

# NI43-101 Technical Report

On the  
Princeton Project  
British Columbia  
Canada  
at -120.66° Longitude  
and  
49.31° Latitude  
MAP 92H/07



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# 1 SUMMARY

This report was commissioned by Collective Metals Inc. (or the “Company”) and prepared by Derrick Strickland, P. Geo. As an independent professional geologist, the author was asked to undertake a review of the available data and recommend, if warranted, specific areas for further work on the Princeton Project (or the “Project”). This technical report was prepared to support a listing requirement and is to be filed on Sedar. The author visited the Princeton Project on June 7, 2023.

An agreement between Collective Metals Inc. and Tulameen Resources Corporation states that Collective Metals Inc. can acquire a 70% interest of a part of the much larger 70,570 Princeton Project by paying \$500,000 by May 19, 2026, issue 7,000,000 shares by May 19, 2026, and incurring \$1,400,000 in exploration expenditures by May 19, 2026. This report only covers four mineral claims totaling 3,917 ha. The mineral claims are in the name of Rick Walker and being held in trust for Tulameen Resources Corporation.

The Project is located 200 kilometres east of Vancouver, British Columbia in the Princeton Mining District of the Similkameen Mining Division. The Project consists of four, non-surveyed contiguous mineral claims totalling 3,917.04 hectares located on NTS map sheet 92H/07 and centered at -120.66° Longitude and 49.31° Latitude.

The Project is in the southern part of the Quesnel Terrane. The Quesnel Terrane is dominated by Upper Triassic to Early Jurassic sedimentary and volcanic rocks of the Nicola Group intruded by a variety of Late Triassic to Early Jurassic granitoid rocks southwest of a northwest-trending line passing near Rayleigh, and by Devonian to Triassic sedimentary rocks of the Harper Ranch Group and Harper Ranch (?) Nicola Group northeast of the line. Large areas of Tertiary volcanic cover represented by the Kamloops and Chilcotin groups are also present.

In the southern part of British Columbia, this assemblage of volcano plutonic arc rocks is known as the Nicola Group. Throughout the Intermontane Tectonic Belt, these rocks are noted for their mineral deposits, principally alkalic copper-gold-silver porphyry deposits, and copper and gold skarns. The central part of the Nicola Group between Merritt and Princeton has been subdivided into three subparallel structural belts, referred to as the Western, Central, and Eastern Belts, on the basis of physical and chemical differences of the rock assemblages. The three belts are separated by northerly trending high-angle fault systems (Preto, 1979). The Princeton area hosts the Eastern and Western Belt Nicola rocks that are separated by the northerly trending high-angle Boundary fault (BF).

The Western Belt Nicola rocks occur west of the Boundary fault and underlie the Princeton project area. They are the oldest rocks exposed on the Princeton Project. The sedimentary sequence is dominated by interbedded black argillite, grey siltstone, limestone, and sandstone. The rocks show pervasive chlorite alteration, veinlets and patches of epidote, and minor amounts of disseminated pyrite and chalcopyrite. The volcanic sequence is dominated by fragmental volcanic beds of interbedded pyroxene-feldspar tuff, lapilli tuff, breccia, and agglomerate. Epidote, chlorite and calcite occur as alteration minerals in clasts and matrix, and also in veins. Quartz veins are also common.

Within the southwestern portion of the Princeton project, three stocks of mafic diorite, gabbro and pyroxenite intrude Nicola Group rocks along Whipsaw Creek. The three separate bodies are mapped along a southwest - northeast 050° trend, occur over a 10-kilometre strike length, and are associated with the Whipsaw Creek fault.

The stocks are Late Triassic in age and Massey's description of the Whipsaw stocks indicates that the stocks are differentiated intrusions that may be similar to the Copper Mountain stock. The large northerly trending fault systems such as the Allison, Summers Creek, Whipsaw and Boundary, are believed to represent deep-seated crustal features which dominated the geology of the region in the Late Triassic time and caused volcanic centres to be aligned in a northerly direction, thus producing a central zone of dominantly volcanic and intrusive rocks, the Central Belt and part of the Eastern Belt, flanked to the west and east by sedimentary basins. Some of these eruptive centres can be identified with stocks or clusters of stocks of micro monzonite or micro diorite which may have associated copper-gold mineralization such as at Copper Mountain.

A number of copper showings were located between 2008 and 2014 by Goldcliff Resource Corporation in the Whipsaw Creek area (Whipsaw target). These showings included the Nev, Eagle, Trojan and Raven on the southeast side of Whipsaw Creek. The copper mineralization occurs within chloritic schists of the Nicola Group and a diorite-gabbro-pyroxenite stock that has intruded the Nicola rocks. Traces of chalcopyrite associated with pyrite occur within narrow carbonate-quartz-epidote veinlets, patchy epidote alteration, and more rarely as fine-grained disseminations in the diorite-gabbro-pyroxenite stock and Nicola volcanics.

The Whipsaw Target area contains the Trojan-Condor target. The Trojan-Condor target is a large 5 km<sup>2</sup> area of anomalous copper geochemical values. The target corresponds with a 3DIP chargeability anomaly that extends to depths of up to 500 metres.

Goldcliff Resource Corporation undertook an interpretation of the airborne data and ground geophysical data. The ground and airborne geophysical data indicate the potential for mineralization within the Whipsaw work area. Magnetic data suggest that the west side of the Boundary Fault has been down-dropped relative to the east side. There is also an indication that a wedge-shaped graben, filled with Princeton Group rocks, exists bounded by the Boundary Fault (or faults) in the east and faults that run roughly along the Nicola/Princeton contact in the west. Magnetic data show a subcircular moderate magnetic region partially surrounded by higher magnetic intensity. This subcircular feature may represent a buried intrusive rock and is possibly(?) the source of mineralization seen on surface and detected by the induced polarization/resistivity survey in ten of the twelve chargeability anomalies.

As of the effective date of this report, Collective Minerals Inc. has not completed an exploration program. In order to continue to evaluate the potential of the Project, a program consisting of GIS compilation, reinterpretation of the 2011 induced polarization data, relogging of the 2014 drill core, and geological mapping/sampling including alteration mapping. The estimated cost of the programme is \$96,525 CDN.

## 2 INTRODUCTION

This report was commissioned by Collective Metals Inc. (or the “Company”) and prepared by Derrick Strickland, P. Geo. As an independent professional geologist, the author was asked to undertake a review of the available data and recommend, if warranted, specific areas for further work on the Princeton Project (or the “Property”). This technical report was prepared to support a listing requirement and it to be filed on Sedar.

In the preparation of this report, the author utilized both British Columbia and Federal Government of Canada geological maps, geological reports, and claim maps. Information was also obtained from British Columbia Government websites such as:

- Map Place - [www.empr.gov.bc.ca/Mining/Geoscience/MapPlace](http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace);
- Mineral Titles online - [www.mtonline.gov.bc.ca](http://www.mtonline.gov.bc.ca); and
- Geoscience BC - [www.geosciencebc.com](http://www.geosciencebc.com)
- IMAP BC

British Columbia Mineral Assessment work reports from (ARIS reports) from the Princeton Project area historically filed by various companies were also reviewed. A list of reports, maps, and other information examined is provided in Section 27 of this report.

The author visited the Princeton Project on June 7, 2023, during which time the author reviewed the geological setting. On June 7, 2023, accompanying the author was Rick Walker CEO of Tulameen Resources Corporation. The author has no reason to doubt the reliability of the information provided by Collective Minerals Inc.

Unless otherwise stated, maps in this report were created by the author. The author modified Goldcliff Resources Corporation maps in section 9 of this report to reflect the current property configuration.

This evaluation of the Collective Metals Inc.- Princeton Project is partially based on historical data derived from British Columbia Mineral Assessment Files and other regional reports. Rock sampling and assay results are critical elements of this review. The description of sampling techniques utilized by previous workers is poorly described in the assessment reports and, therefore, the historical assay results must be considered with prudence.

The author reserves the right but will not be obliged; to revise the report and conclusions if additional information becomes known subsequent to the date of this report.

The information, opinions, and conclusions contained herein are based on:

- Information available to the author at the time of preparation of this report
- Assumptions, conditions, and qualifications as set forth in this report

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



## 2.1 UNITS AND MEASUREMENTS

Table 1: Definitions, Abbreviations, and Conversions

Units of Measure	Abbreviation	Units of Measure	Abbreviation
Above mean sea level	amsl	Milligrams per litre	mg/L
Billion years ago	Ga	Millilitre	mL
Centim	cm	Millimeter	mm
Cubic centim	cm <sup>3</sup>	Million tonnes	Mt
Cubic m	m <sup>3</sup>	Minute (plane angle)	'
Days per week	d/wk	Month	mo
Days per year (annum)	d/a	Ounce	oz.
Degree	°	Parts per billion	ppb
° Celsius	°C	Parts per million	ppm
° Fahrenheit	°F	Percent	%
Diameter	∅	Pound(s)	lb.
Gram	g	Power factor	pF
Grams per litre	g/L	Specific gravity	SG
g/t	g/t	Square centim	cm <sup>2</sup>
Greater than	>	Square inch	in <sup>2</sup>
Hectare (10,000 m <sup>2</sup> )	ha	Square kilometer	km <sup>2</sup>
Gram	g	Square m	m <sup>2</sup>
Kilo (thousand)	k	Thousand tonnes	kt
Kilogram	kg	Tonne (1,000kg)	t
Kilograms per cubic m	kg/m <sup>3</sup>	Tonnes per day	t/d
Kilograms per hour	kg/h	Tonnes per hour	t/h
Kilometre	km	Tonnes per year	t/a
Less than	<	Total dissolved solids	TDS
Litre	L	Week	wk
Litres per minute	L/m	Weight/weight	w/w
M	m	Wet metric tonne	wmt
M s above sea level	masl	Yard	yd.
Micrometre (micron)	µm	Year (annum)	a
Milligram	mg		

## 3 RELIANCE ON OTHER EXPERTS

For the purposes of this report, the author has reviewed and relied on ownership information provided by Christopher Huggins, CEO of Collective Metals Inc. on May 27, 2023, which to the author's knowledge is correct. A limited search of tenure data on the British Columbia government's Mineral Titles Online (MTO) web site confirms the data supplied. This information is used in section 4 of this report.

## 4 PROPERTY DESCRIPTION AND LOCATION

The Princeton Project consists of four non-surveyed contiguous mineral claims totalling 3,917.04 hectares located on NTS map 92H/07 centered at -120.66° Longitude and 49.31° Latitude. The claims are located within the Princeton Mining Division of British Columbia. The Mineral claims are shown in Figures 1 and 2, and the claim details are illustrated in the following table:

Table 2: Mineral Claims

Claim No	Issue date	Good to Date	Area (ha)
1083728	17.8.21	1.2.23	358.17
1083649	12.8.21	1.2.23	1285.29
1083660	12.8.21	1.2.23	1325.87
1083661	12.8.21	1.2.23	947.71
<b>Total</b>			<b>3917.04</b>

On August 9, 2022 an order of protection (# S.66, 13180-20-619) for an extension of time was issued by the Gold Commissioner of British Columbia. This order of protection protected the mineral claims from expiry until June 30, 2023. If no exploration work is filed before June 30, 2023 the mineral claims will expire.

The author did not observe any environmental liabilities that have potentially accrued from any historical activity. The author is not aware of any permits obtained for the Project for the recommended work.

The author undertook a search of the tenure data on the British Columbia government's Mineral Titles Online (MTO) website which confirms the geospatial locations of the claim boundaries as of May 30, 2023. BC Mineral Titles online indicates that Richard Walker is the owner, original Staker, and the current registered 100% owner of the above listed tenures. Mr. Walker reported to the author on June 7 during the site visit that he is holding the mineral claims in trust for Tulameen Resources Corporation.

In British Columbia, the owner of a mineral claim acquires the right to the minerals that were available at the time of claim location and as defined in the Mineral Tenure Act of British Columbia. Surface rights and placer rights are not included. Claims are valid for one year and the anniversary date is the annual occurrence of the date of record (the staking completion date of the claim).

To maintain a claim in good standing the claim holder must, on or before the anniversary date of the claim, pay the prescribed recording fee and either: (a) record the exploration and development work carried out on that claim during the current anniversary year; or (b) pay cash in lieu of work. The amount of work required in years one and two is \$5 per hectare per year, years three and four \$10 per hectare, years five and six \$15 per hectare, and \$20 per hectare for each subsequent year. Only work and associated costs for the current anniversary year of the mineral claim may be applied toward that claim unit. If the value of work performed in any year exceeds the required minimum, the value of the excess work can be applied, in full year multiples, to cover work requirements for that claim for additional years (subject to the regulations). A report detailing work

done and expenditures must be filed with, and approved by, the B.C. Ministry of Energy and Mines. No work permits would be required to undertake the proposed work program.

The Company or author is unaware of any significant factors or risks, besides what is not noted in the technical report, which may affect access, title, or the right or ability to perform work on the Project.

