

**BC Geological Survey  
Assessment Report  
38762**



**ASSESSMENT REPORT TITLE PAGE AND SUMMARY**

**TITLE OF REPORT: 2019 Report on Hand Trenching – Ponderosa Property**

**TOTAL COST: \$21,515.84**

AUTHOR(S): William A. Wengzynowski P.Eng  
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A  
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YEAR OF WORK: 2019

PROPERTY NAME: Ponderosa

CLAIM NAME(S) (on which work was done): Claim Number 521382 (no claim name recorded)

COMMODITIES SOUGHT: Gold

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN:

MINING DIVISION: Nicola Mining Division

NTS / BCGS: 092I-06

LATITUDE: \_\_\_\_\_ 50 \_\_\_\_\_ ° \_\_\_\_\_ 02 \_\_\_\_\_ ' \_\_\_\_\_ 07 \_\_\_\_\_ "

LONGITUDE: \_\_\_\_\_ 120 \_\_\_\_\_ ° \_\_\_\_\_ 58 \_\_\_\_\_ ' \_\_\_\_\_ 52 \_\_\_\_\_ " (at centre of work)

UTM Zone: 10      EASTING: 644620      NORTHING: 5544500

OWNER(S): Almadex Minerals Ltd. (100%)

MAILING ADDRESS: Suite 210 – 1333 Johnston Street, Vancouver, BC, V6H 3R9

OPERATOR(S) [who paid for the work]: 1201361 B.C. LTD.

MAILING ADDRESS: 5342 Malaspina Pl, North Vancouver BC, V7R 4M1

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)

Cretaceous Spences Bridge Group andesite stratigraphy structural hosted low sulphidation epithermal gold silver vein mineralization

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

29633 – Report on Exploration Activities – Ponderosa and Inn Properties

28705 – 2006 Report on Exploration Activities – Inn Property

28830 – 2006 Geochemical, Geological, Prospecting and Trenching Report – Ponderosa

XXXXX – 2019 Report on Soil Geochemical Sampling – Ponderosa Property (filed but assessment report number not known)

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	Mapping and report	521382	\$1,500.00
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, storage location)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling / Assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)			
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
Legal Surveys (scale, area)			
Road, local access (km)/trail			
Trench (number /metres)	5 Trenches, 45 Metres	521382	\$20,015.84
Underground development (metres)			
Other			
<b>TOTAL COST</b>			\$21,515.84

**2019 REPORT**

**on**

**HAND TRENCHING**

**PONDEROSA PROPERTY**

**(CLAIM: Ponderosa - 521382)**

Nicola Mining Divisions  
Merritt Area, British Columbia  
NTS: 1:50,000 Sheet 92I06  
Latitude 50°03.5' N Longitude 120°58.5' W  
UTM Zone 10: 645000E, 5544000N (NAD 83)

17 December, 2019

**(BC 2019 ASSESSMENT)**

By

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## **LIST OF CDS**

(With report; 1 copy only)

(Final Report and figures and maps; PDF document)

## SUMMARY

Recent exploration success by Westhaven Ventures Inc. (Westhaven) at the Shovelnose property in the Spences Bridge Gold Belt (SBGB) has rekindled the potential for gold discoveries associated with massive to stockwork quartz vein mineralization associated with epithermal-style deposits. Historical reconnaissance geochemical sampling, prospecting and grid soil sampling on the ground currently underlying the Ponderosa property 20 km northwest of Shovelnose, highlighted a number of areas of gold anomalism interpreted to be associated with epithermal style mineralization.

Exploration carried out by previous operators identified a number of similar geological attributes to the Shovelnose property which is underlain by Cretaceous volcanic sequences mostly associated with the Pimainus Formation of the Spences Bridge Group (SBG) and contains a number of prominent structural orientations. Significant recent drill intercepts from the Westhaven exploration at Shovelnose include: 12.90 m grading 12.11 g/t Au and 94.31 g/t Ag; 17.70 m grading 24.5 g/t Au and 107.92 g/t Ag; and 46.20 m grading 8.95 g/t Au and 65.47 g/t Ag (Westhaven, 2019). The mineralized system at Shovelnose is largely blind at surface due to extensive overburden cover and mineralization is largely contained within moderate to steeply dipping northwesterly trending structural zones associated with typical epithermal style features.

Historical assessment of this part of the Ponderosa property included widely to closely spaced grid soil geochemical sampling, prospecting, hand trenching, mechanized trenching, grid magnetic surveys and diamond drilling. The work identified numerous gold-in-soil geochemical anomalies, the strongest of which is associated with in-situ exposures of epithermal-style mineralization referred to as Axel Ridge (Balon, 2006). Chip sampling across the exposures returned 2.22 g/t Au over 11.7 m, 1.92 g/t Au over 14.0 m (with 3.03 g/t Au over 8.0 m) and 3.6 g/t Au over 7 m (Jackson et al, 2008).

In September 2019, 1201361 B.C. LTD. optioned the Ponderosa claim from the current stakeholder and subsequently completed geological ground assessment of the main target areas with particular focus on hand trenching north of Axel Ridge at a new target area referred to as Dump Pile. The hand trenching program was designed to test a new area that had received very little historical assessment.

## **1.0 INTRODUCTION**

In September 2019, 1201361 B.C. LTD. (the “Company”) entered into an option agreement with the current claim owner Almadex Minerals Ltd. to acquire a 60% right, title and interest in the 41.51 ha Ponderosa claim. The Company’s 2019 summer exploration program consisted of geological assessment of historical targets and hand trenching at a new epithermal gold target referred to as Dump Pile.

