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Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological, Geochemical

TOTAL COST: $6605.67

AUTHOR(S): Connor Malek and James Chamberlain

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 5640583

YEAR OF WORK: 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):

PROPERTY NAME: Russell

CLAIM NAME(S) (on which the work was done): Tenure #'s: 1042651, 1043538, 1044082
Claim Names: RUSSELL 1, RUSSELL 2, RUSSELL 3

COMMODITIES SOUGHT: Cu, Mo, Zn, Au, Ag

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNW085

MINING DIVISION: Nicola

NTS/BCGS: 92H/14

LATITUDE: 49 ° 54 ' 07 " **LONGITUDE:** 121 ° 22 ' 43 " **(at centre of work)**

OWNER(S):
1) Connor W. Malek (50%)
2) James C. Chamberlain (50%)

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OPERATOR(S) [who paid for the work]:
1) Owners
2)

MAILING ADDRESS:

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Pasayten Group, Eagle Granodiorite, Prophyry Cu-Mo, Quesnel Terrane, Mt. Lytton Batholith, Fraser Fault

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 33780

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)	458 hectares	1042651, 1043538, 1044082	$6605.67
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$6605.67

BC Geological Survey
Assessment Report
36763

ASSESSMENT REPORT ON 2016 GEOCHEMISTRY AND PETROGRAPHY PROGRAM ON RUSSELL Cu-Zn PROPERTY

Event Number: 5640583

BRITISH COLUMBIA

NEW WESTMINSTER MINING DIVISION

NTS M092H084

Latitude: 49°54'07.7"N, Longitude: 121°22'43.0"W

NAD83 UTM Zone 10N: 0616432 E, 5529011 N

Report By:

Connor Malek

P.O Box 842 Okotoks, AB, T1S 1A9

and

James Chamberlain

3133 Arlington Ave. Saskatoon, SK, S7J 2K1

May 29, 2017

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Executive Summary

The Russell Cu-Zn Property was subject to a four day field program in May 2016 to collect samples for geochemical and petrographic analysis to further advance the prospectivity of the Property. In 2012, the “Azurite Zone” showing was discovered on the current Russell Property where a feldspar porphyry intrusive hosts azurite and malachite mineralization with grab sample values up to 0.665 % Cu, 0.229% Pb, and 0.945% Zn as well as elevated gold, silver, arsenic, mercury and antimony. Nine outcrop samples were collected from the Russell Property in 2016 with seven sent for geochemical analysis. Five samples from the Azurite showing on the Property have high Zn (four samples returning >1.0% Zn), Cu (up to 2,067.1 ppm), and As (up to 833.0 ppm) values. Four samples were selected for thin section petrographic analysis, which demonstrated the strong silicic- and sericite-alteration of the Azurite showing, as well as observations of sphalerite, chalcopyrite, and tennantite responsible for the elevated metal concentrations.

The Russell Property straddles the boundary between the Intermontane and Coast belts which were juxtaposed in late Cretaceous time along the Pasayten Fault. Paleogene mafic to intermediate igneous bodies intrude the sedimentary Pasayten Group and are related to the significant Cu-Mo-Zn mineralization seen on the Russell Property at the Azurite showing, as well as at the DUC and Gossan showings to the southeast and east of the Property, respectively. The advanced geochemistry provides insight of the high magmatic water content of the central Paleogene intrusive, essential for the formation of a magmatic-hydrothermal ore deposit. The mineralized Paleogene mafic to intermediate intrusive bodies on the Russell Property are situated in a favorable location at the main structure accommodating the Cretaceous collisional regime. The collisional tectonics may have influenced and provided structural pathways to allow for partial melts derived from the fertile sub-continental lithospheric mantle to reach upper crustal levels. Furthermore, the relative timing of the intrusives, being post-collisional, prior to significant transcurrent motion, and coeval with adakitic volcanics, is favourable for the development of magmatic-hydrothermal mineralized systems.

A ten person-day program consisting of overview mapping and ground-based magnetometer and VLF-EM survey is recommended to assess the magnitude of the Azurite showing mineralization, as well as to potentially uncover further mineralization associated with the Paleogene intrusives on the Russell Property.

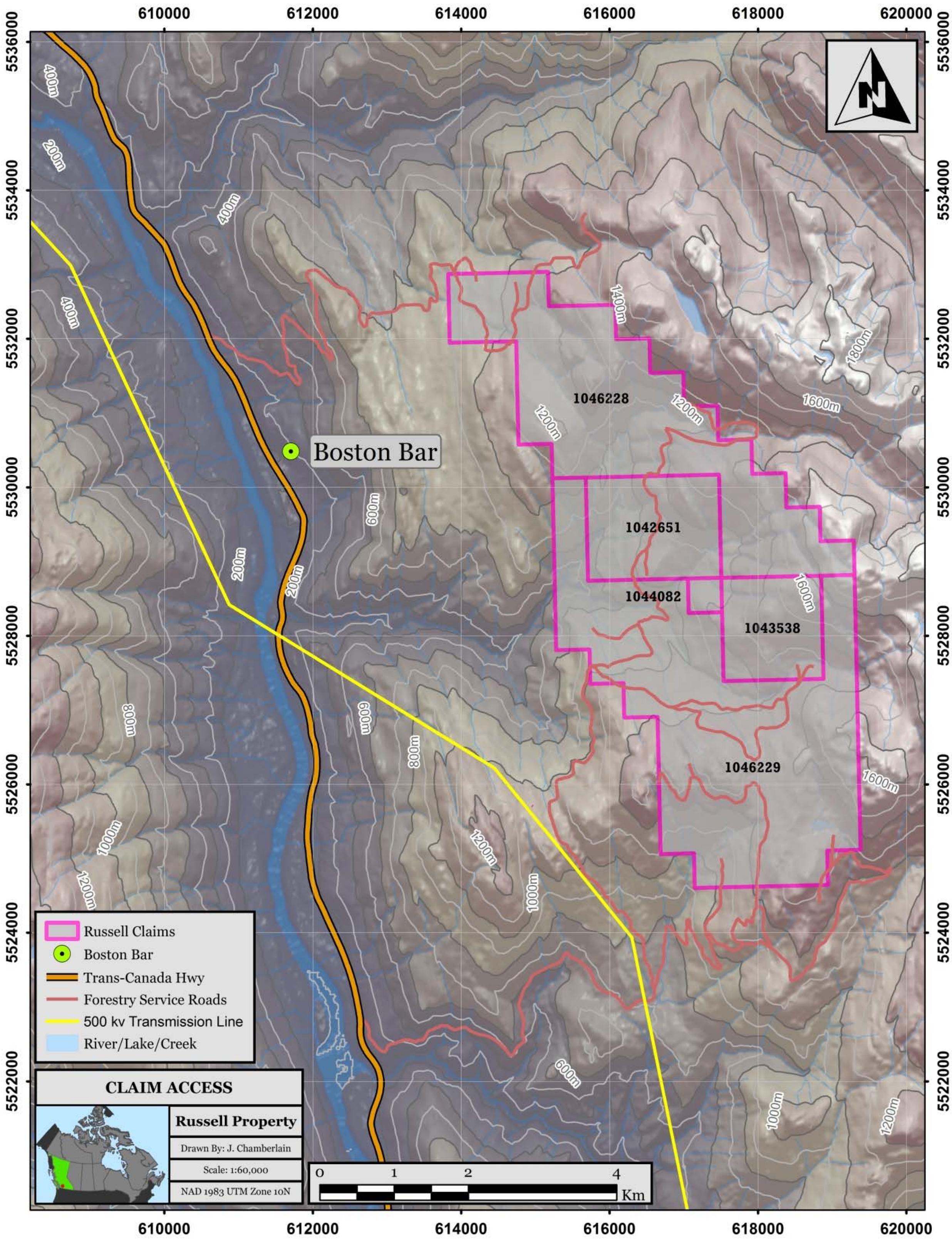

Figure 1: Location and Tenure

1.0 Introduction

1.1 Location, Access and Infrastructure

The claims are located in south-western British Columbia (Figure 1), approximately 3 km east of the town, Boston Bar and 37 kilometres southwest of the city of Merritt, BC. The property is centered at approximately 49°54’07.7”N latitude and 121°22’43.0”W longitude on NTS map sheet M092H084.

The claims are accessed from Boston Bar by heading south on the Trans-Canada Hwy for 8 km and then east on the Uztlius Creek Forest service road for approximately 5.7 km, turning north on a decommissioned forestry service road for an additional 5 km. The northern most claim (1046228) can also be access by the above mentioned route but can also be accessed heading north on the Trans-Canada Hwy for approximately 2 km, turning east via a series of switchbacks on active and decommissioned forestry service roads for roughly 7.5 km.

The Russell properties do not include infrastructure other than the logging roads and culverts. Two of B.C. Hydro’s 500 kV transmission lines run adjacent to the property one is roughly 4 km from the property running from SSW to NNE and the other is less than a km on the running NNW to SSE, power can be provided relatively easily to the claims. Advance exploration and establishment of the exploration camp would require application of portable power generators. Water for potential camp and/or drilling operations can be sourced from local creeks.

1.2 Climate and Physiography

Geographically, the claims lie along the eastern edge of the pacific coastal mountains. Elevations range from to 600m to 1800m. The mineral showings are situated on a moderately steep slope southwest facing slope. Relatively thick vegetation covers most of the lower to moderately elevated areas. Most rock outcrops are limited to higher elevations and creek drainages. Seasonal exploration surveys can commence from late May and end by late October.

The project area lies within the transition zone between the rugged Coast Mountains to the west and the rolling Interior Plateau physiography province to the east. Relief is modest on the claims, generally less than 1350m, with a mean elevation of 1194m a.s.l. Topography is dominated by rocky ridges, which transition downward into colluvium slopes, with alluvial valley bottoms.

The climate is characterized by warm summers with temperatures ranging from 10° to 25°C and cold winters typically in the -10° to -15°C. The claims are situated just west of the interior rain shadow, and as such receive abundant precipitation, ranging between 900 to 1,000 mm carrying over from the Coast Mountains. Considerable snow fall is to be expected during the winter months due to the elevations.

1.3 Property and Ownership

The Russell Property is comprised of 5 mineral claims covering 2,372.7 hectares, held by Connor W. Malek (50%) and James C. Chamberlain (50%). Russell 1, 2, and 3 claims are in good standings to July 24, 2019, following a statement of work filed for work documented in this report.

TENURE NO.	CLAIM NAME	ISSUE DATE	GOOD TO DATE	AREA (HA.)
1042651	RUSSELL 1	03/07/2016	07/24/2019	249.72
1043538	RUSSELL 2	04/15/2016	07/24/2019	187.34
1044082	RUSSELL 3	05/12/2016	07/24/2019	20.81
1046228	RUSSEL 4	08/24/2016	08/24/2017	790.56
1046229	RUSSEL 5	08/24/2016	08/24/2017	1,124.25

