

# LONGFORD

EXPLORATION

## **NATIONAL INSTRUMENT 43-101**

### **TECHNICAL REPORT**

On the

### **COBALT MOUNTAIN PROPERTY**

OMINECA MINING REGION, BRITISH COLUMBIA, CANADA

**Located Within:**

NTS Sheet: 093M03 and 093M04

**Centered at Approximately:**

Latitude 55°07'11" North by Longitude 127°35'14" West

**Report Prepared for:**

Landsdown Holdings Ltd.  
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Toronto, ON M5J 2H7

**Report Prepared by:**

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EFFECTIVE DATE: January 10, 2019



## Table of Contents

List of Tables .....	iii
List of Figures .....	iv
1 Summary .....	1
2 Introduction and Terms of Reference .....	2
2.1 Purpose of Report .....	2
2.2 Geographic Terms .....	2
2.3 Terms of Reference .....	2
2.4 Abbreviations and Units of Measurement .....	3
3 Reliance on Other Experts .....	5
4 Property Description and Location .....	6
4.1 Location .....	6
4.2 Mineral Titles .....	8
4.3 Mineral Rights in British Columbia .....	9
4.4 Property Legal Status .....	12
4.5 Surface Rights in British Columbia .....	12
4.6 Permitting .....	12
5 Accessibility, Climate, Local Resources, Infrastructure and Physiography .....	14
5.1 Accessibility .....	14
5.2 Climate and Physiography .....	14
6 History .....	16
6.1.1 Sultana .....	16
6.1.2 Armagosa .....	20
6.1.3 Brunswick .....	20
6.1.4 Brian Boru .....	23
6.1.5 Tina .....	23
6.1.6 Jupiter .....	23
6.1.7 Big Thing .....	23
6.1.8 Red Rose .....	24
6.2 Mapping and Prospecting .....	24
6.3 Rock Sampling and Trenching .....	25
6.4 Soil Geochemistry .....	25
6.5 2017 Field Program .....	26
6.6 Geophysical Surveys .....	26
7 Geological Setting and Mineralization .....	32
7.1 Regional geology .....	32
7.1.1 The Stikine Terrane .....	32
7.1.2 Post Accretionary Stratigraphic Rocks .....	32

7.1.3	Post Accretionary Intrusions.....	32
7.1.4	Structure and Folding.....	32
7.2	Property Geology.....	35
7.2.1	Bowser Lake Group.....	35
7.2.2	Skeena Group.....	37
7.2.3	Kasalka Group.....	37
7.2.4	Bulkley Plutonic Suite.....	37
7.3	Mineralization and Structure.....	38
8	Deposit Types.....	39
8.1	Porphyry Exploration Model.....	39
9	Exploration.....	41
9.1	2018 Field Program.....	41
10	Drilling.....	45
11	Sample Preparation, Analysis, and Security.....	46
11.1	2006 and 2007 Programs.....	46
11.2	2008 Program.....	46
11.3	2010 Program.....	46
11.4	2011 Program.....	47
11.5	2017 and 2018 Programs.....	47
11.6	Comments on Section 11.....	47
12	Data Verification.....	48
13	Mineral Processing and Metallurgical Testing.....	52
14	Mineral Resource Estimates.....	53
23	Adjacent Properties.....	54
24	Other Relevant Data and Information.....	55
25	Interpretation and Conclusions.....	56
26	Recommendations.....	57
26.1	Proposed Exploration Budget.....	57
27	References.....	58
APPENDIX A:	Date, Signature and Certificate of Author.....	62
APPENDIX B:	2018 Soil Sample Analytical Certificates.....	63
APPENDIX C:	2018 Rock Sample Analytical Certificates.....	83

## List of Tables

Table 2.1 Abbreviations and Units of Measurement.....	3
Table 4.1 Cobalt Mountain Project mineral tenures. ....	9
Table 4.2 BC work requirements for mineral tenures. ....	11
Table 4.3 BC cash-in-lieu for mineral tenures.....	12
Table 6.1 Work history of mineral occurrences on the Cobalt Mountain Property.....	17
Table 6.2 Work history of the past producing Red Rose mine contained within crown grants on the Cobalt Mountain Property. ....	19
Table 6.3 Selected results from the 2008 prospecting program conducted by Duncastle Gold Corp. ....	25
Table 23.1 Past production from the Rocher Deboulé Mine (Annual Report 1952). ....	54
Table 26.1 Proposed exploration budget. ....	57

## List of Figures

Figure 4.1 Cobalt Mountain project location.....	6
Figure 4.2 The Cobalt Mountain Project is centred approximately 14km south of Hazelton and 45km northwest of Smithers. ....	7
Figure 4.3 Claim map of the Cobalt Mountain Project. ....	10
Figure 6.1 Historic rock and silt samples. ....	21
Figure 6.2 2010 and 2011 drill hole locations at the Sultana prospect. ....	22
Figure 6.3 CET Structural Analysis: Orientation Entropy. ....	28
Figure 6.4 CET Structural Analysis: Contact Occurrence Density. ....	29
Figure 6.5 CET Porphyry Analysis: Radial Symmetrical Centres over Reduced-to-Pole Magnetic Intensity. ....	30
Figure 7.1 Regional Geology of the Cobalt Mountain Project, refer to legend in Figure 7.2 (inset after Nelson et al. 2013, Geology after BCGS).....	33
Figure 7.2 Geology legend for Figures 7.1 and 7.3. ....	34
Figure 7.3 Property scale geology of the Cobalt Mountain Project, refer to legend in Figure 7.2. Geology after BCGS. ....	36
Figure 8.1 Zoned porphyry system model after Holliday and Cooke, 2007. ....	40
Figure 9.1 2018 Co in soil results (ppm).....	42
Figure 9.2 2018 Cu in soil results (ppm).....	43
Figure 9.3 2018 Cu in rock results (ppm). ....	44
Figure 12.1 Example of a sample observed by the Author – fracture controlled sulphides (arsenopyrite – pyrite – chalcopyrite). ....	48
Figure 12.2 The author at the Brunswick Ag-Zn-Pb-Au-Cu showing during the December 21, 2018 site visit. ....	49
Figure 12.3 Rock sample locations collected by the author for verification purposes during the March 6th, 2018 site visit. ....	51

# 1 Summary

The Cobalt Mountain project area is located approximately 14 km south of Hazelton in northwest British Columbia in the Rocher Deboulé mountain range. Mining and mineral exploration activities have been intermittent in the area for over a century and focused on various commodities including gold, silver, copper, lead, zinc, cobalt, tungsten and uranium.

Past producing underground mines in the area operated in the early and mid - 1900's and focused on polymetallic quartz veins hosted near the margins of the Rocher Deboulé stock. Vein hosted deposits remain prospective but are generally low tonnage and difficult to market. The proximal nature of the veins around the stock suggests the stock itself may be the main metallogenic driver to precious and base metal mineralization.

This report is a compilation of all the work completed on the project area to date. The goal of this report is to provide a platform for future mineral exploration on the property for porphyry style, base metal deposits with peripheral polymetallic vein hosted deposits. A recommended work program includes property scale mapping, prospecting, geochemical sampling, helicopter supported trenching and 1,500 m of diamond drilling. Total cost of the proposed work for Year 1 is \$120,000 with a follow-up budget of \$530,000 contingent on positive results.

## 2 Introduction and Terms of Reference

### 2.1 Purpose of Report

This Independent Technical Report on the Cobalt Mountain property (the “Property”) was commissioned by Landsdown Holdings Ltd. (“Landsdown”, or the “Company”) a company incorporated in British Columbia, Canada, with offices at 700 – 55 University Avenue, Toronto, Ontario. The Property is located within the Omineca Mining Division of British Columbia near the town of Smithers. This report has been prepared in compliance with National Instrument 43-101: Standards of Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP.

The sources of information accessed in preparation of this report are given in the references section at the end of this report (Section 27) as well as information and discussions with the Company’s personnel and the property vendor.

The author is an independent consulting geologist and visited the Property for a period of one day on March 6 and December 21, 2018. During this visit the author was acting as an independent consultant to the Company to appraise the Property on its potential and provide opinion on future exploration plans and costs to be conducted on the Property. There has been no further exploration work on this Property subsequent to the qualified person’s last site inspection. The scope of the author’s visit included a one-day field visit, where various works were reviewed which included review of exposed surface geology and mineralization, as well as verification of access to and within the Property.

The qualified person (“QP”) as defined in NI 43-101 and author of this report is Jeremy Hanson. Jeremy Hanson is an independent Consulting Geologist with ten years’ experience working on precious and base metal mineralization/deposits. The qualified person has no prior involvement in or with the Cobalt Mountain Property and is responsible for all items in this report.

The author has no reason to doubt the reliability of the information provided by the Company. The author reserves the right, but will not be obliged, to revise the report and conclusions if additional information becomes known subsequent to the date of this report.

### 2.2 Geographic Terms

The following geographic areas and features are briefly described for orientation with respect to the text, tables, and figures.

Rocher Deboulé Range – prominent mountain range centred 12 kilometers south of Hazelton, BC which extends approximately 18 km in a north-south orientation.

### 2.3 Terms of Reference

The Issuer engaged the services of the author through Longford Exploration Services Ltd. on March 1, 2018 to write an independent NI 43-101 Technical Report on the Cobalt Mountain Property in northwestern British Columbia, Canada as part of its qualifying documentation for the Canadian Securities Exchange in connection with the Issuer’s proposed listing.

## 2.4 Abbreviations and Units of Measurement

Metric units are used throughout this report and all dollar amounts are reported in Canadian Dollars (CAD\$) unless otherwise stated. Coordinates within this report use EPSG 26909 NAD83 UTM Zone 9N unless otherwise stated. The following is a list of abbreviations which may be used in this report:

Table 2.1 Abbreviations and Units of Measurement

Abbreviation	Description	Abbreviation	Description
%	percent	li	limonite
AA	atomic absorption	m	metre
Ag	silver	m <sup>2</sup>	square metre
AMSL	above mean sea level	m <sup>3</sup>	cubic metre
as	arsenic	Ma	million years ago
Au	gold	mg	magnetite
AuEq	gold equivalent grade	mm	millimetre
Az	azimuth	mm <sup>2</sup>	square millimetre
b.y.	billion years	mm <sup>3</sup>	cubic millimetre
CAD\$	Canadian dollar	mn	pyrolusite
cl	chlorite	Mo	Molybdenum
cm	centimetre	Moz	million troy ounces
cm <sup>2</sup>	square centimetre	ms	sericite
cm <sup>3</sup>	cubic centimetre	Mt	million tonnes
cc	chalcocite	mu	muscovite
cp	chalcopyrite	m.y.	million years
		NAD	North American Datum
Cu	copper	NI 43-101	National Instrument 43-101
cy	clay	opt	ounces per short ton
°C	degree Celsius	oz	troy ounce (31.1035 grams)
°F	degree Fahrenheit	Pb	lead
DDH	diamond drill hole	pf	plagioclase
ep	epidote	ppb	parts per billion
ft	feet	ppm	parts per million
ft <sup>2</sup>	square feet	py	pyrite
ft <sup>3</sup>	cubic feet	QA	Quality Assurance
g	gram	QC	Quality Control
gl	galena	qz	quartz
go	goethite	RC	reverse circulation drilling
GPS	Global Positioning System	RQD	rock quality description
gpt	grams per tonne	sb	antimony
ha	hectare	Sedar	System for Electronic Document Analysis and Retrieval
hg	mercury	SG	specific gravity
hm	hematite	sp	sphalerite
ICP	induced coupled plasma	st	short ton (2,000 pounds)
kf	potassic feldspar	t	tonne (1,000 kg or 2,204.6 lbs)

Abbreviation	Description
kg	kilogram
km	kilometre
km <sup>2</sup>	square kilometre
l	litre

Abbreviation	Description
to	tourmaline
um	micron
US\$	United States dollar
Zn	zinc

### 3 Reliance on Other Experts

The author has relied on ownership information and information developed by the Company. The author has not researched property title or mineral rights to the Cobalt Mountain Property and expresses no opinion as to the ownership status of the property. The author is not an expert in matters concerning environmental, legal, socio-economic, land title, political or tax issues. No concerns pertaining to these issues and matters have been identified and no outside opinions have been sought concerning other aspects of this report.

As of the date of this report, the author is not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented herein, or which the omission to disclose could make this report misleading.

## 4 Property Description and Location

### 4.1 Location

The Cobalt Mountain Project is located within the Hazelton Mountains in the Rocher de Boulé Range approximately 14 km south of Hazelton, 45 km northwest of Smithers and 200 km northeast of Prince Rupert (Figure 4.1 and 4.2). The property is located on NTS map sheets 093M03 and 093M04 or BCGS map sheets 093M002, 003, 012 and 013. The geographic centre of the property is 55° 10' 41" north latitude, 127° 35' 36" west longitude or UTM 589698E, 6108803N, NAD 83, Zone 9.

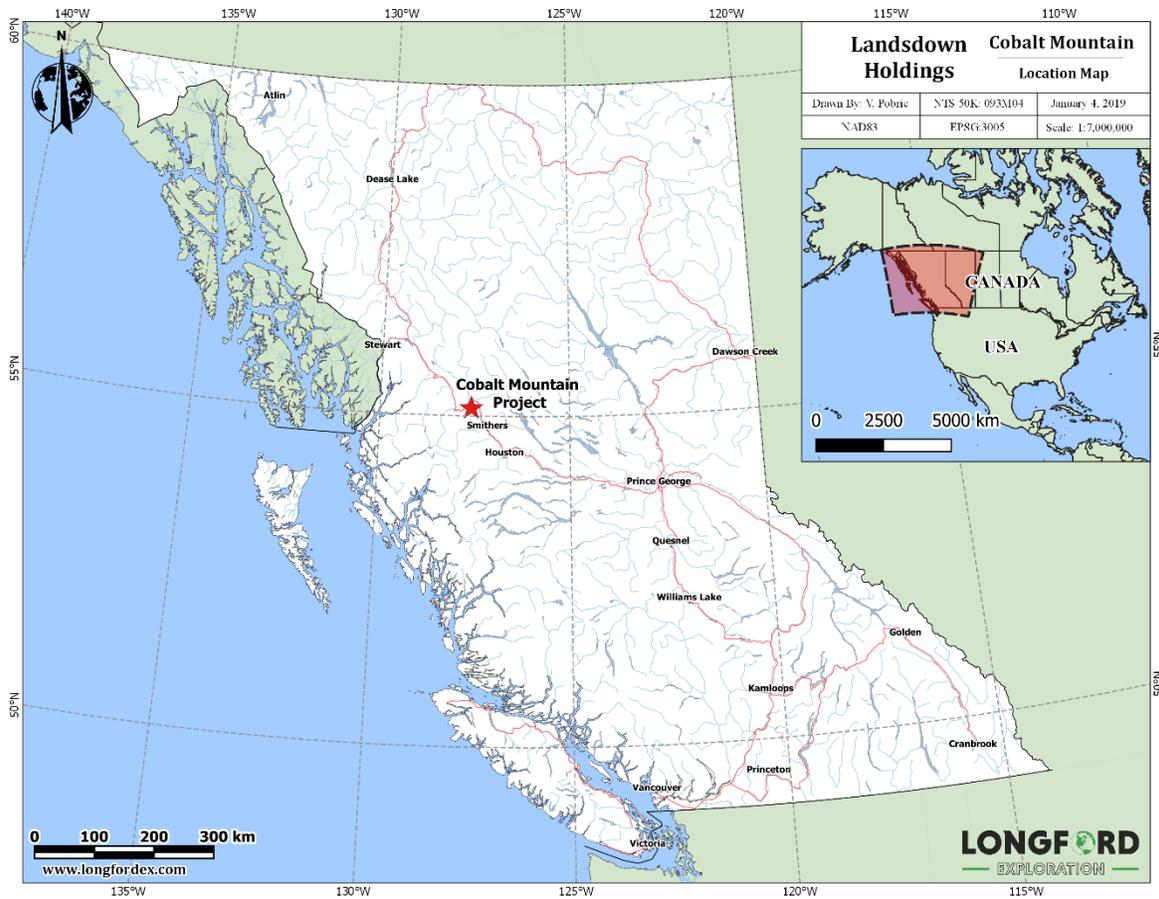


Figure 4.1 Cobalt Mountain project location.



## 4.2 Mineral Titles

The Cobalt Mountain Project consists of 14 contiguous mineral claims covering 4,921.46 ha located in the Omineca Mining Division of northwest British Columbia (Figure 4.3, Table 4.1).

The vendors and registered owners for 13 of the 14 claims each owning 20% of the mineral titles are:

Ridge Resources Ltd., a British Columbia company having an office at 1658 Tower St. Telkwa, BC V0J 2X0 (“Ridge”)

Crucible Resources Ltd., a British Columbia company having an office at 7069 McBride St. Burnaby, BC V5E 1R1 (“Crucible”)

477291 BC Ltd., a British Columbia company having an office at 1416 Acadia Road, Vancouver, BC, V6T 1P6 (“477”)

MVR Consulting Inc., a British Columbia company having an office at 5320 McHardy St., Vancouver, BC, V5R 4C5 (“MVR”)

Timothy Arthur Johnson, a person residing at 2674 Pylades Dr., Ladysmith BC V9G 1E5 (“Johnson”)

The claims are under option to Landsdown Holdings Ltd. a British Columbia corporation having an office at Suite 700-55 University Ave., Toronto, ON who have the right to earn a 100% undivided interest in the property from the original vendors in exchange for payments of:

- \$10,000 within 10 days of the signing date of February 17th, 2017
- make cash payments of:
  - \$20,000 12 months from the date of signing of the agreement;
  - \$30,000 24 months from the date of signing of the agreement;
- issue to the Vendors, 400,000 common shares of the Purchaser upon Exchange acceptance of this agreement the (“Approval Date”), each as to 80,000 Ridge, 80,000 Crucible, 80,000 MVR, 80,000 Johnson and 80,000 477;
- issue to the Vendors, 600,000 common shares of the Purchaser 12 months from the Approval Date, each as to 120,000 Ridge, 120,000 Crucible, 120,000 MVR, 120,000 Johnson and 120,000 477, and;
- issue to the Vendors, 800,000 common shares of the Purchaser 24 months from the Approval Date, each as to 160,000 Ridge, 160,000 Crucible, 160,000 MVR, 160,000 Johnson and 160,000 477.
- The original vendors will retain a 2% net smelter royalty of which 1% can be purchased for \$1,000,000 at any time.

The 14th claim that comprises the Cobalt Mountain project area was staked on September 11, 2018 and is 100% owned by Douglas Warkentin. This claim is not currently subject to an option agreement.

There are 14 independently owned crown-granted tenures which underlie portions of the Cobalt Mountain project area. These areas include the Red Rose past producing mine and mill site and partial overlap with the Brunswick claim. There are also minute fractions of crown grant tenures overlapping with the Ohio East and Armagosa claims (Figure 4.3).

Table 4.1 Cobalt Mountain Project mineral tenures.

Title Number	Claim Name	Issue Date	Good To Date	Status	Area (ha)
1037653	EAST SULTANA	2015/AUG/01	2020/JUN/01	GOOD	37.02
1038181	SLATER NW	2015/AUG/25	2020/JUN/01	GOOD	36.99
1044459	OHIO EAST	2016/JUN/01	2020/JUN/01	GOOD	73.93
1045275	PORPHYRY	2016/JUL/11	2020/JUN/01	GOOD	314.33
1045347	SULTANA	2016/JUL/15	2020/JUN/01	GOOD	370.21
1045348	BIG BORU	2016/JUL/15	2020/JUN/01	GOOD	259.15
1045349	KILLARNEY	2016/JUL/15	2020/JUN/01	GOOD	111.12
1045350	BRIAN BORU	2016/JUL/15	2020/JUN/01	GOOD	370.21
1045351	TINA	2016/JUL/15	2020/JUN/01	GOOD	647.45
1045352	JUPITER	2016/JUL/15	2020/JUN/01	GOOD	906.95
1045353	SLATER	2016/JUL/15	2020/JUN/01	GOOD	666.05
1045354	BRUNSWICK	2016/JUL/15	2020/JUN/01	GOOD	517.87
1045355	ARMAGOSA	2016/JUL/15	2020/JUN/01	GOOD	499.18
1062978	NORTH SULTANA	2018/SEP/11	2020/JUN/01	GOOD	111.00
TOTAL (ha)					4921.46

### 4.3 Mineral Rights in British Columbia

Mineral Claims in British Columbia are subdivided into two major categories: Placer and Mineral. Both are acquired using the [Mineral Titles Online \(MTO\)](#) system. The online MTO system allows clients to acquire and maintain (register work, payments, etc.) mineral and placer claims. Mineral Titles can be acquired anywhere in the province where there are no other impeding interests (other mineral titles, reserves, parks, etc.).

The electronic Internet map allows you to select single or multiple adjoining grid cells. Cell sizes vary from approximately 21 hectares (457m x 463m) in the south to approximately 16 hectares at the north of the province. Cell size variance is due to the longitude lines that gradually converge toward the North Pole.

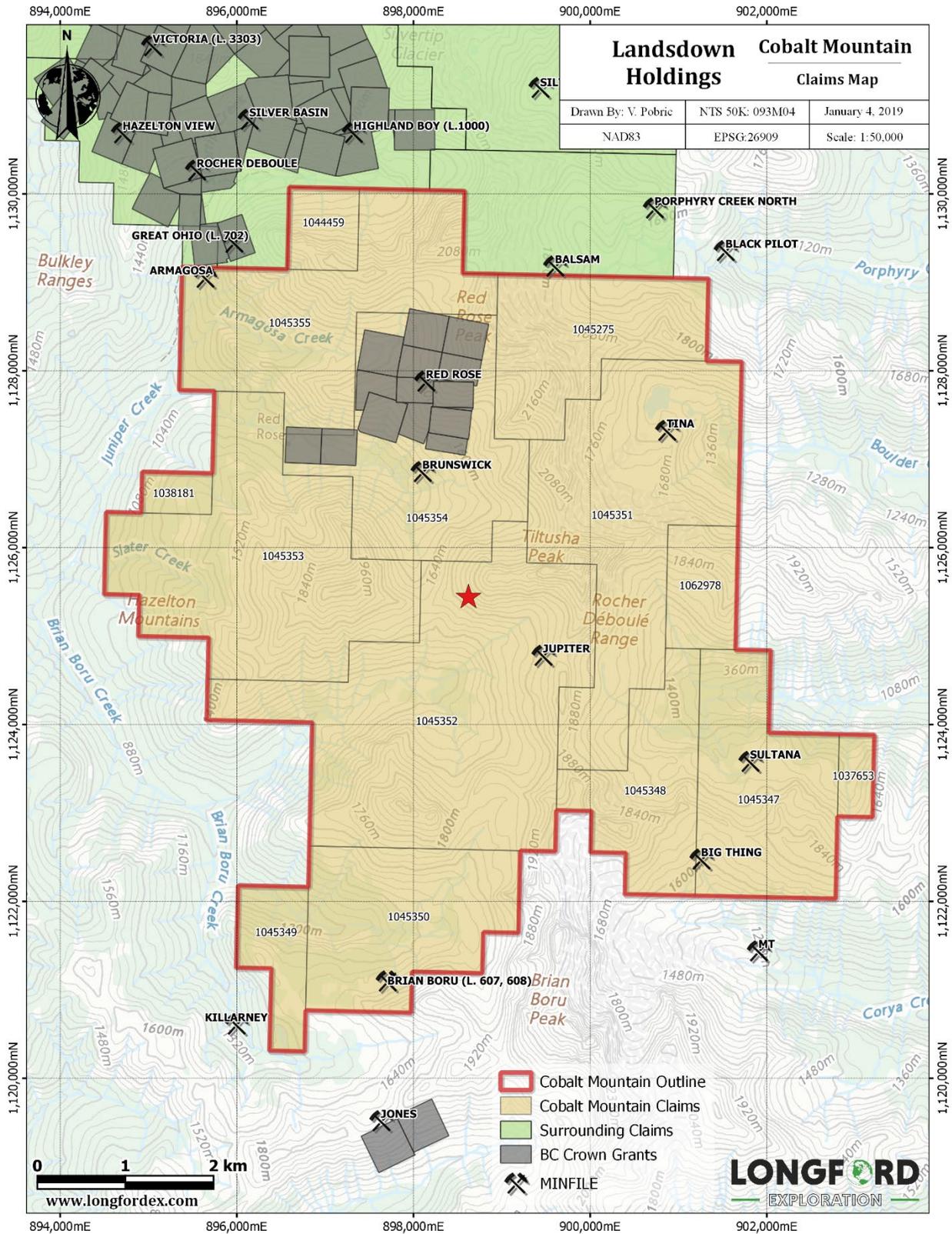


Figure 4.3 Claim map of the Cobalt Mountain Project.

MTO will calculate the exact area in hectares according to the cells you select, and calculate the required fee. The fee is charged for the entire cell, even though a portion may be unavailable due to a prior legacy title or alienated land. The fee for Mineral Claim registration is \$1.75 per hectare.

Upon immediate confirmation of payment, the mineral rights title is issued and assigned a tenure number for the registered claim. Email confirmation of your transaction and title is sent immediately.

Rights to any ground encumbered by existing legacy claims will not be granted with the cell claim except through the Conversion process. However, the rights held by a legacy claim or lease will accrue to the cell claim if the legacy claim or lease should terminate through forfeiture, abandonment, or cancellation, but not if the legacy claim is taken to lease. Similarly, if a cell partially covers land that is alienated (park, reserve etc.) or a reserve, no rights to the alienated or reserved land are acquired. But, if that alienation or reserve is subsequently rescinded, the rights held by the cell expand over the former alienated or reserve land within the border of the cell.

Upon registration, a cell claim is deemed to commence as of that date (“Date of Issue”), and is good until the “Expiry Date” (Good to Date) that is one year from the date of registration. To maintain the claim beyond the expiry date, exploration and development work must be performed and registered, or a payment instead of exploration and development may be registered. If the claim is not maintained, it will forfeit at the end of the “expiry date” and it is the responsibility of every recorded holder to maintain their claims; no notice of pending forfeiture is sent to the recorded holder.

A mineral or placer claim has a set expiry date (the “Good to Date”), and in order to maintain the claim beyond that expiry date, the recorded holder (or an agent) must, on or before the expiry date, register either exploration and development work that was performed on the claim, or a payment instead of exploration and development. Failure to maintain a claim results in automatic forfeiture at the end (midnight) of the expiry date; there is no notice to the claim holder prior to forfeiture.

When exploration and development work or a payment instead of work is registered, you may advance the claim forward to any new date. With a payment, instead of work the minimum requirement is 6 months, and the new date cannot exceed one year from the current expiry date; with work, it may be any date up to a maximum of ten years beyond the current anniversary year. “Anniversary year” means the period of time that you are now in from the last expiry date to the next immediate expiry date.

All recorded holders of a claim must hold a valid Free Miners Certificate (“FMC”) when either work or a payment is registered on the claim.

Clients need to register a certain value of work or a "cash-in-lieu of work" payment to their claims in MTO. The following tables outline the costs required to maintain a claim for one year:

*Table 4.2 BC work requirements for mineral tenures.*

<b>Anniversary Years</b>	<b>Work Requirements</b>
1 and 2	\$5 / hectare
3 and 4	\$10 / hectare
5 and 6	\$15 / hectare
7 and subsequent	\$20 / hectare

Table 4.3 BC cash-in-lieu for mineral tenures.