All work carried out on a claim that disturbs the surface by mechanical means (including drilling, trenching, excavating, blasting, construction or demolition of a camp or access, induced polarization surveys using exposed electrodes and site reclamation) requires a Notice of Work permit under the Mines Act and the owner must receive written approval from the District Inspector of Mines prior to undertaking the work. The Notice of Work must include: the pertinent information as outlined in the Mines Act; additional information as required by the Inspector; maps and schedules for the proposed work; applicable land use designation; up to date tenure information; and details of actions that will minimize any adverse impacts of the proposed activity. The claim owner must outline the scope and type of work to be conducted, and approval generally takes 8 or 24 months.

Exploration activities that do not require a Notice of Work permit include prospecting with hand tools, geological/geochemical surveys, airborne geophysical surveys, ground geophysics without exposed electrodes, hand trenching (no explosives) and the establishment of grids (no tree cutting). These activities and those that require permits are outlined and governed by the Mines Act of British Columbia.

The Chief Inspector of Mines makes the decision whether or not land access will be permitted. Other agencies, principally the Ministry of Forests, determine where and how the access may be constructed and used. With the Chief Inspector's authorization, a mineral tenure holder must be issued the appropriate "Special Use Permit" by the Ministry of Forests, subject to specified terms and conditions. The Ministry of Energy and Mines makes the decision whether land access is appropriate, and the Ministry of Forests must issue a Special Use Permit. However, three ministries, namely the Ministry of Energy and Mines; Forests; and Environment, Lands and Parks, jointly determine the location, design and maintenance provisions of the approved road.

Notification must be provided before entering private land for any mining activity, including non-intrusive forms of mineral exploration such as mapping surface features and collecting rock, water or soil samples. Notification may be hand delivered to the owner shown on the British Columbia Assessment Authority records or the Land Title Office records. Alternatively, notice may be mailed to the address shown on these records or sent by email or facsimile to an address provided by the owner. Mining activities cannot start sooner than eight days after notice has been served. Notice must include a description or map of where the work will be conducted and a description of what type of work will be done, when it will take place and approximately how many people will be on the site. It must include the name and address of the person serving the notice and the name and address of the onsite person responsible for operations.

An agreement between Collective Metals Inc. and Tulameen Resources Corporation states that Collective Metals Inc. can acquire a 70% interest in a portion of the much larger 70,570 Princeton Project by paying \$500,000 by May 19, 2026, issuing 7,000,000 shares by May 19, 2026, and



incurring \$1,400,000 in exploration expenditures by May 19, 2026. This report only covers four mineral claims totaling 3,917 ha.

Collective has secured an option on the Project from Tulameen Resources Corporation to earn a seventy percent (70%) interest in the Project through a combination of cash payments, common share issuances, and incurrence of exploration expenditures, as follows:

(a) paying Tulameen an aggregate of \$500,000 in cash as follows:

- (i) \$50,000 on or before May 19, 2023 (paid)
- (ii) \$25,000 on or before: an equity investor financing providing not less than \$200,000 in gross cash or December 1, 2023, whichever is earlier;
- (iii) \$100,000 on or before May 19, 2024;
- (iv) \$162,500 on or before May 19, 2025;
- (v) \$162,500 on or before May 19, 2026;

(b) issuing to Tulameen an aggregate of 7,000,000 common shares ("Shares") as follows:

- (i) 1,000,000 Shares on or before May 19, 2023; (issued)
- (ii) 1,500,000 Shares on or before May 19, 2024;
- (iii) 2,000,000 Shares on or before May 19, 2025;
- (iv) 2,500,000 Shares on or before May 19, 2026

(c) incurring a minimum of \$1,400,000 in exploration expenditures on the Project as follows:

- (i) \$300,000 on or before September 19, 2024, of which, \$85,000 of which must be spent before June 30, 2023;
- (ii) \$300,000 on or before May 19, 2025
- (iii) \$300,000 on or before May 19, 2026, and
- (iv) \$500,000 on or before May 19, 2027.

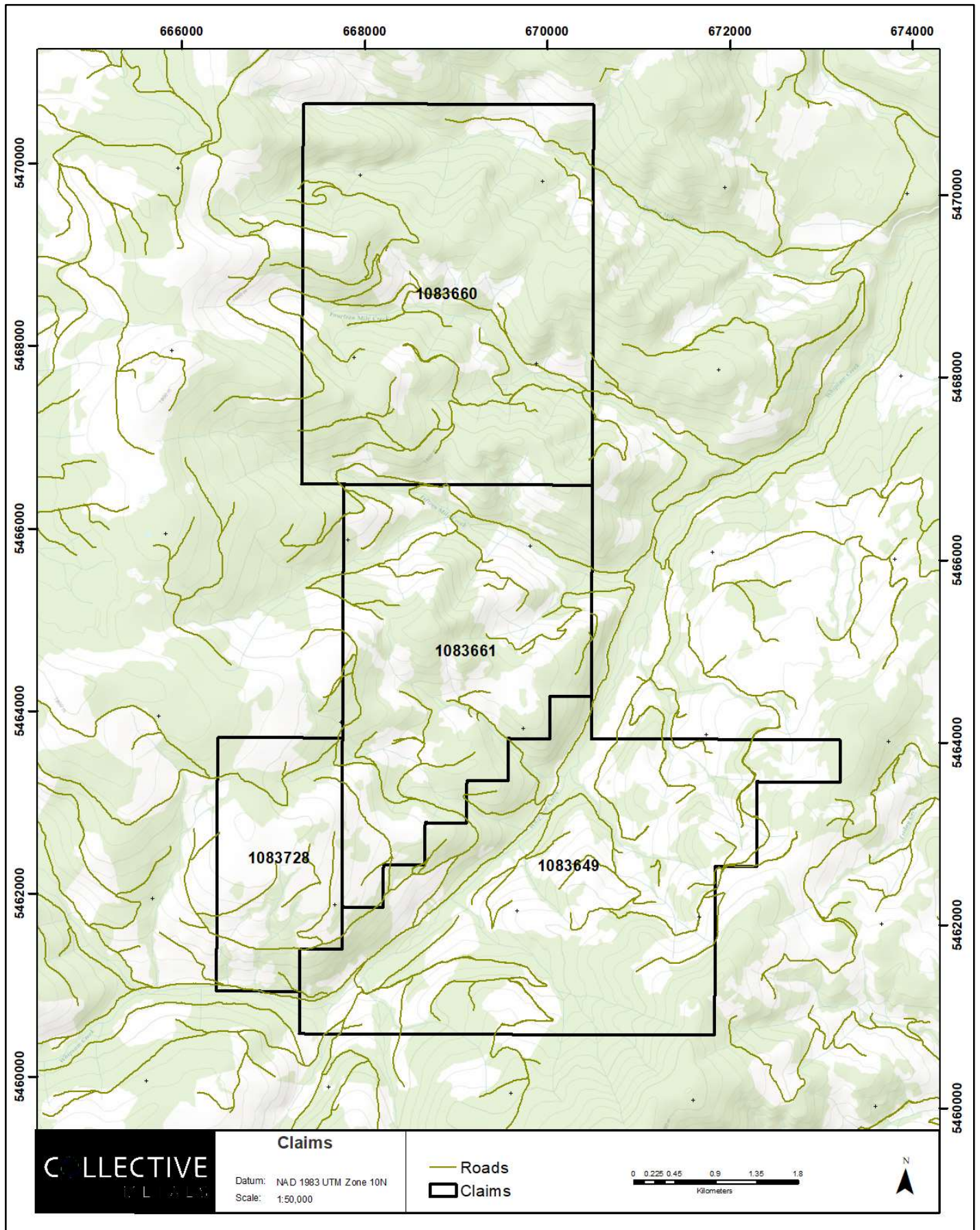
To the best of the author's knowledge, approval from local First Nations communities may also be required to carry out exploration work. The reader is cautioned that there is no guarantee that the Company will be able to obtain approval from local First Nations. However, the author is not aware of any problems encountered by other junior mining companies in obtaining approval to carry out similar programs in nearby areas.

Figure 1: Regional Location Map





Figure 2: Claim Map



## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

The Princeton Project is located 15 km south of Princeton, British Columbia and accessed from Hope along Highway Route #3, the Southern Provincial Highway. The Project claims are situated west of the Similkameen River and south of the Princeton River. From Princeton, the main access road is the Whipsaw Creek Road. Secondary access roads are located within the area.

The town of Princeton is approximately 3 hours from Vancouver, 130 kilometres east of Hope, and 115 kilometres west of Penticton. Major trunk highway routes include the Trans-Canada Highway Route # 1, Crowsnest Highway Route #3, and Provincial Highway #5A, which is the start of the Yellowhead Highway System and connects with the 3rd phase of the Coquihalla Highway. Princeton is served by an airport with a paved runway that can accommodate private and charter flights. The Princeton area economy is cattle ranching, mining, forestry, and tourism.

The climate is continental to semi-arid and moderate. Winters are cold, although not extreme, with snowfalls common and heavy at times, while summers are warm and dry. The average daily mean temperatures range from a high of 17 C (July) to a low of -7.20 C (January). Monthly precipitation ranges from a low of 17.0 mm (March-April) to a high of 47.2 mm (December).

Higher elevations are generally well timbered, with the lower elevations being semi-arid open grassland sparsely timbered. The Princeton Project area ranges in elevation from 700 to 2,000 metres and consists of moderate to steep slopes of open mountain terrain and rocky bluffs. The Project is occupied with stands of hybrid spruce and subalpine fir with minor amounts of Douglas-fir. Seral stands of Lodgepole pine are common. Black Huckleberry, falsebox, Utah honeysuckle and buffaloberry are common shrubs. Gooseberry and pinegrass are common herbs. Lodgepole pine is the dominant tree species, with hybrid spruce and Douglas fir being secondary species.

## **6 HISTORY**

### **Glenn Clark 1968**

In 1968, Glenn Clark undertook a soil sampling program. The background value is in the order of 100 ppm. Only one sample is greater than twice times this background value at 215 ppm copper. The general background on those claims is high at approximately 50 ppm. The highest sample is 2320 ppm. with a number of samples in the anomalous zone marked "A" being greater than 200 ppm copper.

### **Grandora Exploration Ltd. 1972**

During the first half of September 1972, the crew of Agilis Exploration Services Ltd. put a grid over part of the Project and conducted a geochemical survey on the grid and performed some mapping. A total of 654 samples were analysed from this survey for copper and zinc. Copper values ranged from 3 ppm to 410 ppm and zinc values range from 6 ppm to 410 ppm.

### **Goldcliff Resource Corporation 2008-2014**

Goldcliff Resource Corporation (Goldcliff) undertook an exploration program on a much larger Project than the one the subject of this report, but also included the current Project

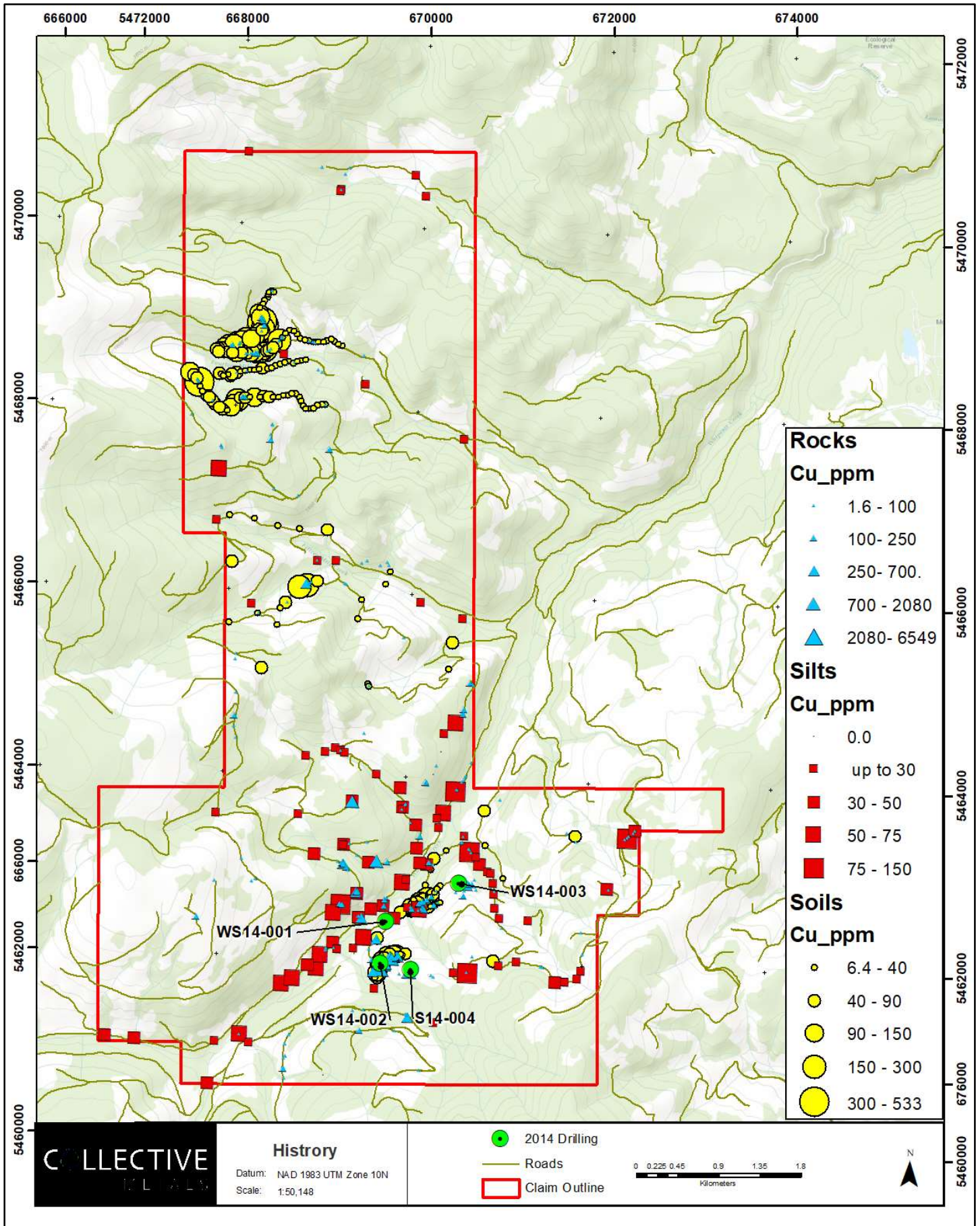
Goldcliff conducted a multi-sensor Resolve airborne geophysical survey, 3D induced polarization, magnetic and ground radiolitic surveys, geological mapping, prospecting, geochemical stream sediments (134 samples) and rock (283 samples) sampling, and the collection of 216 soils samples on the current Project configuration (see Figure 3 for historical geochemical samples).