Table 1: Tenure Description

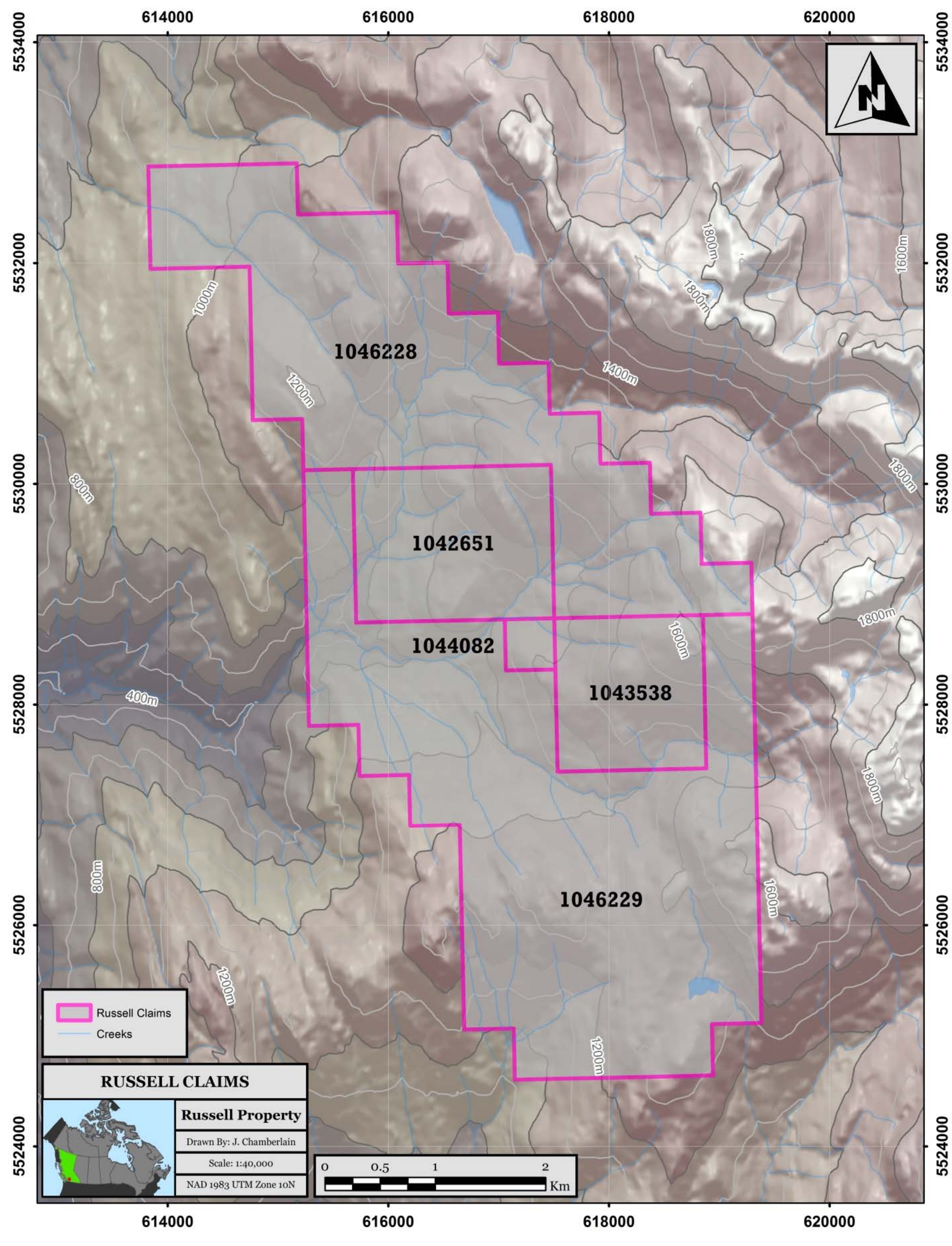

Figure 2: Tenure

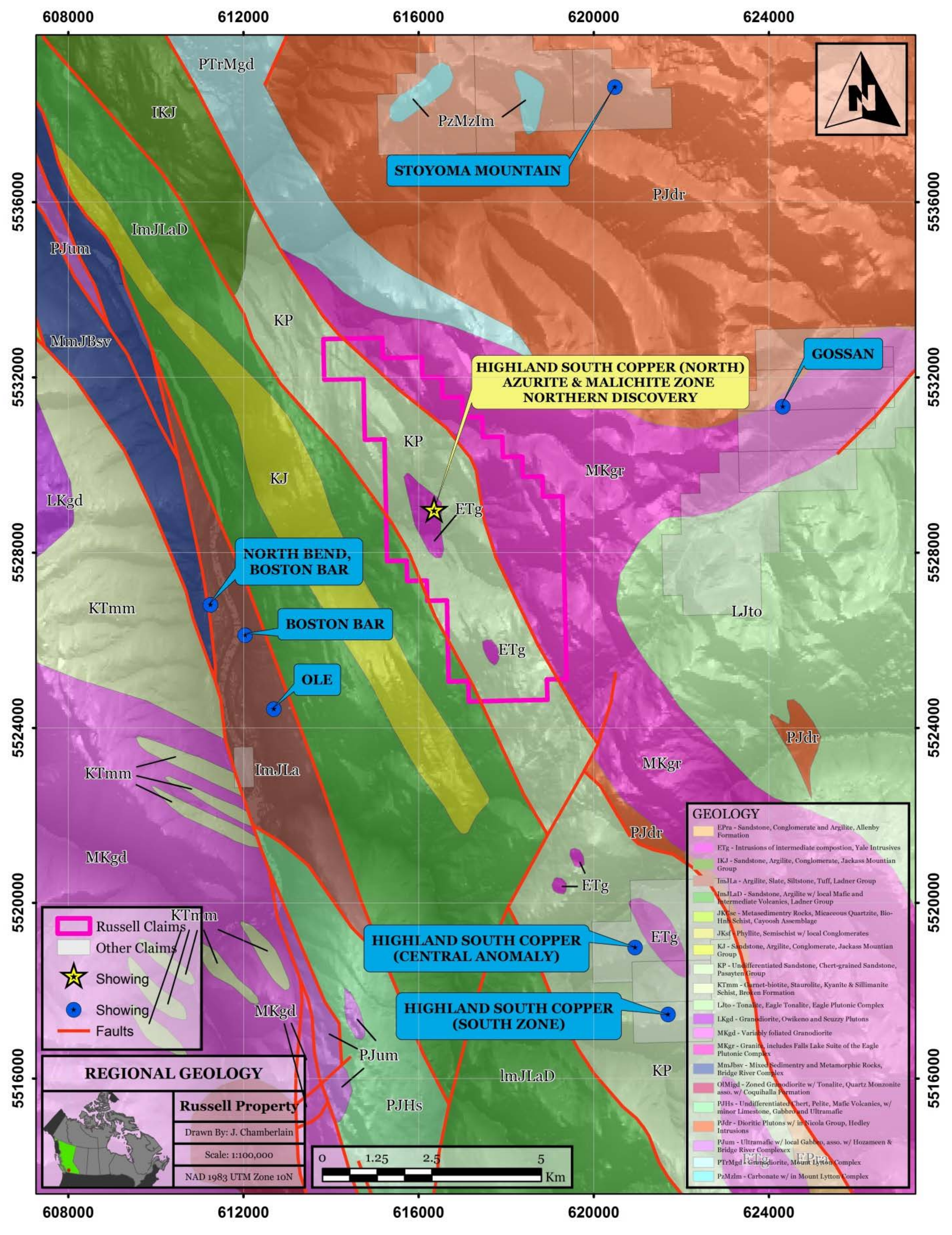

Figure 3: Regional Geology and Mineral Showings

2.0 Geology

2.1 Regional Geology

The Russell Property area was subject to 1:253,440 scale compilation mapping in 1944 by C.E. Cairnes of the Geological Survey of Canada (GSC) (Cairnes, 1944). In 1970, J.W.H. Monger of the GSC revised the area with a 1:250,000 scale compilation map and accompanying report, largely derived from detailed work done near Hope by the University of British Columbia (Monger, 1970). In 1986, G.E Ray mapped the area for the British Columbia Geological Survey (BCGS) as a part of his continuing research into the Coquihalla Gold Belt (Ray, 1986), and O'Brien visited the area in 1988 focussing on the Jurassic stratigraphy of the Methow Trough (O'Brien, 1988). In 1989, the GSC completed a series of 1:250,000 scale compilation maps of geology, fossil locations, isotopic date locations, and mineral occurrences (Monger and Lear, 1989). This geological mapping is the most complete and recent for the area, and is primarily used for the BCGS digital geology basemap (Fig. 2). There is no report to accompany this mapping, rather a sheet describing the various lithologies and structural evolution of the area (Monger and McMillan, 1989), most of the information in which stems from Monger's earlier paper (Monger, 1985). Ray (1990) performed a comprehensive study of the Hozameen fault system and the Coquihalla Gold Belt, mapping areas to the southeast to 1:20,000 scale. Greig (1992) investigated the Eagle Plutonic Complex and mapped the area to the southeast near the Needle Peak Pluton.

The Russell Property straddles the boundary of the Intermontane Belt to the east and Coast Belt to the west, demarcated by the Pasayten Fault. In the east, Early Cretaceous volcanic rocks of the Spences Bridge Group unconformably overlie both the Jurassic Cache Creek Terrane and the more broadly distributed Quesnel Terrane. The Quesnel Terrane directly to the east is a magmatic arc consisting of mafic volcanic and interstratified sedimentary rocks of the Late Triassic Nicola Group and contemporaneous intrusive rocks of the Mount Lytton Plutonic Complex (Diakow and Barrios, 2008). The Eagle Plutonic Complex intrudes the Mt. Lytton complex and is contiguous with the Okanogan Complex in northern Washington. The Eagle Plutonic Complex comprises middle to late Jurassic and mid-Cretaceous plutons forming a composite and variably deformed intrusive complex (Grieg, 1992).

West of the Pasayten Fault lies the Methow-Tyaughton Basin. The basin consists of a basal ophiolite of probable Triassic age; the Spider Peak Formation, overlain by the Lower to Middle Jurassic Ladner Group, with its volcanic-rich facies, the Dewdney Creek Formation, followed by Lower- to Upper-Cretaceous thick units of undifferentiated argillite, sandstone, and conglomerate making up the Jackass Mountain Group, and the non-marine facies equivalent Pasayten Group, at the top of the succession. The later contain detritus from the east and west terranes, the Quesnellian and Bridge River rocks, respectively, thus linking these terranes together by about mid-Cretaceous time (Monger and McMillan, 1989).

To the southwest of the Pasayten Fault, another terrane-bounding structure, the north-tending Hozameen Fault separates the Spider Peak Formation on the east and the Permian to Jurassic Hozameen Group, a highly deformed, dismembered ophiolite suite of the Bridge River terrane to the west (Ray, 1990).

Early to Middle Eocene (53-47 Ma) terrestrial volcanic and clastic sedimentary rocks of the Priceton group are found throughout the region, predominantly to the southeast of the Eagle Plutonic Complex. The volcanics have an adakitic signature that extends throughout their entire compositional range, including high-Mg# basaltic andesite. It is postulated by Ickert et al. (2009) that the source for the Princeton group may have been mafic dykes emplaced into the lithospheric mantle during Mesozoic arc magmatism and subsequently partially melted during an event of lithospheric heating in the Eocene. The heating may have been caused by upwelling asthenosphere related to a slab window or slab tear. The Eocene (48 Ma; Monger and Lear, 1989) rocks of the Needle Peak Pluton, consisting of coarse-grained biotite-hornblende monzogranite, intrude Middle Eocene clastic rocks to the southeast of the property (Greig, 1992).

As expected at the intersection of multiple geological domains, the Russell Property area is structurally diverse and complex. The approach of the Insular Superterrane led to a generally contractional regime where the structural stacking of rock units resulted in the uplift of the Intermontane Belt and the Coast-Cascade Belt to become non-marine by ca. 160 Ma and ca. 100 Ma (Monger and McMillan, 1989). The intrusion of mantle-derived magmatic rocks accompanied the transition to a transcurrent regime, which produced major lithological domain offsets such as the Fraser Fault.

The mid-Cretaceous to Tertiary Pasayten Fault separates the Mt. Lytton and Eagle complexes from the predominantly sedimentary rocks of the Methow Terrane. Uplift from the late Cretaceous to the early Tertiary along the Pasayten Fault provided the Mt. Lytton, Eagle, and Okanogan complexes with their similar regional structural position. The Pasayten Fault evolved from a ductile shear zone in the mid-Cretaceous to a brittle fault in the mid-Eocene. The sub-vertical Pasayten Fault records mid-Cretaceous east-side-up movement by either a reverse component of movement (east-dipping) with sinistral sense of shear (Greig, 1992), or west-dipping normal movement down-dropping to the Methow Terrane to the west (Monger and McMillan, 1989). Within the Methow Terrane, the east-verging Chuwanten Fault, places Jurassic strata over the late Cretaceous Pasayten Group and is cut by the Eocene Needle Peak Pluton, thus establishing late-Cretaceous, pre-48 Ma horizontal shortening in the area (Monger and McMillan, 1989). The Hozameen Fault, which separates the Hozameen Group from the rocks of the Methow-Pasayten Trough, is a major, steeply dipping, north-northwest-trending fracture system that exceeds 100 kilometres in length. The Hozameen Fault is apparently cut and intruded by the Eocene (50 Ma) Golden Horn Batholith to the south and cut off by the younger Fraser Fault in the north, near the Russell Property. The 300-km-long dextral Yalakom Fault northwest of Lillooet, may represent the offset continuation of the Hozameen Fault (Ray, 1990; and references therein). The Fraser-Straight Creek Fault System dextrally offsets older structures and rocks by 80-100 km, with movement occurring after 47 Ma and before 35 Ma, the oldest date from the cross-cutting Chilliwack Batholith in Washington State. The northeast trending faults, such as the Coquihalla Fault to the southeast, postdate the Needle Peak Pluton (48 Ma) and possibly the Coquihalla Volcanics (22 Ma; Monger and McMillan, 1989).

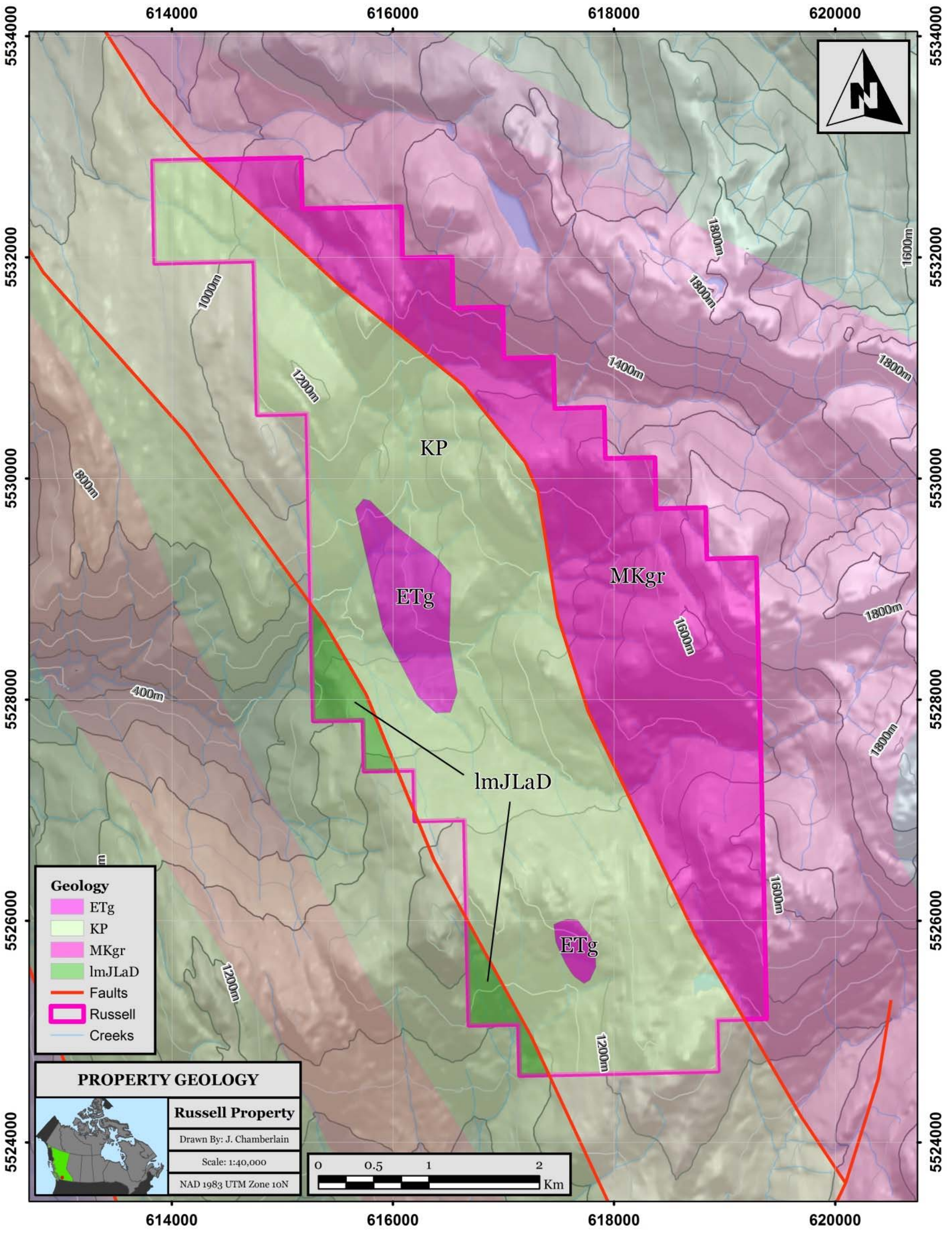

Figure 4: Property Geology

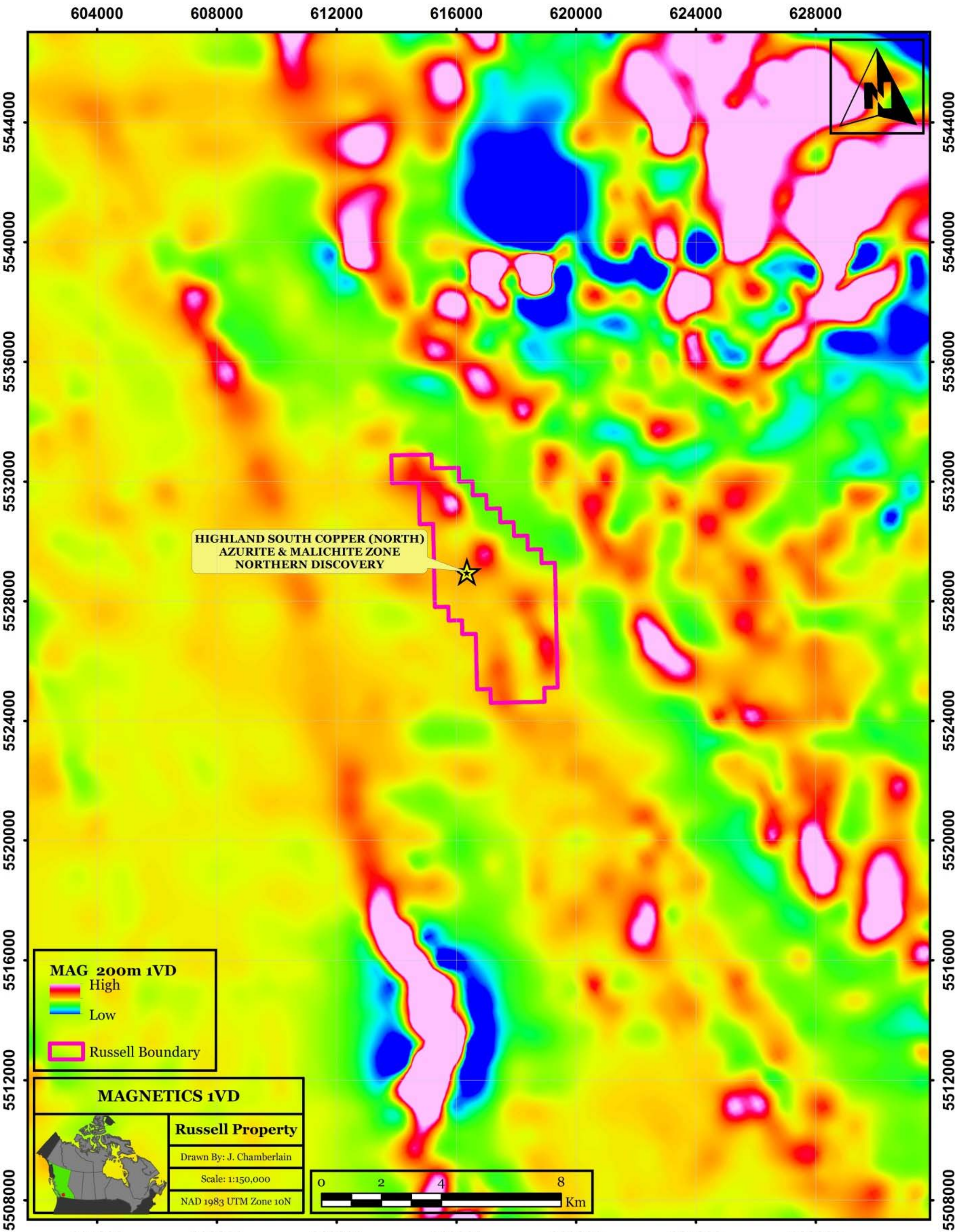

Figure 5: Property 1VD magnetics

2.2 Property Geology

The Russell Property straddles the Pasayten Fault, the boundary between the Mt. Lytton-Eagle Plutonic Complex to the northeast, and the Jackass Mountain and Pasayten groups to the southwest. The intermediate intrusives (Unit Etg) emplaced within and along strike of the Pasayten Group are inferred to be Paleogene in age, although the initial record of them is elusive. They are displayed in Monger's 1989 map and referenced to have been mapped by either Ray in 1986 or O'Brien in 1988. The former mapped mostly to the south with attention paid to the Hozameen Fault System thus there is little mention of the intrusives. The latter did map the current Russell Property but, again the focus was elsewhere, on the Jurassic biostratigraphy of the Methow Trough, so there are no defined intrusives in the mapping or mention of them in the report. Nevertheless there are intermediate intrusive units within the current Russell Property boundaries, and to the southeast along strike towards the Needle Peak Pluton, which are of probable Paleogene age. These intrusive units are coincident with circular magnetic high signatures in regional geophysics, and circular domes on the surface topography.