Anniversary Years	Cash Payment-in-Lieu of Work
1 and 2	\$10 / hectare
3 and 4	\$20 / hectare
5 and 6	\$30 / hectare
7 and subsequent	\$40 / hectare

#### 4.4 Property Legal Status

The Mineral Titles Online website (<https://www.mtonline.gov.bc.ca/mtov/home.do>) confirms that all claims of the Cobalt Mountain property as described in Table 4.1 were in good standing at the date of this report and that no legal encumbrances were registered with the Mineral Titles Branch against the titles at that date. The author makes no further assertion with regard to the legal status of the property. The property has not been legally surveyed to date and no requirement to do so has existed.

There are no other royalties, back-in rights, environmental liabilities, or other known risks to undertake exploration.

#### 4.5 Surface Rights in British Columbia

Surface rights are not included with mineral claims in British Columbia.

#### 4.6 Permitting

Any work which disturbs the surface by mechanical means on a mineral claim in British Columbia requires a Notice of Work (NOW) permit under the Mines Act. The owner must receive written approval from a Provincial Mines Inspector prior to undertaking such work. This includes but is not limited to the following types of work: drilling, trenching, excavating, blasting, construction of a camp, demolition of a camp, induced polarization surveys using exposed electrodes, and reclamation.

Exploration activities which do not require a NOW permit include: prospecting with hand tools, geological/geochemical surveys, airborne geophysical surveys, ground geophysics without exposed electrodes, hand trenching, and the establishment of grids. These activities and those that require Permits are outlined and governed by the Mines Act of British Columbia.

The Chief Inspector of Mines makes the decision if land access will be permitted. Other agencies, principally the Ministry of Forests, Lands and Natural Resources (FLNRO), determine where and how the access may be constructed and used. With the Chief Inspector's authorization, a mineral tenure holder must be issued the appropriate "Special Use Permit" by FLNRO, subject to specified terms and conditions. The Ministry of Energy and Mines makes the decision whether land access is appropriate and FLNRO issue a Special Use Permit. However, a collaborative effort and authorization between ministries, jointly determine the location, design and maintenance provisions of the approved road.

Notification must be provided before entering private land for any mining or exploration activity, including non-intrusive forms of mineral exploration such as mapping surface features and collecting rock, water or soil samples. Notification may be hand delivered, mailed, emailed or faxed to the owner shown on the British Columbia Assessment Authority records or the Land Title Office records. Mining activities cannot start sooner than eight days after notice has been served. Notice must include a description or map of

where the work will be conducted and a description of what type of work will be done, when it will take place and approximately how many people will be on the site.

The issuer does not currently have any permits pertaining to exploration on the property.

## 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

### 5.1 Accessibility

The Cobalt Mountain property is located 14 km south of Hazelton and 45 km northwest of Smithers within the Hazelton Mountains in the Rocher Deboulé Range. Access is limited to helicopter above treeline and with historical mine roads and trails reaching the property from the west and east. The west side of the property is accessed via the Rocher Deboulé mine road which leaves Highway 16 at Skeena Crossing and follows Juniper Creek for approximately 12 km before heading east on the Red Rose mine road for 4 km. This road is washed out in several locations and is only accessible by ATV after the first 5 km. The east side of the property is accessed by a 12.5 km long ATV trail running along Boulder Creek (built by Sultana Silver Mines Ltd.) which can be accessed from Highway 16 approximately 10 km north of Moricetown.

Due to the nature of these trails, and the topography of the project area, helicopter access from Smithers is the most efficient mode of transportation.

The closest town is Hazelton (population: 305) followed by the larger town of Smithers (population: 5404) which is a hub for the mining and forestry industries in northern British Columbia. Mining and exploration personnel and services are readily available including numerous helicopter, drilling, expediting, heavy equipment, pad and camp construction companies as well as the Smithers Branch of the Ministry of Energy and Mines. There are also daily commercial flights to Smithers from Vancouver.

### 5.2 Climate and Physiography

Weather is typical of alpine and subalpine regions of northwestern British Columbia with a wide temperature range from warm summers and long, cold winters. Summers are warm, with daily averages or around 15° C. Winters are cold with average temperatures of around -7° C. Snow can be expected on the property from late September to early June. Total annual precipitation for Smithers is 508.5 mm. Spring and summer months usually experience moderate rainfall however the core of the property is at significantly higher elevations and therefore experiences much more dramatic weather patterns. Due to the accumulation of deep snow, the exploration season is typically between July and September at higher elevations and from late May to early October at lower elevations.

The nearest active weather station to the property is 45 km southeast at the Smithers Regional Airport.

Table 5.1 Climate Data for Smithers Regional Airport Station (Environment Canada).

Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Total
Daily Average (°C)	-7.2	-4.4	0.1	4.8	9.4	13	15.2	14.6	9.9	4.4	-2.1	-7.1	
Record High (°C)	15.6	11.9	18.9	25.8	35.8	34.2	36	35.2	31.1	24.4	15.6	13.6	
Record Low (°C)	-43.9	-35.6	-33.3	-18.3	-7.2	-4.1	-1.1	-2.2	-6.7	-22	-32.4	-39	
Avg Precipitation (mm)	42.7	23.4	20.6	23.8	38.1	55.2	45.6	43.8	53.8	64.8	55	41.9	508.5
Avg Rainfall (mm)	10.1	5.5	6.7	18.7	37.4	55.2	45.6	43.8	53.8	56.9	25.6	8	367.2
Avg Snowfall (cm)	44.5	23.5	16.7	5.6	0.7	0	0	0	0	8.6	37.4	45.6	182.7
1981 to 2010 Canadian Climate Normals station data; Smithers BC; 54°49'29.000" N 127°10'58.000" W 521.8 m													

The property is within the Rocher Deboulé Range, a subrange of the Bulkley Ranges, on the eastern edge of the larger Coast Mountain Range. Within the claims topographic relief is generally steep to locally precipitous with large areas covered in talus and bare rock. Elevation varies from 920 m at valley level in the east to 2,469 m on Brian Boru peak. Cirque glaciers and permanent snowfields are common along the north and east slopes of the higher peaks. Streams draining to the flow into the Skeena River and streams draining to the east flow into the Bulkley River.

The treeline is generally found around 1,100 m with abundant outcrop above. Below the treeline, vegetation consists of pine, spruce, balsam, and fir. Above the treeline heather dominates with small patches of alpine fir in the protected gullies and depressions.

Fauna in the area include deer, moose, mountain goats, as well as black bears, grizzly bears, wolves, coyotes and wolverines representing carnivorous animals.

## 6 History

The Cobalt Mountain area has a history of mineral exploration and limited production dating back to at least 1910. Substantial production from high-grade vein deposits occurred between 1915 and 1954 from the Roché Deboulé and Red Rose mines. Lesser production from the nearby Victoria, Cap, and Highland Boy mines also occurred in the same time frame.

Past work on the Cobalt Mountain property has been intermittent by various companies at different times. More recently, the area was consolidated and the current property made up the majority of the Porphyry Creek Project which was explored by Duncastle Gold Corp. in 2010-2011 before their claims were sold in 2014.

British Columbia's Minfile database lists seven separate occurrences within the Cobalt Mountain property. An eighth occurrence, Red Rose, is within underlying crown grant tenures owned by Freeport Resources Inc. The crown grants are entirely encompassed within the Brunswick claim. A summary of the historical work completed on the Cobalt Mountain claims, including Red Rose due to its local significance, is tabulated below in Table 6.1 and 6.2, and historic rock and silt samples from 2008 and 2017 shown in Figure 6.1.

### 6.1.1 Sultana

The Sultana prospect was first described as the Last Chance and Little Wonder prospects by the Geological Survey of Canada in the 1910 Summary Report. Prospectors explored the property in 1912 but work was not officially recorded until 1921 in the British Columbia Minister of Mines Annual Reports where it was referred to as the Sultana property. During 1921 – 1923, prospectors McDonald and Hicks improved the trail and excavated trenches to trace mineralization. Samples returned values up to 0.22 oz/t Au, 112 oz/t Ag, and 16.0% Cu over 125 feet strike length 4-20 feet wide.

In 1923, the Granby Consolidated Mining, Smelting and Power Company optioned the property and resampled trenches and completed one 80 foot drill hole. Results were disappointing and the option lapsed.

In 1939 the claims were staked and worked briefly before being dropped again until G. Parent & Associates re-staked the area in 1951 and conducted limited surface work through to 1952. The property was optioned to the Northern B.C. Mining Co. in 1953 who mapped and sampled the trenches in order to recommend drill hole locations.

In 1966 Sultana Silver Mines Ltd. re-staked the Sultana area within the Silvertip group of claims. During the next 7 years, a variety of work was carried out including 911 meters of drilling in 13 holes. Additional work included 20 trenches, mapping and geophysical and geochemical surveys some of which was conducted while the property was under option to Utah Construction Co. in 1970 – 1971. Following this work, a 1982 desktop review of the property mentions limited prospecting taking place.

Table 6.1 Work history of mineral occurrences on the Cobalt Mountain Property.

Year	Occurrence	Performed By	Work	Summary	Comments	Reference
1912 - 1931	Brunswick	J. Miller	Drifting, mining, surface work	Upper and lower adits to 65 ft and 170 ft respectively	Mostly singlehanded	Annual Report_1925, 1931 Annual Report of the Minister of Mines
1912	Sultana	Brewer Brothers	Surface work	Trenching and open cuts	Limited information	ARIS_00092A Geological Report Sultana Group of Mineral Claims
1914 - 1917	Brian Boru	J. Creagh	Discovery and staking	Crown-granted in 1917	Limited information	EMPR Bulletin 43
1920 - 1922	Sultana	Macdonald and Hicks	Trenching, trail building	9 trenches	Up to 0.22oz/t Au, 122oz/t Ag, 16% Cu	Annual Report_1921, 1922 Annual Report of the Minister of Mines, ARIS_00092A
1923	Sultana	Granby Consolidated Mining, Smelting and Power Co.	Drilling, pack trail maintenance	Cleaned and deepened trenches, 1 80ft hole	Limited testing, negative results, option dropped	ARIS_00092A Geological Report Sultana Group of Mineral Claims
1926 - 1927	Brian Boru	J. Dunbar & J. Creagh	Drifting, trenching	Short adits, trenches	Limited details	AR_14632 Geology, Rock and Soil Geochemistry Brian Boru Prospect
1939	Sultana	G. Christensen	Surface work	Small amount of surface work	Limited information, claims dropped soon after	ARIS_00092A Geological Report Sultana Group of Mineral Claims
1950 - 1951	Sultana	G. Parent & Associates	Surface work	Small amount of surface work	Limited information	ARIS_00092A Geological Report Sultana Group of Mineral Claims
1951 - 1952	Brunswick, Armagosa	Skeena Silver Mines Ltd.	Staking, prospecting, drifting, drilling	69.5m of drifting, 5 drill holes, discovered scheelite at Armagosa	Followed Brunswick vein to fault, drilled to find the offset	Annual Report_1952 Annual Report of the Minister of Mines
1953	Sultana	Northern B.C. Mining Co. Ltd.	Mapping and sampling of old trenches	3 grab samples, 5 chip samples	Grab sample from 1923 trench: 0.03oz/t Au, 19.5oz/t Ag, 1.2% Cu; chip sample from 1923 trench: 0.08oz/t Au, 66.95oz/t Ag, 6.15% Cu	ARIS_00092A Geological Report Sultana Group of Mineral Claims
1956	Sultana	Canusa Mining	Drilling	Several short holes	Limited information, claims dropped soon after	EMPR Bulletin 43
Early 1960's	Brunswick	J.T. Williamson	Mapping, sampling, drilling	No details		ARIS_04839 Geological and Geophysical Report on the Brunswick Project
1966 - 1973	Sultana	Sultana Silver Mines Ltd.	Drilling, trenching, geochemical surveys, geophysical surveys	13 drill holes (911m), 20 trenches	Limited details	PF_38949 Schemo Property
1970 - 1971	Sultana	Utah Construction Co. /Ltd.	Mapping, geochemical survey, geophysics, drilling	81 rock samples, IP survey, 2 drillholes	301m drilled, Cu anomaly coinciding with IP anomaly	ARIS_02855 Geology, Geochemistry, Geophysics - Sultana Group
1972 - 1973	Brunswick	Arcadia Explorations Ltd.	Surveying, mapping, drift extension, prospecting, ground geophysics	8 rock samples, EM survey	Best sample, from upper adit portal: 8.4% Pb, 6.6% Zn, 67oz/t Ag	ARIS_04839 Geological and Geophysical Report on the Brunswick Project

Year	Occurrence	Performed By	Work	Summary	Comments	Reference
1979 - 1981	Brian Boru	Asarco Exploration Ltd.	Staking, geochemical survey, mapping, geophysics	156 soil samples, 4.1km IP survey, primarily over Killarney showing	Limited work on current property	AR_08332 Soil Geochemistry - Brian Boru Prospect, AR_09587 Report on Geophysical Surveys, Brian Boru Prospect and Jones Showing
1982	Sultana, Jupiter, Tina	Pharaoh Mines Ltd.	Desktop review	Evaluation of 3 claims known as the Schemo property	Variety of follow-up work recommended	PF_38949 Schemo Property
1984	Brian Boru	Asarco Exploration	Prospecting	4 samples to identify source of Killarney soil anomaly	Best sample: 2.1% Zn, 11.1g/t Ag, 0.17g/t Au	AR_12712 Geochemical Rock Sampling
1985	Brian Boru	Asarco Exploration	Geochemical survey	341 soil samples primarily over Killarney showing, 22 rock, 35 talus, 36 silt to south of Brian Boru prospect	Closed off weak Pb-Zn-Ag anomaly	AR_14632 Geology, Rock and Soil Geochemistry Brian Boru Prospect
1984 - 1985	Brunswick	Robert Holland	Staking		Staked and optioned to Catoosea Resources in 1985	ARIS_16012 Prospecting Report on the Brunswick Mineral Claim
1986	Brunswick	Catoosea Resources Corp.	Mapping, prospecting	No samples taken	2 new veins identified above Brunswick	ARIS_16012 Prospecting Report on the Brunswick Mineral Claim
1987	Armagosa	Southern Gold Resources Ltd.	Mapping, prospecting, ground geophysics	9 rock samples, 38 soil/talus samples, 800m of line geophysics	Best float sample: 1% Cu, 3.5% Pb, 1.7% Zn, other float: 1.28oz/t Au	AR_16714 Summary Report - 1987 Exploration Program
2006	Armagosa, Brunswick	Crucible Resources Ltd.	Prospecting, geochemical sampling	4 rock samples, 1 tailings sample, 1 stream sediment sample, 3 soil samples	Best sample from Brunswick: 12.2% Zn, 3.9% Pb, 48oz/t Ag	ARIS_29082 RD Project - Reconnaissance and Sampling
2007	Armagosa, Brunswick, Brian Boru	Crucible Resources Ltd.	Prospecting, geochemical sampling	17 rock samples, 10 stream sediment samples	Anomalous Au, Cu and Mo from Armagosa area	ARIS_29052 RD Project - Reconnaissance and Sampling
2008	Armagosa, Brunswick, Jupiter, Brian Boru	Duncastle Gold Corp.	Prospecting, stream sediment sampling	57 silt samples, 43 rock samples	Best sample from Brunswick: 11% Pb, 19% Zn, 2566g/t Ag	ARIS_30431 West Side of Rocher Deboule Range - Stream and Rock Geochemistry Report
2010	Armagosa, Red Rose*, Tina, Brunswick, Jupiter, Sultana, Big Thing, Brian Boru	Duncastle Gold Corp.	Airborne geophysics	495 line km covering Cobalt Mountain property and areas to the north.	Dominant structural orientations and trends, magnetic fabric and potassic alteration identified.	ARIS_31728 Airborne Geophysical Interpretation of the Porphyry Creek Survey

Year	Occurrence	Performed By	Work	Summary	Comments	Reference
2010	Sultana, Tina, Big Thing	Ranex Exploration Ltd. / Duncastle Gold Corp.	Drilling, geochemical sampling, mapping	3 holes for 1330m, 480 soil samples, 31 rock samples	Anomalous Cu, Mo, Au, Ag from Sultana sampling. Anomalous Cu and Mo from drill holes beneath Sultana. Best rock sample: 18.25g/t Au, 865g/t Ag, 17.87% Cu,	ARIS_32516 2010 Surface Exploration and Diamond Drilling Assessment Report
2011	Sultana	Duncastle Gold Corp.	Drilling	6 NQ holes totalling 2594m	Best intercept: 0.11% Cu, 0.029% Mo, 1.53g/t Ag over 36.2m	AR_32636 2011 Core Drilling Report on the Porphyry Creek Property (Sultana Prospect Area)

Table 6.2 Work history of the past producing Red Rose mine contained within crown grants on the Cobalt Mountain Property.

Year	Occurrence	Performed By	Work	Summary	Comments	Reference
1912	Red Rose *	C. Peterson & C. Ek	Discovery and Staking		Contact between granodiorite intrusive and metasediments	Annual Report_1914 Annual Report of the Minister of Mines
1914 - 1916	Red Rose *	Skeena Deveopment Company	Drifting, mining	4 adits, 800ft of drifts	Best sample: 0.84oz/t Au, 3.2oz/t Ag, 3.9% Cu	Annual Report_1916 Annual Report of the Minister of Mines
1923	Red Rose *	W.S. Sargent	Discovery	Tungsten vein 210m above current workings	6ft sample returned 21% WO3	Annual Report_1923 Annual Report of the Minister of Mines
1939 - 1943	Red Rose *	Consolidated Mining and Smelting Co. of Canada Ltd.	Drilling, mining, milling	25950 tons of ore mine and milled from tungsten vein	~2150ft of drifting, crosscutting and raising, 25 ton/day capacity	Annual Report_1941, 1943 Annual Report of the Minister of Mines
1951 - 1954	Red Rose *	Western Tungsten Copper Mines Ltd.	Mining, exploration drilling	3657m of underground development, 114175 tons of ore mined	563oz Au, 823oz Ag, 59708lb Cu, 1698 tons WO3 concentrate	Annual Report_1954 Annual Report of the Minister of Mines
1981	Red Rose *	Cominco	Geochemical survey	Unknown number of samples	2 silt samples anomalous in Cu and Mo	1988 Geological Report on the Red Rose Project
1987 - 1988	Red Rose *	Freeport Resources	Drilling, property purchase	2 diamond drill holes	Mineralization intersected at depth	1988 Geological Report on the Red Rose Project
1988 - 2016	Red Rose *	Freeport Resources	Re-evaluation			<a href="http://www.freeportresources.com">www.freeportresources.com</a>

In 2010, Duncastle Gold Corp. conducted a 425 line km airborne magnetic and radiometric geophysical survey across the Rocher DeBoule Range. Geophysical targets at Sultana were drill tested in 2010 -2011 with 3,924 m in 9 holes (Figure 6.2). Drill results expanded anomalous copper-molybdenum, porphyry style mineralization and alteration over a 300 x 200 meter area.

### 6.1.2 Armagosa

First accounts of the Armagosa showing is documented in the 1912 and 1916 Annual Report of the Minister of Mines. The showing is located between the Red Rose and Rocher Deboule mines but has not seen a significant amount of work.

Skeena Silver Mines Ltd. discovered a scheelite vein above the old workings in 1952 while they were focussed on developing the nearby Brunswick showing.

In 1987, Southern Gold Resources Ltd. conducted some geochemical and geophysical work in the Armagosa area as part of a broader exploration program focussed primarily on the Roché Déboulé prospect to the north.

In 2006 and 2007, Crucible Resources Ltd. optioned the property and conducted reconnaissance sampling which returned some anomalous gold, copper, and molybdenum values in the area.

In 2008, Duncastle Gold Corp. collected 10 rock samples in the area as part of a broader exploration program. Results returned anomalous gold, copper, and molybdenum.

### 6.1.3 Brunswick

The Brunswick prospect was initially staked by J. Miller in 1912. Miller explored and developed the property through to 1931, much of the time single handed. The claims lapsed and were re-staked in 1950 by Skeena Silver Mines Ltd. Work included reopening and extending the adits and tracing the vein with four diamond drill holes. The ground was staked again in the early 1960's by J.T. Williamson who completed additional drilling, prospecting and underground rehabilitation.

In 1972, Arcadia Explorations Ltd. optioned the property and recommended a drift extension program. Strong mineralization was confirmed in the upper adit while metal values in the lower adit were less economical. A ground-based EM geophysical survey centered on old workings found insufficient conductivity contrast to be of much use. However, a separate self-potential survey suggests the vein continues at least 150 feet upslope.

Robert Holland staked the area in 1984 and optioned it to Catoosea Resources Corp. in 1985. Two days were spent prospecting the area in 1986 and two new veins were discovered were not sampled.

In 2006, Crucible Resources Ltd. held an option covering the Brunswick showing and collected 1 sample from each of the old adits. The chip sample from the upper adit returned 48.1oz/t Ag, 3.9% Pb and 12.2% Zn.

Duncastle Gold Corp. held an option covering the Brunswick showing from 2010 – 2011, however besides an airborne geophysical survey, no other work has been recorded.

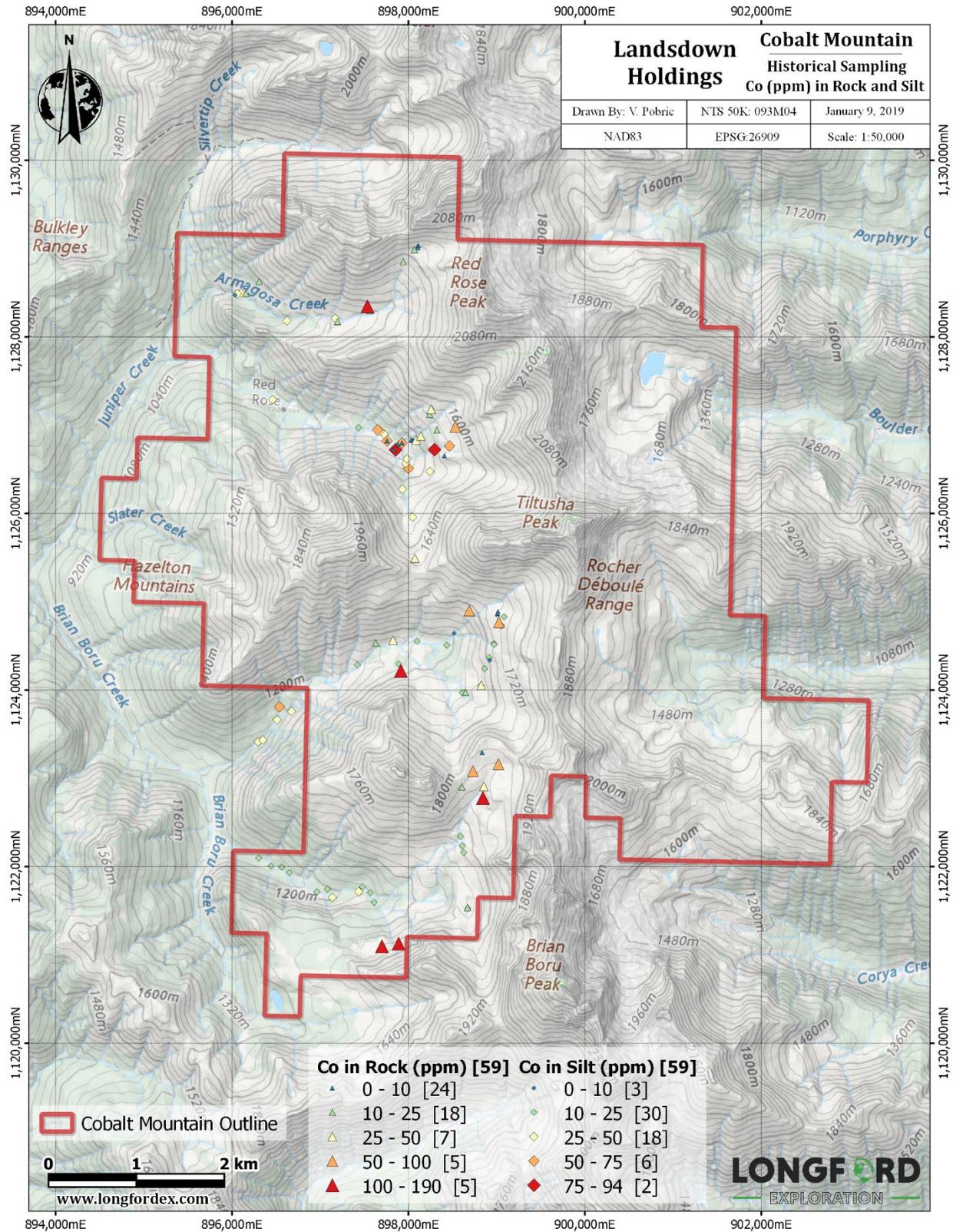


Figure 6.1 Historic rock and silt samples.

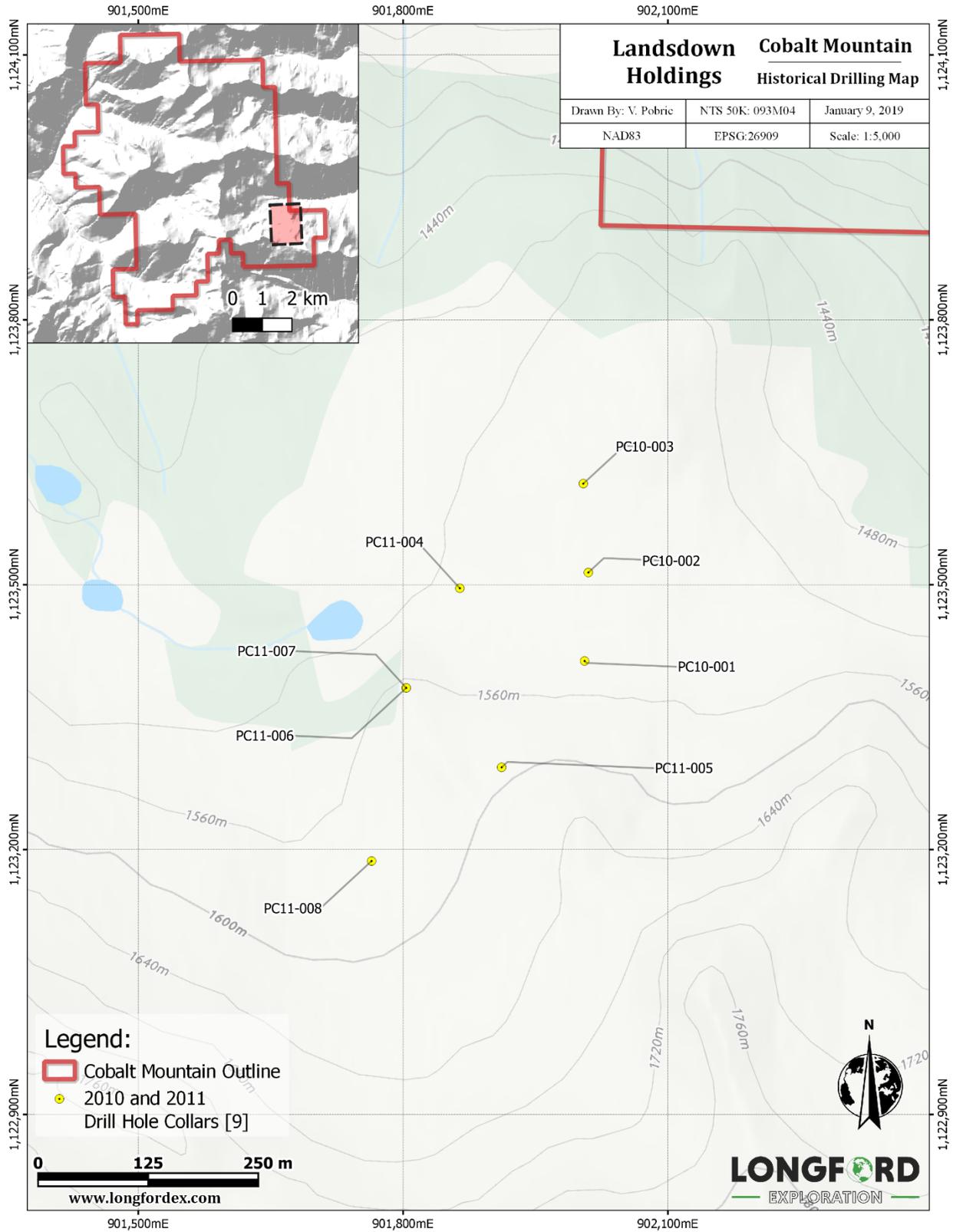


Figure 6.2 2010 and 2011 drill hole locations at the Sultana prospect.

