NI 43-101 TECHNICAL REPORT

on the

# **Gold Cutter Project**

Central British Columbia **Latitude:** 51° 15' 0"**N, Longitude:** 120° 15' 25" **W** UTM Zone 10: 691500 E, 5681000 N, NAD83 NTS 92P/01, 08

for

# Silverstock Metals Inc.

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by

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#### Frontispiece

A meter wide quartz vein at the Central Zone showing in leucocratic syenite/quartz monzonite in the Gold Cutter Property. A quartz vein check sample collected by the author assayed 3.96 g/t Au and 39.8 g/t Ag. The author's backpack is at the far end of the outcrop. Rock chunks wrapped in orange flagging tape in the foreground hold sample tags. Photo by the author October 8, 2020

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# 1.0 Summary

The Gold Cutter Property (the "Gold Cutter Property" or the "Property") is located about 85 kilometers ('km") north of Kamloops in south central British Columbia. It constitutes 2 contiguous mineral claims with details shown in Table 1 and amounting to 3118.7 hectares in the British Columbia Mineral Title Online cell system which lists Ronald John Bilquist as the sole (100%) owner of each. The center of the Property is at latitude: 51° 15' 0"North, Longitude: 120° 15' 25" West; UTM Zone 10: 691500 E, 5681000 N, NAD83 datum in the NAD83 coordinate reference system. The Property is located on 1:50,000 scale map sheets NTS 92P/01 and 92P 08. The Property is the subject of a Property option agreement between Silverstock Metals Inc. ("Silverstock" or the "Optionee") and Ronald Bilquist (the "Vendors") dated 2nd day of September, 2020 (the "Property Option Agreement"). This technical report is written for the purpose of supporting an Initial Public Offering ("IPO") by Silverstock.

A one-week field exploration program was undertaken on behalf of Silverstock on the Gold Cutter property from October 4<sup>th</sup> to October 10<sup>th</sup>, 2020 based out of Barriere, British Columbia. The field crew consisted of Ron Bilquist, property owner and prospector; Daniel Gabriel, geologist; Eric Lantin, prospector; and Dr. Katarina Bjorkman, geologist and project coordinator. The author visited the Property on October 7th and 8th to review the field work methods, collect check samples, and make geological observations. The Gold Cutter Property contains Au - Ag ±Mo mineralization in quartz veins cutting syenite. Previous regional mapping and prospecting programs outlined a Mesozoic syenite body intruding into sediments and volcanic rocks of the Paleozoic to Mesozoic Harper Ranch Group.

The main historical work on the Property was done by the Property owner, Ron Bilquist since 2003 and includes numerous assay of mineralized samples from float and outcrop, and petrographic descriptions of important rock types. The goals of the 2020 Silverstock field program were to (i) verify and characterize the known mineralized zones, (ii) provide a regional geological picture of the property, and (iii) explore for additional mineralization. A UAV / drone magnetometer survey was completed under contract by Pioneer Exploration Consultants Ltd in early October, 2020.

Vein mineralization with significant grades of gold and silver are characterized by white, multi-layered quartz veins containing disseminated pyrite, galena, and lesser chalcopyrite. Galena appears to be a necessary mineral in the unknown assemblage that hosts gold in the veins. Veins occur mainly in a quartz monzonite /syenite that is alkali feldspar porphyritic and displays a crowded texture. Granodiorite dykes cut the syenites, but there is uncertainty if the two rock types are related to the same parental magma or if the granodiorite is much younger than the syenite.

Recommended exploration work includes surficial geology and till sampling to determine the source of the many mineralized, angular boulders. Additional petrographic and lithogeochemical work is warranted to determine the affinity of the igneous rocks and the relationship between mineralized veins and the host rock syenites. A budget of \$106,597.50 is recommended for geological mapping, till and rock sampling and petrographic and geochemical studies.

# 2.0 Introduction

The Gold Cutter Property is a mineral claim group located in south central British Columbia west of the North Thompson River near the town of Barriere (Fig. 2).

The Gold Cutter Property is subject to a Property Option Agreement, dated September 2, 2020, between Ronald John Bilquist, the vendor, and Silverstock Metals Inc., ("Silverstock") the optionee, whereby Silverstock can acquire 100% of the interest in and to certain mineral claims comprising the Property. The author was retained by Silverstock to prepare a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* and National Instrument Form 43-101 F1 Technical Report ("NI 43-101" and "Form NI 43-101 F1", respectively) compliant Technical Report on the Gold Cutter Property (the "Technical Report" or the "Report"). The Report is being prepared in connection with Silverstock's initial public offering on the Canadian Securities Exchange.

Ronald John Bilquist is the sole owner of the Gold Cutter mineral claims north of Kamloops, British Columbia in the Kamloops Mining Division. The author is an independent qualified person as defined in Section 1.5 of NI 43-101. This Report has been prepared in the form and content specified in Form NI 43-101 F1.

The author has relied on a personal field inspection of the Property and a variety of information sources available in the public domain and from Silverstock's exploration programs

#### Figure 1: A minor vein occurrence in syenite on the Gold Cutter Property,

A low grade check sample was extracted by the author from the cavity behind the hammer head near the main Central Zone showing. A 1 cm wide, barren quartz vein runs along the edge of a crack in the face above the hammer. Assay: Au 0.053 g/t; Ag 0.7 g/t. Photo by the author October 8, 2020.



in preparation of this Report. Regional geological information was sourced from British Columbia Geological Survey reports (e.g. Campbell and Tipper, 1971) and maps available from government websites (Mapplace.ca), presentation at academic meetings, as well as papers published in refereed international journals. Information was also obtained from the web-based British Columbia government website "Mineral Titles Online" for claim information. Historical information was gathered from the assessment reports on file in the British Columbia Assessment Report Information System (ARIS) describing exploration on the Property and on adjacent properties since about 1980. The author has referred to the work of various geological experts in the preparation of this Report who are authors of geological papers and maps on the region where the Property is situated. While it is not always easy to verify early results or to make representations regarding their accuracy or applicability, based on a review of this work and knowledge of the people and companies involved, the author believes this earlier work was carried out to high industry standards of the time. The author has also relied on the work of various other sub-contractors including ALS Global Laboratories for analysis of check samples.

In order to prepare this report, the author personally visited and examined the Gold Cutter Property on October 7th and 8th, 2020 to investigate the geology of the Property. The author made personal inspection of Minfile showings (the Gold Cutter) and many outcrops in the vicinity of known mineralization on the Property and in the local area to observe and understand the relevant geology of the area. The author collected 4 mineralized rock samples from showings to compare with results from current exploration on behalf of Silverstock. Coordinates referred to in the Report are in the North American Datum of 1983 ("NAD 83") or WGS 84 and in UTM Zone 10. The author believes the information in this Technical Report remains accurate and is unaware of any material change in the scientific and technical information prior to the filing date. The author reserves the right to review public releases by Silverstock that quote this Report and the work of the author.

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#### Table 1: Abbreviations

Measurement Units, Element Abbreviations and Acronyms used in this report.:

Measurement Units:		Minerals:	
С	Celsius	bn	bornite
cm	centimeter	СС	chalcocite
g/t	g/t	сру	chalcopyrite
ha	hectares	ро	pyrrhotite
Hz	Hertz	ру	pyrite
km	kilometer	sp	sphalerite
kg	kilogram		
m	meter	Geological 7	<b>Ferms</b>
mm	millimeter	Fm	Formation
Ma	Million years ago	Gp	Group
Mt	Million tonnes	SW	southwest
ppb	parts per billion	NW	northwest
ppm	parts per million		
t	tonnes	Acronyms:	
wt%	weight percent	AES	Atomic Emission Spectroscopy
		ARIS	British Columbia Assessment Report Index
Element Abl	previations:		System
Ag	Silver	BCGSB	B.C. Geological Survey Branch
As	Arsenic	EM	Electromagnetic
Au	Gold	FA	Fire Assay
Cd	Cadmium	GIS	Geographic Information System
Ce	Cerium	GPS	Geographic Positioning System
Cu	Copper	ICP	Induction Coupled Plasma
Eu	Europium	Mag	Magnetometer
La	Lanthanum	MEMPR	Ministry of Energy Mines and Petroleum
Мо	Molybdenum	NTO	Resources
Mn	Manganese		
Pb	Lead	QA	
Sb	Antimony		Quality Control
Yb	Ytterbium	REE	
Zn	Zinc		Total Magnetia Intensity
			Iniversal Transverse Merector

# **3.0 Reliance On Other Experts**

In the matter of Property ownership, the author is not relying on a report or opinion of any experts.

# 4.0 Property Description and Location

The Gold Cutter Property is located about 85 km north of Kamloops, British Columbia (Fig. 2) in the Omineca Mining Division straddling NTS 1:50,000 topographic maps sheets 93N/01 and 02 in UTM Zone 10. It constitutes two (2) mineral claims numbered in Table 2 and amounting to 1821.1 hectares in the British Columbia Mineral Title Online cell system which lists Ronald Bilquist as sole owner of each. The center of the Property is at latitude: 55° 13' 3"N, Longitude 124° 31' 14" W, or in UTM Zone 10 coordinates at 403256 E, 6120055 N, in the NAD83 datum.



**Figure 2: Location of the Gold Cutter Property in south central British Columbia.** Map drawn in ArcGIS by the author using National Geographic Topographic base map and current Mineral Titles files for October 20, 2020.

The claims establish subsurface rights to the owner for minerals (base and precious metals) as outlined in the *Mineral Tenure Act* of British Columbia (the "*Mineral Tenure Act*"). The Claims that comprise the Gold Cutter Project are listed in the British Columbia Mineral Titles On-line system (http://www.mtonline.gov.bc.ca/), the boundaries of which are predetermined by geographically defined cells conforming to a provincial mineral titles grid

Tenure No.	CLAIM_NAME #	Issue Date	Good To	Hectares	Client No.	Owner
1078704	GOLD CUTTER 02	Sept 16, 2020	Sept 16, 2021	1497.4	102389	BILQUIST, RONALD JOHN
612004	GOLD CUTTER	July 26, 2009	July 15, 2021	323.7	102389	BILQUIST, RONALD JOHN

 Table 2: Gold Cutter Property claim group as of October 15, 2020.

system. Neither the claims nor the Property boundary have been surveyed or marked on the ground, nor is this required for resolution of Property issues. The claim boundaries are shown on a location map in Figure 4 and a physiographic map in Figure 5.

Retention of the Property requires filing Statements of Work with the British Columbia Mineral Titles System reflecting expenditures on qualifying exploration and development work. On the basis of the *Mineral Tenure Act* the required work must amount to a minimum of \$5/ ha/year for the first 2 years the claims are held, and then \$10/ha/year for the next 2 years, \$15/ha/year for the next 2 years and finally \$20/ha/year for each subsequent year. Technical reports (assessment reports) must be filed and accepted after review by the British Columbia Ministry of Mines describing the applicable work with cost statements justifying the exploration expenditures.

For advanced exploration work, Notice of Work (NOWs) applications will be necessary to permit future mechanically assisted exploration (diamond drilling, trenching, etc.) and certain types of geophysical surveys (IP). The author believes that there are no significant factors that would impede expeditious granting of the required permits by British Columbia Ministry of Energy, Mines and Petroleum Resources. The author is unaware of other liabilities, environmental or otherwise, on the Gold Cutter Property.

The Property is underlain by Crown land with no known adverse claims to mineral rights, including by aboriginal groups. However, aboriginal rights and land title are complex and evolving areas of liability for resource projects in British Columbia and proponents of projects are advised to consult with and maintain relations with local indigenous groups. Logging rights are maintained under Timber Farm Licenses (TFLs) and roads are considered part of the provincial Forest Service Road network and thus not subject to closure by the TFL owner, except locally during logging operations for safety reasons. Future access via the road system may be affected by eventual cessation of logging activity in the area and maintenance of the roads. However, there is also extensive use of the area for range cattle, and Bonaparte Lake is a recreation area accessed by the main road through the Property. There are no known environmental liabilities, significant factors and risks that affect access, title, or the right or ability to perform work on the Property.

The current and previous mineral tenures were all staked after the expiry of previous claims, and, thus, there are no inherited royalty or Net Smelter Returns attached to the Property except as provided in the Property Option Agreement between Silverstock Metals and the Vendors, which is summarized below.

# 4.1 Option of the Property

On September 2, 2020, the Company entered into the Gold Cutter Property Option Agreement with Ronald Bilquist (the "Optionor") whereby the Optionor granted the Company an option to earn a 100% interest in the Gold Cutter Claims. In consideration of the foregoing, the Company agreed to:

- (a) pay the Optionor a total of \$445,000 as follows:
  - i. \$5,000 upon signing the Gold Cutter Property Option Agreement, which was paid on October 2, 2020;
  - ii. \$10,000 on or before listing on the Exchange (the "Listing Date");
  - iii. \$15,000 on or before the firstanniversaryoftheListingDate;
  - iv. \$25,000 on or before the second anniversary of the Listing Date;
  - v. \$25,000 on or before the third anniversary of the Listing Date;
  - vi. \$40,000 on or before the fourth anniversary of the Listing Date;
  - vii. \$100,000 on or before the fifthanniversaryoftheListingDate;
  - viii. \$225,000 on or before the sixth anniversary of the Listing Date

(b) issue to the Optionor a total of 365,00 Shares as follows:

- i. 15,000 Shares within 15 days of the Listing Date;
- ii. 150,000 Shares on or before the firstanniversaryoftheListingDate;
- iii. 100,000 Shares on or before the second anniversary of the Listing Date;
- iv. 100,000 Shares on or before the third anniversary of the Listing Date.

Prior to entering into the Gold Cutter Property Option Agreement, the Optionor had done numerous assays of mineralized samples.

The Optionor will also retain a 1.8% net smelter return royalty on the Gold Cutter Property (the "Royalty").

# 5. Accessibility, Climate, Local Resources, Infrastructure & Physiography

#### 5.1 Accessibility

The Gold Cutter Property is located in south central British Columbia (Fig. 3) about 65 km north of Kamloops, British Columbia (Fig. 3), and 12 km northwest of Barriere (Fig. 4) on the east flanks of the North Thompson River valley. The route to the Property branches from Highway a few kilometers north of Barriere at the Boulder Mountain road near a local golf course. From this road the Property is traversed by the Bonaparte Forest Service Road ("FSR"), which branches from it a few kilometers to the north. The region is active in farming, ranching, industrial forestry and mining as well as tourism activities, hunting and fishing.



**Figure 3: View of the Peterson Creek ravine from the north side looking east.** The image is a panoramic view taken by K. Bjorkman October 2020 using an IPhone camera.

#### 5.2 Climate and Vegetation

The climate is typical of the central areas of the British Columbia Intermontane region with an extreme range of temperatures from summer highs in the 30 Cs to winter lows near -30 C. Precipitation in all seasons in the intermontane is moderated by mountain ranges on both sides, the Rockies to the east and the Coastal Ranges far to the west.

The Property is subject to variably heavy snowfall from December through April, and the length of the surface exploration season is typically 8 months between April and November in the lower elevations and approximately 7 months on the ridge crest. Road based drilling operations can proceed year round where adequate water sources are available.