Adrian Smith summarized the current Russell Property and immediate area geology in 2012 (Assessment Report #33780):

> In General the geology on the property consisted of weakly metamorphosed interbedded shales siltstones sandstones and large beds of conglomerates. These sediments were commonly striking close to north-south with commonly steep, but variable dips both to the east and west. These sediments are up against a regionally continuous contact with a granitic batholith dated as mid cretaceous that was barren of sulfides where visible on the property. Subsequently younger aged intrusions dissect the sediments on a more local scale and seem to be composed primarily of plag phyric plugs and dykes of intermediate composition. Vesicles were also commonly noted within the plag phyric intrusives in the northern part of the property probably relative to hypabyssal nature. These later plugs dykes and or sills are reported to be of Paleogene age and commonly contain sulphides, and sporadic zones of alteration most commonly silicification and less argillic. The general composition of the younger intrusives became more mafic towards the south apparent from 1-3mm phoenocrysts of amphiboles and presence of (primary?) magnetite. Furthermore to the south of the property float of a fine grained diabase intrusive was found at the base of a ridge located with the property bounds, and was shown to be carrying a noticeable amount of Cu.

A prominent northeast trending structure runs through the Property, confirmed by previous mapping. This structure dextrally offsets the Hozameen, Chuwanten, and Pasayten faults, producing a distinct topographical lineament in which Spius Creek flows. This structure also follows the mapped/inferred contact between the Eagle Plutonic Complex to the south, and the Mt. Lytton Complex to the north, and movement may be of similar age to that of the Paleogene Coquihalla Fault to the southeast.

2.3 Exploration Model

The primary exploration target within the Russell Property is a porphyry Au±Cu±Mo deposit, or related polymetallic epithermal veins, associated with the Paleogene intrusive units tracking the Pasayten Fault. The Triassic-Jurassic Highland Valley and Copper Mountain major porphyry deposits in the Quesnel Terrane are located to the northeast and southeast of the Russell Property, respectively. In addition, there are multiple gold-bearing epithermal vein systems in the Cretaceous Spences Bridge Group being actively explored to the east of the Property (Diakow and Barrios, 2008). Furthermore the mid- to late-Cretaceous accretionary collision of the Intermontane and the Coast belts resulted in significant late Cretaceous mesothermal gold mineralization in the Bridge River District (Goldfarb et al., 2008). The mineralization at Bridge River is spatially and temporally related the Yalakom Fault in the district. The Hozameen Fault, and related Caroline Gold Mine to the south of the Russell Property, may represent the southerly offset continuation of the Yalakom Fault (Ray, 1990).

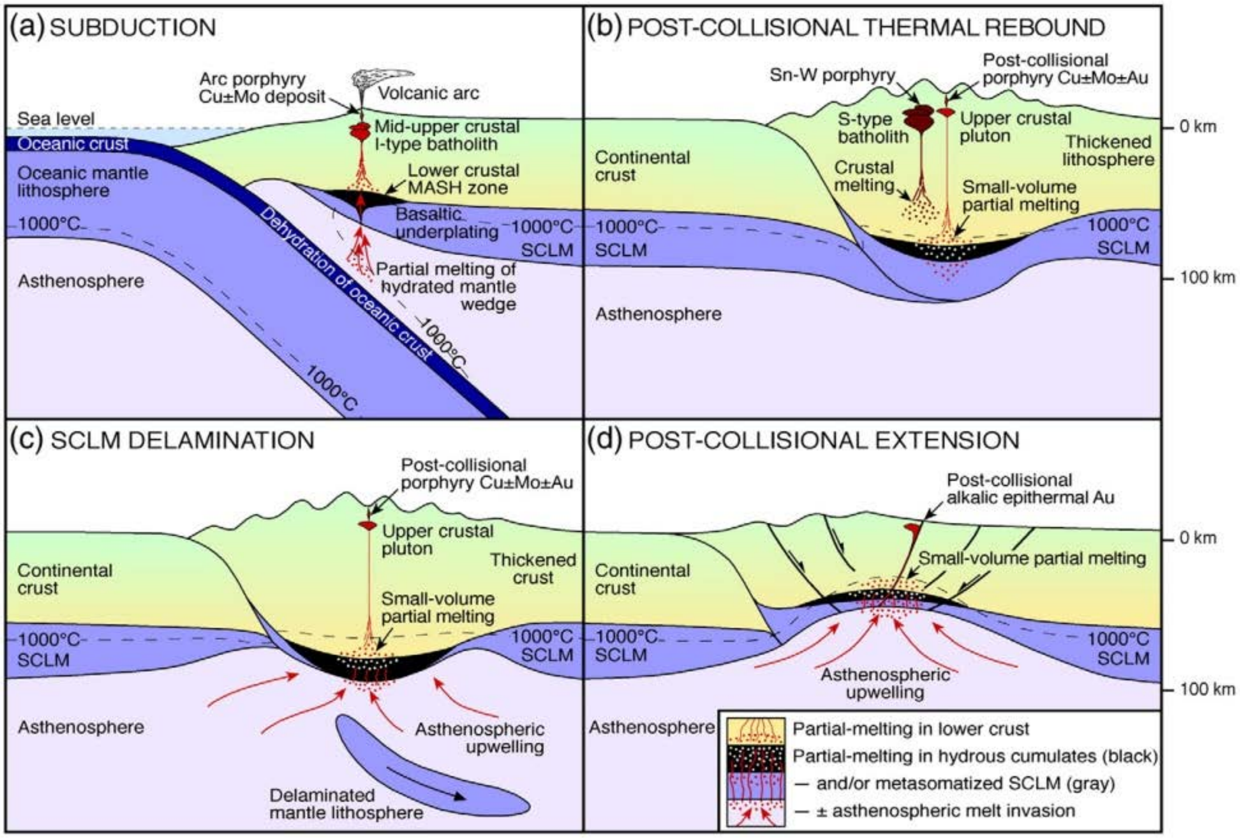

Figure 6: Porphyry development tectonic settings. From Richards (2011)

The mid- to late-Cretaceous collisional regime largely recorded by the Pasayten Fault and the Jackass-Pasayten Group sedimentary strata underlying the Russell Property appears to have provided a fertile setting for the development of post-collisional mineralized porphyry intrusions in the Paleogene period.

Arc-like magmas and related porphyry and epithermal ore deposits occur in post-subduction tectonic settings, such as subduction reversal or migration, arc collision, continent–continent collision, and post-collisional rifting. They are distinguished from their normal subduction-related counterparts by slightly higher magmatic alkali contents, and the occurrence of Au-rich deposits (Fig. 5a). Re-melting of previously subduction-modified subcontinental lithosphere and the lower crustal amphibolitic cumulate roots of former arc magmatic complexes may be triggered by crustal thickening and thermal rebound following arc or continent collision (Fig. 5b), delamination of sub-continental mantle lithosphere (Fig 5c), and/or asthenospheric upwelling during rifting of former arc crust (Fig. 5d). Sparse sulphide phases in these arc cumulates, residual from fractionation of previous arc magmas, will likely be rich in chalcophile and highly siderophile elements. During low-volume melting, these sulfide phases may re-dissolve in the mildly alkaline partial melt, and provide a source for Au-rich (±PGE) post-subduction porphyry Cu–Au and epithermal Au systems. (Richards, 2011) The Triassic-Jurassic Porphyry deposits east of the Russell Property, and the later mesothermal and epithermal gold mineralization in the area, highlighted above, emphasize that the lithosphere may be fertile and partial melts produced from it may be host to Au±Cu±Mo mineralization.

Porphyry Cu systems are commonly spatially associated with co-magmatic volcanic rocks, typically of intermediate to felsic composition, which are generally erupted subaerially, 0.5 to 3.0 Ma prior to stock intrusion and mineralization (Sillitoe, 2010). The Eocene (53-47 Ma) Princeton Volcanics to the east of the Russell Property have a “slab-window” adakitic geochemical signature (high Sr/Y and La/Yb, Ickert et al., 2009). Richards (2010) argues that the trace element characteristics of “adakites” are indicative of high magmatic water content rather than the source signature, and this explains the common association of high-Sr/Y (i.e., hydrous) magmas with magmatic–hydrothermal ore deposits. While not attempting to relate the Princeton Volcanics to the Paleogene intrusions on the Russell Property, the occurrence of adakitic volcanic rocks spatially and temporally associated with the Property is encouraging.

The presence of the Paleogene intrusions along the Pasayten Fault is likely due to the structure providing a permeable conduit for the magmas to reach upper crustal levels. The, likely younger, Fraser-Straight Creek Fault System also provides a further major terrane bounding structure activated in a transcurrent tectonic regime with substantial dextral offset. Investigation of the Jackass Mountain Group on the west side of the Fraser Fault, approximately 90 km northwest of the Russell Property, has found tertiary intrusions in the Jackass Mountain Group with significant related gold mineralization at the Watson Bar prospect (MINFILE #092O-051) and related showings.

Polymetallic Ag-rich epithermal veins are a secondary focus of exploration on the Russell Property. The Treasure Mountain Ag-Pb-Zn Mine lies approximately 55 km southeast of the Property, with mineralization thought to be associated with tertiary faulting and dykes within the Pasayten Group (Ostensoe et al., 2012). Furthermore, the Ag-Au-Zn-Pb-hosting Keystone Mine, approximately 30 km southeast, is situated near the centre of the early Tertiary quartz diorite (Keystone) stock (MINFILE #092HNW024). The intrusive is attributed to be the metal source for the vein-style mineralization and is a part of the same mapped unit that underlies the Russell Property (Unit ETg; Fig. 3).

In summary, multiple examples of both pre- and syn-Tertiary mineralization in the region enhance the prospectivity of the post-collisional Paleogene intrusive units emplaced along the trace of the terrane-bounding Pasayten Fault. The exploration will focus on both porphyry Au±Cu±Mo and related epithermal mineralization on the Property.

3.0 Exploration History

The surrounding area has seen considerable historical work mainly concentrated on three areas related to registered mineral showings (Fig. 2):

- Ole Ni-Cu-Ag showing (MINFILE: 092HNW029) located approximately 4 km southwest,

- Gossan Cu-Mo showing (MINFILE: 092HNW027) located approximately 6 km east,

- DUC or Mod-Bar Cu-Mo-Zn showing (MINFILE: 092HNW049) located approximately 7 km southeast.

The Ole showing is an outcropping ultramafic intrusion containing disseminated Cu and Ni mineralization, within massive pods of pyrrhotite and associated chalcopyrite and pentlandite. The area is predominantly underlain by stratified marine sedimentary argillites and siltstones of the Jurassic Ladner Group. The Ladner Group comprises the primary economic rocks of the Coquihalla Gold Belt hosting the majority of the gold mines; and the group also contains large ultramafic intrusions and dykes/sills along the entire length of the belt. In 1971, as the first recorded work on the showing, G.M Explorations ran soil sampling, magnetic, and VLF-EM surveys, and drilled four short (16 metre) diamond holes on and proximal to the showing that failed to encounter extensions of the surface mineralization at depth (Assessment Reports #3190 and #3191). In 1983, Brookmere Ventures trenched and sampled the showing returning 10.97 g/t Ag, 2.34% Cu, and 2.36% Ni from the mineralized ultramafics (A.R. #11183). In 1998, there was renewed interest in the area under the “Mara Claims” name, with a mapping and soil sampling program (A.R. #25427). In 2001, the Ole was subject to air photo interpretation (A.R. #26813). In 2005, Seamus and Tim Young optioned the Mara Property to Aries Resources who conducted a magnetometer survey with results described as insignificant in terms of outlining any potential mineralization (A.R #27774). Most recently, in 2006, an airborne EM and magnetic survey was flown over the Ole area with no EM conductors of any significant strike length detected and no EM or magnetic response from the Ole showing (A.R. #28686).

The Gossan showing to the east is an area of anomalous Cu-Mo within biotite-hornblende granodiorite (Eagle Plutonic Complex), feldspar porphyry and quartz-feldspar porphyry which have been intruded by felsic and lamprophyre dykes. The first recorded examination of the area was in 1968, when Orequest Explorations Ltd. Conducted trenching, geophysical and geochemical surveys, geological mapping, and five diamond drill holes. The holes were each drilled to 200 feet in depth and notably drillhole #2 ended in 0.42% Cu for the last 9 feet (Allen, 1969). In 1969, Murray Mining conducted an EM survey highlighting a 1,700 foot long conductor striking 065° and drilled ten vertical percussion holes intersecting pyrite but no significant Cu-Mo mineralization (Allen, 1969). In 1970, Arrow Inter-America Corp. conducted an IP survey that was described as the entire Gossan area having an increased chargeability response which rendered target recommendations to be difficult (A.R. #3052). In 1974, Brascan Resources found that better Cu mineralization is associated with pink feldspar and quartz veining through trenching a covered area, having a coincident magnetic high, chargeability low, and Cu-Mo soil anomaly (A.R. #5389). In 1976, Canadian Occidental Petroleum Ltd. Conducted a soil and stream sampling program which highlighted values of up 2,970 ppm Cu and 230 ppm Mo, and outlined an area of 2000’ x 1500’ of >500 ppm Cu surrounding an area of 2000’ x 400’ of >1000 ppm Cu (A.R. #6145). Most recently, in 2012, J.T. Shearer conducted a line of magnetometer survey and coincident soil sampling which outlined a 120 m long interval of >2,000 ppm Cu including a high of 4,640 ppm Cu (A.R. #33913).