The 2014 work program consisted of drill testing (four NQ drill holes totalling 727.87 metres) the Bolas chargeability induced polarization anomaly (Elk and Eagle nodes) as well as copper mineralization (chalcopyrite) in float and outcrop samples at the Trojan, Eagle and Raven showings.

For simplicity, all of the exploration results reported by Goldcliff Resource Corporation are presented in the Exploration section of this report.



Figure 3: Historical Samples



## **Geoscience BC Quest South Project**

The QUEST-South Project is the third of a series of largescale regional geochemical studies that have been sponsored by Geoscience BC since 2007. Each of these projects (QUEST, QUEST-West and QUEST-South) has included a number of important initiatives such as infill sampling and the reanalysis of archived sediment pulps. Project results have significantly improved the availability of existing geochemical data for each of the study areas and have made a major contribution of new data to the provincial geochemical dataset. Covering a total area of over 275,000 km<sup>2</sup>, over 5,000 drainage sediment samples have been collected and 20,000 sediment samples from previous surveys have been reanalyzed using current laboratory methods. The work has not only produced a vast array of geochemical information, but it complements other geoscience initiatives, such as airborne geophysical surveys, also funded by Geoscience BC, that are aimed at promoting and stimulating exploration interest in the region.

Geoscience BC's QUEST South project includes NTS 1:250,000 map sheets 082E, L and M plus 092H, I, J, O and P. Covering over 120,000 km<sup>2</sup>, the area extends south from the Fraser Plateau and contains a large part of the Thompson Plateau, the Okanagan and Shuswap highlands and parts of the Coast, Cascade and Monashee Mountain ranges.

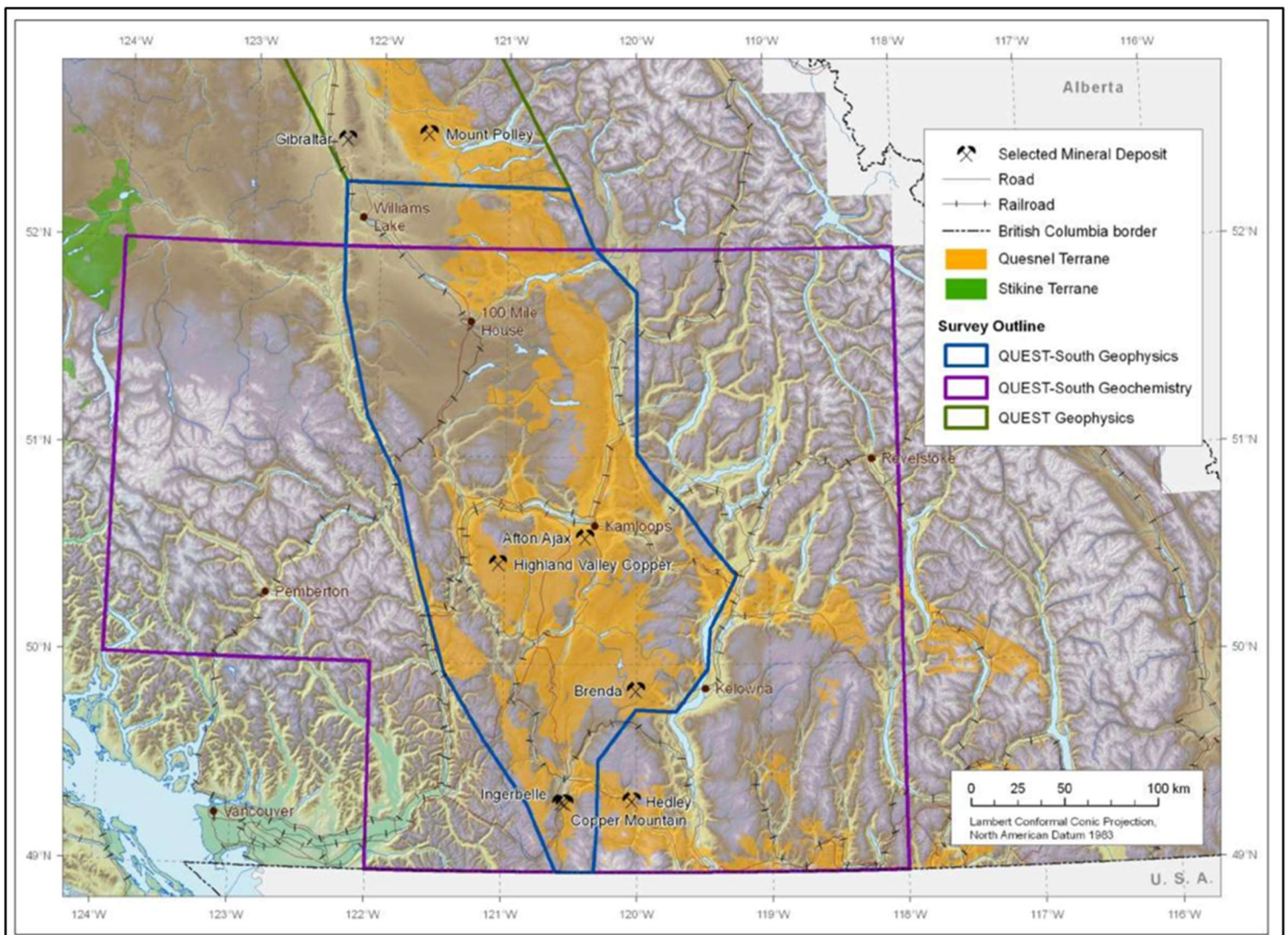
Phase 1 of the QUEST South Project includes regional geochemical surveys and regional airborne gravity survey over an area extending south from Williams Lake to the Canada–United States border and west from Revelstoke to Pemberton (Figure 3). The Project also included the reanalysis of over 9,000 sample pulps from government funded surveys that were originally completed in the late 1970s and early 1980s. Results from the reanalysis work were released in January 2010 (Geoscience BC, 2010).

These government-funded surveys were originally conducted from 1976 to 1981 as part of the National Geochemical Reconnaissance (NGR) program (Lett, 2005). The new data has been carefully checked for analytical quality using blind duplicate samples and control reference material. When determined to be complete and accurate, the re-analysis data were merged with sample site location information acquired from the original survey published reports.

This project was designed to add value to Regional Geochemistry Survey data from the QUEST-South project based on an analysis of catchment size and levelling of the data for catchment bedrock geology. Data levelling will be based on exploratory data analysis (EDA) and ground proofing of the results against known mineral deposits and occurrences using an approach that is methodologically proven. In this respect the project represents an enhancement of the geochemical atlas provided by Lett et al. (2008), rather than a duplication of this work, as it seeks to identify true geochemically anomalous catchments within the data set by levelling the data for the effects of sediment dilution in catchments of variable size. An expert interpretation of the Regional Geochemistry Survey geochemistry data will generate new validated exploration targets, and thus stimulate exploration using an existing dataset that has cost both the Federal Government and the Province of British Columbia a considerable amount of effort to obtain. In addition, catchment analysis will allow an assessment of the adequacy of the existing RGS data coverage for future in-fill and follow-up surveys.



Figure 4: Quest South Location



Mira Geoscience Advanced Geophysical Interpretation Centre has completed 3D inversion modelling, integration, and visualization of airborne gravity, magnetic, and electromagnetic data for Central BC (including QUEST-West and Nechako) and integrating it with the QUEST and QUEST-South project areas. This was undertaken for Geoscience BC as follow-up analysis of geoscience data. The objective of this work is to provide useful 3D physical Project products that can be directly employed in regional exploration to target prospective ground based on different exploration criteria.

This work considers all airborne gravity, magnetic and electromagnetic data available for the project area. The inversions were performed using the UBC-GIF GRAV3D, MAG3D, and EM1DTM, suite of algorithms for the gravity, magnetic, and AEM data, respectively. The products are 3D inversion models of density contrast, magnetic susceptibility, and electrical conductivity, and integrated products combining the individual physical Project models. In addition, detailed plate modelling of specific EM anomalies in several in-fill survey areas have been modelling using Maxwell discrete plates to provide a better interpretation where the target is less flat-lying in nature.

The gravity and magnetic data were modelled in 3D using several smaller tiles after separation of regional signal. The tiles for the QUEST-West and Nechako Basin areas were combined and merged with QUEST and QUEST-South models to construct a detailed model over the whole Central BC area.

The conductivity data were inverted for 1D (layered earth) models using a laterally parameterized method and subsequently interpolated in 3D. A late-time, background conductivity map has also been produced for the survey area. An estimate of the depth of penetration has been provided for the AEM conductivity models. The resulting models provide guidance to the regional structure and prospective geology and location of alteration and mineralization.

Final density contrast, magnetic susceptibility and conductivity models have been provided in different formats ready for 3D GIS analysis, interpretation, and integration with geologic, drillhole, and other geophysical information. The extensive set of digital deliverable products that accompany this report include physical property cut-off iso-surfaces, observed and predicted data, and the inversion models in several different, commonly used formats. A suite of 3D PDF scenes have been produced to aid in visualization and communication.

The resulting physical property models can be used to guide regional targeting and help design more detailed, follow-up data acquisition. The inclusion of geologic or physical property information in the inversion from maps, drill-holes, and samples was not within the scope of this project, although it is expected that the integration of these data would improve the resulting models, especially at the local scale.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 REGIONAL GEOLOGY

The Project is located in the southern portion of the Quesnel Terrane. The Quesnel Terrane is dominated by Upper Triassic to Early Jurassic sedimentary and volcanic rocks of the Nicola Group intruded by a variety of Late Triassic to Early Jurassic granitoid rocks southwest of a northwest-trending line passing near Rayleigh, and by Devonian to Triassic sedimentary rocks of the Harper Ranch Group and Harper Ranch-(?) Nicola Group northeast of the line. Large areas of Tertiary volcanic cover represented by the Kamloops and Chilcotin groups are also present.

The Property's location in the Intermontane tectonic belt of south-central B.C. regional mapping was first mapped by H.M.A. Rice (1947) of the Geological Survey of Canada (GSC). 1989), also with the GSC, compiled the Hope (092H) map sheet geology at 1:250,000 scale. Recent mapping by Mihalynuk et al. (2015) of the British Columbia Geological Survey Branch, as part of the Southern Nicola Arc Project (SNAP), re-examined the Nicola group rocks previously examined by Preto (1979), also with the British Columbia Geological Survey Branch.

Rice and Monger's maps depict the area to be underlain by Triassic age Nicola Group volcanic sedimentary rocks in the western third of the Project whereas Jurassic age granitic rocks of the Osprey Lake Batholith underlie the eastern two-thirds of the property. Feldspar-porphyry stocks, and dikes of the Upper Cretaceous Otter Intrusions occur in the southwest claim area and cut both Nicola Group volcanic rocks and Osprey Lake granitic rocks. Tertiary, andesite dikes intrude all of the above. Gold appears to be spatially related to the andesite dikes and contained within pyritic quartz veins which locally cut the dikes.

