MK2 VENTURES LTD.

TECHNICAL REPORT

On the

BAKAR PROPERTY

NORTHERN VANCOUVER ISLAND, BRITISH COLUMBIA, CANADA

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EFFECTIVE DATE: June 6, 2019

Table of Contents

List c	of Tal	bles	iii
List c	of Fig	ures	iv
1	Exec	utive Summary	5
1.1	1	Ownership	5
1.2	2	Property Description	5
1.3	3	Status of Exploration	5
1.4	4	Geology and Mineralization	6
1.5	5	Conclusions and Recommendations	6
2	Intro	oduction	8
2.2	1	Terms of Reference	8
2.2	2	Sources of Information	8
2.3	3	Details of Personal Inspection	8
2.4	4	Abbreviations and Units of Measurement	8
3	Relia	ance on Other Experts	10
4	Prop	perty Description and Location	11
4.3	1	Location	11
4.2	2	Mineral Titles	11
4.3	3	Nature of Title to Property	15
4.4	4	Surface Rights	15
4.5	5	Permitting	19
4.6	6	Environmental	19
5	Acce	essibility, Climate, Local Resources, Infrastructure and Physiography	20
5.3	1	Accessibility	20
5.2	2	Climate	21
5.3	3	Local Resources	21
5.4	4	Infrastructure	22
5.5	5	Physiography	22
6	Histo	ory	23
6.3	1	Historic Exploration Activity	23
7	Geol	logical Setting and Mineralization	37
7.1	1	Regional geology	37
	7.1.1	L The Wrangellia Terrane	37
7.2	2	Regional Mineralization	37
7.3	3	Property Geology	40
	7.3.1	L Lithological Units	40
	7.3.2	2 Post Accretionary Intrusions	46
	7.3.3	3 Structure and Folding	46
	7.3.4	4 Mineralization	52
8	Dep	osit Type	54

8	.1	Redbed Cu Style Deposit	54		
8	8.2 Preliminary Deposit Analogy				
8.3 Other Deposit Model Types					
	8.3.	Porphyry Cu Au Systems	56		
9	Expl	ploration	58		
10	Drill	lling	59		
11	Sam	nple Preparation, Analysis, and Security	60		
1	1.1	Sample Preparation	60		
1	1.2	Chain of Custody	60		
1	1.3	QA/QC	60		
1	1.4	Sample Analysis	60		
1	1.5	Adequacy of Procedures	61		
12	Data	ta Verification	62		
1	2.1	2019 Site Visit	62		
	12.1	1.1 2019 Sample Results	63		
13	Min	neral Processing and Metallurgical Testing	66		
14	Min	neral Resource Estimates	67		
23	- Ad	djacent Properties	68		
2	3.1	Notable Property	69		
24	Oth	her Relevant Data and Information	71		
25	25 Interpretation and Conclusions72				
26	26 Recommendations73				
2	6.1	Proposed Exploration & Budget	73		
27	Refe	ferences	77		
APP	ENDI	DIX A: Date, Signature and Certificate of Author	81		
APP	ENDI	DIX B: 2019 Rock Sample Analytical Certificates	82		
APP	ENDI	DIX C: 2019 Stream Sediment Sample Analytical Certificates	90		

List of Tables

Table 1.1: Proposed exploration budget	6
Table 2.1: Abbreviations and Units of Measurement	8
Table 4.1: Bakar Property mineral tenures	. 12
Table 4.2: BC work requirements for mineral tenures	. 14
Table 4.3: BC cash-in-lieu for mineral tenures.	. 15
Table 5.1: Driving distances to the Property	. 20
Table 5.2: Climate Data for Port Hardy weather station	. 21
Table 6.1: Work history of mineral occurrences in proximity to the Bakar Property	. 26
Table 8.1: Comparisons between the Volcanic Redbed Copper model characteristics	. 56
Table 11.1: Analytical methods requested from Bureau Veritas Laboratory	. 61
Table 12.1: Selected Cu in rock sample results from the Millington showing area	. 63
Table 23.1: Summary of Indicated and Inferred Resources for Hushamu and Indicated Reser	rves
for Red dog Deposits- North Island Project	. 69
Table 23.2: Summary of historic production at Island Copper Mine (Minfile 092L 158)	. 69
Table 26.1: Proposed exploration budget	. 76

List of Figures

Figure 4.1: Bakar Property location map 11
Figure 4.2: Bakar Property claims
Figure 4.3: Private land position coincident with the Bakar Property
Figure 4.4: Bakar Property land parcel owners
Figure 5.1: Road access to the Property via San Josef road
Figure 6.1: Mineralization located during the 2018 exploration program
Figure 6.2: Selected historical work areas over the Bakar Property
Figure 6.3: Bakar property regional geophysics - residual total field
Figure 7.1: Bakar Property regional geology map. Cross sections shown in Figure 7.4 – 7.6 38
Figure 7.2: Bakar Property regional geology legend
Figure 7.3: Stratigraphic summary of northern Vancouver Island, British Columbia
Figure 7.4: Cross-section (NE/SW) of Holberg fault at the southwestern end of Holberg Inlet (Nixon
et al., 2011)
Figure 7.5: Cross-section (NE/SW) of Holberg fault at the northwestern end of Holberg Inlet (Nixon
et al., 2011)
Figure 7.6: Figure 7.6: Cross-section (NE/SW) of Holberg fault in the southeastern end of the Bakar
Property (Nixon et al., 2011)
Figure 8.1: Exampels of volcanic redbed copper mineralization in other Canadian deposits
(Kirkham, 1996)
Figure 8.2: Examples of volcanic redbed copper mineralization in other Canadian Deposits
(Kirkham, 1996)
Figure 26.1: Proposed area for airborne VTEM geophysical surveying

1 Executive Summary

1.1 Ownership

MK2 Ventures Ltd. ("**MK2**" or the "**Issuer**") as purchaser, and Longford Capital Corp. and James Rogers (together, the "**Vendors**") are party to a purchase agreement dated May 1, 2019 pursuant to which MK2 agreed to purchase and the Vendors agreed to sell, a 100% interest in BC Mineral Tenure number 1064067 (the "**Bakar Claim**") for \$50,000 cash, 1,250,000 common shares of MK2, and by incurring minimum exploration expenditures of \$200,000 within 6 months of closing. In addition, the Vendors shall be granted a 2% Net Smelter Royalty ("**NSR**") on the Bakar Claim, such to a right of MK2 to purchase 1% of the NSR for \$1,500,000 cash and to purchase the remaining 1% NSR for \$5,000,000 cash, eliminating the NSR entirely.

In addition, on May 23, 2019, MK2 acquired seven (7) mineral claims (the "Additional Bakar Claims") contiguous to the Bakar Claim.

For the purposes of this Report, the "**Property**" consists of the Bakar Claim and the Additional Bakar Claims, for a total of 8 mineral claims located in the Nanaimo Mining Division totalling 15,686.88 hectares. All of the mineral claims were originally obtained by online staking in late 2018. The Bakar Claim is currently shown in the online registry as being owned 100% by James Rogers, with Longford Capital Corp. being the beneficial owner. The Additional Bakar Claims are owned 100% by MK2. All mineral tenures comprising the Project are in good standing as of the date of this report.

1.2 Property Description

The Property is located in northwestern Vancouver Island near the town of Holberg, British Columbia, Canada. The Property extends 18 km to the northwest of Holberg, and 10.5 km to the southeast. The Property lies within NTS map sheet 09L012 and is centred at approximately 128°4′W longitude by 50°40′N latitude.

Surface rights and permitting have yet to be completed to allow for further in-depth investigations.

The Property is accessible from Port Hardy, approximately 50 km to the east, by a well-maintained gravel road and subsidiary forest access roads. Existing electricity services and deep water (ocean) access are available on the Property.

Topography on the Bakar Property consists of steep mountain ranges, flanked by undulating foothills and flat valley bottoms that are suitable for further infrastructure development. A relatively moderate coastal climate will allow for year-round exploration operations. At this time there are no anthropological or environmental encumbrances on the Property.

1.3 Status of Exploration

First overland travel in the area was in the 1870's, with the first mapping completed in 1887. First documented work on the showings was during the 1920's, then again in the 1960's and 70's. Small

budget exploration programs were carried out during the 1990's and most recently during 2012. This work has comprised typical prospecting and exploration, including numerous geochemical and geophysical surveys over various parts of the Property. Most notably amongst these programs was a sustained period of privately funded exploration by Holberg Mines Ltd. during the 1920's that resulted in the development of at least four short adits, surface stripping, and limited follow up diamond drilling of the mineralized horizons at the Millington showing during the 1960's.

In late 2018 and May 2019 Longford Exploration personnel visited the Bakar Property surrounding the historic Millington Copper showing. 37 grab samples from collected from outcrop during these visits returned assays values ranging from 12 to 415,600 ppm Cu with an overall average of 72,872 ppm Cu.

1.4 Geology and Mineralization

The Millington showings are characterized by strong chalcocite, bornite, chalcopyrite, malachite, which may also contain covellite, native copper and minor azurite mineralization hosted within stratabound lenses within the brittlely deformed Upper Karmutsen Formation, a subgroup of the Triassic Vancouver Group.

The mineralized showings, which are to be the focus of future exploration programs, have been classified as volcanic redbed copper deposits. These are typically described throughout the Karmutsen Formation basalts on Vancouver Island. The most comparable local analogy to this deposit is the Sustut copper deposit in central B.C. which contains a defined resource of 8,561,000 tonnes of measured, indicated and inferred ore grading 1.62% Cu (Pincock, Allen & Holt, 2003). Other deposit types may also occur on the property. The author has not been able to independently verify the above information and it is not necessarily indicative of the mineralization on the Bakar Property which is the subject of this report.

1.5 Conclusions and Recommendations

An initial VTEM Plus airborne geophysical survey is proposed in order to provide initial targets for further field investigations. Approximately 750 line-kms is proposed to be covered by the survey with the aim of identifying conductive anomalies and zones of magnetic anomalism in higher detail than the regional surveys currently available.

The VTEM survey should be followed up with a geochemical survey consisting of stream sediments, soils, moss, and channel sampling as well as further mapping and prospecting. A second phase consisting of diamond drilling is recommended contingent on positive results from Phase 1.

	Description	Estimated Cost (CAD)
Phase 1	Airborne Geophysical VTEM survey (750 line-kms)	\$300,000
	 Identify conductive geologic bodies 	

Table 1.1: Proposed exploration budget.

	Show detailed magnetic anomalism					
	10 Day 4-person exploration program					
	Prospecting					
	Geologic mapping					
	Geochem orientation					
	Stream sediment, soil and/or moss mat sampling					
	Channel sampling of visible surface mineralization					
Phase 2	3,500 m of diamond drilling	\$1,100,000				
	TOTAL	\$1,400,000				

2 Introduction

2.1 Terms of Reference

This report has been prepared for MK2 in connection with regulatory approval of the acquisition of the Bakar Claim by MK2 pursuant to an agreement Between MK2 and Longford Capital Corp. on May 1st, 2019.

2.2 Sources of Information

The sources of information accessed in preparation of this report are listed in the References section of this report. The author also relied upon information and discussions with the Longford Exploration Services Ltd. field personnel prior to the site visit.

2.3 Details of Personal Inspection

The author visited the Property on 13th to 15th of May 2019, to appraise the geological environment, assess the Property, and confirm the technical and geological information presented herein.

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:

Abbreviation	Description		
%	Percent		
AA	atomic absorption		
Ag	Silver		
AMSL	above mean sea level		
as	Arsenic		
Au	Gold		
AuEq	gold equivalent grade		
Az	Azimuth		
b.y.	billion years		
CAD\$	Canadian dollar		
cl	Chlorite		
cm	Centimetre		
Cm ²	square centimetre		
cm₃	cubic centimetre		
сс	Chalcocite		
ср	Chalcopyrite		
CIM	Canadian Institute of Mining,		
	Metallurgy and Petroleum		
Cu	Copper		
су	Clay		
°C	degree Celsius		

Abbreviation	Description		
li	limonite		
m	metre		
m ²	square metre		
m ³	cubic metre		
Ma	million years ago		
mg	magnetite		
mm	millimetre		
mm²	square millimetre		
mm₃	cubic millimetre		
mn	pyrolusite		
Мо	Molybdenum		
Moz	million troy ounces		
ms	sericite		
Mt	million tonnes		
mu	muscovite		
m.y.	million years		
NAD	North American Datum		
NI 43-101	National Instrument 43-101		
opt	ounces per short ton		
OZ	troy ounce (31.1035 grams)		

Table 2.1: Abbreviations and Units of Measurement

Abbreviation	Description		
°F	degree Fahrenheit		
DDH	diamond drill hole		
ер	Epidote		
ft	Feet		
ft ²	square feet		
ft₃	cubic feet		
ъ	Gram		
gl	Galena		
go	Goethite		
GPS	Global Positioning System		
gpt	grams per tonne		
ha	Hectare		
hg	Mercury		
hm	Hematite		
ICP	induced coupled plasma		
kf	potassic feldspar		
kg	Kilogram		
km Kilometre			
km ²	square kilometre		
1	Litre		

Abbreviation	Description			
Pb	lead			
pf	plagioclase			
ppb	parts per billion			
ppm	parts per million			
ру	pyrite			
QA	Quality Assurance			
QC	Quality Control			
qz	quartz			
RC	reverse circulation drilling			
RQD	rock quality description			
sb	antimony			
Sedar	System for Electronic			
	Document Analysis and			
	Retrieval			
SG	specific gravity			
sp	sphalerite			
st	short ton (2,000 pounds)			
t	tonne (1,000 kg or 2,204.6			
	lbs)			
to	tourmaline			
um	micron			
US\$	United States dollar			
Zn	zinc			

3 Reliance on Other Experts

In preparing the information set forth in Section 4.2 regarding title to the Bakar Property the author relied exclusively upon the Mineral Titles Online website, a BC Mineral Title Bill of Completion certificate between Garett Ainsworth (seller) and MK2 Ventures Ltd. (buyer) dated the 23rd of May 2019 as well as the associated purchase agreement.

4 Property Description and Location

4.1 Location

The Bakar Property (Figure 4.1) extends 18 km to the northwest of Holberg, BC and 10.5 km to the southeast in northern Vancouver Island. The Property lies is in the Nanaimo Mining Division, on NTS map sheet 09L 12 and is centred at approximately 128° 4'W longitude, 50° 40'N latitude. The Property has not been legally surveyed to date and no requirement to do so has existed.



Figure 4.1: Bakar Property location map

4.2 Mineral Titles

The Property consists of 8 unpatented mineral claims (Figure 4.2) located in the Nanaimo Mining Division totalling 15,686.88 hectares. The Bakar Claim is currently shown in the online registry as being owned 100% by James Rogers and the Additional Bakar claims are owned 100% by MK2.

The Mineral Titles Online website (<u>https://www.mtonline.gov.bc.ca/mtov/home.do</u>) confirms that all claims comprising the Bakar Property as described in Table 4.1 are in good standing as at the date of this report.

Title Number	Claim Name	Issue Date	Good to Date	Status	Area (ha)	Owner
1064067	Bakar	2018-10-26	2019-10-26	GOOD	1352.25	James Rogers
1065210	Tessa	2018-12-20	2019-12-20	GOOD	2050.27	MK2 Ventures Ltd. (286101)
1065211	Koda	2018-12-20	2019-12-20	GOOD	2050.76	MK2 Ventures Ltd. (286101)
1065212	Chantel	2018-12-20	2019-12-20	GOOD	2048.45	MK2 Ventures Ltd. (286101)
1065213	Tiny	2018-12-20	2019-12-20	GOOD	2047.43	MK2 Ventures Ltd. (286101)
1065214	Bandit	2018-12-20	2019-12-20	GOOD	2046.67	MK2 Ventures Ltd. (286101)
1065215	Marlee	2018-12-20	2019-12-20	GOOD	2045.92	MK2 Ventures Ltd. (286101)
1065216	Avery	2018-12-20	2019-12-20	GOOD	2045.13	MK2 Ventures Ltd. (286101)
				TOTAL	15,686.88	

Table 4.1: Bakar Property mineral tenures.



Figure 4.2: Bakar Property claims.

Mineral Claims in British Columbia are subdivided into two major categories: Placer and Mineral. Both are acquired using the <u>Mineral Titles Online (MTO)</u> 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.

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:

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

Table 4.2: BC work r	equirements 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

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

4.3 Nature of Title to Property

The Bakar Claim covers 1,325.25 ha and is currently shown in the online registry as being owned 100% by James Rogers. As stated above, MK2 as purchaser, and Longford Capital Corp and James Rogers (together, the "**Vendors**") are party to a purchase agreement dated May 1, 2019 pursuant to which MK2 agreed to purchase and the Vendors agreed to sell, a 100% interest in the "Bakar Claim" for \$50,000 cash, 1,250,000 common shares of MK2, and by incurring minimum exploration expenditures of \$200,000 within 6 months of closing. In addition, the Vendors shall be granted a 2% Net Smelter Royalty ("NSR") on the Bakar Claim, such to a right of MK2 to purchase 1% of the NSR for \$1,500,000 cash and to purchase the remaining 1% NSR for \$5,000,000 cash, eliminating the NSR entirely.

The Additional Bakar Claims (Tessa, Koda, Chantel, Tiny, Bandit, Marlee, and Avery) were transferred from Garrett Ainsworth (100%) to MK2 effective May 23rd, 2019.

There are no other royalties, back-in rights, payments or other agreements to which the Bakar Property is subject.

4.4 Surface Rights

Surface rights are not included with mineral claims in British Columbia. However, the Mineral Tenure Act allows persons holding a valid free miner certificate (free miner) to enter mineral lands to explore for minerals whether surface is owned privately or by the Crown. Right of entry onto these lands does not include land occupied by a building, the area around a dwelling house, orchard land or land under cultivation, protected heritage property or land in a park.

Miners entering on private lands must serve notice in the prescribed manner and compensate the landowner for any loss or damages resulting from the mining activities including prospecting, mapping, sampling, geophysical surveys, as well as any activities that disturb the surface. Landowners must be notified prior to persons entering onto private land for any mining activity and may not begin until eight days after giving notice to the owners of the surface area where the activity will take place. Notice must include the dates when the activities will take place, where the activity will occur, the names and addresses of the free miner or recorded holder and of the on-site person responsible for the operations. Details describing the activities that will be carried out, the number of people that will be on-site including a map or written description of where the activities will take place. Notices may be e-mailed, faxed, or hand delivered to the landowner. Any Page **15** of **90**

substantial changes to the activity described in the notice must be given to the landowner in an amended notice and work may not begin until eight days after the amended notice has been given.