The DUC showing is an extensive, at least 1.0 x 1.5 km, Cu-Mo soil anomaly with soil samples yielding up 3,150 ppm Cu and 115 ppm Mo. Historically there has been confusion on the geology in the area; with multiple mentions of a quartz porphyritic rhyolite, intruded by several feldspar porphyry dykes of monzonite composition, including the development of a breccia pipe with extensive sulphide mineralization. The rhyolite was later suggested to be quartz-plagioclase porphyritic dacite (A.P. #27391) or a broader phase of one of the tertiary granodiorite intrusive stocks identified in the area (A.P. #28145). Regardless of the nature of the host, it is important that the later intrusive event(s) appear to be largely responsible for the anomalous Cu-Mo mineralization in the area. In 1975, Quintana Minerals Corp. returned a chip sample 100 feet east of the breccia pipe, assayed 0.24% Cu over 105 feet (A.R. #5742). Soil geochemistry by JMT Services in 1979 and 1982 defined a 700x1000 m Cu soil anomaly of >200 ppm (up to 2,900 ppm Cu), and smaller coincident soil Mo anomaly (A.R. #8766, #9633, and #10876). In 1984, the Nicola Prospecting Syndicate conducted a program of 382 soil samples and 8 chip samples confirming anomalous Cu and Mo in the area (A.P. #13285). In 2004, Alojzy Walus collected 42 soil and 7 rock samples on the eastern edge of the original soil grid, obtaining up to 2,306 ppm Cu and 376 ppm Mo (A.R. #27391). In 2006, Southern Rio Resources ran a program of soil and rock sampling and an IP survey, and found strongly anomalous Cu and Mo values within a felsic intrusive stock and an IP anomaly with coincident soil Cu-Mo anomaly (A.R. #28145). In 2012, Natan Resources conducted a large program centred on the DUC/Mod-Bar zone and extending to the southeast and northwest. A rigorous program of soil, silt, and rock sampling returned soil samples up to 2,735 ppm Cu and up to 79 ppm Mo, resulting in a significant increase in the size of the previously identified anomaly by approximately 400 m to the north, 300 m to the west, and 200 m to the south (A.R. #33780).

The 2012 Natan Resources program led to the discovery of the “Azurite Zone” (MINFILE No. 092HNW085) on the current Russell Property where a feldspar porphyry intrusive hosts azurite and malachite mineralization. Seven rock samples collected from the mineralized showing yielded values up to 0.665 % Cu, 0.218% Cu, 0.229% Pb, and 0.945% Zn as well as elevated gold, silver, arsenic, mercury and antimony. One rock sample returned significantly elevated molybdenum content of 37.4 ppm Mo. Over the Azurite Zone 118 soil samples returned slightly elevated amounts of Cu, Mo, Pb, and Zn. The silt sampling program returned elevated Cu values (up to 27 ppm Cu) collected just south of the “Azurite Zone”. The showing was described as a series of localized zones of intense argillic alteration within a greater zone of silicified intermediate plag-phyric intrusive. Within and proximal to the intense argillic alteration were high concentrations of Cu, Zn, Pb, and As. Minerals identified in the field at this showing were azurite, malachite, sphalerite, arsenopyrite, and pyrite. The exposed portion of the silicified intrusive could be traced over at least 600 m along deactivated road cut bank (Assessment Report #33780).

4.0 Procedures and Methodology

4.1 Introduction

The authors spent four days on the Russell Property from May 14th to May 17th to prospect and gather samples for petrography and geochemical analysis. The majority of the samples collected were in the vicinity of the Azurite showing located in the centre of the property. All rock samples collected were from outcrop and the location and description for each sample can be found in appendix IV.

4.2 Sample Analytical Methods

All rock samples analysed for geochemistry were sent to Bureau Veritas in Vancouver B.C and were crushed, split and pulverized to 250 g rock to 200 mesh (Code: PREP70-250). Sample number R2016-01 was subject to LiBO2/Li2B4O7 fusion ICP-ES analysis fir whole rock and a further 15 gram Aqua Regia digestion finished Ultratrace ICP-MS analysis (Code: AQ251_EXT_REE). The remaining five sample were subject to a 15 g Aqua Regia digestion with a ICP-MS finish (Code: AQ201).

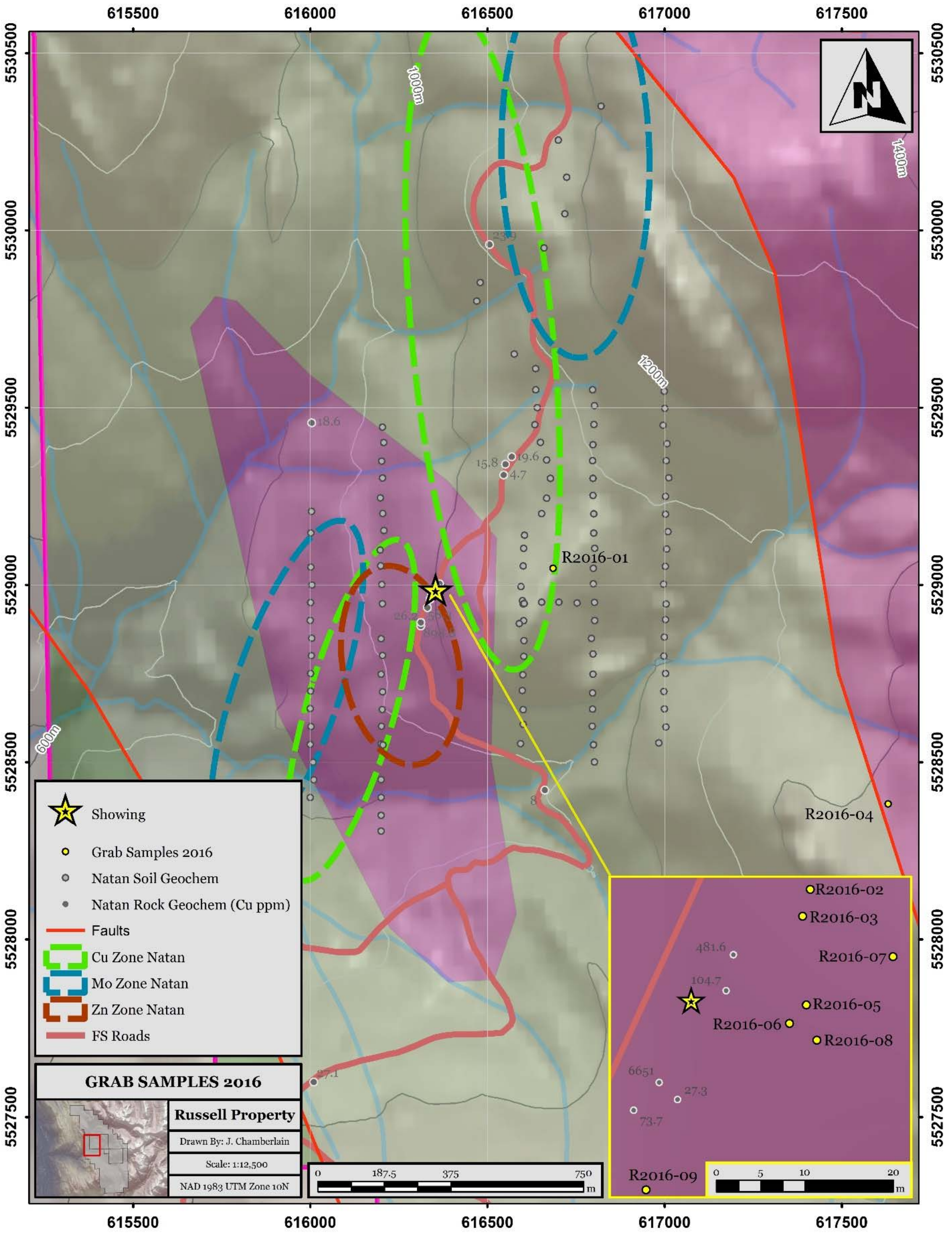

Figure 7a: Sample locations and numbers (R2016-xx)

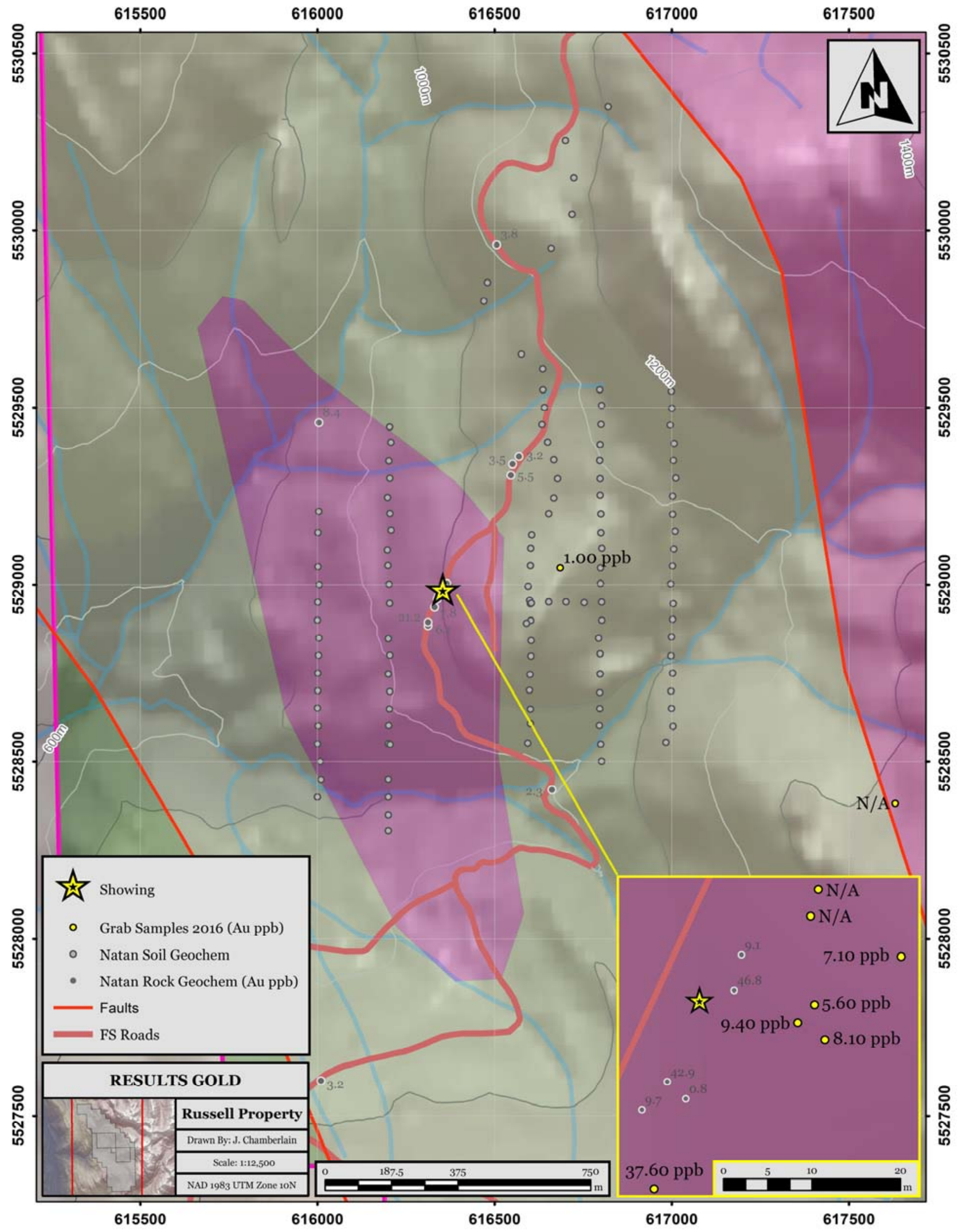

Figure 7b: Sample locations and numbers (Au ppb)

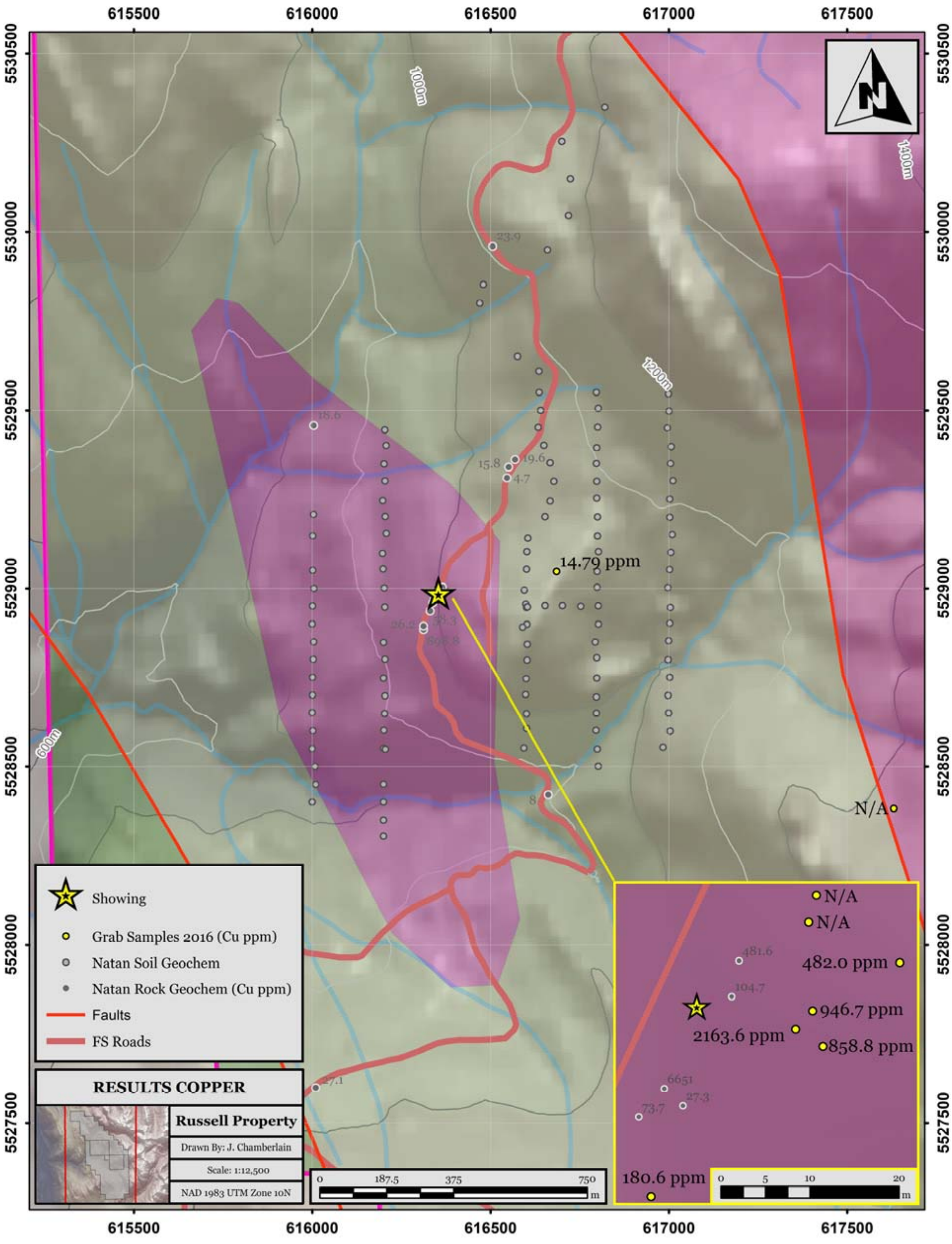

Figure 7c: Sample locations and numbers (Cu ppm)