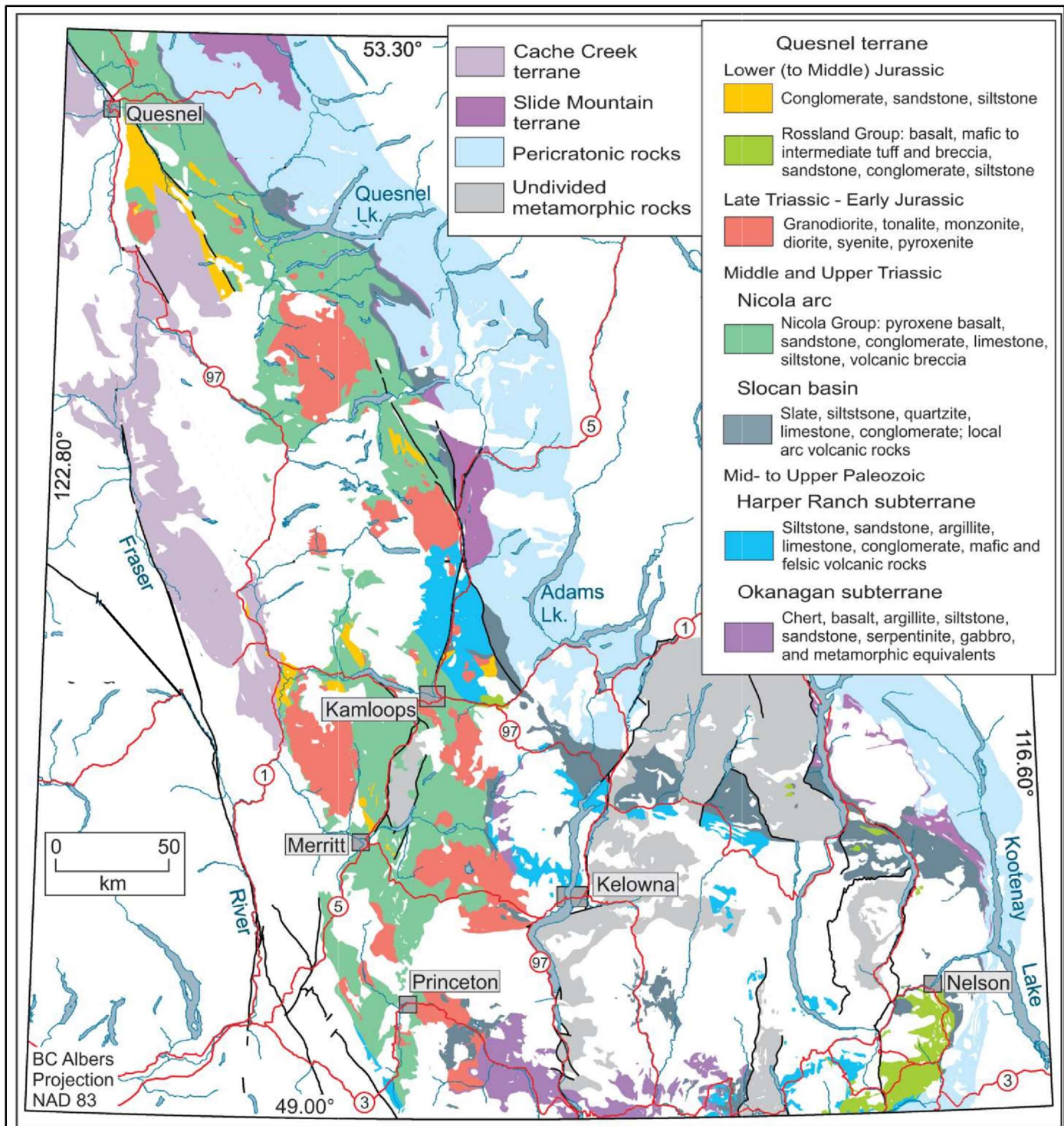
The Nicola Group as described by Preto (1979) consists mainly of mafic flows, pyroclastic rocks, volcanic breccias, epiclastic rocks, and locally, argillite and limestone. The volcanic rocks are quartz saturated (but rarely quartz-bearing) clino-pyroxene ( $\pm$ plagioclase) porphyritic basalts, locally with analcime. The Nicola Group has been divided into four lithological belts by Monger, et al. (1989). These include:

- 1) a western belt of steeply dipping, east-younging, late Carnian to Norian, subaqueous felsic, intermediate and mafic calc-alkaline flows grading up into volcanoclastic rocks;
- 2) a central belt of early to middle Norian, subaqueous to subaerial basalt and andesite flows, volcanic breccias, and laharic breccias of both alkalic and calc-alkalic affinity;
- 3) a younger, westerly dipping, eastern volcanic belt (Late Norian) composed of subaqueous and subaerial, alkali, intermediate and mafic flows, volcanic breccias, and epiclastic rocks that were deposited on, or between emergent volcanic edifices; and
- 4) an eastern sedimentary assemblage (Ladinian to middle Norian) that is overlapped by the eastern volcanic belt and, consisting mainly of greywacke, siltstone, argillite, alkalic intermediate tuff and reef limestone, may record a back-arc basin.

The Project lies at the western edge of the Intermontane tectonic belt of south-central British Columbia and is underlain by Jurassic (circa 166-million-year-old) granitic to dioritic plutons. The Jurassic plutons are cut by the Tertiary (circa 52-million-year-old) Otter intrusives which form high-level stocks and dykes including potassium feldspar megacrystic granites and quartz phyric porphyries. Upper Triassic volcanics and sediments of the Nicola Group (occur to the west and north of the property, while Upper Palaeozoic sedimentary and volcanic rocks of the Cache Creek Group occur to the east.



Figure 5: Regional Geology



After Schiarizza 2019, Geology of south-central British Columbia highlighting the different components of Quesnel terrane. Upper Triassic-Lower Jurassic intrusions shown only where they cut the Nicola Group. Uncoloured areas are mainly Middle Jurassic to Recent intrusive, volcanic and sedimentary rocks but may include older rocks of uncertain correlation.

## 7.2 PROPERTY GEOLOGY

The geology of the Property has been documented by Rice (1947), Preto (1972), McMechan (1983), Monger (1989), Read (2000), Preto-Nixon (2004), and Massey et al (2010, 2009, 2008), Massey and Oliver 2009). The Princeton Group is documented in detail by Read (2000), and Ickert et al. 2007)

The Princeton Project is located within the southern portion of the Intermontane Tectonic Belt of British Columbia that is the Quesnel Terrane (Quesnellia). Quesnellia is a northwesterly trending belt of Upper Triassic to Lower Jurassic submarine and sub-aerial alkali and calc-alkali volcanic rocks, related sedimentary rocks, and comagmatic intrusive rocks. In the southern part of the province this assemblage of volcano plutonic arc rocks is known as the Nicola Group. Throughout the Intermontane Tectonic Belt, these rocks are noted for their mineral deposits, principally alkalic copper-gold -silver porphyry deposits and copper and gold skarns. The central part of the Nicola Group between Merritt and Princeton has been subdivided into three subparallel structural belts, referred to as the Western, Central, and Eastern Belt, on the basis of physical and chemical differences of the rock assemblages.

### Princeton Group

The Princeton Project area contains Early to Middle Eocene Princeton Group sediment and volcanic rocks that are localized in the Princeton basin. On the Princeton Project claims, the most southern portion of the overall Princeton Group is dissected by a northerly trending structure. To the west, the Princeton basin consists of the older Cedar Formation volcanic rocks and younger Allenby Formation sediment and volcanic rocks. To the southeast, the Princeton basin consists of the younger Allenby Formation sediment and volcanic rocks.

### Nicola Group

In the Princeton Project area, the Nicola Group contains the Western belt rocks. Within the claim area, the sedimentary sequence is dominated by interbedded black argillite, grey siltstone, limestone and sandstone. The sedimentary rocks show pervasive chlorite alteration, veinlets and patches of epidote, and minor amounts of disseminated pyrite and chalcopyrite. The volcanic sequence is dominated by fragmental volcanic beds of interbedded pyroxene-feldspar tuff, lapilli tuff, breccia and agglomerate. Epidote, chlorite and calcite occur as alteration minerals in clasts and matrix, and also in veins. Quartz veins are also common.

The Nicola Group between Merritt and Princeton has been subdivided into three subparallel structural belts, referred to as the Western, Central and Eastern belts. The three belts are separated by northerly trending high-angle fault systems (Preto, 1979). The Princeton area hosts the Eastern and Western belt Nicola rocks that are separated by the northerly trending high-angle Boundary fault.

## **Whipsaw Stocks**

Within the Princeton Project are several stocks of mafic diorite, gabbro, and pyroxenite which are found to intrude Nicola Group rocks. The five separate bodies are mapped over 10 kilometres along Whipsaw Creek. The stocks occur along a southwest-northeast 050° trend and are associated with the Whipsaw Creek fault. The stocks are Late Triassic and may be correlated to the Copper Mountain intrusions. Massey, et al (Geological Fieldwork 2008, Paper 2008-1) describe the Whipsaw Stocks rocks as follows: The diorite is fine to medium grained and has typical grey salt-and-pepper fresh surfaces with brown or brick red to grey weathered surfaces. It is composed primarily of white feldspar and greenish black hornblende. Minor minerals include rare euhedral biotite flakes, pyroxene, or quartz. The pyroxenite is dark green to black on fresh surface and weathers dark grey. It is coarse grained with crystals ranging from 1 to 3 cm. Pyroxene constitutes 80-90% of the rock, the rest being chlorite, magnetite and minor feldspar. Epidote-chlorite veinlets are common; serpentinite and calcite alteration are rare. The pyroxenite outcrops separately from but close to the diorite. Contacts are rarely seen but suggest that the diorite is intrusive into the pyroxenite.

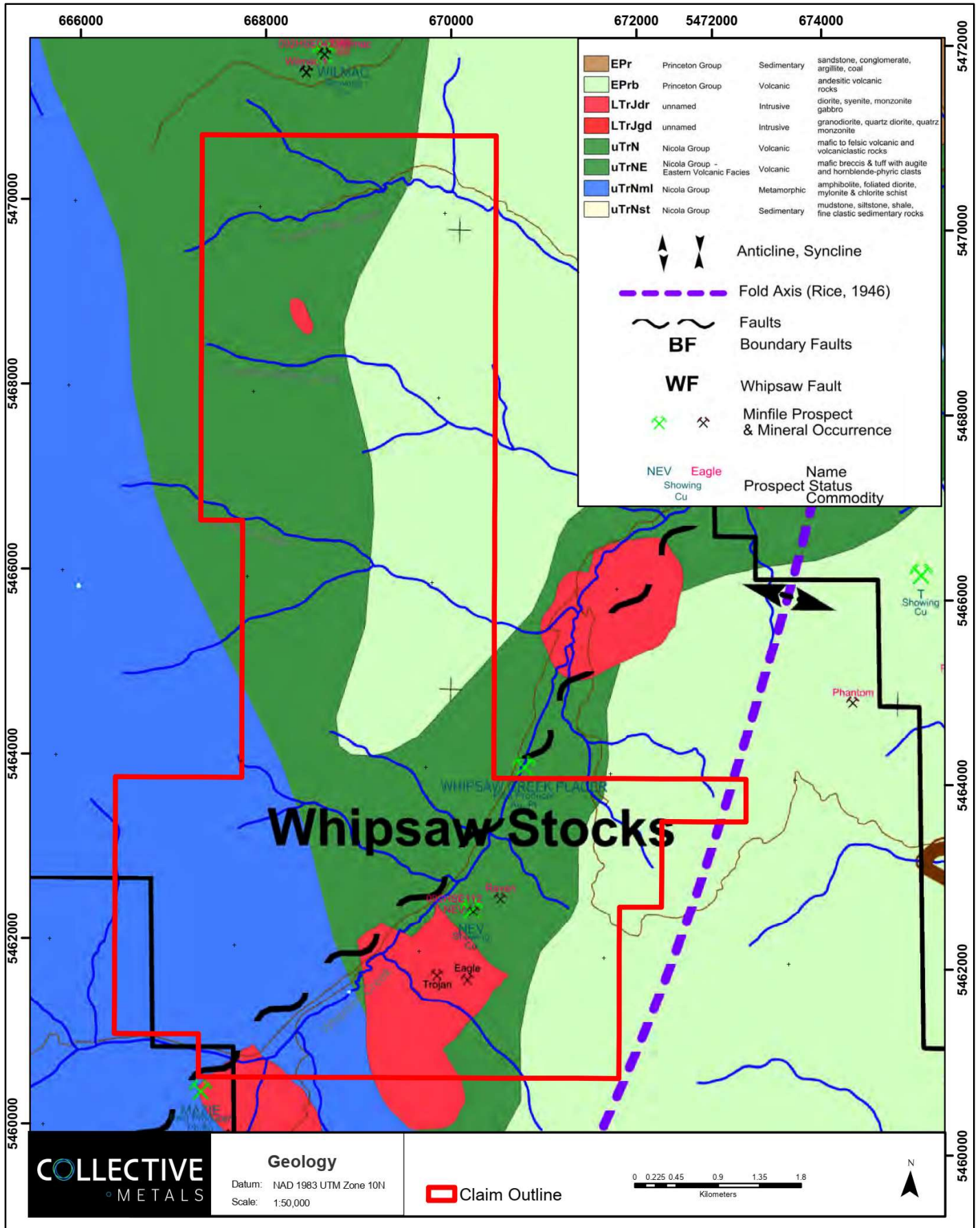
## **Structure**

The structural setting in the Princeton mining district is complex and poorly documented due to lack of outcrop. In the district, an anticlinorium fold occurs in the Western belt rocks from the Princeton River to Whipsaw Creek and a synclinorium fold occurs in the Eastern belt rocks from the confluence of the Princeton and Similkameen Rivers to Copper Creek (Rice, 1946).