#### 6.1.4 Brian Boru

Mineralization in this area was first discovered in 1914 and saw intermittent work by prospectors up to 1927 including some adits, drifting and trenching which exposed irregular veinlets containing lead, silver, arsenic and gold.

In 1979, Asarco Ltd. staked four contiguous claims in the area, part of which covers the current property. Their work through to 1985 focussed on geochemical sampling and geophysics of the nearby Killarney and Jones prospects without much attention paid to areas within the current claim boundary.

In 2007, Crucible Resources collected five stream sediment samples from this area as part of a larger reconnaissance program over their claims and to follow up on a previous government regional survey. The following year, Duncastle Gold Corp. collected a number of stream sediment samples as well as 10 rock samples from the Brian Boru creek drainage, two of which returned 14.3% and 22.3% Zn. A broad zone of anomalous copper is also noted in stream sediment sampling in the upper parts of the Brian Boru creek drainage.

#### 6.1.5 Tina

Reference is made to an unnamed molybdenum showing in this location in a 1969 compilation map, however further details of its discovery and history are unknown.

In 1982, Pharaoh Exploration Inc. owned the Schemo property in which the Tina showing is located. A desktop study was undertaken, but other than reference to some prospecting taking place, no other records specific to the Tina showing have been located.

In 2010, Duncastle Gold Corp. followed up an airborne geophysical survey by conducting reconnaissance in the area to the west of the Tina showing. Five representative samples but failed to return anomalous metal values.

#### 6.1.6 Jupiter

Reference is made to an unnamed molybdenum and copper showing in this location in a 1969 compilation map, however further details of its discovery and history are unknown.

In 1982, Pharaoh Exploration Inc. owned the Schemo property in which the Jupiter showing is located. A desktop study was undertaken, but other than reference to some prospecting taking place, no other records specific to the Jupiter showing have been located.

In 2008, Duncastle Gold Corp. collected four samples near the Jupiter showing, one of which returned 9.0% Zn and 115g/t Ag.

#### 6.1.7 Big Thing

Reference is made to an unnamed molybdenum and copper showing in this location in a 1969 compilation map, however further details of its discovery and history are unknown.

In 2010, Duncastle Gold Corp. conducted reconnaissance in the area and collected 3 representative samples. Sample Mwpc10-02A returned weakly anomalous gold (0.207 g/t), zinc (0.1 %) and arsenic (0.3%). Follow up mapping and sampling was recommended in this area but was ranked as a low priority.

### 6.1.8 Red Rose

The Red Rose past producing mine is located within 14 crown grants owned by Freeport Resources Inc. The Crown grants are encompassed within the Cobalt Mountain property and therefore included in the history summary below.

The Red Rose occurrence was discovered and staked in 1912 by C. Peterson and C. Ek. Early development work included drifts, adits and some mining while optioned by the Skeena Development Company from 1914 – 1916.

A vein hosted tungsten showing was discovered in 1923 above the mine workings but no other work was reported until 1939 when The Consolidated Mining and Smelting Company of Canada Ltd. purchased the property. During 1940 – 1943, underground development and mining was carried out on the tungsten vein. A 25 ton-per-day mill constructed on site, processed 25,950 tons of ore during that time.

Between 1951 and 1954, Western Tungsten Copper Mines optioned the property and continued to develop the underground workings and mined 88,225 tons of ore. Total production for the mine was 114,175 tons of ore which yielded 563 oz Au, 823 oz Ag, 59,708 lbs Cu, and 1,698 tons of tungsten concentrate. Operations were shut down due to difficulty to produce viable concentrate and reduced demand for the metal after WWII.

The upper extents of the orebody is interpreted to be largely mined out. The deposit remains open to depth and to the south where the ore body intersects a major diorite body. In 1955, Farwest Tungsten Copper Mines Ltd acquired all of the assets of Western Tungsten Copper Mines and sold all the machinery and equipment on the property.

Cominco (formerly The Consolidated Mining and Smelting Company of Canada Ltd.) maintained ownership of the crown grants overlying the Red Rose mine site until 1987. At that time, Freeport Resources Inc. purchased 100% interest in the property and drilled two holes confirming mineralization below the 1100 level. Freeport Resources Inc. is the current owner of the Red Rose Crown Grants.

In 2006, Crucible Resources Ltd. optioned property containing the Red Rose mine. One day was spent in the field area. Two rock samples and 1 tailings sample were collected.

No other work specific to this area has been filed since.

## 6.2 Mapping and Prospecting

Intermittent mapping and prospecting have taken place across the property since the early 1900's. The majority of the documented historical work consists of partial reports lacking exact sample location information, sampling methodology and analysis.

In 2007, Duncastle Gold Corp. conducted limited prospecting around the Armagosa showing collecting a total of seven samples which returned anomalous values for Au, Cu, and Mo.

In 2008, Duncastle Gold Corp. conducted a much broader prospecting program, collecting a total of 43 samples from across the property. These samples were predominantly taken from talus and occasionally outcrop. Rock samples were dried, crushed, split and pulverized before being analyzed for gold by fire assay and for a 53-element scan by ICP-MS following an aqua regia digestion. Noteworthy samples are tabulated below:

Table 6.3 Selected results from the 2008 prospecting program conducted by Duncastle Gold Corp.

Sample ID	Northing	Easting	Area	Au (g/t)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Co (ppm)
22936	588925	6110030	Brunswick	1.30	1.60	1018	4600	10000	126000	9.80
22937	589073	6110082	Brunswick	0.79	1.96	251	1950	4401	82938	1.70
22946	589129	6110090	Brunswick	0.86	5.68	>10000	110800	189400	2566000	40.90
22947	589095	6110085	Brunswick	0.42	2.21	5410	49400	41800	1131000	9.40
22949	588970	6110047	Brunswick	0.07	2.12	286	3071	3679	66615	6.50
23176	589174	6104398	Brian Boru	1.11	1.54	1277	900	222700	66000	190.30
23178	590158	6108071	Jupiter	0.01	1.15	2676	7200	90100	115000	53.60
23201	588986	6104360	Brian Boru	0.10	0.51	4955	2700	142600	152000	134.70

The rock types encountered during this program consisted of volcanic rocks intruded by various phases of diorite, granodiorite and granite. Alongside the north-south oriented volcanic rocks, sediments composed of argillite, siltstone with minor conglomerate are mapped to the west. Mineralization and alteration were encountered throughout all rock types. Mineralogy and assemblages included chlorite, limonite, biotite, k-spar, magnetite, hematite, pyrite, pyrrhotite, galena, sphalerite, chalcopryrite, malachite, molybdenum, native copper and abundant silicification. The mineralization was observed as quartz stringers, pods and disseminations.

Duncastle Gold Corp. also conducted limited prospecting in 2010 over the Sultana, Tina West and Big Thing prospects. Historic drill core from Sultana was also collected and sampled. The most significant results all came from Sultana with one sample grading 18.2 g/t Au and 17.8% Cu, and another grading 1.08% Mo. The results from the historic drill core also confirmed anomalous values for copper and molybdenum.

### 6.3 Rock Sampling and Trenching

Trenching on the property is limited to work completed in the 1920's and more recently in 1972. This surface work occurred at the Brunswick and Sultana showings. In the case of the Brunswick showing, trenching took place to improve vein system geometry on surface before excavating underground to access the ore. Some open pits and shafts were also excavated in at the Brian Boru Prospect in the 1920's.

### 6.4 Soil Geochemistry

The most significant soil geochemistry program took place over the Sultana prospect in 2010. Duncastle Gold Corp. collected a total of 480 soil samples 5 to 10 metres apart along several lines 25 to 50 metres apart. The tight spacing was chosen due to the close spacing of pyrite and chalcopryrite bearing quartz veins observed across the showing.

The program covered an area of 250 m x 400 m and results were encouraging enough to warrant a follow up three-hole drill program. Average copper and molybdenum values for all samples collected were approximately six times higher than median concentrations at 168.3 ppm Cu and 22.86 ppm Mo. Maximum values of 3363.2 ppm Cu and 834.2 ppm Mo indicate significant mineralization at surface.

## 6.5 2017 Field Program

Between August 31st and September 1st, 2017 Timothy Johnson and a small crew of samplers visited the Sultana area in the southeast part of the property. Two contoured soil sample lines were taken consisting of 95 samples. These soils expanded on the initial 2014 and 2016 soil grid. 14 rock samples were collected along the soil traverses with sampling prioritizing an area that was covered by snow in the 2016 field program.

On September 22nd and September 26th 2017, Lorie Farrell of Farrell Exploration Services Inc. and Tom Bell of Eagle Eye Ventures visited the Red Rose Creek area in the northwest of the property. This ridge airborne EM and magnetic target was prospected and mapped with 18 rock grab samples taken. Results included sample 126205 that contained 715 ppm Cu and 3.49 ppm Ag in a feldspar porphyry float with quartz/calcite veining and associated chlorite alteration, pyrite and pyrrhotite.

## 6.6 Geophysical Surveys

Localized geophysical surveys targeting specific occurrences are noted through to 1987 and no others occurred until 2010 when Duncastle Gold Corp. completed an airborne multi-sensor geophysical survey. Fugro Airborne Surveys completed 495 line km of helicopter-borne electromagnetic, magnetic and radiometric surveys in July 2010. This survey acquired data on a grid pattern of 200 m spaced east–west flight-lines controlled by 1,000 m spaced north–south tie lines.

The 2010 airborne survey identified property-scale controlling structures and highlighted zones of pronounced potassium alteration. Known mineral occurrences were typically not coincident with any electromagnetic signature, but are associated with positive magnetic anomalies. Limited prospecting followed up the survey and additional groundwork was recommended.

A re-interpretation of the 2010 airborne geophysical survey was undertaken by Campbell & Walker Geophysics Ltd in early 2017.

Re-interpretation of the 2010 airborne geophysical data included application of algorithms developed by the Center for Exploration Targeting at the University of Western Australia. Anomalous geophysical signatures on the Cobalt Mountain area have identified regions of structural complexity and the response of idealized porphyry mineralising systems within magnetic data sets. This study demonstrated that all mineral occurrences on the property are associated with the edges of interpreted anomalies and provides targets for future exploration work. A more detailed discussion of these results can be found in Section 9.

The following text and Figures 6.3 – 6.6 and associated interpretations are taken from the assessment report (Campbell 2017):

Subsequent to the original airborne geophysical interpretation, the magnetic component of the survey data was re-evaluated utilizing three new approaches consisting of structural analysis, an analysis searching for possible porphyry –type character, and a 3D inversion of the magnetics.

The former two approaches utilized technology from the Centre for Exploration Targeting at the University of Western Australia. The first of these is a ‘grid analysis’ that automatically maps lineaments and identifies geological structural complexity. The method yields two scenarios of structural complexity detection, contact occurrence density (Figure 9.1) and orientation entropy (Figure 9.2).

The second is an automated image analysis system for gridded data that in principle at least, may provide an accurate and non-subjective way to identify the magnetic response of an idealized porphyry mineralizing system. The method finds circular anomalies that are associated with the central intrusion and inner alteration zone of the porphyry system using a circular feature detection method called the circular feature transform. Then their boundaries are approximated by deformable splines that are drawn to the locations of maximum contrast between the amplitudes of the central 'high' and surrounding area of lower magnetisation (Figure 9.3).

The aeromagnetic data was also inverted using Geosoft's 'VOXI' earth modeling software, which generates 3D voxel models from airborne or ground gravity and magnetic data, leading directly to a solid earth representation of the magnetic susceptibility distribution (Figure 9.4). The inversions were run 'unconstrained' by the limited drilling information available, or by representative surface magnetic susceptibility data; should these be made available at some point in the future, then the inversion should be re-run with geological and/or geophysical constraints for better fit.

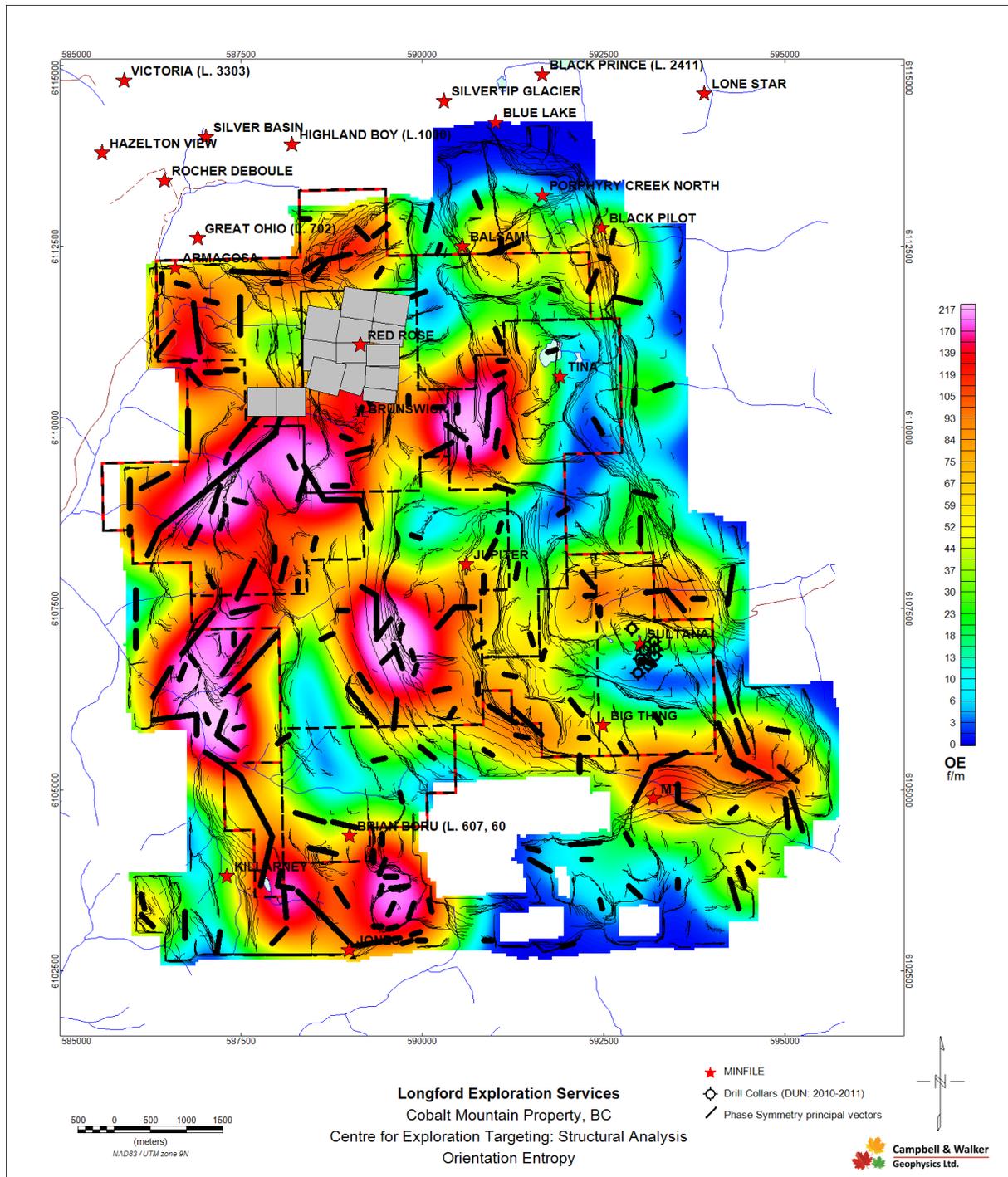


Figure 6.3 CET Structural Analysis: Orientation Entropy.

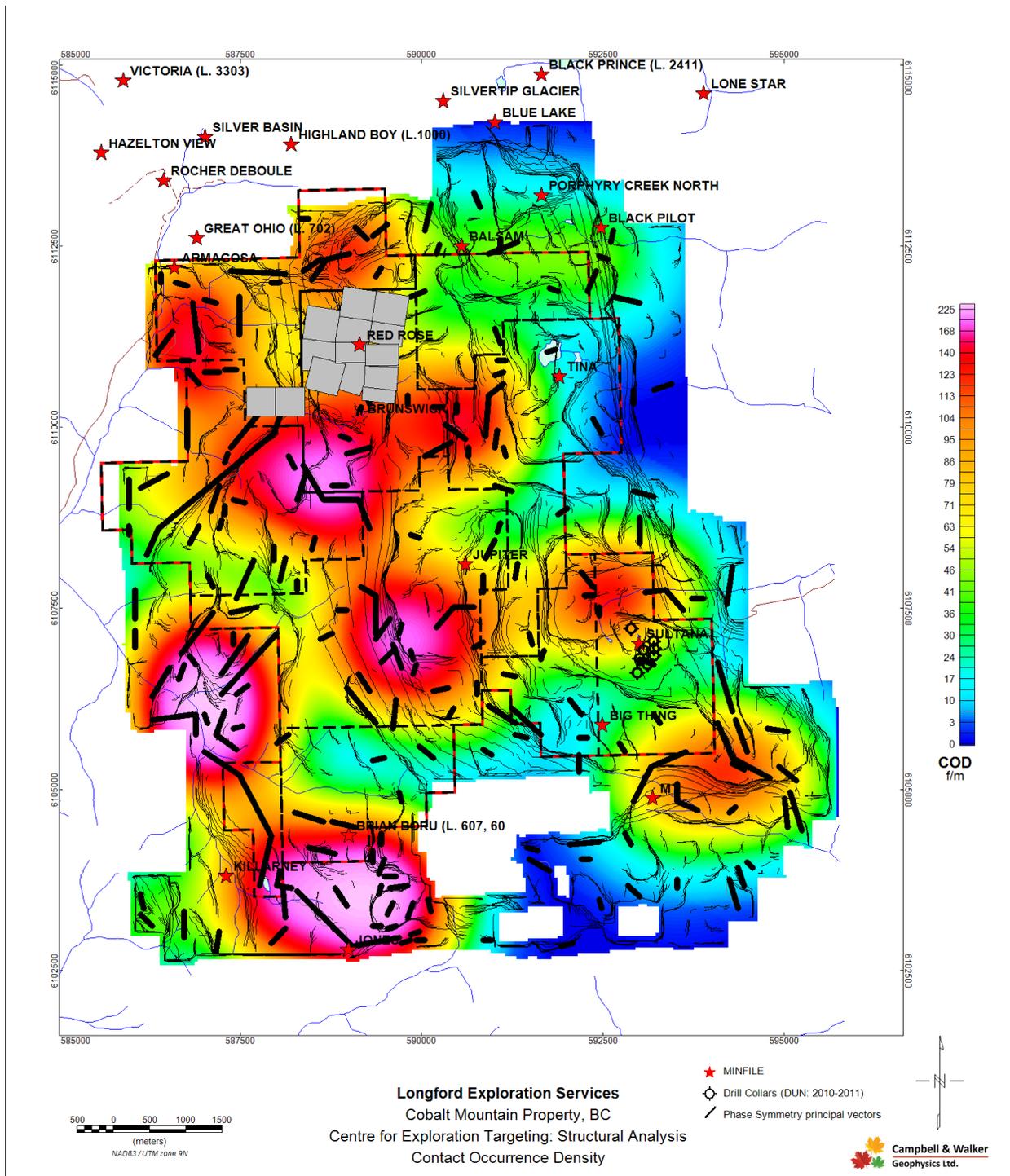


Figure 6.4 CET Structural Analysis: Contact Occurrence Density.

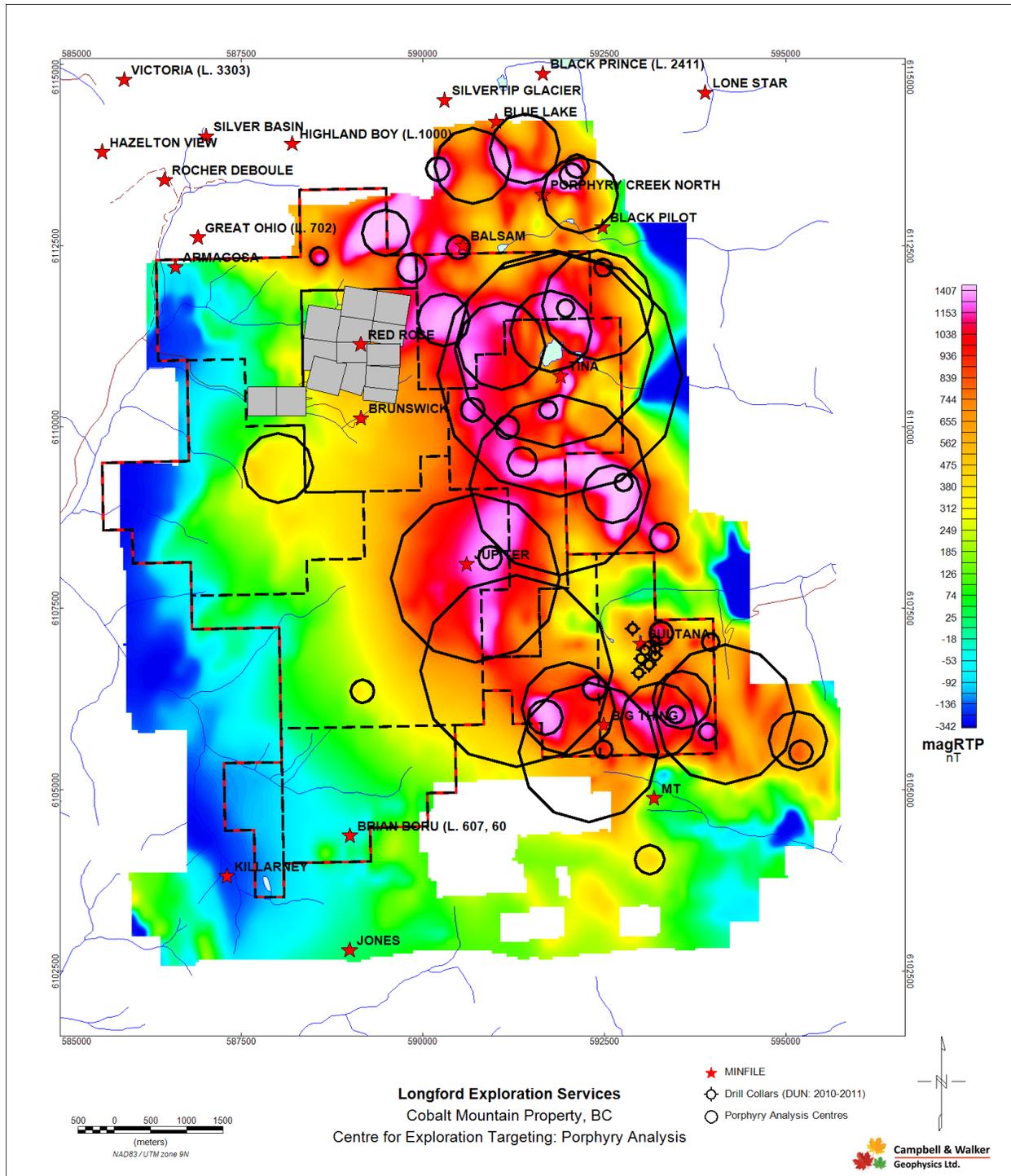


Figure 6.5 CET Porphyry Analysis: Radial Symmetrical Centres over Reduced-to-Pole Magnetic Intensity.

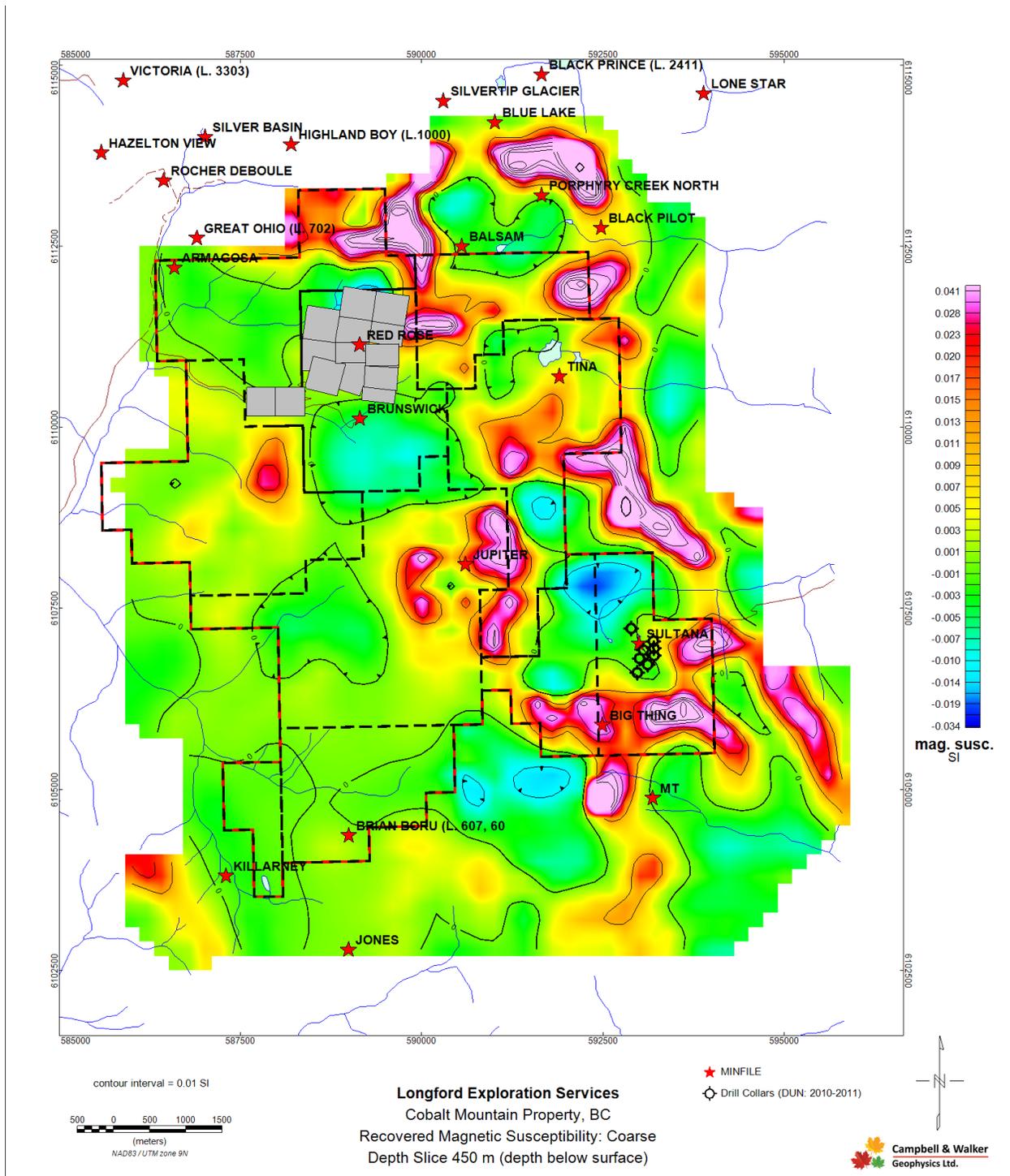


Figure 6.6 3d Voxi: 450m depth slice (below surface) through recovered susceptibility model (coarse).