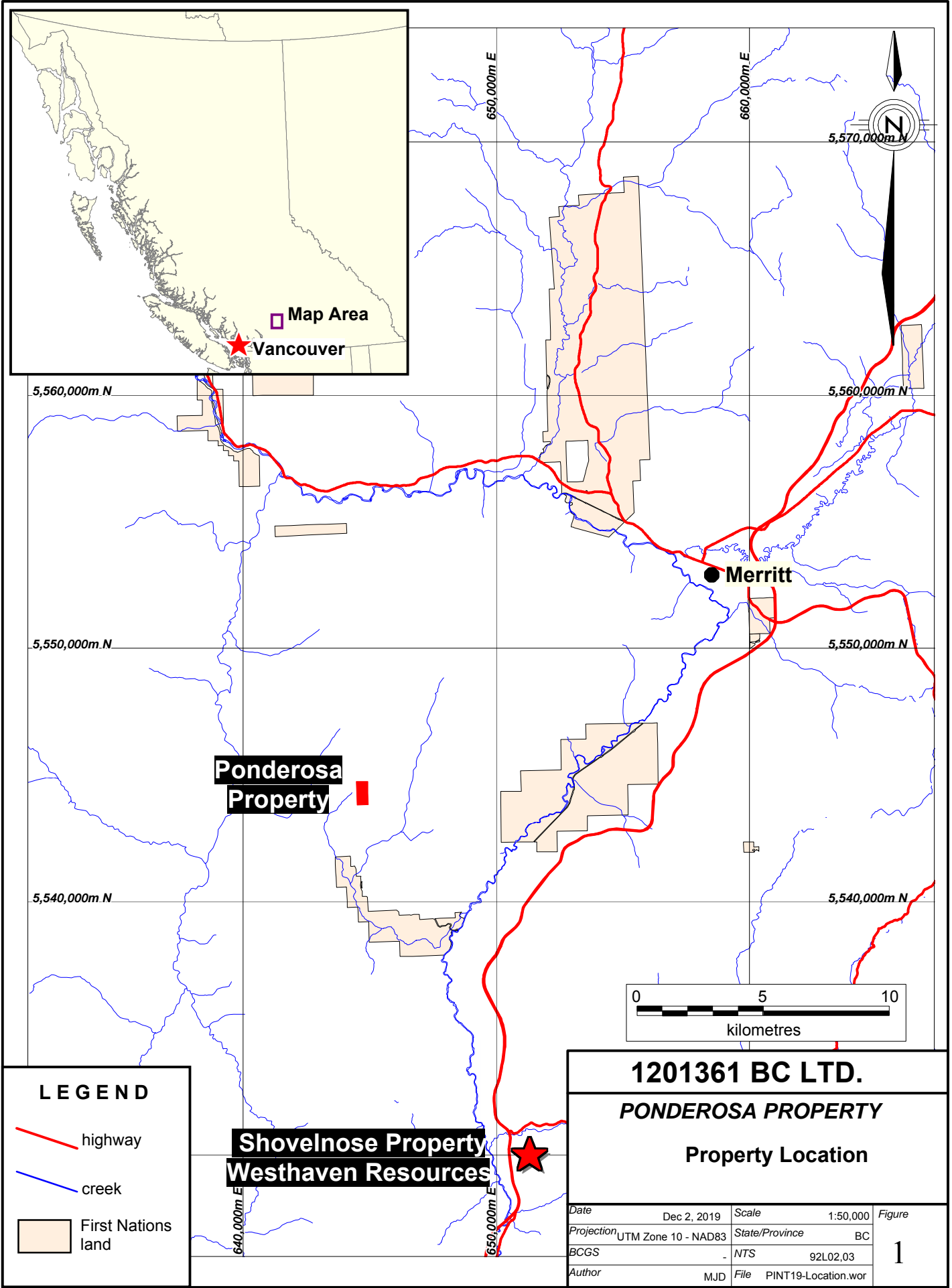
### ***1.1 Location, Access, Physiography and Climate***

The Ponderosa property is located 30 km southwest of Merritt, BC and roughly 20 km northwest of Westhaven Ventures Inc. Shovelnose project (Figure 1). The Ponderosa claims are centred at latitude 50°03’N and longitude 120°58’W or 645,000E, 5,544,250N (UTM NAD 83, Zone 10). The property area is covered by 1:50,000 scale NTS map sheet 092I/006. The property can be readily accessed from Merritt along well-maintained public and forestry roads. To enter the southern portion of the property, take Coldwater Road located southwest of Merritt, turn west-northwest on Patchett Road, then travel north along non-active forestry roads.

The property is dominantly controlled by rolling upland terrain of the Coutlee Plateau, within the southern Intermontane physiographic region. Historically, the region has been selectively logged. Elevations range between 980 m and 1,260 m above sea level. The climate on the Ponderosa property is semi-arid with hot, dry summers. Forests consist of widely-spaced lodge-pole pine, Ponderosa pine and Douglas fir. Bedrock exposure is moderate in the upper regions of the project area, while soil and glacial till cover is highly variable below the higher elevation knolls and ridge systems (Balon, 2006).

### ***1.2 Claim Data***

The Ponderosa claim subject to this report occupies the central portion of a larger contiguous property that has since been reduced through time to key ground now under option by 1201361 BC LTD. from two separate parties. Claim tenure details are documented in Table I. The Company assumed the role of operator in 2019 for the Ponderosa project. Claim locations for the Ponderosa property are shown on Figure 2.



**LEGEND**

- highway
- creek
- First Nations land

**1201361 BC LTD.**

**PONDEROSA PROPERTY**

**Property Location**

Date	Dec 2, 2019	Scale	1:50,000	Figure
Projection	UTM Zone 10 - NAD83	State/Province	BC	<b>1</b>
BCGS	-	NTS	92L02.03	
Author	MJD	File	PINT19-Location.wor	



**Table I - Ponderosa Mineral Claim**

<b>Tenure Number</b>	<b>Claim Name</b>	<b>Area (ha)</b>	<b>Expiry Date</b>
521382	Ponderosa	41.51	27-October-29
	<b>TOTAL</b>	<b>41.51</b>	

### ***1.3 History***

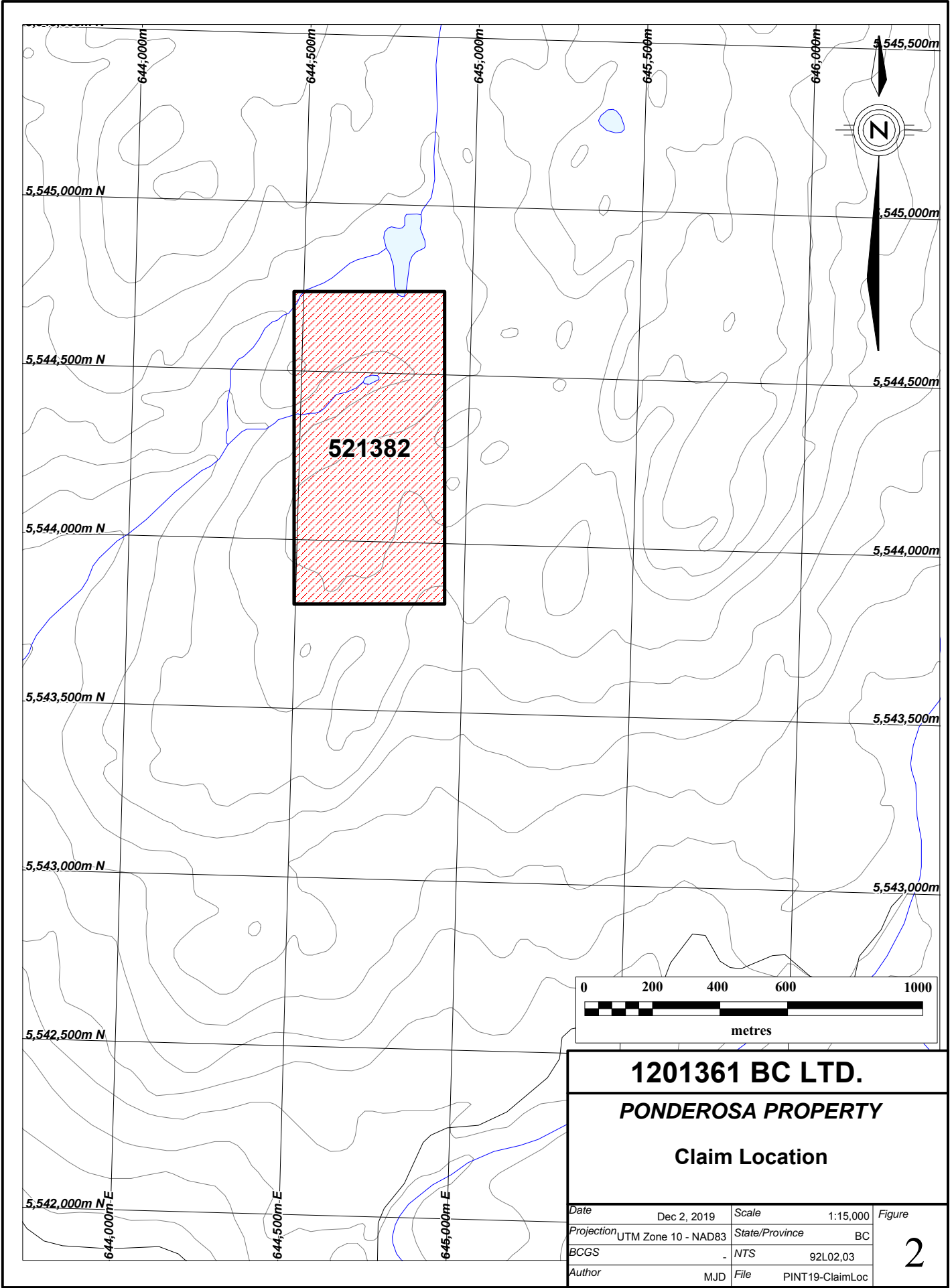
Placer gold was discovered in gravel bars adjacent to the Skoonka Creek property, located approximately 35km north of the Ponderosa property. These discoveries resulted in the Fraser and Thompson rivers gold rush between the 19<sup>th</sup> and 20<sup>th</sup> centuries (Balon, 2006). Placer gold was also mined from gravel bars on major tributaries in the Ashcroft-Lytton-Lillooet district. In particular, the Nicoamen River, situated 12 km downstream from the mouth of Skoonka Creek, played a pivotal role in starting the gold rush in interior British Columbia (Stewart & Gale, 2006).