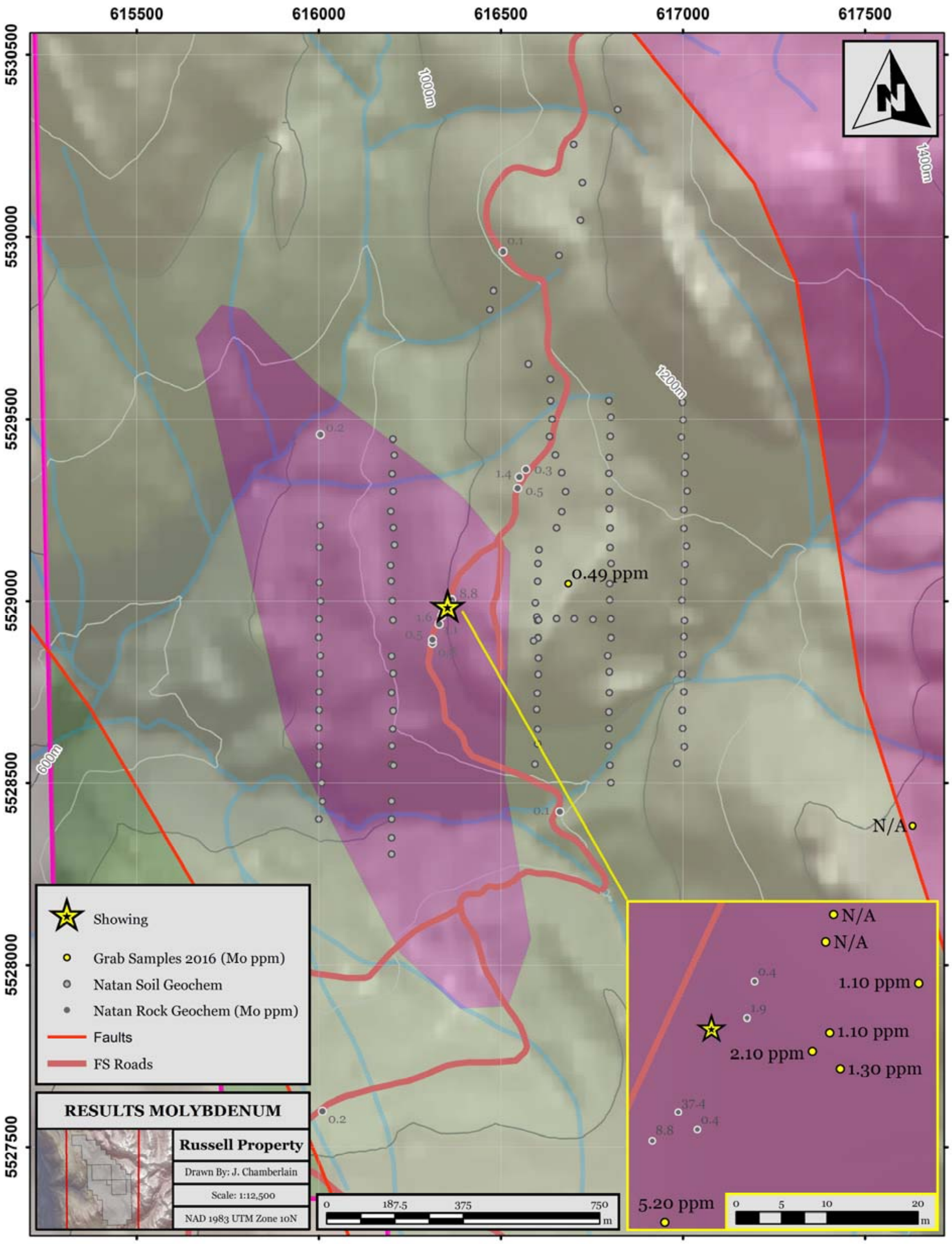

Figure 7d: Sample locations and numbers (Mo ppm)

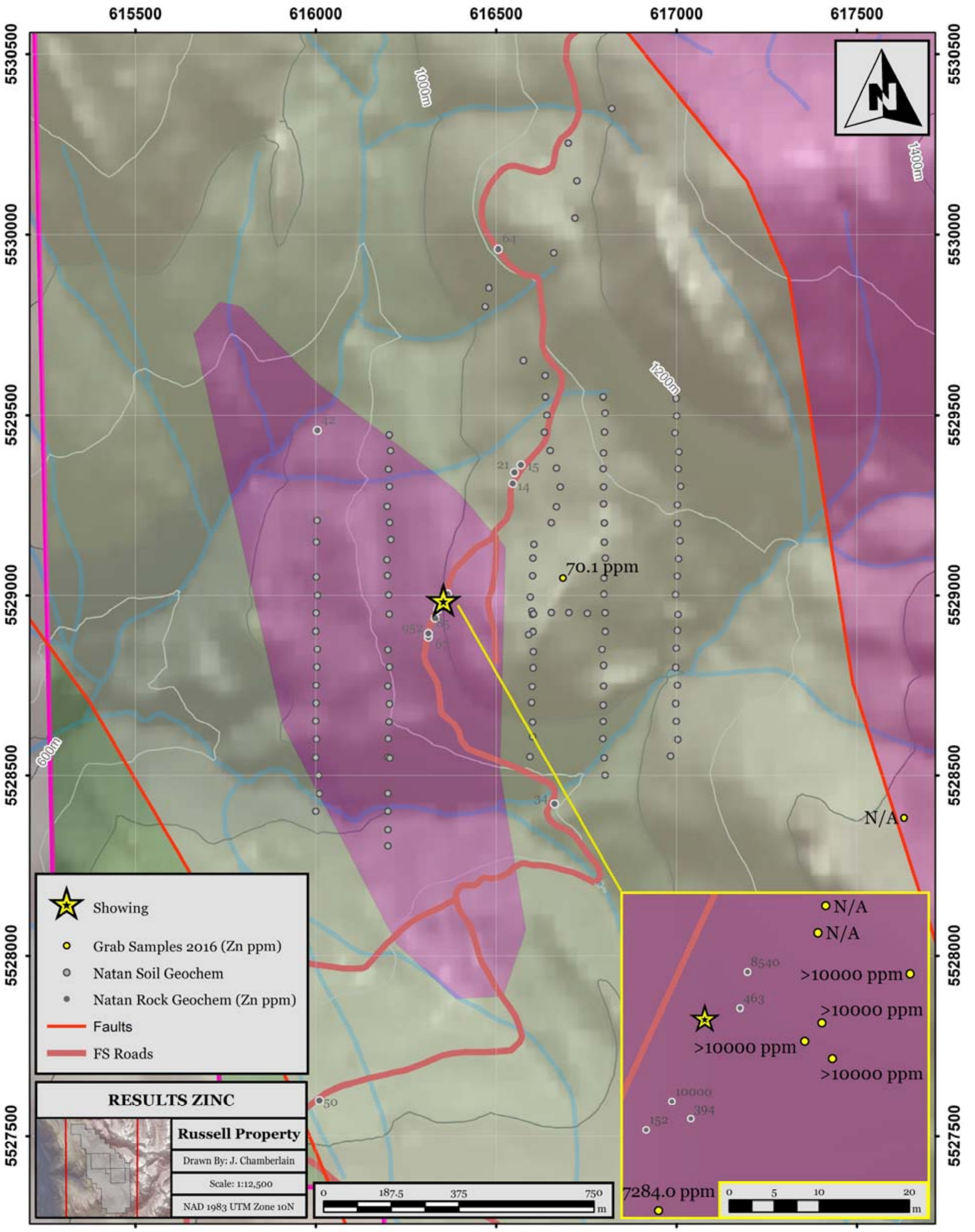

Figure 7e: Sample locations and numbers (Zn ppm)

5.0 Results

5.1 Geochemistry

SAMPLE NUMBER	LAB SAMPLE NUMBER	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	As ppm	Sb ppm
R2016-01	R-01	0.49	14.79	6.83	70.10	40.00	1.00	7.00	2.63
R2016-02	-	-	-	-	-	-	-	-	-
R2016-03	-	-	-	-	-	-	-	-	-
R2016-04	-	-	-	-	-	-	-	-	-
R2016-05	R-03	1.10	946.70	924.10	>10000	2.40	5.60	213.40	67.50
R2016-06	R-04	2.10	2163.60	2067.10	>10000	2.90	9.40	833.00	100.20
R2016-07	R-05	1.10	482.00	28.30	>10000	1.30	7.10	129.20	13.00
R2016-08	R-06	1.30	858.80	692.30	>10000	2.20	8.10	143.50	22.60
R2016-09	R-07	5.20	180.60	113.90	7284.00	1.20	37.60	42.80	8.10

Table 2: Geochemical Results

Table 2 shows the highlights of the geochemistry results from the 2016 field program on the Russell Property. All the samples were collected from outcrop. All but R2016-01 and R2016-04 were collected in the vicinity of the Azurite showing and only those with a lab sample number were sent to the lab for geochemistry. As shown above, four samples from the vicinity of the Azurite showing returned with >1.0% Zn, with all five recording high Cu (up to 0.216% Cu), Pb, and As values. Sample R2016-09 returned the highest gold value of 37.6 ppb Au, which is significant in relation to Natan Resources' larger program in 2012 where the average Au value from 43 outcrop samples was 10.6 ppb Au (Assessment Report #33780).

SAMPLE	SiO_2 wt.%	Al_2O_3 wt.%	Na_2O wt.%	Sr ppm	Y ppm	Sr/Y	Yb ppm	La/Yb
Adakite	>56	>15	>3.5	>400	<18	>40	<1.9	>20
R2016-01	62.8	17.7	0.8	385.0	9.0	42.8	0.5	15.6

Table 3: R2016-01 Geochemical Results

Sample R2016-01 is one of the least altered samples, collected approximately 330 m east and uphill from the Azurite showing, was subject to extended geochemical analysis to assess the fertility of the intrusion hosting the Azurite showing. As discussed above, the adakitic Princeton Volcanics are of similar time range and proximal to the Paleogene intrusives on the Russell Property. Adakites are volcanic rocks defined by Defant and Kepezhinskas (2001) by the geochemical characteristics shown above, and are compared to the results of sample R2016-01 in Table 3. Understanding that an adakitic signature is more reserved for volcanic rocks, the high Sr/Y and La/Yb ratios recorded by adakites are indicative of high magmatic water content required for a magmatic-hydrothermal ore deposit to form. The observation that the intrusive unit hosting the Azurite showing is geochemically similar to an adakite indicates that the central and other similar intrusives on the Russell Property can potentially host Au±Cu±Mo mineralization.

5.2 Petrography

A full petrography report for sample numbers R2016-01, R2016-05, R2016-06, and R2016-07 is contained within Appendix III, summarized in this chapter.

Sample R2016-01 is sample from the main Paleogene intrusive unit in the centre of the Russell Property taken approximately 330 m east of the Azurite Cu showing. This sample exhibits less sericite alteration relative to the samples collected proximal to the showing, and macroscopically retains the primary porphyritic texture of the intrusive. Smaller amphibole phenocrysts replaced by calcite and larger sericitized plagioclase phenocrysts set in a relatively coarse-grained feldspar-quartz-rich matrix reflect the mafic to intermediate intrusive nature of the sample. Trace pyrite within the sample exhibits local sectored anisotropy, indicative of arsenic-rich pyrite, as reflected in the geochemistry results for the sample, with an As value of 7.0 ppm.

Sample R2016-05 is from the central intrusive of the main Azurite showing, with strong sericite-alteration, and significant malachite and azurite mineralization on the surface. In thin section, the sample is strongly silicified and contains abundant calcite aggregates. The pyrite strongly brecciated and variably replaced by hematite, possibly indicative of the hydrothermal fluid becoming more oxidizing and volatile in the waning stages of mineralization.

Sample R2016-06 is taken of an approximately 3 millimetre wide vein from the Azurite showing, containing dark-grey sulphides and pyrite mineralization. Large (1 to 2 mm) subhedral sphalerite crystals are contained within the vein with anhedral tennantite-tetrahedrite containing disseminated chalcopyrite inclusions. The enrichment of As (833.0 ppm) in the geochemistry results for this sample indicate that the tennantite-tetrahedrite solid solution series was favored by the crystallization of tennantite.

Sample R2016-07 is an intensely silicified and sericitized sample from the Azurite showing. The thin section of the sample shows significant sphalerite and disseminated pyrite and chalcopyrite. The pyrite is commonly fractured and hematite-altered, reflective of the oxidizing nature of the hydrothermal fluids altering the rock. Similarly to sample R2016-01, relict amphibole phenocrysts are present and are indicative of the mafic to intermediate intrusive nature of the sample.

Sample R2016-01 was used to contain the effects of the hydrothermal alteration and mineralization seen in the other samples taken from the Azurite showing. The four samples that were selected for thin section analysis are likely of the same mafic to intermediate intrusive body with varying amounts of sericite and calcite alteration and silicification. The three samples collected from the Azurite showing contain significant Zn, Cu, and As, reflected in the geochemistry results (Table 2) and also shown in thin section by the presence of sphalerite, tennantite, and chalcopyrite mineralization.

6.0 Discussions and Interpretations

The Russell Property straddles the boundary between the Intermontane and Coast belts which were juxtaposed in late Cretaceous time along the Pasayten Fault. Paleogene mafic to intermediate igneous bodies intrude the sedimentary Pasayten Group and are related to the significant Cu-Mo-Zn mineralization seen on the Russell Property at the Azurite showing, as well as at the DUC and Gossan showings to the southeast and east of the Property, respectively. Nine outcrop samples were collected from the Russell Property in 2016. Seven of these were sent for geochemical analysis, with one subject to whole rock and extended geochemical analysis. Five samples from the Azurite showing on the Property have high Zn (four samples returning >1.0% Zn), Cu (up to 2,067.1 ppm), and As (up to 833.0 ppm) values. The advanced geochemistry provides insight of the high magmatic water content of the central Paleogene intrusive, essential for the formation of a magmatic-hydrothermal ore deposit. Four samples were selected for thin section petrographic analysis, which demonstrated the strong silicic- and sericite-alteration of the Azurite showing, as well as observations of sphalerite, chalcopyrite, and tennantite responsible for the elevated metal concentrations. The mineralized Paleogene mafic to intermediate intrusive bodies on the Russell Property are situated in a favorable location at the main structure accommodating the Cretaceous collisional regime. The collisional tectonics may have influenced and provided structural pathways to allow for partial melts derived from the fertile sub-continental lithospheric mantle to reach upper crustal levels. Furthermore, the relative timing of the intrusives, being post-collisional, prior to significant transcurrent motion, and coeval with adakitic volcanics, is favourable for the development of magmatic-hydrothermal mineralized systems.

7.0 Recommendations

There is potential to map and prospect the Russell Property, to outline the central and potentially other intrusives, as well as to investigate the hosting sedimentary sequence and favourable cross-cutting structures within. Porphyry deposits typically display a complex magnetic fabric indicative of variable alteration and magnetite destruction or creation. A ground-based magnetic survey is recommended to increase the resolution of the main magnetic high associated with the central mineralized intrusive body, and may be employed over other magnetic highs on the property if the mapping program deems them to be prospective (Fig. 4). A ten person-day program consisting of overview mapping using natural drainages for outcrop exposure and a limited ground-based magnetometer and VLF-EM survey is recommended to assess the magnitude of the Azurite showing mineralization, as well as to potentially uncover further mineralization associated with the Paleogene intrusives on the Russell Property.