## 7 Geological Setting and Mineralization

### 7.1 Regional Geology

The Cobalt Mountain property is located within Intermontane tectonic province and underlain by rock assemblages of the allochthonous Stikine terrane (Figure 7.1). The Stikine volcanic arc terrane formed outboard of ancestral North America starting in the Late Paleozoic and was accreted initially to other allochthonous terranes; Quesnel and Cache Creek terranes, and then to the North American margin in the Middle Jurassic. Since then, the mosaic has been intruded by post accretion plutonic suites and covered in part by Jurassic and younger syn – and post accretionary siliclastic deposits.

#### 7.1.1 The Stikine Terrane

The Stikine terrane generally trends northwest spanning over 1,500 km across the length of British Columbia and varies in width from over 300 km wide to less than 100 km. It is the largest terrane in BC among the most metallogenetically significant. The Philippine microplate with complex, opposite-facing arcs is considered a present day analog (Marsden and Thorkelson, 1992).

The Stikine terrane is a complex volcanic arc assemblage built during three episodes of island arc formation between the late Paleozoic and early Mesozoic. Each is represented by an unconformity-bounded volcanic-sedimentary sequence and coeval intrusive suite: 1) Devonian to Permian Stikine assemblage and Asitka Group and Forrest Kerr and More Creek plutons, (Logan et al. 2000; Gunning et al. 2006); Middle to Upper Triassic Stuhini and Takla Groups and accompanying intrusions such as the Hotailuh and Hickman batholiths (Souther, 1977; Monger, 1977; Dostal et al. 1999); and Lower to Middle Jurassic Hazelton Group and related high-level intrusions such as the Texas Creek suite (Barresi et al., 2015). Much of the porphyry related metal endowment is contained within sub-volcanic intrusive complexes related to the Stuhini and Hazelton Groups.

#### 7.1.2 Post Accretionary Stratigraphic Rocks

Middle – late Mesozoic Bowser Lake Group and Skeena Group rocks formed in syn -post accretionary basins and cover much of the north-central part of the Stikine terrane. The Bowser Lake Group sedimentary sequence spans the former basin between the Stikine Arch and Skeena Arch and consists of nine different sedimentary assemblages (Evanchick et al., 2001).

#### 7.1.3 Post Accretionary Intrusions

During late Mesozoic to Cenozoic time, intrusive rocks formed in an intracontinental setting, after the outboard host arc and related terranes accreted to the western margin of North America and accumulated siliclastic cover rocks. The intrusive rocks are interpreted to occur in continental back arc settings and individual deposits are generally hosted by older country rocks referred to above. Deposits are generally hosted within the Hazelton group and show a spectrum of metal associations and deposit styles; porphyry copper-molybdenum at the Huckleberry mine (currently on care and maintenance status); porphyry copper-gold at past producing Bell and Granisle mines; porphyry molybdenum at the past producing Kitsault and Endako mines. Precious and base metal vein deposits can occur peripheral to intrusive stocks.

#### 7.1.4 Structure and Folding

Braided sets of post-accretionary, northwest trending, strike-slip faults, transect the mosaic of terranes and set the overall structural grain of the Cordillera. Faults record mainly dextral displacement from mid Cretaceous to Eocene and with a cumulative offset up to 800 km (Gabrielse et al., 2006).

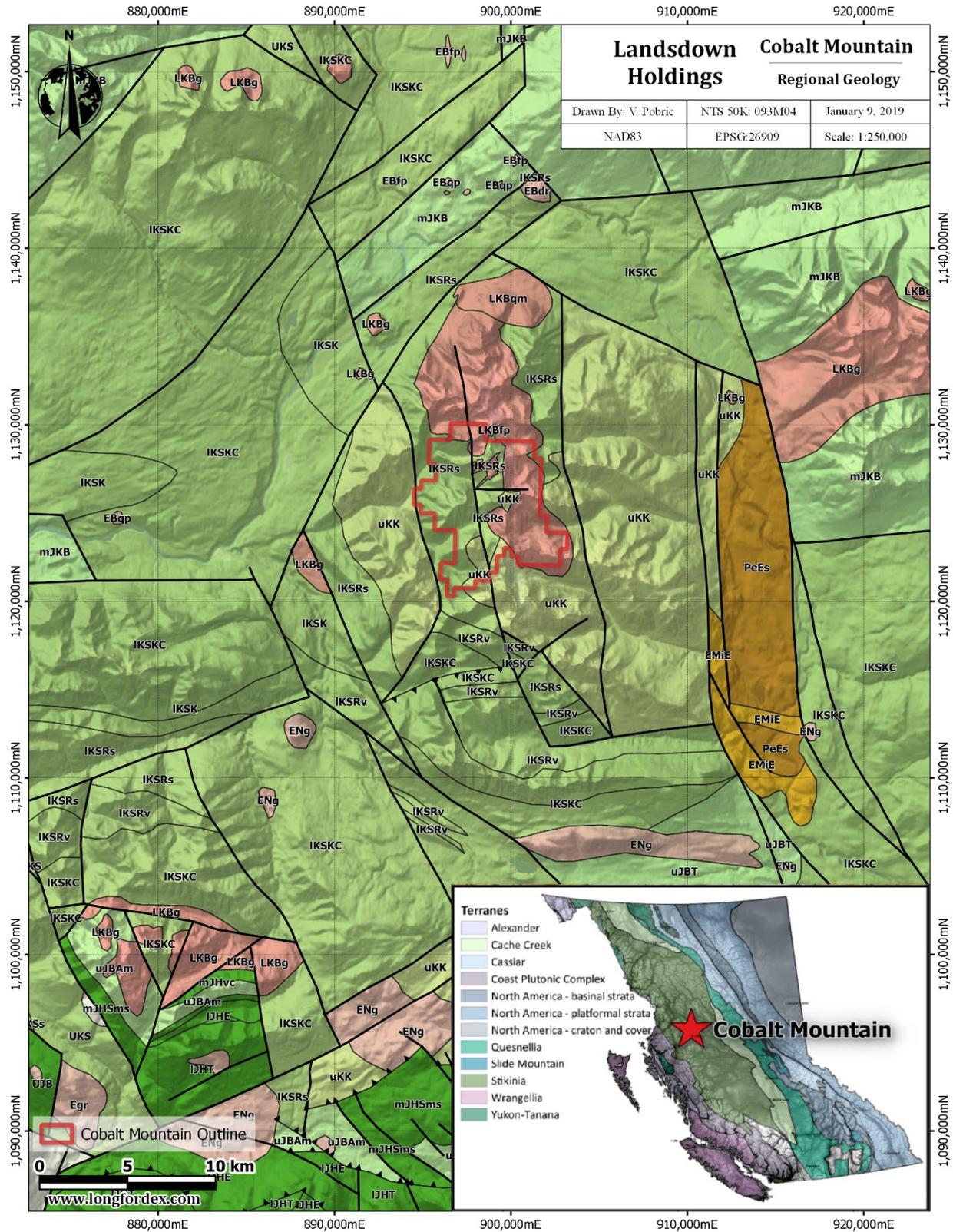


Figure 7.1 Regional Geology of the Cobalt Mountain Project, refer to legend in Figure 7.2 (inset after Nelson et al. 2013, Geology after BCGS).

<b>Regional Geology</b>	
	PeEs: Paleocene to Eocene undivided sedimentary rocks
	EMiE: Eocene to Lower Miocene Endako Group basaltic volcanic rocks
	Egr: Eocene granite, granodiorite
	ENg: Eocene Nanika Plutonic Suite intrusive rocks, undivided
	EBfp: Eocene Babine Plutonic Suite feldspar porphyritic intrusive rocks
	EBqp: Eocene Babine Plutonic Suite high level quartz phyrlic, felsitic intrusive rocks
	EBdr: Eocene Babine Plutonic Suite dioritic intrusive rocks
	IKSKC: Lower Cretaceous Skeena Group - Kitsuns Creek Formation coarse clastic sedimentary rocks
	IKS: Lower Cretaceous Skeena Group undivided sedimentary rocks
	IKSRs: Early Cretaceous Skeena Group - Red Rose Formation undivided sedimentary rocks
	IKSK: Lower Cretaceous Skeena Group - Kitsumkalum Shale mudstone, siltstone, shale fine clastic sedimentary rocks
	IKSRv: Lower Cretaceous Skeena Group - Rocky Ridge Formation alkaline volcanic rocks
	UKS: Lower Cretaceous Skeena Group - Kitsuns Creek Formation coarse clastic sedimentary rocks
	UKSs: Lower Cretaceous Skeena Group sedimentary rocks, undivided
	uKK: Cretaceous Kasalka Group andesitic volcanic rocks
	LKBg: Late Cretaceous Bulkley Plutonic Suite intrusive rocks, undivided
	LKBfp: Late Cretaceous Bulkley Plutonic Suite feldspar porphyritic intrusive rocks
	LKBqm: Late Cretaceous Bulkley Plutonic Suite quartz monzonitic intrusive rocks
	uJBAm: Upper Jurassic Bowser Lake Group - Ashman Formation mudstone, siltstone, shale fine clastic sedimentary rocks
	mJKB: Middle Jurassic to Late Cretaceous Bowser Lake Group undivided sedimentary rocks
	uJBT: Upper Jurassic Bowser Lake Group - Trout Creek Formation undivided sedimentary rocks
	mJHSms: Middle Jurassic Hazelton Group - Smithers Formation undivided sedimentary rocks
	IJHT: Early Jurassic Hazelton Group - Telkwa Formation - Mafic Volcanic Member basaltic volcanic rocks
	IJHE: Lower Jurassic Hazelton Group - Eagle Peak Formation volcanoclastic rocks
	IJHNk: Early Jurassic Hazelton Group - Nilkitkwa Formation argillite, greywacke, wacke, conglomerate turbidites
	mJHvc: Middle Jurassic Hazelton Group volcanoclastic rocks
	UJB: Late Jurassic Bowser Lake Group Sandstone, siltstone, shale, conglomerate
<b>Faults</b>	
	Fault
	Thrust fault

Figure 7.2 Geology legend for Figures 7.1 and 7.3.

The Skeena Arch is a northeast - southwest structural corridor which transects approximately the middle of the Stikine terrane. The Skeena Arch is the topographic highland which separates the Bowser basin sediments to the north and the Netchako plateau to the south. Faults in this area create a mesh-like map pattern which cross-cut the general northwest trend of the Cordillera with east-northeast trending host and graben faults. The Skeena Arch is endowed with over 800 known mineral occurrences detailed in the BC geological Survey's MINFILE database.

The Cobalt Mountain property lies within the Cretaceous Skeena Fold Belt, a regional fold and thrust belt primarily expressed in thinly layered strata of the Bowser Lake Group sedimentary rocks. Folding and faulting from this NE-SW shortening deformation are less prevalent but are present within Stuhini and Hazelton strata. The majority of fold and thrust faults trend northwest and accommodate northeasterly shortening during Cretaceous time. Northeast trending folds in the domains on the western side of the fold belt have similar geometry and scale as northwest trending folds.

## 7.2 Property Geology

Evanchick (2008) completed the most recent iteration of 1:125,000 scale geological mapping of the area and described it in the Geological Survey of Canada Open File 5704. The following rock unit descriptions are based from that report.

The Cobalt Mountain property and greater Rocher Deboulé mountain range is underlain by three stratified assemblages each separated by an unconformity. From oldest to youngest, assemblages include: sedimentary rocks of the Upper Jurassic to Lowest Cretaceous Bowser Lake Group; sedimentary and volcanic rocks of the Lower Cretaceous Skeena Group and intracontinental arc volcanic rocks of the Upper Cretaceous Kasalka Group. Stratified rocks are cut by a Late Cretaceous intrusion of the Bulkley Plutonic Suite (Figure 7.3).

### 7.2.1 Bowser Lake Group

The Upper Jurassic to Lowest Jurassic Bowser Lake Group (BLG) sedimentary rocks are mapped mostly as undivided marine and non-marine sediments and dominate the western half of the Cobalt Mountain property. A small area in the south-central area of the property is identified as the Muskaboo Creek shelf facies Assemblage. Lithologies include sandstone, siltstone and conglomerate. Primary lithofacies is fine to medium grained sandstone, forming laterally continuous thin to thick-bedded sheets; less common are siltstone interbedded with sandstone; rare lenses of conglomerate; sandstone is green-brown and grey-weathering, thin to thick-bedded, and locally arranged in coarsening upward cycles; includes burrows, bivalve coquina, and other marine fossils, common ripple marks and crossbedding and local hummocky cross-stratification. In the Rocher Deboule Range, the BLG may conformably overly Hazelton Group andesitic arc volcanic rocks and related sedimentary rocks. (Gagnon, 2010, Thorkelson et al., 1995; Richards, 1980, 1990).

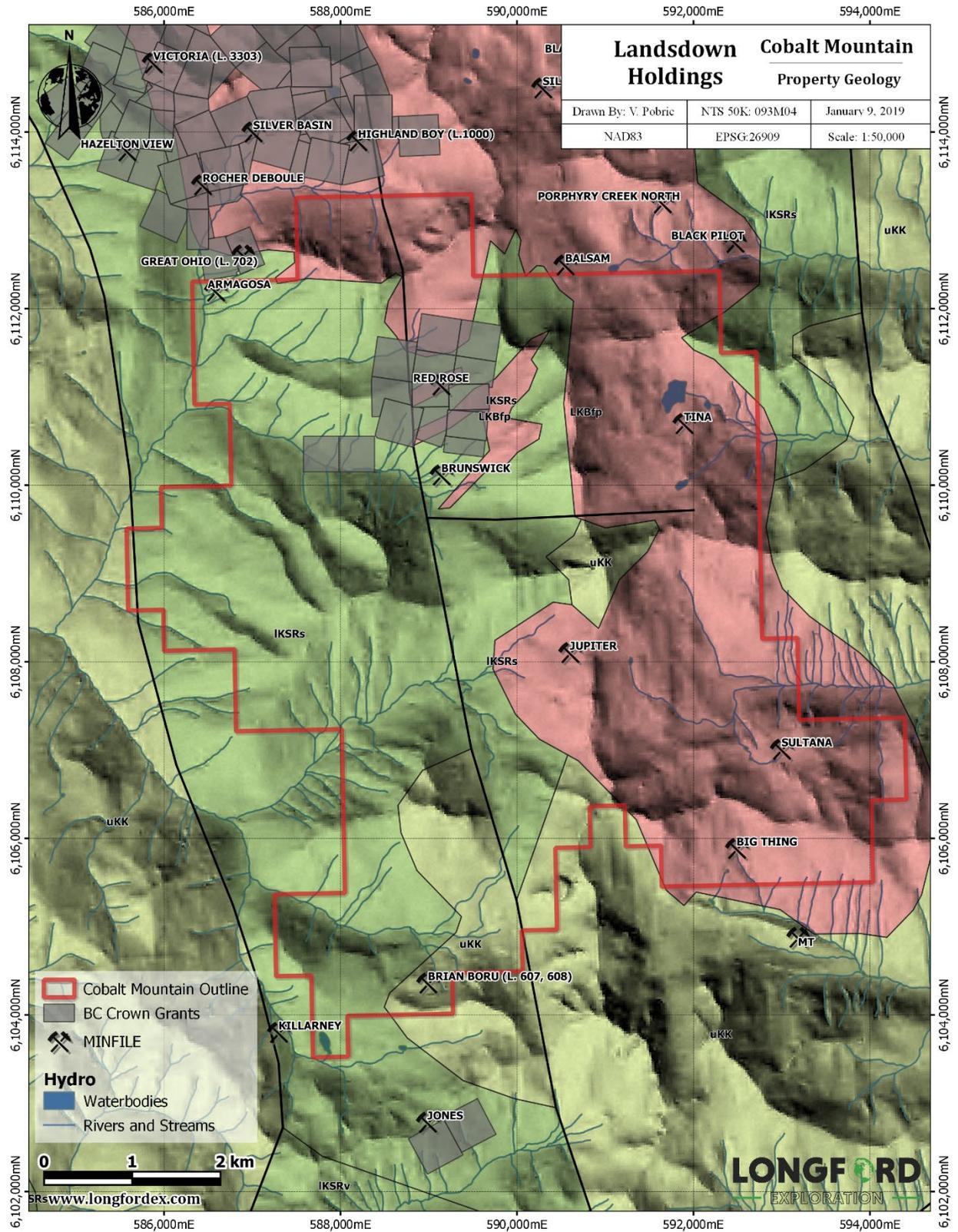


Figure 7.3 Property scale geology of the Cobalt Mountain Project, refer to legend in Figure 7.2. Geology after BCGS.

### 7.2.2 Skeena Group

The Lower Cretaceous Skeena Group is composed of three mapped formations (oldest to youngest): Bulkley Canyon, Rocky Ridge and Rocher Deboule Formations. On the Cobalt Mountain property, Skeena Group rocks are limited to the Rocher Deboule Formation mapped on the southwestern margin of the mineral claims. The lower contact of the Skeena group is rarely observed, where it is exposed, the contact is an angular unconformity with the underlying Hazelton or Bowser Lake Group sedimentary rocks. In general, the lower Skeena Group is fluvial-deltaic mudstone, siltstone and sandstone overlain by volcanic rocks of the Rocky Ridge Formation. (MacIntyre, 2000).

The Rocher Deboule Formation as defined by Bassett and Klienspehn (1996) is inclusive of the Red Rose Formation and Hanawald conglomerate segregated by Richards (1990). The unit is a fluvial –deltaic deposit of Albian to Cenomanian age. Lithologies include sandstone, siltstone, mudstone, tuff, conglomerate; common detrital muscovite and common reddish colours; sections commonly contain cycles fining upward from sandstone to siltstone and mudstone, locally with conglomerate at the base. Where thermally altered biotite hornfels are common. The upper stratigraphy of the Rocher Deboule Formation was identified by Richards (1990) and was called the Red Rose Fm. Some of the most significant past producing mines of the area are hosted within this upper stratigraphy of the Rocher Deboule Formation.

The Bulkley Canyon Formation is mapped approximately 5 km southwest of the property boundary. It is described to include feldspathic sandstone, siltstone, mudstone, coal and minor volcanoclastic conglomerate; sections commonly contain cycles fining upward from coarse-grained sandstone to carbonaceous siltstone, mudstone or coal.

Just south of the property boundary, The Rocky Ridge Formation trends roughly east-west and includes porphyritic and amygdaloidal basalt flows and intercalated volcanoclastic sedimentary rocks; phenocrysts of pyroxene, plagioclase, and hornblende; includes breccia, lapilli tuff, and volcanic debris flow conglomerate;  $^{40}\text{Ar} / ^{39}\text{Ar}$  ages indicate 95-93 Ma. An older member of the Rocky Ridge Formation includes feldspar-pheric flow banded rhyolite to rhyodacite domes and interbedded dacitic volcanic rocks; includes lapilli tuff and flow breccia; U-Pb ages yielded 107.9 +/-0.2 Ma (Macintyre, 2000).

### 7.2.3 Kasalka Group

The Upper Cretaceous Kasalka Group is mapped on the southeastern portion of the property and unconformably overlies the Skeena Group. The Kasalka Group is described to contain hornblende-feldspar-porphyritic andesite-dacite flows, flow breccia, breccia; rhyolite to dacite flows and ash flow tuff, breccia; minor basalt and andesite feldspar porphyry, intercalated lacustrine, fluvial and tuffaceous sedimentary rocks, and volcanic debris-flow conglomerate; includes sills, dykes and intrusive domes.

### 7.2.4 Bulkley Plutonic Suite

The Late Cretaceous Bulkley Plutonic Suite cuts all of the stratified rocks described above and is mapped in the central and north-central areas of the Cobalt Mountain property. The intrusive body is less than 1 km wide at the narrowest point in the southern areas versus over 5 km wide in the northern extent. The elongate stock trends north-northwest and measures over 15 km from north of Hagwilget Peak to the headwaters of Corya Creek and correlates roughly with resistive high topography along the length of the Rocher Deboulé mountain range. Intrusive phases include mainly granodiorite, lesser quartz monzonite,

lesser quartz monzonite, quartz diorite, minor diorite and granite; ages yielded 85-61 Ma. The majority of mineral (MINFILE) occurrences occur proximal to the mapped contact of the intrusion.

### 7.3 Mineralization and Structure

There are at least eight known MINFILE occurrences on the Cobalt Mountain property. Nineteen additional MINFILE occurrences are located in the surrounding Rocher Deboulé Range and vary from small showings to past producing underground mines. Mineralization style is primarily polymetallic base and precious metal veins and calc-alkalic porphyry copper +/- molybdenum +/- gold. Most mineral occurrences are hosted within or located proximal to the Rocher Deboulé stock.

The Brian Boru showing (on the property) and nearby Killarney and Jones (not on the property) are the only MINFILE occurrences not proximal to a mapped intrusion but are likely intrusion related.

Precious and base-metal vein systems on the property are commonly influenced by controlling faults. Regional scale north-northwest trending faults divide the Rocher Deboulé Range roughly into east and west domains. (Figure 7.1). The middle structure parallels the height of land along the western side of the mountain range and propagates through the past producing Red Rose mine. Here, a fault known as the Red Rose Shear hosts tungsten mineralization where the shear zone cuts a tongue of diorite atypical of the Rocher Deboulé stock. Northeast trending cross faults link the regional faults and match the fault – mesh network observed across the Skeena Arch. Displacement on most faults are typically hundreds of meters (Warkentin, Young) 2001.

## 8 Deposit Types

### 8.1 Porphyry Exploration Model

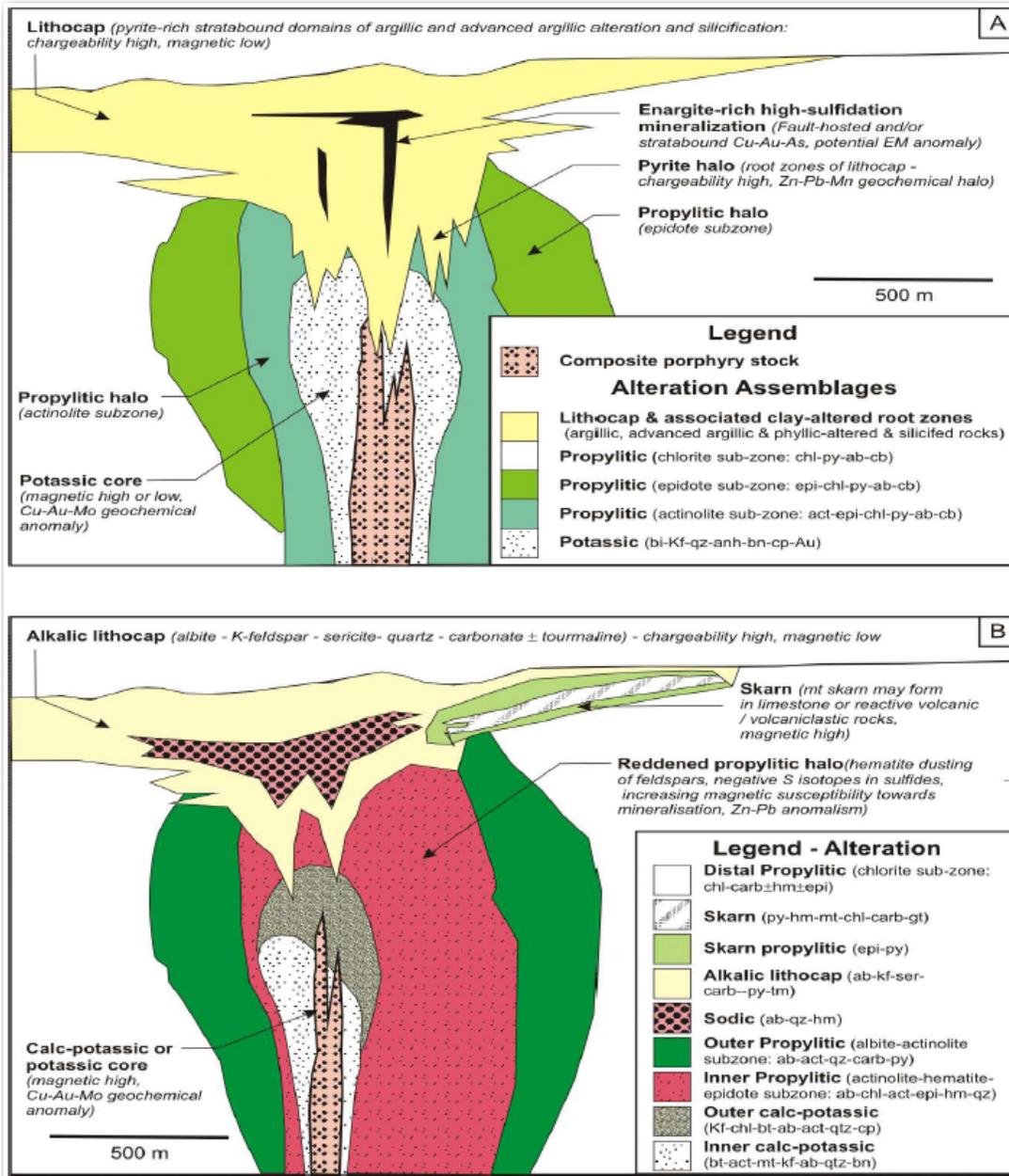
The multiple polymetallic vein occurrences on the Cobalt Mountain Property could be part of a much larger hydrothermal system. Macdonald et al. summarize this exploration model in their 2011 report:

The conceptual target is a zoned porphyry mineral system (Figure 8.1) related to the intrusion of the Rocher Deboulé stock, a large composite intrusion of granodiorite to quartz monzonite composition. Mineral occurrences include “proximal” intrusion-hosted, bulk tonnage Cu-Mo deposits and “distal” polymetallic veins and shears within the adjacent country rocks.

The following description of porphyry deposits is modified after Rodgers, 2010: “...*fracture-controlled quartz-sulphide veinlets and veins, and sulphide disseminations in fractures hosted by, or proximal to, high-level, calc-alkaline, intermediate to felsic, porphyritic intrusions. There may be a spatial and genetic relationship to high-level (epizonal), calc-alkaline, intermediate to felsic stocks, dykes, sills, and breccia pipes, with porphyritic phases, that are intrusive into volcanic and sedimentary rocks. These commonly occur as subvolcanic intrusions to volcanic complexes. The porphyritic intrusions and/or the surrounding country rocks may host the mineralization. Multiple intrusive phases and brecciation are common. Typical general associations are: quartz monzonite to alkali feldspar granite: Mo-W; granodiorite to quartz monzonite: Cu-Mo; and diorite-quartz diorite-tonalite: Cu-Au-(Mo).*”

Individual mineral occurrences may be associated with smaller intrusive bodies and dykes either within or on the margins of the main stock. An example of this may be the Sultana prospect where airborne geophysics has identified an aeromagnetic high located on the eastern margin of the stock. The magnetic high is surrounded by an arcuate magnetic low. This magnetic low may be caused by the destruction of primary magnetite in the host rock by hydrothermal fluids mobilized by the heat of intrusion. Sulphide mineralization is localized within the altered area around the barren core.