Reconnaissance prospecting and geochemical sampling as follow-up to government based Regional Geochemical Survey (RGS) silt sample anomalies near the Ponderosa property led to the acquisition of the project area by Almaden Minerals Ltd. (Almaden) in 2005. Follow-up exploration programs in 2005 and 2006 carried out by Almaden included prospecting, grid-based soil sampling and bedrock mapping. In-situ epithermal style gold mineralization was documented on claims occupying the central portion of the claim area referred to as the Axel Ridge showing. The project was optioned to Strongbow Exploration Inc. which focused much of its 2007 efforts on mechanized exploration of the Axel Ridge trend in the form of diamond drilling. This work failed to identify the source of the surface mineralization (Jackson et. al., 2008).

### ***1.4 2019 Exploration Program***

Fieldwork conducted by the Company on the Ponderosa claim took place in several phases between September 9<sup>th</sup> and October 10, 2019. The first phase of exploration in September consisted of property orientation, historical site investigation and evaluation for the purposes of onsite planning for subsequent exploration. Because much of the previous work focused in the area of the Axel Ridge exposures with limited diamond drilling success, addition work targeted areas along strike where minimal historical work was completed.

These efforts identified hand trenching targets along strike from Axel Ridge in an area referred to as Dump Pile. A series of five hand trenches were excavated across a zone of high level silica flooding between September 9<sup>th</sup> and 22<sup>nd</sup> while mapping was conducted shortly afterward.



**1201361 BC LTD.**

**PONDEROSA PROPERTY**

**Claim Location**

Date	Dec 2, 2019	Scale	1:15,000	Figure <b>2</b>
Projection	UTM Zone 10 - NAD83	State/Province	BC	
BCGS	-	NTS	92L02.03	
Author	MJD	File	PINT19-ClaimLoc	

## 2.0 GEOLOGICAL SETTING

### 2.1 Regional Geology and Mineral Prospects

*The following excerpts have been taken from Jackson et. al, (2008) as the geological description of the project area remains relevant and modifications have been made to reflect the reduced size and coverage of the current property.*

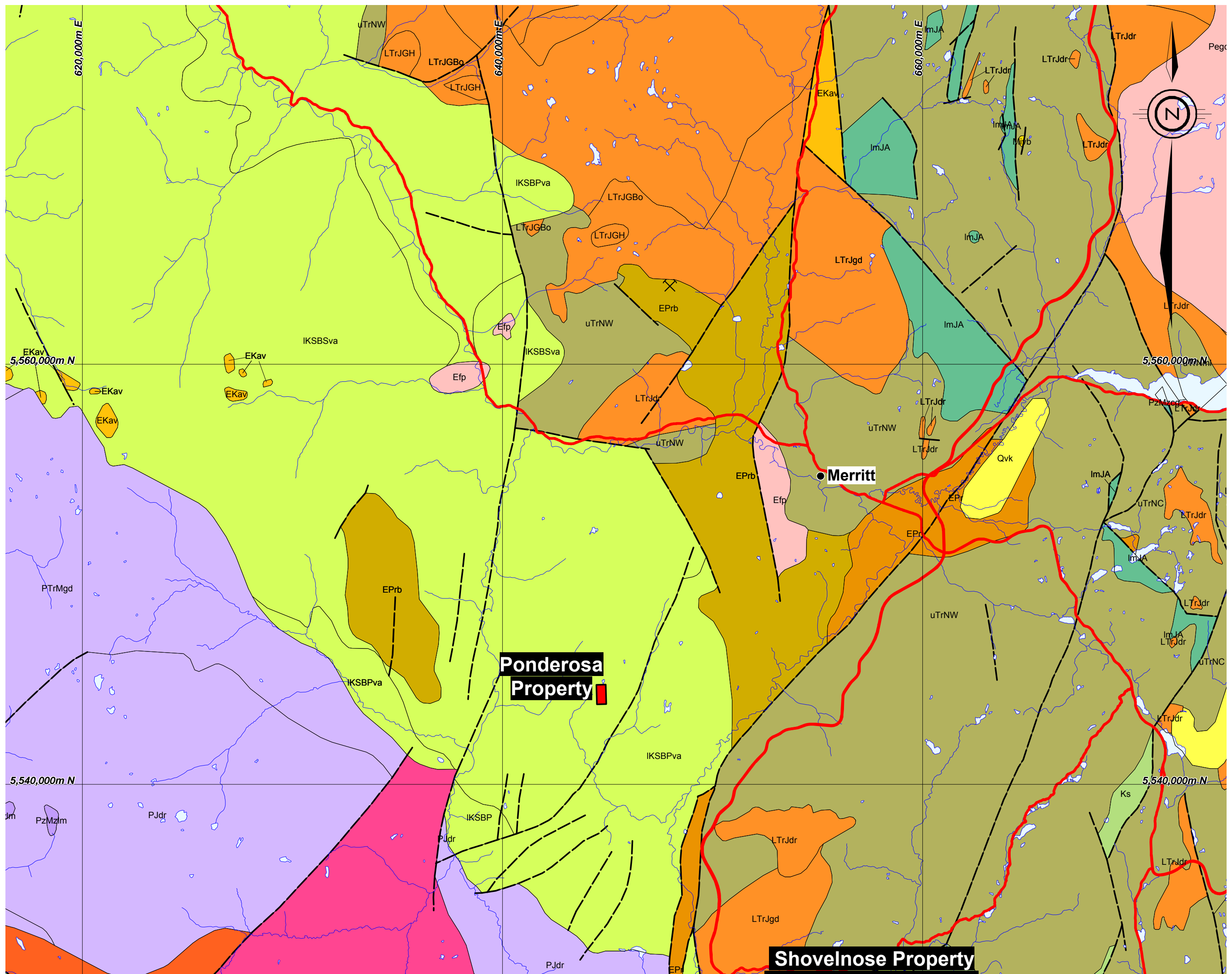
Regional bedrock geology is shown on Figure 3 which covers part of the southern Intermontane Tectonic Belt of the Canadian Cordillera. It was compiled and simplified from GSC Maps 42-1989 (Ashcroft, by J.W.H. Monger and W.J. McMillan, 1989) and 41-1989 (Hope, by J.W.H. Monger, 1989).