Figures 4.3 and 4.4 below present an overview of the current private land ownership situation over the Bakar Property. Typically, a Title Search would be performed to ascertain individual title ownership. Based on personal correspondences, the author understands the bulk of the private surface rights over the Bakar Property are owned by Western Forest Products (WFP) who are actively logging the local area.

On May 30, 2019, a landowner notification form was submitted to Western Forest Products regarding upcoming exploration programs.



Figure 4.3: Private land position coincident with the Bakar Property.

2019-06-06



Figure 4.4: Bakar Property land parcel owners.

4.5 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. 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.

The issuer does not currently have any permits pertaining to exploration on the Property. The initial proposed exploration program does not require a permit, however drilling during Phase 2 may require a Notice of Work (NOW) permit.

4.6 Environmental

There are no known environmental liabilities to which the Property is subject and the only liability the author is aware of relating to historic mining or exploration activities at this time lie within the four known historic adits which are limited in extent and generally shallow. These known adits may require reclamation at some point in the future.

There are no other known significant factors and risks that may affect access, title, or the right or ability to perform work on the Property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Bakar Property extends 18 km to the northwest of Holberg, BC and 10.5 km to the southeast. The Property is accessible from Holberg via San Josef road at the east of the Property and Winter Harbor road at the west of the Property. These public roads service Winter Harbor and the Cape Scott Provincial Park areas. An extensive network of logging roads along the southern shore of Holberg Inlet and along the San Josef road west of Holberg also service the Property. The main active logging roads include Sanjo Main, Stranby Main, Fisherman Main and the SJ100. Active logging roads extend to the boundary limits of Cape Scott Provincial Park on the northern tip of Vancouver Island.



Figure 5.1: Road access to the Property via San Josef road.

Road distances from the Property to select cities and ports are summarized in the following table: *Table 5.1: Driving distances to the Property.*

Location	Description	Distance						
Holberg (pop. 35)	Nearest small town	1 km						
Winter Harbour (pop. 5)	Nearest town with services	20 km						
Port Hardy (pop. 3,643)	Nearest city with services	51 km						
Victoria (pop. 85,792)	Nearest international airport	542 km						
Nanaimo (pop. 90,504)Port, mining services centre432 k								
2016 Census Canada, Sourced: https://www12.statcan.gc.ca/census-recensement/index-eng.cfm								

5.2 Climate

This region is characterized by an oceanic or maritime climate, typical of western coasts in higher middle latitudes of continents. This type of climate generally produces cool summers and mild winters (relative to its continental mid latitude counterparts), significant annual rainfall, and few extremes of temperature. Average daily temperatures in the summer range from 12-14 °C, and 4.0-5.5 °C in the winter. The total average annual rainfall for Port Hardy is 1,865.7 mm with the most significant amount precipitation occurring between October and February. Spring and summer months are considerably drier, therefore providing ideal conditions for the entire exploration season.

The nearest active weather station to the Property is 51 km east at the Port Hardy Regional Airport.

Based on available data, and knowledge of the general area, an eight-month operating (field) season could reasonably be expected. Year-round drilling operations may be possible if suitable road access can be established to the drill site.

Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Total
Daily Average (°C)	4.2	4.4	5.5	7.3	10.1	12.3	14.3	14.4	12.2	8.8	5.5	3.7	8.6
Record High (°C)	6.5	7.3	8.9	11.2	13.9	15.9	17.8	18.1	15.8	11.8	8.1	6.0	11.8
Record Low (°C)	1.8	1.4	2.0	3.4	6.1	8.7	10.7	10.7	8.5	5.7	3.0	1.3	5.3
Avg Precip. (mm)	247	160.2	159.7	125	79.3	80.7	53.7	73.1	109.6	256.7	311.7	250.9	1907.6
Avg Rainfall (mm)	235.0	151.9	154.8	123.5	79.2	80.7	53.7	73.1	109.6	256.5	307.9	239.9	1865.7
Avg Snowfall (cm)	12.4	8.8	4.9	1.5	0.1	0.0	0.0	0.0	0.0	0.1	3.9	10.8	42.7
1981 to 2010 Canad	ian Clir	nate N	ormals	Lake (Cowic	han v	veath	er sta	ition da	ata;			

Table 5.2: Climate Data for Port Hardy weather station.

5.3 Local Resources

General and skilled labour is readily available in the City of Nanaimo (population 90,505). The city is 432 km by road from the Project area and offers year-round charter and schedule fixed wing service, BC Provincial Police detachment, hospital, ambulance, fuel, lodging, restaurants, and equipment. 3G cellular service covers higher elevations of the Project area. Port Hardy (pop. 4,944) is 51 km from the Property and also operates a small-scale airport that can accommodate smaller aircraft carrying no more than 15 passengers.

The small town of Holberg is located within the Property boundary at the head of Holberg Inlet. Holberg supports a local active forestry industry and has a permanent population of 35 and some limited services. Some services and harbour facilities are also provided at Winter Harbour (approximately 20 km south of the property) which supports fishing and tourist industries in the Northwest Vancouver Island area. The historic, now decommissioned town of San Josef is located on the Property along the San Josef road at the northern end of Mount Hansen.

5.4 Infrastructure

A transmission line crosses the Property along the San Josef road alignment and services the townships of Holberg and Winter Harbour.

Electricity is generated locally at the Cape Scott Wind Farm which is located on the Knob Hill Plateau approximately 3 km north west of the Property. The 99-megawatt (MW) Cape Scott Wind Farm was commissioned in 2013 and is expected to generate 290 GWh of clean energy which is transmitted to the Port Hardy Substation via a 132 kV transmission line.

Additionally, there are 4 hydroelectric systems, with 6 generating stations located on Vancouver Island with a total capacity of 459 MW. The next closest power station to the Property is the John Hart Generating Station located in Campbell River, BC. This facility was built in 1947 and has a generating capacity of 138 MW, however the construction of a new generating station is currently underway.

Numerous water sources are available both on and immediately adjacent to the Property, including a town water supply at Holberg, and numerous lakes and rivers in the local area. Local subsurface aquifers may also be present on the Property.

The physiography, described hereafter, and the abundance of forestry works in the local area provide numerous easily accessible potential areas for mine infrastructure such as mill sites and tailings disposal sites; enough to service any future project requirements, the exact nature of which however has not been contemplated as at the date of this report.

5.5 Physiography

The Bakar Property is located within the foothills of the Vancouver Island Ranges, a sub range of the Insular Mountains. The topography rises steeply from the northeastern side of Holberg Inlet, characterized by a central east-west trending ridge at an elevation of 540 m. Mount Hansen is located at the western end of Holberg Inlet and rises 606 m to its peak.

Property elevation changes are softer in the flat-bottomed valleys and lower relief undulating foothills (between sea level and 200m elevation), however steep elevation changes also occur in closer proximity to the ranges, and prominent mountain peaks.

This area is heavily vegetated with second and first-growth forests of predominantly fir, hemlock, spruce and cedar trees. The area has undergone active logging for several decades and as a result, second-growth areas have variable age, density, and ease of access.

The fauna in the area include deer, moose, black bears, cougars, wolves, coyotes, and bald eagles typical of coastal northwest British Columbia.

6 History

6.1 Historic Exploration Activity

The first report and map on the geology of northern Vancouver Island was published in 1887 by George M. Dawson of the Geological Survey of Canada.

The western end of Holberg Inlet has been explored for limestone, copper and gold intermittently for decades starting in 1919 under the historic Millington Group of claims, owned by Dave Spooner, E., Spooner, E. Peterson, P. Obling, J. Bell, and James Spooner (associates of Holberg Mines Ltd.). Various physical works, trenching, stripping, and diamond drilling activities were carried out over the property up until the 1920s. After a short hiatus of exploration in the area, activities resumed again in the 1960s.

In 1962, the British Columbia Department of Mines in conjunction with the Geological Survey of Canada conducted an airborne magnetic survey over the northern portion of Vancouver Island. This survey identified a northwesterly-trending belt of magnetic highs north of Holberg and Rupert Inlets and an aeromagnetic anomaly in the eastern portion of the original Fox Claims, which currently lies in the southeasternmost portion of the Bakar Property.

The northern portion of the Bakar Property covers the historic Aird claims. In 1969, a geochemical and geological survey was carried out over the Aird 1-20 claims (Report 01909) by Utah Construction and Mining Co. This geochemical soil program collected 1,032 samples and analyzed 516 of them for Cu. The program was laid out over a 500 ft x 200 ft grid with 100 ft intervals between sampling stations. The program outlined three significant Cu anomalies based on background values within the area of 25 ppm Cu. The first anomaly crosscuts the Aird 17 and 18 claims (1400 ft x 200 ft) and showed a high value of 266 ppm Cu. The second is in the south-central portion of the Aird 3 claim (700 ft x 300 ft) and returned one soil sample with 720 ppm Cu. The third anomaly is on the Aird 12 claim and is defined by two lines with peak values of 202 ppm Cu. These anomalous zones are believed to be underlain by the Karmutsen volcanics.

In 1974, five diamond drill holes totalling 149.35 m were drilled by Holberg Mines Ltd. over the Fox claims in an area of limestone overlying basalt. These holes were drilled to test anomalies that were previously outlined in a geophysical and geological survey carried out in 1972 which included the discovery of copper occurrences near the headwaters of Native Creek (Weymark, 1974). The drill holes intersected basalt with chalcopyrite traces in the bottom of one of the holes, and a trace of chalcopyrite in a limestone band within andesite in another hole (Pawliuk, 1994). A mineralized section found in hole 74A-3 returned values of 0.01% Cu, 0.005 oz/t Au, 0.10 oz/t Ag at a depth of 114-115 ft.

In 1976, H. S. Haslam & Associates estimated some 260 million short tons of limestone in place, based on an area of 190.3 Ha, a depth of 45.72 m and a density of 2,722 kg/m³ (Report 06053) and in 1980 the Lime, Joy and Fox claims were acquired by World Cement Industries (Weymark, 1980). Limited follow up work has taken place since. **The author has not been able to**

independently verify the above information and it is not necessarily indicative of the mineralization on the Bakar Property which is the subject of this report.

The area surrounding William Lake was explored by Universal Trident Inc. in 1990. The area covers the historic Will 11-16 claims, Lake 1-10 and Stran 1-2 claims. Rock sample collected on the north side of Williams Lake returned 13,805 ppm Cu and 24.2 ppm Ag. A piece of malachite and bornite bearing float contained 8,584 ppm Cu and 5 ppm Ag. Moss mat samples anomalous contained copper and gold. Results show that significant mineralization occurs in volcanics northeast of William Lake.

In 1991, Consolidated T. C. Resources Ltd. ("Consolidated") carried out a geochemical survey and line cutting on the Stran 4 and 5 claims. These claims lie to the southeast of William Lake. The program consisted on 113 soils samples collected at 25 m intervals with 200 m line spacings and 7.6 km of cut lines. Consolidated also carried out work on the Stran 5-9 claim during 1991. Work consisted of 27 km of line cutting, a magnetometer survey over 14.9 km and the collection of 10 silt samples.

The Elacrity claim area, located north of Holberg Inlet was also explored by Consolidated in 1991. A geochemical soil sampling program outlined a significant Cu anomaly which encompassed about a third of the mineral claim area.

In 1994, geochemical rock sampling, heavy mineral sampling, prospecting and geological mapping were carried out over the Fox claims by owners Pawliuk and Dasler. A rock sample returned 14,114 ppm Cu, 2.3 ppm Ag and 14 ppb Au. A moss mat was also sampled during the program which returned values of 136 ppm Cu, 0.2 ppm Ag, and 5 ppb Au; as well as 131 ppm Cu, 0.2 ppm Ag and 7 ppb Au from a panned concentrate.

Longford Exploration Services Ltd. completed a site visit on the Bakar Property on August 23, 2018 (Figure 6.1). This site visit investigated the prospectivity for copper mineralization, verified areas of known mineralization and checked the property for further potential. A total of 9 rock grab samples were taken in flow breccias, lapilli tuffs, amygdaloidal basalts, and pillow basalts of the Karmutsen group with results ranging from 12 ppm to 28.03% Cu. The mineral showing of BCMinfile 102I 010 was explored and sampled but no adits were identified in the area, as was stated in the BCMinefile. Bornite, chalcocite, and chalcopyrite lenses were identified at higher elevation on the edge of the 1963 IP geophysical anomaly. High grade samples that were taken directly from outcrop and mineralized areas ran over 50 % Cu when analyzed with a mobile XRF device. Strong mineralization was found in a distinct horizon in the Karmutsen Group which appeared as light olive green amygdaloidal volcanics and flow breccia tuff, in contrast to the underlaying unmineralized pillow basalts and dark green amygdaloidal basalt. The copper found in this roughly north west trending Karmutsen horizon occurs as lenses and veins of mainly chalcocite, bornite, and malachite.



Figure 6.1: Mineralization located during the 2018 exploration program.

There are no significant historical mineral resource or mineral reserve estimates on the Property nor has there been any production form the Property.

Table 6.1 below summarizes the prior ownership of the property and the historical exploration work carried out on the Bakar Property. Figure 6.2 outlines the exploration footprints of historic work reported within the BC Assessment Report Database (<u>https://aris.empr.gov.bc.ca/)</u>.

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
1919	Spooner, D.,Spooner, E., Peterson, P.; Obling, J. Bell, & Spooner, J.	Annual BC Mining	Millington Group	Sloan, William	Summary Report	Physical: 2 adits, open cuts, and surface stripping	A selected sample from this assayed: trace Au, 2 oz/t Ag, and 21% Cu.	BC Annual Report of the Minister of Mines, Sloan, William, 1919, Province of British Columbia
1924	Dave Spooner, E. SPooner, E. Peterson, P. Obling, J. Bell, and James Spooner	Annual BC Mining	Millington Group	Sloan, William	Summary Report	Cross-cut adit	An average sample was moiled across 6 assayed: trace Au, trace Ag, and 1.2% Cu. Another sample taken from the dump at the portal of the lower adit assayed: trace Au; 2 oz/t Ag, and 11.5% Cu.	BC Annual Report of the Minister of Mines, Sloan, William, 1924, Province of British Columbia
1926	Dave Spooner, E. SPooner, E. Peterson, P. Obling, J. Bell, and James Spooner	Annual BC Mining	Millington Group	Sloan, William	Summary Report	Physical: 3 adits driven	Representative sample of exposed mineralization in the stripping between the No. 1 and 2 adits assayed: trace Au, 0.2 oz/t Ag, 5% Cu, and 1% Zn.	BC Annual Report of the Minister of Mines, Sloan, William, 1926, Province of British Columbia
1927	Dave Spooner, E. SPooner, E. Peterson, P. Obling, J. Bell, and James Spooner	Annual BC Mining	Millington Group	Galloway, J.D.	Summary Report	Stripping (150 ft across rock face)	This vein has been open-cut and stripped along the face of steep mountain side over 150 feet or more, showing the mineralization to be 2 to 5 feet wide, carrying small lenticular masses and small veinlets of bornite.	BC Annual Reports of the Minister of Mines, Galloway, J.D, 1927, Province of British Columbia
1928	Dave Spooner, E. SPooner, E. Peterson, P. Obling, J. Bell, and James Spooner	Annual BC Mining	Millington Group	McKenzie, W. A.	Summary Report	2 DDH (314 m)	Neither of these holes encountered any ore and the option by the Consolidated Mining and Smelting Company was therefore given up.	BC Annual Reports of the Minister of Mines, McKenzie, W.A., 1928, Province of British Columbia

Table 6.1: Work history of mineral occurrences in proximity to the Bakar Property.

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
1963	Holberg Mines Ltd.	00497	Holberg Rick Claim Group	Hallof, P.G., and Sutherland, D.B.	Geophysical Survey	IP and Resistivity Survey, carried out using 200 ft electrode intervals	New anomalies were located which are believed to be due to larger volumes of mineralization. Line 35 produced the strongest anomaly but was relatively narrow and well out in the valley.	ARIS_00497, 1963, Report on the Induced Polarization and Resistivity Survey on the Rick Claim Group, Holberg, BC for Holberg Mines Ltd.
1965	Holberg Mines Ltd.	Annual BC Mining	104 claims on North side of Mt Hasen	Brothers, D. L	Summary Report	Line cutting: 0.75 miles, 13 DDH (700 m)	A crew of five men constructed three- quarters of a mile of access roads to diamond-drill sites and completed 2,295 feet of diamond drilling in 13 holes (700 m in 13 holes, ~54 m per hole).	BC Annual Reports of the Minister of Mines, Brothers, D.L., 1965, Province of British Columbia
1966	Holberg Mines Ltd.	Annual BC Mining	Ace, Flats, Kaye, Rick	Brothers, D. L	Summary Report	Trenching over 80 ft; 6 DDH (Total 593 m)	A crew of four men employed for eight months under the supervision of Moore Schram completed 80 feet of rock trenching and did 1,946 feet of diamond drilling in six holes (593 m in six holes, ~99 m per hole).	BC Annual Reports of the Minister of Mines, Brothers, D.L., 1966, Province of British Columbia
1967	Holberg Mines Ltd.	Annual BC Mining	Rick, Lucky, Rush, JB	Brothers, D. L	Summary Report	DDH (Total 411 m); Trenching (1000 ft); Stripping (1,500 ft2)	Two men spent six months under the supervision of Moore Schram diamond drilling 11 holes totalling 1,347 feet (411m in 11 holes, ~37m per hole), trenching 1,000 feet, and stripping 1,500 square feet.	BC Annual Reports of the Minister of Mines, Brothers, D.L., 1967, Province of British Columbia

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
1969	Waterton Airex Ltd.	01770	HOL 2, 4, 6, 8, 10, 13-20, 25, 27, 29, 31 & 33 Claims	Stevenson, W.G.	Geological, Geophysical Report	Airborne Magnetic, Electromagnetic Geophysical Survey.	Mag and EM survey suggest a northwesterly formational trend across the HOL claim block and is supported by a regional map compiled from various sources. A significant iron sulphide gossan has been discovered on the property held by West Coast Mining Syndicat, 2 miles north of the HOL claim group.	ARIS_01770, 1969, Geological and Geophysical Report on the HOL Mineral Claims by Waterton Airex Ltd.
1969	Holberg Mines Ltd.	01765	Lucky, Rick, May, Rush, Kaye, Jill, Jack, Cee, Lori, and Flats Claims	White, G.E., Cerne, J., and Cochrane, D.R.	Geophysical Report	170.7-line miles of detailed Aeromagnetic Surveying.	A total of 10 areas exhibited magnetic responses in excess of 56600 gammas.	ARIS_01765, 1969, Geophysical Report on an Airborne Magnetometer Survey, by GEO-X Surveys Ltd. on Behalf of Holberg Mines Ltd.
1969	Construction & Mining Co.	01909	Aird 1-10	Noel, G.A.	Geological and Geochemical Report	soil: 1032 soil samples (516 analyzed), 500 x 200 ft grid with 100 ft intervals. Geological mapping scale 1:2400, Line cutting 32 km	Three significant anomalies located. One crosscuts Aird 17 and 18 claims (1400 ft x 200 ft) and shows a high of 266 ppm Cu. The second is in the south-central portion of Aird 3 claims (700 ft x 300 ft) showed one soil sample of 720 ppm Cu. The third anomaly is on Aird 12 claim and is defined by two lines with peak values of 202 ppm Cu.	ARIS_01909, 1969, Geologial and Geochemical Report on the Aird 1-20 Claims, by Noel, G.A., for Utah Construction & Mining Co.