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9.0 Appendices

Appendix I: Cost Statement

Field Work					
Personnel	**Dates**	**Days**	**Rate**	**Subtotal**	
Connor Malek, Geologist	May 14-17th, 2016	4	$350.00	$1,400.00	
James Chamberlain, Geologist	May 14-17th, 2016	4	$350.00	$1,400.00	
Office Studies		8		$2,800.00	**$2,800.00**
	Personnel	**Days**	**Rate**	**Subtotal**	
General research	Connor Malek	1	$350.00	$350.00	
General research	James Chamberlain	1	$350.00	$350.00	
Report preparation	Connor Malek	1	$350.00	$350.00	
Report preparation	James Chamberlain	1	$350.00	$350.00	
Thin Section Report	Connor Malek	2	$350.00	$700.00	
Thin Section Report	James Chamberlain	2	$350.00	$700.00	
Analytical		8		$2,100.00	**$2,100.00**
	Laboratory	**No.**	**Rate**	**Subtotal**	
Prearation - PRP70-250	Bureau Vertias	6	$7.20	$43.20	
Rock - AQ201	Bureau Vertias	5	$19.95	$99.75	
Whole rock - LF300, AQ251-EXT-REE	Bureau Vertias	1	$61.51	$61.51	
Petrology - 30 micron polished thin sections	SRC	4	$50.00	$200.00	
Transportation				$404.46	**$404.46**
		Days	**Rate**	**Subtotal**	
Truck rental		4	$68.77	$275.08	
ATV Rental		4	$137.20	$548.80	
Fuel				$267.33	
Accommodation				$1,091.21	**$1,091.21**
		Days	**Rate**	**Subtotal**	
Hotel - Charles Hotel (Boston Bar)		3	$70.00	$210.00	
				$210.00	**$210.00**
TOTAL Expenditures					**$6,605.67**

Appendix II: Statements of Qualifications

I, Connor W. Malek, in the city of Saskatoon in the Province of Saskatchewan hereby certify that:

1. I am a graduate of the University of Saskatchewan with the degree of Bachelor of Science (high honors) in Geology (2015).
2. I have practiced my profession in North America since 2015, having worked for myself and with various junior resource companies on a variety of commodities and deposit types.
3. I hold a 50% interest in the Russell Property.
4. I am a co-author of this report titled Geochemistry and Petrography Program on Russell Cu-Zn Property.
5. This report is based on my personal knowledge of the district, and examination of the property from May 14th to 17th.

Dated this 29th day of May 2017, in Saskatoon, Saskatchewan.

Connor W. Malek, B.Sc.

I, James Chamberlain of Saskatoon, Saskatchewan do hereby certify that,

1. I am a graduate of the University of Saskatchewan, B.Sc. Geology – 2017
2. I have practiced my professions as an exploration geologist, within Saskatchewan, British Columbia, and the Northwest Territories, continuously since 2015.
3. I am currently employed as a prospector / exploration geologist with Geominex Consultants Inc.
4. I am a member of Canadian Institute of Mining.
5. I hold a 50% interest in the Russell Property.
6. I am a co-author of this report titled Geochemistry and Petrography Program on Russell Cu-Zn Property.
7. This report is based on my personal knowledge of the district, and examination of the property from May 14th to 17th.

Dated this 29th day of May 2017, in Saskatoon, Saskatchewan.

James Chamberlain B.Sc.

Appendix III: Petrography Report

May 8, 2017

Connor Malek and James Chamberlain

Thin Section Report – Russell Property

Thin section R2016-01

Strongly silicified porphyritic igneous rock, containing approximately 50% quartz, 30% carbonate, 19% sericite, and 1% opaque minerals. The phenocrysts are variable in size, and consist of larger tabular quartz-sericite-altered and locally carbonate-altered plagioclase pseudomorphs (Fig. 1), and smaller amphibole phenocrysts replaced by calcite (Fig 2). The phenocrysts are commonly rimmed by limonite and hematite, and limonite staining outlines the original crystal zonation within some of the plagioclase pseudomorphs (Fig 1). The groundmass consists of quartz and intensely sericitized feldspar crystals. Strongly altered but relatively large feldspars of the matrix indicate an intrusive nature.

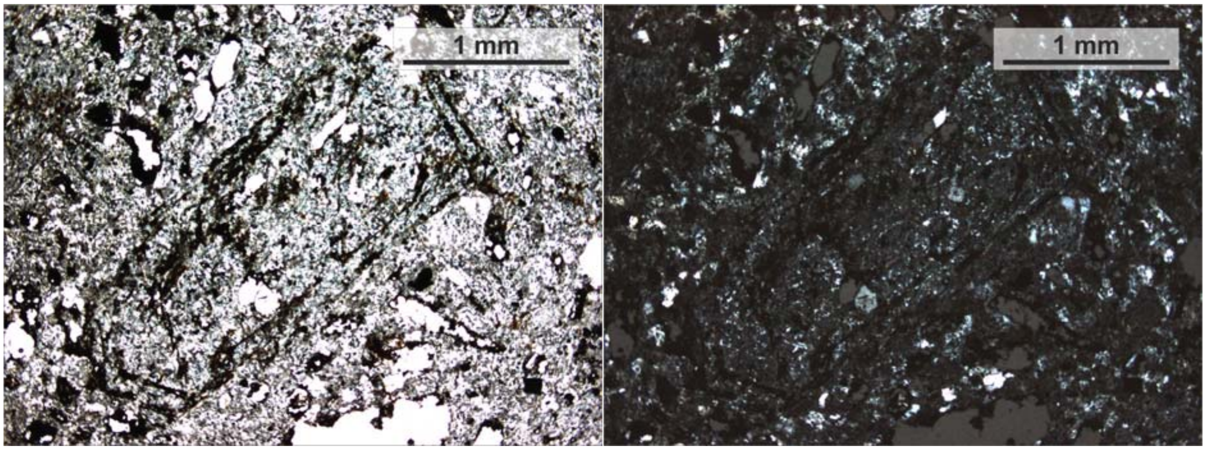

Figure 1. Photomicrograph of plagioclase pseudomorph within strongly silicified matrix (plane polarized light image to the left, cross polarized light image to the right).

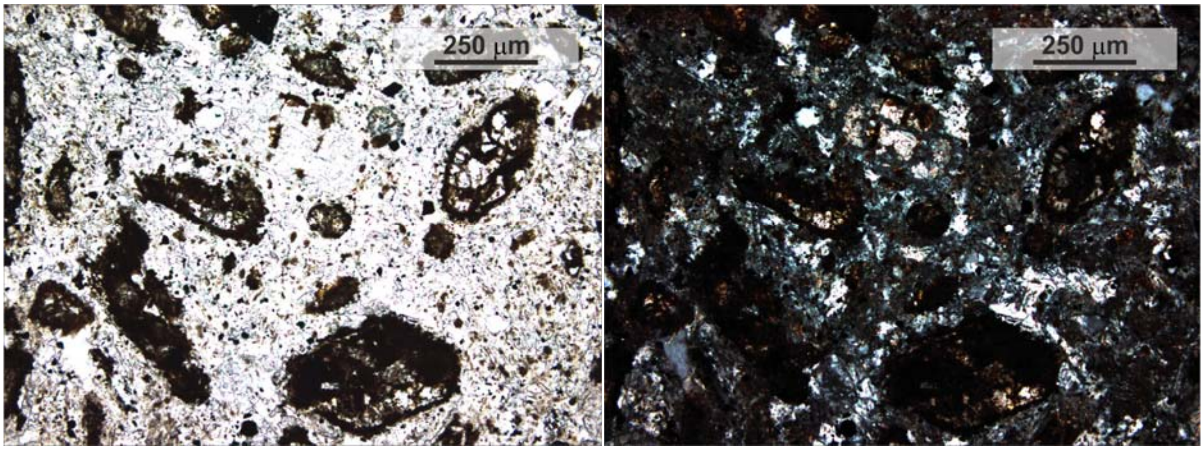

Figure 2. Photomicrograph of amphibole phenocrysts replaced by carbonate (plane polarized light image to the left, cross polarized light image to the right).

Some thin irregular carbonate veinlets cross-cut the sample, with red limonite coating interstitially. Within the host intrusive, coarser quartz clusters (<1 mm) with undulose extinction were observed in the vicinity of the carbonate veinlets. Disseminated, yellowish-white opaque minerals were observed throughout the sample (Fig. 3). These opaques are <1 mm, euhedral to subhedral, showing rhombic and triangular crystal shape, they are characterized by high relief, weak anisotropy (locally sectored anisotropy), indicative of As-rich pyrite or arsenopyrite. They are replaced by hematite in the centre of the crystals.

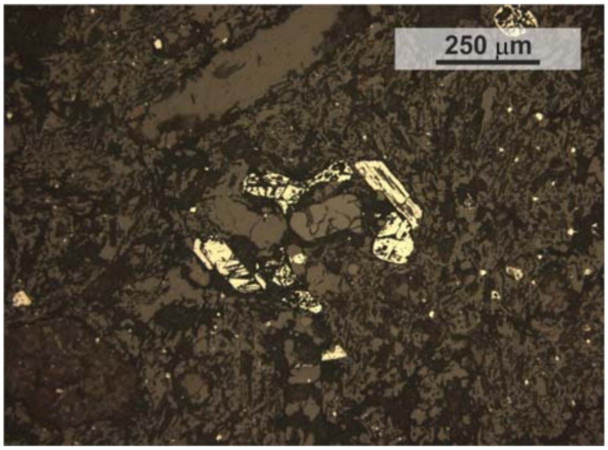

Figure 3. Reflected light photomicrograph of yellow sulphide mineral (plane polarized light image).

Thin section R2016-05

Strongly silicified porphyritic igneous rock, comprised of approximately 55% sericite, 25% quartz, and 20% carbonate. The phenocrysts are subhedral, and completely replaced by either a mix of fibrous carbonate, minor chlorite, and sericite, or alternatively by fine-grained quartz. The groundmass consists of quartz and interstitial carbonate. Fine sericite-carbonate-limonite-lined fractures cross-cut the sample, with some subhedral and euhedral large carbonate crystals in their vicinity (Fig. 4). A thin quartz vein, with finer-grained quartz and less carbonate in comparison the host rock, was also observed.

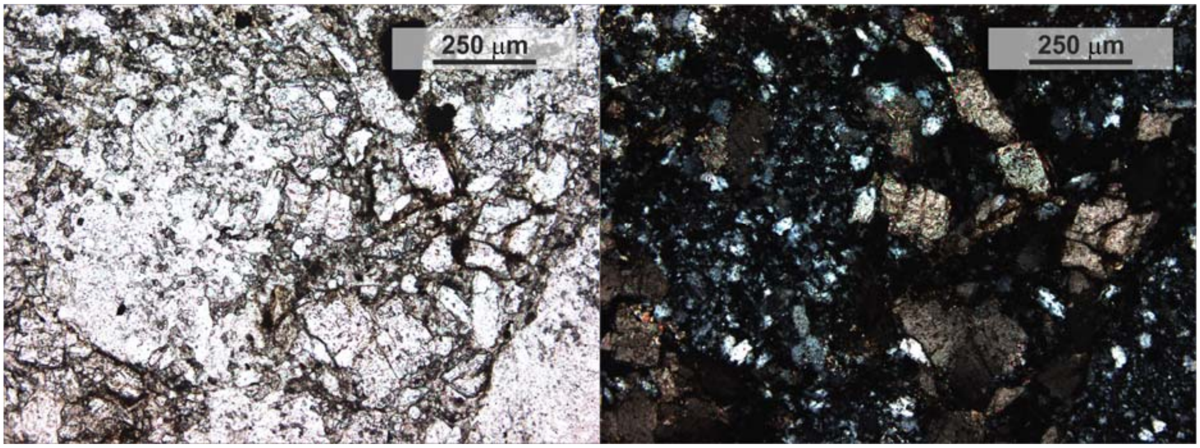

Figure 4. Photomicrograph of carbonate clusters within silicified and sericitized matrix (plane polarized light image to the left, cross polarized light image to the right).

Trace, disseminated, <0.5 mm, subhedral to euhedral pyrite crystals were observed throughout the sample, showing increased abundance close to the above mentioned veins. The pyrite crystals are strongly fractured and altered along the fractures (Fig. 5). They are replaced by hematite, showing characteristic anisotropy and internal reflections. Some of the pyrite crystals encompass ilmenite inclusions. Within some brecciated sections of the rock, pyrite is strongly brecciated and surrounded by smaller clasts (possibly due to disintegration in hydrothermal fluid). Very fine bright yellow opaque inclusions, possibly chalcopyrite, were observed within the quartz crystals of the matrix. Some even smaller grains with high reflection and bright yellowish white colour were also observed.

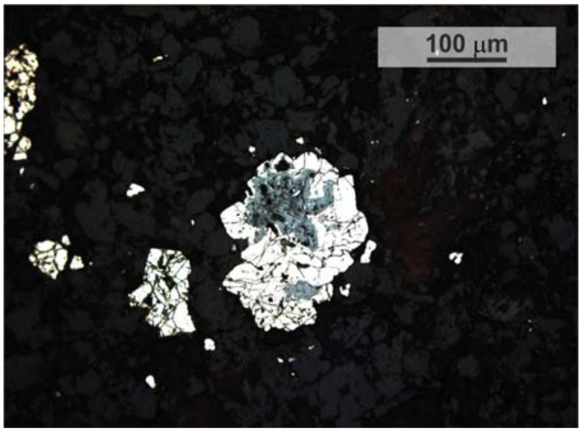

Figure 5. Reflected light photomicrograph of pyrite replaced by hematite in the centre (plane polarized light image).

Thin section R2016-06

Intensely silicified and strongly sericitized porphyritic intrusive rock, with some tabular phenocrysts that are completely replaced by quartz, sericite, and carbonate. Red limonite staining was observed around the phenocrysts, particularly along carbonate crystals. Disseminated sulphides were observed throughout the sample, and comprise of euhedral and subhedral pyrite (some slightly anisotropic, indicative of elevated As content), anhedral transparent sphalerite crystals, and rare fine chalchopyrite crystals, disseminated within the sericite-rich matrix and as inclusions within sphalerite. A thick (~3 mm) carbonate vein with relatively sharp contacts cross-cuts the sample, containing brecciated clasts of the silicified host rock, and abundant sulphide crystals. These sulphides within the vein are mostly subhedral to anhedral sphalerite crystals, euhedral pyrite, and anhedral greenish-grey tennantite crystals (Fig. 6).

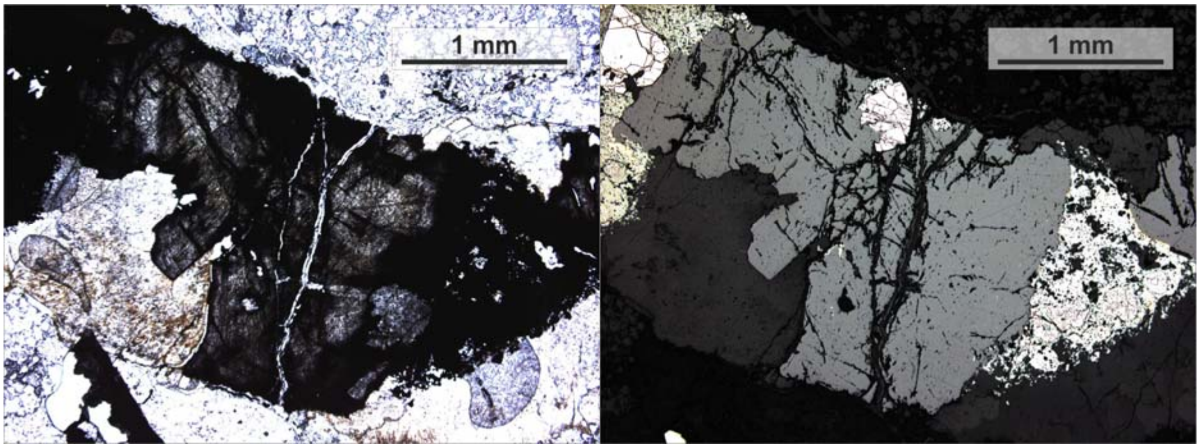

Figure 6. Photomicrograph of carbonate vein hosting sulphide crystals (plane polarized light image to the left, reflected light image to the right).