Lithology within the region includes successions of Mesozoic to Cenozoic volcanic and sedimentary rocks, which have been intruded by plutons of various compositions and ages from approximately Permian and/or Triassic to Miocene. Locally thick deposits of Pleistocene and recent glacial drift and alluvium are prevalent in all of the major creek and river valleys. Much of the region was overridden during the last Pleistocene glaciation by ice moving generally southeast, but more directly southward in the Spius – Midday Creeks area (Nicoamen Plateau; Ryder, 1975; Balon, 2006).

The dominant rock types underlying the Ponderosa property belong to the Spences Bridge Group dominated by Cretaceous volcanic assemblages. The basal and most pervasive assemblage is the Pimainus Formation which includes intermediate, locally felsic to mafic, flows and pyroclastics with some sandstone, shale and conglomerate. This sequence of stratigraphy is regionally overlain by the Spius Creek Formation, forming a broad northwest-trending thick sequence of gently folded basaltic andesite with lesser sediments, having variable orientations and generally shallow dips. The upper sequence was formerly called the Kingsvale Group by earlier government geologists (Rice, 1947; Duffell and McTaggart, 1952; and others before Thorkelson, 1985).

The Spences Bridge Group unconformably overlies older plutonic rocks consisting of granodiorite to diorite/gabbro intrusives of the Permian-Triassic Mount Lytton Complex (PTrMgd, PTrMdr, and PTrMml). These plutonic rocks outcrop due west of the Ponderosa property and follow a northwest trend adjacent to the Spences Bridge Group. The Spences Bridge Group is unconformably overlain by the Eocene Princeton/Kamloops Group, mafic and felsic volcanics, large bodies of which are found both to the east and west of the property. Small Cenozoic intrusions of feldspar porphyry composition occur in contact with the Spences Bridge rocks a few kilometres to the northeast and northwest of the claim group.

Major structural features in the region are interpreted as steeply dipping normal faults. The Spius Creek Fault is situated roughly 3 km west of the property is postulated to be the southern extension of the Lornex (Big Divide) Fault which transects the Guichon Batholith (LTrJqm, LTrJGH) in the northern area of figure. A prominent northeasterly splay of the southern Spius Creek Break, called the Midday Creek Fault, cuts across the



**LEGEND**

**Quaternary**

- Qvk - Alkaline volcanic rocks

**Cenozoic**

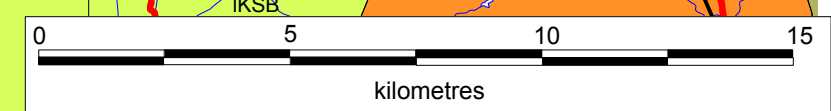
- Mivb - Basaltic volcanic rocks
- ETg - Intrusive rocks, undivided
- Egd - Granodioritic intrusive rocks
- EKav - Kamloops Group volcanic rocks
- EPrb - Princeton Group volcanic rocks
- EPr - Princeton Group sedimentary rocks
- Efp - Feldspar porphyritic intrusive rocks
- Pegd - Granodioritic intrusive rocks

**Mesozoic**

- Ks - Sedimentary rocks
- KP - Pasayten Group sedimentary rocks
- IKSBSva, IKSb, IKSBPva, IKSBP - Spences Bridge Group - Spius Creek and Pimainus Formations
- MKgr, MKgd - Granite, granodioritic alkali feldspar granite intrusive rocks
- LJto - Tonalite intrusive rocks
- ImJA - Ashcroft Formation - mudstone, siltstone, shale fine clastic sedimentary rocks
- ImJLA - Ladner Group - mudstone, siltstone, shale fine clastic sedimentary rocks
- LTrJdr - Dioritic intrusive rocks
- LTrJgd - Granodioritic intrusive rocks
- LTrJGqm, LTrJGH, LTrJGG, LTrJGBe, LTrJGBo, LTrJGB - Guichon Creek Batholith - quartz monzonitic, granodioritic, and quartz dioritic intrusives
- uTrN, UTrNE, UTrNC, UTrNW, UTrNml - Nicola Group - andesitic to basaltic volcanic rocks

**Paleozoic**

- PTrMgd, PTrMdr, PTrMml - Mount Lytton Complex - granodioritic to dioritic intrusive and amphibolite/kyanite grade metamorphic rocks
- PJdr - Dioritic intrusive rocks



**1201361 BC LTD.**  
**PONDEROSA PROPERTY**  
**Regional Geology**

Date	Dec 2, 2019	Scale	1:150,000	Figure	3
Projection	UTM Zone 10 - NAD83	State/Province	BC		
Author	MJD	File	PINT19-RegGeo.wor		

southeasterly portion of the project area near the southeastern corner of the claim block. Although local faults have been mapped with a variety of attitudes, the dominant trends are north-south and 140° to 150° (Monger, 1981). It has been suggested that the rocks of the Spences Bridge Group formed as a chain of stratovolcanoes associated with subsiding, fault bounded basins (Souther, 1991 et. al, and Thorkelson, 1985).

There are over six known occurrences of low sulphidation type epithermal gold mineralization hosted by quartz veins and breccia in the Spences Bridge volcanic belt, which form a northwest-southeast trend of 50 kilometres (Balon, 2006). Although there are no currently producing gold mines within the belt, several of the gold showings have been drill tested in the past and recent developments by Westhaven at the Shovelnose property are promising.

## ***2.2 Ponderosa Property Geology***

The following descriptions are taken from the work compiled by Jackson et. al. (2008) and modified to reflect the current geological coverage of the Ponderosa property.

