0.0	

BARK ION LCH	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	pH-MS23
SAMPLE	V	W	Y	Yb	Zn	Zr	Final pH
DESCRIPTION	ppb	ppb	ppb	ppb	ppb	ppb	Unity
S-191010-01BE	0.7	0.9	2.8	0.3	13600	0.6	5.7
S-191010-02BE	<0.2	11	2.7	0.3	6310	<0.1	5.9
S-191010-03BE	0.3	0.3	3	0.2	25200	<0.1	5.4
S-191010-04BE	1.8	1.1	5.6	0.3	12900	2	5.4
S-191010-05BE	0.7	1.5	7.2	0.4	8980	1.2	5.5
S-191010-06BE	<0.2	0.7	4.3	0.3	6580	0.6	5.6
S-191010-07BE	0.7	0.1	3.6	0.1	5730	0.3	5.5
S-191011-01BE	<0.2	<0.1	4.6	0.3	16800	1	5.4
S-191011-02BE	0.9	0.6	9.3	0.7	10700	2	5.4
S-191011-03BE	2	0.2	7.1	0.2	19100	1.4	5.2
S-191011-04BE	1.1	0.4	4.1	0.3	13500	0.4	5.3
S-191011-05BE	8.7	15	13.3	1.2	5010	1.2	5.1

0.889

0.884

0.974

0.502

1410

1950

1955

425

0.9

1.63

1.28

1.14

0.07

0.07

0.63

0.08

S-191011-02BA

S-191011-03BA

S-191011-04BA

S-191011-05BA

4.71

8.2

6.72

5.53

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**APPENDIX C – COMPARITIVE ELEMENT GRAPHS** 



SITE SDOC1008-01



SITE SDOC1008-01 DETAIL



SITE SDOC-1009-02

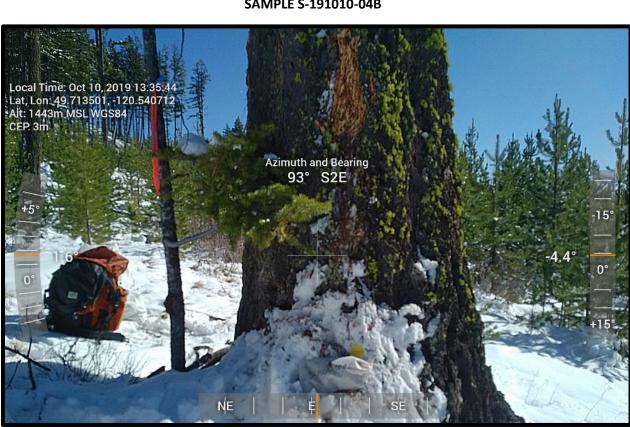


SAMPLE S-191010-02B



SAMPLE S-191010-03B

## SAMPLE S-191010-05B





SAMPLE S-191010-04B



SAMPLE S-191010-06B



SAMPLE S-191010-07B



SAMPLE S-191011-01B



SAMPLE S-191011-02B



SAMPLE S-191011-03B

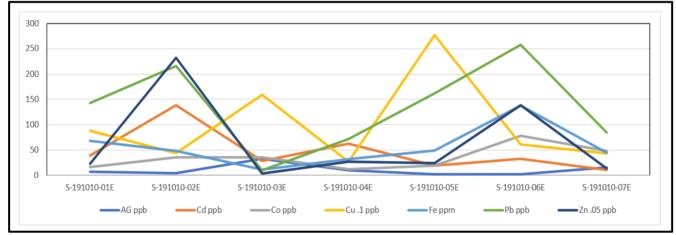


SAMPLE S-191011-04B

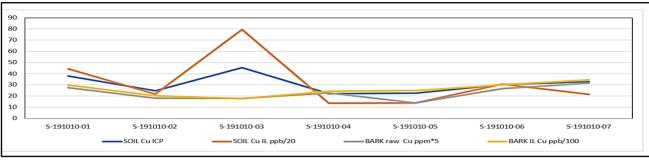


SAMPLE S-191011-05B

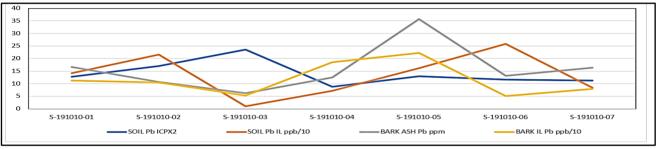
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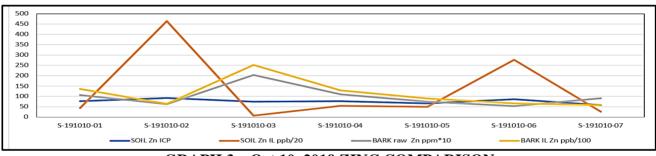
October 10, 2019 GRAPH A – Ag, Cd, Co, Cu, Fe, Pb, Zn SOIL IONIC LEACH COMPARISON