The Western and Eastern belt Nicola Group rocks are offset by the north-south trending Boundary fault, traceable for over 50 kilometres and was first identified by Preto (1979). The Whipsaw fault is traceable for over 50 kilometres. The Whipsaw fault is a northeast-north trending fault and mirrors the Boundary fault.



Figure 6: Property Geology



## **7.3 Mineralization**

In the Princeton Project there are the Trojan, Eagle, Nev, and Raven showings covering some two square kilometres east of Whipsaw Creek. (Figure Figure 6)

### **Eagle Showing**

The Eagle showing contains two historic slumped bulldozer trenches that are approximately 75 metres long criss-crossing a knoll. Coarse-grained green gabbro is intermittently exposed in the trenches. The coarse-grained green gabbro contains fractures with pyrite (1% to 3%) and one centimetre quartz-carbonate and epidote veinlets with pyrite. Disseminated pyrite occurs adjacent to some fractures. A trench sample of gabbro containing limonite, malachite, and chalcopryrite with mineralization occurring along fractures has a copper value of 1753 ppm.

### **Trojan Showing**

The Trojan showing occurs in a coarse grained, green gabbro float over a strike length of 110 metres along the road containing variable quartz-carbonate veining, epidote, and fracturing. The mineralization is malachite and chalcopryrite associated with the gabbro. The mineralization occurs within quartz veinlets, along fractures, and more rarely as disseminations. The pyrite content is relatively rare, generally occurring in concentrations of <1%.

The various float-rock samples collected along the road returned copper values that range from 192 to 6549 ppm copper. The highest copper value of 6549 ppm occurs in gabbro with limonite, malachite, and chalcopryrite that occurs along fractures and as disseminated chalcopryrite and malachite. The sample of gabbro with malachite mineralization occurring along fractures gave a copper value of 4727 ppm. The sample contains a 6-centimetre-wide quartz vein with malachite and chalcopryrite and returned a copper value of 3970 ppm.

### **Nev Showing**

The Nev showing contains pyrite and chalcopryrite associated with fracture-controlled quartz-calcite veins. The Nev showing is 70 to 100 metres in width and occurs in a strongly sheared chlorite schist, limestone, and calc-schist of the Nicola Group. The rock samples collected from the showing gave weakly anomalous copper values ranging from 29 to 173 ppm Cu.

### **Raven Showing**

The Raven showing contains pyrite and chalcopryrite mineralization and is associated with fracture-controlled quartz-calcite veins. The Raven showing is 70 to 100 metres in width and occurs in strongly sheared chlorite schist, limestone, and calcschist of the Nicola Group. There is no recorded inventory on the mineralization.



## 8 DEPOSIT TYPES

Porphyry copper systems are characterised by extensive zones of hydrothermally altered rock (>10 km<sup>3</sup>) centred on porphyritic-textured intrusions with felsic to intermediate composition (Sillitoe, 2010). Copper mineralization typically occurs as copper sulphide minerals disseminated in the altered wall rock and in closely spaced veinlets that occupy a smaller portion of the hydrothermal alteration zone. Post-mineral exhumation, weathering, and mobilization of primary copper mineralization may result in supergene enriched zones located above primary copper sulphide (hypogene) mineralization. Alteration and mineralization commonly form mappable zones based on silicate and sulphide mineral assemblages observed in outcrop and drill core. The majority of the copper is deposited during potassic alteration, which forms early in the evolution of the porphyry system.

Porphyry systems are related to calc-alkaline porphyry complexes consisting of multiple intrusion phases emplaced during mineralization that is associated with a sequence of hydrothermal alteration and veining. Porphyritic intrusions range in composition from granite to diorite. Economic grades are often controlled by emplacement of fertile intrusions at or near structural zones and/or intersections. The best grades typically occur in the uppermost sections of these intrusions, where strong hydrofracturing related to depressurization of a hydrothermal fluid phase produces hydrothermal brecciation, as well as at or near the contacts with other rock types, often coincide with the best grades. Host rock type, the amount of early-formed, sulphide-bearing veinlets, and proximity to early-mineral porphyritic intrusions are the main controls on intensity of primary copper mineralization. Dilution by syn-mineral dikes and stocks intruded late in the mineralization cycle and strong overprinting by sericite-pyrite alteration causes reduction in copper grades.

Oxidation of primary sulphides generated in porphyry systems results in circulation of acidic waters above mineralized systems. This later event has a twofold effect on porphyry deposits: it leaches rocks of all or most of the sulphides they contained above the water table; and copper rich solutions re-deposit as enriched copper sulphides at or below the water table. Common sulphides found here are chalcocite, covellite, and digenite. Occasionally, native copper will deposit on rocks with insignificant amounts of sulphur, such as young barren dykes. These enrichment zones (or “blankets”) tend to behave as flat zones often parallel to topography. Above the secondary enrichment zone, altered rock often shows no geochemical signature due to intense leaching of all copper-bearing primary sulphides. Thus, typical Andean porphyries have a leached upper zone, an enriched supergene blanket, and a much larger mineralized, albeit at lower grades, primary (or hypogene) zone at depth.

Fluctuating water tables often result in subsequent oxidation of enrichment blankets. Common copper oxide minerals found in these zones are malachite, chrysocolla, and brochantite. Occasionally, these copper oxides re-deposit some distance away from the main mineralization to form “exotic” copper deposits.

Porphyry deposits develop alteration zones distributed in time and space. Commonly documented alteration zones are: potassic, propylitic, phyllic, and sodic. Additionally, argillic, intermediate argillic, and calc-sodic alteration are described in some examples. A central potassic alteration core surrounded by an outer propylitic zone normally forms early and is overprinted by phyllic and less commonly, argillic alteration.

Other deposit styles associated with porphyry copper deposits (spatially and genetically) include epithermal quartz veins and disseminated precious metal deposits, lead-zinc-silver veins and replacements, and skarns. A schematic model for porphyry deposits with respect to other styles of mineralization is shown in Figure 7 below.

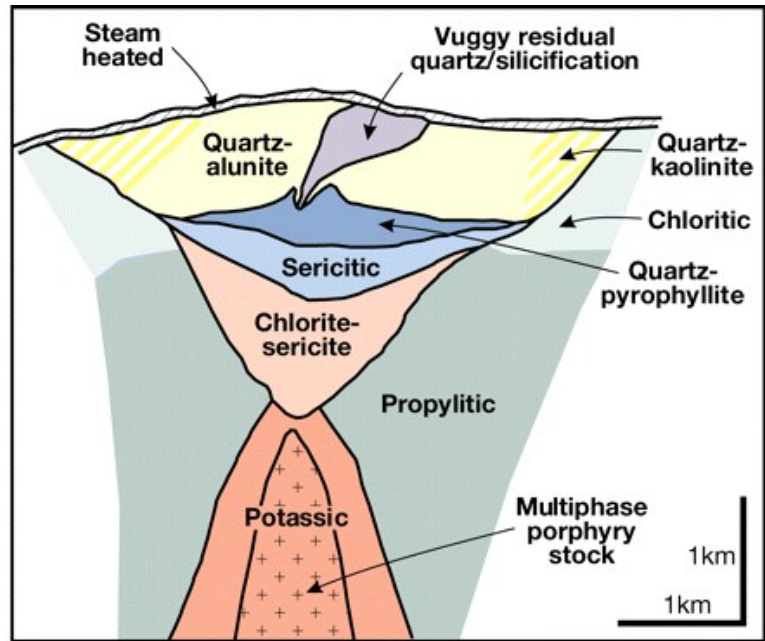
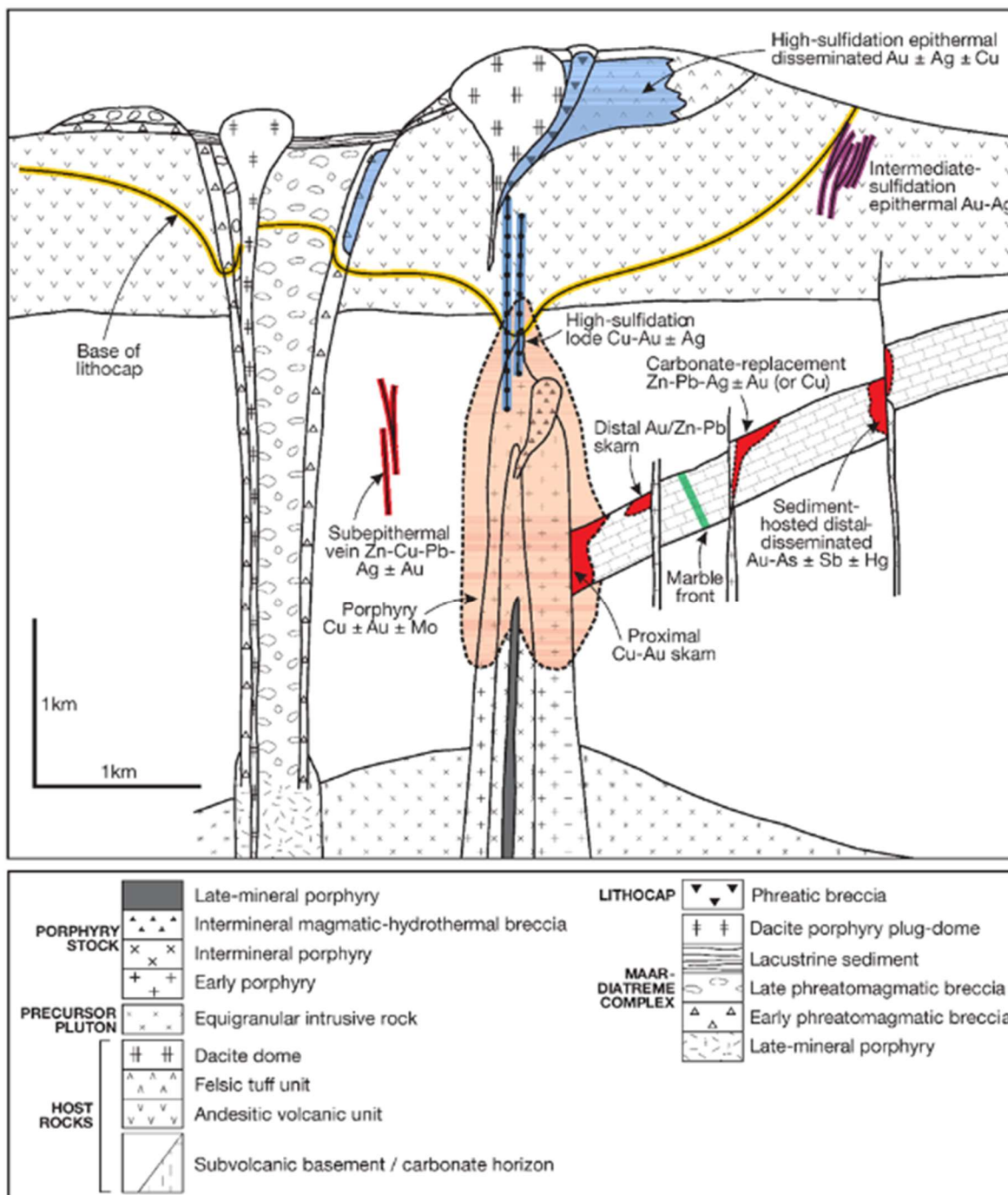


Figure 7: Deposit Alteration

Sillitoe, 2010

Figure 8: Deposit Model



Anatomy of a telescoped porphyry Cu system showing spatial interrelationships of a centrally located porphyry Cu ± Au ± Mo deposit in a multiphase porphyry stock and its immediate host rocks; peripheral proximal and distal skarn, carbonate-replacement (chimney-manto), and sediment-hosted (distal-disseminated) deposits in a carbonate unit and sub epithermal veins in noncarbonate rocks; and overlying high-and intermediate-sulfidation epithermal deposits in and alongside the lithocap environment. The legend explains the temporal sequence of rock types, with the porphyry stock predating maar diatreme emplacement, which in turn overlaps lithocap development and phreatic brecciation. Modified after Sillitoe, 2010.

## 9 EXPLORATION

### Collective Minerals Inc

Collective Minerals Inc. has not undertaken any reported exploration programs on the Princeton Project.

### Goldcliff Resource Corporation 2008-2014 Exploration Programs

A number of copper showings have been located by Goldcliff Resource Corporation in the Whipsaw Creek area called the Whipsaw target area. These showings included the Nev, Eagle, Trojan, and Raven on the southeast side of Whipsaw Creek (Figure 9). The copper mineralization occurs within chloritic schists of the Nicola Group and a diorite-gabbro-pyroxenite stock that has intruded the Nicola rocks. Traces of chalcopyrite associated with pyrite occur within narrow carbonate-quartz-epidote veinlets, patchy epidote alteration, and more rarely as fine-grained disseminations in the diorite-gabbro-pyroxenite stock and Nicola volcanics.