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
1970	Perry, Knox, Kaufman, Inc.	02940	IDA Claims	Fominoff, P.J., and Baird, J.G.	Geophysical Surveys	IP: 8.2 km; Ground Magnetic: 9.2 km; Physical Line/grid: 9.7 km.	IP Survey revealed three zones, one on each survey line, which exhibits chargeability responses which could arise from subsurface concentrations of from 2% to >5% by volume of metallically conducting material such as sulphides, graphite or other minerals known to give an IP response.	ARIS_02940, 1970, Report on the Induced Polarization and Magnetometer Survey on Some IDA Claims, Port Hardy Area, on behalf of Perry, Knox, Kaufman, Inc.
1970	Nicola Lake Mining Co. Ltd.	02276	Hol Claims	Agilis Exploration Services Ltd	Geological, Geochemical, Geophysical Surveys	Geological (1050 ha, 2 maps; scale 1:6000); Geochem: (370 soil samples); Magnetometer Surveys (22.5 km, 1 map, Scale: 1:6000).	Soils collected over Bonanza Sub-group: peak values in this area is 605 ppm Cu. Soils over Karmutsen peak values of 298 ppm Cu found in the vicinity of CPY bearing outcrop.	ARIS_02276, 1970, Report on Geochemical, Geophysical and Geological Surveys on the Hol Claim Group, Nicola Lake Mining Co. Ltd.
1972	Water Airex Ltd. & Weymark Engineering Ltd.	03771	Jay, HOL, and Native Claims	Weymark Engineering Ltd.	Geophysical Surveys	Airborne magnetometer, Airborne EM; Airborne Radioactivity Surveys. Area: 3000 acres,16 runs of 16500 ft. and were 500 ft apart.	Showed a coincident between the known metallic mineralized formations and the low- magnetometer and the high-electro- magnetometer reading zones. Fault structural zones indicate anomalous patterns. Extensions of anomalous zones under limestone capped formations provide areas of interest because of high intensities implied.	ARIS_03771, 1972, Geophysical Report on the Airborne Magnetometer, Airborne Electromagnetic, and Airborne Radioactivity Surveys of the Jay, Hol and Native claims, survey by Water Airex Ltd, interp by Weymark Engineering Ltd.
1974	Holberg Mining Ltd	04908	Fox 1-20	Weymark Engineering Ltd.	Drilling	5 DDH, RP; 150 m; 1 map, Scale: 1: 15,840	Mineralized section found in hole 74A-3; 114-115 ft: 0.01% Cu,	ARIS_04908, 1974, Diamond Drilling Report on Fox Claim

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
							0.005 oz Au, 0.10 Oz	Group, Holberg Inlet,
							Ag.	Vancouver Island,
								Holberg Mining Ltd
1975	H.S. Haslam and Associates Ltd., Consulting Coal Mining Engineers.	05666	Fox Claims	H.S. Haslam and Associates Ltd.	Progress Report	Drilling Diamond surface 4 hole(s); XRP; 210.0 m.	In August 1975, diamond drill-holes (size XRF), named 75-1, 75- 2, 75-3, 75-4 and 75-5 were drilled. Assays not available until the beg. of December 1975.	ARIS_5666, 1975, Progress Report on the Limestone Deposits at Holberg Inlet, Vancouver Island, H.S. Haslam and Associates Ltd., Consulting Coal Mining Engineers.
1975	Holberg Mines Ltd.	05414	Fox Claims 1- 11, 13, 15, & 17.	Pacific Survey Corporation	Physical: Aerial photo, & Topo Mapping (1 map, scale: 1: 2400)	645 acres covered; Photos: 6-inch focal length black and white photography at an approx. scale of 1-inch equals 1000 ft.	Maps.	ARIS_05414, 1975, Aerial Photography, Topographic Mapping, Holberg Inlet Area, Holberg Mines Ltd.
1975	Holberg Mines Ltd.	05413	Fox claims 1- 20	H.S. Haslam and Associates Ltd.	Preliminary Report	Progress report on exploration	Limestone grab samples indicate it is 1.19% MgO, 97.32% CaCO3 (by calculation), Fe content is 0.14%; this indicates a high-grade limestone.	ARIS_05413, 1975, Preliminanry Report on the Limestone Deposits at Holberg Inlet, for Holberg Mines Ltd.
1976	Holberg Mines Ltd.	06053	Fox, Jay, Hol, and Joy	H.S. Haslam and Associates Ltd.	Progress Report	Progress report on exploration	In August, September, and October 1976, diamond drill holes (size XRP), named 76-1, 76- 2, 76-3, 76-4, 76-5, 76- 6, 76-7, and 76-8 were drilled. Assay at 114-115 ft: 0.01% Cu, 0.005 oz Au, 0.10 Oz Ag.	ARIS_06053, 1976, Progress Report on the Limestone Deposits at Holberg Inlet, Vancouver Island, Holberg Mines Ltd.
1978	Holberg Mining Ltd.	06951	Lime Claims	Weymark Engineering Ltd.	Drilling	5 DDH; EX; 243.8 m	Recovery was in general 75%, qulaity limestone for cement and/or lime production usage was depicted. This confirms the extension of quality	ARIS_06951, 1978, Diamond Drilling Report Lime Group, Holberg Mining Ltd.

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
							limestone in this section	
1980	World Cement Industries Inc.	08073	Lime Claims (Fox, Joy)	Weymark Engineering Ltd.	Drilling	5 DDH, EXT; 183 m; 2 maps; Scale 1: 31,080, and 1: 15,840	Recovery was in the order of 60%, quality limestone for cement and/or lime production usages was established.	ARIS_8073, 1979, Diamond Drilling Report Fox, Joy Claims, World Cement Industries Inc.
1989	Lone Trail Prospecting Ltd.	18568	Orp 1-2	Leighton, D.G.	Geological and Drilling Report	4 DDH; BQ; 330.8 m; 1 map, Scale: 1:2500. Geochem: 23 rock samples (multi- element); 1414 soil samples (multi- element); 1 map, scale: 1: 2500. Geophys: Ground Mag: 15 km; 1 map, Scale: 1: 5000. Physical: Line/grid: 15 km.	Area 100 X 400 m outlined a soil anomaly of 1000 to 4000 ppb Hg. Geophysics indicated that the Holberg property coincides with a broad magnetic low. DDH: 4 BQ sized holes were drilled to test for Carlin type Au mineralization.	ARIS_18568, 1989, Geological and Drilling Report on Holberg Property, Including Orp 1-2 Mineral Claims, by Formosa Resources Corp. for Lone Trail Prospecting Ltd.
1990	Lone Trail Prospecting Ltd.	20159	Skeet 1-4 Claims	Bilquist, Ron	Prospecting	Prospecting activities aimed at locating previously known showings and old workings.	Old trenches and adits were located in Cracker Jack Creek, two of which are in good standing and stable condition. A number of samples were. Sample SK-06 to SK-10 were taken from high grade bornite. Results ranged from 3295 ppm to 99999 ppm Cu with four of them over 48,000 ppm. Three of these samples were also anomalous in Ag (27.6, 67.7 and 93.7 ppm). Sample SK-11 taken from an old trench about 150 m west of the	ARIS_20159, 1990, Report on the Prospecting Survey of the Skeet 1-4, 2- Post Mineral Claims, Lone Trail Prospecting Ltd.

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
							main mineralized zone in Cracker Jack Creek ran 29383 ppm Cu and slightly elevated in Ag (4.3 ppm).	
1991	Daiwan Engineering Ltd. for Cameco Corporation.	22283A	HPH 1-3, Ruth Mary, Iron Fr., Iron Hat, Nahwitti, Dorlon	Pawliuk, David	Geological, Geochemical and Geophysical Surveys	Geochemical: 100 Rock samples (multi- element); 254 soil samples (multi- element), 6 maps, Scale: 1: 5000; Geological: 2500 ha, 5 maps, Scale: 1:1000, and 1: 5000; Geophys: IP: 8.9 km, 11 maps, Scale: 1: 2500; Ground Mag: 8.9 km.	HPH Area: Sample 76217 contains 2.23% Pb, 26.20% Zn and 232.7 ppm (6.79 opt) silver. Sample 76218 contains 3.07% lead, 18.05% zinc and 321.2 ppm (9.37 opt) silver. Dorlon Area: Grab sample 99400 contains 29,339 ppm Zn, 321 ppm Cu, 12 ppm Pb, 4.9 ppm Ag and 44 ppb Au.	ARIS_22283A, 1991, Geochemical, Geophysical, and Prospecting Assessment Report on the Holberg Inlet Property, by Daiwan Engineering Ltd. for Cameco Corporation.
1991	Daiwan Engineering Ltd. for Cameco Corporation.	21270	HPH 1-3, Ruth Mary, Iron Fr., Iron Hat, Nahwitti, Dorlon, Cliff, JLJ 1-4, Kains 1- 8, Lexa	Gordon, Allen & Dasley, Peter	Geochemical, Geophysical, and Geological Report	Geochemical: 150 Rock samples (multi- element); 1541 soil samples+F29 (multi- element), 6 maps, Scale: 1: 5000; 16 Heavy Mineral Samples. Geological: 3000 ha, 2 maps, scale: 1:5000. Geophysical: Ground EM: 71.4 km; VLF; 2 maps, Scale: 1: 5000; Ground Mag: 71.4 km, 4 maps, scale: 1: 5000. Physical: line/grid: 71.4 km.	The most significant mineralization occurs within the 150 m to 300 m thick Quatsino Formation limestone and commonly contains greater than 3% Zn. Massive sulphide lenses with significant amounts of Au occur in limestone adjacent to felsic to mafic dykes and sills in the Mead Creek and Dorlon areas.	ARIS_21270, 1991, Geochemical, Geophysical and Geological Assessment Report on the Holberg Inlet Property, by Daiwan Engineering Ltd. for Cameco Corporation.
1991	Consolidated T.C. Resources Ltd	21370	Stran 4-5	Pawliuk, D.J.	Geochemical and Physical Surveys	133 Soil samples; 50 intervals along grid lines and 200 m apart in B soil horizon; 7.6 km of cut line	The 11 soils contain up to 196 ppm Cu, 111 ppm Zn, 4 ppm Mo, and up to 25 ppb Au.	ARIS_21370, 1991, Geochemical Assessment Report on the Stran 3 and 4 Mineral Claims by

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
								Pawliuk, D.J. for Consolidated T.C. Resources Ltd.
1991	Universal Trident Ind.	21371	Will 11- 16, Lake 1-10, Stran 1-2, and 10	Pawliuk, D.J.	Prospecting & Physical	Prospecting over 375 ha; line cutting over 2 km; 24 rock samples, 7 panned moss samples	Rock sample returned 13,805 ppm Cu and 24.2 ppm Ag. A piece of malachite and bornite bearing float contained 8,584 ppm Cu and 5 ppm Ag. Results shows that significant mineralization occurs in volcanics northeast of William Lake.	ARIS_21371, 1991, Geochemical and Prospecting Report on the Lake Project, by Pawliuk for Universal Trident Industries Ltd
1991	Consolidated Paytel Ltd.	21373	Elacrity Claim	Pawliuk, David,J.	Geochemical Report	377 soil samples; 3 samples collected at 25 m intervals and 200 m line spacing. 25 cm soil depth in B horizon.	Soils contained anomalous Cu and Zn. About 1/3 of the mineral claim shows anomalous Cu values.	ARIS_21373, 1991, Geochemical Assessment Report on the Elacrity Mineral Claim by Pawliuk, David, for Consolidated Paytel Ltd.
1991	Consolidated Paytel Ltd.	21374	Stran 5-9	Pawliuk, D.J.	Geochemical, Geophysical, and Physical	Line cutting: 27 km; Mag Survey over 14.9 km; Map scale 1:5000; 10 silt samples	Magnetometer readings ranged from 48, 643 to 59,550 gammas within the surveyed area. Results indicate an easterly magnetic trend, parallel to regional strike of rock units.	ARIS_21374, 1991, Geochemical and Geophysical Assessment Report on the Stran 5-9 Mineral Claim Group, by Pawliuk, D.J. for Consolidated Paytel Ltd.
1994	Pawliuk and Dasler	23376	Fox Claims	Pawliuk, David	Prospecting	Geochemical rock and heavy mineral sampling, prospecting and geological mapping.	A moss mat returned 136 ppm Cu, 0.2 ppm Ag, and 5 ppb Au; another rock sample returned 14,114 ppm Cu, 2.3 ppm Ag and 14 ppb Au; and a panned concentrate returned	ARIS_23376. 1994, Prospecting Assessment Report on the Fox Mineral Claim Group, Northern Vancouver Island, BC, by Pawliuk and Dasler

Year	Company	Report	Claims	Author	Work	Summary	Comments	Reference
							131 ppm Cu, 0.2 ppm Ag and 7 ppb Au.	
1995	Winfield Resources Ltd.	24296	Berg, Hol 1-2	Dasler, Peter	Summary Report	Geochemical: 256 soil samples (multi- element); Physical: 6.5 km, 1 map, scale: 1: 10,000.	. Mo values are high with numerous values over 20 ppm Mo. Reconnaissance heavy mineral sampling shows precious metal anomalies extend for over 2.5 km.	ARIS_24296, 1995, Summary Report on the Berg Property, by Kamaka Resources Ltd. for Winfield Resources Ltd.
2012	Homegold Resources Ltd	33550	Topknot 1-10	Shearer, J.T.	Prospecting Report	Prospecting, 8 Stream seds and rock samples; assays not completed at time of report	Prospecting identified a 200 m long road cut of ± 10 m rhyolite flows, horizontal to shallow dipping with individual flows 0.2 to 0.5 m thick; sub-rounded to rounded, 20-50 cm sized breccia fragments in the flows.	ARIS_33550, 2012, Prospecting Assessment Report on the Topknot Project, by Shearer, J.T., for Homegold Resources Ltd.
2018	2018	James Rogers	Bakar	Longford Exploration Services Ltd.	Prospecting Report	9 rock samples	Samples where taken in flow breccias, lapilli tuffs, amygdaloidal basalts, and pillow basalts of the Karmutsen group with results ranging from 12 ppm to 28.03% Cu.	Longford Exploration Services Ltd., 2018, Bakar Property Exploration Summary, Internal Report



Figure 6.2: Selected historical work areas over the Bakar Property, as presented in Table 6.1 above.


Figure 6.3: Bakar property regional geophysics - residual total field.

7 Geological Setting and Mineralization

7.1 Regional geology

Vancouver Island is located within the Insular Super Terrane of Western British Columbia, an amalgamation of the Wrangellia terrane and the Alexander terrane that eventually accreted to North America between the mid-Jurassic and mid-Cretaceous. This was followed by the accretion of the Pacific terrane and the Crescent terrane during the mid-Tertiary time-period. The Bakar Property is situated in the northern portion of Vancouver Island and is underlain by rock assemblages of the allochthonous Wrangellia terrane (Figure 7.1).

7.1.1 The Wrangellia Terrane

The Wrangellia Terrane extends discontinuously north of Vancouver Island through the Queen Charlotte Islands towards central Alaska and is characterized by rocks of the Upper Paleozoic to Lower Mesozoic. In the late Carboniferous Wrangellia collided and amalgamated with the Alexander Terrane in Alaska to form the Insular Superterrane and subsequently accreted to the inboard terranes of the Coast and Intermontane belts as late as the mid-Cretaceous, or as early as the mid-Jurassic (Nixon et al. 2006).

Prior to its accretion, Wrangellia was comprised of the Paleozoic Sicker and Buttle Lake Groups and the Middle Triassic Formation. The Sicker and Buttle Lake groups are composed of Devonian to early Permian island-arc volcanic, volcaniclastic, and sedimentary rocks which are known to host VMS deposits, such as Myra Falls. The Karmutsen Formation is an approximately 6,000 m thick oceanic plateau which conformably overlies the Sicker and Buttle Lake groups; it is composed of tholeiitic flood basalts, minor pillow basalts, pillow breccia and tuff as well as intervolcanic limestones which underlie approximately 50% of Vancouver Island (Nixon et al. 2006). Conformably overlying the Karmutsen Formation is a shallow-water carbonate layer known as the Quatsino Formation. The Quatsino Formation is composed of massive to bedded bioclastic limestone which formed during the waning stages of the Karmutsen volcanism and associated subsidence. Continued sedimentation and deeper water resulted in the deposition of the impure limestone and siliciclastic rocks of the Parsons Bay Formation (Nixon et al. 2006).

A period of quiescence followed by a renewed phase of island-arc magmatism and sedimentation produced the volcanic, volcaniclastic and epiclastic strata of the Bonanza Group, along with the coeval intrusions of the Island Plutonic Suite (Nixon et al. 2006).

7.2 Regional Mineralization

Several mineral occurrences are known to occur on northern Vancouver Island which includes the following styles of deposits (*after* Pawliuk, 1994):

- 1. Skarn deposits: Copper-iron and lead-zinc skarms
- 2. Copper in basic volcanic rocks (Karmutsen Formation): in amygdules, fractures, small shears and quartz carbonate veins, with no apparent relationship to intrusive activity
- 3. Veins: with gold and/or base metal sulphides, reacted to intrusive rocks
- 4. Porphyry copper deposits: largely in the country rock surrounding or enveloping granitic rocks and their porphyritic phases



Figure 7.1: Bakar Property regional geology map. Cross sections shown in Figure 7.4 – 7.6.