Figure 8.1 Zoned porphyry system model after Holliday and Cooke, 2007.



## 9 Exploration

### 9.1 2018 Field Program

An exploration program was carried out for assessment purposes from September 15 – 22<sup>nd</sup> 2018. Lorie Farrell with two to four additional samplers collected 240 soil samples and 23 rock samples on the Porphyry Creek property in the area of the Sultana showing. This program followed up on elevated soil and rock samples that were collected in 2017 on the Zante, Zante South and Corinth Zones.

A 100 m by 50 m spaced soil grid was placed over the Zante and Zante South anomalies covering an irregular area of roughly 1.7 km by 1.0km (Figure 9.1 and 9.2). Samples were taken from 2-30 cm depth using a shovel, sealed in kraft bags, locations marked with hand held GPS and characteristics noted. Four field duplicates were taken. Visual copper and or molybdenum mineralization was noticed in boulders loosely corresponding to or uphill of the anomalous 2018 Zante and Zante South soil locations.

Only one day was spent prospecting in the area of the Corinth zone due to snow cover but additional actinolite float was followed up slope of the 5.75% Cu that was located in sample 1041864 to outcropping lower grade actinolite and quartz veining, additional gossan in outcrop was noticed further up slope where a sample returned 1.5% Cu (Figure 9.3). Most rock samples were taken from float in this and the Zante and Zante South zones where the precise source is unknown. Rock samples taken from outcrop are considered lower grade but representative of the immediate area of outcrop that was visited. Additional time should be spent prospecting outcrop in these areas when ground is not snow covered.

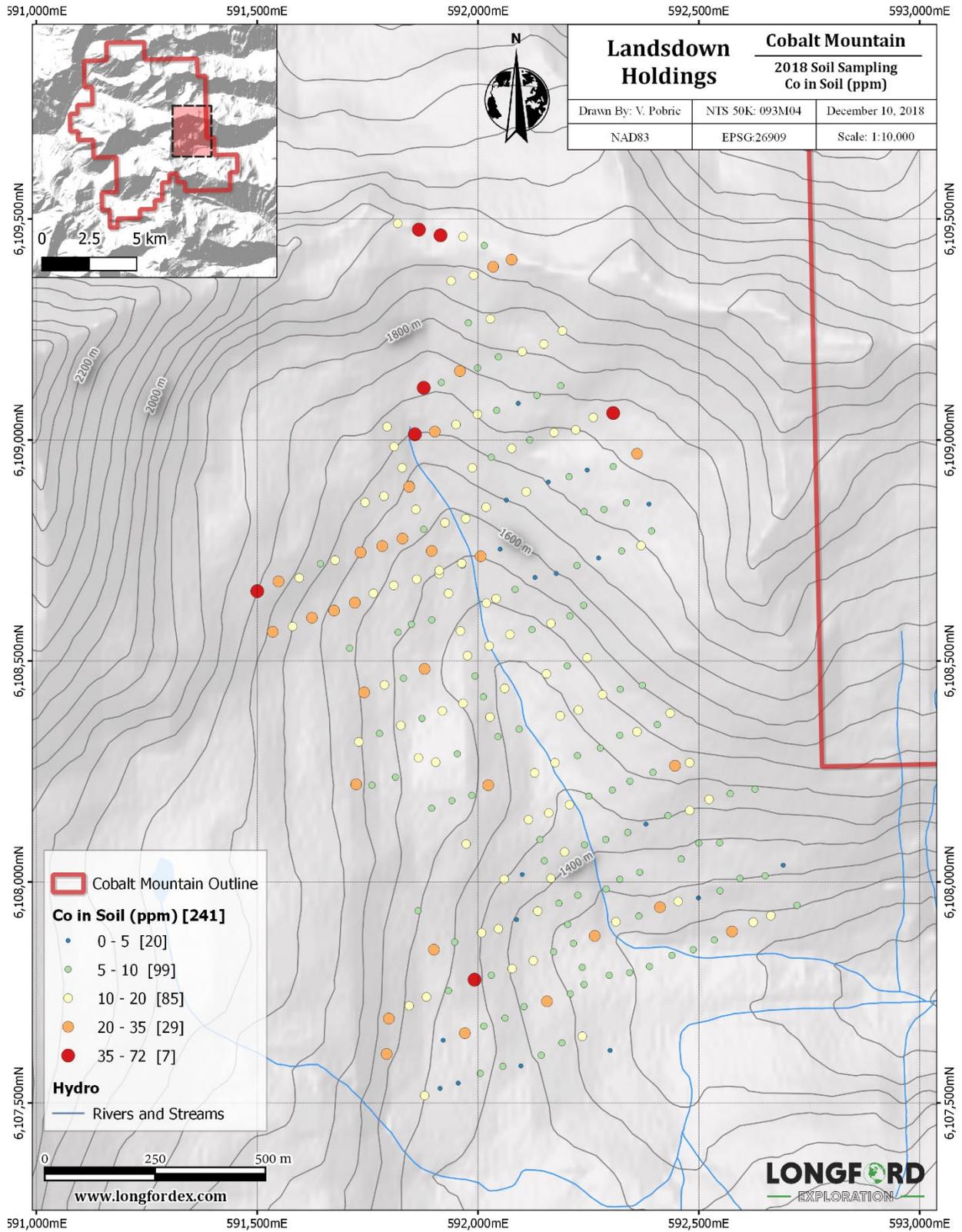


Figure 9.1 2018 Co in soil results (ppm).

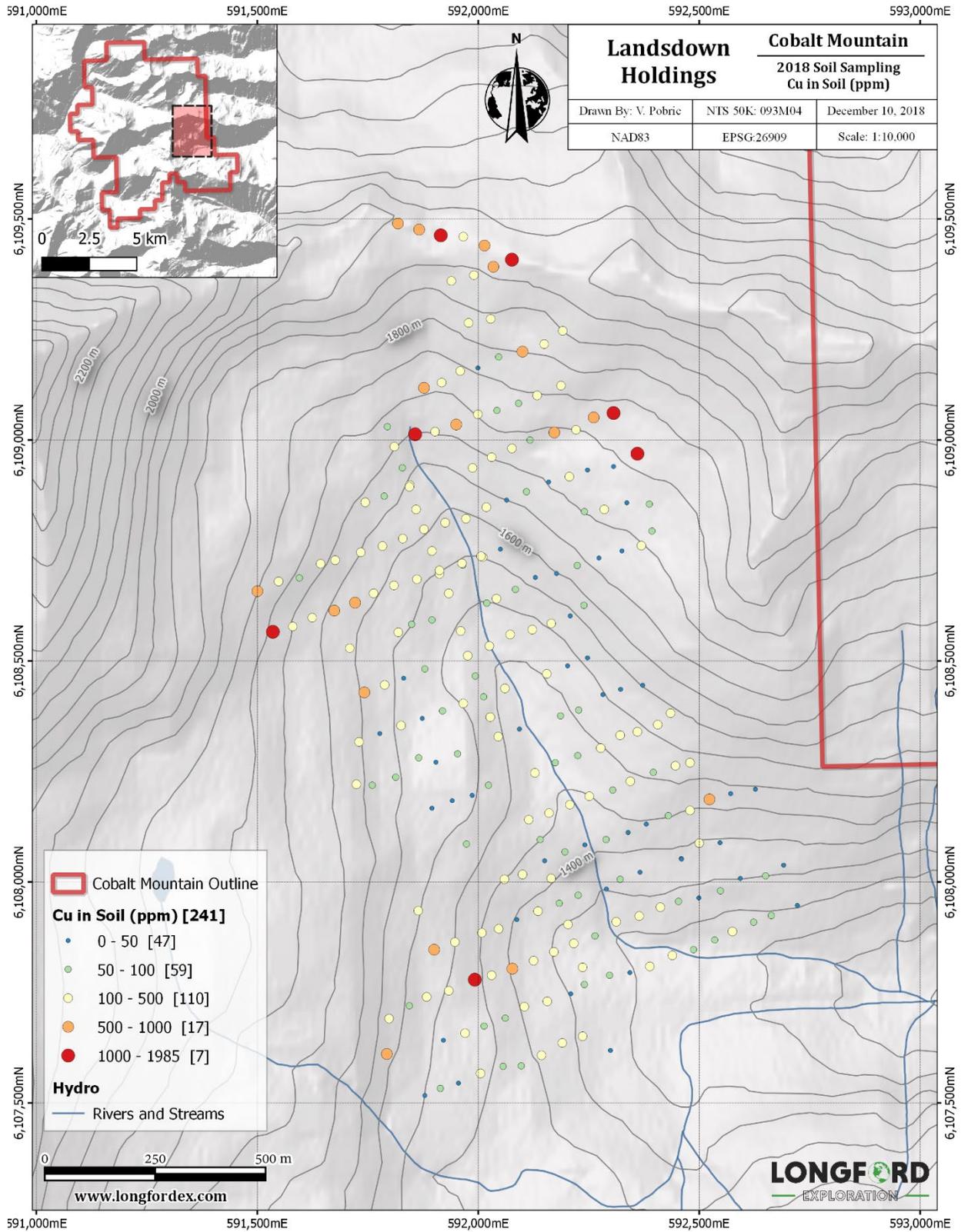


Figure 9.2 2018 Cu in soil results (ppm).

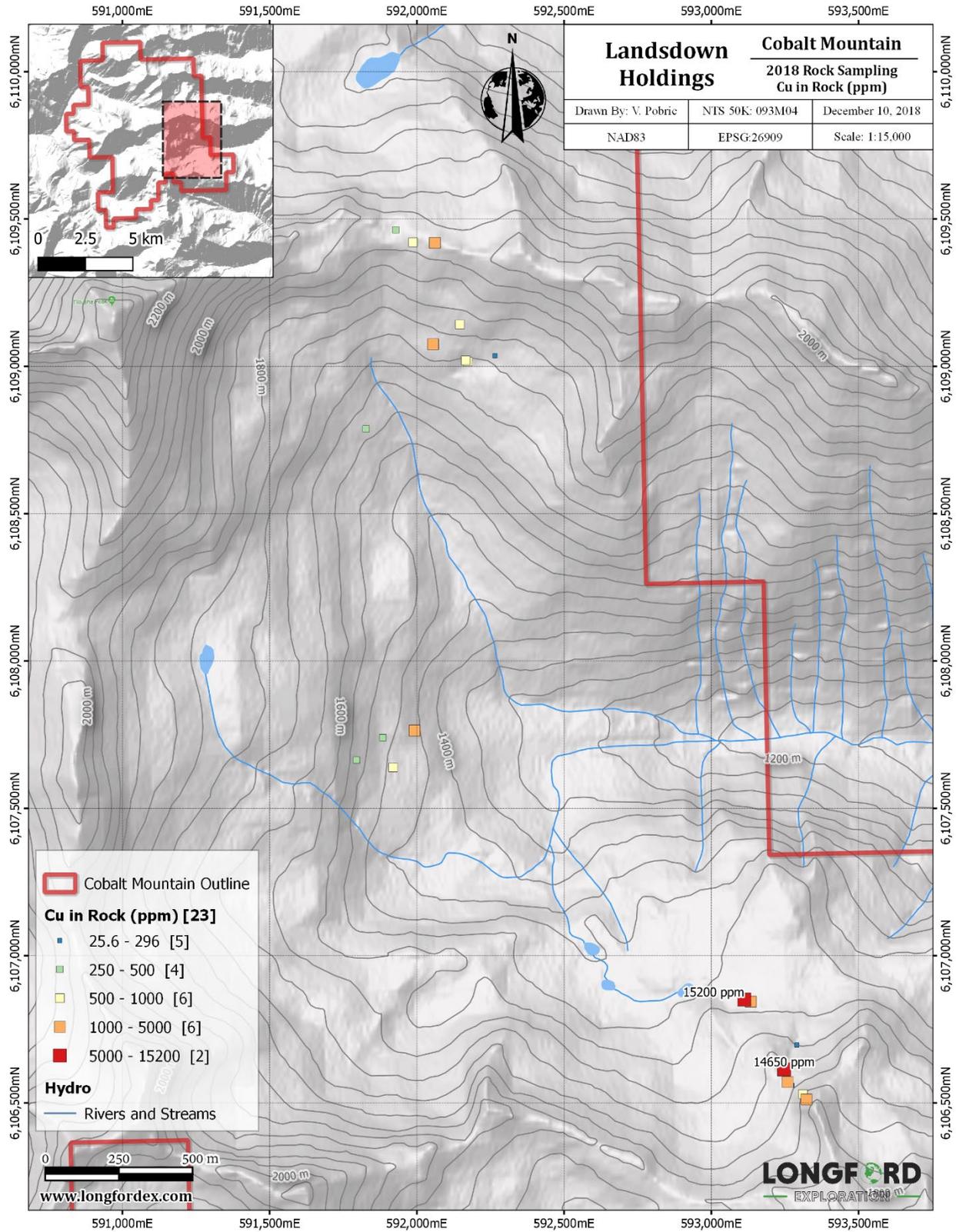


Figure 9.3 2018 Cu in rock results (ppm).

## 10 Drilling

No drilling has been carried out by the current operator, historic diamond drilling is summarized in Section 6.

## 11 Sample Preparation, Analysis, and Security

Prior to 2006, the most recent work on the property occurred in 1987 and as such, neither the procedures used for preparation, analysis and security nor assay certificates are given in the majority of reports and therefore cannot be relied upon. The author conducted a site visit to the property with the goal of confirming the presence of mineralization (Figure 12.1). The procedures used for the most recent programs are given below.

### 11.1 2006 and 2007 Programs

The 2006 and 2007 programs focussed primarily on prospecting the Brunswick and Armagosa showings. Samples were sent to Assayers Canada in Vancouver, B.C. which is independent and ISO9001:2008 certified and was acquired by SGS in 2010. Rock and stream sediment samples were collected and the procedure used is given below from Warkentin (2007):

All rock samples were dried, crushed, split and pulverized before being analyzed for gold by fire assay and for a 34 element scan by ICP-AES following an aqua regia digestion. In addition, 4 talus rock samples collected in the Armagosa Creek area were submitted for a repeat assay by ICP-AES following a multi-acid digestion to check for possible refractory mineral values.

Stream sediment samples were dried and screened at 80 mesh and the fine fraction was analyzed for gold by fire assay and for a 34 element scan by ICP-AES with aqua regia digestion.

### 11.2 2008 Program

The 2008 program focussed on property scale reconnaissance with the aim of identifying prospective areas for future exploration work. All samples were sent to Acme Analytical Laboratories in Vancouver, B.C. which is independent and ISO9001:2008 certified. The procedure followed for this program is given below from Warkentin (2008):

Rock samples were dried, crushed, split and pulverized before being analyzed for gold by fire assay and for a 53 element scan by ICP-AES following an aqua regia digestion.

Stream sediment samples were dried and screened at 80 mesh and the fine fraction was analyzed for gold by fire assay and for a 53 element scan by ICP-AES with aqua regia digestion.

### 11.3 2010 Program

The 2010 program focussed primarily on the soil sampling of a grid over the Sultana prospect. All samples were sent to Acme Analytical Laboratories in Vancouver, B.C. which is independent and ISO9001:2008 certified. The procedure followed for this program is given below from Macdonald et al (2011):

An assay package of 32 elements applied by the 1DX15 procedure was used for soil samples. Samples were dried and screened at 80 mesh. Splits of 0.5g are leached in hot (95°C) Aqua Regia followed by ICP-MS analysis. Sample minimum size is 1g pulp.

Analytical package GEO-2 was used for assaying drill core and rock samples, including 36 elements Group 1DX (Aqua Regia/ICP-MS 0.5g) + Group 3B (fire geochem Au). A gravimetric finish was applied for gold samples over 10g/t and silver samples over 200g/t. Also, for copper samples >1% and molybdenum samples >0.4%, a 7TD analysis was conducted, where

the sample was dissolved in four acid solution and the percentage determined by ICP-ES. A standard, blank, or duplicate was inserted every 20 samples. The standard was CDN CM-2 from CDN Resource Laboratories, and landscape quartzite was used as blank.

For a total of 465 samples, eight blanks, nine standards and seven duplicates were inserted. The duplicates were prepared using quarter splits of the core interval concerned. All of the blanks passed and the duplicates contained similar numbers. The standard used was analysed for Au, Cu and Mo. The Au assays were all within limits. The copper values were erratic and the molybdenum values were all well below the expected values. This can be explained by the fact that aqua regia digestion was used, which has incomplete digestion of molybdenum and possibly copper as well, although not to the same extent. It is recommended that next year, the QA/QC ratio be increased to 1 in every 10 samples - ideally a blank and a standard or duplicate for every 20 samples - and that four-acid digestion is used instead of aqua regia, to get more accurate base metal assays.

#### 11.4 2011 Program

A 6 hole diamond drill program was carried out over the Sultana prospect in 2011. All samples were sent to Acme Analytical Laboratories in Vancouver, BC which is independent and ISO9001:2008 certified. The procedure followed for this program is given below from Payne (2012):

The drill core was "reassembled" (best fit), marked off at one metre intervals, RQD measurement was conducted, magnetic susceptibility reading every 1m along the core. The core was split in half longitudinally over the sample interval using a Longyear hand splitter. Half the core was bagged (given a unique sample number) and sent for analysis. Samples were delivered to Acme Labs, Smithers, BC in sealed rice bags.

Samples were analysed using the Group 1EX technique, all samples were analysed for gold using Group 6. Samples containing Ag  $\geq$ 100ppm and Pb and Zn  $\geq$ 10,000ppm were assayed.

#### 11.5 2017 and 2018 Programs

Rock samples were crushed and split to produce a 250-gram fraction which was pulverized better than 85% passing a 75-micron (200 mesh) screen. From each pulverized rock pulp, a 0.25-gram subsample was digested in perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and the resulting solution is analyzed by ICP-MS and ICP-AES for 41 elements. Prior to analysis, the 2017 soil samples were dried and screened at 80 mesh. A 0.5- 27 gram subsample of each minus 80 mesh fraction was digested in hot aqua regia and analyzed by ICP-MS for 41 elements. All samples were analyzed by ALS Global in Vancouver which is independent and ISO9001:2008 certified.

Soil samples in 2018 were prepared in the same manner, but analysed using a four-acid digestion with an ICP-AES finish on a 0.25 g sample for 33 elements.

#### 11.6 Comments on Section 11

The author is of the opinion that the sample preparation, security and analytical procedures for all work conducted from 2006 onward is adequate for the reporting of exploration results in this report.

## 12 Data Verification

The site visit on December 21, 2018 served to visually confirm the presence of mineralization in the area of the Brunswick showing and once again assess the area for a future exploration program (Figure 12.1 and 12.2).

The site visit on March 6, 2018, was done with intent to visit known mineralized zones and, if possible, take samples to verify the existence of copper, gold, silver, zinc and cobalt mineralization. A total of three samples were collected from outcrop and subcrop near the Brunswick Minfile location. Sample locations were recorded using a hand held gps, the location was marked with flagging tape in the field and each sample was assigned a unique sample ID. The samples were collected and sealed in individual poly sample bags and then placed in a sealed package and shipped by the author of the report directly to an independent lab, Bureau Veritas Laboratories in Vancouver, B.C. which is independent and ISO9001:2015 certified.

It is the author's opinion that the sample preparation, security measures taken and analytical procedures were adequate to evaluate and confirm the presence of mineralization detailed in this report.



Figure 12.1 Example of a sample observed by the Author – fracture controlled sulphides (arsenopyrite – pyrite – chalcopyrite).



*Figure 12.2 The author at the Brunswick Ag-Zn-Pb-Au-Cu showing during the December 21, 2018 site visit.*

Table 12.1 A total of three samples were collected by the Author during the March 6, 2018 site visit. Location, descriptions and results of the samples are provided below.

Sample	Easting	Northing	Lithology	Alteration	Mineralization	Au_PPb	Cu_PPM	Zn_PPM	Co_PPM
32901	589517	6109997	weathered orange and grey, fresh dark grey fine grained wacke	strongly oxidized on surface, local strong silicification, weak Fe-oxides on fresh surface	locally up to 10% fine grained pyrite in fracture fill veins, weakly disseminated pyrite	20	454	44	23
32902	589173	6110121	weathered orange and purple, fresh dark grey fine grained wacke	strongly silicified	up to 3% sulphide overall py>cpy, minor silver sulphide (Aspy?), trace azurite	4	138	82	8
32903	589203	6110121	weathered orange and grey, fresh dark grey fine grained feldspar phyrlic mafic volcanic, 30% euhedral 2-3mm feldspars in an aphanitic mafic groundmass	strong oxidation on surface	fracture controlled sulfide veins, py-cpy and a bright silver sulfide, veins planar 2-4mm thick, botryoidal Fe-oxides, trace black shiny sulphide,	366	1100	28	39

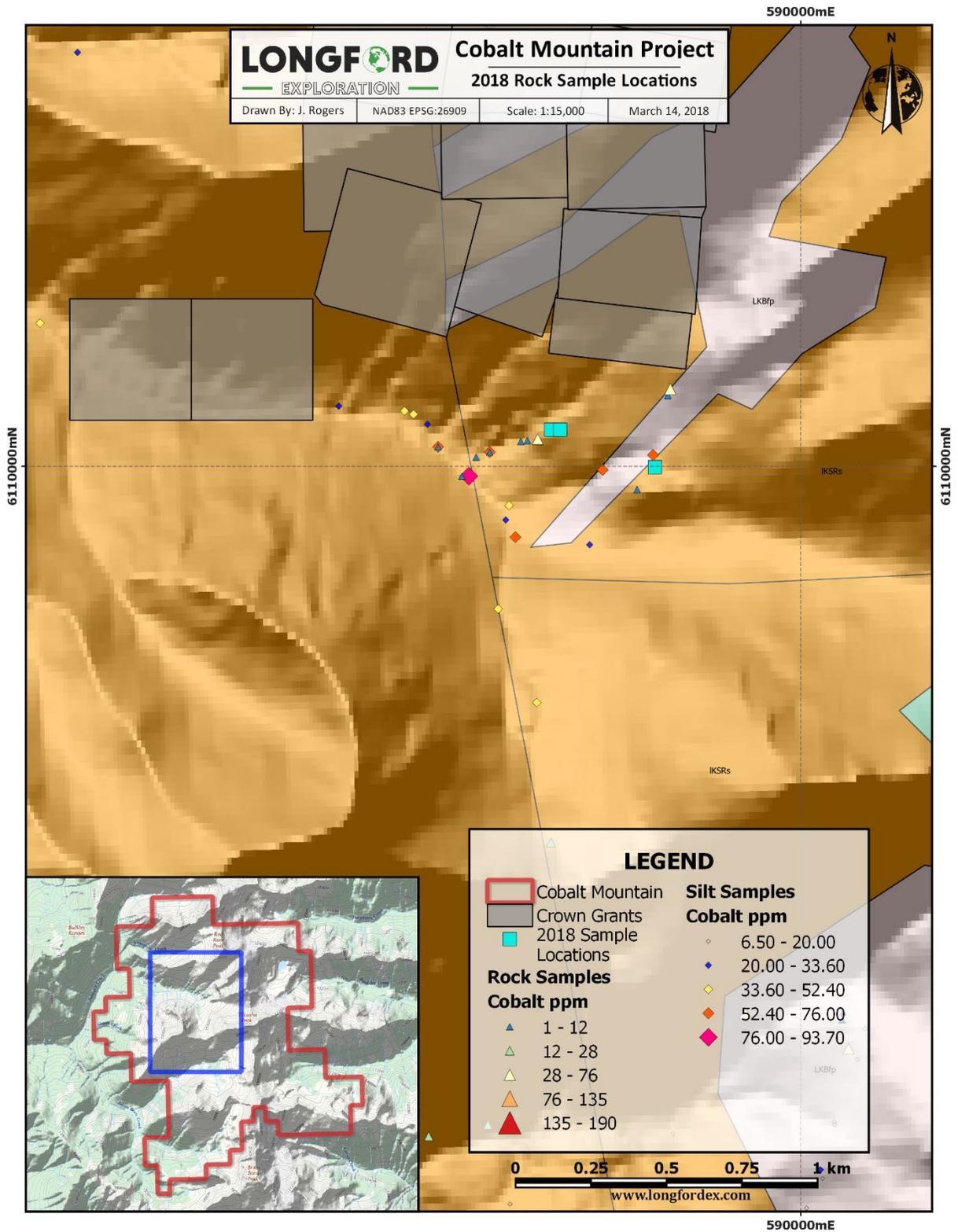


Figure 12.3 Rock sample locations collected by the author for verification purposes during the March 6th, 2018 site visit.

## **13 Mineral Processing and Metallurgical Testing.**

No mineral processing or metallurgical testing programs have taken place for this property.

## 14 Mineral Resource Estimates

No mineral resource estimates have been done for this property.

## 23 Adjacent Properties

The Cobalt Mountain Property is location within the Hazelton Mountain Range of central British Columbia which is endowed with a variety of metals and styles of mineralization. Production has taken place from four small mines immediately to the north of the current property boundary. **The author has been unable to verify the accuracy of the information regarding past production, nor is past production on adjacent properties indicative of the mineral potential on the Cobalt Mountain property.**

There are four past producing mineral occurrences immediately adjacent to the Property, all of which are owned by American Manganese Inc. The Rocher Deboulé mine is the most significant past producer having been mined from 1915 – 1918, as well as 1929 and 1952. A summary of this production is given in Table 13.1 below. The deposit consists of four veins striking 75 degrees and dipping 55 degrees north into the mountain. All production to date has come from the No. 2 and No. 4 veins.

Table 23.1 Past production from the Rocher Deboulé Mine (Annual Report 1952).

Rocher Deboulé Mine Production						
Year	Tons	Gold (oz)	Silver (oz)	Copper (lb)	Lead (lb)	Zinc (lb)
1915	17,000	1,418	21,893	2,788,000		
1916	16,760	1,184	16,738	1,753,225		
1917	2,889	781	7,987	714,871		
1918	3,184	832	16,247	635,870		
1929	72	10	2,972	6,120	751	7,219
1952	12,814	267	18,640	305,498		
<b>Total</b>	<b>52,719</b>	<b>4,492</b>	<b>84,477</b>	<b>6,203,584</b>	<b>751</b>	<b>7,219</b>

Approximately 1.5 km east of the No. 4 vein are the two Highland Boy veins, one of which can be traced back to the No. 4 vein along the surface. Some development work and mining was completed in 1917 and yielded 4,770 kilograms of copper, 124.4 grams of gold and 1,088 grams of silver (Annual Report, Minister of Mines, B.C.: 1917). Drilling in 2007 totalled 1,106 m in six holes and was followed up by focussed groundwork around the veins in 2011.

The Victoria veins are located 1.5 km northwest of the Rocher Deboulé mine. Approximately 90 tons of ore was shipped between 1918 and 1941 which produced approximately 326 oz of gold, 44,560 lbs of arsenic, 2,100 lbs of molybdenum, and 4,900 lbs of cobalt. Some drilling was conducted on the veins in 1981 and 1983, but most holes were not assayed or analysed.

The Cap mine is approximately 4 km west of the property boundary. It has seen a similar exploration history to the other mines and shipped 26 tons of ore in 1917 which produced 93 grams of gold, 7,838 grams of silver and 1,513 kilograms of copper.

## 24 Other Relevant Data and Information

To the author's best knowledge, all the relevant data and information has been provided in the preceding text.