The sphalerite crystals are large, fractured, and transparent (Fig. 6), which indicates that the sphalerite is Fe-poor, and contain chalcopyrite inclusions in some places. The tennantite crystals contain euhedral pyrite inclusions and partially resorbed, spongy, rounded pyrite inclusions throughout (Fig. 7), indicating that the hydrothermal fluid from which tennantite precipitated, partially dissolved pyrite.

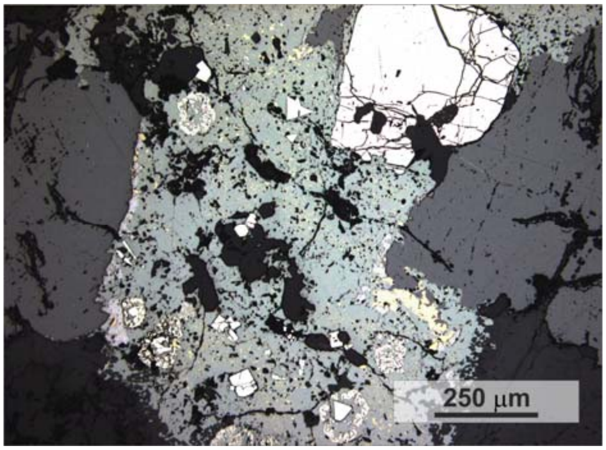

Figure 7. Reflected light photomicrograph of tennantite, hosting two generations of pyrite (plane polarized light image).

Chalcopyrite inclusions within tennantite are abundant and chalcopyrite rims were observed at the edge of the tennantite crystals (Fig. 8). Some grey anisotropic opaques were observed in contact with tennantite, possibly hematite, but no internal reflections were observed. Late quartz-carbonate veins (<0.5 mm) cross-cut the sulphide-rich carbonate vein.

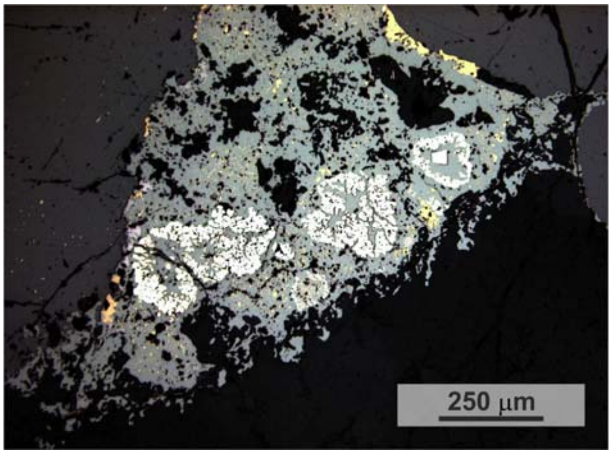

Figure 8. Reflected light photomicrograph of tennantite, rimmed by chalchopyrite, hosting two generations of pyrite and chalchopyrite inclusions (plane polarized light image).

Thin section R2016-07

Intensely silicified igneous rock, consisting of approximately 50% quartz, 35% carbonate, 10% sericite and 5% limonite and opaque minerals. The rock is porphyritic, with fine pervasive quartz throughout, and some phenocrysts. The phenocrysts are replaced by sericite and fine quartz, showing characteristic elongated and six-sided amphibole crystal shape and oblique cleavage planes (at around 120 degrees). The pseudomorphs have red limonite staining along fractures and within the vicinity of disseminated sulphides. Some larger quartz crystals were observed in clusters within the matrix that are either completely replaced phenocrysts or represent a late vug-filling phase. Disseminated sulphides were observed throughout the sample, which are mainly pyrite with hematite alteration along fractures (Fig 9).

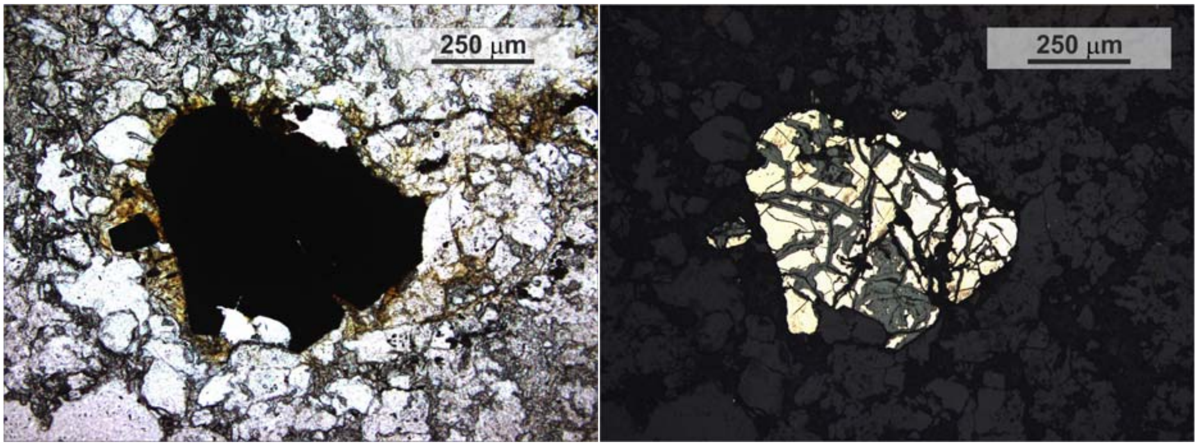

Figure 9. Photomicrograph of pyrite replaced by hematite along fractures, rimmed by limonite staining (plane polarized light image to the left, reflected light image to the right).

Some small bright yellow crystals (possibly chalcopyrite) were observed in between the quartz grains of the matrix and as inclusions within quartz (Fig 10.).

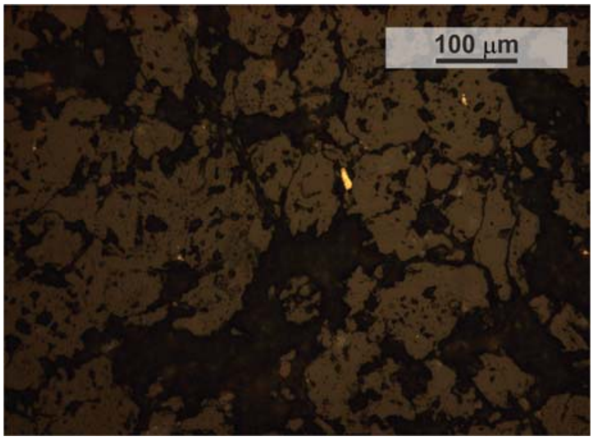

Figure 10. Reflected light photomicrograph of fine chalchopyrite crystals within quartz-rich matrix (plane polarized light image).

An irregular vein, with associated increased sericite and red-brown limonite staining, cross-cuts the sample, hosting sulphides. The sulphides are subhedral, transparent, in cases light yellow, possibly Mg-rich sphalerite crystals and subhedral to euhedral pyrite crystals, both strongly fractured (Fig. 11).

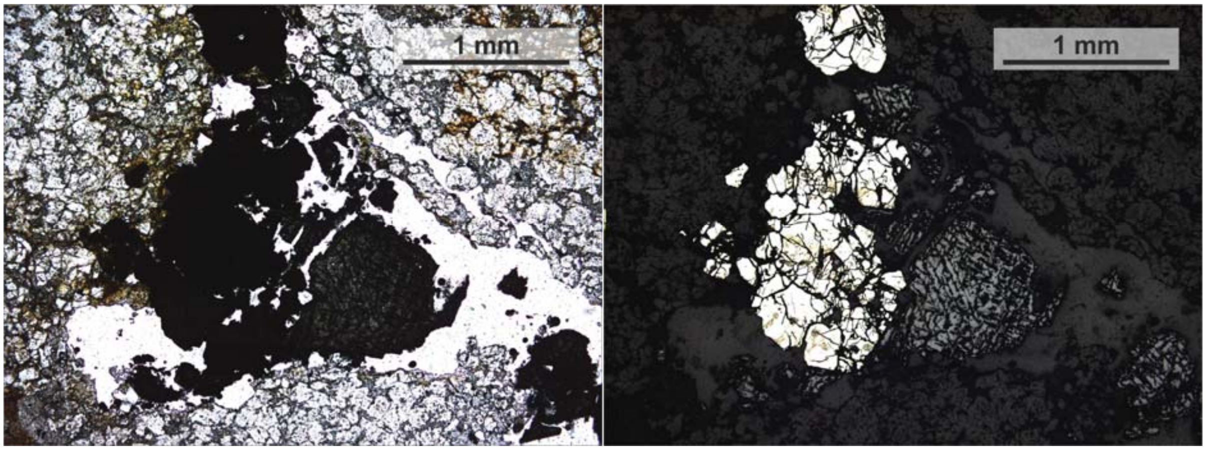

Figure 11. Photomicrograph of pyrite and sphalerite within irregular vein (plane polarized light image to the left, reflected light image to the right).

The pyrite crystals are fractured and hematized along the fractures. In some smaller crystals, hematite almost completely replaces pyrite and contains small pyrite inclusions. Pyrite being progressively replaced by hematite reflects the oxidizing nature of the hydrothermal fluids altering the rock. The sphalerite crystals are also strongly fractured, containing rare chalcopyrite inclusions, indicating that Cu was not present in great abundance in the fluid during sphalerite growth.

Appendix IV: Sample Locations

Sample #	Easting	Northing	Lab Sample #	Description
R2016-01	616685	5529047	R-01	Massive unaltered intrusive above showing; Light grey groundmass with 1 cm quartz vesicles-porphyroclasts.
R2016-02	616368	5528999	--	Bleached, oxidized fracture in intrusive near Azurite showing.
R2016-03	616367	5528996	--	Moderately limonite-altered fracture in intrusive near Azurite showing.
R2016-04	617631	5528382	--	Sandstone with dip-slip slickenlineations; Road-cut.
R2016-05	616367	5528986	R-03	Strongly clay-altered intrusive with abundant Malachite and Azurite mineralization.
R2016-06	616365	5528984	R-04	Moderately to strongly clay-altered intrusive hosting a 2 cm quartz vein with silver-black sulphide mineralization.
R2016-07	616377	5528991	R-05	Moderate to strong clay-altered intrusive with weak disseminated sulphides.
R2016-08	616368	5528982	R-06	Strongly clay-altered intrusive with weak malachite mineralization.
R2016-09	616348	5528966	R-07	Moderately to strongly clay-altered intrusive with disseminated pyrite and silver-black sulphides near Azurite showing.

Appendix V: Laboratory Certificates

BUREAU VERITAS
MINERAL LABORATORIES
Canada

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Connor Malek**
P.O Box 842, Okotoks
Okotoks Alberta T1S 1A9 Canada

Submitted By:	Connor Malek
Receiving Lab:	Canada-Vancouver
Received:	December 19, 2016
Report Date:	January 24, 2017
Page:	1 of 2

CERTIFICATE OF ANALYSIS VAN16002593.1

CLIENT JOB INFORMATION

Project:	None Given
Shipment ID:	
P.O. Number	
Number of Samples:	7

SAMPLE DISPOSAL

PICKUP-PLP	Client to Pickup Pulps
PICKUP-RJT	Client to Pickup Rejects

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
BAT01	1	Batch charge of <20 samples			VAN
PRP70-250	7	Crush, split and pulverize 250 g rock to 200 mesh			VAN
LF300	2	LiBO2/Li2B4O7 fusion ICP-ES analysis	0.2	Completed	VAN
AQ251_EXT_REE	2	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN
AQ201	5	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
DRPLP	7	Warehouse handling / disposition of pulps			VAN
DRRJT	6	Warehouse handling / Disposition of reject			VAN

ADDITIONAL COMMENTS

Invoice To: Connor Malek
P.O Box 842, Okotoks
Okotoks Alberta T1S 1A9
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Connor Malek**
P.O Box 842, Okotoks
Okotoks Alberta T1S 1A9 Canada

Project: None Given
Report Date: January 24, 2017

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	WGHT	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300
	Analyte	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI
	Unit	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1
R-01	Rock	0.43	62.84	17.67	5.07	0.44	2.70	0.78	0.51	0.66	0.28	0.08	0.005	656	<20	385	91	9	7	10	8.8
R-02	Rock	0.19	68.56	15.94	2.38	1.60	1.90	5.34	2.01	0.33	0.12	0.03	<0.002	1163	<20	844	80	3	<5	3	1.6
R-03	Rock	0.47																			
R-04	Rock	0.28																			
R-05	Rock	0.46																			
R-06	Rock	0.35																			
R-07	Rock	0.83																			

Client: **Connor Malek**
P.O Box 842, Okotoks
Okotoks Alberta T1S 1A9 Canada

Project: None Given
Report Date: January 24, 2017

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	LF300	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Sum	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01
R-01	Rock	99.98	0.49	14.79	6.83	70.1	40	13.8	14.2	625	2.93	7.0	0.2	1.0	1.0	40.1	0.12	2.63	0.04	71	1.88
R-02	Rock	99.98	0.20	43.34	5.05	46.9	33	4.0	4.6	187	1.31	11.1	0.5	2.8	1.1	43.5	0.02	0.10	0.04	37	0.36
R-03	Rock																				
R-04	Rock																				
R-05	Rock																				
R-06	Rock																				
R-07	Rock																				

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**	**AQ251**
	Analyte	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Sc**	**Tl**	**S**	**Hg**	**Se**	**Te**	**Ga**	**Cs**	**Ge**
	Unit	**%**	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**%**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
	MDL	**0.001**	**0.5**	**0.5**	**0.01**	**0.5**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.1**	**0.02**	**0.02**	**5**	**0.1**	**0.02**	**0.1**	**0.02**	**0.1**
R-01	Rock	0.097	7.8	19.8	0.24	663.4	0.007	6	0.71	0.010	0.06	0.1	6.7	0.02	<0.02	<5	<0.1	<0.02	2.0	2.72	<0.1
R-02	Rock	0.052	8.1	8.1	0.88	308.1	0.079	5	0.74	0.110	0.10	<0.1	2.0	0.02	<0.02	<5	<0.1	<0.02	6.5	0.24	<0.1
R-03	Rock																				
R-04	Rock																				
R-05	Rock																				
R-06	Rock																				
R-07	Rock																				

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Hf	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
R-01	Rock	0.08	0.03	2.4	0.2	<0.05	2.9	6.49	17.6	0.03	<1	0.5	13.2	2.50	12.32	2.85	0.76	2.25	0.28	1.43	0.23
R-02	Rock	0.27	0.04	2.2	0.3	<0.05	6.5	1.78	16.7	<0.02	<1	0.3	24.6	2.43	10.82	1.95	0.39	1.15	0.12	0.56	0.05
R-03	Rock																				
R-04	Rock																				
R-05	Rock																				
R-06	Rock																				
R-07	Rock																				

BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Connor Malek**
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Okotoks Alberta T1S 1A9 Canada