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		IBHCvs: Lower Jurassic Bonanza Group - Hathaway Creek unit mixed volcanic and sedimentary rocks					
		EJBdb.po: Early? Jurassic Bonanza Group porphyric diabase					
		mJHym: Middle Jurassic Holberg volcanic unit mafic volcanic rocks					
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		ImJHvs: Lower? and Middle Jurassic Holberg volcanic unit mixed volcanic and sedimentary rocks					
		EMJIqd: Early Jurassic to Middle Jurassic Island Plutonic Suite granodioritic intrusive rocks					
		EMJIdr: Early Jurassic to Middle Jurassic Island Plutonic Suite diorite					
		EMJIpo: Early Jurassic to Middle Jurassic Island Plutonic Suite porphyry					
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		JBvf: Early? Jurassic Bonanza Group ryholite, felsic volcanic rocks					
		UBLvf: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit ryholite, felsic volcanic rocks					
		mJHvf: Middle Jurassic Holberg volcanic unit ryholite, felsic volcanic rocks					
		ULvi.vcf: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit mafic volcanic rocks					
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		JBPCsf: Lower Jurassic Bonanza Group - Pegattem Creek siltstone siltstone and mudstone					
		mJHs: Middle Jurassic Holberg volcanic unit sedimentary rocks					
		UBHCsn: Lower Jurassic Bonanza Group - Hathaway Creek unit sandstone					
		IJBLvm.px: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit plagioclase-megacrystic pillow basalt					
		IJBLym.x: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit plagioclase-megacrystic basalt flow					
		UBHCVm: Lower Jurassic Bonanza Group - Hathaway Creek unit matic volcanic rocks					
		uTrVKFIs: Upper Triassic Vancouver Group - Karmutsen Formation limestone intercalated with basalt					
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		uTrBPvb.px: Upper Triassic Bonanza Group - Parson Bay Formation audite-placioclase-phyric pillowed basalt					
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Figure 7.2: Bakar Property regional geology legend.

7.3 Property Geology

The Bakar Property is predominantly underlain by a generally southward-younging sequence of east-west-trending upper Triassic to middle Jurassic volcanics and lesser sedimentary rocks of the Vancouver and Bonanza Groups (Figure 7.3). The Vancouver Group is comprised of the tholeiitic flood basalts of the Karmutsen Formation at the base conformably overlain by thinly bedded to massive Quatsino Formation limestone and intercalated marine shale, siltstone and impure limestone of the Parson's Bay Formation (Nixon et al. 1994). The Lower to mid-Jurassic Bonanza Group is mainly composed of mafic to felsic volcanic with lesser intercalated sedimentary rocks which were deposited in both submarine and subaerial environments with coeval granitoids of the Island Plutonic Suite. Unconformably overlying the Bonanza Group are the marine to non-marine Upper Jurassic to Lower Cretaceous clastic sequences and localized tertiary volcanics of the Longarm Formation and is estimated to be approximately 300 m thick in the Port Hardy area.

Faulting is prevalent in the region with large-scale block faults with hundreds to thousands of meters of displacement being offset by younger strike-slip faults with displacements up to 750 m.

7.3.1 Lithological Units

The local units found on the Bakar Property are summarized in Nixon, et. al., 2011 as follows:

<u>Queen Charlotte Group equivalents</u> (in part): *Upper Cretaceous*

Blumberg Formation:

- Massive to thinly bedded lithic to arkosic wacke with minor pebble to cobble conglomerate
- massive conglomerate with minor lenses of coarse-grained lithic wacke

Shale unit:

- Dark grey, calcareous to non-calcareous siltstone and impure limestone interbedded with subordinate wacke and minor pebble conglomerate (exposure restricted to the north shore of Quatsino Sound)
- Dark grey to grey-green and brownish grey siltstone, shale and greywacke; locally fossiliferous

Longarm Formation equivalents: Lower Cretaceous

Greenish to brownish grey, thinly bedded to massive sandstone, siltstone, mudstone, pebble conglomerate and minor coal; locally fossiliferous.

Bonanza Group: Upper Triassic to Middle Jurassic - north of Holberg fault

Holberg volcanic unit:

- Undivided basaltic to rhyolitic flows, volcaniclastic and sedimentary rocks to the north of the map area
- Mainly dark grey-green to medium grey, basaltic to andesitic flows and volcaniclastic rocks including plagioclase-hornblende-phyric andesite, plagioclase-clinopyroxene-phyric

basalt-andesite with sparse hornblende megacrysts (~1cm), tuff-breccia, lapilli tuff and reworked equivalents; minor sedimentary rocks including volcanic breccia, wacke, siltstone, mudstone and shale; locally may include minor rhyolitic flows and tuffs

- Medium grey to grey-green, aphanitic to feldspar-phyric, rhyolitic to dacitic flows, flow domes and/or pyroclastic rocks including flow and pyroclastic breccia, welded to nonwelded crystal-lithic lapilli tuff with carbonized wood fragments; may locally include thin interbedded volcanic breccia and wacke, and minor basaltic to andesitic flows.
- Brownish to greenish grey, laminated to medium-bedded, feldspathic volcanic wacke and pebbly sandstone locally cross-bedded with organic-rich horizons; and dark grey to black shale, mudstone and siltstone
- Dark grey-green volcaniclastic and sedimentary rocks including basaltic to andesitic. plagioclase-clinopyroxene and plagioclase-hornblende-phyric lapilli tuff and tuff breccia, volcanic breccia, wacke and minor siltstone and mudstone; locally includes basaltic to andesitic flows.

Nahwitti River siltstone-wacke: Upper Triassic to Lower Jurassic

Dark grey to grey-green, medium bedded to thinly laminated, siliceous siltstone, mudstone and feldspathic lithic wacke; locally contains massive beds of basalt to andesitic volcaniclastic breccia and thin rhyolitic tuff beds.

Parson Bay Formation: Upper Triassic

Similar lithologies to those found south of the Holberg-Stranby River fault system; coarser sedimentary and volcaniclastic deposits appear to be less common and Sutton limestone equivalent has not been observed.

Bonanza Group - south of Holberg fault

Hathaway Creek volcanic-sedimentary unit: Lower Jurassic

- Dark grey to greenish grey, massive to medium bedded, hetero-lithic volcanic breccia, feldspathic lithic wacke and siltstone
- Dark grey to grey-green, pillowed to massive, plagioclase-megacrystic (<2cm) basaltic to andesitic flows
- Dark grey-green, massive to medium bedded and locally laminated, weakly calcareous, feldspathic lithic wacke, siltstone, mudstone and minor shale, volcanic breccia and water-washed, basaltic lapilli tuff; carbonized wood fragments and locally fossiliferous

Le Mare Lake volcanic unit: Lower Jurassic

 Undifferentiated basaltic to rhyolitic flows and pyroclastic rocks (mainly subaerial); includes ash-flow and rare airfall tuff and reworked equivalents, minor pillow lava, pillow breccia, hyaloclastite and rare pyroclastic surge deposits, locally intercalated with marine to non-marine volcanic conglomerate, sandstone, siltstone, mudstone, impure limestone and debris-flow deposits

- Dark grey-green, basaltic to andesitic flows with minor intercalated volcaniclastic and sedimentary lithotypes; locally includes minor pillow lava/breccia; may include minor rhyolitic flows and pyroclastic rocks
- Medium grey, rhyolitic to dacitic flows, flow domes and/or pyroclastic rocks, including flow and pyroclastic breccias, welded to non-welded crystal-lithic lapilli tuff and rare airfall tuff; aphanitic to feldspar-phyric; locally may include thin sedimentary deposit: high-silica and esite and minor basaltic flows
- Dark grey-green, plagioclase-megacrystic (0.8-2cm), variably amygdaloidal basaltic to andesitic flows; locally intercalated with aphanitic and plagioclase-phyric flows
- Small outcrop of plagioclase-megacrystic basaltic to andesitic flows
- Grey-green sedimentary strata including impure limestone, calcareous to non- calcareous mudstone, shale, siltstone, sandstone and tuffaceous equivalents; may include minor intercalated tuff and volcaniclastic breccia
- Interbedded volcaniclastic and sedimentary strata; includes lithic and crystal-lithic lapilli tuff and reworked equivalents, pyroclastic and epiclastic volcanic breccia, sandstone, siltstone, mudstone, impure limestone, and minor debris-flow and phreatomagmatic deposits; may include minor lava flows
- Dark grey-green, basaltic to andesitic lapilli tuff, tuff-breccia and reworked equivalents locally interbedded with pillow lava, pillow breccia, fine-grained hyaloclastite and minor lava flows

Pegattem Creek siltstone: Lower Jurassic

Dark grey to greenish grey, fossiliferous siltstone and mudstone with minor shaley mudstone; possibly also occurs north of the Holberg-Stranby River fault system.

Volcaniclastic-sedimentary unit: Upper Triassic to Lower Jurassic

Interbedded volcaniclastic and sedimentary strata (predominantly submarine): buff to greygreen, thin to very thickly bedded, calcareous to non-calcareous, volcanic breccia, lithic and feldspathic wacke, siltstone and limestone, locally coralline; lithic-crystal tuff, lapilli tuff and reworked equivalents; and minor vitric tuff, pebbly sandstone, siltstone, and volcaniclastic debrisflow deposits; may include black carbonaceous shale, mudstone, siltstone and limestone.

Parson Bay Formation: Upper Triassic

- Medium grey to black, thinly laminated to medium bedded, impure limestone, calcareous to non-calcareous mudstone, siltstone and shale intercalated with variable proportions of grey-green lithic feldspathic/tuffaceous wacke, minor crystal-lithic tuff and reworked equivalents, volcaniclastic breccia and debris- flow deposits, and rare vitric tuff, pebbly sandstone and conglomerate; shale locally yields abundant thin-shelled bivalves (Halobia sp., Monotis sp.); limestone locally contains rare algal structures; may include coralline limestone (Sutton limestone equivalent in part; see below) near the top of the succession.
- Sutton limestone equivalent thin (<10m) unit of pale to medium grey, massive reefoid limestone near the top of the Parson Bay Formation; contains silicified corals and other fossils; likely equivalent in part to Sutton limestone in the Cowichan Lake area, southern Vancouver Island.

- Dark grey-green, basaltic tuff-breccia, crystal-lithic lapilli tuff and debris-flow breccia; aphanitic to coarsely clinopyroxene-plagioclase ± olivine-phyric.
- Dark grey-green basaltic pillowed flows, pillow breccia and debris-flow breccia
- Dark grey-green, andesitic tuff-breccia, lapilli tuff and debris-flow breccia; plagioclasehornblende-phyric.

Vancouver Group: Upper Triassic

Quatsino Formation: Upper Triassic

Medium to pale grey, thinly bedded to massive micritic limestone and locally bioclastic limestone; minor silica replacement and chert nodules; rare laminated interbeds, oolitic layers and algal structures; locally fossiliferous.

Karmutsen formation: Upper Triassic (possibly Middle Triassic at the base)

Undifferentiated, dark grey-green basalt flow/hyaloclastite/pillow lava (outside the map area).

Upper Karmutsen Formation: Flow Member

- Dark grey-green, aphanitic to plagioclase-phyric basalt flows, commonly amygdaloidal and locally exhibiting laminar flow features (vesicle trains) and pipe vesicles; may include minor pillow lava and hyaloclastite
- Dark grey-green, plagioclase-megacrystic (1-2cm) basalt flows; commonly amygdaloidal and locally exhibiting trachytoid texture; intercalated with aphanitic or plagioclase-phyric basalt near the top of the succession
- Small outcrop of plagioclase-megacrystic (1-2cm) basalt flow, commonly amygdaloidal and locally exhibiting trachytoid texture; intercalated with aphanitic or plagioclase-phyric basalt near the top of the succession
- Dark grey-green, massive to laminated, basalt pillow breccia and hyaloclastite sandstone.
- Plagioclase-megacrystic (<2cm) basalt pillow breccia and hyaloclastite sandstone
- Dark grey-green, closely packed, pillowed basalt flows; aphanitic and variably amygdaloidal
- Plagioclase-megacrystic (<2cm) pillowed basalt flows
- Thin (<8m) beds and lenses of pale to medium grey, micritic to rarely bioclastic or oolitic limestone intercalated with basalt near the top of the flow succession

Intrusive Rocks: Lower to Middle Jurassic (ca. 197.5 to 169.9 ma)

Island Plutonic Suite

Dark grey-green to pale pinkish grey, medium to coarse-grained, equigranular granitoid rocks and porphyry, includes gabbro, hornblende \pm biotite-bearing diorite (di), quartz diorite, granodiorite, plagioclase \pm hornblende porphyry (po) and quartz-plagioclase \pm biotite porphyry; combined codes indicate a range of common rock types (quartz diorite - granodiorite).

Minor Intrusions: Tertiary

Dark to pale grey, rhyolitic dike/sill; plagioclase ± hornblende ± quartz-phyric; possibly coeval with Alert Bay volcanic unit.

Early Jurassic:

- Dark grey-green diabase to medium-grained gabbro sill; coeval with Bonanza Group volcanism; plagioclase porphyritic variety
- Medium grey, aphanitic to plagioclase-phyric rhyolite intrusion; coeval with Bonanza Group volcanism

TERTIARY	Neogene		Alert Bay Volcanics	300m	Basaltic to dacitic flows, tuffs, interbedded conglomerate and coeval dikes and plutonic rocks
snoi			Nanaimo Group	120m	Sandstone, siltstone, shale conglomerate, coal
ETACE			Queen Charlotte Group	300 - 1000m	Sandstone, conglomerate, siltstone, shale, coal
S			Longarm Fm	75 - 275m	Conglomerate, sandstone, siltstone
ASSIC	ower	inza Gp	'Bonanza volcanics'	>1000m	Subaerial to submarine, basaltic to rhyolitic lavas, breccias, tuffs; interbedded siliciclastics and limestone; comagmatic intrusions of the Island Plutonic Suite
JUR		Bona	Harbledown Formation	200 - 500m	Upper: calcareous siltstone Lower: feldspathic wacke
		Î	Parson Bay Formation	- 300 - 400m	Thin to medium-bedded impure limestone mudstone, shale and clastic sediments
			Quatsino Fm	30 - 300m	Massive to bedded bioclastic limestone
	Upper	dno	couver Group	~3000m	Basalt flows with minor pillow lava, pillow breccia and tuff; intervolcanic limestone near top of unit
		icouver Gro		600 - 1000m	Pillow breccia with well-bedded tuff and breccia in lower part
TRIASSIC			Van	Karmutsen	~2500m
	Middle	Ļ	'Daonella Beds'	800 - 1000m	Shales and metasediments with abundant basaltic sills
OIC	mian)		Buttle Lake	<350m	Limestone and lesser siltstone
PALEOZ	(Devonian - Pen		Sicker Group	>3100m	Upper: limestone, chert and argillite Lower: augite-bearing agglomerate, lapilli tuff, pillow lava, epiclastic, breccia and minor chert

Figure 7.3: Stratigraphic summary of northern Vancouver Island, British Columbia (after Nixon et al. 2006).

7.3.2 Post Accretionary Intrusions

The Bakar Property contains a series of north-west trending dykes belonging to the Island Plutonic Suite which extend from the eastern and of Rupert Inlet to the mouth of Stranby River on the north coast of Vancouver Island. These intrusions are related to the Bonanza volcanism and thought to be apophyses emplaced just east of the Rupert Stock granodiorite during the Early to Mid-Jurassic (Nixon et al. 2006). The Rupert Stock is part of the Jurassic Island Stock Suite responsible for the copper porphyry mineralization at the Island Copper Mine.

Quartz-feldspar porphyry dykes and irregular bodies occur along the south edge of the belt of stocks and are cut by quartz veins, are pyritized, extensively altered and are mineralized where brecciated (Pawliuk, 1994). At the Island Copper Mine, these porphyries are enveloped by altered, brecciated, mineralized Bonanza wall rocks.

7.3.3 Structure and Folding

The rocks north of Rupert and Holberg Inlets are characterized by shallow synclinal folds along a northwesterly fold-axis. The steeper southwesterly limbs of the folds appear to have been truncated by faults sub-parallel to the fold axes. Failure of limestone due to incompetence during folding has potentially influenced the location of some of the faulting evidenced by the proximity of the Dawson and Stranby River Faults to the Quatsino Formation (Pawliuk, 1994). Transverse faulting is also pronounced in the property area which is revealed by numerous north and northeasterly trending faults and topographic lineaments (Pawliuk, 1994).

The layered units underlying the Bakar Property consist mainly of the Quatsino Formation and the Parsons Bay Formation which generally dip gently to moderately southwestward. The structural style of the property is dominated by block-faulting, with the most significant of these fault systems trending west to northwest following Rupert and Holberg Inlets. This structural setting creates repetition and loss of parts of the stratigraphic section with aggregate vertical movement of tens to hundreds of meters. Near the western end of Holberg Inlet the fault splits, with one splay following Holberg Inlet and the other branch passing through the west side of the Stranby River valley.

Second order fault systems occur in the area and can be observed at outcrop scale in Crackerjack Creek. These are typified by steeply dipping north to northeasterly oriented systems. Second order structures are also prevalent and discernable from topographical lineaments such as are observed to pass through William Lake and other smaller systems pass through the Nahwitti Lake and Georgia Lake area.

Strata within individual fault blocks generally have a consistent dip and facing direction which trends toward the south to southwest (Nixon et al. 1993). West of Holberg, bedding dips are locally much steeper as they are closer in proximity to major faults. Bedding in this area shows very little visible folding or flexure with the exception of thinly bedded sediments of the lower Bonanza Formation along the loci of major faults.

The three main episodes of deformation in the area as described by Nixon et al. (1994):

The timing of these events has been constrained to a pre-Cretaceous compressional event, supported by the presence an angular unconformity at the base of the

Cretaceous Longarm Formation; Late Cretaceous to Tertiary transpression; and Tertiary extension.

Phase 1: Post-Early Jurassic to Pre-Cretaceous Deformation

The first regional deformational event was due to east to northeast-directed compressional event which resulted in the rotation and tilting of Lower Jurassic and older strata to form the western flank of the Victoria arch. This northeast directed compression resulted in northwesterly trending thrust faults and flexural slip folding that was evidenced by locally well-developed, northwesterly striking, stylolitic cleavage within the Quatsino limestone (Nixon et al. 1993).

Phase 2: Post-Mid to Pre-Late Cretaceous Deformation

The second deformation event postdates the Coal Harbour sediments but predates the deposition of the Upper Cretaceous Nanaimo Group sediments. This event was the result of intense strike-slip faulting and to a lesser extent thrusting from northerly directed compression. Faults formed during this event have a predominant northwest trend and, in many cases, produced significant drag folding in the adjacent strata where units are well bedded. This event is evidenced by northwesterly striking, high-angle, oblique-slip faults with a dextral strike-slip and south-up sense of motion (Nixon et al. 1993). A considerable amount of movement may have occurred along the Holberg fault during this phase of deformation as evidenced by the presence of many northerly verging, gently plunging drag folds in its footwall (Nixon et al. 1993). Some of the major northwest trending, dextral strike-slip faults located in the area are splays off the Holberg fault (Nixon et al. 1993).