The Property and surrounding land are all below tree line and forests include various species of fir, cedar, hemlock, pine, and spruce (Fig. 4). Much of the area forest is classified by the Biogeoclimatic Ecosystem Classification in the Interior Cedar Hemlock ("ICH") zone at higher elevations, and Interior Douglas Fir ("IDF") in the major valleys. The main trees species in the ICH are western red cedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*), and lesser Douglas-fir (*Pseudotsuga menziesii*), hybrid spruce (*Picea engelmannii x glauca*) and lodgepole pine (*Pinus contorta*). At higher elevations the ICH transitions into the Engleman Spruce-Subalpine Fir (ESSF) zone, notably in the Schuswap Highland to the east of the Thompson River. The main tree species in the IDF is Douglas-fir with various grass species in the understory. At higher elevations it transfers into the ESSF and in wetter areas it transfers



Canvec GIS files. Contours are at 40 meter intervals; coordinates in UTM Zone 10 NAD 83.

into the ICH. This is an important habitat for mule deer as their winter range is found within the IDF.

#### 5.3 Local Resources

The main local resources are logging infrastructure in the form of active, well maintained logging roads, accessibility to supplies in the nearby town of Barriere and more major resources in Kamloops. local town and aggregate sources from the extensive till and glaciofluvial deposits of the area. Water is available in many small lakes in the Property area as well as Peterson Creek in the center of the Property, and Bonaparte Lake 10 km to the west.

#### 5.4 Infrastructure

There is no significant infrastructure on the Property apart from the logging road system. Cattle grazing occurs throughout the Property during the spring to fall seasons.

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Figure 5: Physiography of the Gold Cutter Property
Map drawn by the author in ArcGIS 9.3 using BC Hillshade map base and Canvec GIS files. Claim boundaries are from MTO and current as of October 2020.
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#### 5.5 Physiography and Surficial Geology

The Gold Cutter Property lies within the Thompson Plateau physiographic region (Campbell and Tipper, 1971) a subdivision of the Interior Plateau and distinguished from the widespread Fraser Plateau, which lies to the west, by greater dissection and absence of the flat lying lava flows. The eastern boundary of the Thompson Plateau is the North Thompson River, which conceals a major fault zone against which the Shuswap Highlands physiographic region abuts.

The Property is characterized by upland plateaus at elevations of about 1200 meters to the north and south of east flowing Peterson Creek. Continental glaciation has had a major effect on the terrane both in reshaping the bedrock surface and depositing tills and moraines. The last continental ice sheet initially advanced southwestwards from the Caribou Mountains overriding all of the present topography. Easterly flowing ice sheets from the Coast Range Mountains then merged with the Caribou sheets and diverted the flow to the south-southeast. During glacial ablation the North Thompson River became a major meltwater channel and a site of deposition of thick glaciofluvial deposits mainly of silts into which present streams have cut deeply. Outcrop exposure varies widely across the property, with an abundance of glacial angular glacially deposited boulders that often resemble subcrop in flatter areas, and unambiguous bluffy outcrops on the steep flanks of Peterson Creek.

### 5.6 Suitability for Mining

The Property area is generally only moderately rugged with local relief of less than 300 meters across its full extent. Roads are readily constructed in the variable thickness of glacial tills and gravels and there are many low slope areas suitable for mining infrastructure. Till blankets and veneers (Fig. 4) may provide resources of clean fill for construction of mining facilities such as tailings dams and eventually covers. The region has a long and intensive history of large mine development with porphyry copper operations near Kamloops at Highland Valley and Afton, and to the NW at Gibraltar and Rayfield River (Fig. 7).



**Figure 6: Outcrops at the main showing in the Central Discovery Zone** Backpack and medium sized dog for scale.

# 6.0 History

Mineral claims in the vicinity of or within the Gold Cutter Property were first staked in 1985 and named the Alina #1 claim (Lutjen and Lomell, (1985). These claims lapsed within a few years. The next activity was in 2003 when part of the present Property was first staked by Ron Bilquist. A major fire later that year precipitated the forfeiture of the claims, which Bilquist reestablished in 2009. Bilquist's 2009 staking consisted of a single claim numbered 612004 in the core area of the present Property with an area of 323.7 hectares to which an additional claim was attached in 2012. This second claim was allowed to lapse, but a larger area was staked in 2020 again encompassing the core area, and expanding the tenure area to 1821.1 ha representing the current Property.

Bilquist's 2009 claim was maintained by regular mapping and prospecting programs filed as assessment reports available in the British Columbia Geological Survey Assessment Report Information System ("ARIS"). A single Minfile site 92P-194 (Gold Cutter 1-2) was established as a result of the reported mineralized showings. In the records the showing is classified as BCGS mienral deposit profile type I01 (Au-quartz veins) and I05 (Polymetallic veins Ag-Pb-Zn+/-Au). The earliest recorded prospecting work in the area of the Property was on the Alina #1 claim reported by Lutjen and Lodmell, 1985 in AR 14282. The claim was located north of Peterson Creek in the eastern part of the Property and traversed by the road to Bonaparte Lake. The report documented prospecting and magnetometer work with results for seven analyzed samples. Two anomalous results were 1.47 oz/t Ag 0.23 oz/t Au; 0.092 Au, 0.35 Ag from outcrop or float located along the road. The samples were not described.

In 2002 Ron Bilquist staked the first Gold Cutter claims (4 - 2 post claims) and assayed 64 rocks most of which were angular boulders inferred by Bilquist to be proximal to a bedrock source. Of the rocks analyzed, 10 assayed greater than 1 g/t Au and 9 other had greater than 30 ppm Mo (Bilquist, 2003 AR 27243).

In 2009 Ron Bilguist staked cell claims Gold Cutter 1 (tenure # 612004, 323.7 ha), and Gold Cutter 2 (tenure number 612023, 404.7 ha) over the area of the 2002 work in the MTO system. Bilquist reprospected the area, much of which had been burned in the 2003 forest fire, and collected 20 new samples (numbers GC001 to GC020) of guartz veins mineralized with galena, chalcopyrite, and pyrite (Bilquist, 2010: AR 31670). Analyses were completed at ACME Laboratories in Vancouver by fire assay for gold and ICP emission spectrometry for 36 elements on solutions extracted by aqua regia digestion from the rocks. In the 20 samples gold assays ranged from 15 to 79159 ppb with a mean of 6286 ppb, and silver assays ranged from 0.9 to



Figure 7: Float Sample site GC608 Angular float boulders are inferred to be proximal to outcrops and moved during late stage of glaciation.



67 ppm with a mean of 19 ppm. The observed galena and chalcopyrite were corroborated by analyses ranging from 24 ppm to over 1 % for Pb (mean >1969 ppm), and 3.6 to 1801 ppm for Cu (mean 288 ppm).

Bilquist observed that the mineralization was confined to quartz veins hosted in outcrops of crowded feldspar porphyritic syenite intruding black hornfelsed metasedimentary siltstones and sandstones. He also found some new zones of mineralization indicated by angular float boulders which were interpreted as proximal to outcrop. The veins were observed to be mainly oriented in a north-south strike subparallel to a mapped elongate body of syenite hosting the veins.



**Figure 9: Historical Gold Assays from the Gold Cutter Property** Samples are symbolized according to the legend at right. Intervals are arbitrarily chosen by the author, with e.g. the samples above 2.5 g/t (shown as 2501 to 79160 ppb in legend) as yellow octagons. The map area shows 130 out of 145 samples collected from the original claim area. Map symbols are the same as in Figure 7.

In 2012 Bilquist returned to the claims with knowledge from several new regional studies by the Geological Survey of Canada and the British Columbia Geological Survey on the glacial history of the region (Plouffe et al., 2009, 2012) that had implications for using till analysis to prospect for mineral deposits. Bilquist noted from the new studies that ice flow had been dominantly from the north by northwest. Thirteen new samples, numbered GC030 to GC042, mainly from outcrops were collected in the 2012 work (Bilquist 2012; AR 33423). Of these, one new vein in the North Zone had a strike of 070 and assayed 39.6 g/t Au. 88 g/t Ag and 129 ppm Mo. Four other samples with highly anomalous Au and Ag were observed to have galena mineralization.

By 2015, Bilquist had only retained tenure number 612004 and extended his mapping and prospecting to the eastern part of that claim indicated on his map in Figure 8 as the "South Zone". Bilquist observed in the new zone outcrops of fresh coarse quartz-feldspar-biotite

Sample	type	description	easting	northing	Au	Ag	Мо	Cu	Pb	Bi
GC0003	sbc	qtz in tree root w/lg (1 cm) boxworks; galena and pyrite	691213	5681248	79160	67	7	264	10005	32.6
GC033	ос	qtz vn in syenite; trend 70 deg	691105	5681749	39587	88	129	2	875	3.2
R0224	proxflt	white qtz w/galena and pyrite casts	691320	5681396	34660	349	9	29	11213	38
SGC012	flt	Min rnded qtz flt, abund flt/sbcrp of variable comps. Fee	691144	5681318	32906	30	3	3020	3581	8.6
R0241	ос	qtz vein w/bands of galena and py	691204	5681279	23387	200	299	775	8562	37
K0253	proxflt	white qtz w/local lassy silica bx wrk	691204	5681279	19294	237	30	220	12489	55
GC0007	sbc	subcrop white qtz w/pyrite, chalcopyrite and galena	691204	5681282	18115	31	2	1801	8292	6.3
K0235	proxflt	py galena in qtz	691228	5681371	13235	105	37	679	1916	4
GC0006	sbc	subcrop white qtz w/galena, pyrite +/- chalcopyrite	691200	5681245	11386	14	1	412	2442	6.1
K0251	ос	pyrite galena qtz vein	691204	5681279	10820	38	217	299	10418	11
GC040	flt	large prox boulder qtz hosted in syenite; galena	691111	5681380	6642	12	24	141	1769	3.4
K0236	proxflt	same as 236 w/frothy acid leached silica	691228	5681371	6485	111	35	106	14738	41
GC0017	oc	same o/c between last two samples; pyrite and galena	691597	5680955	5712	57	294	4	3227	18.7
GC170608	3 proxflt	white qtz < bldrs; py gal & ccp; same loc GC0007	691203	5681278	4504	20	1	1692	3937	3.65
R307	oc	1 m. wide white qtz vein, galena	615090	5680963	4169	50	97	7	4575	7
K0234	proxflt	qtz vein minor py and galena and pyritic alt syentite	691436	5681424	4050	46	30	100	108	0.15
GC0009	sbc	in fire break; subcrop white qtz w/pyrite, galena and cha	691192	5681380	4023	59	46	1458	3507	13.8
GC0001	proxflt	prox white qtz flt near old sample K234; pyrite and gale	r 691430	5681422	1755	41	11	161	2285	11.4
L0287	ос	py and galena in lg (1 m. plus) qtz vein	691548	5680876	1628	13	851	66	184	0.15
K0254	proxflt	qtz fe carb py altered hornblendite/diorite, fine grained	691204	5681279	1594	16	4	190	424	0.15
GC170605	5 oc	o/clq white qtz w/leached py bxwrks	691237	5681302	1393	8	11	61	559	1.53
GC0010	sbc	multiple prox flt w/pyrite, chalcopyrite and galena	691185	5681376	1388	25	4	153	3284	37.2
GC0008	sbc	subcrop tan to buff colored qtz; limonite, pyrite and trace	691184	5681300	1135	12	94	14	137	0.7
R0243	proxflt	qtz vein plus py cpy in chloritic syentite	691094	5680975	1118	13	217	51	112	0.15
K0233	proxflt	qtz w/minor py and galena	691436	5681424	1041	9	9	115	35	0.15
K0252	proxflt	same w/cpy	691204	5681279	931	49	6	1522	9202	12
GC035	sbc	subcrp qtz w/galena, pyrite	691055	5681837	825	31	19	16	2767	4.7
GC0005	sbc	subcrop white qtz w/py and trace galena; boxworks	691218	5681270	793	6	1	11	131	0.4
R0225	proxflt	same w/pyrite	691320	5681396	756	44	5	768	10050	11
GC170603	B proxflt	white qtz w/py and gal	691419	5681417	668	10	83	8	231	1.63
SGC001	flt	white qtz with mm-scale fine qutz veinlet stockwork,inte	691219	5681242	543	3	5	132	445	1.2
GC170609	) proxflt	same bldr train as above; gal, py ccp	691185	5681300	520	7	68	129	1540	2.28
GC0014	sbc	prox white-buff qtz; occas pyrite	691403	5680894	453	7	17	5	64	0.7
GC032	ос		691104	5681796	452	5	1	2	6	0.05
GC0011	sbc	multiple prox flt w/pyrite, chalcopyrite and galena	691194	5681380	451	8	4	19	209	2
GC0015	ос	o/c white qtz w/occas pyrite and rare galena; same loc	( 691595	5680953	422	7	78	14	170	2.5
K0256	ос	galena pyrite qtz vein in white syenite	691085	5681784	417	27	3	22	8410	24
T244	flt	white qtz	691545	5680864	399	10	529	49	48	0.15
R0222	proxflt	pyritic syenite w/qtz vein	691320	5681396	393	6	38	20	20	0.15
K0238	proxflt	white qtz w/galena in pyrtic syenite	691302	5681399	306	35	4	7	2351	58
GC170610	) proxflt	prox < gtz flt; w/py, gal, ccp; meta oc	691127	5681384	298	11	8	85	986	8.34
SGC013	oc	Fe-stained qtz vein w/bx-work poss after sulph. Compo	691595	5680951	273	5	182	12	72	3.1
T307	ос	quartz, pyrite	691634	5681011	232	2	66	26	35	0.15
GC0020	ос	white to grey qtz w/occas pyrite	691326	5681344	216	4	149	6	35	1
GC0013	sbc	prox white to rosy qtz w/occas pyrite, galena; syenite w	691451	5681031	216	11	15	316	833	1.5

#### Table 3: Historical Assays from Gold Cutter

Table shows 43 out of 145 assays arbitrarily selected for Au greater than 200 g/t and shown in descending order of Au content. Coloured cells in the other element columns are above arbitrary levels: for Ag > 30 g/t, Mo > 100 ppm; Cu > 500 ppm; Pb > 1000 ppm, and Bi > 10 ppm. Codes in "type" column are sbc=subcrop; oc=outcrop; proxfit=float proximal to outcrop or angular float; and flt=float of rounded boulders or uncertain origin. Coordinates "easting" and "northing" are in NAD 83 UTM zone 10 and correspond to axes on the map in Figure 7.

hornblende porphyry, which he inferred were dykes intruding the elongate N-S syenite body that dominates the Property. He also noted outcrops of a greenish grey, relatively fine to sub medium grained intrusive with abundant fine grained quartz and feldspar in the groundmass with larger hornblende phenocrysts, giving a porphyry-like texture. The rock displays a weak foliation and disseminated pyrite along rusty weathering fractures. It may correspond to regional unit 16a classified by Campbell and Tipper (1971) as a microdiorite, which is in contact with the elongate syenite in the Mount Hagen stock to the south.

Nine new samples (GC100 to GC108) were collected in 2015 from the eastern area of claim



#### Figure 10: Correlation chart for historical Gold Cutter assays

Correlation coefficients are shown to the top right in the array and corresponding graphs to the bottom left for each element pair. The graphs use linear scaled axes with assay values shown for each element at the end of each row and column in ppm. Symbols represent sample sources shown in legend at right and Table 3 (flt=float; oc=outcrop; proxflt=Proximal float; and sbc= subcrop).







Figure 11: Map of historical silver values at Gold Cutter

Symbols represent concentration intervals in the legend at right.