Project: None Given
Report Date: January 24, 2017

Page: 2 of 2 Part: 5 of 7

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Er	Tm	Yb	Lu	Pd	Pt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd
	Unit	ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm
	MDL	0.02	0.02	0.02	0.02	10	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1
R-01	Rock	0.58	0.07	0.50	0.05	<10	<2														
R-02	Rock	0.12	<0.02	0.11	<0.02	<10	<2														
R-03	Rock							1.1	946.7	924.1	>10000	2.4	6.3	9.3	4437	3.36	213.4	5.6	0.4	30	238.2
R-04	Rock							2.1	2163.6	2067.1	>10000	2.9	2.7	5.5	1341	1.68	833.0	9.4	1.6	13	209.2
R-05	Rock							1.1	482.0	28.3	>10000	1.3	1.6	3.7	1066	1.16	129.2	7.1	2.4	11	144.9
R-06	Rock							1.3	858.8	692.3	>10000	2.2	2.7	5.8	3564	2.68	143.5	8.1	1.5	30	233.7
R-07	Rock							5.2	180.6	113.9	7284	1.2	2.6	5.6	345	2.91	42.8	37.6	1.0	8	68.3

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga
	Unit	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm
	MDL	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1
R-01	Rock																				
R-02	Rock																				
R-03	Rock	67.5	0.4	14	4.74	0.021	<1	2	1.09	172	<0.001	3	0.35	0.006	0.15	<0.1	3.94	1.8	<0.1	0.38	<1
R-04	Rock	100.2	0.5	5	0.27	0.029	5	1	0.07	26	<0.001	3	0.38	0.007	0.25	<0.1	6.03	0.9	0.2	1.99	1
R-05	Rock	13.0	0.2	3	0.46	0.029	8	2	0.11	122	<0.001	3	0.33	0.007	0.22	<0.1	2.15	1.0	0.1	0.98	<1
R-06	Rock	22.6	0.4	6	1.55	0.021	4	1	0.37	41	<0.001	3	0.30	0.007	0.22	<0.1	0.77	1.1	0.2	1.78	<1
R-07	Rock	8.1	0.2	4	0.13	0.030	2	2	0.03	32	<0.001	3	0.37	0.007	0.26	<0.1	2.14	0.7	0.2	2.51	<1

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P.O Box 842, Okotoks
Okotoks Alberta T1S 1A9 Canada

Project: None Given
Report Date: January 24, 2017

CERTIFICATE OF ANALYSIS VAN16002593.1

	Method	AQ201	AQ201
	Analyte	Se	Te
	Unit	ppm	ppm
	MDL	0.5	0.2
R-01	Rock		
R-02	Rock		
R-03	Rock	<0.5	<0.2
R-04	Rock	1.4	0.4
R-05	Rock	<0.5	0.3
R-06	Rock	<0.5	0.5
R-07	Rock	0.9	<0.2

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Okotoks Alberta T1S 1A9 Canada

Project: None Given
Report Date: January 24, 2017

QUALITY CONTROL REPORT   VAN16002593.1

	Method	WGHT	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300
	Analyte	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI
	Unit	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1
Pulp Duplicates																					
R-01	Rock	0.43	62.84	17.67	5.07	0.44	2.70	0.78	0.51	0.66	0.28	0.08	0.005	656	<20	385	91	9	7	10	8.8
REP R-01	QC																				
R-02	Rock	0.19	68.56	15.94	2.38	1.60	1.90	5.34	2.01	0.33	0.12	0.03	<0.002	1163	<20	844	80	3	<5	3	1.6
REP R-02	QC		68.60	15.98	2.35	1.60	1.90	5.25	2.01	0.33	0.12	0.03	0.002	1158	<20	852	81	<3	<5	3	1.6
R-03	Rock	0.47																			
REP R-03	QC																				
Reference Materials																					
STD DS10	Standard																				
STD DS10	Standard																				
STD OXC129	Standard																				
STD OXC129	Standard																				
STD SO-19	Standard		60.58	13.93	7.47	2.89	5.92	4.06	1.29	0.71	0.31	0.13	0.493	464	466	311	115	34	74	26	1.9
STD SO-19	Standard		60.49	13.97	7.52	2.91	5.93	4.02	1.30	0.69	0.31	0.13	0.494	468	471	313	120	34	73	26	1.9
STD SO-19 Expected			61.13	13.95	7.47	2.88	6	4.11	1.29	0.69	0.32	0.13	0.5	486	470	317.1	112	35.5	68.5	27	
STD DS10 Expected																					
STD OXC129 Expected																					
BLK	Blank		0.03	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<5	<20	<2	<5	<3	<5	<1	0.0
BLK	Blank																				
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank		71.31	13.86	3.14	0.88	2.33	4.57	1.91	0.36	0.09	0.09	0.003	781	<20	202	136	17	11	7	1.3

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Project: None Given
Report Date: January 24, 2017

Page: 1 of 1
Part: 2 of 7

QUALITY CONTROL REPORT VAN16002593.1

	Method	LF300	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Sum	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01
Pulp Duplicates																					
R-01	Rock	99.98	0.49	14.79	6.83	70.1	40	13.8	14.2	625	2.93	7.0	0.2	1.0	1.0	40.1	0.12	2.63	0.04	71	1.88
REP R-01	QC		0.48	15.25	6.74	72.4	40	13.2	13.0	629	2.95	7.0	0.2	4.1	1.0	39.4	0.13	2.66	0.02	71	1.89
R-02	Rock	99.98	0.20	43.34	5.05	46.9	33	4.0	4.6	187	1.31	11.1	0.5	2.8	1.1	43.5	0.02	0.10	0.04	37	0.36
REP R-02	QC	99.97																			
R-03	Rock																				
REP R-03	QC																				
Reference Materials																					
STD DS10	Standard		15.65	160.23	153.68	347.2	1865	77.8	13.7	917	2.75	42.1	2.8	60.7	7.4	65.9	2.68	8.23	12.05	43	1.07
STD DS10	Standard																				
STD OXC129	Standard		1.28	28.01	5.88	43.2	18	79.4	20.2	390	2.89	0.6	0.7	183.5	1.6	170.8	0.04	0.03	<0.02	49	0.62
STD OXC129	Standard																				
STD SO-19	Standard	99.88																			
STD SO-19	Standard	99.89																			
STD SO-19 Expected																					
STD DS10 Expected			15.1	154.61	150.55	370	2020	74.6	12.9	875	2.7188	46.2	2.59	91.9	7.5	67.1	2.62	9	11.65	43	1.0625
STD OXC129 Expected			1.3	28	6.3	42.9	28	79.5	20.3	421	3.065	0.6	0.72	195	1.9		0.03	0.04		51	0.665
BLK	Blank	0.02																			
BLK	Blank		<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	100.00	0.94	6.09	1.66	33.7	17	0.6	3.9	495	1.76	1.2	0.4	0.8	2.1	26.9	0.02	0.04	0.02	22	0.66

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Project: None Given
Report Date: January 24, 2017

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QUALITY CONTROL REPORT VAN16002593.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Sc**	**Tl**	**S**	**Hg**	**Se**	**Te**	**Ga**	**Cs**	**Ge**
	Unit	**%**	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**%**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
	MDL	**0.001**	**0.5**	**0.5**	**0.01**	**0.5**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.1**	**0.02**	**0.02**	**5**	**0.1**	**0.02**	**0.1**	**0.02**	**0.1**
Pulp Duplicates																					
R-01	Rock	0.097	7.8	19.8	0.24	663.4	0.007	6	0.71	0.010	0.06	0.1	6.7	0.02	<0.02	<5	<0.1	<0.02	2.0	2.72	<0.1
REP R-01	QC	0.104	7.6	18.4	0.23	666.3	0.006	7	0.71	0.010	0.06	0.1	7.5	0.03	<0.02	<5	<0.1	<0.02	2.0	2.68	<0.1
R-02	Rock	0.052	8.1	8.1	0.88	308.1	0.079	5	0.74	0.110	0.10	<0.1	2.0	0.02	<0.02	<5	<0.1	<0.02	6.5	0.24	<0.1
REP R-02	QC																				
R-03	Rock																				
REP R-03	QC																				
Reference Materials																					
STD DS10	Standard	0.076	17.5	56.6	0.78	347.2	0.081	7	1.06	0.070	0.34	3.5	2.9	5.16	0.29	281	2.0	4.78	4.5	2.68	<0.1
STD DS10	Standard																				
STD OXC129	Standard	0.093	11.7	52.4	1.48	46.6	0.367	2	1.46	0.579	0.37	<0.1	0.6	0.03	<0.02	<5	<0.1	<0.02	5.2	0.14	<0.1
STD OXC129	Standard																				
STD SO-19	Standard																				
STD SO-19	Standard																				
STD SO-19 Expected																					
STD DS10 Expected		0.0765	17.5	54.6	0.775	359	0.0817		1.0259	0.067	0.338	3.32	3	5.1	0.29	300	2.3	5.01	4.5	2.63	0.08
STD OXC129 Expected		0.102	13	52	1.545	50	0.4	1	1.58	0.6	0.37	0.08	1.1	0.03					5.6	0.16	
BLK	Blank																				
BLK	Blank	<0.001	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	0.042	6.2	2.7	0.49	53.7	0.079	2	1.00	0.135	0.12	0.1	2.9	<0.02	0.09	<5	<0.1	<0.02	3.8	0.18	<0.1

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QUALITY CONTROL REPORT VAN16002593.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Hf	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Pulp Duplicates																					
R-01	Rock	0.08	0.03	2.4	0.2	<0.05	2.9	6.49	17.6	0.03	<1	0.5	13.2	2.50	12.32	2.85	0.76	2.25	0.28	1.43	0.23
REP R-01	QC	0.08	0.03	2.4	0.2	<0.05	3.0	6.48	16.9	0.04	<1	0.6	12.4	2.59	12.43	2.68	0.72	2.19	0.28	1.48	0.22
R-02	Rock	0.27	0.04	2.2	0.3	<0.05	6.5	1.78	16.7	<0.02	<1	0.3	24.6	2.43	10.82	1.95	0.39	1.15	0.12	0.56	0.05
REP R-02	QC																				
R-03	Rock																				
REP R-03	QC																				
Reference Materials																					
STD DS10	Standard	0.07	1.67	27.6	1.6	<0.05	2.8	7.92	35.7	0.25	43	0.6	19.4	3.73	15.59	2.91	0.56	2.13	0.31	1.72	0.28
STD DS10	Standard																				
STD OXC129	Standard	0.28	1.35	14.1	0.6	<0.05	19.3	4.29	21.1	<0.02	<1	0.8	1.9	2.37	9.03	1.49	0.45	1.25	0.18	0.94	0.15
STD OXC129	Standard																				
STD SO-19	Standard																				
STD SO-19	Standard																				
STD SO-19 Expected																					
STD DS10 Expected		0.06	1.62	27.7	1.6		2.7	7.77	37	0.23	50	0.63	19.4	3.89	14.07	2.51	0.48	2.17	0.29	1.53	0.29
STD OXC129 Expected		0.24	1.4		0.7		21	4.7	23.7			0.8	2.22	2.64	9.4	1.6	0.47	1.31	0.19	0.99	0.18
BLK	Blank																				
BLK	Blank	<0.02	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	0.14	0.19	2.1	0.4	<0.05	3.6	8.42	11.7	<0.02	<1	0.1	2.2	1.58	6.70	1.41	0.33	1.54	0.25	1.61	0.33

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Project: None Given
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QUALITY CONTROL REPORT

VAN16002593.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Er	Tm	Yb	Lu	Pd	Pt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd
	Unit	ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm
	MDL	0.02	0.02	0.02	0.02	10	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1
Pulp Duplicates																					
R-01	Rock	0.58	0.07	0.50	0.05	<10	<2														
REP R-01	QC	0.55	0.07	0.49	0.06	<10	<2														
R-02	Rock	0.12	<0.02	0.11	<0.02	<10	<2														
REP R-02	QC																				
R-03	Rock							1.1	946.7	924.1	>10000	2.4	6.3	9.3	4437	3.36	213.4	5.6	0.4	30	238.2
REP R-03	QC							1.1	920.4	916.6	>10000	2.4	5.8	9.0	4339	3.28	214.5	5.2	0.4	29	241.5
Reference Materials																					
STD DS10	Standard	0.79	0.11	0.84	0.11	99	183														
STD DS10	Standard							14.6	158.5	140.3	342	1.8	74.3	13.3	881	2.74	43.0	116.1	7.1	60	2.7
STD OXC129	Standard	0.44	0.05	0.34	0.04	<10	<2														
STD OXC129	Standard							1.3	30.1	5.8	42	<0.1	80.1	20.8	402	2.94	0.7	184.0	1.7	177	<0.1
STD SO-19	Standard																				
STD SO-19	Standard																				
STD SO-19 Expected																					
STD DS10 Expected		0.79	0.11	0.74	0.11	110	191	15.1	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	46.2	91.9	7.5	67.1	2.62
STD OXC129 Expected		0.45	0.06	0.38	0.05			1.3	28	6.3	42.9		79.5	20.3	421	3.065	0.6	195	1.9		
BLK	Blank																				
BLK	Blank	<0.02	<0.02	<0.02	<0.02	<10	<2														
BLK	Blank							<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1
Prep Wash																					
ROCK-VAN	Prep Blank	0.93	0.13	0.85	0.12	<10	<2	1.0	6.1	1.5	35	<0.1	0.8	4.0	498	1.84	1.2	1.0	2.1	26	<0.1

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QUALITY CONTROL REPORT VAN16002593.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga
	Unit	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm
	MDL	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1
Pulp Duplicates																					
R-01	Rock																				
REP R-01	QC																				
R-02	Rock																				
REP R-02	QC																				
R-03	Rock	67.5	0.4	14	4.74	0.021	<1	2	1.09	172	<0.001	3	0.35	0.006	0.15	<0.1	3.94	1.8	<0.1	0.38	<1
REP R-03	QC	64.3	0.4	15	4.62	0.019	<1	2	1.06	148	<0.001	3	0.34	0.006	0.15	<0.1	3.93	1.8	<0.1	0.38	<1
Reference Materials																					
STD DS10	Standard																				
STD DS10	Standard	8.0	10.9	43	1.04	0.082	17	60	0.78	341	0.077	6	1.05	0.070	0.34	3.1	0.26	2.9	4.7	0.27	4
STD OXC129	Standard																				
STD OXC129	Standard	<0.1	<0.1	50	0.60	0.095	12	51	1.51	50	0.379	<1	1.47	0.580	0.36	<0.1	<0.01	0.7	<0.1	<0.05	6
STD SO-19	Standard																				
STD SO-19	Standard																				
STD SO-19 Expected																					
STD DS10 Expected		9	11.65	43	1.0625	0.0765	17.5	54.6	0.775	359	0.0817		1.0755	0.067	0.338	3.32	0.3	3	5.1	0.29	4.5
STD OXC129 Expected				51	0.665	0.102	13	52	1.545	50	0.4	1	1.58	0.6	0.37			1.1			5.6
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.1	<0.1	<2	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1
Prep Wash																					
ROCK-VAN	Prep Blank	<0.1	<0.1	22	0.68	0.041	6	3	0.46	58	0.077	2	0.98	0.138	0.12	0.1	<0.01	2.7	<0.1	0.08	4

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QUALITY CONTROL REPORT VAN16002593.1

	Method	AQ201	AQ201
	Analyte	Se	Te
	Unit	ppm	ppm
	MDL	0.5	0.2
Pulp Duplicates			
R-01	Rock		
REP R-01	QC		
R-02	Rock		
REP R-02	QC		
R-03	Rock	<0.5	<0.2
REP R-03	QC	<0.5	<0.2
Reference Materials			
STD DS10	Standard		
STD DS10	Standard	2.0	4.7
STD OXC129	Standard		
STD OXC129	Standard	<0.5	<0.2
STD SO-19	Standard		
STD SO-19	Standard		
STD SO-19 Expected			
STD DS10 Expected		2.3	5.01
STD OXC129 Expected			
BLK	Blank		
BLK	Blank		
BLK	Blank	<0.5	<0.2
Prep Wash			
ROCK-VAN	Prep Blank	<0.5	<0.2