Phase 3: Tertiary Deformation

The third and most recent phase of deformation in the area postdates the deposition of the Nanaimo Group sediments and produced east-northeasterly trending normal faults during the extension of the Queen Charlotte Basin (Nixon et al. 1993 and 1994). Extension is less obvious in the Quatsino-San Josef map area than further south. Tertiary dykes intruded during this final phase of deformation and predominantly strike in a northeast direction, however not exclusively (Nixon et al. 1993). Intrusions occurring along fault zones tend to be felsic in composition with many of the longest dykes being emplaced along northerly or northwesterly striking faults (Nixon et al. 1994). -1000

-1500

(no vertical exaggeration)



IJLm

Figure 7.4: Cross-section (NE/SW) of Holberg fault at the southwestern end of Holberg Inlet (Nixon et al., 2011).

в С Goodspeed River Fault uTrP uTruKf Jlqdi-gd TrJN uTrQ uTrP uTruKp uTrP TrJN . ImJHvs uTruKf uTrQ mJHm uTrQ uTrP uTruKf Jlqdi-qpo uTruKf Jlqdi-gd uTrQ uTruKf TrJN uTrmKh? ImJHvs uTrmKh? uTruKf uTruKf uTrP

uTrmKh, Hyaloclastite Member of the Middle Karmutsen Formation (not exposed in the Holberg-Winter Harbour map area)

Figure 7.5: Cross-section (NE/SW) of Holberg fault at the northwestern end of Holberg Inlet (Nixon et al., 2011).

uTruK

uTrQ

2019-06-06



Figure 7.6: Figure 7.6: Cross-section (NE/SW) of Holberg fault in the southeastern end of the Bakar Property (Nixon et al., 2011).



Bedrock Geology
uKOs: Upper Cretaceous Oueen Charlotte Group - unnamed unit undivided sedimentary rocks
IKLs: Lower Cretaceous Queen Charlotte Group - Longarm Formation sedimentary rocks
uKOBsn: Upper Cretaceous Queen Charlotte Group - Blumberg Formation coarse clastic sedimentary rocks
uKOBcg: Upper Cretaceous Queen Charlotte Group - Blumberg Formation conglomerate, coarse clastic sedimentary rocks
FMII(a): Fark Jurassic to Middle Jurassic Island Plutonic Suite quartz-feldsparii/ ½homblendei/2/biotite porphyry
IBLVm: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit mafic volcanic rocks
IBLys: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit mixed volcanic and sedimentary rocks
Im)Hycs: Lower? and Middle Jurassic Holberg volcanic unit mixed volcanic and sedimentary rocks
EJBdb.po: Farly? Jurassic Bonanza Group porphyric diabase
mJHym: Middle Jurassic Holberg volcanic unit mafic volcanic rocks
mJHvs: Middle Jurassic Holberg volcanic unit mixed volcanic and sedimentary rocks
ImJHys: Lower? and Middle Jurassic Holberg volcanic unit mixed volcanic and sedimentary rocks
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EMJIpo: Early Jurassic to Middle Jurassic Island Plutonic Suite porphyry
EMJI: Early Jurassic to Middle Jurassic Island Plutonic Suite granitoid, gabbro and porphyry
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EMJIdr-gm: Early Jurassic to Middle Jurassic Island Plutonic Suite diorite to quartz monzonite
EMJIdr-fp: Early Jurassic to Middle Jurassic Island Plutonic Suite diorite to quartz-feldspari21/2homblendei21/2biotite porphyry
EMJIqd-qp: Early Jurassic to Middle Jurassic Island Plutonic Suite quartz diorite to quartz-feldsparic/½hornblendeic/½biotite porphyry
EMJIqd: Early Jurassic to Middle Jurassic Island Plutonic Suite quartz diorite
EMJIgb: Early Jurassic to Middle Jurassic Island Plutonic Suite gabbro
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mJHvf: Middle Jurassic Holberg volcanic unit ryholite, felsic volcanic rocks
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UBPCsf: Lower Jurassic Bonanza Group - Pegattem Creek siltstone siltstone and mudstone
UBLvm.x: Lower Jurassic Bonanza Group - LeMare Lake volcanic unit plagioclase-megacrystic basalt flow
uTrVQls: Upper Triassic Vancouver Group - Quatsino Formation limestone, calcareous sedimentary rocks
uTrVKFvb.p: Upper Triassic Vancouver Group - Karmutsen Formation basaltic volcanic rocks
uTrVKFvb.f: Upper Triassic Vancouver Group - Karmutsen Formation basaltic volcanic rocks
uTrBPIc: Upper Triassic Bonanza Group - Parson Bay Formation limestone, mudstone, siltstone
TrJNRs: Upper Triassic to Lower Jurassic Bonanza Group - Nahwitti River wacke siltstone, mudstone and feldspathic-lithic wacke
uTrlJBvs: Upper Triassic to Lower Jurassic Bonanza Group - Volcaniclastic-sedimentary unit undivided mixed volcanic and sedimentary rocks
uTrBPvb.vcx: Upper Triassic Bonanza Group - Parson Bay Formation augite-plagioclase-phyric basaltic volcaniclastic rocks
uTrBPvi.vca: Upper Triassic Bonanza Group - Parson Bay Formation intermediate augite-phryric volcaniclastic rocks
uTrBPvb.px: Upper Triassic Bonanza Group - Parson Bay Formation augite-plagioclase-phyric pillowed basalt
Faults
Approximate

----- Inferred

Figure 7.8: Bakar property geology legend .

7.3.4 Mineralization

Strong copper mineralization has been observed within a distinct horizon of the Karmutsen Formation at the Millington showing on Mount Hansen (located approximately 5km west of Holberg). The horizon was characterized by olive green amygdaloidal volcanics, basaltic flows and brecciated tuffs which overlie unmineralized pillow basalts and dark green amygdaloidal basalt.

Negligible alteration associated with mineralization has been observed. Where present, alteration comprises epidote and chlorite, which is often intense within the host basalt and is characterized by a buff pistachio green colour and sharp boundaries with unaltered host rock.

The principal copper enriched horizon trends towards the northwest for at least 170 m and occurs as lenses of disseminated to massive mineralization, and discordant veins and mineralized structures. The mineralization has been traced over a width of 130 m perpendicular to the horizon thus far, though more work is required to fully understand the depth and continuity. The mineralized zone mineralogy comprises predominantly chalcocite, bornite, chalcopyrite, malachite, and also contains lesser covellite, native copper and minor azurite (Figure 7.8). The complete copper mineral assemblage at the identified copper showings is unknown. Supergene enrichment and oxidation have formed a complex assemblage of copper bearing minerals that have not been studied in the context of this report.

Bornite, chalcocite, and chalcopyrite lenses have also been observed at higher elevation along the edge of the IP geophysical anomaly identified in 1963 by Hallof and Sutherland. Three high-grade samples collected directly from mineralized sections of outcrop in the vicinity of this anomaly returned values of 2.08 %, 14.66 % and 24.52% Cu when submitted for assay.

Local mineralization may likely be related to dilatational zones and fault jogs and steps along second order fault structures in the area. Near the western end of Holberg Inlet the main fault splits, with one splay following Holberg Inlet and the other branch passing through the west side of the Stranby River valley. High amounts of disseminated sulphides and malachite staining have also been noted in localized areas of intense shearing and fracturing across the property.

Based on observations made to date, the Bakar property shows many characteristic signs of the Volcanic Redbed Cu style of mineralization. Table 8.1 outlines the similarities between the Bakar Property and the definitive characteristics of Volcanic Redbed Cu deposits.



Figure 7.9: Example of mineralization from the Property.

8 Deposit Type

8.1 Redbed Cu Style Deposit

The Bakar Property is likely associated with stratabound mineralized bodies of disseminated copper and copper sulphides which occur in reduced zones of red-bed sequences, known as Redbed Cu deposits (Figure 8.1). The mineralized zones within the property are believed to occur within subaerial volcaniclastic, tuffs and flow breccias of the Karmutsen Formation.

Redbed Cu deposits are known to occur in fault-bounded basins in various tectonic settings, including rifts with subaerial flood basalt sequences, intermontane basins in broad zones of extension, and near plate margins with island-arc and continental-arc volcanics (USGS, 2007 and BCGS, 1996). These deposits form in continental to shallow-marine volcanic settings in "low to intermediate latitudes" with arid to semi-arid environments. Deposits tend to form tabular lenses over a few meters to several tens of meters thick which are roughly congruent to the host strata, however deposits may also be strongly influenced by structural controls and lead to the formation of mineralized zones which crosscut stratigraphy such as veins, veinlets, fault breccias and disseminated zones (BCSG, 1996).

The stratigraphic setting characteristic of these deposits is a Redbed sequence containing white or gray bleached zones in sandstone and/or black, grey or green (reduced) beds of shale and siltstone (USGS, 2007). Redbed sedimentary rocks are common and often exhibit shallow water sedimentary structures such as small-scale crossbedding, mud cracks and algal mats. Reducing traps may also be formed by fossil plant debris in rocks from in the Devonian or later however, plant debris generally has limited lateral extent. Associated rock types typically include amygdaloidal basalts, breccias, and coarse volcaniclastic beds with associated volcanic tuffs, siltstone, sandstone and conglomerates. While any of these rock types may host this style of deposit, mafic volcanics most often have elevated background copper values due to the infilling of amygdules, flow breccias and minor fractures with native copper and chalcocite (BCGS, 1996).

The characteristic ore mineralogy of redbeds include chalcocite, bornite, native copper, digenite, djurleite, chalcopyrite, covellite, native silver and greenockite with pyrite peripheral to the ore. Some deposits display zoning from chalcocite, through bornite and chalcopyrite to pyrite along the fringes. Generally, these deposits are not associated with alteration, however some deposits occur in prehnite-pumpellyite grade regionally metamorphosed volcanics (BCGS, 1996). Gossanous weathering is also uncommon however, locally minor areas of malachite or azurite staining has been noted (BCGS, 1996).

There are two widely accepted genetic models for the formation of Redbed Cu deposits, the first is related to the metamorphism of copper-rich mafic volcanic rocks at depth, which provide the source of the metal-bearing fluids. These fluids migrate higher in the stratigraphic sequence towards the surface into permeable, oxidized subaerial host rocks of lower metamorphic grade where they react and precipitate during dehydration reactions (Kirkham, 1996). Another theory relates mineralization to a diagenetic model which predates metamorphism. This model involves the migration of low temperature fluids up-dip along permeable strata to margins of basins, or along structures whereby copper deposition occurs upon contact with oxidized rocks. These rocks are typically shallow marine to subaerial volcanics formed in arid to semi-arid environments. Both

models require the presence of an oxygen-rich atmosphere to produce oxidized rocks as traps, therefore all Redbed deposits must be younger than ~2.4 Ga.

The simple ore mineralogy found in these deposits provides a very specific geochemical signature for Cu and usually Ag. Litho-geochemical and stream sediment samples may also return high values of Cu and Ag, with typically high Cu/Zn ratios and low-grade Au values. IP surveys are also useful to delineate mineralized lenses and areas of intense veining associated with these deposits.

Economically, these deposits range in size from hundreds to thousands, to hundreds of millions of tonnes grading from >1% Cu to more than 4% Cu. Historically, however, only a few deposits have been high enough grade to support underground mines and the majority of occurrences are too small to be economic as open pit operations (BCGS, 1996).



Typical mineral zoning in the discordant DOT 47 zone, Coppermine River area, Northwest Territories,

Figure 8.1: Exampels of volcanic redbed copper mineralization in other Canadian deposits (Kirkham, 1996).

8.2 Preliminary Deposit Analogy

native copper, hem - hematite.

The Sustut copper deposit is located in central British Columbia approximately 200 km north of Smithers, and most tangibly represents the closest analogy to the Bakar (Millington Showing) identified thus far (Table 8.1). The Sustut copper deposit is a developed project with a defined resource of 8,561,000 tonnes of measured, indicated and inferred ore grading at 1.62% Cu. The deposit is hosted within zeolitic basaltic flows and volcanoclastic sediments and breccia, has a footprint of approximately 1500 m by 1000 m and ranges up to 76 m thick. Mineralization is stratabound, disseminated, and is significantly enriched with Hematite, Pyrite, Chalcocite, Bornite, Chalcopyrite, Copper, and Greenockite copper ore mineralization.

The author has not been able to independently verify the above information and it is not necessarily indicative of the mineralization on the Bakar Property which is the subject of this report.

Table 8.1: Comparisons between the Volcanic Redbed Copper model characteristics ; observations made at the Bakar property, and the published characteristics of the Sustut copper deposit (MINFILE Number: 094D 063).

Volcanic Redbed Cu Definitive Characteristics	Bakar Property (Millington Showing)	Sustut Copper Deposit (094D 063)
Relatively simple copper sulphide and/or native copper mineral assemblages in volcanic sequences with or without minor amounts of silver. They are generally not polymetallic, and do not contain large amounts of iron sulphides.	Mineral assemblage observed within the Karmutsen volcanic sequence include chalcocite, bornite, chalcopyrite, pyrite in disseminated lenses as well as pervasive malachite and trace azurite in shear zones.	Hematite, Pyrite, Chalcocite, Bornite, Chalcopyrite, Copper, Greenockite
Deposits consist of copper minerals typically disseminated or in veins, rather than as massive sulphide bodies.	Mineralization can be observed as both vein hosted, and disseminated stratabound lenses with localized clots and blebs	Disseminated, Concordant, Stratabound
Wall rock alteration tends to be insignificant or absent, but many deposits are accompanied by low-grade regional metamorphic minerals such as quartz, epidote, albite, chlorite, calcite, prehnite, pumpellyite, and laumontite.	Pervasive alteration zone was not observed around the zone of most intense mineralization. Localized epidote and chlorite alteration were observed around shear zone. Prehnite, Pumpellyite facies metamorphism alteration is prevalent throughout the host rock.	Zeolitic, Propylitic, Oxidation - Prehnite, Pumpellyite, Epidote, Chlorite, Quartz, Calcite, Malachite, Laumontite
A significant part of the rock sequence in which these deposits occur was deposited in subaerial environments and was in an oxidized state.	Pillow basalts underlying flow basalts, breccias and volcanoclastic tuffs were observed (Karmutsen Formation)	Volcaniclastic Breccia, Agglomerate, Argillaceous Tuff, Augite Porphyry Basalt
In many districts volcanic redbed and diagenetic sedimentary copper deposits occur in the same sequences.	Further to the southeast of Minfile 102I 010 there is higher potential for diagenetic sedimentary copper.	

8.3 Other Deposit Model Types

It should be noted that the large property size and regional geological environment lends itself to other potential sources of mineralization to occur on the property.

8.3.1 Porphyry Cu Au Systems

Primarily one would expect potential for Porphyry related hydrothermal systems, including low grade, bulk tonnage primary Cu Au Porphyries related to intrusion of the Island Plutonic Suite. It is generally recognised that Cu-Au-Mo porphyry deposits are associated with granodiorite, quartz monzonite, quartz diorite granitoid rock types. Cu-Au-Mo porphyries tend to occur as large zones of hydrothermally altered host rock and are closely related to island-arc volcano-plutonic suites. Composition of intrusions range from basalt-andesite volcanic and gabbro-diorite-quartz-diorite associations. These deposits are characterized by quartz stockworks, veins, sulphide bearing veins

(pyrite, chalcopyrite, bornite, with lesser molybdenum), closely spaced fractures and fracture selvages. These subvolcanic Intrusions are commonly emplaced by multiple successive intrusive phases and a wide variety of breccias. Grain size may range from coarse-grained phaneritic to porphyritic.

The timing of gold mineralization within these systems can be early or late and is related to magmatic or circulating meteoric waters. Early gold mineralization is closely associated with the potassic alteration zone and bornite and late mineralization is associated with pyrite and either sericitic, advanced argillic or skarn-destructive argillic alteration (Gendall, 1994). These deposits may be present in stockwork veins, skarns, or as carbonate and non-carbonate replacement (Gendall, 1994). Copper-gold style porphyries tend to be smaller in size compared to copper-molybdenum style porphyries (Gendall, 1994). Regional structures and structural lineaments act as mineralization controls in these systems and therefore the degree of fracturing and veining tends to favor the concentration of Cu and Au in these areas (Gendall, 1994).

Mineralized zones occur at depths of 1 km or less and are mainly associated with the development of brecciated zones or preferential replacement in host rocks with a high degree of primary permeability. Ore-grade stockworks are linked to zones of intensely developed fractures that are coincident or intersect multiple fracture sets. Propylitic alteration halo is widespread and generally surrounds an early potassic alteration core (which is commonly well-mineralized). Overprinting of early mineralization by younger mineralized phyllic alteration is also common. Pyrite is typically the predominant sulphide mineral, and the predominant ore minerals are chalcopyrite, molybdenite, lesser bornite and rare (primary) chalcocite. Subordinate minerals include tetrahedrite/tennantite, enargite and minor gold, electrum and arsenopyrite.

It would also be reasonable to consider the property to be prospective for the distal mineralization styles associated with porphyry systems; i.e. skarn, carbonate replacement deposits (CRD's), and epithermal mineralized systems, amongst others. Numerous such Minfile showings occur off the property, and the age and formation of the property host rocks are potentially favourable for such additional mineralization.

9 Exploration

MK2 has not carried out any exploration on the Bakar Property.

10 Drilling

MK2 has not carried out any drilling on the Bakar Property.

11 Sample Preparation, Analysis, and Security

11.1 Sample Preparation

During the 2019 program a total of 21 rock samples and 3 stream sediment samples were collected. These samples were collected to enable detailed descriptions out of the field and were secured in a manner where sample integrity and provenance was maintained for future analytical procedures.

Rock samples collected were located by GPS in NAD83 UTM Zone 9N, the sample location was recorded in field notebooks, an assay sample tag book and as a waypoint on a Garmin 60CSX GPS unit. Each sample was collected into its own 18" x 12" poly bag labeled with the locale (i.e. "Bakar") and a unique 7-character sample ID (i.e. E6690306) assigned from a barcoded Tyvek sample book. A tear-out tag with the barcode and unique sample ID was inserted in the bag with the sample and the bag was sealed with a cable tie in the field. The sample locations are marked in the field with orange flagging type and the unique sample ID number written on the flagging tape.

Two-kilograms stream sediment samples were carefully collected within drainage lines. All sample locations were recorded using a hand-held GPS unit and location and relevant descriptions were recorded by following guidelines which have been developed by Longford Exploration Services. Each sample was placed into its own poly bag and assigned a unique sample ID much the same as previously outlined for rock samples.