Map drawn by the author in ArcGIS 9.3 January, 2021 using assay and location data compiled from assessment reports and Bilquist files. Base map from Bilquist (2019).

# Figure 12: Gold vs silver binary covariation

Logarithmic graph of Au and Ag show they are highly correlated forming a linear array. Axes show concentrations in g/t. Symbols represent sample source type. Sample numbers are shown for reference to Table 3 on a selection of samples.

Graph drawn in GCDkit 4.1 (Janousek et al. 2006) by the author January, 2021.

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Figure 13: Map of historical molybdenum assays from the Gold Cutter Property. Symbols represent intervals of Mo concentrations in ppm shown in legend at right.

612004, but no anomalous results were obtained. Samples were variously from syenitic rocks and metasediments, but with only minor quartz veining.

Bilquist's 2017 work on tenure 612004 (Bilquist, 2017; AR 36970).was mainly directed at mapping in outcrops in the "Central Discovery Zone" (Fig. 8). Occurrences of white quartz veins and quartz vein stockworks in outcrop and proximal float were observed and a western contact of the syenite body with metasediments was mapped. Twelve new mineralized samples were collected (GC601 to GC612) of which 6 ranged from 0.196 to 4.5 g/t Au, 2138 to 20,486 ppb Ag. The anomalous quartz vein samples were also mineralized with galena and pyrite. Two samples of pyritic metasediments had no anomalous values.

The final report in the Bilquist series on the Gold Cutter claims was filed in 2019 (Bilquist, 2019 AR 38756) and mainly documented geological mapping and two supportive petrographic reports recognizing a new unit classified as an altered quartz monzozite or granite. The rock was petrographically described as "weakly porphyritic leucocratic quartz monzonite altered to albite-quartz carbonate-trace sericite, with minor relict mafic sites replaced



**Figure 14: Map of historical lead assays from the Gold Cutter Property.** Symbols represent intervals of Pb concentration in ppm shown in legend at right.

by carbonate-pyrite (partly oxidized to limonite)-trace rutile. Quartz veinlets appear to have albitized envelopes" (Craig Leitch in Bilquist, 2019). Only three mineralized sample were chemically analysed of which only one had anomalous metal values (GC19600; Cu 3046 ppm).

The cumulative results from Bilquist's surveys on the Property were compiled and analyzed by the author. The final geological map from the 2019 report (Bilquist, 2019) is shown as the base map for Figures 8, 11, 13, and 14 on which 130 of the 145 samples are located and symbolized according to whether the source was float, subcrop or outcrop. Bilquist observed that many float samples were angular from which he inferred that they were from nearby or proximal bedrock sources. Anomalous values of gold, silver, molybdenum, and lead are displayed for the same map area respectively in Figures 8, 11, 13 and 14. Assay values for Au, Ag, Mo, Cu, Pb, and Bi are tabulated in Table 3 for the 43 of the 145 samples with highest gold contents and locations can be referenced on the map in Figure 8 by sample numbers or using the UTM coordinates listed. A strong correlation can be seen between high values of Au and high Ag, Pb and Bi by the highlighting in Table 3 and by calculated correlation coefficients charted in Figure 10. Silver (Ag) is highly correlated with Au with a coefficient of 0.58, while Ag is also

highly correlated with Pb at 0.73 and Bi at 0.74. The Au-Ag correlation is shown in more detail by a linear array displayed in Figure 12 on which the author's 4 check samples are also plotted. Other high element correlations such as between Zn and Cd (0.99), or amongst Fe, Co, V and Ni show low correlation with the Au-Ag-Pb-Bi set. In particular, molybdenum (Mo), which is highly anomalous in many samples in the 145 sample database recorded as 22 values between 50 and 851 ppm Mo, is not correlated with any other elements of interest although molybdenite was observed in some mineralized quartz veins.

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# 7.0 Geological Setting and Mineralization

## 7.1 Regional Geology

The Gold Cutter property lies within the southern Nicola Arc of the Quesnel Terrane (Fig. 15), in the physiographic region of the southern Intermontane Belt of the Canadian Cordillera. The main magmatic arc of the Quesnel Terrane is characterized by pyroxene-phyric shoshonitic basalt of the Nicola Group, and alkaline to calc-alkaline intrusions. In the region of Kamloops north to the Gold Cutter Property, the Quesnel Terrane comprises a preponderance of marine clastic and chemical sedimentary rocks of the unconformity-bound Devonian to Triassic Harper Ranch Group. The type section of the Harper Ranch Group is east of Kamloops where it includes a basal section of several thousand meters of volcaniclastic sediments including



#### Figure 15: Tectonic Terranes of British Columbia

The Bonaparte Lake 1:250,000 scale map sheet NTS 92P is highlighted with a yellow rectangle. The Property is in the SE corner of 92P and lies in the Quesnel Terrane. Porphyry copper deposits are indicated by red and green circles. Map is from Chen et al. (2018)



Figure 16: Stikine and **Quesnel Terrane Porphyry** The Gold Cutter Property is located in the southern Quesnel Terrane, which is a Triassic-Jurassic magmatic arc complex featuring a series of alkaline (Cu-Au) and calcalkaline (Cu-Mo) porphyry Map from Logan and

minor conglomerates, overlain by volcanic arc flanking carbonates and deeper marine chertycarbonates (Beatty, 2003). The Nicola Group, the main lithostratigraphic unit of the Quesnel Terrane, unconformably and laterally overlies the Harper Ranch Group and is a complex submarine volcanic arc succession illustrated schematically in Figure 8. A third stratigraphic group, the Rossland, comprises conglomerate, agglomerates, and coherent volcanic rocks. All of the Paleozoic to Mesozoic strata in the region are cut by Late Triassic to Early Jurassic intrusive suites of the Takomkane and Thuya Batholiths (Figs. 18 & 20) that range from syenite to monzonite to granodiorite, diorite and gabbro. Plutonic rocks in the Gold Cutter Property are probable outliers of the Thuya Batholith (Fig. 18).

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#### Figure 17: Nicola Group lithostratigraphy

Schematic diagram of the various facies within the Nicola Group and their relations to other units in the Quesnel Terrane. Circled "F"s represent fossil occurrences.

Diagram modified by the author (January, 2021) from Logan and Schiarizza (2011).



#### Figure 18: Thuya Batholith; simplified geological map

The Gold Cutter project area is shown on the map. Various plutonic phases of the complex, multiepisodic Thuya Batholith are shown in the legend including the Mount Hagen complex that underlies the Gold Cutter Property. **Extensive Eocene Skull** Hill Fm and Neogene Chilcotin Group plateau basalt cover as well as Pleistocene sediments have obscured much of the area of the batholith and therefore its mineral potential.

Map is from Anderson et al. (2010) modified by the author (January, 2021).

#### Stratified Rocks Intrusive Rocks Quaternary Mid-Cretaceous Pleistocene glaciofluvial and glaciolacustrine sediments; Qv: basalt flows Mount Baldy suite mKB biotite monzogranite; undivided Neogene Mc Chilcotin Group: dark grey, vesicular, (pyroxene-) olivine basalt. Middle Jurassic Eocene (and Oligocene?) Bonaparte Lake phase (164-161 Ma) Kamloops Group mJB biotite monzogranite; fresh, apparentty unmineralized Eks Skull Hill Formation: biotite rhyolite and dacite, Early Jurassic - latest Triassic vesicular, plagioclase-clinopyroxene phyric basalt, andesite. Mount Hagen complex and volcaniclastic rocks alkali feldspar syenite; very heterogeneous, coarse-grained JTrHs Upper Triassic and Lower Jurassic and leucocratic Nicola Group diabase JTrHd uTrN undivided; clinopyroxene-rich, andesitic volcaniclastic, sandstone, siltstone, minor limestone Eakin Creek suite (196-193 Ma) Carboniferous--Permian JTrEus undivided felsic and syenitic plutonic rocks Harper Ranch Group CPH undivided; rusty siltstone, argillite, chert, limestone undivided intermediate and mafic plutonic rocks JTrEul felsic plutonic rocks: quartz monzodiorite and locally megacrystic Fennell Formation: undivided; pillowed basalt, JTref lesser chert, slate, siltstone, gabbro and diabase homblende-biotite quartz monzonite and monzogranite; propyllitic alteration and accessory titanite characteristic Devonian-Mississippian Eagle Bay Assemblage mafic plutonic rocks: hornblende diorite and biotite-hornblende JTIF DMEB undivided; quartzite, phyllite, quartz grit, mafic volcanic rocks, quartz monzodiorite; propyllitic alteration and accessory titanite limestone characteristic agmatite; coarse-grained homblende diorite, gabbro, mafic pegmatite Dum Lake ultramafite: clinopyroxenite and fine-grained diabase and basalt; local associated mineralized biotite quartz syenite Jun Rayfield River phase (~202 to >198 Ma) homblende alkali feldspar syenite JTrpe

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Figure 19: Fault Systems in the Gold Cutter Region from Shuttle Topography Mission Digital Elevation Model

Fault systems have had a significant influence on the topography of the area. The Thompson River Valley is the continuation of a linear fault system running from Vernon in the Okanogan that splays out north of Barriere into numerous NNW trending faults that result in the NNW trending ridge and ravines.

The map highlights the contrast across the Interior Plateau into the Thompson River Valley: The western part of the plateau is generally covered by flat lying basalts of the Pliocene Chilcotin Group and Eocene Kamloops Group volcanics. Map modified by the author (January, 2021) from GSC Open File 5743 Thomas and Pilkington (2008).

#### Figure 20: Regional Map of the Residual Total Magnetic Field

The image is derived from high resolution aeromagnetic data for the Bonaparte Lake Map area by subtracting the regional magnetic trends from the total intensity. Residual maps show local magnetic variations, which may have exploration significance. Interpreted geological contacts and units are shown. The approximate area of the Gold Cutter Property is indicated on the map and the magnetic intensity range measured on the Property is indicated by the rectangle overlay on the colour scale. Map is modified from Thomas and Pilkington (2008) who discuss the various magnetic highs labelled e.g. *H4* in an ellipse. Anomaly *H4* is south of the Property and is interpreted as unexposed ultramafic rocks.



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Within the region, complex extensional tectonics resulted from hundreds of kilometers of dextral transcurrent offset of the Cenozoic Coastal plutonic arc parallel to the Rocky Mountains. The extensional tectonics is characterized by numerous small fault bounded sedimentary basins, core complexes and volcanic centers interconnected by dextral strike-slip faults. Locally, the fault systems appear as block faulted strata involving almost chaotic interactions between normal, strike slip and reverse faults to either produce small basins or elevated structures. The structures influence much of the current physiography of the region including a linear series of valleys from North Thompson River to Vernon in the Okanogan. The North Thompson River valley is formed around the fault system which separates the Quesnel Terrane from the Kootenay Terrane to the east (Fig. 16). At its north end the fault system is evident in digital elevation models (Fig. 19) as numerous splays in the Thuya Batholith.

Sediments deposited in the Eocene extensional basins have been divided into numerous stratigraphic formations all included within the Kamloops Group defined by Ewing (1980). West of the Property, near Bonaparte Lake, the Kamloops Group is overlain by the widespread plateau lavas of the Miocene Chilcotin Group which is characterized by alkali olivine basalts (Fig.18).

# 7.3 Metallogeny of the Southern Quesnel Terrane and the Thuya Batholith

Across the southern section of the Quesnel Terrane metallogenetic zoning of significant porphyry type deposits has been recognized by Logan and Schiarizza (2011) in parallel Late Triassic and Early Jurassic magmatic arcs illustrated in Figure 21. The magmatic arcs young to the east and within each, belts of alkalic copper-gold porphyries are aligned to the east of calc-alkalic type copper- molybdenum porphyries reflecting the easterly polarity of a long- lived subduction zone that formed along the western margin of North America. The alkalic porphyries are thought to have formed above deeper levels of the subducting oceanic slab resulting from low degrees of partial melting of metasomatically enriched asthenospheric mantle producing potassic / shoshonitic magmas commonly characterized by pyroxene rich mafic volcanics. The four porphyry belts reflect orientation of the subducting slab and its migration to the east.

Subduction began in the Devonian beneath the margin of the North American craton resulting in the Kootenay arc. The subduction zone stepped offshore in the Late Paleozoic coupled with the opening of a backarc marginal basin that became the Slide Mountain Terrane. The resulting oceanic magmatic arc initiated the Quesnel terrane, which continued developing episodically into the Mesozoic as the Slide Mountain basin collapsed and was thrust onto the North American craton. The main period of Quesnel Terrane magmatic arc activity was during the Mid-Triassic to Early Jurassic after Slide Mountain Terrane had collapsed and another marginal basin represented by the Cache Creek accretion-subduction complex had formed offshore. The resulting magmatic arcs are represented in major multiphase batholithic complexes intermittently distributed along the length of the Quesnel Terrane (Fig. 16). In the region of the Gold Cutter Property most of plutonic rocks are included within the Late Triassic-Early Jurassic Thuya Batholith. The Thuya Batholith is prospective for base and precious metals and lies between well-known porphyry districts at Afton-Ajax (Cu-Au) and Highland Valley (Cu-Mo) in the south, and Gibraltar (Cu-Mo) and Mt Polley (Cu-Au) to the north (Fig. 22).

The coeval Stikine Terrane, which has a similar Triassic-Jurassic arc history, docked against the Quesnel Terrane closing the Cache Creek basin by Middle Jurassic time, possibly following anti-clockwise oroclinal rotation or inversion by the model of Nelson and Mihalynuk (1993). Continued subduction beneath the coalesced Stikine, Cache Creek and Quesnel Terranes was punctuated with episodic contractional deformation resulting in major clastic basins (the

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#### Hardolph Wasteneys PhD, PGeo.

#### Figure 21: Metallogenic Map of the Southern Quesnel Terrane

Paired Late Triassic and Early Jurassic calc-alkaline coppermolybdenum and alkaline copper-gold porphyry belts are represented on the map by series of significant mineral deposits.

The Gold Cutter Property probably is represented by the Early Jurassic alkaline belt. Colour-symbolized lithologies on the map are explained in the inset schematic diagram for the Western and Main Belts (except the Harper Ranch Group and other similar metasedimentary successions, which are indicated on the map).

Map is modified after Logan and Schiarizza (2011) by the author (January 2021).

Western Belt

Guichon Creek

Batholith

Calc-alkaline basalt - rhyolite





Figure 22: Mineral Occurrences in the Thuya Batholith

Mineral occurrence data plotted on the map with symbols defined in the legend at left is from the BC MEMPR Minfile profiles. Map modified from Anderson et al. (2010) by the author January, 2020, has same rock units as in Figure 9, which are discussed in the text. Coordinate points are in NAD 83 UTM Zone 10.

Bowser), local volcano-plutonic arcs and more porphyry Cu-Mo (Au) and porphyry Mo deposits. Plate-scale tectonism then shifted to major dextral motion during the Late Cretaceous into the Eocene resulting in local volcanic and plutonic arcs and Paleocene to Eocene sedimentary and volcanic rocks and associated Cu-Mo deposits and extensive tilting, dismembering of many of the Mesozoic porphyry deposits.