Goldcliff Resource Corporation conducted a 3D induced polarization survey over the Whipsaw target in 2011 which located seven (Condor, Bolas, Crow Falcon, Hawk, Nob, Mazin, and Owl) deep rooted chargeability anomalies that are interpreted to be disseminated sulphide mineralization and extend from surface to depths of 500 metres. The Bolas and Condor are the most significant of the chargeability anomalies (Figure 9).

Anomalies C3 (Deep) and C4 (Owl)) and are all within the Princeton Group rocks east of the Princeton/Nicola contact and are all at depth (about 150 to 500 meters). The interpreted down-dropped Princeton Group rocks are believed to overly Nicola Group rocks in the Whipsaw work area suggesting perhaps that the deeper chargeability anomalies observed within Princeton rocks may reflect the tops of buried chargeable material within underlying Nicola rocks thereby enhancing the importance of these deep features. Chargeability anomalies will be discussed individually later in this report with respect to their possible cause.

The strongest chargeability anomalies: Condor (C1) and Bolas (C2), occur within the sub-circular magnetic region (Figure 9), with the 50-meter depth inverted chargeability windowed to the Whipsaw work area. This shows the two strong and two of the moderate (Crow and Falcon) anomalies with near surface chargeability response. Other deeper anomalies are not yet visible.

Inversion depths reveal a change in resistivity between 250 meters and 500 meters such that at 500 meters the resistivity inversion shows higher resistivity in the region between the deep interpreted contact mentioned above (short, dashed line) and the surface contact shown by the local geology map. This also indicates that the higher resistivity Nicola rocks migrate eastward here supporting the easterly dip of the Princeton/Nicola contact as interpreted above from magnetic data. The interpreted westerly dip in the south did not gain support from inverted resistivity data.

Near surface chargeability anomalies occur in the more resistive Nicola rocks and only deeper moderate to weak chargeability features are seen below Princeton Group rocks. Using the resistivity, magnetic, and now the chargeability inversion results, implies that the Princeton/Nicola contact is vertical to sub-vertical (dipping east in the north) possibly defined by a fault and that the Princeton Group rocks could vary from about 150 to over 500 meters in thickness.

## **Bola's chargeability anomaly**

The Bolas chargeability anomaly is located within the Whipsaw target area and occurs in Upper Triassic Nicola Group rocks. The Bolas chargeability anomaly is a three-pronged feature with Bolas as the nexus and the Whip, Elk, and Eagle as the three nodes. Close to the surface (~50 metres), only moderate to weak individual chargeability anomalies represent the three nodes.

Within the Bolas chargeability becomes stronger and begins to merge at about 150 metres in depth and, as depth continues to increase, ultimately form the continuous three-pronged Bolas feature. The chargeability values reach their maximum (25 to 30 ms) at about 300 metres below surface and then begin to fade to around 20 ms at 500 metres. The Eagle, Trojan, and Nev showings occur within the Bolas chargeability anomaly.

## **Condor Chargeability Anomaly**

The Condor anomaly is also located within the Whipsaw target area and occurs within in Upper Triassic Nicola Group sedimentary and volcanic rocks. The Condor anomaly exhibits unusually strong chargeability values from surface down beyond 500 metres.

The Condor anomaly exhibits a strong chargeability value from surface down beyond 500 meters. Surface rocks, within the anomalous zone, contain significant amounts of pyrite and this is considered to be the main cause of chargeability. The size (lateral extent) of the Condor anomalous region increases from near surface down to about 300 meters whereupon it begins to decrease with depth. Inversion results show that chargeability values remain high at the 500-meter inversion level and likely continue deeper than 500 meters.

## **Crow Chargeability Anomaly**

The Crow anomaly has its highest values (~15 to 20 ms) on the 50-meter chargeability inversion image and is a near surface 50-meter inversion. It is expected that any mineralization on surface should relate to this feature and the Raven showing just to the north.

## **Falcon Chargeability Anomaly**

The Falcon chargeability anomaly is similar to the Crow anomaly although weaker. It also shows the highest values (~10 to 15 ms) near surface then diminishing and merging with the Bolas anomaly Eagle node at around the 200-meter level. Here again, any mineralization on surface likely reflects the type of chargeable mineralization causing the anomaly.

## **Hawk Chargeability Anomaly**

Not visible on or near surface, the Hawk chargeability anomaly (~10 to 15 ms) begins to take shape at about the 150-meter inversion depth as a southern extension of the Bolas anomaly. It then presents as a separate feature from 250 meters down to around 300 meters depth although still connected to the Bolas feature.



## Owl Chargeability Anomaly

The Owl anomaly is ~10 to 12 ms, and is close to or possibly on the Princeton/Nicola contact.

## Nob, Mazin and Garri Chargeability Anomalies

These weak chargeability anomalies are all located at the southwest end of the survey grid. Although the inversion data near the edges of the grid suffer from diminished confidence due to declining data point redundancy, they do continue eastward into the survey grid enough to be considered valid anomalous features. However, since the westward extent of these anomalies and their attributes (size and maximum values) cannot be determined without additional surveying, they are considered to be low priority targets.

## Interpretation of Regional and Local Geophysics

Goldcliff Resource Corporation undertook an interpretation of the airborne data and ground geophysical data (Figure 10). The ground and airborne geophysical data indicate the potential for mineralization within the Whipsaw work area. Magnetic data suggest that the west side of the Boundary Fault has been down-dropped relative to the east side. There is also an indication that a wedge-shaped graben, filled with Princeton Group rocks, exists bounded by the Boundary Fault (or faults) in the east, and faults that run roughly along the Nicola/Princeton contact in the west. Magnetic data show a subcircular moderate magnetic region partially surrounded by higher magnetic intensity. This subcircular feature may represent a buried intrusive rock and is possibly(?) the source of mineralization seen on surface and detected by the induced polarization/resistivity survey in ten of the twelve chargeability anomalies.

Only the Condor anomalous zone is displayed at surface and contains surface mineralization. Others anomalous zones showed higher chargeability response below surface and only small amounts of sulphides on surface. It is speculated that the original mineralization may exist at depth within a large mineralized zone in the Whipsaw area of exploration.

The Whipsaw crescent shaped magnetic high partially surrounds a subcircular magnetic feature (white dash-dot-dash) (Figure 9) that is a low compared to the crescent shaped high but higher relative to magnetic background seen to the north. There, the crescent shaped magnetic high (diorite) partially surrounds rocks mapped as monzonite and syenite.

Within the subcircular magnetic feature can be seen magnetic lows and a sharp high. Magnetite response (blue triangles) seen on Fugro EM data profiles suggests the intrusion of basic or ultrabasic rock containing magnetite in these areas. Recent geological investigation of the area located coarse grained gabbro containing magnetite (Figure 9 and Figure 11).

The interpretation of a major down-drop west of the Boundary Fault suggests that the entire area west of the Boundary Fault may have been eroded to a lesser extent than the east side.

Two anomalous potassium regions in red smooth polygons overlying local geology shows that the majority of the southern-most anomalous region encompasses almost all of the intrusive rock mapped as diorite (uTCd). A portion of the larger anomalous region, just to the northeast, correlates

with part of another mapped diorite intrusion. The anomalous portion seen within Princeton Group rocks may be due to overlying glacial material containing significant amounts of potassium rich material transported from the north.

Correlation of thorium/potassium ratio anomalies with geology is essential in order to distinguish anomalies due to probable potassic alteration from those that may be caused by transported material in glacial debris or by other surface features. Calculated thorium-potassium ratio values derived from spectrometer data gathered by a road truck-borne radiolithic survey successfully detected ratios indicative of potassic signatures in parts of the Project (Figure 10 and Figure 11).

### **Whipsaw Area Geochemistry**

Raven-Nev and Eagle-Trojan (Condor-Crow and Bolas Eagle Node IP Anomalies). The strongest copper and silver values in the 140 sampled rocks within the East Whipsaw area ranging up to 6549 ppm Cu and 4.8ppm Ag, are present in rusty, silicified gabbro float with quartz carbonate veinlets at the Trojan showing, which also carry gold values of up to 80 ppb Au together with the highest iron value of 9.0% Fe.

The highest gold value of 165 ppb Au, is present in the Raven trench which contains a Fe-Ca-Si-altered dike float bearing 2% pyrite, together with still strongly anomalous 133 ppm Cu.

The second highest gold value of 111ppb Au, accompanied by strongly anomalous 320 ppm Cu and 7.3% Fe is present in epidotized gabbro. The only copper anomalous field-sieved sediment sample is located just northeast of the Raven trench, with 88 ppm Cu, accompanied by anomalous pathfinder elements of As, Mo, Pb, but also the highest 73 ppm Co, 330 ppm Ni values, and very strong major element values of 4.8% Fe, 1264 ppm Mn, 5.7% Ca, and 2160 ppm P, indicating the presence of strong fault/shear zone structures.

The largest iron-carbonate alteration zone identified in the Project area is C1, (Figure 11). The iron-carbonate-silica altered C1 rocks range in anomalous gold, silver, arsenic and copper values of up to 85 ppb Au, 0.9 ppm Ag, 192 ppm As, 363 ppm Cu in C1, and 45 ppb Au, 0.4 ppm Ag, 61 ppm As, and 222 ppm Cu.

In outcrop, the highest gold, silver, and copper values are 25 ppm Au, 1.2 ppm Ag, and 620 ppm Cu, found in oxidized pyroxene-diorite with quartz veinlets and 5% pyrite, located along the main Whipsaw Road in the middle of the Bolas induced polarization anomaly.