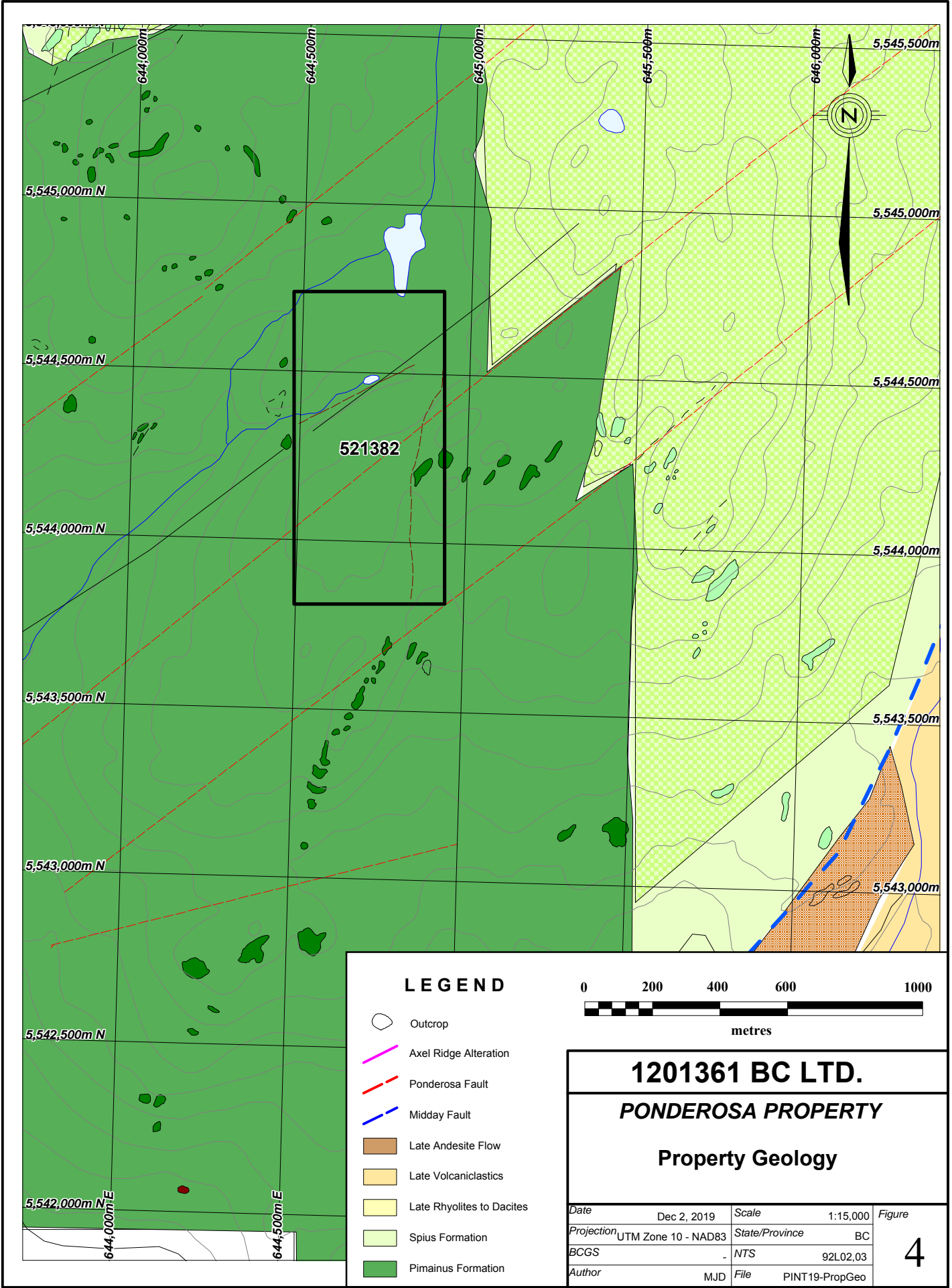
Property scale outcrop mapping was conducted in 2007 by Strongbow contract geologist Lamont Leatherman who also mapped at a similar scale in the Shovelnose area during Strongbow's exploration campaigns in that target area.

The following is a descriptive summary of the units illustrated on Figure 4 (Leatherman, 2007).










**Spilus Formation** – brown to brownish grey, green and reddish grey to maroon andesitic flow and flow breccias; predominantly amygdaloidal, up to 30%, 0.5 – 2cm calcite and /or chlorite filled amygdules, amygdules commonly elongated. Occasionally the Spilus is porphyritic, with 2-4mm feldspar. Outcrop scale observations include meter scale massive aphanitic flow units, alternating with green and maroon, amygdaloidal rich flows and flow breccias. Flow breccias commonly have cm scale, irregular, patches of calcite. Outcrops of this unit are low and rounded, commonly friable producing a granular soil around and down slope.

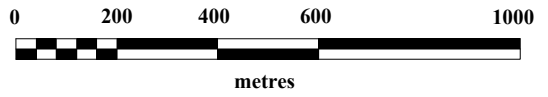
**Pimainus Formation** – greenish grey to bluish grey, dense, andesitic flows. Commonly porphyritic with up to 30%, 2-5 mm, subhedral to euhedral feldspar and 10% combined hornblende/pyroxene phenocryst. Pyroxenes are commonly red due to eddingsite alteration. Occasionally, flows have a massive fine grain sugary texture with diffuse phenocryst. Locally, a fine grained, trachytic texture has been observed. Outcrop scale observations include a highly jointed, blocky weathering and occasional subtle flow banding. Amygdules are generally rare but do occur in 10 cm scale layers within the flow, they are generally calcite filled and comprise < 5% of the rock.

Both the Spilus and Pimainus Formations belong to the Cretaceous Spences Bridge Group. These assemblages are separated by the northeast–southwest trending Midday Fault from younger volcanic rocks of the Kamloops Group. The Pimainus Formation



**LEGEND**

-  Outcrop
-  Axel Ridge Alteration
-  Ponderosa Fault
-  Middy Fault
-  Late Andesite Flow
-  Late Volcaniclastics
-  Late Rhyolites to Dacites
-  Spius Formation
-  Pimainus Formation



<b>1201361 BC LTD.</b>			
<b>PONDEROSA PROPERTY</b>			
<b>Property Geology</b>			
<i>Date</i>	Dec 2, 2019	<i>Scale</i>	1:15,000
<i>Projection</i>	UTM Zone 10 - NAD83	<i>State/Province</i>	BC
<i>BCGS</i>	-	<i>NTS</i>	92L02.03
<i>Author</i>	MJD	<i>File</i>	PINT19-PropGeo

andesite flows host in-situ epithermal gold mineralization on the nearby Axel Ridge showing contained within the small claim block of different ownership in the central part of the Ponderosa property.

Maroon to green, amygdaloidal rich, andesite flows and flow breccias of the Spius Formation are found along the easternmost part of the Ponderosa property. The transition from the blocky, massive flows of the Pimainus Formation to the amygdaloidal flows of the Spius Formation is abrupt and may represent an early north – south normal fault where the eastern block has been down dropped. At this point, no field observations confirming a fault contact have been documented; therefore the transition has been marked as an inferred contact.

The contacts between the Pimainus and Spius formations are interpreted to have been offset by a series of northeast-southwest trending sinistral strike-slip faults (Figure 4). Displacement along these faults is inferred to range from a meter to as much as a kilometer but the nature of these structures and associations as potential mineralized hosts has not been determined.

### **3.0 SOIL GEOCHEMISTRY**

#### ***3.1 Introduction***

Historical soil sampling programs conducted by Almaden between 2005 and 2006 collected approximately 180 soil samples across the Ponderosa claim. Soil samples were collected at 50 m intervals along east-west trending grid lines spaced roughly 100 m apart. Sample density was increased in isolated parts of the grid to 50 by 25 m spacing.

Soil sample results within the Ponderosa claim returned the strongest results for gold and arsenic on the entire expanded property. No additional sampling was conducted in 2019.