## 25 Interpretation and Conclusions

The Cobalt Mountain project area and greater Rocher Deboulé Range has produced substantial amounts of copper, gold and cobalt. The property remains prospective for extensions to some known high-grade precious metal deposits and for a porphyry style deposit.

All of the past producing mines are precious and base metal bearing quartz +/- carbonate veins and occur proximal to the mapped contact of the Rocher Deboulé stock. The veins are likely related to the stock and exploit earlier fault networks and in some cases concentrate at fault intersections. Although past production of some of the vein deposits was successful, present metal prices and concentrations are generally sub-economic. However, it is possible that a high-grade vein hosted deposit of economic concentration could exist on the property.

It is possible that vein hosted metals may have been scavenged and remobilized from the country rocks during contact metamorphism with the stock. To address this, sulphur isotopes could be used to differentiate crustal from magmatic sulphur sources. Results would help understand how much crustal contamination has occurred from the country rocks and confirm the degree of influence from the intrusion on sulphide mineralization.

Porphyry-style mineralization is most prospective exploration model for the Cobalt Mountain property. The Rocher Deboulé stock is part of the Cretaceous Bulkley Plutonic suite which is known to host other porphyry copper-gold-silver-molybdenum deposits in the vicinity such as the Huckleberry mine. At Huckleberry, the bulk of the deposit is hosted in the hornfelsed volcanic rocks proximal to a granodiorite stock. At Cobalt Mountain, polymetallic veins likely represent distal fluids of the Rocher Deboulé stock and may be connected to a metal bearing intrusive phase. The stock is comprised of several phases of intermediate intrusive rocks, most of which are not mineralized. However, different phases of intrusive rocks remain to be comprehensively studied and mapped. A copper-molybdenum bearing phase of the intrusion was identified in drilling, surface sampling and soil geochemistry during the 2010 work program around the Sultana area. These results form a baseline set of mineralogical, geochemical and geophysical characteristics to expand on the area of interest at Sultana and identify new zones throughout the rest of the Rocher Deboulé stock.

## 26 Recommendations

Further evaluation of the Cobalt Mountain Property is recommended given the grassroots nature of the property, known mineralization, prospective interpretation of historic geophysics and anomalous historic results. Recommendations include:

- Detailed lithological, structural and alteration mapping at 1:10,000 scale
- Prospect areas which have been recently exposed from permanent snow cover or receding glacial ice
- Follow up of anomalies identified in the airborne survey to be trenched and/or drill tested

### 26.1 Proposed Exploration Budget

The following proposed exploration budget is for a 6-month period over summer months in which Landsdown Holdings would fulfil the above recommendations. Phase 2 will be contingent on positive results from Phase 1. At the time of writing this report, Landsdown Holdings has carried out half of the planned Phase 1 expenditures.

Table 26.1 Proposed exploration budget.

	Description	Estimated Cost (CAD)
<b>Phase 1</b>	<b>Geologic and Structural Mapping, Prospecting, Soil Sampling</b>	
	2 week, 4-person crew (1 Project Manager, 1 Geologist, 2 Helpers) in two or three fly camps with occasional helicopter support.  Wages: \$35,000 Room and board: \$10,000 Transportation inc. helicopter: \$15,000 Equipment rentals: \$10,000 Sample analysis: \$30,000	\$ 100,000
	Interpretation of results – 14 days	\$ 20,000
<b>Phase 2</b>	<b>Anomaly Follow Up (contingent on results from Phase 1)</b>	
	500 m of trenching (helicopter supported)  Wages: \$35,000 Room and board: \$10,000 Transportation inc. helicopter: \$15,000 Equipment rentals: \$10,000 Sample analysis: \$10,000	\$ 80,000
	1,500 m of helicopter supported diamond drilling to test geophysical and mapping targets  \$300/m all in cost.	\$ 450,000
	<b>TOTAL</b>	<b>\$ 630,000</b>

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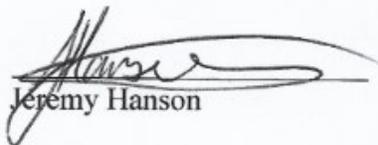
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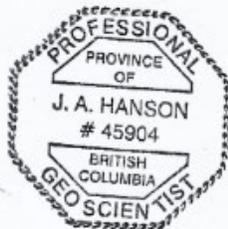
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## APPENDIX A: Date, Signature and Certificate of Author

I, Jeremy Hanson of 7351 Cedar Road, Smithers, B.C., do hereby certify the following:

- I am a Professional Geoscientist in good standing with Engineers and Geoscientist B.C.
- For the purposes of the Technical Report entitled: “TECHNICAL REPORT on the COBALT MOUNTAIN PROPERTY, BRITISH COLUMBIA, CANADA”, dated January 10, 2018 of which I am the author and responsible person, I am a Qualified Person as defined in National Instrument 43-101;
- I visited the Cobalt Mountain Property site on the 6th of March and 21<sup>st</sup> of December 2018, to conduct the site visit described herein and am responsible for the preparation of this report;
- I have had no prior involvement with the company nor property and am an independent person as set out in National Instrument 43-101;
- I have read the National Instrument 43-101 and the technical report has been prepared in compliance with this Instrument; and
- That at the effective date of the technical report, to the best of my knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- I graduated from Simon Fraser University in 2013 with a B.Sc. (Hons) with distinction in Earth Sciences
- I have been employed continuously in the mineral exploration and mining industry since 2010 and have been practising my profession as a geologist continuously since 2013.
- I have relevant experience through nine years of working on and managing mineral exploration projects from grass roots to resource stage drilling programs in British Columbia, Yukon, Quebec and Ontario on a variety of commodities and deposit types.

  
Jeremy Hanson



January 10, 2019

\_\_\_\_\_  
Date

# APPENDIX B: 2018 Soil Sample Analytical Certificates



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 This copy reported on  
 10- DEC- 2018  
 Account: HOTSON

**CERTIFICATE KL18293418**

Project: Cobalt Mountain  
 P.O. No.: PC  
 This report is for 240 Soil samples submitted to our lab in Kamloops, BC, Canada on 16- NOV- 2018.  
 The following have access to data associated with this certificate:  
 LORIE FARRELL      KYLER HARDY      TIM JOHNSON

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	INSTRUMENT
ME- ICP61	33 element four acid ICP- AES	ICP- AES

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.

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

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
 Total # Pages: 7 (A - C)  
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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61													
		kg Recvd Wt.	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
98501		0.15	<0.5	7.27	11	700	1.2	<2	1.36	0.5	30	42	93	3.89	20	1.58
98502		0.12	<0.5	7.78	31	790	1.2	<2	2.58	<0.5	15	42	140	3.59	20	1.71
98503		0.10	1.5	3.98	<5	70	1.1	<2	0.19	1.4	8	9	195	0.55	<10	0.09
98504		0.12	0.7	6.49	10	880	1.4	<2	1.19	1.7	24	34	144	4.29	20	1.27
98505		0.12	<0.5	6.84	19	880	1.3	<2	1.65	0.7	11	40	72	4.38	20	1.58
98506		0.13	<0.5	7.00	12	590	1.1	<2	1.78	0.5	5	38	44	5.95	30	1.46
98507		0.12	<0.5	7.48	35	790	1.2	<2	2.04	<0.5	9	31	85	4.40	20	1.85
98508		0.17	0.5	6.81	8	890	0.9	<2	1.59	<0.5	8	49	31	5.38	20	1.62
98509		0.05	1.6	2.87	<5	170	0.8	<2	0.16	1.1	6	8	96	0.51	<10	0.15
98510		0.14	<0.5	7.70	<5	850	1.1	<2	1.77	<0.5	5	45	8	3.37	20	2.55
98513		0.15	<0.5	7.49	7	840	1.2	<2	1.97	<0.5	6	36	21	2.85	20	2.26
98515		0.10	0.8	6.84	13	560	1.2	<2	1.29	0.5	6	27	103	3.18	20	1.41
98516		0.12	<0.5	7.02	14	870	1.1	<2	1.93	<0.5	5	21	30	2.08	20	2.19
98517		0.20	<0.5	7.12	10	790	1.0	<2	1.73	<0.5	6	34	14	2.70	20	1.88
98518		0.16	<0.5	6.33	11	640	0.9	<2	1.57	0.8	7	42	26	5.78	20	1.57
98519		0.14	0.6	5.82	12	700	0.9	<2	1.47	0.6	8	41	52	6.19	20	1.71
98520		0.09	<0.5	6.38	<5	890	1.0	<2	2.00	<0.5	7	40	13	3.54	20	1.79
98524		0.11	1.1	6.31	51	760	1.1	<2	1.41	0.8	15	51	55	4.49	20	1.45
98527		0.20	<0.5	8.03	9	860	1.3	<2	2.21	<0.5	7	25	8	2.09	20	2.33
98528		0.15	<0.5	7.00	10	480	0.8	<2	1.92	<0.5	8	68	22	4.40	20	0.79
98529		0.20	<0.5	7.22	<5	870	1.2	<2	2.57	<0.5	8	49	6	3.18	20	1.92
98530		0.12	0.8	6.48	14	420	0.8	2	1.24	1.1	23	42	76	4.22	20	0.90
98534		0.18	0.6	5.99	20	400	0.9	4	0.95	<0.5	7	33	159	3.56	10	0.96
98535		0.17	0.8	6.95	28	540	1.3	3	1.25	0.8	13	35	302	4.23	20	1.31
98536		0.19	1.0	6.32	10	820	0.8	3	1.55	<0.5	8	47	67	3.97	20	1.41
98537		0.13	1.5	5.33	28	480	0.7	6	1.17	1.0	7	35	80	5.98	20	1.02
98538		0.15	0.6	7.35	53	590	1.0	7	1.82	0.5	13	52	204	4.61	20	1.24
98539		0.14	0.5	7.06	32	800	1.0	4	2.17	<0.5	13	49	226	4.11	20	1.37
98541		0.14	0.5	6.28	15	800	1.0	4	1.55	<0.5	8	36	65	3.99	20	1.75
98542		0.21	0.9	6.43	23	800	0.8	4	1.83	<0.5	10	56	79	3.88	20	1.19
98543		0.11	<0.5	5.57	47	570	0.8	8	1.35	<0.5	10	37	166	3.18	20	1.16
98545		0.21	0.7	7.05	48	840	1.0	9	1.44	<0.5	9	48	322	2.68	20	1.48
98549		0.18	<0.5	7.85	12	350	1.0	4	3.48	0.6	29	89	60	6.27	20	1.41
98550		0.25	<0.5	6.88	<5	600	0.9	3	2.31	<0.5	9	26	15	2.67	20	1.41
98551		0.26	<0.5	6.66	15	830	1.1	5	1.98	0.6	15	29	73	3.41	20	1.74
98552		0.16	<0.5	5.89	<5	810	0.8	3	1.32	<0.5	3	30	21	1.46	20	1.76
98553		0.31	<0.5	6.47	22	630	0.8	4	1.04	<0.5	9	36	262	3.45	20	1.50
98554		0.19	<0.5	6.05	9	720	0.8	<2	1.07	<0.5	5	35	42	2.43	20	1.46
98555		0.17	<0.5	5.77	<5	820	0.9	2	1.85	<0.5	6	24	38	2.24	20	1.50
98556		0.27	<0.5	8.53	26	640	1.4	3	1.36	<0.5	30	46	1300	4.82	20	1.79

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



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 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	20	0.01	10	
98501		20	0.77	1070	80	1.88	10	2210	15	0.12	<5	12	282	<20	0.54	<10
98502		20	1.34	632	23	2.43	16	1190	8	0.03	<5	12	404	<20	0.40	<10
98503		20	0.04	105	14	0.07	2	2310	5	0.19	<5	2	23	<20	0.04	<10
98504		20	0.77	1140	41	1.24	10	2060	11	0.10	<5	10	255	<20	0.43	<10
98505		20	0.82	664	88	1.75	9	1480	13	0.06	<5	11	323	<20	0.48	<10
98506		20	0.76	448	105	1.74	6	950	14	0.05	<5	10	304	<20	0.59	<10
98507		20	0.95	602	251	2.05	9	730	19	0.03	<5	12	332	<20	0.67	<10
98508		20	0.76	509	15	2.02	9	960	9	0.05	<5	11	312	<20	0.54	<10
98509		10	0.06	39	4	0.07	3	1800	4	0.19	<5	2	26	<20	0.03	<10
98510		20	0.63	502	23	2.38	8	210	6	0.01	<5	9	318	<20	0.50	<10
98513		20	0.80	498	36	2.29	7	970	9	0.03	<5	12	329	<20	0.56	<10
98515		20	0.62	363	139	1.48	6	1890	12	0.11	<5	9	227	<20	0.39	10
98516		20	0.74	437	70	2.21	7	970	8	0.04	<5	10	369	<20	0.44	<10
98517		20	0.71	468	55	2.19	8	710	17	0.02	<5	11	339	<20	0.62	<10
98518		20	0.64	416	34	1.76	10	840	13	0.05	<5	10	273	<20	0.57	<10
98519		10	0.74	341	54	1.65	11	780	12	0.05	<5	9	292	<20	0.56	<10
98520		10	0.81	448	29	2.17	6	480	7	0.04	<5	10	301	<20	0.50	<10
98524		20	0.87	1865	59	1.39	12	3080	14	0.11	<5	13	243	<20	0.56	<10
98527		20	0.89	719	56	2.54	6	740	10	0.03	<5	13	362	<20	0.76	<10
98528		10	1.28	645	6	1.32	16	2050	9	0.08	<5	13	246	<20	0.58	<10
98529		20	1.14	744	3	2.62	9	540	6	0.03	<5	13	359	<20	0.49	<10
98530		10	0.81	1280	9	1.14	12	3080	9	0.11	<5	10	186	<20	0.40	<10
98534		20	0.62	333	7	1.16	11	2580	12	0.09	<5	8	184	<20	0.32	10
98535		20	0.89	634	16	1.42	14	2230	16	0.09	<5	10	221	<20	0.42	<10
98536		20	0.92	515	16	1.47	12	2020	11	0.08	<5	12	234	<20	0.54	<10
98537		10	0.60	330	28	1.25	11	1880	11	0.08	<5	8	194	<20	0.50	<10
98538		20	1.23	649	31	1.66	20	1990	8	0.06	<5	12	280	<20	0.52	<10
98539		20	1.35	507	16	1.83	21	1920	9	0.06	<5	12	321	<20	0.47	<10
98541		20	0.72	405	22	2.03	9	1880	10	0.05	<5	10	277	<20	0.47	<10
98542		10	1.24	626	13	1.55	16	2080	10	0.08	<5	12	265	<20	0.56	10
98543		10	0.91	406	16	1.35	16	2110	12	0.11	<5	9	267	<20	0.38	<10
98545		20	0.85	416	17	1.53	16	2070	20	0.06	<5	11	249	<20	0.49	<10
98549		10	3.37	752	7	2.06	51	1510	5	0.02	<5	17	404	<20	0.72	<10
98550		10	0.98	542	5	2.07	12	1010	7	0.04	<5	12	355	<20	0.59	<10
98551		10	1.10	2050	80	1.93	13	1320	11	0.05	<5	12	286	<20	0.49	10
98552		10	0.56	322	23	1.62	6	1540	15	0.08	<5	9	238	<20	0.63	<10
98553		20	0.72	490	98	1.27	9	2920	17	0.08	<5	9	199	<20	0.44	<10
98554		10	0.65	313	5	1.35	8	2290	13	0.09	<5	9	195	<20	0.50	<10
98555		10	0.85	396	87	1.80	9	1110	12	0.06	<5	10	245	<20	0.46	<10
98556		20	1.35	704	22	1.72	28	2110	10	0.04	7	13	227	<20	0.44	<10

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Page: 2 - C  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U ppm	V ppm	W ppm	Zn ppm
98501		<10	116	30	44
98502		<10	94	20	72
98503		10	10	<10	9
98504		10	109	<10	47
98505		10	109	10	54
98506		10	148	<10	33
98507		<10	122	10	47
98508		<10	156	<10	36
98509		20	10	<10	15
98510		<10	114	<10	26
98513		<10	93	10	33
98515		20	78	10	32
98516		<10	63	10	31
98517		<10	115	<10	32
98518		<10	149	<10	36
98519		<10	149	10	32
98520		<10	113	<10	28
98524		<10	119	10	66
98527		<10	95	10	32
98528		<10	122	<10	51
98529		<10	97	<10	40
98530		<10	93	10	47
98534		<10	82	20	38
98535		<10	88	20	61
98536		<10	103	10	44
98537		<10	138	110	28
98538		<10	115	10	63
98539		<10	103	30	63
98541		<10	112	30	32
98542		<10	115	20	54
98543		<10	81	30	53
98545		<10	93	50	53
98549		<10	178	10	80
98550		<10	93	20	35
98551		<10	97	<10	48
98552		<10	61	<10	24
98553		<10	94	80	32
98554		<10	79	<10	34
98555		<10	71	<10	35
98556		<10	117	20	95

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Page: 3 - A  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61													
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
98557		0.27	<0.5	6.21	11	490	0.8	3	0.81	<0.5	4	40	85	2.60	20	0.99
98558		0.25	<0.5	5.85	<5	530	0.9	3	1.24	<0.5	6	38	43	2.47	20	1.06
98559		0.23	<0.5	5.63	9	530	0.9	5	1.33	<0.5	9	33	134	3.45	20	1.24
98560		0.31	<0.5	6.21	6	770	0.7	2	1.53	<0.5	3	35	30	2.75	20	1.16
98561		0.24	<0.5	5.00	<5	600	0.6	3	1.49	<0.5	6	116	31	2.21	20	1.17
98562		0.34	<0.5	8.40	19	750	1.3	4	1.62	<0.5	15	51	410	4.17	20	1.57
98563		0.28	<0.5	6.56	13	570	1.0	3	1.42	<0.5	8	62	95	3.32	20	1.18
98564		0.25	<0.5	6.92	8	620	1.1	3	1.76	<0.5	7	34	58	3.13	20	1.56
98565		0.33	<0.5	8.20	31	780	1.3	3	1.87	0.5	18	48	743	4.36	20	1.67
98566		0.39	<0.5	8.57	36	770	1.4	4	1.80	0.5	38	51	1270	5.07	20	1.85
98567		0.35	<0.5	8.15	13	810	1.3	2	1.81	<0.5	17	37	415	4.06	20	1.81
98568		0.34	4.6	7.78	91	720	1.2	158	1.63	<0.5	15	46	523	4.41	20	1.71
98569		0.27	<0.5	5.99	7	640	0.8	2	1.57	<0.5	7	24	84	2.15	20	1.55
98570		0.30	1.0	6.48	9	630	1.0	4	1.38	<0.5	11	47	300	4.00	20	1.29
98571		0.30	<0.5	6.36	18	490	1.0	18	1.13	<0.5	14	34	209	4.04	20	1.21
98572		0.31	<0.5	6.31	8	420	0.9	2	1.02	<0.5	6	40	54	3.38	20	0.98
98573		0.27	<0.5	6.68	11	600	0.9	4	1.05	<0.5	4	34	92	2.08	20	1.36
98574		0.36	<0.5	7.26	75	590	1.2	3	2.07	<0.5	10	51	175	4.08	20	1.32
98575		0.25	<0.5	7.66	15	850	1.2	3	1.60	<0.5	10	38	389	3.33	20	1.71
98576		0.25	<0.5	7.37	16	940	1.3	<2	1.72	0.5	15	38	329	3.70	20	1.34
98577		0.20	<0.5	7.48	10	710	1.0	<2	1.82	<0.5	11	50	242	3.87	20	1.41
98578		0.39	<0.5	8.50	13	400	1.2	<2	2.44	<0.5	14	58	342	4.75	20	0.93
98579		0.34	<0.5	8.06	18	500	1.1	<2	3.09	<0.5	23	71	857	5.71	20	0.98
98580		0.33	0.7	7.93	22	840	1.3	<2	1.69	<0.5	26	67	1985	5.58	20	1.45
98581		0.41	3.4	4.63	802	160	<0.5	2	0.18	<0.5	8	85	771	16.55	20	0.53
98582		0.34	<0.5	8.56	17	530	1.3	<2	2.27	<0.5	11	39	337	3.74	20	1.03
98583		0.43	0.5	7.49	36	370	1.1	2	1.49	<0.5	41	69	1305	9.18	20	0.98
98584		0.34	<0.5	8.16	52	620	1.3	2	2.26	0.5	57	125	723	6.21	20	1.44
98585		0.34	<0.5	7.99	76	710	1.2	<2	1.94	<0.5	20	67	651	5.30	20	1.38
98586		0.46	0.6	8.32	33	490	1.3	<2	2.06	<0.5	12	55	461	4.94	20	1.06
98587		0.34	<0.5	8.04	30	500	1.2	<2	2.14	<0.5	16	47	410	3.93	20	0.95
98588		0.29	1.8	7.23	178	400	1.0	12	0.85	<0.5	9	42	233	3.64	10	0.81
98589		0.29	<0.5	9.34	142	530	1.1	5	0.99	<0.5	12	56	859	4.70	30	1.90
98590		0.27	<0.5	6.54	57	540	1.0	<2	1.93	0.6	8	38	70	3.51	20	1.16
98591		0.34	<0.5	7.00	10	550	1.1	<2	1.62	<0.5	6	33	43	2.28	20	1.44
98592		0.30	0.5	6.95	24	540	0.9	14	1.01	<0.5	27	39	288	6.65	10	1.20
98593		0.24	<0.5	6.76	11	580	1.0	<2	1.53	<0.5	8	33	133	3.04	20	1.36
98594		0.31	1.2	8.06	45	830	1.2	9	1.69	<0.5	37	53	889	5.21	20	1.91
98595		0.31	0.7	7.01	20	750	1.3	<2	1.67	<0.5	11	38	111	5.21	20	1.91
98596		0.32	<0.5	7.31	<5	790	1.1	<2	1.92	<0.5	7	37	11	3.21	20	2.03

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Page: 3 - B  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10
98557		10	0.60	289	8	1.09	8	2520	8	0.11	<5	9	147	<20	0.40	<10
98558		20	0.76	545	7	1.49	11	1990	7	0.09	<5	9	208	<20	0.45	<10
98559		10	0.81	627	18	1.41	11	1750	10	0.09	<5	9	198	<20	0.43	<10
98560		20	0.92	262	5	1.63	6	1580	8	0.07	<5	8	244	<20	0.49	<10
98561		10	1.05	514	13	1.16	21	1070	14	0.05	<5	12	177	<20	0.56	<10
98562		20	1.17	500	8	2.05	24	2330	14	0.05	5	13	288	<20	0.47	10
98563		20	1.00	490	25	1.48	15	2010	9	0.08	<5	11	202	<20	0.42	<10
98564		10	0.79	392	15	1.92	8	1150	7	0.06	<5	11	269	<20	0.63	<10
98565		20	1.52	665	12	1.88	22	1990	10	0.03	<5	14	303	<20	0.49	<10
98566		20	1.75	967	18	1.77	29	1470	12	0.02	<5	14	266	<20	0.47	10
98567		20	1.36	623	7	2.00	18	1660	10	0.02	<5	12	318	<20	0.39	<10
98568		20	1.25	560	28	1.90	23	1830	104	0.04	33	13	271	<20	0.45	10
98569		10	0.89	456	11	1.58	9	1890	8	0.06	<5	10	291	<20	0.40	<10
98570		20	0.90	538	17	1.48	12	2900	7	0.10	5	10	219	<20	0.48	<10
98571		20	0.79	383	17	1.36	14	1510	11	0.09	<5	8	181	<20	0.36	<10
98572		10	0.62	469	6	1.25	9	2160	10	0.09	<5	9	164	<20	0.46	<10
98573		10	0.57	247	26	1.58	8	1590	11	0.06	<5	9	212	<20	0.49	<10
98574		20	1.39	582	69	1.74	16	1970	12	0.08	<5	15	263	<20	0.56	<10
98575		20	1.15	369	9	1.79	16	1330	6	0.05	<5	12	276	<20	0.41	<10
98576		20	1.31	821	13	1.49	18	2040	9	0.08	<5	12	292	<20	0.38	<10
98577		20	1.33	539	8	1.66	18	2110	6	0.08	<5	13	266	<20	0.49	<10
98578		20	1.71	611	11	2.10	18	1930	<2	0.08	<5	14	341	<20	0.56	<10
98579		20	2.01	703	19	2.20	38	1620	5	0.08	<5	17	375	<20	0.59	<10
98580		30	1.46	677	52	1.78	34	1710	11	0.06	<5	15	307	<20	0.47	<10
98581		20	0.82	72	75	0.15	6	2630	40	0.45	18	11	59	<20	0.37	<10
98582		20	1.38	345	10	3.32	12	1280	6	0.10	<5	12	412	<20	0.44	<10
98583		20	1.41	360	99	1.96	28	1640	12	0.12	<5	13	289	<20	0.46	<10
98584		30	1.69	854	8	2.24	61	1410	4	0.06	<5	19	335	<20	0.61	<10
98585		30	1.43	521	23	2.36	30	1500	8	0.10	<5	13	359	<20	0.44	<10
98586		20	1.52	379	24	2.28	15	1580	10	0.10	<5	13	366	<20	0.48	10
98587		20	1.27	309	13	2.71	15	1040	9	0.10	<5	11	395	<20	0.42	<10
98588		20	0.67	326	8	1.10	16	1960	58	0.11	11	9	153	<20	0.31	<10
98589		10	0.89	975	112	0.66	20	3340	25	0.15	5	16	177	<20	0.39	10
98590		10	0.97	543	48	1.95	10	2170	12	0.10	<5	11	290	<20	0.50	10
98591		20	0.76	508	21	2.00	8	1300	13	0.06	<5	11	269	<20	0.52	<10
98592		20	0.90	440	160	1.40	15	1540	17	0.07	9	10	191	<20	0.34	<10
98593		20	0.89	436	11	1.83	9	1930	13	0.07	<5	10	302	<20	0.40	10
98594		30	1.32	874	38	1.92	28	1800	46	0.04	<5	13	317	<20	0.47	<10
98595		30	0.88	416	55	2.07	11	890	8	0.04	6	9	333	<20	0.41	<10
98596		20	0.77	524	6	2.30	6	360	8	0.02	<5	12	348	<20	0.60	10

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Page: 3 - C  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U	V	W	Zn
		ppm	ppm	ppm	ppm
98557		<10	80	<10	35
98558		<10	74	<10	39
98559		<10	95	<10	38
98560		<10	77	<10	31
98561		<10	99	10	37
98562		<10	106	<10	99
98563		<10	92	<10	46
98564		<10	113	<10	28
98565		<10	117	<10	69
98566		<10	129	<10	85
98567		<10	109	<10	67
98568		<10	112	10	90
98569		<10	63	<10	41
98570		<10	99	10	41
98571		<10	89	50	50
98572		<10	103	<10	38
98573		<10	77	<10	28
98574		<10	113	10	65
98575		<10	98	10	56
98576		<10	92	<10	75
98577		<10	113	<10	60
98578		<10	131	10	60
98579		<10	155	10	63
98580		<10	134	50	79
98581		<10	129	20	47
98582		<10	106	<10	40
98583		10	108	20	59
98584		<10	158	10	84
98585		<10	118	10	74
98586		10	122	10	48
98587		<10	104	<10	41
98588		<10	79	<10	84
98589		10	142	30	95
98590		<10	98	10	43
98591		<10	82	10	49
98592		10	99	150	58
98593		<10	89	10	47
98594		<10	122	270	143
98595		<10	124	30	36
98596		<10	116	<10	28