Figure 9: Summary Whipsaw Area

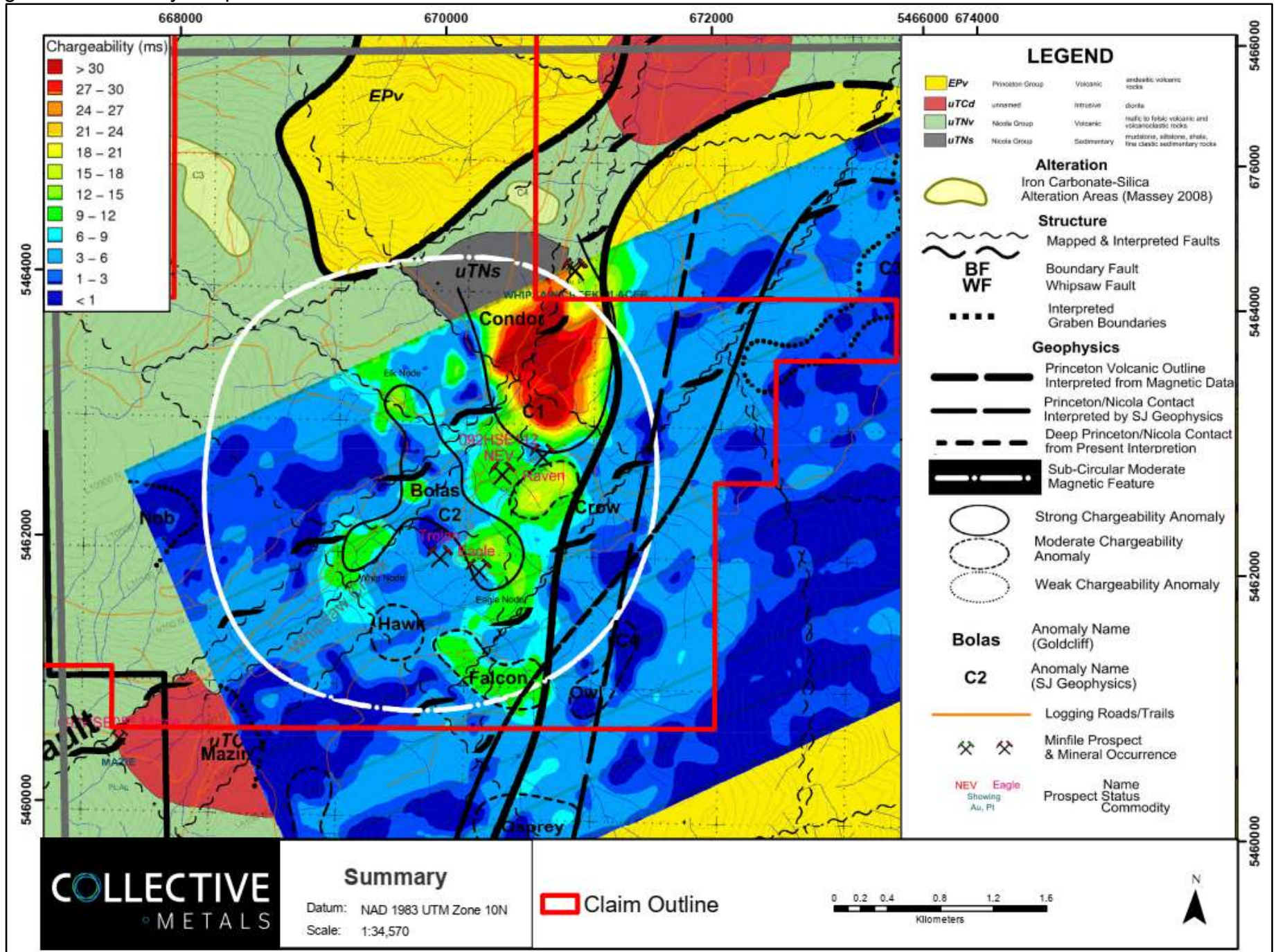




Figure 10: Summary Project

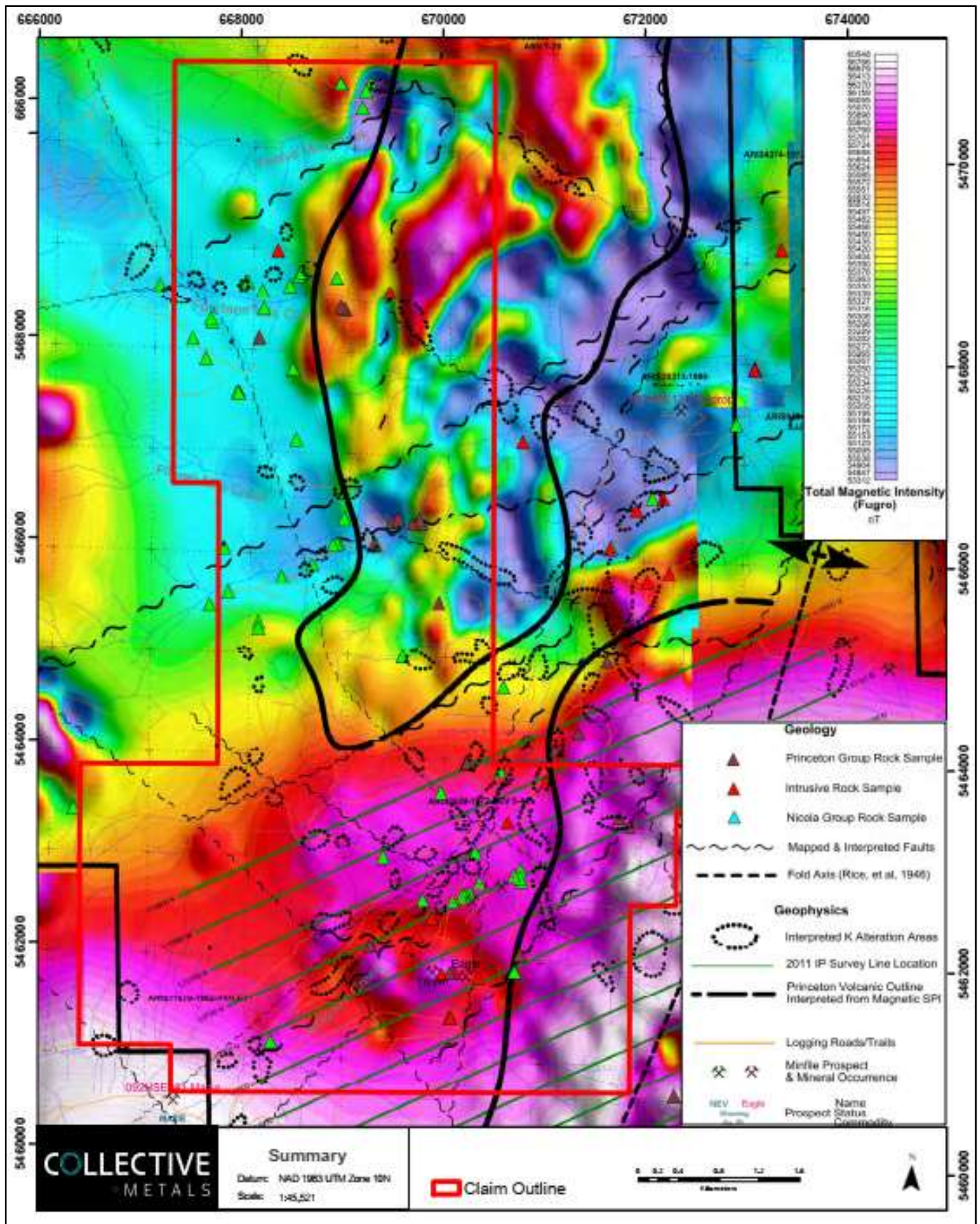
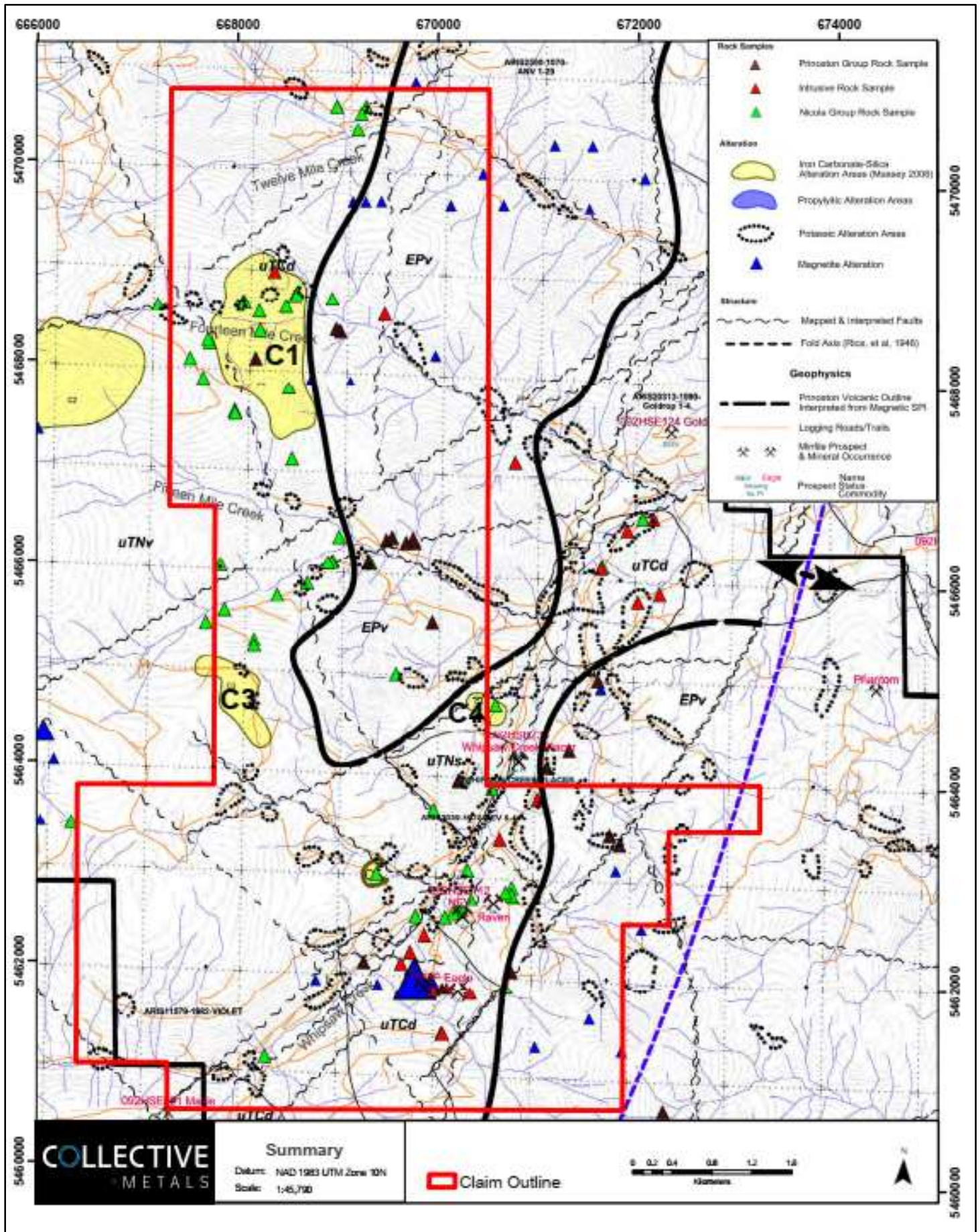




Figure 11: Summary Iron Carbonate



## Drilling

The 2014, Goldcliff's work program consisted of drill testing (four NQ drill holes totalling 727.87 metres) the Bolas chargeability induced polarization anomaly (Whip, Elk and Eagle nodes) as well as copper mineralization (chalcopyrite) in float and outcrop samples at the Trojan, Eagle, and Raven showings (Figure 3 for drill hole locations).

Two volcanic rock types were intersected in the drilling (WS14-001 and WS14-003), including green to grey green tuff (Unit uTNvt) and a dark green chlorite schist (Unit uTNvsh). The fine-grained tuff contains rare <1-to-2-millimetre feldspar laths and rare 1-to-2-millimetre pyroxene phenocrysts. The tuff shows little or no foliation and exhibits increased chlorite alteration of the pyroxene with depth. Weak to moderate patchy green epidote alteration occurs throughout the unit with carbonate and varying concentrations of pyrite (1-5%). The chlorite schist is moderately to strongly foliated with finer and coarser bands. Some sections show narrow, 5- to 10-centimetre-wide faults paralleling the foliation. Weak, 1 to 4-millimetre chlorite altered lapilli occur within the schist, often stretched along the foliation. Foliation in the chlorite schist varies from 53° to 68° to the core axis.

The observations made by Goldcliff at the time are below:

- 1) Trace amounts of chalcopyrite occur in quantities associated with pyrite within narrow (<1 to 5 centimetres wide) carbonate-epidote-quartz veinlets, patchy epidote alteration and more rarely as fine-grained disseminations in the diorite-gabbro-pyroxenite stock and Nicola volcanics.
- 2) Weak patchy pervasive epidote alteration and narrow epidote veinlets occurs sporadically within the diorite-gabbro-pyroxenite stock and Nicola volcanics, rarely with chalcopyrite.
- 3) Forty representative samples were collected from the core and sent for analysis. Copper values were weakly anomalous, ranging from 21.3 to 953 ppm.
- 4) The highest copper value from the drilling was 953 ppm copper (WS14-002-097.87) across 3.27 metres of diorite containing a weak quartz-carbonate-pyrite stockwork zone with traces of chalcopyrite.
- 5) The induced polarization chargeability anomalies are explained by the pyrite encountered within the drill holes

Table 3 Drill Hole Locations

Drill Hole	Target	UTM East	UTM Nort	Azimuth	Inclination	Elevation	Core	Depth
WS14-001	Bolas	669834	5462412		-90	1187	77	212
WS14-002	Trojan	669793	5461952		-90	1300	81	188
WS14-003	Raven	670619	5462860		-90	1268	86	194
S14-004	Eagle	670123.2	5461898		-90	1396	90	133.2

## **10 DRILLING**

Collective Metals Inc. has not performed drilling on the Project to date.

## **11 SAMPLING PREPARATION, ANALYSES, AND SECURITY**

Collective Metals Inc. has not conducted an exploration program on the Project, therefore the author is unable to comment.

### **Goldcliff Resource Corporation Exploration Programs**

The Goldcliff exploration programs from 2008-2014 included soil, rock, and stream sediment sampling. The sample methods on how the geochemical were collected were not stated in the historical assessment reports. It was reported that rock, sediment and soil samples were delivered to Goldcliff's warehouse in Keremeos and shipped to Eco Tech - SGS Laboratories in Kamloops, BC, for fire-geochemical gold plus 45 element ultra-trace aqua regia digest ICP-MS analysis.

The drill core was brought from the drill site to a locked core logging and sampling facility in Princeton, BC after each shift. The core was logged, cut and sampled within the locked facility, with only Goldcliff personnel having access to the site. All samples taken were kept within the locked facility until transported to by Goldcliff personnel to the ALS Minerals laboratory in Kamloops BC for analysis.

The drill core was logged, and various sections selected for sampling. The sections selected for sampling were cut in half by a rock saw with one-half sent for analysis and the other half retained for future reference. The sample interval for the portions of core selected for analysis was generally three metres in width.

The drill core samples collected from the 2014 drilling program were delivered to ALS Minerals, Kamloops, BC (accredited to ISO/IEC 17025-2005), for sample preparation. The laboratory technique for the core samples consisted of fine crushing to 70% passing <2 mm, splitting off a 250-gram sample and pulverizing to better than 85% passing 75 microns. Forty samples were analyzed by an ultra-trace level 51 element ICP-AES/ICP-MS (aqua regia digestion) package (ME-MS41). Eight of the samples were analyzed for platinum, palladium, and gold (30-gram sample) by fire assay and ICP-AES finish (PGM-ICP23).

At the current stage of exploration, the geological controls and true widths of mineralized zones are not known and the occurrence of any significantly higher-grade intervals within lower grade intersections has not been determined.

## **12 DATA VERIFICATION**

On June 7, 2023, the author visited the Project and examined several locations and confirmed the reported geology. The author did not collect any rock samples due to the fact that he did not observe any surface mineralization. The glacial till cover is in varying thicknesses and cover much of the Project, which is not conducive to outcrop exposure.

Given the lack of the check-sampling and a review of all /geophysical data presented, the author believes that industry best-practice standards were used in conducting the surface geophysical sampling program on the Project and is of the opinion that the data verification program completed on the data collected from the Project appropriately supports the database quality and the geologic interpretations derived therefrom.

The author read all the drill logs from Goldcliff Resource Corporation 2014 drill program. The author compared the assays on the logs to assay sheet provide by the laboratory. The author did not find any discrepancies.