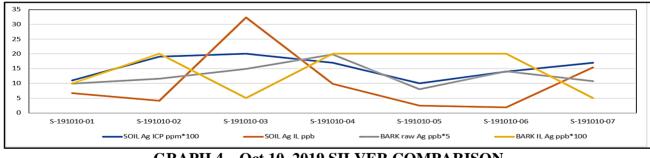




GRAPH 2 – Oct 10, 2019 LEAD COMPARISON

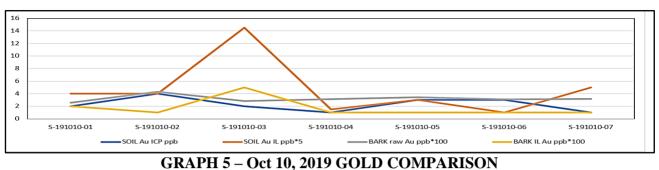


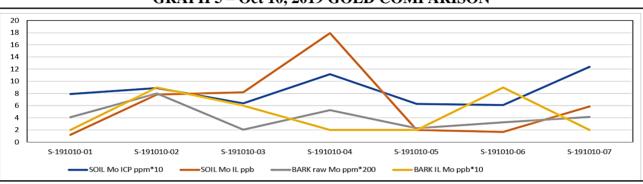
GRAPH 3 – Oct 10, 2019 ZINC COMPARISON



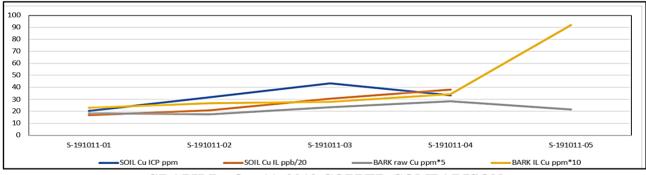
**GRAPH 4 – Oct 10, 2019 SILVER COMPARISON** 

For Richard Billingsley.

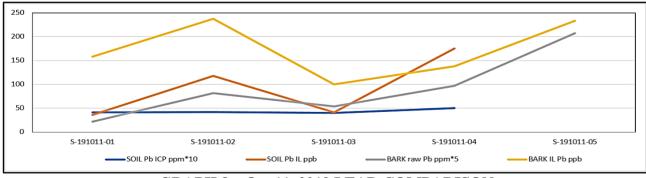


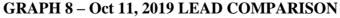






GRAPH 7 – Oct 11, 2019 COPPER COMPARISON

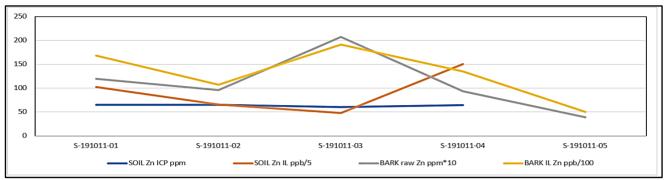




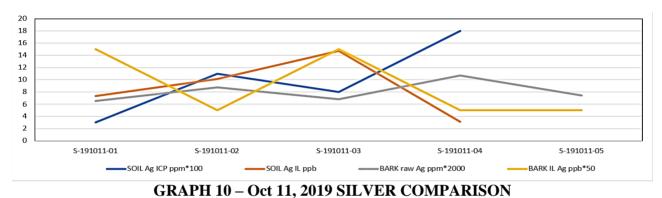
## Prospecting and Geochemical Assessment Report on the SADIM Property

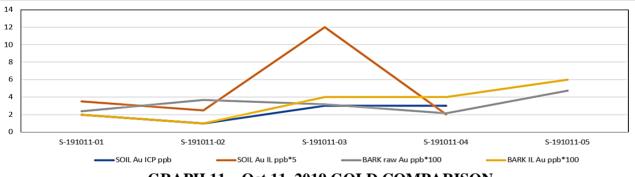
For Richard Billingsley.

December 31, 2019

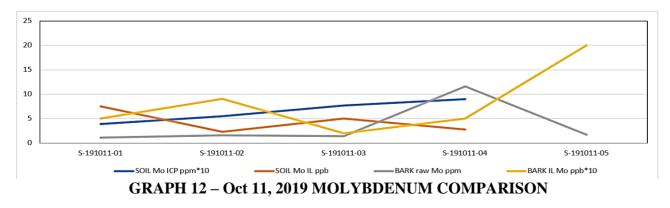


## **GRAPH 9 – Oct 11, 2019 ZINC COMPARISON**





GRAPH 11 – Oct 11, 2019 GOLD COMPARISON



Prospecting and Geochemical Assessment Report on the SADIM PropertyFor Richard Billingsley.December 31, 2019

## APPENDIX D – COPPER, LEAD, ZINC AND MOLYBDENUM PLOTS