11.2 Chain of Custody

The Author maintained custody of all samples until they were delivered in person to Bureau Veritas Laboratories in Vancouver, BC.

11.3 QA/QC

Longford Exploration Services applies a high-level QA/QC program for early stage exploration programs. A Duplicate rock sample is collected every twentieth sample, while stream sediment is duplicated every tenth sample to confirm consistency of the data stream. Pulp duplicates and high-grade copper standards prepared and analyzed by the lab show a less than 0.8% variability.

More comprehensive QA/QC procedures are applied to larger systematic sampling programs.

11.4 Sample Analysis

Sample analysis has been and will be carried out by Bureau Veritas at its Vancouver location which is ISO/IEC 17025:2005 and ISO 9001:2015 certified and independent of the issuer.

The analysis methods requested from the lab for the samples collected in the 2019 field exploration program are set out below:

Α	nalytical Methods	
	Analysis – Rock	PRP70-250, MA200, GC820 over-limit
	Analysis – Soil	SS80, AQ250
	Analysis - Stream sediment	SS80, AQ252

Table 11.1: Analytical methods requested from Bureau Veritas Laboratory

Standard preps were chosen for the rock, soil and stream samples. A multi acid digestion (ICP-ES/MS - MA200) analysis was chosen as it gives near total values for all the elements of interest. For detection of the over-limits of the copper found in the rock samples after the multi acid digestion, a copper titration method (GC820) was chosen as an ore grade analysis of up to 100% copper grade. ICP-MS analysis (AQ250/AQ252) was chosen for the low to ultra-low determination on soils and sediments with a larger split chosen for the stream samples to give a more representative analysis of elements subject to a nugget effect.

11.5 Adequacy of Procedures

All sample collection and analysis performed by the Longford Exploration field crew are in general conformance with industry best practices and are in accordance with typical CIM standards.

12 Data Verification

12.1 2019 Site Visit

Along with the Author, Longford Exploration Services mobilized a crew of three from Vancouver, BC on the 12th of May 2019 to carry out a three-day site visit and review, where the crew undertook reconnaissance, geological mapping, prospecting and sampling of the central Bakar property (Figure 12.1).

General geological and prospecting activities focused on locating and confirming the existing mineralized showings identified in the BCMinfile (Millington 1021010), and additional showings were identified and sampled.

Additionally, the author and field team were able to confirm the local host lithologies and identify structural controls surrounding the mineralized showings, numerous samples were collected for further detailed analysis. Samples were collected from weakly to strongly mineralized outcrop in order to better understand the variability and controls on mineralization. Generally, the geological environment is consistent with the descriptions contained herein, and consistent with the favoured deposit model (Redbed Copper) characteristics and associated styles of mineralization.

Work carried out during the site visit also included classifying, mapping and sampling of mineralized showings and hosting geology, locating historic workings as well as obtaining general structural orientation data, (structures, contacts, mineralization) and describing observed lithologies. This work has focused particularly in the area surrounding BCMinfile 102I 010 where a historically reported sample returned values of 21% Cu, 56.20 g/t Ag, and 0.0001 g/t Au, and in the area surrounding new mineralized showings located during the 2018 field visits made by Longford Exploration.

A total of 7 historic exploration cuts and 4 historic adits were located and recorded with handheld GPS (Figure 9.2). A total of 21 rocks samples and 3 stream sediment samples were collected (Figure 9.3).

In the author's opinion, the data provided in this report is adequately reliable for its purposes.



Figure 12.1: From left Luke van der Meer, Trent Potts and Garrett Ainsworth making an observation in Crackerjack Creek near Historic Adit #1 and #2.

12.1.1 2019 Sample Results

A total of 3 stream sediment and 21 rock samples were collected between May 13 and 15, 2019. Figure 12.2 shows the locations of historic workings that were identified during the 2019 site visit and Figure 12.3 shows the geochemical rock and stream sediment assay results from the 2019 site visit performed on the property.

Exceptionally high-grade results were returned from 5 samples (Table 12.1). These were located surrounding the historical Millington showing, and a secondary showing located 175m along strike to the northwest.

Sample ID	Easting	Northing	Description	Cu (%)
3267064	566750	5612367	High grade sample of massive copper mineralization. massive Chalcocite, covelite, chalcopyrite, bornite, and native copper.	41.56
3267068	566722	5612300	Highly mineralized and oxidized sheared basalt with tarnished sulphides including bornite, chalcocite, chalcopyrite and native copper.	24.52
3267066	566761	5612344	High grade sample of Massive copper mineralization within basalt host rock. Massive Chalcocite, covelite, chalcopyrite, bornite, and native copper.	21.58
3267070	566752	5612298	Highly mineralized and oxidized sheared basalt with tarnished sulphides including bornite, chalcocite, chalcopyrite and native copper.	14.66
3267107	566630	5612466	Moderately mineralized and oxidized sheared basalt with tarnished sulphides including bornite, chalcocite and malachite	5.86



Figure 12.2: Location of historic workings identified during site visits.



Figure 12.3: Location map of rock and stream sediment samples collected surrounding the Millington showing.

13 Mineral Processing and Metallurgical Testing

There is no known mineral processing testing or metallurgical analyses in respect of the Property.

14 Mineral Resource Estimates

This is an early stage project and no mineral resource estimates have been carried out on the Bakar Property.

23 - Adjacent Properties

Located to the east of the Bakar Property, the North Island Project is 100% owned by Northisle Copper and Gold Inc. The project covers approximately 33,000 ha over a 50 x 8 km area and lies over a Mesozoic-age porphyry copper and gold district. The area hosts a number of porphyry copper and gold occurrences of varying ages and stages of development, namely the advanced stage Hushamu deposit with a current NI 43-101 resource, the Red Dog Deposit with a current NI 43-101 resource, early stage Pemberton Hills zone and the NW Expo mineralized zone.

Copper mineralization was first discovered in the area by prospector Dennis Milburn in 1966 at the eastern end of Rupert Inlet. The property was then optioned by Utah Construction and Mining, who drilled the property between 1966 and 1969. Red Dog prospect was discovered during the mid 1960s by Hans Veerman and William Botel at the western end of the current Northisle claim block. A large area of claims was staked in 1967 by Utah Construction along the north shore of Rupert and Holberg Inlets which encompassed the grounds surrounding the Red Dog property. Exploration over this large package of land (Expo claims) resulted in the discovery of the Hushamu Deposit in the late 1960s. Utah Construction continued exploration for porphyry copper mineralization up to 1980. Efforts then shifted for the search for gold, which resulted in the discovery of the Pemberton Hills occurrence.

Historical core from Hushamu was relogged during 2011-2012 along with additional drilling to better define the northern and southern limits of the deposit. A 12 km IP survey was also carried out over the projected northwest extension of mineralization all to generate an updated NI 43-101 resource calculation (BC Minfile 092L 240).

Indicated resource for Hushamu deposit includes 152 million tonnes grading 0.27 percent copper, 0.32 grams per tonne gold, 0.008 percent molybdenum, and 0.47 parts per million rhenium at a 0.2 percent copper cutoff. The Inferred resource includes 64.7 million tonnes grading 0.23 per cent copper, 0.26 gram per tonne gold, 0.007 per cent molybdenum, and 0.30 part per million rhenium at a 0.2 percent copper cutoff (Giroux and Casselman 2012).

The above information regarding the Northisle Copper and Gold Hushamu deposit was derived from the technical report entitled "Updated Resource Report for the Hushamu Deposit" bearing an effective date of August 27, 2012, filed on Sedar under Northisle Copper and Gold's profile. The key assumptions, parameters and methods used to prepare the resource and reserve estimates set forth above are set out in the technical report. The author has been unable to verify this information and such information is not necessarily indicative of the mineralization on the Bakar property.

Indicated resource for the Red Dog deposit include 22.6 million tonnes grading at 0.32 per cent copper, 0.46 grams per tonne gold and 0.007 percent molybdenum at a 0.2 percent copper cutoff. The inferred resource includes 848,000 tonnes grading at 0.23 percent copper, 0.33 grams per tonne gold and 0.003 percent molybdenum at a 0.2 percent copper cutoff (Burt and Game 2017).

The above information regarding the Northisle Copper and Gold Red Dog deposit was derived from the technical report entitled "Red Dog Property Copper-Gold-Molybdenum Resource Estimate" bearing an effective date of January 6, 2012, filed on Sedar under Northisle Copper and Gold's profile. The key assumptions, parameters and methods used to prepare the resource and reserve estimates set forth above are set out in the technical report. The author has been unable to verify this information and such information is not necessarily indicative of the mineralization on the Bakar property.

Table 23.1: Summary of Indicated and Inferred Resources for Hushamu and Indicated Reserves for Red dog Deposits-North Island Project.

Hushamu Deposit (Indicated Resource)	Hushamu Deposit (Inferred Resource)	Red Dog Deposit (Indicated Reserves)	
152,510,000	64,700,000	23,633,000	Tonnes
0.27%	0.23%	0.32 %	Copper
0.008%	0.008%	0.007%	Molybdenum
0.32 g/ton	0.26 g/ton	0.46 g/ton	Gold
0.47 ppm	0.30 ppm	N/A	Rhenium

23.1 Notable Property

The property east along the Holberg fault from the south portion of the Bakar Property is the former Island Copper Mine Site. This former mine site is now reclaimed and under care and maintenance. Island Copper was an open pit copper porphyry mine. Historic production as summarized in BC MINFILE 092L 158 is summarized below:

Table 23.2: Summary of historic production at Island Copper Mine (Minfile 092L 158).

366,718,831	tonnes milled
1,227,330,387	kilograms copper
32,009,858	kilograms molybdenum
9,455,712	ounces silver
1,133,878	ounces gold
236	kilograms rhenium

It was at one time the third-largest copper mine in Canada. It was owned by BHP Copper (formerly Utah Construction and Mining Ltd) and began production in 1971 closing at the end of 1995. The massive open pit at 402 m below sea level, was the lowest open-air point on earth at one time. The pit has since been turned into a saltwater lake by opening a channel to Rupert Inlet.

The tonnage and grade at Island Copper are summarized as found on the following web site http://www.empr.gov.bc.ca/Mining/Geoscience/MineralDepositProfiles/Pages/GradeandTonna ge.aspx as 373 million tonnes of 0.37 % copper, 0.017 % molybdenum, 0.11 g/t gold and 0.34 g/t silver.

There are a few MINFILE noted properties nearby that have a history of exploration work mainly going back to the Island Copper operating period. The reports note copper mineralization but do

not report the presence of the Island Intrusions that are the common geological feature of the Bakar Property and Island Copper and similar local deposits. As well there are three MINFILE properties/occurrences noted on the Island Copper property but located outside the pit area.

The author has not been able to independently verify the above information and it is not necessarily indicative of the mineralization on the Bakar Project which is the subject of this report.

24 Other Relevant Data and Information

The author is not aware of any other relevant information not included in this report.
25 Interpretation and Conclusions

The early stage exploration work at the Bakar Property has identified existing and new high-grade copper showings in the Millington Area. All have been preliminarily classified as Redbed Copper style mineralization. These mineralized copper showings are separated by approximately 200 m along the same stratigraphic horizon within the Karmutsen Formation which provides a significant strike length upon which to focus further exploration. The continuity and variability of this mineralization is the primary source of uncertainty related to this project and should be addressed in future exploration programs.

A cursory analysis and review of the Sustut copper deposit in central British Columbia (8,561,000 tonnes of measured, indicated and inferred ore grading at 1.62% Cu) reveals numerous analogous characteristics between the style of mineralization at Sustut and the high-grade copper showings at the Bakar Property. The author has not been able to independently verify the above information and it is not necessarily indicative of the mineralization on the Bakar Property which is the subject of this report.

Due to the abundance of outcrop over parts of the recently deforested property and owing to the large area covered by the mineral exploration licenses, there are significant areas which are under-explored, and where there is significant potential for an economic deposit to be discovered.

26 **Recommendations**

26.1 Proposed Exploration & Budget

A multi-phase exploration program is recommended at the Bakar Property.

Efforts should be undertaken to digitize the information derived from historical drilling, geophysical surveys, mapping and sampling and provide a modern context to aid in further exploration. Particular focus should be placed on understanding the nature and extent of mineralization from geochemical and geophysical data sets.

An initial VTEM Plus airborne geophysical survey is proposed in order to provide initial targets for further field investigations. Approximately 750 line-kms is proposed to be covered by the survey with the aim of identifying conductive anomalies and zones of magnetic anomalism in higher detail than the regional surveys currently available. The VTEM survey is currently in the planning phase and specific survey details have yet to be finalized. The issuer should strongly consider 3D inversion modelling of this data to aid in target delineation.

VTEM[™] Plus Time Domain EM system is excellent for locating discrete conductive anomalies as well as defining lateral and vertical variations in resistivity. Considering the favoured redbed copper deposit model characteristics and associated styles of mineralization, VTEM[™] Plus is an ideal tool for furthering the prospectivity of the Bakar property.

A detailed magnetic survey will help to better define the potential to host a large mineralizing system suitable for future drill testing. The geophysical information gathered will be critical to developing higher resolution field work programs to aid in drill targeting.



Figure 26.1: Proposed area for airborne VTEM geophysical surveying. Background layer: Residual Total Magnetic Field.

At the Millington showing, where multiple mineralized outcrops occur within the Karmutsen formation, a detailed mapping and sampling program is recommended to delineate the extent and thickness of the mineralized horizons. This work is recommended to include:

- Detailed lithological and structural geological mapping over areas of excellent exposure in Crackerjack Creek. Particular attention should be paid to understanding stratabound versus discordant (vein and structure) hosted mineralization. It is expected that there will be significant structural controls on mineralization and understanding what these are will be critical to the ongoing exploration effort.
- Detailed channel sampling across areas where mineralized surface outcroppings are exposed in Crackerjack Creek with equal emphasis placed on understanding the highgrade mineralization as well as it's interaction with the surrounding barren volcanogenic host rock, and any associated alteration. Additional samples for petrographic analysis should also be collected.
- Due to the excellent host rock exposures along Crackerjack creek there exists an opportunity to clearly and consistently map and classify the host Karmutsen formation volcanogenic stratigraphy and define any distal alteration patterns that may be present. It is expected that such an exercise would greatly aid in further regional exploration

throughout the property in subsequent exploration programs. Whole rock lithogeochemistry would benefit this immensely.

- Systematic stream sediment sampling should be undertaken along the main major drainages emanating from Mt. Hansen. This work should be prioritized such that the core mineralized areas are preferentially sampled.
- An orientation stream sediment sample program should be undertaken on the 2nd order drainages that feed Crackerjack Creek. Upon confirmation of anomalism related to copper mineralization and development of a robust methodology, this sampling procedure should be applied throughout the property.
- Soil sampling lines or moss mat sampling should also be completed on an orientation basis along the ridgeline spurs that occur parallel to Crackerjack Creek.
- A comprehensive QAQC program should be implemented for all systematic sampling programs. Due to the high-grade nature of the identified mineralization it is strongly recommended that a robust field duplicate, and coarse lab duplicate program is implemented, as well as representative umpire sampling of the high-grade sample population.

Due to the steep topography, it may prove challenging to establish a uniform soil sampling grid over the area surrounding the Millington showing. Additionally, considering the potentially stratabound nature of the mineralization a minimum 25 m grid spacing would likely be required to delineate anomalism from soil geochemistry. Steep slopes surrounding mineralization may also provide false positive soil geochemistry anomalism, owing to high amounts of downhill soil creep.

Diamond drilling at the mineralized Millington showing is highly recommended based on the results of the initial exploration phase. Due to the steep topography and dense vegetation, it is expected that helicopter assisted drilling may be required. Alternatively, newly established logging tracks, and forestry service roads may allow for drill access from higher elevations on Mt. Hansen above the initial target at the Millington showing.

A preliminary budget for Phase 1 of \$300,000.00 is proposed. A detailed breakdown of costs is provided in Table 26.1 below.

Table 26.1: Proposed exploration budget.

	Description	Estimated Cost (CAD)
Phase 1	 Airborne Geophysical VTEM survey (750 line-kms) Identify conductive geologic bodies Show detailed magnetic anomalism 10 Day 4-person exploration program Prospecting Geologic mapping Geochem orientation Stream sediment, soil and/or moss mat sampling Channel sampling of visible surface mineralization 	\$300,000
Phase 2	3,500 m of diamond drilling	\$1,100,000
	TOTAL	\$1,400,000

The Phase 2 recommendations are conditional upon positive results of Phase 1 set forth above.

27 References

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APPENDIX A: Date, Signature and Certificate of Author

I, Luke van der Meer of 5131 56th Street, Delta, BC do hereby certify the following:

- I am a Professional Geoscientist in good standing with Engineers and Geoscientists B.C. since 2012;
- I graduated from Otago University in New Zealand in 2001 with a Bachelor of Science with a double Major in Geology and Geography;
- I have been employed continuously in the mineral exploration and mining industry since 2001 and have been practising my profession as a geologist continuously since 2012;
- I have had previous experience in mineral property exploration and evaluation for numerous commodities including gold, copper, base metals, uranium and coal in jurisdictions including British Columbia, Yukon, Saskatchewan, Western USA, Oklahoma, Chile, Western Australia, Queensland, Turkey, Nigeria and Mongolia;
- This certificate relates to the technical report entitled: "TECHNICAL REPORT on the BAKAR PROPERTY, BRITISH COLUMBIA, CANADA", having an effective date of June 6, 2019 (the "Technical Report");
- I am a "qualified person" as such term is defined in National Instrument 43-101 -Standards of Disclosure for Mineral Projects ("NI 43-101");
- I am responsible for the Technical Report, in its entirety;
- My most recent personal inspection of the Bakar Property was from May 13th to 15th 2019;
- I have had no prior involvement with the Bakar Property;
- I am independent (within the meaning of, and for the purposes of, NI 43-101 and Appendix 3F – Mining Guidelines of the TSX Venture Exchange) of each of MK2 Ventures Ltd., the Bakar Property and each of James Rogers and Longford Exploration Services Ltd.;
- I have read NI 43-101 and the Technical Report has been prepared in compliance with NI 43-101; 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.