#### ***3.2 Soil Geochemical Results***

Soil geochemical anomalism was examined closely specifically for gold-in-soil results in order to identify specific trends. The tenor of the soil responses is generally low in the lower regions of the property but utilizing a roughly 80<sup>th</sup> percentile cut-off and doubling the intervals between specific threshold ranges (5-10 ppb, 10-20 ppb, 20-40 ppb, >40 ppb), successfully identified repeatable linear trends within three well constrained specific orientations. These orientations are estimated as follows: 330-335, 010-017 and 030-038 degrees.

Gold-in-soil response along the Axel Ridge exposures forms a distinct north westerly trend (330-335 degree) with values exceeding 500 ppb Au where mineralization is naturally exposed. The strongest part of the trend is roughly 200 m long where the historical hand trenching was conducted and the trend is inferred to continue northwesterly off the height of land.

Other anomalies on the claim form strings of linear north easterly trends and somewhat isolated point values. Many of these target areas have not received detailed follow-up inspection.

## **4.0 TARGET SUMMARY**

### **Axel Ridge**

The Axel Ridge bedrock/subcrop exposures are spaced intermittently along a 100 m north-northwesterly trend stemming near the height of land at roughly 1190 m elevation. The bulk of the mineralization is constrained to a 40 m long area coincident with a local knoll where a series of natural exposures and trenches have been excavated. Orientation data gathered from the trench exposures suggest the Axel Ridge vein is relatively flat lying with a gentle westerly dip between 12 and 20 degrees.

Chip sampling is only reported from the manual trenching carried out by Almaden Minerals Ltd. in 2006. Significant intervals stated: 2.22 g/t Au over 11.7 m, 1.92 g/t Au over 14.0 m (with 3.03 g/t Au over 8.0 m) and 3.6 g/t Au over 7 m (Balon, 2006). Select specimens collected by 1201361 BC LTD in 2019 returned up to 8.69 g/t Au (Appendix C). It should be noted that the reported sample lengths along the base of the trenches is not an indication of the width of the actual vein given its gentle dip. The estimated true width is roughly 2.5 to 3 m at the thickest exposure at the southern part of Axel Ridge.

The nature of the vein material exposed in the series of trenches varies between exposures from crypto-crystalline/saccharoidal to crustiform and colloform banded. Most of the colloform banded mineralization occurs as locally sourced rubble in the southern part of the target area while most other exposures are crustiform to saccharoidal in nature. A cursory review of the trench exposures by 1201361 BC LTD noted distinct differences in the appearance of the vein material among the exposures.

Diamond drilling by Strongbow Exploration Inc. in 2007 focused primarily in a restricted area of Axel Ridge. The first diamond drill holes (PD-07-01 to 03) were designed to intercept the gently south westerly dipping vein exposures approximately 40 m to 60 m down-dip. The second series of holes (PD-07-04 and 05) were located to scissor back toward the first phase holes given the absence of mineralization in holes testing the interpreted gentle dipping horizon. As a result, no vein mineralization of significance or resembling the surface exposures was encountered in any of the drill holes.

Photos of historical drill core illustrate zones of silicification and alteration but it does not appear that attempts were made to reconcile possible structural displacement of the Axel Ridge surface mineralization in conjunction with surface mapping and magnetic geophysical inferences.

The Axel Ridge setting appears to be highly structurally complex and may represent a small window of uplift from a deeper portion of the Ponderosa mineralizing system. The



presence of post epithermal vein iron carbonate breccia containing shattered quartz vein mineralization along the trends is interpreted to represent varying scale structures.

### **Road Zone**

The Road Zone is situated approximately 275 m NNW of the southernmost part of the Axel Ridge exposures along a somewhat linear gold-in soil geochemical trend but is not fully understood if this is an artifact associated with the structural displacement of the Axel Ridge mineralization.

The Road Zone was defined by two historical mechanized trenches oriented roughly east-west and northwesterly along the main break in slope at the north end of the “Axel Ridge geochemical trend”. Roughly 85 linear metres of trenching was conducted from which a number of significant quartz zones, zones of brecciation, silicification and pyritization were reported in the two trenches.

Individual samples from the western trench (PT07-05) reportedly assayed up to 7.54 g/t Au while a weighted average across 25 m yielding 0.80 g/t Au (Jackson et al, 2008). The main zone of quartz veining observed is described as white to grey, opaque, cryptocrystalline material with <1mm black bands. This zone is bound to the east by an interpreted steeply dipping vertical fault zone containing abundant quartz fragments within pervasively argillic and chlorite altered fault gouge with oxidized and weathered pyrite.

The eastern trench (PT07-06) reported a quartz vein zone comprising massive silica across 3 m exhibiting multiple flooding events and narrow brecciated zones within the main vein in addition to diffuse andesite clasts, minor banding and trace amounts of fine-grained disseminated pyrite. Assays from this trench returned an overall weighted average of 1.24 g/t Au across 4 m with individual samples returning up to 2.12 g/t Au (Jackson et al, 2008).

One drill hole was located to test the Road Zone trenches but again did not encounter any material resembling the mineralization exposed in the trenches. The azimuth of the hole was drilled due west to test zones interpreted to have steep SE and NE dips.

It should be noted that the trenches were subsequently filled in and it is not certain if they were excavated to bedrock for the purposes of establishing definite vein orientations. It appears that no attempts were made to implement additional trenches on either side of the mineralized exposures in order to confirm strike extensions and local orientations. This area is further complicated by the presence of a large interpreted ENE trending property/regional scale post mineralizing fault zone that bisects the area forming prominent recessive drainages and ponds. The nature of this fault zone is characterized by crystalline calcite cementing breccia filling and minor iron carbonate.

## **Dump Pile**

Dump Pile is most northerly of the significant outcrop exposures identified on the property to date. The area was identified through historical prospecting as a quartz rubble pile roughly 3m in diameter. Six surface samples collected from the quartz rubble area returned up to 0.54 g/t Au (Balon, 2006) but the subdued soil geochemical responses over this target and apparent lack of understanding of the surface mineralization orientation prevented follow-up exploration.

1201361 BC LTD investigated the site in 2019 and located additional mineralization 50 m to the southwest believed to be associated with the initial discovery. Six samples of weakly crustiform to cryptocrystalline/saccharoidal quartz returned values ranging from below detection limits to 2.96 g/t Au (Appendix C).