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Page: 4 - A  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61														
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	ppm	1	0.01	10	0.01
98597		0.17	0.6	6.15	12	550	0.8	<2	1.33	<0.5	7	49	54	3.02	20	1.13	
98598		0.24	0.5	6.58	14	690	1.0	2	1.53	0.6	16	44	88	5.04	20	1.73	
98599		0.25	<0.5	5.88	13	550	0.8	<2	1.43	0.8	8	38	39	5.44	20	1.43	
98600		0.17	1.0	6.65	40	520	1.0	<2	0.92	0.6	5	29	192	4.19	20	1.49	
98601		0.38	<0.5	8.02	30	570	1.0	3	1.88	<0.5	11	60	157	5.01	20	0.99	
98602		0.29	<0.5	8.03	9	650	1.1	<2	2.49	0.6	12	64	93	4.29	20	1.20	
98603		0.27	<0.5	6.82	14	570	1.1	<2	0.91	<0.5	6	37	64	2.55	20	1.67	
98604		0.36	<0.5	7.59	7	810	1.1	2	1.86	0.5	9	48	125	5.08	20	2.19	
98605		0.31	<0.5	7.88	17	720	1.2	2	1.82	<0.5	10	39	214	4.21	20	1.84	
98606		0.46	<0.5	7.57	124	880	1.3	<2	1.98	0.6	12	41	209	4.71	20	2.28	
98607		0.30	0.9	7.00	13	710	1.0	8	1.58	0.6	10	39	144	4.68	20	1.68	
98608		0.27	<0.5	8.10	13	610	1.1	3	1.40	0.6	12	39	268	5.21	20	1.51	
98609		0.28	1.2	7.54	54	800	1.2	4	2.15	0.5	13	42	302	4.57	20	1.90	
98610		0.17	0.6	7.94	192	690	1.5	2	1.26	0.9	21	43	318	3.64	20	1.72	
98611		0.17	<0.5	6.45	32	640	1.0	<2	1.30	0.5	6	35	78	5.53	20	1.73	
98612		0.28	0.6	7.31	12	740	1.1	<2	1.75	<0.5	9	43	164	4.44	20	2.04	
98613		0.26	<0.5	7.07	17	800	1.1	<2	1.71	<0.5	10	43	77	5.04	20	2.18	
98614		0.32	<0.5	7.28	11	790	1.1	2	1.70	<0.5	10	52	101	5.49	20	2.19	
98615		0.31	0.5	7.92	31	750	1.2	<2	1.54	0.5	13	30	213	3.67	20	1.92	
98616		0.37	<0.5	7.81	29	780	1.1	2	1.56	<0.5	15	41	163	4.99	20	2.17	
98617		0.25	<0.5	7.71	34	610	1.0	<2	1.15	<0.5	13	47	176	5.76	20	1.30	
98618		0.24	<0.5	7.19	29	730	1.1	2	1.82	<0.5	9	31	219	3.84	20	1.97	
98619		0.19	0.5	7.10	69	710	1.2	<2	1.84	<0.5	10	31	173	4.06	20	1.70	
98620		0.24	0.6	6.93	9	740	1.1	<2	1.66	0.5	11	33	397	4.47	20	2.10	
98621		0.28	0.9	7.06	13	740	1.2	<2	1.79	0.6	15	39	506	5.21	20	2.26	
98622		0.35	<0.5	6.98	9	690	1.1	<2	1.44	<0.5	10	33	384	4.41	20	1.85	
98623		0.11	1.0	6.34	23	700	1.3	<2	1.60	3.6	67	24	1570	3.90	20	1.60	
98624		0.29	<0.5	7.36	11	670	1.1	<2	1.40	0.6	8	43	141	5.86	30	1.96	
98625		0.29	1.5	6.73	28	460	0.9	<2	0.80	0.6	12	37	158	6.00	20	1.03	
98626		0.34	0.6	6.08	20	560	0.9	<2	0.95	<0.5	14	31	90	4.13	20	1.19	
98627		0.34	<0.5	7.04	133	700	1.3	3	1.36	0.6	25	35	159	4.82	20	1.63	
98628		0.46	1.4	8.25	418	920	1.5	<2	1.28	0.8	26	29	712	4.51	20	2.00	
98629		0.29	0.8	7.01	33	700	1.1	3	1.50	0.5	9	33	109	4.37	20	1.71	
98630		0.17	<0.5	6.37	14	740	1.0	2	1.50	<0.5	10	33	65	4.77	20	1.74	
98631		0.36	0.6	6.97	20	690	1.0	<2	1.24	<0.5	8	30	84	3.93	20	1.52	
98632		0.12	<0.5	6.15	83	620	1.2	2	1.52	0.6	16	27	241	2.84	20	1.47	
98633		0.26	<0.5	6.30	22	680	0.8	<2	1.33	<0.5	4	30	17	3.26	30	1.63	
98634		0.31	0.5	7.84	13	870	1.3	<2	2.30	0.9	16	37	255	5.03	20	2.41	
98635		0.21	0.7	5.26	71	560	0.9	3	1.10	<0.5	17	20	245	3.90	20	1.40	
98636		0.27	0.7	7.36	12	570	1.1	4	0.90	<0.5	25	43	581	4.23	20	1.59	

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Page: 4 - B  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10
98597		10	0.86	456	15	1.36	10	1820	12	0.06	<5	12	225	<20	0.55	10
98598		20	0.95	1005	55	1.69	11	1250	8	0.04	<5	11	277	<20	0.50	<10
98599		10	0.85	559	10	1.33	9	1520	9	0.05	<5	11	209	<20	0.57	<10
98600		20	0.51	297	33	1.21	5	1330	14	0.08	<5	8	178	<20	0.37	<10
98601		20	1.24	526	12	1.57	20	1580	12	0.06	<5	13	295	<20	0.47	<10
98602		20	1.56	631	39	1.73	16	1660	2	0.07	<5	14	315	<20	0.55	<10
98603		20	0.58	358	57	1.83	9	1410	11	0.06	<5	10	219	<20	0.45	<10
98604		30	0.73	452	21	2.33	7	790	6	0.03	<5	8	341	<20	0.34	<10
98605		30	0.92	430	34	2.00	10	1040	4	0.05	<5	9	296	<20	0.35	<10
98606		20	1.07	484	24	2.12	13	1420	8	0.05	<5	11	322	<20	0.38	<10
98607		20	0.96	434	22	1.66	10	2950	8	0.05	<5	10	262	20	0.39	<10
98608		20	1.06	492	15	1.40	11	2440	13	0.06	<5	10	202	<20	0.36	<10
98609		20	1.03	541	28	2.02	12	1970	5	0.05	<5	10	323	<20	0.39	<10
98610		30	0.94	522	394	1.66	16	2940	21	0.13	14	14	231	20	0.49	<10
98611		20	0.66	381	38	1.57	8	900	9	0.05	<5	8	226	<20	0.38	<10
98612		20	0.71	438	10	2.21	9	1140	7	0.03	<5	7	317	<20	0.35	<10
98613		20	0.70	476	9	2.16	9	960	7	0.03	<5	8	318	<20	0.40	<10
98614		20	0.75	459	7	2.20	9	610	5	0.03	<5	9	321	<20	0.40	<10
98615		20	0.88	476	73	1.97	12	1020	9	0.03	9	10	296	<20	0.37	<10
98616		20	1.34	471	27	1.75	16	1000	10	0.04	<5	13	288	<20	0.51	<10
98617		20	1.05	460	12	1.39	19	1520	14	0.05	<5	12	243	<20	0.46	<10
98618		20	0.88	412	26	2.02	11	1650	8	0.05	<5	10	313	<20	0.39	<10
98619		30	0.81	438	142	1.80	10	1670	9	0.06	9	11	311	<20	0.48	<10
98620		30	0.89	376	30	1.98	12	1510	12	0.03	<5	10	303	<20	0.40	<10
98621		20	1.02	522	40	1.95	13	1890	10	0.04	<5	10	290	20	0.38	<10
98622		20	0.84	432	30	1.78	9	1420	13	0.04	<5	10	286	<20	0.42	<10
98623		20	0.82	1420	96	1.32	14	2210	23	0.12	<5	9	312	<20	0.39	<10
98624		20	0.71	340	105	1.78	11	1420	12	0.05	<5	11	291	<20	0.54	<10
98625		20	0.68	426	39	1.07	12	1450	12	0.08	<5	11	187	<20	0.47	<10
98626		10	0.60	875	16	1.39	10	2430	12	0.08	<5	10	243	<20	0.45	<10
98627		20	0.81	1400	62	1.74	10	2230	42	0.08	5	12	297	<20	0.51	<10
98628		20	1.03	1445	29	1.64	15	1930	93	0.03	13	12	310	<20	0.39	<10
98629		20	0.86	405	56	1.85	12	1210	8	0.04	<5	10	300	<20	0.43	<10
98630		20	0.80	412	55	1.78	10	1390	7	0.05	<5	10	299	<20	0.50	<10
98631		20	0.70	393	93	1.60	10	1030	15	0.04	6	12	285	<20	0.54	<10
98632		20	0.66	564	40	1.50	8	1570	15	0.08	<5	10	253	<20	0.45	<10
98633		20	0.66	377	91	1.64	6	720	12	0.04	<5	12	256	<20	0.72	<10
98634		30	1.38	680	25	2.24	16	1760	10	0.03	<5	13	343	<20	0.49	<10
98635		30	0.60	340	226	1.20	8	3020	22	0.17	<5	8	319	<20	0.34	<10
98636		20	0.63	997	249	1.62	9	2450	14	0.08	6	11	217	<20	0.52	<10

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Page: 4 - C  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U	V	W	Zn
		ppm	ppm	ppm	ppm
98597		<10	108	<10	43
98598		<10	120	10	48
98599		<10	136	10	38
98600		10	102	60	37
98601		<10	131	10	63
98602		<10	122	10	58
98603		<10	83	10	42
98604		<10	126	10	27
98605		<10	102	<10	41
98606		20	107	20	47
98607		<10	105	10	48
98608		<10	117	<10	58
98609		10	115	10	56
98610		100	156	50	94
98611		<10	105	<10	27
98612		<10	119	10	30
98613		<10	126	10	28
98614		<10	139	10	28
98615		<10	86	10	58
98616		<10	121	20	53
98617		<10	120	10	80
98618		10	101	30	41
98619		20	105	100	45
98620		<10	108	50	33
98621		<10	126	50	38
98622		<10	109	30	34
98623		10	91	90	91
98624		<10	135	30	33
98625		<10	120	10	45
98626		<10	112	10	44
98627		10	118	70	73
98628		10	104	100	238
98629		<10	102	30	40
98630		<10	118	10	33
98631		<10	118	10	37
98632		20	78	70	48
98633		<10	153	30	27
98634		<10	129	30	54
98635		10	95	350	34
98636		10	105	60	52

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Page: 5 - A  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
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Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61													
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
98637		0.23	<0.5	7.35	23	580	0.9	<2	0.86	<0.5	9	45	193	5.13	20	1.86
98638		0.17	0.8	6.75	16	510	0.9	<2	0.86	0.8	8	42	292	6.50	20	1.14
98639		0.27	0.8	7.58	38	590	0.9	<2	1.17	<0.5	6	35	83	3.43	20	1.48
98640		0.28	<0.5	6.51	35	400	0.8	<2	0.87	<0.5	7	37	64	3.75	10	0.89
98641		0.46	<0.5	8.83	35	720	1.3	<2	1.65	<0.5	21	54	204	5.08	20	1.62
98642		0.28	<0.5	7.92	94	530	1.0	<2	2.22	<0.5	11	85	90	4.68	20	1.00
98643		0.22	0.6	6.79	14	530	0.8	<2	1.64	<0.5	11	67	39	3.91	20	0.78
98644		0.18	<0.5	5.38	29	390	0.6	<2	0.71	<0.5	7	44	58	6.23	20	0.79
98645		0.26	<0.5	8.00	33	760	1.2	<2	2.73	<0.5	18	52	288	4.39	20	1.72
98646		0.26	<0.5	7.90	33	810	1.2	<2	2.86	<0.5	19	57	282	4.45	20	1.77
98647		0.21	<0.5	7.37	13	760	1.1	<2	2.87	<0.5	10	41	56	3.29	20	1.71
98648		0.16	1.3	6.34	40	650	1.0	<2	1.62	<0.5	9	41	151	3.37	20	1.43
98649		0.22	<0.5	6.26	13	810	0.9	<2	1.62	<0.5	5	19	24	1.50	20	2.13
98650		0.16	<0.5	5.96	11	730	0.9	5	1.38	<0.5	8	21	55	2.88	20	2.07
98651		0.15	<0.5	6.70	19	530	1.0	<2	1.32	<0.5	15	51	148	4.68	20	0.94
98652		0.28	1.3	8.39	42	900	1.4	15	1.82	<0.5	31	43	818	4.77	20	2.33
98653		0.13	<0.5	6.93	13	780	1.0	<2	2.15	<0.5	7	41	28	3.21	20	1.57
98654		0.12	<0.5	7.76	35	420	1.4	<2	2.18	<0.5	16	96	362	4.88	20	1.05
98655		0.28	<0.5	8.02	22	600	1.3	<2	1.25	<0.5	15	52	292	4.60	20	1.57
98656		0.20	0.9	6.39	28	570	0.9	4	0.76	<0.5	7	28	40	2.23	20	2.21
98657		0.18	<0.5	8.01	15	520	1.1	<2	2.04	<0.5	13	57	84	4.62	20	0.99
98658		0.16	<0.5	7.16	156	560	1.1	<2	1.65	<0.5	14	66	203	4.88	20	1.11
98659		0.21	<0.5	7.13	6	720	1.1	<2	2.15	<0.5	7	26	39	2.20	20	1.91
98660		0.17	0.5	8.23	46	720	1.2	3	2.59	<0.5	20	59	327	4.90	20	1.50
98661		0.18	0.5	7.79	45	800	1.3	<2	2.10	<0.5	20	85	175	4.81	20	1.10
98662		0.36	<0.5	8.11	27	900	1.2	<2	3.11	<0.5	19	50	111	4.50	20	1.97
98663		0.16	1.0	7.89	57	740	1.7	<2	1.92	<0.5	21	50	311	4.49	20	1.39
98664		0.18	<0.5	7.84	34	710	1.2	<2	2.82	<0.5	11	63	99	4.42	20	1.13
98665		0.24	0.7	8.33	29	980	1.3	<2	1.77	<0.5	19	33	456	4.10	20	2.38
98666		0.17	<0.5	5.35	16	600	0.7	<2	1.28	<0.5	6	33	56	4.65	20	1.36
98667		0.18	1.4	6.65	17	640	0.9	<2	1.29	<0.5	4	25	44	3.56	20	1.76
98668		0.16	<0.5	6.29	18	1750	0.8	<2	1.61	<0.5	4	29	39	2.13	20	1.96
98669		0.15	<0.5	5.81	13	710	0.8	2	1.27	<0.5	7	40	53	3.91	20	1.64
98670		0.28	<0.5	8.33	43	800	1.2	<2	2.93	<0.5	19	52	324	4.54	20	1.79
98671		0.22	<0.5	7.85	36	580	1.1	<2	1.75	<0.5	17	63	232	5.43	20	1.27
98672		0.13	0.8	7.22	131	740	1.3	2	1.97	<0.5	9	35	326	3.90	20	1.57
98673		0.17	<0.5	6.61	44	840	1.2	<2	2.24	<0.5	16	40	415	3.88	20	1.61
98674		0.24	<0.5	6.74	5	730	1.1	3	2.04	<0.5	6	21	18	2.10	20	1.86
98675		0.17	<0.5	6.21	9	880	0.9	<2	1.67	<0.5	7	22	62	2.16	20	2.14
98676		0.19	<0.5	8.14	66	770	1.3	<2	2.34	<0.5	13	50	352	4.14	20	1.58

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Page: 5 - B  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10
98637		20	0.79	320	75	1.41	13	1110	13	0.05	<5	13	196	<20	0.51	<10
98638		10	0.67	379	50	0.97	9	1500	7	0.07	<5	13	202	<20	0.62	<10
98639		20	0.58	318	47	1.50	8	1320	7	0.06	<5	10	226	<20	0.51	<10
98640		10	0.65	426	20	0.94	11	2300	9	0.12	<5	11	176	<20	0.36	<10
98641		20	1.24	1370	41	1.98	20	2950	18	0.05	<5	15	328	<20	0.56	<10
98642		20	1.74	588	107	1.72	17	1240	10	0.06	<5	16	289	<20	0.65	<10
98643		20	1.23	528	4	1.19	18	1580	12	0.10	<5	13	221	<20	0.54	<10
98644		10	0.65	419	9	0.71	12	3690	13	0.10	8	10	121	<20	0.52	<10
98645		20	1.62	633	17	2.28	25	1730	8	0.03	8	14	396	<20	0.51	<10
98646		20	1.58	702	10	2.39	27	1500	7	0.02	7	13	417	<20	0.51	<10
98647		20	1.18	606	2	2.47	13	1500	9	0.03	7	11	400	<20	0.42	<10
98648		20	1.05	448	63	1.48	14	2640	16	0.11	8	11	244	<20	0.46	<10
98649		20	0.69	515	38	1.77	5	1180	14	0.05	5	10	277	<20	0.52	<10
98650		20	0.66	828	37	1.62	7	2040	13	0.06	5	9	245	<20	0.47	<10
98651		20	1.02	739	45	1.10	17	3760	9	0.10	<5	10	189	<20	0.42	<10
98652		30	1.31	998	20	2.13	20	2030	23	0.02	15	12	326	<20	0.46	10
98653		20	1.13	601	26	1.97	9	670	17	0.03	6	15	329	<20	0.74	<10
98654		20	1.85	820	33	1.83	13	2320	10	0.08	8	16	316	<20	0.54	<10
98655		20	0.95	1210	13	1.70	16	2820	14	0.06	6	13	249	<20	0.51	<10
98656		10	0.49	344	10	1.29	7	1090	14	0.05	<5	8	157	<20	0.47	<10
98657		20	1.40	544	11	1.69	20	1500	7	0.07	<5	12	305	<20	0.52	<10
98658		20	1.21	589	32	1.30	22	2890	17	0.10	7	12	280	<20	0.47	<10
98659		10	0.93	495	177	2.38	7	1050	5	0.05	<5	11	324	<20	0.51	<10
98660		20	1.69	748	27	2.04	28	1640	10	0.04	<5	14	363	<20	0.54	<10
98661		20	1.45	915	11	1.62	23	2210	5	0.06	7	13	294	<20	0.55	<10
98662		20	1.43	833	4	2.80	18	1490	9	0.01	8	13	448	<20	0.49	<10
98663		30	1.43	965	73	1.64	20	2920	13	0.12	8	13	293	<20	0.49	<10
98664		20	1.71	665	47	2.09	19	1580	10	0.07	6	16	384	<20	0.66	<10
98665		40	1.26	590	28	2.03	20	1570	9	0.04	<5	11	312	<20	0.41	<10
98666		20	0.78	426	48	1.28	8	2710	12	0.11	<5	9	201	<20	0.54	<10
98667		20	0.56	349	86	1.55	6	1590	6	0.10	6	9	226	<20	0.48	<10
98668		20	0.74	353	92	1.71	6	1440	14	0.06	<5	10	291	<20	0.62	<10
98669		10	0.66	372	24	1.51	6	1070	13	0.06	<5	9	210	<20	0.55	<10
98670		20	1.65	743	16	2.46	25	1730	9	0.02	<5	14	425	<20	0.53	<10
98671		20	1.13	1050	40	1.72	17	2470	9	0.08	7	12	282	<20	0.51	<10
98672		20	1.01	488	67	1.63	12	3050	18	0.12	7	13	272	<20	0.50	<10
98673		20	1.05	1010	60	1.67	11	2230	14	0.09	8	11	327	<20	0.44	<10
98674		10	0.84	652	14	2.26	7	1050	10	0.04	<5	11	335	<20	0.50	<10
98675		20	0.68	448	22	1.80	5	1860	5	0.06	<5	10	358	<20	0.42	<10
98676		20	1.41	531	30	2.11	20	1670	12	0.05	9	13	370	<20	0.51	<10

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Page: 5 - C  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U	V	W	Zn
		ppm	ppm	ppm	ppm
98637		10	125	40	44
98638		<10	169	70	46
98639		10	102	20	28
98640		<10	93	10	47
98641		10	131	20	100
98642		20	142	10	57
98643		<10	107	<10	52
98644		<10	125	10	43
98645		<10	122	30	80
98646		<10	128	20	77
98647		<10	97	10	59
98648		10	96	80	63
98649		<10	62	30	29
98650		<10	86	20	37
98651		<10	110	<10	67
98652		10	120	70	90
98653		<10	140	30	43
98654		10	124	50	61
98655		<10	116	30	72
98656		<10	82	40	30
98657		<10	120	<10	66
98658		10	116	30	81
98659		<10	68	10	34
98660		<10	125	20	92
98661		<10	128	10	76
98662		<10	131	10	82
98663		40	112	100	93
98664		10	136	30	77
98665		10	95	40	87
98666		<10	111	10	32
98667		<10	86	10	20
98668		<10	88	10	31
98669		<10	118	<10	29
98670		<10	125	20	78
98671		10	123	10	77
98672		20	97	80	76
98673		20	104	10	52
98674		<10	72	<10	32
98675		<10	72	10	34
98676		10	115	40	72

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Page: 6 - A  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61													
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
98678		0.20	0.9	7.54	137	700	1.5	10	1.76	<0.5	20	45	413	5.21	20	1.74
98679		0.26	<0.5	7.68	7	810	1.2	<2	2.15	<0.5	6	23	24	1.84	20	2.01
98680		0.23	<0.5	6.78	9	770	1.1	2	1.84	<0.5	11	25	50	2.77	20	1.75
98681		0.17	0.9	7.19	15	520	1.0	<2	1.15	<0.5	8	46	66	4.61	20	1.37
98682		0.23	0.8	6.90	16	680	1.0	<2	1.71	0.7	9	39	27	4.67	20	1.62
98683		0.25	<0.5	7.46	7	840	1.1	<2	1.81	<0.5	5	25	13	2.66	20	2.23
98684		0.22	0.6	6.80	69	500	1.2	<2	1.20	0.8	9	34	93	4.99	20	1.21
98685		0.31	<0.5	7.96	12	900	1.5	<2	2.64	<0.5	17	37	164	4.68	20	2.11
98686		0.25	<0.5	7.99	68	840	1.4	<2	2.24	<0.5	16	39	535	4.40	20	2.01
98687		0.27	<0.5	7.63	10	800	1.0	<2	1.68	<0.5	8	37	47	4.66	30	1.91
98688		0.24	<0.5	8.20	8	880	1.2	<2	2.14	<0.5	7	24	23	2.66	30	2.28
98689		0.35	<0.5	6.95	25	810	1.0	<2	2.21	<0.5	8	39	30	5.13	20	2.04
98690		0.21	<0.5	6.40	15	610	1.1	<2	1.61	<0.5	12	36	80	5.65	30	1.42
98691		0.24	<0.5	7.14	19	700	1.4	<2	1.81	0.9	14	46	91	5.82	20	1.69
98692		0.21	<0.5	7.59	100	630	1.7	<2	2.03	1.1	30	46	237	5.40	20	1.43
98693		0.22	<0.5	7.10	21	770	1.0	<2	1.73	<0.5	7	36	54	4.81	20	2.00
98694		0.32	<0.5	7.63	18	830	1.1	<2	2.28	<0.5	8	41	60	3.93	20	2.05
98695		0.26	<0.5	7.11	21	770	1.1	<2	1.58	<0.5	10	38	183	5.19	20	2.10
98696		0.24	0.5	7.91	29	710	1.1	<2	2.20	<0.5	10	45	128	4.29	20	1.52
98697		0.23	12.0	7.19	9	840	1.0	<2	1.80	<0.5	7	30	25	3.13	20	2.11
98698		0.24	0.5	7.16	19	580	0.9	<2	1.13	<0.5	7	37	92	5.13	20	1.45
98699		0.21	<0.5	7.20	11	740	0.9	<2	1.08	<0.5	4	30	20	2.58	30	1.88
98700		0.21	0.5	8.48	77	980	1.3	4	3.11	<0.5	34	55	420	5.51	20	2.01
98701		0.22	0.9	7.27	23	590	1.3	<2	1.40	<0.5	15	42	82	3.60	20	1.60
98702		0.21	<0.5	7.43	78	690	1.3	<2	2.25	<0.5	13	38	75	5.21	20	1.60
98703		0.22	<0.5	7.00	<5	800	1.3	<2	2.40	<0.5	12	30	22	5.34	20	2.34
98704		0.19	<0.5	7.42	10	780	1.2	<2	2.11	<0.5	8	30	43	2.83	20	1.92
98705		0.22	<0.5	7.00	7	780	1.1	<2	1.99	<0.5	6	19	24	1.58	20	1.91
98710		0.21	<0.5	8.11	44	930	1.3	<2	3.29	<0.5	18	46	143	4.35	20	1.95
98712		0.21	<0.5	6.82	30	520	0.8	<2	1.64	<0.5	12	79	105	5.26	20	0.85
98751		0.25	0.8	5.44	54	520	1.2	<2	1.39	1.8	12	22	190	2.28	10	1.22
98752		0.23	<0.5	6.85	19	690	1.2	<2	1.18	<0.5	9	37	138	5.29	20	1.53
98753		0.23	<0.5	7.22	18	670	0.8	<2	0.87	<0.5	9	43	56	4.86	30	1.46
98754		0.22	<0.5	6.05	25	600	0.7	<2	0.70	0.6	6	32	46	4.92	20	1.18
98755		0.24	<0.5	7.18	25	600	1.4	<2	1.29	<0.5	24	33	408	3.97	20	1.50
98756		0.17	0.5	6.19	19	450	0.8	<2	0.80	0.7	6	34	102	6.06	20	0.91
98757		0.27	<0.5	6.02	17	530	0.7	<2	1.08	<0.5	7	38	61	5.43	20	1.26
98758		0.17	0.6	6.86	13	630	1.0	<2	1.25	<0.5	6	32	59	3.39	30	1.51
98759		0.26	0.6	6.58	115	430	1.4	3	0.67	1.0	34	39	318	4.49	20	0.98
98760		0.28	0.6	5.89	8	550	0.7	3	0.79	0.5	5	26	31	3.26	20	1.29