Extensive Eocene, and Neogene volcanic cover, and Pleistocene glacial sediments have obscured much of the presumed extent of the batholith and its mineral potential. The contrast of exposure with mineral rich regions with similar plutonic and volcanic geology to the north and south has prompted numerous geoscience studies involving bedrock and surficial mapping, physical volcanology, high resolution geophysics, till geochemistry, and biogeochemical studies of pine and spruce by the GSC, BCGS and Geoscience BC to discover the methods for detecting mineral deposits in the Thuya Batholith. Major high resolution geophysical programs have included airborne magnetics (Fig. 20), radiometrics, and gravity surveys, which have been utilized to refine geological boundaries between units.

Advanced U-Pb geochronology studies have refined the episodic timing of phases of the Thuya Batholith into several distinct episodes (Anderson et al., 2010). The late Triassic Rayfield River phase in the west (Fig. 18, 21, and 22) is the oldest between 202 and 198 Ma and represent the Late Triassic monzodiorite belt of Logan and Schiarizza (2011). It is followed closely by the Early Jurassic (196-193 Ma) Eakin Creek suite in the east, and after a hiatus the Middle Jurassic (164-161 Ma) Bonaparte Lake phase (Fig. 18). The late Triassic phase is coeval with other suites in Quesnellia such as the Copper Mountain suite at ca. 206-200 Ma (alos in the Late Triassic monzodiorite belt of Logan and Schiarizza, 2011), which ranges over 400 km and is associated with significant alkaline porphyry Cu-Au-Ag mineralization (Fig. 16). The Early Jurassic phase is coeval with the Wildhorse plutonic suite at ca. 197-192 Ma also associated with Cu-Mo+/-Au porphyry mineralization such as the past-producing Brenda Mine and newly discovered Woodjam SE zone in Takomkane Batholith to north (Fig. 18), all representatives of the Early Jurassic granodiorite belt of Logan and Schiarizza (2011).

The latest Triassic Rayfield River phase (Logan and Schiarizza, 2011, 2014), comprising hornblende-biotite syenite, is the host for the Rayfield River alkaline porphyry Cu-Au gold deposit around which area north- and east-trending brittle faults appear to have been fluid conduits for alteration and base-metal mineralization. The same faults may have been fundamental enough that they were subsequently reactivated and localized Neogene, alkalic intrusions containing mantle xenoliths.

In the northern part of the Bonaparte Lake map area (Figs. 15), the heterogeneous Early Jurassic Eakin Creek suite (Fig. 18) shows widespread propylitic alteration in biotite-hornblende diorite and quartz monzodiorite which grade to quartz monzonite and alkali feldspar megacrystic monzogranite phases (Anderson et al., 2010). Copper-rich base metal showings are associated with the mafic phases near the Thuya Batholith's northern margin (Fig. 22) and listwanite gold and PGE showings are associated with ultramafic and minor syenitic rocks (Dum Lake suite Fig. 18) and hornblendite agmatite along is north-eastern flank.

The younger, higher level, unaltered, felsic and apparently unmineralized biotite monzogranite of the Middle Jurassic Bonaparte Lake phase (ca. 163-161 Ma) underlies much of the western and central areas of the Thuya near Bonaparte Lake (Anderson et al. 2010).

A few kilometers south of the Property, the composite Mt. Hagen stock is an outlier of the south eastern flanks of the Thuya Batholith, intruding Harper Ranch metasediments. This stock is comprised of texturally heterogeneous biotite syenite phases intruded into micro-diorite. A bladed, alkali feldspar porphyry pegmatite variant of the syenite phase was evaluated for its industrial mineral ceramic potential and hosts copper-gold showings near the summit of Mt. Hagen. The stock is one of several quartz-poor intrusive complexes widely scattered through the southern Quesnel Terrane.

## 7.4 Proximal Mineral Occurrences

#### Mount Hagen:

The composite Mount Hagen stock lies along the south-eastern flank of the Thuya Batholith as a body enclosed in Harper Ranch Group metasediments and is coextensive with the intrusive rocks on the Gold Cutter Property. The stock is mainly composed of texturally heterogeneous biotite syenite phases which intruded micro-diorite (Fig. 23).

The actual Mount Hagen Minfile occurrence (No. 92P-159) is about 5 km south of the



Figure 23: Mount Hagen pegmatite The pegmatite body at Mt Hagen is about 5 kilometers south of the Property (approximate shape shown) and part of an intrusive body that extends into the Property. Map Units: 28 alluvial deposits 25 Chilcotin Fm: alkali olivine basalts 22 Eocene Skull Hill Fm, Kamloops Gp. 16a Microdiorite 13b coarselv porphyritic svenite 14 Thuya granodiorite, diorite 3 Harper Ranch Group metasediments 2 Fennell Fm; Slide Mtn Gp; pillow lavas greenstone

Map clip is from GSC Map 1278a Memoir 363 (Campbell and Tipper, 1971).

Property and constitutes potentially mineable feldspar pegmatite. The rock is a pinkish grey quartz feldspar pegmatitic syenite body about 1600 meters in a north-south dimension within a monzonitic stock (unit 13b on Fig. 14) that is 2.5 km wide by 10 kilometers in a north south direction. The pegmatite consists of potassium feldspar crystals up to 6 centimetres with interstitial calcite and iron oxides. The whole rock composition measures  $SiO_2$  61. 21%,  $Al_2O_3$  19.1 %,  $K_2O$  8.96%,  $Na_2O$  4.44%,  $Fe_2O_3$  1.3%, CaO 1.96%, and MgO 0.38%, which is within commercial grade for ceramics or glass, but the iron oxide content is deleterious and prohibitively high. The pegmatite body is cut by a 3 meter wide dyke of intermediate composition.

At the summit of Mount Hagen a bladed, alkali feldspar porphyry pegmatite variant of the syenite phase hosts copper-gold showings (Anderson et al., 2010). This occurrence could not be verified by the author.

# 8.0 Deposit Types

The mineralized occurrences on the Gold Cutter Property are characterized by quartz veins in granitoid rocks, mainly granites, alaskites and syenites. Accessory galena and chalcopyrite occur with some of the better gold grades while molybdenite is found in other quartz veins with lesser gold contents. Alteration of host granitoids is slight, confined to sericite. Gangue mineralization in the quartz veins is minor.

In defining a potential deposit type for exploration of the Property, two approaches were considered by the author: one was to classify the known mineralization according to profiles of defined deposits types, while the other was to evaluate the potential for discovery of the variety of deposit types known in the region. The rationale for the former approach is simply to assume that any significant deposits within the Property will conform to the known mineralization characteristics found to date, while for the latter, the rationale is that extensive Quaternary cover may have obscured important mineralization types on the Property that may conform to the profile of mineralization discovered within similar rocks elsewhere in the region.

The metallogenic maps of the region (Figure 22 in Item 7.0), documents within the Thuya Batholith many types of mineral occurrences as classified using the BCGS mineral deposit profiles of Lefebure and Jones (2020). The Little Fort area of the Thuya Batholith is the nearest well mineralized camp at about 25 km north, with the Rayfield River area to the west of Bonaparte Lake about 35 km away. Mineralization types include gold-quartz and polymetallic veins, epithermal Au-Ag systems, skarns both of the copper and gold types, and alkalic Cu-Au and calc-alkaline Cu-Mo porphyry deposits.

Gold-quartz veins classified as IO1 (Ash and Alldrick, 1996), are found to the north of Gold Cutter west of Little Fort in the Thuya batholith and SW of Bonaparte Lake in windows through the Chilcotin and Kamloops groups and Quaternary cover associated with the Rayfield River suite. Gold-bearing quartz veins and veinlets with minor sulphides are also commonly termed orogenic gold systems and crosscut a wide variety of hostrocks localized along major regional faults and related splays such as in the Abitibi Belt of the Canadian Shield. Wallrocks are typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo. Although a considerable density of structural fabrics are present in rocks of the Property and numerous small fault systems appear to be imaged by the UAV magnetometer survey, there are no significant shear zones evident in any of the rocks and so it is unlikely that these types of vein systems would develop. Widespread carbonate alteration is also absent from the area, and alteration haloes around veins do not show significant pyrite or sericite. The fault system along the North Thompson River is most likely of Cretaceous or Paleocene age whereas the syenitic intrusions, that appear to be the favourable host for the known gold gold-quartz vein mineralization on the Property. are assumed to be Earliest Jurassic. It seems unlikely that the syenitic intrusions alone would be a favoured structural host.

Polymetallic veins of the I05 profile of Lefebure and Church (1996) arew characterized by Ag-Pb-Zn-Au mineralization associated with the Eakin Creek suite north of the Property and NW of Little Fort in the Nicola volcanics. These veins are sulphide-rich and have typical mineralogy of sphalerite, galena, silver and sulphosalt minerals such as tetrahedrite in a carbonate, quartz and barite gangue. Veins in the Nicola volcanics may be contemporaneous with the emplacement of a nearby intrusion of the Thuya Batholith. These veins are also hosted by metasediments possibly including rock like the Harper Ranch Group. However, none of the veins the Property have significant sulphide contents, or are hosted in metasediments, and all appear to be hosted by intrusive rocks, probably shortly after crystallization. There does not appear to be significant potential for mineralization conforming to this profile to occur in the vicinity.
Epithermal Au-Ag mineralization of profile H05 defined by Panteleyev (1996) occur in the Rayfield River area west of the Property in Nicola volcanics where they are intruded by Eakin Creek suite syenitic plutons. The profile included quartz veins, stockworks and breccias carrying gold, silver, electrum, argentite and pyrite with lesser and variable amounts of sphalerite, chalcopyrite, galena, rare tetrahedrite and sulphosalt minerals that form in high-level (epizonal) to near-surface environments. As a result of the high level of emplacement the veins commonly exhibits open-space filling textures and are associated with volcanic-related hydrothermal to geothermal systems. Alteration is commonly pervasive around vein and stockwork systems including chlorite-pyrite, argillic, and sericitic. The Gold Cutter veins do not exhibit open-space filling textures and there is an absence of pervasive hydrothermal alteration around the veins. As well there is no evidence of intrusion related fracture systems apart from the network of granodiorite dykes in the south zone of the Property.

Skarns of several classifications including copper K01 and gold K04 (after the profile developed by Ray, 1998) occur in the region. Numerous copper and garnet skarns occur in the Nicola volcanics north of the main Thuya Batholith contact at Deer Lake (Fig. 22) as well as around satellitic intrusions. In the west a single gold skarn is associated with the alkalic Eakin Creek suite. Generally, most skarns are formed in calcareous volcanics and peripheral to porphyritic stocks. Although the upper stratigraphy of the Harper Ranch Group is mainly carbonates, only the lower siliciclastic section is present in the local area.

Porphyry type deposits including alkalic Cu-Au (L03, Panteleyev, 1996) and calc-alkaline Cu-Mo porphyries (L04; Panteleyevy, 1996) are the most significant mineral deposits in the Quesnel Terrane. In the Thuya Batholith region, both types occur and form 4 metallogenic belt described in Item 7.0. Alkalic porphyries are the main type found in most of the Quesnel terrane and include deposits such as Mt. Milligan which has gold enriched zone peripheral to the main copper core of the deposit. Polymetallic veins also typify the periphery of many deposits and may fall into the category of epithermal veins systems of profile type H05. Alkalic porphyries are found in the Rayfield River phase of the Batholith and west and northwest of Little Fort. The Eakin Creek suite of felsic and syenitic plutons is associated with porphyry Cu +/- Mo +/- Au deposits in hornblende diorites and hornblende biotite quartz monzodiorite.

The alkalic type porphyry deposits consist of stockworks, veinlets and disseminations of pyrite, chalcopyrite, bornite and magnetite in large zones of economically bulk-mineable mineralization in or adjoining porphyritic intrusions of monzodiorite to syenite composition. Coeval volcanics are shoshonitic evolving from augite phyric absarokites to plagioclaseaugitephyric shoshonites to hornblende phyric banakites and more felsic compositions. Crowded porphyritic texture is common both in porphyritic intrusions and coeval volcanics associated with alkalic porphyry deposits. Locally, pegmatitic high-level stocks and dike complexes occur associated with the intrusive suites. Mineralogy of the ores is typically chalcopyrite, pyrite and magnetite with lesser bornite and chalcocite. Generally, pyrite is less abundant than chalcopyrite in ore zones and magnetite is common in the core. Commonly, mineralized zone are found in clusters around several small (ca. 600 meter diameter) intrusions such as at Galore Creek and Mt, Milligan.

Calc-alkaline porphyries are also typified by stockworks of quartz veinlets, quartz veins, closely spaced fractures and breccias containing pyrite and chalcopyrite with lesser molybdenite, bornite and magnetite in large zones of veinlets within or adjoining porphyritic intrusions and related breccia bodies. Disseminated sulphide minerals are present, generally in subordinate amounts. The mineralization is spatially, temporally and genetically associated with hydrothermal alteration of the hostrock intrusions and wallrocks. Pyrite is more common and magnetite less common than in alkalic Cu-Au type deposits. Intrusions range from coarse-

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grained phaneritic to porphyritic stocks of calcalkaline quartz diorite to granodiorite and quartz monzonite compositions. A wide variety of breccias are associated with multiple stages of magma emplacement and stockwork fracturing.

The intrusive rocks at Gold Cutter are ambiguous in their affinity to either the alkalic or calc-alkaline clan. Granodiorite dykes and intrusions form both small stocks and distinct fresh, biotite plagioclase phyric dykes and fall into a calc-alkaline classification. Crowded alkali feldspar porphyritic syenites are on the line between quartz monzonitic and syenitic compositions and no mafic rocks have been analysed to determine whether these rocks are part of an alkalic of calc-alkalic differentiation series. Mineralization is also not typical of either porphyry types consisting instead of relatively thick isolated quartz veins some of which are banded with galena and pyrite where the gold and silver grades are of interest. Chalcopyrite and molybdenite are less common, and neither are correlated with gold and silver grades.

A type of mineralization that matches some characteristics of the Gold Cutter, but not recognized in the region is classified as H08 Alkalic Intrusion-Associated Au-Ag (Schroeter and/Cameron 1996). These deposits include quartz veins with pyrite, sphalerite and galena in structural zones and stockworks within alkalic intrusions and/or disseminated pyritic zones in alkalic intrusions, diatremes, coeval volcanics and surrounding sediments. Argillic alteration, +/- silicification, carbonatization, and barite and fluorite veins are common. However, these are mainly associated with alkalic intrusive rocks in sedimentary cover rocks above continental crust and not magmatic island arc setting such as the quesnel Terrane. They are also generally associated with extensional faulting, which might have some affinity with the Cretaceous-Tertiary fault zones of the region. In continental setting these deposits are associated with high level intrusive complexes including alkalic plugs and maar-diatreme complexes. The continental crust tectonic setting does not match the setting for the Mesozoic Thuya Batholith intrusions, which presumably include the Mount Hagen stock to the south of the Gold Cutter Property.

Generally, it is difficult to classify the type of mineral deposit that fits the known characteristics of mineralization discovered to date on the Gold Cutter Property. The intrusive rocks are ambiguously alkalic according to available whole rock analyses and by association with the alkalic Mount Hagen stock, which was prospected as a pure feldspar source for ceramics. The age of the rocks is assumed to be Late Triassic to Early Jurassic like other phases of the regional scale Thuya Batholith. The vein mineralization appears closely associated with emplacement of the stocks and possibly cut by a later phases, which would argue against the mineralization being related to late Cretaceous tectonic despite proximity of terrane bounding fault zones in the North Thompson river valley a few kilometers to the east.