## **5.0 HAND TRENCHING**

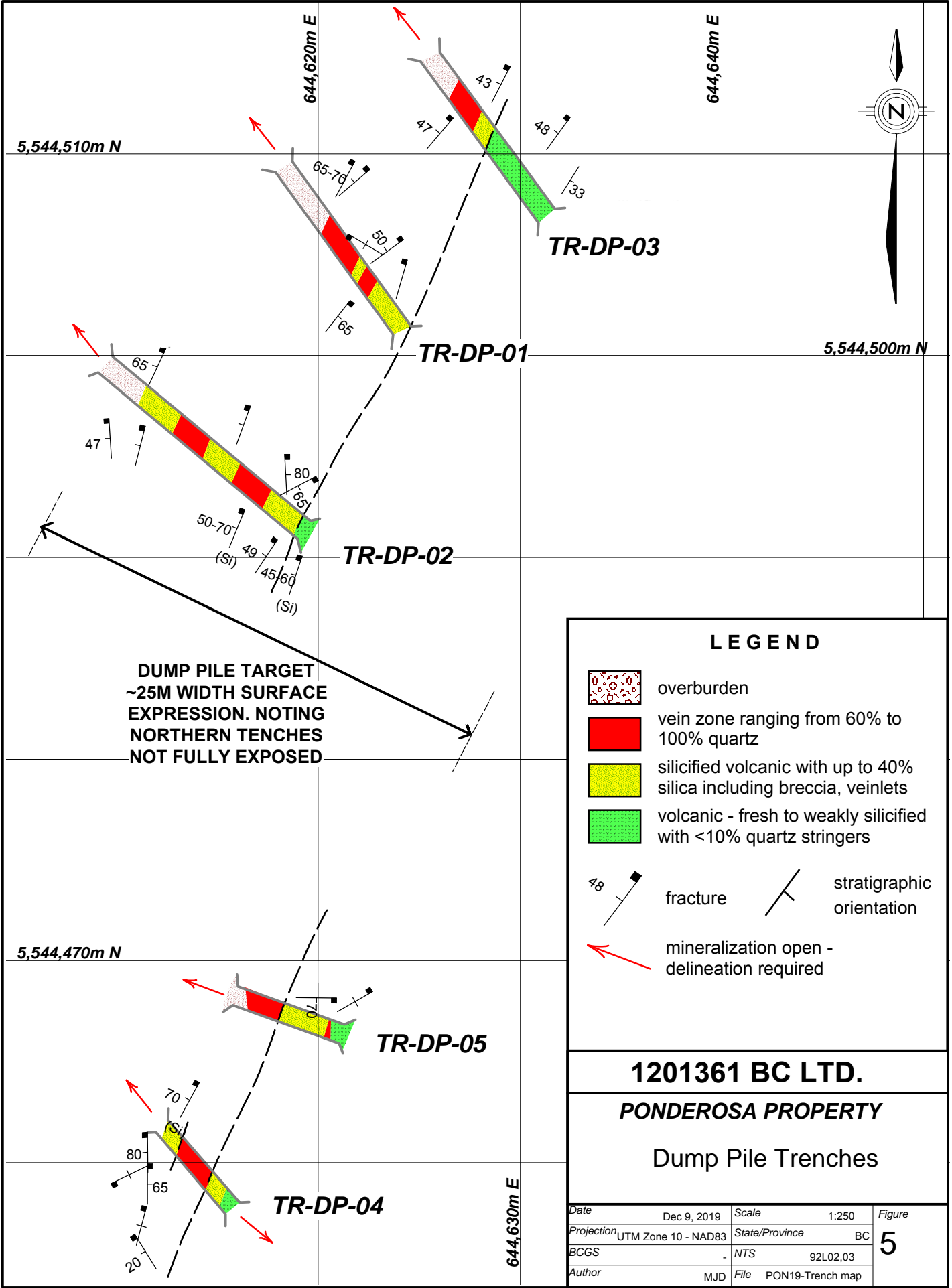
Five hand trenches were located at varying intervals across two exposures at Dump Pile to identify the nature, width and orientations of the respective vein zones (Figure 5). All trenches encountered vein zone material and alteration comprising altered volcanic selvages in the form of: silicification, brecciation and clay altered volcanic clasts; quartz flood zones resembling sheeted veinlets and veins; and massive quartz vein material.

The interpretation of the mineralization encountered in all trenches is that of one continuous vein zone exposed along strike for roughly 55 m across a width of 25 m. Note the western portion of the zone remains open leaving the full width unknown.

Orientation data shows a 023 – 025 degree strike with moderate to steep northwesterly dips ranging from 45 to 70 degrees. Structural overprinting is observed at various orientations generally associated with steep dips.

Textural characteristics of silica dominant material within the vein zones are mostly cryptocrystalline and saccharoidal quartz. Some narrow sections exhibit faint or ghosted crustiform banding; however this texture appears to be far more enhanced on weathered surfaces.

Silicified volcanics contain up to 40% silica in the form of veinlets and narrow veins as well as zones of brecciation and subsequent silica flooding. Volcanic clast components are often clay altered, most noticeably plagioclase feldspar. These clasts are often accompanied by clear to white silica flooding sometimes exhibiting comb and cockade textures. Pyrite is present within these zones and ranges from trace to 5 % in localized areas and varies from ultrafine grained to medium grained cubic. In some locations, volcanic breccia clasts appear to contain the largest concentrations of pyrite while the accompanying silica flooding is relatively free of sulphide.



**DUMP PILE TARGET**  
 ~25M WIDTH SURFACE  
 EXPRESSION. NOTING  
 NORTHERN TRENCHES  
 NOT FULLY EXPOSED

**LEGEND**

- overburden
- vein zone ranging from 60% to 100% quartz
- silicified volcanic with up to 40% silica including breccia, veinlets
- volcanic - fresh to weakly silicified with <10% quartz stringers
- fracture
- stratigraphic orientation
- mineralization open - delineation required

**1201361 BC LTD.**

**PONDEROSA PROPERTY**

**Dump Pile Trenches**

Date	Dec 9, 2019	Scale	1:250	Figure	<b>5</b>
Projection	UTM Zone 10 - NAD83	State/Province	BC		
BCGS	-	NTS	92L02.03		
Author	MJD	File	PON19-Trench map		

Unaltered volcanic was encountered in the northern-most trench consisting of green-purple blocky weathering andesite flow. Possible depositional orientation of 045/33 degrees SE is inferred.

No continuous channel sampling was conducted in any of the Dump Pile trenches due to the timing of completion of the trenching program and seasonal conditions. The few samples collected from surface and the textural nature of the trench exposures is highly suggestive of a high level of emplacement in the epithermal system therefore the tenor of gold mineralization is expected to resemble the historical surface sampling.

Photos of the trenches completed are shown in Appendix A and co-ordinates of the trenches are detailed in Appendix B.

## 6.0 INTERPRETATION AND CONCLUSIONS

The Ponderosa claim is underlain by a similar favourable geological setting akin to the Shovelnose epithermal gold prospect 20 km to the southeast. Historical exploration at Ponderosa identified classic epithermal style gold mineralization at Axel Ridge and a number of additional locations but advanced efforts failed to expose the source/root structures associated with surface mineralization. It is likely that post depositional structural complexity has potentially displaced the Axel Ridge mineralization and further structural analysis is required before further subsurface exploration is attempted.

Hand trenching at Dump Pile has exposed a continuous well constrained exposure of high level epithermal style silica flooding and veining exhibiting moderate to steep dips indicative of a relatively pristine depositional environment. While continuous channel sampling was not conducted, random surface sampling returned anomalous gold values from most samples collected historically and by 1201361 BC LTD. Given the high level nature of the Dump Pile exposure, robust gold values are not expected but rather only weakly to moderately anomalous values are likely to persist. The surface expression of Dump Pile is not fully delineated along its current strike length of 55 m or across width (approximately 25 m) which suggests the underlying structural system is the most significant of any observed on the property to date.

## 7.0 RECOMMENDATIONS

Further exploration is definitely warranted on the Ponderosa claim and should consist of additional hand and or machine trenching at Dump Pile and Road Zone. This work would require follow up saw channel sampling across prospective exposures and diamond drilling.