The author is of the opinion that the historical data descriptions of sampling methods and details of location, number, type, nature, and spacing or density of samples and geophysical data collected, and the size of the area covered are all adequate for the current stage of exploration for the Project.

## **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

This is an early-stage exploration project and to date no metallurgical testing has been undertaken.

## **14 MINERAL RESOURCE ESTIMATE**

There are no current mineral resources on the Project.

## **15 THROUGH 22 ARE NOT APPLICABLE TO THIS REPORT**

Items 15 through 22 of Form 43-101F1 do not apply to the Project that is the subject of this technical report as this is not an advanced property.



## 23 ADJACENT PROPERTIES

The Copper Mountain Mine, owned by Copper Mountain Mining Corporation is located approximately four kilometres to the east of the Project.

The Copper Mountain area is a large, structurally complex, alkalic porphyry copper-gold system where historical mining operations have produced 1.7 billion pounds of copper, 700,000 ounces (oz) of gold, and 9 million ounces (Moz) of silver from six pits and underground areas. Most of the copper-gold mineralization at Copper Mountain is in the form of veins, fracture fillings, and disseminations within volcanic rocks of the Nicola Group. Only a minor amount of mineralization is hosted in intrusive rocks, and most of this is located on the north side of Pit 2 and north of Lost Horse Gulch. Mineralization has strong vertical continuity, and dominant orientations for veins and fractures varies with location. Mineralization consists of chalcopyrite, bornite, and chalcocite (hypogene), with gangue sulphide and oxide minerals of pyrite, magnetite, and calcite. Overall, copper-bearing sulphide minerals are more abundant than pyrite in the ore zones. Alteration associated with mineralization includes both sodic and potassic metasomatism, with the sodic alteration predominant in the south, and potassic alteration predominant in the north. A bornite chalcopyrite-pyrite mineral assemblage is typical of the Pit 3 area, whereas a chalcopyrite-pyrite-magnetite assemblage is typical of the mineralization in the north side of the camp. Pit 2, which is situated near the middle of the camp, has overlapping mineral assemblages. Calcite is an abundant gangue mineral which is present in sufficient concentrations to ensure that most rocks are acid-consuming rather than acid generating during weathering.

The following is from 2022 Copper Mountain Mine Life-Of-Mine Plan And 65 Kt/D Expansion Study Update NI 43-101 Technical Report British Columbia, for Copper Mountain Mining Corporation by Klue et al 2022.

The Copper Mountain Mineral Reserve is included in the Copper Mountain Mineral Resource and the effective date of the Mineral Reserve and Mineral Resource is August 1, 2022. A summary of the Mineral Reserve and Mineral Resource is provided below.

Table 4: Mineral Reserve

COPPER MOUNTAIN MINE MINERAL RESERVE							
	TONNES	COPPER	GOLD	SILVER	COPPER	GOLD	SILVER(KOZ)
	('000S)	(%)	(G/T)	(G/T)	(MLB)	(KOZ)	
<i>Proven (Pit Only)</i>	415,515	0.26	0.11	0.79	2,382	1,488	10,620
<i>Probable (Pit Only)</i>	235,165	0.23	0.1	0.61	1,175	758	4,641
<i>Total Proven and Probable (Pit Only)</i>	650,679	0.25	0.11	0.73	3,556	2,246	15,261
Stockpile	51,765	0.15	0.04	0.45	176	67	749
<i>Total Proven and Probable</i>	702,444	0.24	0.1	0.71	3,732	2,313	16,010

1. Mineral Reserves estimate was prepared in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, as amended (the "JORC Code") and Canadian Institute of Mining, Metallurgy and Petroleum ("CIM")

Definition Standards on Mineral Reserves and Mineral Resources (the “CIM Standards”) adopted by the CIM Council on May 10, 2014.

2. Mineral Reserves estimate was generated using the August 1, 2022, mining surface.
3. Mineral Reserves estimate is reported at 0.10% and 0.13% Cu cut-off grade for New Ingerbelle and Copper Mountain Mine (“CMM”) respectively.
4. Mineral Reserves estimate is reported using long-term copper, gold, and silver prices of \$2.75/lb, \$1,500/oz, and \$18.50/oz, respectively.
5. An average CMM copper process recovery of 80%, gold process recovery of 65%, and silver process recovery of 70% is based on geometallurgical domains and actual plant values.
6. An average New Ingerbelle copper process recovery of 88.5%, gold process recovery of 71%, and silver process recovery of 65% is based on geo-metallurgical domains, historical recoveries, and recent test work.
7. Average bulk density is 2.78 t/m<sup>3</sup>.
8. Stockpile tonnes and grade are based on production grade control process.
9. Totals may not add due to rounding.

Table 5: Mineral Resource

COPPER MOUNTAIN MINE MINERAL RESOURCES							
	TONNES	COPPER	GOLD	SILVER	COPPER	GOLD	SILVER
	(‘000S)	(%)	(G/T)	(G/T)	(MLB)	(KOZ)	(MOZ)
<i>Measured (Pit Only)</i>	545,230	0.24	0.1	0.73	2,889	1,782	12,882
<i>Indicated</i>	534,995	0.2	0.09	0.57	2,402	1,518	9,745
<i>Total M&amp;I (Pit Only)</i>	1,080,226	0.22	0.09	0.65	5,291	3,299	22,627
Stockpile	51,765	0.15	0.04	0.45	176	67	749
<i>Total M&amp;I</i>	1,131,991	0.22	0.09	0.64	5,467	3,366	23,376
<i>Inferred</i>	445,641	0.19	0.09	0.54	1,912	1,278	7,674

1. Mineral Resources estimate was prepared in accordance with the JORC Code and the CIM Standards.
2. Mineral Resources were estimated using the August 1, 2022, mining surface for the Copper Mountain Mine.
3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of the Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.
4. Mineral Resources estimate is constrained by a \$3.50/lb Cu pit shell.
5. Cut-off grade is based on copper grade only.
6. Mineral Resources are inclusive of Mineral Reserves.
7. Cut-off grades applied at 0.10% Cu.
8. Totals may not add due to rounding.

The qualified person has not verified the information on the adjacent properties and the information disclosed is not necessarily indicative of mineralization on the Project that is the subject of the technical report.

## 24 OTHER RELEVANT DATA AND INFORMATION

To the authors knowledge there is no other relevant data or information.

## 25 INTERPRETATION AND CONCLUSIONS

The Project area has favourable geology to host alkalic copper-gold porphyry mineralization. The geochemical and geophysical surveys have returned positive indications of a possible porphyry-type mineralization.

The historical data available for the Project includes, soil, silt, and rock samples, geological mapping, trenching, ground geophysical surveys (Induced Polarization), Magnetic, Radiolithic, Resistivity and Very Low Frequency – Electromagnetic (VLFEM)) and airborne geophysical surveys (including Electromagnetic, Magnetic, and Radiometric) surveys. This data set ultimately resulted in a 2014 drill program.

The Goldcliff Resource Corporation 3D induced polarization survey conducted over the Whipsaw target in 2011 located seven (Condor, Bolas, Crow Falcon, Hawk, Nob, Mazin, and Owl) deep rooted chargeability anomalies that are interpreted to be disseminated sulphide mineralization and extend from surface to depths of 500 metres. The Bolas and Condor are the most significant of the chargeability anomalies.

A number of copper showings were located by the Goldcliff Resource Corporation exploration programs in the Whipsaw target area. These showings included the Nev, Eagle, Trojan, and Raven on the southeast side of Whipsaw Creek. The copper mineralization occurs within chloritic schists of the Nicola Group and a diorite-gabbro-pyroxenite stock that has intruded the Nicola rocks. Traces of chalcopyrite associated with pyrite occur within narrow carbonate-quartz-epidote veinlets, patchy epidote alteration, and more rarely as fine-grained disseminations in the diorite-gabbro-pyroxenite stock and Nicola volcanics.

The Whipsaw crescent shaped magnetic high partially surrounds a subcircular magnetic feature that is a low compared to the crescent shaped high but higher relative to magnetic background seen to the north. There, the crescent shaped magnetic high (diorite) partially surrounds rocks mapped as monzonite and syenite.

Only the Condor anomalous zone comes to surface and contains surface mineralization. Other anomalous zones showed higher chargeability response below surface and only small amounts of sulphides on surface. It is speculated that original mineralization may exist at depth within a large, mineralized zone in the Whipsaw area of exploration.

The Goldcliff Resource Corporation 2014 four-hole drill program was relatively shallow, <215 m in depth, and documented low copper values (<953 ppm). From the authors review of the core logs, it appears that the drill logs did document mineralized epidote-carbonate veinlets and patchy epidote alteration of both the host Nicola Group volcanics and the intrusive diorite. However, alteration products of a possible porphyry system were not noted. If the core can be salvaged and recovered it should be re-logged and sampled by a geologist with extensive porphyry experience.

The Project area is interpreted to represent an erosional window, a fenster, through the Eocene Princeton Group cover sequence, through the unconformable contact into the underlying Nicola Group. As such, the fenster is interpreted to offer potential to evaluate the interpreted causative,

potentially altered / mineralized intrusive source for the magnetic anomaly hosted within highly reactive Nicola Group host rocks. A number of iron carbonate – silicic altered areas, designated C1, C2 and C4 (Massey et al 2009) may represent alteration associated with blind to partially exposed diorite intrusive occurrences.

## 26 RECOMMENDATIONS

In the qualified person’s opinion, the character of the Project warrants the following work program:

The suggested work program includes a compilation of all historical geological, geophysical, and geochemical data available for the Princeton Project and the rendering of this data into a digital database in GIS formats for further interpretation. All of the 2011 induced polarization survey data should be re interpreted with a porphyry target as it’s focus. Relog, photograph, and sample the 2014 drill core, and if possible, perform geological mapping/sampling including alteration mapping.

Table 6: Proposed Budget

Item	Unit	Rate	Number of Units	Total (\$)
Creation of GIS Database	Lump Sum	\$15,000	1	\$ 15,000
Geophysics Re-interpretation	days	\$1,500	7	\$ 10,500
Geologist Mapping	days	\$1,000	20	\$ 20,000
Relogging of 2014 core	days	\$1,000	10	\$ 10,000
Assaying rock samples	sample	\$55	150	\$ 8,250
Accommodation and Meals	days	\$225	30	\$ 6,750
Vehicle 1 truck	days	\$175	30	\$ 5,250
ATV rental	days	\$150	20	\$ 3,000
Supplies and Rentals	Lump Sum	\$1,500	1	\$ 1,500
Reports	Lump Sum	\$7,500	1	\$ 7,500
		Subtotal		\$ 87,750
Contingency 10%				\$ 8,775
<b>TOTAL (CANADIAN DOLLARS)</b>				<b>\$ 96,525.0</b>



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## 28 CERTIFICATE OF AUTHOR

I, Derrick Strickland, do hereby certify as follows:

I am a consulting geologist at 1251 Cardero Street, Vancouver, B.C.

This certificate applies to the technical report entitled “NI 43-101 Technical Report on the Princeton Project British Columbia Canada at -120.66° Longitude and 49.31° Latitude on MAP on MAP92H/07”, with a signature and effective date June 15, 2023.

I am a graduate of Concordia University of Montreal, Quebec, with a B.Sc. in Geology, 1993. I am a Practicing Member in good standing of the Association of Professional Engineers and Geoscientists, British Columbia, license number 1000315, since 2002. I have been practicing my profession continuously since 1993 and have been working in mineral exploration since 1986 in gold, precious, base metals, coal minerals, and diamond exploration, during which time I have used applied geophysics and geochemistry across multiple deposit types. I have worked throughout Canada, the United States, Jamaica, China, Mongolia, South America, Southeast Asia, Europe, West Africa, Papua New Guinea, and Pakistan.

I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

The author visited the Princeton Project on June 7, 2023, during which time the author reviewed the geological setting. I have no prior contact with the Princeton Project that is the subject of this Technical Report.

I am responsible for and have read all sections of the report entitled NI 43-101 Technical Report on the Princeton Project British Columbia Canada at -120.66° Longitude and 49.31° Latitude on MAP 92H/07”, with a signature and effective date June 15, 2023.

I am independent of Collective Metals Inc. and Tulameen Resources Corporation in applying the tests in section 1.5 of National Instrument 43-101. For greater clarity, I do not hold, nor do I expect to receive, any securities of any other interest in any corporate entity, private or public, with interests in the Princeton Project nor do I have any business relationship with any such entity apart from a professional consulting relationship with that of Collective Metals Inc. I do not hold any securities in any corporate entity that is any part of the subject Project.

I have read National Instrument 43-101, Form 43-101F1, and this technical report and this report has been prepared in compliance with the Instrument.

As of the effective date of this Technical Report, I am not aware of any information or omission of such information that would make this Technical Report misleading. This Technical Report contains all the scientific and technical information that is required to be disclosed to make the technical report not misleading.

“NI 43-101 Technical Report on the Princeton Project British Columbia Canada at -120.66° Longitude and 49.31° Latitude on MAP 92H/07”, with a signature and effective date June 15, 2023.

*Original signed and sealed*

On this day June 15, 2023.  
Derrick Strickland P. Geo. (1000315)