### 9.0 Exploration

#### 9.1 Introduction

Two exploration surveys were conducted on the Gold Cutter Property on behalf of and for Silverstock in 2020. In the period from October 6th to the 12th Dr. Katarina Bjorkman, directed a program of mapping and sampling assisted by property owner Ronald Bilquist, professional prospector, and two contract geologists. The author visited the Property on October 7th and 8th, was guided to two sites in the Property on the 9th where he examined the geology and collected 4 check samples of mineralization. The main objective of the exploration work by Silverstock was to verify the existence of showings reported in previous work reports, make geological observations for detailed mapping, and collect samples for analysis to corroborate new field observations and previous exploration work. In October, the company contracted Pioneer Exploration Ltd to complete a drone airborne magnetometer survey of the entire Property and produce contour maps of the magnetic field and first vertical derivative. The data and preliminary interpretation are shown below.

The mapping program was directed by Dr. Katarina Bjorkman as due diligence on acquiring an option on the Property and to prepare for further exploration by evaluating mineralized showings and prioritized potential exploration targets. Field work by Bjorkman (Fig. 38) involved precise geological mapping using an Arrow® 100 GPS receiver with submeter accuracy to outline outcrop areas, and delineate contacts of lithologic and alteration units. The two contract geologists were employed to map areas of the Property using the same methods as Bjorkman's. Bilquist was mainly employed locating showings that had been reported in his earliest exploration programs and prospecting for new ones. The objective of the geological mapping in the time available was to accurately represent a few small areas to provide context

for sampling rather than attempt to cover the whole Property superficially.

The exploration by for Silverstock resulted in the collection and chemical analysis of 125 grab samples of variously mineralized rock, 6 lithogeochemical samples, and 6 blanks. The lithogeochemical samples were identifiable intrusive units and were analyzed by complete characterization whole rock methods to determine major, minor and Rare Earth elements. The geochemical data is reviewed below.

#### Figure 24: Exploring Gold Cutter

Bjorkman taking field notes at a frost shattered outcrop in the Gold Cutter Property.

Photo by the author October 9, 2020.



Field work in the area was aided by a complex of old roads, but inhibited by regrowth following a fire in 2003. Many old roads are overgrown with alder and spruce, but several have been serving as pasture for range cattle and are covered with well grazed grasses.

Data Summary

- 1. Ron Bilquist 145 rocks (various ACME labs methods)
- 2. Silverstock 125 rock for ICP and gold (w 6 blanks) by ME-ICP61 and Au-AA23
- 3. Silverstock 6 Whole rock analyses (+1 blank) by CCP-Pkg03
- 4. HW 4 check samples ME-MS61 and AuAA23
- 5. Silverstock 154 soil samples by Au-AA23 and ME-ICP61

#### 9.2 Mineralized Rock Sampling Methods

Rock samples collected by Silverstock were typically selected as single grab samples, or smaller chunks of rock from mineralized zones in outcrops making up a weight of about 1 kg. Generally, only a geologist's hammer or small maul was used for the sampling, which limited the rock samples to volumes around open fractures and angular outcrop edges. The samples were principally selected to represent different styles of mineralization and establish the possible range of concentrations of economic elements in the rock, in this case mainly gold and silver, with random instances where molybdenite was observable. Only a few of samples were taken as chips across approximately measured intervals where the rock was more homogeneously mineralized or where a planar mineralized lens or vein structure of significant width was identified. In general individual samples were not collected with the intent of accurately representing large volumes of rock, they were collected to represent local observations by the geologist about the strength and type of mineralization.

Six of the samples were collected for lithogeochemistry to aid in igneous classification. These rocks were sampled from least altered, unmineralized rock outcrops to ensure representivity of the samples and accuracy of the classification. Samples were located using hand-held GPS units including a high precision, sub meter accuracy ARROW® 100 GPS. Sample sites were marked with flagging tape numbered with the sample number.

#### 9.3 Geological Mapping of the Gold Cutter Property

A major objective of the Silverstock exploration program was to determine the relationship of mineralization to host rocks through detailed geological mapping.

Geological mapping of the Property by Bjorkman and associates defined six mappable lithologies described below from an internal report. Three of the units are metasedimentary or metavolcanics and the other 3 are igneous intrusions, probably assignable to the Mount Hagen stock described in Item 7.0 Regional Geology.

#### 9.3.1 Harper Ranch Group clastic sediments

Clastic sediments underlying much of the northeast area of the property are banded to laminated, aphanitic to fine and medium-grained and vary from light to dark grey to tan (Fig. 25). They are dominated by fine siliciclastic mudstone-siltstone inter-banded locally with carbonate, sandstone and volcanic sandstone. The sediments are weakly magnetic and variably rusty and pyritic, in places with laminated bands of pyrite. In the eastern area of the Property, the sediments dip moderately steeply to the northwest (~50-70/300-320; all structural data is herein given in the dip/dip direction convention). In the centre, north of the monzonite, dips

are shallow and to the north, undulating along open folds. In the west, the sediments dip to the southwest ( $\sim$ 30/250). Notably, these dips are at a high angle to the inferred contact with mafic volcanic rocks to the south and west. The central sediments just north of the central granodiorite intrusion are gneissic and folded, with quartz veinlets subparallel to bedding, dipping shallowly to the north-northwest, west and southwest. Many of the sedimentary outcrops are small and rubbly along the eroded hillsides of old roads.

These sediments correspond to the description of the basal clastic section of the Harper Ranch Group, which is characterized by mudstone and silty turbidites, with lesser sandstone, conglomerate and carbonate. The contact nature was not observed by the author, but mapping suggests an unconformity separates these sediments from the volcanic succession to the south. Therefore, the southern volcanic succession may be part of the Nicola Group.





Figure 25: Figure 3: Banded sedimentary rocks in the northwest and central parts of the property.

#### 9.3.2 Mafic volcanic rocks - Nicola Group?

Volcanic rocks range in field designations from andesite to basalt. They are typically dark grey green to grey, and variably massive or porphyritic with augite and/or hornblende and plagioclase phenocrysts. A significant area of large, flat-lying basalt outcrops lies southeast of the mineralized monzonite. The basalt mainly forms massive flows, but locally it is pillowed or flow brecciated (Fig. 4). The basalt has a weak to well-developed metamorphic fabric defined by aligned hornblende porphyroblasts, and a penetrative to spaced cleavage dipping steeply to the west-northwest ( $\sim$ 40/300), Locally, the fabric appears gneissic. Monzonite dykes, typically 1 to 2 meters wide, cutting the basalts, display a spaced cleavage.

Sedimentary strata, outcropping to the south of the basalts, appear to be conformable with the basalts by their close contact and having the same west-northwest moderate dip of strata ~40/310. On the map interpretation in Figure 31 they are shown within the Harper Ranch Group, but they may in fact belong to the same succession as the volcanics. Augite to hornblende

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phyric mafic volcanic rocks were mapped on the south side of Peterson Creek possibly enclosing the sedimentary section (700m south and southwest of this area).

The sediments are cut by a 1m wide Au-Ag-Mo mineralized quartz vein that dips very steeply to the northwest (80/311).



**Figure 26: Augite phyric basalt.** Note the large black augite crystals in lower part of photo and the coarse breccia texture at the top. The rock is characteristic of the pyroxene-phyric basalt, pillowed basalt and basalt breccia units of the Nicola Group (Logan and Schiarizza, 20

#### 9.3.3 Conglomerate - Rossland Group?

Conglomerate containing boulders of monzonite occurs in fault contact with the porphyritic basalt north of Peterson Creek (Fig. 27). The close proximity of the monzonite boulder conglomerate to the basalts may indicate rapid uplift and erosion of the volcanics into which the monzonites intruded by the formation of local pull-apart basins along steep-sided normal or strike slip faults during volcanism. The conglomerate dips steeply to the northwest.



Figure 27: Conglomerate with rounded intrusive clasts.

#### 9.3.4 Monzonite-Syenite

Monzonite intrusions occur in the northern and southern part of the property. In the north an ovoid plug, 500 to 600 meters in width appears to be the origin of dykes extending radially outwards. The best outcrop is to the southwest. The monzonite is distinguished by crowded feldspar phenocrysts making up 90% of the rock. The feldspars are mainly euhedral orthoclase and lesser plagioclase, 5 to 10 mm in size, and pale cream to pink in colour. The matrix is very fine-grained quartz, clay and minor iron oxides as confirmed by petrographic reports on two specimens (Bilquist, 2019). Mafic minerals are not recognizable and may have been altered to iron oxides. Monzonite is readily distinguished from host rocks and from other intrusive phases such as monzodiorite dykes and granodiorite. Locally, angular inclusions of country rock comprise up to 50% of some monzonite dykes (e.g., Fig. 28C).

Monzonite is a common host for vein mineralization. Veins are commonly millimetre to centimetre in width and rarely up to to 1m wide. The veins are dominantly quartz and variably mineralized with pyrite  $\pm$  galena  $\pm$  trace chalcopyrite  $\pm$  molybdenite. Mineralization has been noted in the Northern, Central and Southern zones, all related to veining within monzonite.

The Northern zone is located within bedrock east of a north-trending monzodiorite dike. Veins are variably oriented, but most commonly dip steeply north and south, with a secondary set dipping dominantly west. The main sulphide vein with highest Au values is 5-12 cm thick, dips 88/015 and is banded white quartz stained red along fractures and containing disseminated pyrite and galena and molybdenite (Fig. 29). The zone extends >60m east from there, where

additional quartz-pyrite-galena veins cut monzonite.

The Central zone is quite similar to the northern zone, but is located in angular float boulders containing a higher proportion of quartz vein : syenite than typically noted in outcrop. There are also angular boulders of mafic volcanic rock, which complicates the interpretation of the mapping and suggests there is likely a mixture of monzonite-syenite dykes and mafic volcanic host rock as seen in the south. In any case, the boulders appear to be locally derived, and coherent syenite outcrops in the southwest verify the mapped extent there.

The Southern zone comprises 1-5m wide monzonite dykes trending ~ east-west, northeast and northwest. These dykes are in places strongly brecciated. Mineralization is localized in a >1m white to rose coloured quartz vein dipping 60/320 and containing multiple seams of enriched in pyrite, arsenopyrite, galena, molybdenite, and trace chalcopyrite (Fig. 29). Pyrite is disseminated along fractures and local wall rock. This same vein appears to extend into the



#### Figure 28: Quartz-Monzonite in outcrop photos

A millimeter scale quartz veinlets in monzonite outcrop; B (syenite) showing crowded feldspar crystals; C breccia texture in a dyke.

volcanic and sedimentary host, although it was not traced to the northeast. Biotite plagioclase porphyritic granodiorite dykes

Biotite-plagioclase porphyritic monzodiorite occurs as prominent north to north-northeasttrending dykes, 10-20m wide that cut the monzonite as well as in the metasedimentary rocks. The porphyritic texture is distinct compared to that in the monzonite, with 30% medium to coarse grained, zoned grey and white feldspar (plagioclase>>orthoclase) and 10% euhedral biotite phenocrysts in a fine grained grey matrix (Fig. 28) with 1-2% disseminated pyrite. The dykes are weakly magnetic with a magnetic susceptibility ranging from 0.3 to 2.7X10<sup>-3</sup> SI.

#### 9.3.5 Hornblende-biotite plagioclase porphyritic granodiorite

Hornblende plagioclase porphyritic granodiorite corresponds to a high magnetic anomaly where it outcrops along bluffs at the top of the steep north side of the Peterson Creek ravine.



Figure 30: Plagioclase porphyritic texture in biotite granodiorite dykes in the north and east.



Figure 29: Quartz vein at the Northern zone (right) and southern zone (left).

It contains ~30% medium grained porphyritic plagioclase and 20% hornblende>biotite in a fine grained matrix. It bears a textural resemblance to the biotite plagioclase monzodiorite dykes. However, it is cut by pink syenite dykes, whereas the biotite monzodiorite cuts syenite.

Geological maps of the Gold Cutter Property are shown in Figures 31 to 34.

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#### Figure 31: Gold Cutter Property Geology and Rock Samples

Interpretive map of the Property geology by Bjorkman showing major units delineated by geological mapping in areas of outcrop and interpreted from continuation of regional map units or from the UAV magnetometer survey. The main area of detailed mapping is the north- east part south of Salle Lake in an area traversed by a network of roads. Outcrop mapping and interpreted dykes are shown in black at this scale. Exploration rock samples results are symbolized for gold. The property is underlain by Harper Ranch Gp metasediments and Nicola Gp mafic volcanics intruded by granodiorite dykes and plutons, and syenite - quartz monzonite plugs.





The map area covers most of the historically important sampling and mapping and was the focus of detailed geological mapping for Silverstock indicated by darker toned outcrop outlines. Locations of lithogeochem samples are symbolized by their compositional classification. New assays are shown and symbolized by gold grade. Higher grade samples are labelled. The area of detailed map in Figures 33 and 34 are indicated by red rectangles. Two of the author's check samples are indicated by red stars. Map drawn by the author in ArcGSI9.3 February, 2021 from GIS files interpreted by Bjorkman.

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Outcropping areas are shown as darker tones within the interpreted areas of the units shown in the legend. The syenite unit has lobate conformable contacts with layering in metasedimentary and metavolcanic rocks. The granodiorite cuts the syenite as linear, branching dykes connected to a larger body to the southwest. The structural trend of mineralized quartz veining is not clear in this area; quartz masses and breccias appear to be at deformed contacts between units. Map drawn in ArcGIS9.3 by the author, February, 2021 from GIS files by Bjorkman.



#### Figure 34: North Zone Geological Map and samples

Precise outlines of a series of syenite - quartz monzonite outcrops that host numerous quartz veins are shown around the darker toned areas of the map. Details of the author's check samples are shown in the inset labels New exploration samples are symbolized according to intervals of gold grade in the legend. Map drawn in ArcGIS9.3 by the author, February, 2021 from GIS files by Bjorkman.

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#### 9.4 Mineralized Rock Sample Assay Interpretation

Analytical results were obtained for 131 samples collected and assayed by Silverstock in the October, 2020 survey as well as an additional 4, collected and assayed by the author. Previous assay work for 145 samples collected by the Property owner was reviewed in Item 6.0 History above.

The data were initially scanned in tabular format for obvious anomalous concentrations and trends and then statistically analyzed using box plots and correlation coefficient calculations of significant elements to reveal systematics of the mineralization. Analyses of seven field blank samples of a dolomitic marble were checked for compositional consistency, including the presence above background of of gold, silver and other mineralization related elements. Maps showing sample points and symbolized by grade intervals show the ranges of copper and gold throughout the Property in the geological maps in Figures 31 to 34.

The samples were analysed statistically using boxplots and correlation coefficient calculations. Boxplots of 16 elements that appear to show some sort of systematic variation are plotted in Figure 35 using GCDkit 4.1 (Janousek et al., 2006) including some that are major rock forming elements such as Fe, Na, and K. The boxplots for Au, Ag, Bi, Cu, Pb, Zn, As, and Sb, graphically show anomalous chemical behaviour usually by a wide range of outlier points above a tight box containing the Inter Quartile Range ("IQR"), or second (25 to 50%ile) and third quartiles (50 to 75%ile) of sample concentrations. In contrast, iron (Fe), K, Na, Co and S have a box plot displaying a "normal" distribution of values with a very minor range of outliers. These elements were selected by trial and error and scanning the tables of data for elements significantly above detection limits and showing a wide range of concentration.