Detailed structural mapping should be employed at Axel Ridge to assess the structural complexity associated with this particular area and to ascertain whether this degree of structural complexity is only associated with this particular trend. In addition, closely spaced symmetric grid soil sampling should be conducted where gaps in the historical grid are present and further detailed prospecting is necessary to explain anomalous sites.

Sincerely,

William A. Wengzynowski, P.Eng.



Skivik Holding Co. Ltd.



## 8.0 PERSONNEL AND CONTRACTORS

### List of Contractors

<b>Contractor</b>	<b>Type of Work</b>	<b>Address</b>
Rio Minerals Ltd.	Hand Trenching	800 W. Pender St. Vancouver BC V6C 2V6
Skivik Holding Co Ltd.	Report Preparation	301 Fairway Dr. North Vancouver BC V7G 1L4

## 9.0 STATEMENT OF COSTS

### Ponderosa property - expenses (hand trenching only) – Sept 9 - 22, 2019:

<u>Item</u>	<u>\$</u>
- Rio Minerals Ltd. invoice (Sept 25, 2019):	
- Time charges:	14,700.00
- Expenses:	<u>5,315.84</u>
- Sub-total:	20,015.84
- (Nominal) report cost:	
- Report writing (2 days @ \$500/day)	1,000.00
- Digital map preparation:	<u>500.00</u>
- Sub-total:	1,500.00
- <b>Total cost*:</b>	<b>\$21,515.84</b>
* Excluding report cost:	\$20,015.84

## 10.0 STATEMENT OF QUALIFICATIONS

### STATEMENT OF QUALIFICATIONS

I, William A. Wengzynowski, Geological Engineer, with business address in North Vancouver, British Columbia and residential address in North Vancouver, British Columbia do hereby certify that:

1. I graduated from the University of British Columbia in 1998 with a B.A. Sc. in Geological Engineering Option I.
2. From 1983 to present, I have been actively engaged in mineral exploration in the Yukon Territory, British Columbia and to a lesser degree globally.
3. I am a Professional Geological Engineer (P.Eng.) with the Association of Professional Engineers and Geoscientists of British Columbia (Professional Number 24119).
4. I have personally directed and participated in the fieldwork reported herein and have interpreted all data resulting from this work.

Dated at Vancouver, British Columbia, this 20<sup>th</sup> day of December, 2019.



William A. Wengzynowski, B.A. Sc., P.Eng.





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**Westhaven**

2019: <http://westhavenventures.com/projects/shovelnose-gold/details/>

## 12.0 APPENDIX A: TRENCH PHOTOS



Figure 1: TR-DP-01 View looking East



**Figure 2: TR-DP-01 View looking West**



**Figure 3: TR-DP-02 View looking West**



**Figure 4: TR-DP-02 View looking East**



**Figure 5: TR-DP-03 View looking East**



**Figure 6: TR-DP-04 View looking West**





**Figure 7: TR-DP-05 View looking West**

## 13.0 APPENDIX B: TRENCH COORDINATES

### Ponderosa – Dump Pile Zone Trench Coordinates

<u>Trench</u>	<u>Start Coordinates</u>		<u>End Coordinates</u>		<u>Azimuth</u>	<u>Length</u>
	Northing (m)	Easting (m)	Northing (m)	Easting (m)		
DP-01	5544509	644618	5544501	644624	325	10.00
DP-02	5544500	644609	5544491	644619	313	13.00
DP-03	5544515	644625	5544507	644632	324	10.00
DP-04	5544462	644612	5544457	644616	320	5.50
DP-05	5544468	644615	5544466	644622	290	5.50

Note: All co-ordinates are UTM NAD 83, Zone 10

## 14.0 APPENDIX C: SAMPLE DATA

Sample #	Zone	Northing m	Easting m	Description
J991890	Axel Ridge	5544149	6447762	16 cm thick crustiform/coliform banded vein float
L995180	Dump Pile	5544464	644616	25 cm exposed outcrop – massive white quartz with rusty fracturing, minor dark grey quartz
L995181	Dump Pile	5544464	644616	15-20 cm thick pieces of white cryptocrystalline quartz with orange fractures
L995182	Dump Pile	5544471	644620	Collection of 10 cm thick pieces of white to clear crystalline quartz with minor crustiform bands
L995183	Dump Pile	5544517	644627	Collection of white crystalline quartz with weak crustiform banding – 10 to 15 cm thick
L995184	Dump Pile	5544517	644627	Collection of 8 to 12 cm thick pieces of weakly crustiform banded quartz with hematite and oxide fractures
L995185	Dump Pile	5544510	644608	Collection of 9 to 13 cm thick pieces of quartz carbonate breccia and white crystalline to crustiform banded quartz
L995187	Road Zone	5544410	644673	25 cm thick piece of crackle brecciated whit to grey quartz with traces fine pyrite
L995188	Road Zone	5544407	644663	30 cm thick piece of angular quartz-iron-carbonate breccia with traces blebby pyrite
L995189	Road Zone	5544384	644669	Collection of 10 cm thick pieces of hematite stained coliform banded quartz vein
L995190	Road Zone	5544383	644662	20 cm thick white and grey angular quartz crystalline vein float
L995191	Road Zone	5544380	644631	15 cm thick pale grey-white crystalline quartz with fine pyrite in darker areas of sample
L995192	Road Zone	5544380	644631	25 cm thick white crustiform banded quartz
Note: All co-ordinates are UTM NAD 83, Zone 10				

## **15.0 APPENDIX D: ASSAYS**



ALS Canada Ltd.  
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To: 1201361 B.C. LTD  
5342 MALASPINA PL  
NORTH VANCOUVER BC V7R 4M1

Page: 1  
Total # Pages: 2 (A)  
Plus Appendix Pages  
Finalized Date: 24-MAY-2019  
Account: 120BCT

**CERTIFICATE VA19121911**

Project: Ponderosa

This report is for 13 Rock samples submitted to our lab in Vancouver, BC, Canada on 21-MAY-2019.

The following have access to data associated with this certificate:

MARC BLYTHE

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
Au-GRA22	Au 50 g FA-GRAV finish	WST-SIM

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

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

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
Total # Pages: 2 (A)  
Plus Appendix Pages  
Finalized Date: 24-MAY-2019  
Account: 120BCT

Project: Ponderosa

**CERTIFICATE OF ANALYSIS VA19121911**

Sample Description	Method Analyte Units LOD	WEI-21	Au-GRA22
		Recvd Wt. kg	Au ppm
		0.02	0.05
L995190		3.42	0.35
L995180		2.34	0.41
L995181		1.84	2.96
L995182		1.88	0.64
L995183		2.78	<0.05
L995184		2.74	0.18
L995185		3.24	0.73
L995187		2.12	1.29
L995188		2.70	<0.05
L995189		2.74	0.65
J991890		0.90	8.69
L995191		3.44	0.51
L995192		2.68	3.24



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Page: Appendix 1  
Total # Appendix Pages: 1  
Finalized Date: 24-MAY-2019  
Account: 120BCT

Project: Ponderosa

**CERTIFICATE OF ANALYSIS VA19121911**

**CERTIFICATE COMMENTS**

**LABORATORY ADDRESSES**

Applies to Method:	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.			
	Au-GRA22	CRU-31	CRU-QC	LOG-21
	PUL-31	PUL-QC	SPL-21	WEI-21