July 17, 2019

APPENDIX B: 2019 Rock Sample Analytical Certificates

			Client:	Longford Exploration Services Ltd. 460-688 West Hastings St. Vancouver British Columbia V6B 1P1 Canada
BUREAU VERITAS	MINERAL LABORATORIES Canada	www.bureauveritas.com/um	Submitted By:	James Rogers
Burogu Vorita	Commodifies Canada Ltd		Receiving Lab:	Canada-Vancouver
0050 Chouran	continuonities Ganada Etd.		Received:	May 16, 2019
9050 Shaughi	252 2450	DIA VOP DES CATIADA	Report Date:	June 03, 2019
PHONE (604)	253-3158		Page:	1 of 2
CERTIE	ICATE OF ANALY	'SIS		VAN19001116 1

ADDITIONAL COMMENTS

CERTIFICATE OF ANALY

Bakar

21

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	21	Crush, split and pulverize 250 g rock to 200 mesh			VAN
MA200	21	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
EN001-MA	21	Environmental disposal fee - Multi-acid neutralization			VAN
GC820	8	Copper Assay by Classical Titration	0.5	Completed	VAN

SAMPLE DISPOSAL

Project:

Shipment ID: P.O. Number

Number of Samples:

 PICKUP-PLP
 Client to Pickup Pulps

 PICKUP-RJT
 Client to Pickup Rejects

CLIENT JOB INFORMATION

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

Invoice To:	Longford Exploration Services Ltd.
	460-688 West Hastings St.
	Vancouver British Columbia V6B 1P1
	Canada

CC: Trent Potts Matt Krukowski



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

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	Method	WGHT	MA 200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	v	Ca	Р
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
2267056	Book	0.01	0.1	4519.7	1.5	51	0.1	55.0	21.5	1097	6.27	1	0.1	0.1	26	0.1	0.1		272	0.01	0.001
3267057	Rock	1.29	0.4	3/1 0	1.5	23	0.9	55.6	20.3	750	5.57	~1	0.2	0.6	50	<0.2	<0.1	<0.1	213	20.08	0.045
3267058	Rock	2.36	0.0	28.9	0.5	63	<0.0	87.4	34.9	1068	5.82	2	0.1	0.3	249	<0.1	<0.1	<0.1	200	10.20	0.035
3267061	Rock	1.26	0.3	218.7	0.6	77	0.2	79.4	42.0	1424	7.15	<1	0.2	0.6	365	0.3	<0.1	<0.1	326	5.99	0.050
3267062	Rock	2.27	0.3	49.4	0.7	73	<0.1	140.6	48.3	1339	7.74	<1	0.2	0.5	228	<0.1	<0.1	<0.1	313	7.12	0.044
3267063	Rock	1.99	0.1	175.5	0.7	60	<0.1	427.3	59.4	1301	6.62	<1	<0.1	<0.1	65	<0.1	<0.1	<0.1	228	7.95	0.021
3267064	Rock	1.33	1.2	>10000	16.1	40	186.6	20.1	21.4	355	9.12	<1	<0.1	<0.1	68	5.0	<0.1	<0.1	67	3.13	0.006
3267065	Rock	1.54	0.6	>10000	1.1	112	8.7	94.7	50.5	1 41 8	7.99	<1	0.2	0.6	77	0.8	<0.1	<0.1	328	6.87	0.051
3267066	Rock	1.22	1.8	>10000	8.6	58	114.5	53.9	32.9	779	8.35	<1	0.1	0.3	55	5.1	<0.1	<0.1	193	5.52	0.025
3267067	Rock	2.28	0.4	174.0	0.6	44	<0.1	72.6	36.3	1054	7.11	<1	0.2	0.5	71	<0.1	<0.1	<0.1	280	12.92	0.045
3267068	Rock	1.56	0.8	>10000	7.0	44	66.8	48.3	28.5	849	7.24	<1	0.2	0.4	53	7.1	<0.1	<0.1	237	6.54	0.042
3267069	Rock	0.84	0.4	>10000	1.8	81	4.1	79.8	46.4	1208	8.32	<1	0.2	0.5	95	0.7	<0.1	<0.1	342	8.16	0.055
3267070	Rock	2.39	0.6	>10000	4.0	45	35.9	47.7	28.6	565	7.22	<1	0.1	0.3	26	5.4	<0.1	<0.1	192	9.04	0.027
3267071	Rock	2.28	0.3	206.1	0.7	79	<0.1	94.3	42.6	1398	7.54	<1	0.2	0.5	233	0.1	<0.1	<0.1	312	6.76	0.051
3267101	Rock	6.25	0.3	216.9	0.5	82	<0.1	74.0	46.3	1197	7.77	<1	0.2	0.5	61	<0.1	<0.1	<0.1	326	7.43	0.056
3267102	Rock	2.55	0.3	1070.1	0.9	30	0.2	37.5	30.7	645	6.78	<1	0.2	0.4	36	<0.1	<0.1	<0.1	245	10.53	0.043
3267103	Rock	2.22	0.3	6683.6	0.7	21	1.3	18.9	12.8	4 51	3.45	20	<0.1	0.1	41	0.1	<0.1	<0.1	130	12.25	0.014
3267104	Rock	4.07	0.3	>10000	1.8	16	2.5	19.9	12.2	468	4.80	<1	<0.1	0.2	34	<0.1	<0.1	<0.1	134	16.55	0.018
3267105	Rock	6.28	0.2	8210.2	1.0	22	2.5	17.5	12.1	665	4.15	4	<0.1	0.1	29	0.1	<0.1	<0.1	126	13.87	0.018
3267106	Rock	1.81	2.8	81.7	0.4	20	<0.1	15.5	12.4	296	2.12	2	<0.1	0.1	130	<0.1	<0.1	<0.1	73	34.54	0.018
3267107	Rock	1.00	0.6	>10000	1.9	44	5.1	66.0	33.4	614	6.96	<1	0.1	0.5	15	0.3	<0.1	<0.1	270	9.90	0.040

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	Method	MA 200	MA 200	MA200	MA 200	MA 200	MA 200	MA 200	MA 200	MA 200	MA 200	MA200	MA 200	MA 200	MA 200	MA 200	MA 200	MA 200	MA 200	140.200	MA 200
	Analyte	La	Cr	Ma	Ba	Ti	AI	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb
	Unit	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
	MDL	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
3267056	Rock	5.5	84	2.04	5	0.701	7.95	1.550	0.01	0.1	69.4	13	1.2	17.0	6.6	0.4	<1	28	5.1	0.1	0.2
3267057	Rock	6.1	109	1.52	3	0.553	7.53	0.166	<0.01	0.2	53.8	12	0.6	14.4	5.1	0.3	<1	23	1.1	0.7	0.2
3267058	Rock	5.0	195	3.26	18	0.583	6.26	2.948	0.11	0.2	54.9	11	0.5	14.1	4.9	0.3	<1	29	8.1	1.3	2.3
3267061	Rock	6.2	113	3.80	102	0.840	7.11	3.282	0.29	0.3	79.4	15	0.8	20.4	6.8	0.4	<1	36	7.1	0.4	6.6
3267062	Rock	5.4	338	4.72	105	0.778	7.50	2.182	0.41	0.1	68.2	13	0.7	17.7	6.5	0.4	<1	37	8.8	<0.1	7.7
3267063	Rock	1.3	479	6.53	54	0.379	7.14	0.227	0.25	0.1	28.4	3	0.2	17.1	1.0	<0.1	<1	34	18.7	<0.1	5.5
3267064	Rock	2.0	18	0.87	1	0.129	2.54	0.044	<0.01	<0.1	11.3	4	0.2	4.1	1.0	<0.1	<1	5	2.5	6.2	0.2
3267065	Rock	7.3	135	3.97	5	0.874	7.60	2.079	0.03	0.1	77.0	17	0.9	20.9	7.3	0.5	<1	37	5.0	0.4	0.4
3267066	Rock	4.1	70	2.04	4	0.529	4.65	0.727	<0.01	0.2	45.6	9	0.5	11.7	4.3	0.3	<1	22	3.8	3.8	0.1
3267067	Rock	6.0	184	2.63	17	0.696	6.85	0.589	0.06	0.1	69.2	14	0.6	18.7	6.2	0.4	<1	34	4.6	1.5	1.1
3267068	Rock	6.0	69	1.79	4	0.669	5.07	0.962	<0.01	0.1	69.4	13	0.7	15.5	5.9	0.4	<1	22	2.0	3.8	0.3
3267069	Rock	6.9	138	3.45	4	0.934	7.67	1.589	<0.01	0.1	79.5	16	0.7	19.8	7.6	0.5	<1	37	3.8	0.7	0.1
3267070	Rock	4.5	59	1.38	2	0.476	6.45	0.292	<0.01	0.1	44.7	10	0.6	11.7	4.0	0.2	<1	18	2.3	2.5	<0.1
3267071	Rock	6.1	122	3.88	144	0.847	7.64	2.390	0.43	<0.1	69.5	15	0.8	18.8	6.7	0.4	<1	35	6.8	0.3	7.4
3267101	Rock	7.0	94	3.24	8	0.974	7.89	2.448	0.02	<0.1	88.0	16	0.8	22.1	8.3	0.5	<1	34	5.6	<0.1	0.2
3267102	Rock	8.9	39	1.43	3	0.685	6.92	0.810	<0.01	<0.1	69.4	17	0.7	16.3	6.2	0.4	<1	20	5.6	<0.1	0.1
3267103	Rock	2.0	29	0.74	2	0.252	5.60	0.453	<0.01	<0.1	23.8	5	0.3	6.8	2.1	0.1	<1	9	7.6	<0 .1	0.1
3267104	Rock	3.1	33	0.64	1	0.332	7.46	0.189	<0.01	<0.1	31.3	7	0.4	8.4	2.7	0.2	<1	12	3.3	0.8	0.1
3267105	Rock	3.7	28	0.62	1	0.295	6.98	0.026	<0.01	<0.1	27.4	8	0.4	7.9	2.4	0.1	<1	10	5.5	0.5	0.1
3267106	Rock	2.6	10	0.45	3	0.289	1.44	0.491	0.02	0.1	26.7	6	<0.1	8.2	2.4	0.1	<1	8	2.4	0.7	0.3
3267107	Rock	6.1	115	1.49	2	0.700	5.92	0.021	<0.01	0.1	70.1	14	0.5	18.1	6.2	0.4	<1	30	5.9	0.8	0.3

			Client:	Longford Explor 460-688 West Hastings St Vancouver British Columb	ation Services Ltd ia V6B 1P1 Canada	
BUREAU VERITAS	MINERAL LABORATORIES Canada	www.bureauveritas.com/um	Project:	Bakar		
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	Method	MA200	MA200	MA200	MA200	MA200	MA200	GC820
	Analyte	Hf	In	Re	Se	Те	ті	Cu
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.1	0.05	0.005	1	0.5	0.5	1
3267056 Rock		1.9	0.05	< 0.005	1	<0.5	<0.5	
3267057 Rock		1.4	0.05	< 0.005	1	1.4	<0.5	
3267058 Rock		1.5	0.07	< 0.005	<1	1.4	<0.5	
3267061 Rock		2.1	0.05	< 0.005	<1	1.1	<0.5	
3267062 Rock		1.9	0.06	< 0.005	<1	0.8	<0.5	
3267063 Rock		0.8	<0.05	< 0.005	<1	1.1	<0.5	
3267064 Rock		0.3	<0.05	0.604	4	<0.5	<0.5	41.56
3267065 Rock		2.3	0.06	<0.005	<1	0.6	<0.5	1.96
3267066 Rock		1.3	<0.05	0.018	3	<0.5	<0.5	21.58
3267067 Rock		1.9	0.06	< 0.005	<1	1.4	<0.5	
3267068 Rock		1.8	0.08	< 0.005	4	<0.5	<0.5	24.52
3267069 Rock		2.4	0.09	< 0.005	3	0.6	<0.5	2.08
3267070 Rock		1.2	<0.05	0.008	5	<0.5	<0.5	14.66
3267071 Rock		2.1	0.05	< 0.005	<1	1.4	<0.5	
3267101 Rock		2.4	0.09	< 0.005	<1	<0.5	<0.5	
3267102 Rock		1.9	0.06	< 0.005	<1	0.8	<0.5	
3267103 Rock		0.6	<0.05	< 0.005	<1	0.8	<0.5	
3267104 Rock		0.8	<0.05	0.007	1	1.4	<0.5	1.50
3267105 Rock		0.7	<0.05	< 0.005	2	0.8	<0.5	
3267106 Rock		0.7	<0.05	< 0.005	1	2.9	<0.5	
3267107 Rock		1.9	0.07	<0.005	<1	0.8	<0.5	5.86

												Clien	t:	Lon 460-6 Vance	gford 88 West I ouver Briti	Explo Hastings ish Colur	St. Nbia V6B	1 Serv 1P1 Can	i ces L ada	td.	
BUREAU MINERA VERITAS Canada	L LABORATOR	IES		www	.bureau	veritas	s.com/u	m				Projec	t:	Bakar							
ounduu												Repor	Date:	June	3. 2019						
Bureau Veritas Commoo	dities Canada Lt	d.																			
9050 Shaughnessy St N PHONE (604) 253-3158	/ancouver Britis	h Colum	bia V6I	P 6E5 €	Canada							Page:		1 of 1					Par	t: 1 o	f3
QUALITY CO	NTROL	REF	OR	Т												VA	N19	001	116	1	
	Method	WGHT	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	Wgt	Мо	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	v	Ca	F
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001
Pulp Duplicates																					
3267064	Rock	1.33	1.2	>10000	16.1	40	186.6	20.1	21.4	355	9.12	<1	<0.1	<0.1	68	5.0	<0.1	<0.1	67	3.13	0.006
REP 3267064	QC																				
3267070	Rock	2.39	0.6	>10000	4.0	45	35.9	47.7	28.6	565	7.22	<1	0.1	0.3	26	5.4	<0.1	<0.1	192	9.04	0.027
REP 3267070	QC																			-	
3267107	Rock	1.00	0.6	>10000	1.9	44	5.1	66.0	33.4	614	6.96	<1	0.1	0.5	15	0.3	<0.1	<0.1	270	9.90	0.040
REP 3267107	QC		0.5	>10000	1.9	46	5.0	67.4	32.8	621	6.91	<1	0.1	0.5	14	0.6	<0.1	<0.1	268	9.87	0.039
Reference Materials																					
STD CCU-1E	Standard																				
STD CCU-1E	Standard																				
STD CCU-1E	Standard																				
STD CCU-1E	Standard																			-	
STD OREAS25A-4A	Standard		2.3	40.2	24.8	39	<0.1	45.8	7.8	465	6.56	10	2.8	15.4	48	<0.1	0.5	0.3	154	0.29	0.047
STD OREAS45E	Standard		2.2	789.3	18.6	47	0.3	473.7	59.0	545	24.11	15	2.5	13.3	16	<0.1	1.0	0.2	327	0.06	0.036
STD OREAS25A-4A Expected			2.41	33.9	25.2	44.4		45.8	7.7	480	6.6	9.94	2.94	15.8	48.5		0.65	0.37	157	0.301	0.048
STD OREAS45E Expected			2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065	0.034
STD CCU-1E Expected																					
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001
Prep Wash																		-	-	-	
ROCK-VAN	Prep Blank		1.3	6.2	2.7	42	<0.1	2.6	4.6	717	2.22	<1	1.1	4.8	198	<0.1	<0.1	0.2	37	1.50	0.042
ROCK-VAN	Prep Blank		1.0	4.5	2.5	37	<0.1	1.5	4.3	680	2.12	1	1.2	2.9	189	<0.1	0.1	<0.1	36	1.45	0.042

												Clien	t:	Lon 460-6 Vanco	gford 88 West I ouver Briti	Explo Hastings ish Colun	St. Nbia V6B	1 Serv 1P1 Can	i ces L i ada	td.	
BUREAU MINERA VERITAS Canada	L LABORATOR	IES		www	.bureau	veritas	s.com/u	m				Projec	t:	Bakar							
Odifidida												Report	Date:	June (3 2019						
Bureau Veritas Commo	dities Canada Lt	d.												oune	30, 2010						
9050 Shaughnessy St PHONE (604) 253-3158	Vancouver Britis	h Colum	bia V6I	P 6E5 C	Canada							Page:		1 of 1					Par	:: 2 o	f 3
QUALITY CO	ONTROL	REF	POR	Т												VA	N19	001	116.	1	
	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
	Analyte	La	Cr	Mg	Ва	Ti	AI	Na	ĸ	w	Zr	Ce	Sn	Y	Nb	Та	Be	Sc	Li	s	RI
	Unit	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppn
	MDL	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
Pulp Duplicates																					
3267064	Rock	2.0	18	0.87	1	0.129	2.54	0.044	<0.01	<0.1	11.3	4	0.2	4.1	1.0	<0.1	<1	5	2.5	6.2	0.2
REP 3267064	QC																				
3267070	Rock	4.5	59	1.38	2	0.476	6.45	0.292	<0.01	0.1	44.7	10	0.6	11.7	4.0	0.2	<1	18	2.3	2.5	<0.1
REP 3267070	QC																				
3267107	Rock	6.1	115	1.49	2	0.700	5.92	0.021	<0.01	0.1	70.1	14	0.5	18.1	6.2	0.4	<1	30	5.9	0.8	0.3
REP 3267107	QC	6.0	114	1.48	2	0.695	5.84	0.021	<0.01	0.1	66.0	14	0.4	17.1	6.0	0.4	<1	29	5.8	0.8	0.3
Reference Materials																					
STD CCU-1E	Standard																				
STD CCU-1E	Standard																				
STD CCU-1E	Standard																				
STD CCU-1E	Standard																				
STD OREAS25A-4A	Standard	21.8	113	0.33	148	0.919	9.42	0.132	0.50	1.9	154.3	46	3.8	10.4	19.7	1.3	<1	12	38.9	<0.1	61.4
STD OREAS45E	Standard	11.7	999	0.15	251	0.541	7.25	0.055	0.35	0.9	97.3	24	1.2	7.8	6.1	0.5	<1	87	7.7	<0.1	21.7
STD OREAS25A-4A Expected		21.8	115	0.327	147	0.93	8.87	0.131	0.482	2	155	47.3	4.06	10.5	20.9	1.4	0.93	13.7	36.7	0.047	6
STD OREAS45E Expected		11	979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046	21.2
STD CCU-1E Expected																					
BLK	Blank	<0.1	<1	<0.01	<1	< 0.001	<0.01	0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1
Prep Wash																					
ROCK-VAN	Prep Blank	11.6	5	0.61	764	0.214	6.62	3.356	1.50	0.3	56.4	22	0.9	15.9	6.0	0.4	<1	7	1.8	<0.1	26.3
ROCK-VAN	Prep Blank	11.7	4	0.59	772	0.205	6.82	3.244	1.60	0.3	52.7	22	0.8	15.0	5.4	0.4	<1	7	2.2	<0.1	26.1