Several of the elements such as Pb, Au, and Ag have extremely anomalous distributions of values indicated on the boxplots by a narrow IQR and whiskers plotting almost coincidentally as a thick line with a string of outliers above. Iron, as mentioned above, graphically shows a normal boxplot distribution. Interestingly, Au, Ag, and Pb all show similar distributions with the median value line plotting at the base of the IQR box and a separate "whisker" above, and many outliers. This may be interpreted as showing that these elements (Au, Ag, and Pb) are more widely present in trace quantities in most of the sampled rocks, but highly concentrated in a minority.

To explore the correlation between elements, a chart of correlation coefficients and graphical binary plots of the same set of elements was constructed in GCDkit 4.1 (Fig. 36). The main correlations of significance for gold mineralization are amongst Au, Ag, Pb, and Bi.

Binary logarithmic plots of Au vs Ag and Au vs Pb illustrate the correlation between these elements in Figures 37 and 38. Statistical values for the 125 grab samples collected for Silverstock plus the author's 4 check sample show a good range of gold and silver grades ranging for gold from sub detection 0.005 g/t to 9.81 g/t and for silver from 42 to 101 g/t.

In general the statistical analysis supports the field observations of gold mineralized quartz veins. Galena was commonly observed and this is indicated by the high correlation coefficients for Au with Pb as well as Ag with Pb and Bi. The author's check samples, analysed by a lower detection limit method, also showed correlations between Au and Te as well as Pb, Ag and Bi.



#### Figure 35: Boxplots for 16 selected elements in the Gold Cutter rock data set.

The boxplots provide a visual profile of the statistical distribution of concentrations of mineralizing elements for all of the samples collected at the various showings on the Gold Cutter Property in the 2020 exploration dataset. All concentration axes in ppm appropriate to the range of concentration of each element except Fe, K, Na, and S, in %. Scales are linear. The rectangular "boxes" within each graph enclose the second and third quartiles of samples spanning the Inter Quartile Range ("IQR"); the dark line is the median value, the whiskers either side of the box represent 1.5 time the IQR, and outliers are spots beyond the whiskers. Elements in major rock forming minerals have large open "boxes" and short whiskers, reflecting "normal distributions, whereas elements in trace mineralization have flattened boxes that appear as a thick lines, and a wide range of outliers. Au, Ag, As, and Pb all have a large number of outliers. Mo, Sb and U only have a few ouliers. Boxplots drawn in GCDKit 4.1 (Janousek et al., 2006) by the author February, 2021.

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#### Figure 36: Element Correlation chart for the Chuchi South rock samples

A selected subset of elemental correlations relevant to mineralization (Au, Ag, As, Bi, Cd, Cu, Mo, Pb, S, Sb and Zn) or for comparison to rock forming minerals (Fe, Co) is shown. Axes are in ppm, except Fe and S in %, and scaled linearly. Correlation coefficients are shown in the upper right in text size proportional to strength of correlation. For example Au and Ag are highly correlated with a coefficient of 0.95. Au and Ag are also highly correlated with Pb with a coefficient of 0.59 and 0.63 respectively. The calculated coefficients predict the mineralogy of the veins and identify potential pathfinder elements: Pb appears highly correlated with Ag and Au, but Mo is not correlated with any of the group, Calculations and graphing by the author using GCDKit 4.1 (Janousek et al., 2006) February, 2021.



0

° 0

0.050

0

0

Au (g/t)

0.500

#### Figure 37: Graph of Copper vs Gold in rocks from the Gold Cutter Property.

Concentrations of Au and Au in g/t from assays on rocks sampled by Silverstock are are plotted as open circles showing a roughly linear array.

The author's check samples, shown as red circles, plot within the array and confirm that the Silverstock samples are from the same mineralization.

The geochemical data-set excluded field blanks.

Graph rendered in GCDkit 4.1 (Janousek et al., 2006) by the author January, 2021.

#### **Figure 38: Graph of Gold vs Lead** Concentrations of Au (g/t) and Pb (ppm) from assays on rocks sampled by Silverstock are are plotted as open circles. Points at higher gold concentrations are labelled with the sample number.

The geochemical data-set excluded field blanks.

Graph rendered in GCDkit 4.1 (Janousek et al., 2006) by the author January, 2021.

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#### 9.5 Lithogeochemistry of the Gold Cutter Igneous Rocks

The lithogeochemistry of the igneous rocks from the Gold Cutter Property may elucidate or help predict styles of mineralization. Within the region, paired belts of Cu-Mo calc-alkalic and Cu-Au alkalic porphyry deposits were defined by Logan and Schiarizza (2011) (see Item 6.0 above) in the Late Triassic, and in the Early Jurassic magmatic arcs of the Quesnel Terrane. The repeated pattern of Cu-Mo calc-alkalic and Cu-Au alkalic porphyry belts emphasizes the fundamental importance of magma affinity in deposit type. Thus, copper-gold alkalic porphyry deposits are associated with alkalic or shoshonitic magmas and not with calc-alkalic magmas. The gold enrichment that is characteristic of the copper-gold deposits is related to the gold remobilizing geochemistry of deeper zones of magma generation in more large-ion lithophileelement enriched upper mantle than for the shallower and less enriched zones for calc-alkaline magmas.

To classify the magmatic affinity of the igneous rocks on the Property Dr. K. Bjorkman collected 6 rocks from three different units in the centre of the Property, Unaltered, and unveined/unmineralized samples were taken, and analysed at ALS Global Labs in Vancouver for all major, minor, trace, REEs, as well as Carbon, Sulphur and transition metals. The three rock types were syenite from the main elongate intrusion, granodiorite, and alaskite from a narrow dyke cutting all of the other units. The rocks are all relatively felsic, which inhibits precise assignment of a magmatic affinity which is commonly defined by a series of rock types from mafic to felsic generated by fractionation of a parent magma. In the case of the shoshonitic magmas, the series is generally defined by mafic to intermediate compositions and not in felsic compositions where the distinction both compositionally and mineralogically from calc-alkaline rocks is not clear. For example, augite is the prevalent mafic phenocryst phase in mafic shoshonites (absarokites and shoshonites sensu stricto) where hornblende would be more common in mafic calc-alkalic rocks (basalts and andesites). The difference is related to suppression of hornblende crystallization resulting from reactions forced by the higher  $K_2O$  in the shoshonites.



Initial classification is shown on the Total Alkali-Silica diagram (Middlemost, 1994) on

# Figure 39: Total Alkali Silica Plot of Middlemost, 1994) for classification of volcanic rocks.

The six granitoid rocks collected during the 2020 exploration program plot in three distinct clusters in three fields Total Alkali-Silica ("TAS") classification diagram of Middlemost (1994).

Plotted by the author in GCDkit4.1 (Janousek et al., 2006) November, 2020.



**Figure 41: Granodiorite** Tag shows the ALS Minerals assay number and bar code.



Figure 42: Syenite



Figure 40: Spider plot of Gold Cutter rocks normalized by REE primitive mantle concentrations The diagram plots REE concentrations measured in the rocks normalized by REE concentrations defined by McDonough and Sun (1995) from primitive mantle rocks. For comparison a field of mafic shoshonitic volcanics and coeval monzodioritic intrusions from the Nation Lake alkalic porphyry camp is shown as a grey field in the background.

Plotted by the author in GCDkit4.1 (Janousek et al., 2006).

which the three field rock types plots in distinct clusters (Fig. 39): three in the granodiorite field, two in borderline between quartz monzonites and syenites and one granite. The syenite/quartz monzonites have much higher  $Na_2O+K_2O$  than the granodiorites with only a small difference in  $SiO_2$  that militates against a magma fractionation relationship between them.

Rare earth elements ("REE"s) are a series of elements that are powerful diagnostic petrogenetic indicators. The increase in absolute REE contents in the melts at constant ratios



Spider plot – Primitive mantle (McDonough and Sun 1995)

#### Figure 43: Extended REE Spider plot of Gold Cutter igneous rocks.

The diagram plots LILE, HFSE, and REE concentrations measured in the rocks normalized by concentrations defined by McDonough and Sun (1995) from primitive mantle rocks. For comparison a field of mafic shoshonitic volcanics and coeval monzodioritic intrusions from the Nation Lake alkalic porphyry camp is shown in the grey and pink background.

Plotted by the author in GCDkit4.1 (Janousek et al., 2006) January, 2021.

of Light REEs ("LREE") to Heavy REEs ("HREE") (commonly cited as the Ce/Yb ratios) is because of the incompatible element behaviour of REEs, which concentrate in residual melts as compatible minerals are fractionated away by crystal settling. Within the series from LREEs to HREEs the degree of incompatibility decreases allowing them to be sensitive indicators of magmatic processes. Plots of the REE composition of a rock normalized by some commonly known REE composition such as chondrites or primitive mantle show trends called spider grams and can reveal commonalities and differences in origin of a suite of rocks.

The six Gold Cutter rock samples plotted on the REE spider diagram of McDonough and Sun (1995) in Figure 42 show diverse paths potentially supportive of different petrogenesis.

In addition to REEs, LILE (Large Ion Lithophile Elements Cs, Rb, Ba. and U), HFSEs (High Field Strength Elements ("HFSE"): Th, Nb, Ta, and Zr) that are incompatible in melts show other diagnostic aspects of the petrogenesis of the rocks such as the contributions and effects from subducting slabs on the mantle melts. In Figure 43 spider plots for the six Gold Cutter rocks are shown in contrast to the shoshonites from the Nation Lakes.

Strong depletion of selected HFSE such as Nb and Ta is a characteristic of calc-alkaline petrogenesis caused by fluids from the subducted slab changing the pE to more oxidizing conditions which makes the HFSE behave compatibly and thus be retained in the non-melted peridotite. Fluid mobile elements like the LILEs Ba, Rb, U, and Sr also infiltrate the mantle wedge above the subducting, dehydrating slab and add these elements to melts. Thorium is less mobile in fluids and so not transferred the same way and results in a low Th/U. The shoshonites show the effect of LILEs addition to the melt in the mafic rocks relative to the more evolved granitoids from the Island Plutonic Suite. Titanium is depleted in the alaskites and granodiorites relative to the quartz monzonite/syenites (and Nation Lakes shoshonites) because it is compatible in hornblende, which was apparently crystallizing early in the magma series that led to these rocks. Phosphorus ("P") is depleted in the IPS rocks and enriched in the Chuchi

shoshonites indicating relative roles of apatite crystallization depleting P in the IPS and perhaps accumulation in the shoshonites similar to the behaviour of Sr and plagioclase.

The Gold Cutter igneous rocks probably represent at least two igneous fractionation series, but only felsic members were analysed. Greater certainty can be achieved by analysis of some more mafic members of the igneous suites in the immediate area.

#### 9.6 Airborne Magnetometer Survey of the Property

An aeromagnetic survey of the Gold Cutter Property was conducted under contract from Silverstock to Pioneer Exploration Consultants Ltd ("Pioneer") using an Unmanned Aerial Vehicle ("UAV") or drone mounted magnetometer to complete the survey between September 18th and October 2, 2020. The completed 60 square kilometer survey was presented as three contour maps including a Total Magnetic Intensity (TMI), a First Vertical Derivative (1VD), and Analytical Signal (AS) maps shown respectively, on Figures 44 to 48.

#### 9.61 Airborne Magnetic Survey Specifications

Flight lines for the UAV survey were spaced at 50 meters for east-west survey lines and 500 meters for cross-tie lines for a total of 413.5 line kilometers. The nominal magnetic sensor altitude above ground level (AGL) was set to 45 m for the duration of the survey and was controlled by an onboard laser range altimeter. Satellite-based DTM was used in order to aid the terrain following procedure and to minimize topographic effects on the magnetic data. The nominal production groundspeed of the UAV mounted magnetometer was 8 m/s over flat ground with no wind. Upon landing, the flight batteries are exchanged and the sensor is downloaded for QAQC checks. The average distance covered by each data acquisition flight was approximately 6-10-line kms.

#### 9.62 Instrumentation and Software

The principal airborne sensor used was a GEM Systems Canada GSMP-35U potassium vapor sensor mounted on a UAV platform. Ancillary equipment included a laser altimeter with a 130m range, Global Positioning Satellite (GPS) system antenna and Inertial Measurement Unit (IMU). A stationary GSM-19 Overhauser magnetometer was used as a base station. Raw aerial magnetometer data was collected at a rate of 10 Hz while base station data was collected at a rate of 0.16 Hz. Total field and GPS UTC time were recorded with each data point, enabling diurnal correction to be applied during final data processing.

The GSM-19 Overhauser Magnetometer base station was placed in a location of low magnetic gradient, away from electrical transmission lines and moving metallic objects, such as motor vehicles and aircrafts. The data collected from this base station was used to diurnally correct the aeromagnetic data. The GSM-19 Overhauser Magnetometer is supplied by GEM systems of Markham, Ontario.

Pioneer used the Matrice M600 Pro UAV (Unmanned Aerial Vehicle) to complete this survey towing a lightweight GEM System's UAV GSMP-35U potassium magnetometer at a distance of 3 to 5 meters from the UAV. The Matrice 600 (M600) is DJI's platform designed for professional aerial photography and industrial applications. The UAV Aeromagnetic Configuration of the UAV GSMP-35U potassium magnetometer provided high sensitivity of 0.0002 nT , 0.0001 nT resolution, with +/- 0.1 nT absolute accuracy over its dynamic range of 15,000 to 120,000 nT. and low heading error of + / - 0.05 nT. An onboard laser altimeter measured distance above ground and controlled the flight altitude to remain at 45 m above ground.

#### 9.6.3 Data Processing and Map

All post-field data processing was carried out using Geosoft Oasis Montaj, Python and Microsoft Excel software/ programming languages. Presentation of final maps used ESRI ArcMap and/or Geosoft Oasis Montaj. Results were gridded using minimum curvature method and a grid cell size of approximately 1/3 of flight line spacing. The geophysical images are positioned using the WGS 1984 datum. The survey geodetic GPS positions have been map-projected using the Universal Transverse Mercator (UTM) projection.

The primary result is the map of the Total Magnetic Field based on the flight lines covered by the drone, and interpolating the filtered magnetic data. The first order vertical derivative map quantifies the rate of change of the magnetic field as a function of elevation. It is an approximation of the vertical magnetic gradient, which could be directly measured with separate magnetometers vertically spaced apart. The purpose of this type of filter is to eliminate the long wavelength signatures and make sharp features more detectable, such as the edges of magnetic bodies. The vertical derivative is used to delineate the contacts between large-scale magnetic domains because its value is zero over vertical contacts. The 3D Analytic Signal ("AS") map is the square root of the sum of the squares of the derivatives in the x, y, and z directions. The AS is useful in locating the edges of magnetic source bodies, particularly where remnant magnetic signals and/or low magnetic latitude complicates interpretation.

#### 9.6.4 Interpretation

In general TMI images are negatively affected by increases in clearance height of the sensor above the ground as well as by the depth of overburden. Within the Property, most trees are second growth trees are moderately short and except over the Peterson Creek valley local topographic relief is low so the profiles are interpreted as accurately representing the underlying bedrock. Local surficial geology generally consists of boulder trains, till veneers and till blankets, which are mainly assumed to be less than a few meters thick. The first derivative image compensates for variations in height above ground and local relief by calculating a pseudo gradient measured in nT/m which displays the gradient of the magnetic field being measured.