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Page: 6 - B  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10
98678		30	1.09	1225	38	1.77	16	2830	18	0.11	9	14	278	20	0.47	<10
98679		20	0.83	503	13	2.38	6	1290	16	0.05	<5	11	436	<20	0.62	<10
98680		20	0.85	1290	21	1.90	8	2410	10	0.09	<5	11	382	<20	0.47	<10
98681		20	0.69	408	29	1.49	10	1930	12	0.08	8	10	193	<20	0.48	<10
98682		20	0.89	586	70	1.87	9	2050	13	0.05	<5	13	280	<20	0.64	<10
98683		20	0.80	574	10	2.14	7	820	8	0.03	6	11	331	<20	0.64	<10
98684		20	0.85	657	85	1.25	8	3320	13	0.16	13	9	194	20	0.42	<10
98685		30	1.33	846	82	2.60	15	1650	7	0.03	5	12	434	<20	0.44	10
98686		20	1.17	688	98	2.29	13	1700	15	0.06	10	12	344	<20	0.45	<10
98687		20	0.83	547	12	1.83	8	1380	10	0.05	<5	11	371	<20	0.61	<10
98688		20	0.85	449	5	2.43	7	1190	12	0.02	<5	12	402	<20	0.64	<10
98689		20	0.76	531	100	1.70	8	1640	11	0.06	9	11	298	<20	0.58	<10
98690		20	0.55	728	60	1.38	8	2070	13	0.09	<5	9	236	<20	0.51	<10
98691		20	0.78	892	59	1.80	11	2060	10	0.07	<5	10	300	<20	0.46	<10
98692		30	0.58	1835	112	1.44	10	5130	24	0.15	9	13	254	20	0.47	<10
98693		20	0.82	496	57	2.17	9	1200	8	0.04	<5	10	338	<20	0.51	<10
98694		30	1.01	576	19	2.51	11	1080	7	0.04	8	11	392	<20	0.46	<10
98695		20	0.91	537	58	2.03	10	1660	13	0.04	<5	11	317	<20	0.50	<10
98696		20	1.25	515	22	2.11	15	1550	10	0.05	5	12	346	<20	0.52	<10
98697		20	0.73	424	26	2.29	7	1100	7	0.04	7	11	360	<20	0.51	<10
98698		20	0.64	362	37	1.49	9	1330	14	0.05	<5	10	236	<20	0.51	<10
98699		20	0.49	339	88	1.48	5	790	15	0.04	5	11	242	<20	0.73	<10
98700		20	2.12	1125	26	2.40	35	1930	11	0.02	10	16	417	<20	0.62	<10
98701		20	0.59	1110	121	1.85	11	1710	18	0.08	7	11	244	<20	0.51	<10
98702		20	1.29	1325	112	2.04	11	2760	7	0.09	<5	13	318	<20	0.59	<10
98703		20	1.21	790	13	2.36	8	350	3	0.03	7	14	340	<20	0.56	<10
98704		20	0.89	482	6	2.49	9	1260	12	0.05	<5	10	410	<20	0.44	<10
98705		20	0.78	498	13	2.25	5	1230	12	0.05	7	11	370	<20	0.55	<10
98710		20	1.78	832	12	2.68	21	1720	10	0.02	7	15	447	<20	0.53	<10
98712		20	1.35	869	44	1.25	22	4630	10	0.11	5	13	213	<20	0.55	<10
98751		20	0.51	278	83	1.30	7	2050	22	0.21	5	8	219	<20	0.32	<10
98752		20	0.73	417	73	1.56	11	1610	9	0.07	8	11	270	<20	0.50	<10
98753		20	0.73	447	131	1.25	11	1190	12	0.04	7	13	224	<20	0.65	<10
98754		10	0.48	338	133	1.06	7	1470	10	0.06	<5	12	201	<20	0.67	<10
98755		20	0.67	2700	145	1.53	8	2790	15	0.13	8	11	242	<20	0.41	<10
98756		10	0.50	307	27	1.02	8	1300	12	0.10	<5	9	169	<20	0.44	<10
98757		20	0.64	621	162	1.39	8	4240	14	0.08	5	11	229	<20	0.52	<10
98758		20	0.58	347	27	1.58	6	1790	18	0.07	<5	10	380	<20	0.68	<10
98759		30	0.47	3210	123	0.85	14	4610	30	0.20	9	14	134	20	0.35	<10
98760		10	0.45	430	12	1.33	7	1400	12	0.05	<5	10	224	<20	0.58	<10

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Page: 6 - C  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U	V	W	Zn
		ppm	ppm	ppm	ppm
98678		20	111	20	93
98679		<10	74	<10	31
98680		<10	76	<10	42
98681		<10	109	10	43
98682		<10	125	<10	46
98683		<10	91	<10	30
98684		30	95	10	48
98685		<10	129	<10	51
98686		40	123	10	69
98687		<10	130	<10	31
98688		<10	103	<10	29
98689		10	138	<10	36
98690		10	120	<10	27
98691		30	137	10	48
98692		100	115	10	101
98693		<10	130	<10	35
98694		<10	125	30	44
98695		<10	137	50	42
98696		<10	122	20	62
98697		<10	108	30	30
98698		<10	132	10	37
98699		<10	154	10	26
98700		10	142	40	128
98701		10	109	10	48
98702		10	133	20	58
98703		<10	140	<10	40
98704		<10	91	20	41
98705		<10	61	<10	32
98710		<10	123	10	110
98712		<10	133	10	67
98751		10	61	60	44
98752		<10	115	20	55
98753		<10	168	<10	53
98754		<10	162	10	45
98755		10	97	60	51
98756		<10	107	10	31
98757		<10	120	10	39
98758		<10	130	20	31
98759		40	78	60	63
98760		<10	132	10	28

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Page: 7 - A  
 Total # Pages: 7 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 7- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	WEI- 21	ME- ICP61													
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
98761		0.27	<0.5	5.87	15	450	0.6	2	0.84	0.5	5	31	64	4.62	20	0.89
98762		0.30	<0.5	6.05	10	430	0.7	4	2.17	<0.5	12	82	35	4.19	20	0.84
98763		0.26	2.3	5.84	38	450	0.6	2	0.89	0.7	4	32	36	4.33	30	1.15
98764		0.36	0.5	6.97	12	620	1.0	2	1.19	<0.5	8	28	122	4.34	20	1.63
98765		0.19	0.5	6.82	19	660	0.9	2	1.14	<0.5	7	31	57	5.81	30	1.86
98766		0.34	<0.5	6.97	<5	700	1.1	2	1.49	<0.5	3	18	55	0.97	20	2.08
98767		0.33	2.6	6.73	59	600	1.0	2	1.11	<0.5	8	29	105	3.08	20	1.56
98768		0.39	0.5	7.07	21	720	1.1	4	1.49	<0.5	9	35	178	3.06	20	1.76
98769		0.17	0.6	6.11	52	590	1.3	<2	1.12	0.6	12	23	186	2.64	10	1.39
98770		0.27	<0.5	6.21	16	520	0.8	<2	1.80	<0.5	8	50	126	3.26	20	0.90
98771		0.59	<0.5	7.40	25	810	1.1	6	2.89	<0.5	17	41	104	3.93	20	1.81
98772		0.39	<0.5	7.41	29	860	1.1	4	2.95	0.6	21	43	151	4.18	20	1.85
98773		0.62	<0.5	7.09	8	800	1.1	2	2.85	<0.5	17	46	91	4.30	20	1.87
98774		0.66	<0.5	7.34	9	830	1.1	5	3.04	<0.5	19	49	118	4.56	20	1.92
98775		0.53	<0.5	7.16	13	800	1.1	3	2.89	<0.5	17	58	92	5.21	20	1.91
98776		0.40	1.9	7.91	60	1110	1.3	8	1.84	0.5	72	47	1150	5.74	20	2.11
98777		0.44	1.3	7.19	19	870	1.4	9	1.92	0.5	21	31	484	3.78	20	2.17
98778		0.44	<0.5	7.28	16	750	1.2	4	1.76	<0.5	20	44	509	4.65	20	1.65
98779		0.35	1.4	5.57	15	700	0.9	6	1.40	<0.5	10	33	152	2.91	20	1.42
98780		0.26	0.5	5.11	<5	730	0.7	<2	1.05	<0.5	3	17	23	0.97	20	1.67
98781		0.22	0.7	5.18	19	620	1.0	3	1.73	0.9	13	25	121	2.77	10	1.32
98782		0.28	2.3	6.09	11	470	1.0	7	1.02	0.9	13	29	295	4.60	10	1.18
98783		0.25	1.0	6.61	41	660	1.5	8	1.64	0.7	20	37	399	3.65	20	1.42
98784		0.53	<0.5	7.21	26	810	1.1	6	2.76	0.5	17	46	121	4.28	20	1.81
98785		0.22	1.2	7.55	125	590	1.2	5	1.67	<0.5	15	53	400	4.75	20	0.95
98786		0.20	1.1	7.93	228	730	1.3	16	1.52	0.6	27	58	599	5.55	20	1.82
98787		0.28	1.1	9.29	220	730	1.2	16	1.67	<0.5	31	63	676	5.70	20	1.59
98788		0.31	0.7	7.73	100	760	1.3	7	2.04	<0.5	28	51	377	4.95	20	1.68
98789		0.28	0.7	6.98	59	770	1.1	10	1.77	<0.5	17	45	303	3.64	20	1.83
98790		0.25	0.8	7.11	152	730	1.3	12	1.54	<0.5	25	46	1310	4.44	20	1.45
98791		0.13	0.9	7.64	114	710	1.3	14	1.59	<0.5	57	59	578	5.66	20	1.61
98792		0.16	0.7	6.69	164	650	1.1	12	1.66	0.5	27	46	466	4.50	20	1.45
98793		0.22	<0.5	5.25	32	540	0.7	6	1.48	<0.5	11	40	79	3.46	20	1.06
98794		0.14	<0.5	5.55	19	520	0.8	4	1.73	<0.5	9	41	137	3.10	10	1.09
98795		0.16	0.7	5.67	20	520	0.8	<2	1.71	0.5	17	42	210	3.38	10	1.08
98796		0.17	1.0	7.17	24	670	1.1	2	2.50	<0.5	22	52	231	4.55	20	1.50
98797		0.32	0.6	7.51	29	770	1.2	2	2.76	<0.5	22	50	260	4.36	20	1.73
98798		0.17	<0.5	7.81	43	890	1.2	2	2.68	0.5	24	40	229	3.94	20	2.02
98799		0.34	<0.5	7.93	25	840	1.2	<2	2.96	<0.5	19	57	99	4.91	20	1.91
98800		0.33	<0.5	7.59	36	820	1.2	2	2.84	<0.5	20	55	205	4.78	20	1.83

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



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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61														
		La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10
98761		10	0.47	283	18	0.86	8	1570	11	0.06	<5	12	161	<20	0.56	<10
98762		10	1.76	843	36	1.48	21	1250	10	0.05	<5	18	223	<20	0.74	<10
98763		10	0.38	231	52	1.18	8	1310	16	0.07	<5	9	175	<20	0.63	<10
98764		20	0.82	359	45	1.59	11	1290	11	0.06	<5	10	243	<20	0.49	<10
98765		10	0.67	319	66	1.54	9	800	15	0.04	<5	9	228	<20	0.61	<10
98766		20	0.48	254	43	2.05	5	1060	12	0.04	<5	9	311	<20	0.52	<10
98767		20	0.64	327	88	1.49	8	1930	17	0.08	<5	11	239	<20	0.48	<10
98768		20	0.95	383	59	1.66	14	1240	12	0.07	6	11	267	<20	0.46	<10
98769		20	0.60	921	82	1.38	8	2240	11	0.10	<5	9	223	<20	0.37	<10
98770		10	1.09	428	6	1.43	16	1460	5	0.07	<5	11	248	<20	0.47	<10
98771		20	1.30	782	4	2.55	18	1390	6	0.01	<5	12	416	<20	0.43	<10
98772		20	1.56	797	7	2.48	23	1460	7	0.01	<5	12	411	<20	0.46	<10
98773		20	1.21	700	2	2.51	16	1320	4	0.01	<5	11	404	<20	0.40	<10
98774		20	1.35	743	3	2.62	19	1440	6	0.01	<5	12	424	<20	0.44	<10
98775		20	1.24	735	4	2.53	16	1320	5	0.01	<5	11	409	<20	0.43	<10
98776		30	1.43	1020	46	1.93	33	1950	17	0.05	8	13	360	20	0.43	<10
98777		30	1.10	577	58	2.06	15	1740	11	0.04	<5	10	331	<20	0.37	10
98778		30	1.17	513	24	1.96	17	1880	8	0.03	<5	11	325	<20	0.43	<10
98779		20	0.77	439	30	1.55	12	1380	20	0.07	<5	9	242	<20	0.41	<10
98780		10	0.40	251	14	1.40	4	930	11	0.04	<5	7	202	<20	0.48	10
98781		20	0.77	944	68	1.25	10	2460	10	0.12	<5	8	229	<20	0.35	<10
98782		20	0.63	435	73	1.14	9	1690	7	0.09	<5	7	176	<20	0.30	<10
98783		30	1.05	822	55	1.41	17	2230	14	0.09	<5	11	238	<20	0.40	<10
98784		20	1.32	773	3	2.45	19	1350	4	0.01	<5	11	399	<20	0.43	<10
98785		20	1.19	481	24	1.38	25	2160	8	0.07	6	12	249	<20	0.52	<10
98786		20	1.48	883	54	1.39	36	2120	19	0.06	<5	13	246	<20	0.53	<10
98787		20	1.57	1075	54	1.59	40	2070	24	0.06	5	14	285	<20	0.51	<10
98788		20	1.37	1030	28	1.92	29	1930	18	0.05	<5	13	329	<20	0.47	<10
98789		20	1.13	704	15	1.86	21	1360	12	0.03	8	11	288	<20	0.39	<10
98790		20	1.16	699	35	1.50	26	1900	30	0.09	9	12	272	<20	0.43	<10
98791		20	1.75	1300	28	1.42	39	1730	13	0.09	<5	14	252	<20	0.54	<10
98792		20	1.31	995	30	1.47	26	1870	13	0.07	5	11	257	<20	0.43	<10
98793		10	0.91	674	18	1.31	14	1630	11	0.09	<5	10	229	<20	0.46	<10
98794		10	0.98	504	10	1.54	14	1580	8	0.08	<5	10	253	<20	0.43	<10
98795		10	0.96	1080	17	1.45	16	1880	15	0.09	<5	11	242	<20	0.47	<10
98796		20	1.43	902	17	2.05	23	1820	11	0.05	<5	13	374	<20	0.50	<10
98797		20	1.39	845	8	2.41	23	1470	7	0.02	6	13	417	<20	0.48	<10
98798		20	1.50	904	21	2.41	22	1430	11	0.02	9	13	399	<20	0.44	<10
98799		30	1.28	838	3	2.71	19	1400	10	0.01	<5	12	450	<20	0.49	<10
98800		20	1.40	890	4	2.54	23	1420	8	0.01	9	13	427	<20	0.50	<10

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



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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS KL18293418**

Sample Description	Method Analyte Units LOD	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		U	V	W	Zn
		ppm	ppm	ppm	ppm
98761		<10	143	10	31
98762		<10	151	<10	54
98763		<10	160	20	27
98764		<10	98	10	38
98765		<10	168	60	30
98766		<10	53	160	16
98767		10	97	40	40
98768		<10	120	20	46
98769		10	72	40	47
98770		<10	91	10	42
98771		<10	109	20	76
98772		<10	114	10	98
98773		<10	122	20	60
98774		<10	127	20	63
98775		<10	150	50	60
98776		20	117	300	119
98777		10	85	90	45
98778		<10	112	30	67
98779		<10	84	110	46
98780		<10	50	10	17
98781		10	67	40	44
98782		10	78	30	28
98783		40	83	90	89
98784		<10	119	10	82
98785		30	113	40	77
98786		20	129	50	130
98787		20	130	60	129
98788		10	119	40	103
98789		<10	100	60	65
98790		30	100	60	99
98791		10	132	30	117
98792		10	109	40	95
98793		<10	101	40	49
98794		<10	92	40	41
98795		<10	98	30	51
98796		<10	125	30	78
98797		<10	123	30	65
98798		<10	104	30	105
98799		<10	148	60	71
98800		<10	138	20	73

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# APPENDIX C: 2018 Rock Sample Analytical Certificates



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**CERTIFICATE TR18290920**

Project: Cobalt Mountain  
 P.O. No.: PC  
 This report is for 27 Rock samples submitted to our lab in Terrace, BC, Canada on 15-NOV-2018.  
 The following have access to data associated with this certificate:  
 LORIE FARRELL      KYLER HARDY      TIM JOHNSON

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um
LOG-23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	
Ag-OG62	Ore Grade Ag - Four Acid	
ME-OG62	Ore Grade Elements - Four Acid	ICP- AES
Cu-OG62	Ore Grade Cu - Four Acid	
Au-ICP21	Au 30g FA ICP- AES Finish	ICP- AES
ME-MS61	48 element four acid 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.

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

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - B  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS TR18290920**

Sample Description	Method Analyte Units LOD	ME- MS61														
		Ca	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb
		ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm
		0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2	10	0.5
126002		20.0	0.08	0.7	0.080	3.32	19.8	17.0	1.04	315	14.85	2.81	16.0	15.1	1030	5.5
126003		19.55	0.06	0.8	0.041	2.90	16.6	13.4	0.95	497	2.04	3.03	16.7	12.0	1100	5.0
126004		18.70	0.07	0.7	0.078	1.30	25.5	10.7	0.46	207	1.31	4.25	12.1	7.6	980	1.5
126005		18.75	0.06	0.6	0.042	2.44	17.3	19.9	1.15	523	7.74	3.08	12.7	11.8	1070	7.0
126006		16.25	0.07	0.4	0.231	3.90	14.9	10.6	0.40	538	648	1.32	9.3	7.1	740	289
126007		14.45	0.07	0.4	0.077	2.64	13.8	32.6	0.68	384	68.3	1.94	9.3	8.0	590	7.3
126008		17.10	0.07	0.4	0.896	3.02	15.5	25.6	0.41	827	77.0	0.84	8.6	6.2	800	568
126009		15.35	0.08	0.4	0.087	4.92	23.9	15.6	1.43	451	11.25	0.88	8.8	16.6	2250	5.1
126010		21.0	0.09	0.7	0.219	0.78	19.3	12.4	2.96	759	150.0	3.04	10.7	31.3	1560	4.2
126011		16.85	0.07	0.7	0.137	0.52	9.8	15.3	1.09	117	10.40	1.11	4.4	11.6	430	6.3
126012		22.5	0.07	0.8	0.088	1.45	8.5	21.8	1.36	520	33.3	2.64	7.2	35.8	820	4.2
126013		19.35	0.06	1.1	0.054	2.74	18.0	14.8	0.82	358	19.70	2.89	13.8	11.5	970	9.4
126014		22.4	0.27	0.8	1.405	2.24	103.5	36.0	2.93	1580	5.79	0.42	10.4	42.6	>10000	65.8
126015		14.95	0.18	0.9	0.462	0.44	59.2	20.9	8.42	3020	1.45	0.41	15.9	60.7	6910	22.8
126016		9.82	0.06	0.4	0.010	1.10	14.7	29.6	2.16	386	45.0	0.40	9.4	20.0	2770	2.7
126017		20.2	0.17	0.4	0.039	1.10	64.9	37.4	3.59	633	40.4	1.75	14.5	36.5	>10000	3.2
126018		19.70	0.12	0.7	0.152	1.43	33.3	15.5	3.90	1010	6.48	2.84	16.9	32.4	3460	7.5
126019		2.82	<0.05	<0.1	0.006	0.97	2.5	6.3	0.02	125	8.37	0.31	2.4	2.7	40	2.0
126020		15.95	0.53	0.6	0.144	0.50	227	6.5	6.92	1540	2.49	1.41	15.6	47.1	>10000	4.7
126021		18.05	0.06	0.3	0.010	2.80	12.2	9.6	0.24	219	13.40	3.27	9.5	8.4	610	3.1
126022		9.94	0.09	0.2	0.062	2.03	23.4	5.4	0.06	111	853	2.14	2.0	3.2	470	9.5
126023		4.05	0.14	0.1	12.95	0.74	4.0	3.1	0.05	90	1175	0.06	1.8	14.3	200	174.5
126024		13.00	0.10	0.5	0.744	3.28	13.2	7.6	0.24	54	33.3	0.65	9.5	7.7	530	6.3
126025		20.2	0.09	0.5	0.080	2.39	17.8	19.7	3.87	1050	14.15	2.78	12.9	56.2	1670	2.9
126026		21.7	0.10	1.1	0.570	1.07	9.2	14.7	5.07	1630	20.7	1.82	5.8	48.0	1130	3.6
126028		11.90	0.08	1.7	0.068	0.95	10.1	12.1	0.84	587	355	2.08	4.2	32.8	550	24.7
126029		0.28	<0.05	<0.1	0.007	0.01	1.4	1.0	2.78	136	0.38	0.03	0.1	0.8	70	0.6

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



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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS TR18290920**

Sample Description	Method Analyte Units LOD	ME- MS61														
		Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V
		ppm	ppm	%	ppm	%	ppm	ppm	ppm							
		0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1
126002		190.0	<0.002	0.27	0.20	8.2	1	1.4	430	1.31	<0.05	11.70	0.340	1.16	4.2	77
126003		137.0	<0.002	0.04	0.28	8.9	1	0.9	449	1.54	<0.05	9.43	0.347	0.85	4.9	83
126004		152.5	<0.002	0.03	0.93	4.5	<1	2.3	156.5	0.93	<0.05	8.91	0.268	1.06	2.9	44
126005		100.5	0.003	0.01	0.40	9.8	<1	0.8	437	0.98	<0.05	9.22	0.352	0.62	2.8	85
126006		194.0	0.065	0.22	57.2	6.0	1	1.1	127.5	0.76	4.80	10.30	0.215	1.29	5.7	60
126007		123.0	0.003	0.16	5.71	6.3	2	0.7	253	0.72	0.32	6.14	0.221	0.84	3.3	54
126008		215	<0.002	0.37	163.0	7.5	1	1.7	86.8	0.88	26.8	6.64	0.216	1.50	4.5	94
126009		182.5	0.002	0.07	9.76	10.4	<1	1.8	148.5	0.58	0.08	10.05	0.194	1.24	3.6	96
126010		27.8	0.002	0.30	0.91	21.4	1	5.2	443	0.66	0.05	3.89	0.629	0.42	2.1	177
126011		41.5	0.002	1.48	3.64	6.9	5	6.7	170.5	0.36	0.22	4.37	0.238	0.36	1.3	94
126012		151.5	0.004	0.15	0.89	10.0	<1	1.8	381	0.49	<0.05	5.93	0.343	1.20	5.5	121
126013		144.0	0.002	0.43	9.67	8.1	1	1.8	379	1.11	0.08	9.50	0.306	1.01	3.7	73
126014		101.0	0.006	4.54	5.47	28.4	7	3.3	59.7	0.73	7.54	12.10	0.185	0.59	4.7	150
126015		43.7	0.002	0.61	2.15	68.3	1	3.4	65.2	0.83	0.15	31.3	0.370	0.35	5.1	336
126016		158.0	0.002	0.06	0.70	15.7	<1	0.9	24.5	0.54	<0.05	118.0	0.428	0.93	13.7	98
126017		161.0	0.003	2.68	0.44	30.7	4	1.6	53.7	0.95	<0.05	18.65	0.486	0.97	5.3	166
126018		124.5	0.004	0.29	1.79	38.0	<1	2.1	266	1.16	0.10	57.1	0.391	0.88	4.8	148
126019		42.5	<0.002	0.17	0.69	0.4	<1	0.5	33.5	0.20	<0.05	0.73	0.060	0.36	0.5	5
126020		53.8	0.002	0.11	0.41	61.5	<1	2.3	144.5	1.10	<0.05	17.55	0.231	0.36	7.2	192
126021		199.5	0.002	0.56	1.05	2.9	<1	1.2	144.5	0.72	<0.05	8.17	0.265	1.31	2.6	45
126022		126.5	0.006	0.49	17.90	0.7	3	0.4	81.1	0.20	0.12	2.14	0.024	0.99	3.0	10
126023		45.6	0.276	>10.0	4820	1.6	28	9.7	20.8	0.12	5.22	2.17	0.038	0.47	2.9	17
126024		174.5	0.011	5.88	71.9	4.7	11	2.1	64.7	0.72	0.93	6.80	0.191	1.30	2.2	48
126025		63.0	0.002	0.90	12.60	24.6	2	0.6	506	0.71	<0.05	3.73	0.668	0.48	1.3	190
126026		59.0	0.005	0.02	2.89	38.6	<1	3.0	421	0.35	<0.05	1.05	0.432	0.65	0.9	289
126028		28.1	0.300	0.42	5.30	11.0	2	2.3	247	0.26	0.18	2.23	0.269	0.28	1.0	85
126029		0.4	<0.002	0.01	0.52	0.2	1	<0.2	73.7	<0.05	<0.05	0.07	0.006	<0.02	0.3	1

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



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To: 1111040 BC  
 2674 PYLADES DRIVE  
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Page: 2 - D  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 3- DEC- 2018  
 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS TR18290920**

Sample Description	Method Analyte Units LOD	ME- MS61	ME- MS61	ME- MS61	ME- MS61	Ag- OC62	Cu- OC62	Au- ICP21
		W ppm	Y ppm	Zn ppm	Zr ppm	Ag ppm	Cu %	Au ppm
		0.1	0.1	2	0.5	1	0.001	0.001
126002		8.8	12.2	30	12.6			0.009
126003		5.0	12.1	32	14.1			0.003
126004		29.7	10.8	28	13.2			<0.001
126005		0.7	13.8	52	10.5			<0.001
126006		18.7	7.3	56	8.9			0.068
126007		55.2	8.3	41	7.8			0.145
126008		39.0	7.7	170	8.1			0.026
126009		11.9	12.0	52	8.5			<0.001
126010		1.4	19.3	54	19.5			0.068
126011		5.9	3.9	17	23.5			0.008
126012		58.1	7.8	64	33.2			0.002
126013		46.9	12.4	43	27.0			0.004
126014		39.2	85.6	138	12.1		1.465	0.040
126015		18.6	72.9	140	13.9			0.004
126016		20.0	10.9	36	8.8			<0.001
126017		14.0	52.0	73	8.4			<0.001
126018		9.8	39.9	71	11.2			0.006
126019		20.5	1.5	8	1.0			<0.001
126020		17.7	221	83	11.1			<0.001
126021		13.5	6.9	20	9.0			<0.001
126022		350	1.8	14	5.0			0.001
126023		6.0	2.4	1900	3.0	193	15.20	0.926
126024		13.1	6.0	37	9.9			0.058
126025		0.6	20.8	85	17.4			<0.001
126026		1.1	19.0	115	43.9			<0.001
126028		1.8	14.8	66	59.0			1.060
126029		<0.1	2.1	6	1.7			<0.001

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Page: Appendix 1  
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 Account: HOTSON

Project: Cobalt Mountain

**CERTIFICATE OF ANALYSIS TR18290920**

CERTIFICATE COMMENTS									
	<b>ANALYTICAL COMMENTS</b>								
Applies to Method:	REE's may not be totally soluble in this method. ME- MS61								
	<b>LABORATORY ADDRESSES</b>								
Applies to Method:	Processed at ALS Terrace located at 2912 Molitor Street, Terrace, BC, Canada.								
	<table border="0" style="width: 100%;"> <tr> <td>CRU- 31</td> <td>CRU- QC</td> <td>LOG- 22</td> <td>LOG- 23</td> </tr> <tr> <td>PUL- 31</td> <td>PUL- QC</td> <td>SPL- 21</td> <td>WEI- 21</td> </tr> </table>	CRU- 31	CRU- QC	LOG- 22	LOG- 23	PUL- 31	PUL- QC	SPL- 21	WEI- 21
CRU- 31	CRU- QC	LOG- 22	LOG- 23						
PUL- 31	PUL- QC	SPL- 21	WEI- 21						
Applies to Method:	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.								
	<table border="0" style="width: 100%;"> <tr> <td>Ag- OG62</td> <td>Au- ICP21</td> <td>Cu- OG62</td> <td>ME- MS61</td> </tr> <tr> <td>ME- OG62</td> <td></td> <td></td> <td></td> </tr> </table>	Ag- OG62	Au- ICP21	Cu- OG62	ME- MS61	ME- OG62			
Ag- OG62	Au- ICP21	Cu- OG62	ME- MS61						
ME- OG62									