			Client:	Longford Explo 460-688 West Hastings Vancouver British Colum	o ration Services I St. nbia V6B 1P1 Canada	.td.	
BUREAU VERITAS	MINERAL LABORATORIES	www.bureauveritas.com/um	Project: Report Date:	Bakar June 03, 2019			
Bureau Veritas	s Commodities Canada Ltd.						
9050 Shaughr	essy St Vancouver British Colum	bia V6P 6E5 Canada					
PHONE (604)	253-3158		Page:	1 of 1	Pa	rt:	3 of 3
QUALI	TY CONTROL REP	PORT		VA	N19001116	.1	
	Method MA 200						

	Method	MA200	MA200	MA200	MA200	MA200	MA200	GC820
	Analyte	Hf	In	Re	Se	Te	ті	Cu
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.1	0.05	0.005	1	0.5	0.5	1
Pulp Duplicates								
3267064	Rock	0.3	<0.05	0.604	4	<0.5	<0.5	41.56
REP 3267064	QC							41.85
3267070	Rock	1.2	<0.05	0.008	5	<0.5	<0.5	14.66
REP 3267070	QC							14.76
3267107	Rock	1.9	0.07	<0.005	<1	0.8	<0.5	5.86
REP 3267107	QC	1.9	0.08	< 0.005	<1	<0.5	<0.5	
Reference Materials								
STD CCU-1E	Standard							22.80
STD CCU-1E	Standard							22.93
STD CCU-1E	Standard							22.74
STD CCU-1E	Standard							22.93
STD OREAS25A-4A	Standard	4.1	0.09	<0.005	2	<0.5	<0.5	
STD OREAS45E	Standard	2.9	0.12	<0.005	2	<0.5	<0.5	
STD OREAS25A-4A Expected		4.14	0.09		2.4		0.35	
STD OREAS45E Expected		3.11	0.099		2.97	0.1	0.15	
STD CCU-1E Expected								23.07
BLK	Blank	<0.1	<0.05	<0.005	<1	<0.5	<0.5	
Prep Wash								
ROCK-VAN	Prep Blank	1.8	<0.05	<0.005	<1	<0.5	<0.5	
ROCK-VAN	Prep Blank	1.7	<0.05	<0.005	<1	<0.5	<0.5	

APPENDIX C: 2019 Stream Sediment Sample Analytical Certificates



www.bureauveritas.com/um

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

CERTIFICATE OF ANALYSIS

Bakar

3

Client:

Longford Exploration Services Ltd. 460-688 West Hastings St. Vancouver British Columbia V6B 1P1 Canada

Submitted By:	James Rogers
Receiving Lab:	Canada-Vancouver
Received:	May 16, 2019
Report Date:	June 05, 2019
Page:	1 of 2

VAN19001117.1

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	3	Dry at 60C			VAN
SS80	3	Dry at 60C sieve 100g to -80 mesh			VAN
SVRJT	3	Save all or part of Soil Reject			VAN
AQ252	3	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	30	Completed	VAN

SAMPLE DISPOSAL

Project:

Shipment ID: P.O. Number

Number of Samples:

 PICKUP-PLP
 Client to Pickup Pulps

 PICKUP-RJT
 Client to Pickup Rejects

CLIENT JOB INFORMATION

ADDITIONAL COMMENTS

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

Invoice To: Longford Exploration Services Ltd. 460-688 West Hastings St. Vancouver British Columbia V6B 1P1 Canada

CC: Trent Potts Matt Krukowski



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client Bureau Ventas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. ** asterias, indicates that an analytical result could not be rowided use to unusually high levels of interference from other elements. 0.53 148.75 1.90 72.8 45 91.2 37.2 1244 6.87 1.8 0.3 6.8 1.0 31.3 0.15 0.08 0.03 220 2.60 0.048

(Clier	ıt:	Lor 460-6 Vanc	n gford 888 West couver Bri	I Expl t Hastings itish Colu	oratio s St. umbia V6I	n Serv B 1P1 Ca	vices l mada	Ltd.	
B V	U R E A U E R I T A S	MINERAL LABORATOR	IES		www	bureau	uverita	s.com/ı	um				Projec	pt:	Baka	ır						
Bu	reau Veritas	Commodities Canada Lte	d.										Repor	t Date:	June	05, 2019	3					
90	50 Shaughn	essy St Vancouver Britis!	h Colum	ıbia V6	P 6E5 (Canada																
PH	IONE (604) 2	253-3158											Page:		2 of 2	2				Pr	art: 1	of 2
					-											-			000			
C	ERTIF	ICATE OF AN	ALY	SIS													VA	AN 18	9001	117	.1	
		Method	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	v	Ca	Р
		Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
_		MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3	3267059	Stream	0.70	208.64	3.22	74.9	51	64.9	54.6	1947	10.12	0.6	0.5	9.2	3.4	15.2	0.11	0.04	0.11	324	1.65	0.036
3	3267060	Stream	0.39	150.37	1.42	55.4	55	71.6	29.2	946	5.24	1.5	0.3	6.8	0.9	36.3	0.08	0.03	0.03	188	2.19	0.059
3	3267072	Stream	0.53	148.75	1.90	72.8	45	91.2	37.2	1244	6.87	1.8	0.3	6.8	1.0	31.3	0.15	0.08	0.03	220	2.60	0.048

Stream

Stream

5.6 63.7

5.5 78.2

1.44

28.6 0.457

1.86 23.4 0.458

10

3267060

3267072

												Clier	nt:	Loi 4604 Vanc	n gforc 688 West couver Br	d Expl t Hastings ritish Colu	oratio s St. Imbia V68	n Ser v B 1P1 Ca	vices Ltd	l.
BUREAU VERITAS	MINERAL LABORATOR Canada	IES		www	.burea	uverita	s.com/u	um				Projec	et:	Baka	ar					
Bureau Verita	s Commodities Canada Lt	d.										Repo	t Date:	June	05, 2019	9				
9050 Shaughr	nessy St Vancouver Britis	h Colurr	nbia V6	P 6E5 (Canada															
PHONE (604)	253-3158											Page:		2 of 2	2				Part:	2 of 2
CERTI	FICATE OF AN	IALY	′SIS													VA	AN19	9001	1117.1	
	Method	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252		
	Analyte	La	Cr	Mg	Ва	Ti	в	AI	Na	к	w	Sc	ті	S	Hg	Se	Те	Ga		
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm		
	MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1		
3267059	Stream	4.5	134.9	1.26	12.3	0.647	67	5.19	<0.001	0.02	<0.1	18.7	0.05	0.07	509	1.3	<0.02	21.0		

3.95 0.033

10 4.33 0.012 0.02

0.02

<0.1

17.2

<0.1 21.3 0.08 <0.02

0.03 <0.02

234

300

0.5 <0.02

0.3 <0.02

11.8

14.5

												Clien	t:	Lon 460-6 Vanco	gford 88 West I ouver Brit	Explo Hastings ish Colun	o ration St. nbia V6B	1 Serv 1P1 Can	i ces L t _{ada}	td.	
BUREAU VERITAS Ca	INERAL LABORATOR anada	IES		www	.bureau	iveritas	.com/u	m				Project		Bakar							
Bureau Veritas Co 9050 Shaughness PHONE (604) 253	ommodities Canada Lte sy St_Vancouver Britisl 3-3158	d. h Colum	ibia V6F	P 6E5 C	Canada							Кероп	Date:	June (05, 2019						
FIIONE (004) 230	5-5150											Page:		1 of 1					Part	: 1 of	2
QUALITY	CONTROL	REF	POR	Т												VA	N19	001	117.	1	
	Method	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	v	Ca	F
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
Pulp Duplicates																					
3267072	Stream Sedim	0.53	148.75	1.90	72.8	45	91.2	37.2	1244	6.87	1.8	0.3	6.8	1.0	31.3	0.15	0.08	0.03	220	2.60	0.048
REP 3267072	QC	0.54	148.93	1.98	75.3	45	93.3	37.6	1236	6.83	1.5	0.3	7.3	0.8	31.7	0.15	0.06	<0.02	222	2.65	0.047
Reference Materials	s																				
STD DS11	Standard	14.42	149.30	134.21	341.0	1734	77.3	13.6	994	3.06	44.2	2.5	81.0	8.4	65.7	2.36	8.34	11.70	45	1.03	0.074
STD OREAS262	Standard	0.66	114.51	54.68	152.3	464	61.7	27.1	536	3.24	37.1	1.2	66.3	9.5	34.6	0.62	4.55	1.02	21	2.92	0.044
STD DS11 Expecte	ed	14.6	149	138	345	1710	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701
STD OREAS262 Expecte	d	0.68	118	56	154	450	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04
BLK	Blank	< 0.01	0.06	0.03	0.2	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	< 0.01	< 0.02	< 0.02	<1	< 0.01	< 0.001

<0.5

Blank

0.5 <0.01

BLK

												Clien	t:	Lon 460-6 Vanco	gford 88 West I ouver Brit	Explo Hastings ish Colun	ration St. nbia V6B	Serv	i ces Ltd . ada	1
BUREAU VERITAS	MINERAL LABORATO	RIES		www	.bureau	iveritas	.com/u	m				Project Report	: Date:	Bakar	15 2010					
Bureau Verit	tas Commodities Canada I	.td.												June	35, 2013					
9050 Shaug	hnessy St Vancouver Briti	sh Colum	ibia V6F	9 6E5 C	Canada															
PHONE (604	4) 253-3158											Page:		1 of 1					Part:	2 of 2
QUAL	ITY CONTROL	. REF	POR	Т												VA	N19	001	117.1	
	Metho	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252	AQ252		
	Metho Analyte	AQ252	AQ252 Cr	AQ252 Mg	AQ252 Ba	AQ252 Ti	AQ252 B	AQ252 Al	AQ252 Na	AQ252 K	AQ252 W	AQ252 Sc	AQ252 Ti	AQ252 S	AQ252 Hg	AQ252 Se	AQ252 Te	AQ252 Ga		
	Metho Analytı Uni	l AQ252 b La t ppm	AQ252 Cr ppm	AQ252 Mg %	AQ252 Ba ppm	AQ252 Ti %	AQ252 B ppm	AQ252 Al %	AQ252 Na %	AQ252 K %	AQ252 W ppm	AQ252 Sc ppm	AQ252 Ti ppm	AQ252 S %	AQ252 Hg ppb	AQ252 Se ppm	AQ252 Te ppm	AQ252 Ga ppm		
	Metho Analyt Uni MDI	AQ252 La t ppm 0.5	AQ252 Cr ppm 0.5	AQ252 Mg % 0.01	AQ252 Ba ppm 0.5	AQ252 Ti % 0.001	AQ252 B ppm 1	AQ252 Al % 0.01	AQ252 Na % 0.001	AQ252 K % 0.01	AQ252 W ppm 0.1	AQ252 Sc ppm 0.1	AQ252 Ti ppm 0.02	AQ252 S % 0.02	AQ252 Hg ppb 5	AQ252 Se ppm 0.1	AQ252 Te ppm 0.02	AQ252 Ga ppm 0.1		
Pulp Duplica	Methor Analyt Uni MDi	l AQ252 E La t ppm . 0.5	AQ252 Cr ppm 0.5	AQ252 Mg % 0.01	AQ252 Ba ppm 0.5	AQ252 Ti % 0.001	AQ252 B ppm 1	AQ252 Al % 0.01	AQ252 Na % 0.001	AQ252 K % 0.01	AQ252 W ppm 0.1	AQ252 Sc ppm 0.1	AQ252 Ti ppm 0.02	AQ252 S % 0.02	AQ252 Hg ppb 5	AQ252 Se ppm 0.1	AQ252 Te ppm 0.02	AQ252 Ga ppm 0.1		
Pulp Duplica 3267072	Methor Analyt Uni MDI ttes Stream Sedi	AQ252 La t ppm 0.5	AQ252 Cr ppm 0.5 78.2	AQ252 Mg % 0.01	AQ252 Ba ppm 0.5 23.4	AQ252 Ti % 0.001	AQ252 B ppm 1	AQ252 Al % 0.01 4.33	AQ252 Na % 0.001	AQ252 K % 0.01	AQ252 W ppm 0.1	AQ252 Sc ppm 0.1 21.3	AQ252 Ti ppm 0.02	AQ252 S % 0.02 <0.02	AQ252 Hg ppb 5 300	AQ252 Se ppm 0.1	AQ252 Te ppm 0.02 <0.02	AQ252 Ga ppm 0.1 14.5		
Pulp Duplica 3267072 REP 326707	Metho Analyt Uni MD ttes Stream Sedi 72 QC	AQ252 La t ppm 0.5 m 5.5 5.7	AQ252 Cr ppm 0.5 78.2 80.1	AQ252 Mg % 0.01 1.86 1.85	AQ252 Ba ppm 0.5 23.4 23.0	AQ252 Ti % 0.001 0.458 0.455	AQ252 B ppm 1 10	AQ252 Al % 0.01 4.33 4.32	AQ252 Na % 0.001 0.012 0.012	AQ252 K % 0.01 0.02 0.03	AQ252 W ppm 0.1 <0.1 <0.1	AQ252 Sc ppm 0.1 21.3 21.5	AQ252 TI ppm 0.02 0.08 0.07	AQ252 S % 0.02 <0.02 <0.02	AQ252 Hg ppb 5 300 378	AQ252 Se ppm 0.1 0.3 0.3	AQ252 Te ppm 0.02 <0.02 <0.02	AQ252 Ga ppm 0.1 14.5 14.9		
Pulp Duplica 3267072 REP 326707 Reference M	Metho Analyt Uni MD ttes Stream Sedi 72 QC faterials	AQ252 La t ppm . 0.5 m 5.5 5.7	AQ252 Cr ppm 0.5 78.2 80.1	AQ252 Mg % 0.01 1.86 1.85	AQ252 Ba ppm 0.5 23.4 23.0	AQ252 Ti % 0.001 0.458 0.455	AQ252 B ppm 1 10 10	AQ252 Al % 0.01 4.33 4.32	AQ252 Na % 0.001 0.012 0.012	AQ252 K % 0.01 0.02 0.03	AQ252 W ppm 0.1 <0.1 <0.1	AQ252 Sc ppm 0.1 21.3 21.5	AQ252 TI ppm 0.02 0.08 0.07	AQ252 S % 0.02 <0.02 <0.02	AQ252 Hg ppb 5 300 378	AQ252 Se ppm 0.1 0.3 0.3	AQ252 Te ppm 0.02 <0.02 <0.02	AQ252 Ga ppm 0.1 14.5 14.9		
Pulp Duplica 3267072 REP 326707 Reference M STD DS11	Methor Analytu Uni MDI ites Stream Sedi 72 QC faterials Standard	AQ252 AQ252 La ppm 0.5	AQ252 Cr ppm 0.5 78.2 80.1	AQ252 Mg % 0.01 1.86 1.85 0.82	AQ252 Ba ppm 0.5 23.4 23.0 367.9	AQ252 Ti % 0.001 0.458 0.455	AQ252 B ppm 1 10 10 7	AQ252 Al % 0.01 4.33 4.32 1.14	AQ252 Na % 0.001 0.012 0.012 0.012	AQ252 K % 0.01 0.02 0.03 0.40	AQ252 W ppm 0.1 <0.1 <0.1 <0.1	AQ252 Sc ppm 0.1 21.3 21.5 	AQ252 Tl ppm 0.02 0.08 0.07 4.85	AQ252 S % 0.02 <0.02 <0.02	AQ252 Hg ppb 5 300 378 267	AQ252 Se ppm 0.1 0.3 0.3 0.3	AQ252 Te ppm 0.02 <0.02 <0.02 4.72	AQ252 Ga ppm 0.1 14.5 14.9 5.0		
Pulp Duplica 3267072 REP 326707 Reference M STD DS11 STD OREAS	Methor Analyt Uni ites 2 QC 72 QC Iaterials 51andard 5262 Standard	AQ252 AQ252 La ppm 0.5 m 5.5 5.7 17.7 15.5	AQ252 Cr ppm 0.5 78.2 80.1 59.2 43.5	AQ252 Mg % 0.01 1.86 1.85 0.82 1.16	AQ252 Ba ppm 0.5 23.4 23.0 367.9 249.4	AQ252 Ti % 0.001 0.458 0.455 0.084 0.003	AQ252 B ppm 1 10 10 10 7 7	AQ252 Al % 0.01 4.33 4.32 1.14 1.31	AQ252 Na % 0.001 0.012 0.012 0.012 0.070 0.070	AQ252 K % 0.01 0.02 0.03 0.40 0.30	AQ252 W ppm 0.1 <0.1 <0.1 <0.1 	AQ252 Sc ppm 0.1 21.3 21.5 3.3 3.3 3.4	AQ252 TI ppm 0.02 0.08 0.07 4.85 0.46	AQ252 S % 0.02 <0.02 <0.02 <0.02	AQ252 Hg ppb 5 300 378 267 167	AQ252 Se ppm 0.1 0.3 0.3 0.3 2.3 0.4	AQ252 Te ppm 0.02 <0.02 <0.02	AQ252 Ga ppm 0.1 14.5 14.9 5.0 4.2		
Pulp Duplica 3267072 REP 326707 Reference M STD DS11 STD OREAS STD DS11 E	Method Analyt Uni MDI ites 51ream Sedi 72 QC Ataterials 51andard 5262 Standard 5262 Standard	AQ252 AQ252 La ppm 0.5 m 5.5 5.7 17.7 17.7 15.5 18.6	AQ252 Cr ppm 0.5 78.2 80.1 59.2 43.5 61.5	AQ252 Mg % 0.01 1.86 1.85 0.82 1.16 0.85	AQ252 Ba ppm 0.5 23.4 23.0 367.9 249.4 385	AQ252 Ti % 0.001 0.458 0.455 0.455 0.084 0.003 0.0976	AQ252 B ppm 1 10 10 7 7 4	AQ252 Al % 0.01 4.33 4.32 1.14 1.31 1.1795	AQ252 Na % 0.001 0.012 0.012 0.070 0.070 0.066 0.0762	AQ252 K % 0.01 0.02 0.02 0.02 0.03 0.03	AQ252 W ppm 0.1 <0.1 <0.1 3.1 0.2 2.9	AQ252 Sc ppm 0.1 21.3 21.5 3.3 3.4 3.4 3.4	AQ252 TI ppm 0.02 0.08 0.07 4.85 0.46 4.9	AQ252 S % 0.02 <0.02 <0.02 0.26 0.25 0.2835	AQ252 Hg ppb 5 300 378 	AQ252 Se ppm 0.1 0.3 0.3 2.3 0.4 2.2	AQ252 Te ppm 0.02 <0.02 <0.02 <0.02 4.72 0.22 4.56	AQ252 Ga ppm 0.1 14.5 14.9 5.0 4.2 5.1		

<1 <0.01 <0.001 <0.01

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This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

<0.5 <0.001