A preliminary interpretation of the TMI by the author is shown in Figure 46. Interpretation was enhanced by reference to the 1VD and AS images superimposed in a GIS. However, the TMI (Fig. 38) was initially compared to regional maps of Residual TMI published by Dumont et al. (2007) and interpreted for the Bonaparte Lake region of the Thuya Batholith by Thomas and Pilkington (2008) as shown in Item 6.0 "Regional Geology" Figure 20. A section of the NTS 92 P 01 and 08 maps from Dumont et al. (2007) proximal to the Gold Cutter Property is shown in Figure 45. Comparing the 67 nT measured range of magnetic intensity within the Property as shown on Figure 38 with the regional range of 1974 nT shown in the colour bar on Figure 39 it is apparent that the range within the Property is substantially low at approximately 3.3% of the regional. The low apparent resolution of magnetic features on the regional scale



map (Fig. 39) within the Property boundaries can only be partly accounted for by greater spatial resolution of the UAV survey on the Property compared to that of the regional survey. Much of the difference reflects the narrow range of magnetic susceptibilities measured by the UAV survey and on the ground susceptibility meter measurements and thus militates against speculative assignment of magnetic anomalies to widely contrasting rock types.

The broad scale low magnetic features on the TMI image (Figs. 44 and 46) are a diffuse area in the northwest, a broad east - west low in the center and a lesser low in the south central parts of the map. The broad east-west low corresponds to a major topographic depression along east flowing Peterson Creek, and is interpreted as reflecting thick overburden rather than a lithological contrast. Similarly the southern low is around a lake basin and may also reflect overburden depth.

Magnetic highs generally form a strong W trending band on the western edge of the



#### Figure 45: Residual Total Magnetic Field: Bonaparte Lake East Geophysical Survey

The approximate outline of the Gold Cutter Property is shown in black line. The range of the residual Total Magnetic Field ("TMI") within the Property is about 67 nano Teslas ("nT") indicated by the rectangle superimposed on the magnetic colour scale for the full range from the original map sheet 1974 nT. The 67 nT range corresponds to the total range of the TMI measured by the drone survey shown in Figure 44 and is about 3.3% of regional (also shown in Fig. 20 In Item 6.0). The map is modified by the author from Dumont et al. (2007) from the NTS 92 P/08, and 92P/01 Bonaparte Lake East Geophysical Survey. Helicopter traverse lines were nominally spaced at 410 meters and 125 meters above terrain.



#### Figure 46: Interpretation of the UAV magnetometer survey

Linear structural features, shown as thick dashed lines, were interpreted by the author using the TMI to generally locate domains and the zero gradient on 1VD image to define the boundary between domains. Broad scale features are labelled on the map and discussed in the text.

Map drawn by the author in ArcGIS 9.3 using Pioneer supplied image, January, 2021.



### Figure 47: First Vertical Derivative of the Total Magnetic Intensity: Gold Cutter UAV Magnetometer Survey.

Survey map is from Pioneer Exploration Ltd. The First Vertical Derivative is a calculated parameter similar to measuring the gradient of the magnetic field with two vertically separated magnetometers. Units are nT/m. The zero commonly corresponds to contacts between units.

Property and diffuse highs north and south of Peterson Creek. The NW trending band may correspond ot a contrasting rock type, but the more diffuse highs probably reflect diminished overburden depth along the flanks of the Peterson Creek valley likely the result of erosion

Finer magnetic features are evident in the contrasts across the TMI image and resolved on the 1VD and AS images as shown in Figure 40. The main features are interpreted by the author as north trending faults or fractures zones where magnetic susceptibility has been diminished by oxidation of magnetite by meteoric water infiltration. Outcrops in the area where geological mapping was most complete show generally northerly trends, which may have been enhanced by glacial scouring along faults. Regional structures affecting the Thuya Batholith include

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**Figure 48:** Analytical Signal of the Gold Cutter UAV Magnetometer Survey. Survey map is from Pioneer Exploration Ltd. The Analytical Signal is a calculated parameter from the 3 vector components of the TMI. Like the First Vertical Derivative units are nT/m.

major Cretaceous to Tertiary age north trending fault zones defining the North Thompson River indicated in Figure 45. Older structural features influencing the distribution of Late Triassic to Early Jurassic intrusions of the Thuya are not known in the local area and unlikely to be reflected in the fine-scale features interpreted in Figure 44.

#### Soil Geochemistry

Soil geochemical surveys have not been attempted previously on the Gold Cutter Property or on other properties in the immediate area. Regional Quaternary geology has been mapped by Plouffe et al. (2011) who determined that dominant glacial transport directions during the last continental glaciation were initially towards the southwest and then at glacial maximum directly from the north. They also analyzed tills using gold grain counts in an attempt to determine the source of many gold mineralized boulder discovered in tills in the area to the west of Bonaparte Lake.

The soil survey on the Property was conducted by the geological mapping crew and consisted of 5 east-west lines of samples collected at 25 meter intervals (4 - 500 meters lines and 1 - 675 m line) across the main known showings in the Central zone, and road side soil samples collected along the main roads through the north and south parts of the Property at 25 meter intervals. Standard B-horizon soils were collected and all 154 samples were analyzed at ALS Global in Kamloops by ME-ICP61 and Au-AA23, both methods used for the mineralized rock assays. Au-AA23 is a fire assay method and has a detection limit of 0.005 ppm. ME-ICP61 involves a strong 4 acid digestion and ICP- AES analysis with detection limits of 0.5 ppm for Ag, 2 ppm for Bi, 0.5 ppm for Cd, 5 ppm for As. and 10 ppm for W amongst critical elements associated with gold exploration. Tellurium (Te) and mercury (Hg) are volatilized in the 4 acid digestion and unavailable for analysis by this method.

The author plotted the results of the survey at their respective coordinates and examined their values relative to the locations of anomalous mineralized rock samples from the historical and current exploration as well as compared with geology of mapped outcrops. The author also analyzed the sample statistics of all elements analyzed to determine which elements showed anomalous behaviour and for those their respective anomalous thresholds. Generally, Au, Ag, Bi, Cu, Mo, and Pb showed anomalous outliers in statistical analysis, but very few in number significantly above threshold in the actual dataset. The range for Au is 0.05 to 0.081 ppm of which 116 of the 154 were at or below detection limit and only 6 above 0.015 ppm. Silver ranges from detection limit of 0.5 ppm to a maximum of 2 ppm of which 52 were at or below detection limit and 18 above 1 ppm. The spatial distribution of anomalous results for all of the elements showing gold- related behaviour indicated only a few anomalies only some of which were proximal to mineralized outcrops. A simplified map of anomalous results relative to gold showings from the historical and current exploration is shown in Figure 49. On this representation only Line 3 has a good correspondence between gold in soil and proximity to a known gold in quartz veins showing. A few anomalous lead values are also clustered into the anomalous zone. On Line 4 a cluster of gold showings in float and outcrop may be indicated by silver and lead in soils at the western end of the line. A similar cluster of lead and silver in soils anomalies at the eastern end of Line 4 has no known corresponding gold quartz showings, but is nearby a series of outcrops of syenite with quartz veins. Line 5 has possibly significant three-sample gold-in-soil anomaly midway along the line in an area of no outcrop. A single sample lead anomalous sample occurs in the gold anomaly potentially enhancing its validity. The best correlation between a gold showing and soil anomalies if at the eastern end of Line 5 where a single soils sample was anomalous in Au, Ag and Pb and plots near the location of a quartz vein that assayed 9.8 g/t Au, 101 g/t Ag and 313 ppm Mo.

Generally, despite a few correlations between anomalous soil results for gold or some pathfinder elements with gold showing, the response of the soil survey is uncertain. A couple of complicating factors may be important in the lack of responses in the soil data set. Possibly the most significant issues is the choice of an analytical method with relatively high detection limits for several critical elements, namely Ag, and Bi, as well as a lack of analysis of some

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The map is a simplified representation of the soil geochemistry showing only anomalous soil sample sites for Au, Ag and Pb, and only values of gold in rocks > 0.5 g/t for current exploration results and 1 g/t for historical results. Five soils lines are plotted showing site of all samples ,b ut only anomalous values highlighted. Quartz veins measured in the structural survey are plotted. Notes one site is labelled where symbols overlap for gold in quartz vein and Au, Ag and Pb in soils. Drawn by the author in ArcGIS 9.3 February, 2020.

potential pathfinder elements such as Te and Hg. A more appropriate method for the analysis of soils would be one of the super-trace methods using ICP-mass spectrometry (ICP-MS) instead of ICP-AES, and also critically using aqua regia digestion (or potentially even a partial digestion using a weaker acid) instead of the strong 4-acid digestion, which is more appropriate for liberating certain elements from refractory minerals. ALS methods TL-42 or ME-MS41 are recommended and include a semi-quantitative gold analysis that the author has observed correlates well with Au-AA23 in many instances. The author's check samples of mineralized rocks by ME-MS41 also show a strong correlations between Au, Te, Pb and Ag.

Another complicating factors may be the nature of the soils, which are developed on tills shown by Plouffe et al. (2011) to be transported from the north. Plouffe et al. (2011) attempted to find the source of numerous gold bearing boulders in the Rayfield River area west of Bonaparte Lake and documented significant gold grain counts in the till samples in the vicinity of the mineralized boulders. On the Gold Cutter Property many mineralized boulders are also observed, which would be expected to consistently correlate with high values of Au, Ag and Pb in the soils derived from them, but this is not well reflected in the available data. In general there is a lack of correspondence between gold in soils and gold in outcrops or boulders and perhaps the best potential exploration tool to develop is the use of pathfinder elements such as Te as well as Pb, and Ag through the use of lower detection limit ICP-MS analysis and aqua regia dissolution. However, for direct gold detection larger laboratory sample fractions such as 50 grams may be required for consistency in results.

### 10.0 Drilling

No drilling has been done on the Gold Cutter Property.

### 11.0 Sample Preparation, Analyses and Security

#### 11.1 Geochemical Analyses

Silverstock collected and analysed 131 rock samples from outcrops glacial boulders within the Property in the course of its exploration and geological mapping program in October 2020. Collection sites were clearly marked as observed by the author in his Property visit and recorded by GPS coordinates and field notes that were compiled in a spreadsheet. Samples were collected into 6 ml plastic sample bags with sample number tags and sealed with plastic zip ties. Locations were recorded by the crew using either handheld Garmin GPS units or for detailed high precision geological mapping by Bjorkman and her associates, Collector<sup>™</sup> for ArcGIS, an ESRI application, using an Arrow 100<sup>™</sup> GPS Receiver, which gives a typical accuracy of 40-80 cm dependent on terrain and tree cover. The Midland Valley application Clino MOVE was also used to record field photos and structural data using a smart phone device. Sample sites were marked in the field with labelled flagging tape.

During the exploration program Silverstock's rock samples were stored in locked vehicles or motel rooms to prevent public tampering until shipped. Rocks were delivered directly to ALS Global (Canada) Ltd ("ALS") in Kamloops by Silverstock personnel. Reasonable security measures were taken for the exploration samples, given that the results are not being relied upon for resource estimates. As a quality control measure, Silverstock inserted seven field blanks into the 138 sample batch at approximately 20 sample intervals, consisting of pieces of commercially available dolomitic marble.

The author's field examination included collecting 4 mineralized rocks, 2 from veins at the the Central Discovery Zone outcrop, and 2 from an isolated area in the south zone (Fig. 39). The author's sealed his samples in a shipping bag for delivery to the ALS Global laboratory in Kamloops, BC.

At the ALS laboratory, the samples were catalogued, dried, crushed, split and pulverized using standard rock and soil preparation procedures. The rocks collected by Silverstock were analysed for 33 elements by ALS protocol ME-ICP61 (Inductively coupled plasma - atomic emission spectroscopy "AES") and for gold by method Au-AA23 using a 30 gram split. The author's field examination rocks were analysed by ALS protocol ME-MS61 (Inductively coupled plasma - mass spectrometric analysis), which provided results for 48 elements at lower detection limits than by ME-ICP61 varying from 1 to 2 orders of magnitude (details in ALS Schedule of Services and Fees). Gold was also analysed by method Au-AA23 from a 30 gram split of the pulp. Both protocols, ME-MS61 and ME-ICP61, involve 4 acid dissolution (H<sub>3</sub>ClO<sub>4</sub> -HNO<sub>3</sub> - HCl; dry down and re-dissolution in HCl) and common crushing (70% <2 mm), riffle splitting, and pulverizing (85% < 75 µm) specifications.

Whole rock analysis of 6 samples and one blank collected by Bjorkman for Silverstock utilized ALS method CCP-Pkg03 which involves selected procedures for each type of element to ensure complete dissolution of particular elements from the most refractory minerals, and measurement of all of each element in the avoiding analytical overlaps. Major elements

were measured by fusing a portion of the rock powder with lithium metaborate prior to XRF analysis. Trace elements, and REEs were analyzed by 2 ICP MS methods involving either direct dissolution of an aliquot of the rock powder or of the lithium metaborate fused powder. Carbon and Sulphur were analyzed by Leco furnace.

ALS quality control methods included inserting into the laboratory sample stream a series of appropriate certified rock standards that allow a statistical assessment of accuracy relative to established concentrations of various elements. Precision is assessed by the degree of variation of concentrations reported for an element in successive analyses of the same standard and by reanalysis of a small number of randomly selected field samples. Furthermore, ALS inserts a series of blanks in the laboratory analytical stream to detect contamination. Elements that returned concentrations above the analytical limit for ME-ICP61 or ME-MS61 were reanalyzed using a sequence of quantitative methods for higher concentrations of base and precious metals as required.

The data provided to the author by Silverstock included sample site coordinates, material descriptions, site coordinates, and original ALS data files and certificates of analysis of all analytical results as well as QA/ QC data. The author's QA/QC review initially involved scanning the laboratory analytical data in tabular form for unusual trends indicative of laboratory cross contamination such as observing high concentrations of an element at the beginning of an analytical series (assuming that samples were run in order) that declined exponentially in successive samples. No unusual trends were observed, which was further confirmed by a lack of significant departure from normal values in the laboratory and marble field blanks. From reviewing the QA/QC data the author concluded that the analyses were statistically accurate and precise. It was therefore concluded that the data set results were representative of natural element concentrations in rocks.

The author compiled the analytical and sample coordinate data into ArcGIS and checked coordinates for map plotting. In the data compilation in an Excel spreadsheet, the author replaced element concentrations that were reported as below detection limit (e.g. <10 ppm) with a numerical value of half the detection limit (e.g. 5 ppm) to allow numerical processing of the data.

ALS is a certified commercial lab with ISO 9001:2000 certification and no connection to Silverstock or the author other than a regular service provider - client relationship. The laboratory in North Vancouver has also been accredited to ISO 17025 standards for specific laboratory procedures by the Standards Council of Canada (SCC). ALS is a subsidiary of ALS Global, which is a leading testing, inspection, certification and verification company head quartered in Brisbane, Australia that services multiple industries globally and employs over 13,000 staff in over 65 countries.

The author acknowledges that reasonable sampling methodology and secure chain-ofcustody were adequately maintained during the course of the project. As mentioned above Silverstock's samples were stored in locked facilities until shipped, and the author's samples were in his custody until directly shipped in a secure container to ALS facilities. The author's samples were analysed under the author's own account at ALS without indication of source and results delivered directly to the author. The author is unaware of any problem with the analytical procedures, field locations, or data handling that would have an adverse affect on the quality of the data that is represented in this report.

### 12.0 Data Verification

The Technical Report includes data from the following categories:

- i. 1. Historical exploration data including field geological descriptions, and geochemical assay data for 145 rock samples.
- ii. 2. Current exploration data including 131 rock samples from the Property and 154 soil samples.

 iii. 3. Current exploration data from a Property-wide UAV magnetometer survey. The author reviewed the historical exploration data in assessment reports available in the public domain on the British Columbia Assessment Report Information System and assessed their reliability by their internal consistency with respect to quality controls described and in relation to known geology of the areas surveyed. This data is presented in Item 6.0 History.

The author verified the Silverstock rock geochemical data by analysis of four check samples collected from outcrops at significantly mineralized locations reported by Silverstock and shown on Figures 32 to 34. The samples were collected from outcrops judged by the author to be representative of various veins were analysed by ALS using ME-MS61 for a suite of 48 elements and Au-AA23 for gold. ME-MS61 involves strong 4 acid digestion and Induction Coupled Plasma Mass Spectrometry ("ICP-MS"), which has lower detection limits than ICP -Atomic Emission



## Figure 50: Rock Assay Verification

Four check samples independently collected and assayed by the author are compared with assays from the Silverstock exploration data set for 2020. Axes are logarithmic and cover the full range of the analyses in the data set.

Spectrometry ("ICP-AES") utilized for ALS method ME-ICP61 used for the Silverstock assays at the same laboratory. Results of the author's check analyses, illustrated in Figure 50, match the ratios of Au:Ag for the suite of Gold Cutter analyses and are within the range of element concentrations obtained in Silverstock's samples from the same showings.

The combined check sample and Silverstock exploration geochemical data was also examined by the author in statistical plots (box plots and correlation diagrams) and variation

diagrams for trends and patterns that might highlight both natural variations and unusual inconsistencies in the individual data points. All of the variations and trends appeared to be of natural origin revealing important aspects of the geology.

The exploration geochemical data (rock and soil samples) are susceptible to natural variations in the local geological environment and the quality of material collected and thus subject to field decisions on sampling, but not critical in resource evaluations. Rock sample data from early stage exploration was also subject to field decisions and requires evaluation of the context of the collected material, if available, by the qualified person.

Geochemical data, incorporated from previous work, were verified by the same procedures as for the current data, by examining the laboratory QA/QC information where available and generally reviewing the data sets for unusual non-natural trends indicative of lab contamination.

The Pioneer magnetometer data was verified by examining the internal consistency of the maps and sections and reviewing the logistics and methodology reports accompanying the data. The author also compared the results to regional high resolution magnetometer surveys to verify that the narrow range of readings fell within the appropriate regional context.

In the author's opinion the quality of the data collected is wholly adequate for the purposes of early stage exploration of the Gold Cutter Property as laid out in this Technical Report (pursuant to item 12 (c) of Form NI 43-101 (F1)) and within the limitations described by the author regarding analytical methods used, which consist solely of lower detection limits than those used for the verification by the author.

### **13.0 Mineral Processing and Metallurgical Testing**

There has been no historical or recent extraction of rock for the purposes of mineral processing or metallurgical testing undertaken on the Gold Cutter Property.

### **14.0 Mineral Resource Estimates**

The Gold Cutter Property is an early stage exploration project; therefore no mineral resource estimates have been made for the Property.

Items 15.0 to 23.0 of National Instrument Form 43-101 F1 Technical Report are not applicable to this Technical Report.

### **23.0 Adjacent Properties**

There are no mineral properties adjacent to, or nearby the Gold Cutter Property.

### 24.0 Other Relevant Data and Information

There is no additional relevant data or information known to the author that is not disclosed in this technical report on the Gold Cutter Property.

### **25.0 Interpretation and Conclusions**

### 25.1 Historical Exploration and Regional Geology

The Property has been explored by current owner Ron Bilquist since 2003. Cumulative work on the Property included the collection and assay of 145 rocks many of which were mineralized quartz veins hosting significant gold and silver. Samples were mainly from float boulders of quartz veins and syenite with smaller quartz veins, but a good number were from outcrops suggesting that the float boulders, especially the commonly observed more angular ones, were proximal to source. Mineralogy observed in the veins was principally galena and pyrite with lesser chalcopyrite and molybdenite. Grades in the quartz veins both in float and outcrop samples range from nil to 79 g/t Au, and nil to 349 g/t Ag.

### 25.2 Property Exploration Results

Exploration by Silverstock on the Gold Cutter Property was completed between October 5th and 11th 2020 and involved high precision geological mapping, rock and soil sampling by three geologists under the direction of Dr. K. Bjorkman. The geological mapping systematically outlined outcrops at sub-metre accuracy and broad-scale interpretation was aided by a UAV magnetometer survey over the entire Property.

Rock types were defined by careful field observations and 6 whole rock / complete characterization analyses. The whole rock analyses were from three distinctive intrusive units, a biotite granodiorite, a quartz monzonite with borderline syenitic alkalis content, and an alaskite or quartz-rich granite. The granodiorite contains fresh euhedral biotite and plagioclase phenocrysts and appears to be a relatively late phase branching from high a level stock. Lithogeochemistry of the three main intrusive units indicates that the granodiorite and alaskite may be related, but that the syenite is probably from a different more alkalic parental magma. Field relations between the units indicate that the syenite was intruded concordantly into metasediments of the Paleozoic Harper Ranch Group and mafic metavolcanics of the Mesozoic Nicola Group. The granodiorite forms a complex of dykes cutting the syenite and the metamorphic host rocks.

It is unclear when the main mineralizing event occurred. Quartz veins are mainly observed in the syenite and not in the granodiorite suggesting that brittle fracturing resulted in both the dykes and the veins.

The airborne magnetic survey provided fine scale geophysical information that identified several structures that warrant field checking through geological mapping, and till and soil sampling to properly interpret.

### 25.3 Risks and Uncertainties in the Interpretation of the Exploration Results

Exploration results directly obtained by Silverstock include initial geological mapping, assaying of 131 rock samples, including 6 for lithogeochemistry, a UAV magnetometer survey of the whole Property, and a preliminary soil geochemical survey consisting of 154 samples collected along main bush roads and 5 east to west lines over showings. Concurrently, the exploration has been guided by compilation and review of previous exploration work disclosed in the History section of this report. At the current stage of exploration in some areas there are significant uncertainties in the interpretation of the available data.

The soil geochemical survey indicated only a few significant anomalies on the Property.
However, the analyses have relatively high detection limits for several potential pathfinder elements that likely reduced definition of expected anomalies and introduced a degree of uncertainty into the interpretation of soil geochemistry and its efficacity. The only risk involved is that the lack of anomalous results will be given credence without reanalysis by more appropriate methods.

Results from the airborne magnetometer survey have been subjected to a preliminary interpretation in this report. The survey is useful in delineating fine structures which may have some exploration significance, but the risk of misinterpretation is mitigated by the narrow range of magnetic intensity observed, which accords well with special regional aeromagnetic studies that have been the subject of expert analysis discussed above.

## 25.4 Impacts of Risks and Uncertainties on Project Viability

To be viable the project needs to use methods that determine the potential for significant mineralization on the Property with minimal uncertainty.

## 26.0 Recommendations

## **26.1 Exploration Priorities and Methods**

The choice of exploration methods on the Property must consider the available exploration data, surface characteristics, and the uncertain genesis of the mineralization. The Property is predominantly overburden covered, but near continuous outcrop in localized areas, such as along the shoulders of the Peterson Creek valley. Only a fraction of the Property has been mapped at the level of detail shown in the maps in Item 9.0, but it is not clear what can be achieved by intensive mapping of the whole Property. Many broad area of outcrop are barren of mineralized veins and where veins are common many are barren or low grade. Mapping of the full Property might be expedited by photogrammetry by UAV such as was done for the magnetometer survey. Terrain relief is moderate to low and the area is heavily forested, both with second growth and primary forest. Old logging roads and cattle trails abound, but some line or trail cutting may be facilitate mapping work and geophysical surveys.

Further work should be done on the igneous petrology of the intrusive units. The work so far includes only 2 petrographic reports on one of the units and 6 complete geochemical characterizations on 6 rocks from 3 units. Mafic units, including those suspected of belong to the Nicola Group, should be analyzed to determine whether one of the igneous suites is alkalic.

Another area of research is the veins themselves. Detailed petrographic and possibly geochemical analysis of mineralized vein margins would help resolve whether the veins are late stage segregations from a crystallizing pluton, or of a hydrothermal nature unrelated to the host rock. Detailed petrographic and geochemical work on veins and their immediate wall rocks is a high priority.Mapping should document rock types thoroughly and initially focus on establishing clear unambiguous lithological characteristics for perhaps three plutonic units of significant extent. The purpose would be to establish an order of intrusion and determine the relationship of the gold mineralized veins to the intrusive suite.

## 26.2 Recommended Program and Budget

An exploration program with a budget of \$106,597.50 is warranted for the Gold Cutter Property to resolve uncertainties in the nature of the mineralization and test methods for discovering potentially economic resources.

One component of the recommended program involves till sampling to determine the source of gold mineralized boulders that have historically yielded relatively high gold grades. This sampling work should take place along the main east-west roads through the Property by identifying appropriate basal tills in road cuts. If sampling cannot be accomplished at intervals of perhaps 100 to 200 meters, an small excavator may be requires to dig pits in roadside ditches. The surficial geology should be mapped in sufficient detail to support the till sampling.

Lithogeochemical work in the program should entail complete characterization of about a dozen samples of igneous units with priority on mafic volcanics to determine if the rocks are alkalic and whether they belong to one or more suites. Petrographic descriptions should be obtained in the samples analysed. A separate petrographic project would be to examine cross-sections over several mineralized veins to determine the style if wall rock alteration.

Geological mapping should focus on areas of good outcrop exposure. Drone imagery may facilitate finding and mapping outcrops.

Although it is unlikely that any IP geophysical response can be obtained a few detailed test lines may be warranted. Consideration should be given to using resistivity to determine overburden depth to assist in the surficial geology and till sampling.

days	rate	COST
25	\$800.00	\$20,000.00
20	\$800.00	\$16,000.00
20	\$400.00	\$8,000.00
5 :	\$4,130.00	\$20,650.00
2 :	\$2,050.00	\$4,100.00
20	\$500.00	\$10,000.00
20	\$200.00	\$4,000.00
250	\$42.95	\$10,737.50
100	\$42.95	\$4,295.00
100	\$48.15	\$4,815.00
4 :	\$1,000.00	\$4,000.00
	days 25 20 20 5 2 20 20 20 250 100 100 4	daysrate25\$800.0020\$800.0020\$400.0020\$400.002\$2,050.0020\$500.0020\$200.0020\$200.0020\$42.95100\$42.95100\$48.154\$1,000.00

\$106,597.50

 Table 4:
 Recommended Budget

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# 28.0 Certificate of Qualified Person

## Statement of Qualifications: Hardolph Wasteneys Ph.D., P.Geo.

I, Hardolph Wasteneys, Ph.D, P.Geo., resident near Strathcona Park Lodge, Upper Campbell Lake at 40960 Gold River Highway, Campbell River, British Columbia, do hereby certify that my qualifications, stated below, apply to the National Instrument 43-101 F1 Technical Report on the Gold Cutter Property, Central British Columbia (the "Technical Report") authored by me as of the effective date of February 9, 2021

- 1. I am a self employed Professional Geoscientist registered as a member of the Association of Professional Engineers and Geoscientists of British Columbia, member number 32102, and have worked primarily in mineral exploration, mining, geological and U-Pb geochronological research, and geological education since 1976.
- 2. I graduated with the degree of Bachelor of Science in Geological Engineering, Mineral Resources option from the Faculty of Applied Science, Queen's University, Kingston in 1979 by which date I had 10 months of geological field experience in Ontario, British Columbia and NWT.
- 3. My degree of Doctor of Philosophy was granted by Queen's University, Kingston in 1990 in the field of economic geology with research specialized in the study of epithermal ore deposits and shoshonitic volcanics of southern Peru under the supervision of Prof. Alan H. Clark. My research work involved 3 months of field work at a remote mine.
- 4. In post-doctoral research I worked at the Jack Satterley Geochronology Laboratory in the Royal Ontario Museum directed by Dr. T. E. Krogh from 1990 to 1997 in the field of U-Pb geochronology and completed numerous independent studies on the timing of ore deposition and regional metamorphism in collaboration with university and government survey geologists and resulting in several publications in peer reviewed international journals.
- 5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Properties ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- 6. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 7. Relevant field experience for evaluation of the Gold Cutter Property includes exploration and research in volcanogenic massive sulphide deposits at Palmer (Haines AK, 2006 to 2009 and 2020), in magmatic hydrothermal deposits at Brynnor (iron skarn 2008-2009 Vancouver Island), copper skarns and porphyries (Galore Creek, 2011; Vancouver Island, ongoing), molybdenum porphyries (Cassiar, 1979) and exploration for porphyry copper deposits in the Dease Lake area (2013-2014). My recent exploration work has focused on epithermal and precious metal vein deposits in the Terrace - Smithers area. My Ph.D. thesis research was on establishing connections between magmatic hydrothermal ore deposits and shoshonitic/alkalic magmatism.
- 8. I have no beneficial interest in Silverstock Metals Inc.., am independent of the entities applying all of the tests in Section 1.5 of NI 43-101 and hold no interests in any aspects of the Gold Cutter Property.
- 9. I have not had prior involvement with the Gold Cutter Property that is the subject of the Technical Report.
- 10. I am responsible for all aspects of the Technical Report including my presentation and interpretation of the Silverstock Metals Inc. field data
- 11. I visited the Gold Cutter Property on October 9th and 10th, 2020 for the purposes of this Technical Report.
- 12. As of the date of this certificate, 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.

February 9, 2021



#### Hardolph Wasteneys PhD, PGeo.

## 29.0 Consent Form

To: British Columbia Securities Commission

Alberta Securities Commission

Canadian Securities Exchange

Dear Sirs/Mesdames:

Re: Silverstock Metals Inc. (the "Issuer")

I, Hardolph Wasteneys, Ph.D., P.Geo, do hereby consent to the public filing of the technical report entitled "NI 43-101 Technical Report on the Gold Cutter Property, Central British Columbia" and dated effective February 9, 2021

(the "Technical Report") by the "Issuer" with the securities regulatory authorities referred to above. I do further hereby consent to the use of extracts from, or a summary of, the Technical Report, in the preliminary prospectus of the Issuer dated \_\_\_\_\_\_ (the "Preliminary Prospectus") and to being named in the Preliminary Prospectus.

I confirm that I have read the Preliminary Prospectus and that the disclosure in the Preliminary Prospectus fairly and accurately represents the information in the Technical Report that supports the disclosure in the Preliminary Prospectus.

I have no reason to believe that there are any misrepresentations in the information contained in the Preliminary Prospectus that is derived from the Technical Report or that are within my knowledge as a result of the services performed by me in connection with the Technical Report.

Hardolph Wasteneys, Ph.D. P.Geo.

\_\_\_\_\_, 2020



Effective Date of this Report: February 9, 2021 Last Revision Date: May 28, 2021

Date of Signing: February 9, 2021

Hardolph Wasteneys

Horeby Karty



Hardolph Wasteneys Ph.D. P.Geo.