

**TECHNICAL REPORT  
on the  
QUESNELLE GOLD QUARTZ  
MINE PROPERTY**

**NTS: 93G/07 & 08**

**Latitude 53°26.5'N**

**Longitude 122°31'W**

**Cariboo Mining Division, British Columbia**

**For:**

Golden Cariboo Resources Ltd.  
PO Box 48778 STN, Bentall Centre  
Vancouver, BC  
V7C 1A6

**By:**

Jean Pautler, P.Geol.  
JP Exploration Services Inc.  
#103-108 Elliott Street  
Whitehorse, Yukon  
Y1A 6C4

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## 1.0 Executive Summary

The approximately 750 hectare Quesnelle Gold Quartz Mine Property (the "Property"), NTS map sheets 93G/07 & 08, is located in the Cariboo Mining Division, British Columbia, 4 km northeast of Hixon approximately 721 km north of Vancouver, British Columbia by paved highway at a latitude of 53°26.5'N and longitude of 122°31'W. The property comprises the Hixon Gold Mineral Tenure Online claims registered to Angelique Justason and Tom Hatton. This report was prepared to comply with Golden Cariboo Resources Ltd.'s obligations pursuant to NI 43-101.

The Property is primarily underlain by Middle to Upper Triassic augite porphyry basaltic greenstone and sedimentary rocks of the Nicola Group at the boundary between the Quesnel and Kootenay terranes; the latter represented by the Barkerville subterrane in this region. Ultramafic rocks of the Slide Mountain terrane locally occur along the Eureka thrust, which marks this terrane boundary.

The deposit model for the Property is the orogenic (also known as mesothermal, gold quartz, greenstone, Mother Lode) type, consisting of gold bearing quartz veins and quartz-carbonate-pyrite replacement style mineralization such as at Barkerville Gold Corporation's Bonanza Ledge, Cariboo Gold Quartz, and Island Mountain mines at Wells, 75 km to the southeast of the Quesnelle Gold Quartz Mine Property.

No work has been conducted by Golden Cariboo Resources Ltd. on the Quesnelle Gold Quartz Mine Property, but Standard Drilling and Engineering Ltd. funded an IP geophysical survey in 2017 and a LiDAR and orthoimagery survey in 2018. Previous work between 1866 and 2016, has included: about 1250m of early underground development; prospecting, mapping and sampling; about 20 line km of soil sampling; less than 30 line km of ground magnetic, minor IP and 7.64 line km of self potential geophysical surveying; hand trenching and over 500m of excavator trenching; road construction and maintenance; an airborne magnetic and electromagnetic survey on adjacent ground which overlaps the Property area; and 2863m of diamond drilling in 22 holes.

The Quesnelle Gold Quartz Mine Property covers the historical Pioneer and Cayenne showings and the Quesnel Quartz deposit as documented by the British Columbia Geological Survey Branch as Minfile Numbers 093G 013, 093G 014 and 093G 015, respectively (*British Columbia Minfile, 2018*). The most significant mineralization to date has been found at the Quesnel Quartz deposit. Historically, at least three main northwest trending gold-silver zones were identified crossing Hixon Creek over a distance of 500m at the Quesnel Quartz deposit. From east to west the zones were the Washburn, the Stewart, and the Morrison ledges, which were explored by: the Main shaft, associated workings and the Mason shaft; the Stewart shaft and possibly the Raven adit and; the Morrison and Hercules shafts, respectively. The mineralization at the Mason shaft is probably a separate zone from the Washburn (Main) and explored the East zone, which was identified as a separate zone by Noranda in 1987 to 1988.

The gold-silver mineralization was found to occur primarily in quartz  $\pm$  carbonate veins, but also in the quartz-carbonate-pyrite altered greenstone, and less commonly in quartz sericite schists, but proximal to and following the contact between the greenstone and schists. The latter two types are referred to as replacement ore. The veins, which vary from a few centimetres up to about 1.8m in width, generally terminate against the contact. Mineralization includes native gold, native silver, galena, sphalerite, chalcopyrite, molybdenite, arsenopyrite, pyrrhotite and pyrite. Both quartz vein hosted and replacement style mineralization was documented, with replacement mineralization within the pyritized and carbonatized greenstone more prevalent at depth. The pyrite is fine grained, commonly with other sulphide, and can comprise 30% of the rock.

The Main zone, which has seen the most work, comprises the principal gold zone at the Quesnel Quartz deposit and consists of a network of quartz veins over a northwest trending, 70°NE dipping, 40m wide by 140m long and 190m deep zone. Twenty-nine quartz veins were recorded in the mine workings which extend 120m vertically beneath the surface. The geology within the mine (Main shaft and associated workings) appears to consist of dark green, fine grained greenstone (meta-basalt), in contact on the southwest with quartz sericite schists (volcaniclastic and possibly other sedimentary rocks). Lithological contacts strike 320°. In the upper levels of the mine, dips are steeply northeast and in the lower levels, they dip moderately southwest. Moderate to intense hydrothermal alteration is pervasive. In basalts, it comprises quartz, carbonate, and pyrite; in the felsic schists, it consists of clay and pyrite. The oxidized or weathered zone in the basalt ranges from 25 to 30m in depth.

The Main zone was intersected in DDH 83-1, 83-3, 87-1, 87-2, 88-4, 88-5, 88-6 and 07-1, and is stratiform (essentially parallel to the volcanic-sedimentary contact. Quartz veins occur almost exclusively in greenstone. A second vein system within the zone strikes northeast and generally dips steeply southeast and occurs proximal to the contact. Diamond drill results from the Main zone include 5.72 g/t Au, 20.6 g/t Ag over 1.5m in DDH 83-1, 13.3 g/t Ag over 6.1m in DDH 83-3, 5.1 g/t Au over 1.5m in DDH 87-1, 4.8 g/t Au over 3.0m in DDH 88-5 and 6.75 g/t Au and 54.5 g/t Ag over 3m from DDH 07-1.

The East zone lies 25m northeast of the Main zone and consists of a northwesterly trending quartz vein zone apparently dipping northeast and stratiformly hosted by greenstone. It was traced over a length of 90m in seven drill holes (DDH 83-1, 87-1, 87-2, 88-4, 88-5, 88-6, 07-3) and remains open to the northwest. Diamond drill results include 7.3 g/t Au over 1.5m from sludge in DDH 83-1, 3.3 g/t Au over 2.8m in DDH 88-4, 5.2 g/t Au over 2.75m in DDH 88-5 and 11.8 g/t Au and 12.9 g/t Ag over 1.5m in DDH 07-3.

The Raven zone lies 270m westerly from the Main zone near the site of an old adit. A chip sample collected in 1981 from a quartz vein exposed by a trench 20m above the Raven adit assayed 5.28 g/t Au over 3m. Drilling has not been successful on this zone, possibly due to the extremely poor core recoveries encountered.

The IP survey in 2017 outlined four anomalies which correspond to the Mason (East) zone, Washburn (Main zone), Stewart/Raven and Morrison-Hercules mineralized zones

at the Quesnel Quartz deposit. The response is encouraging particularly for the Raven and Morrison anomalies, since drilling of the Raven zone has not been successful due to extremely low core recoveries, and detailed information on the Morrison-Hercules zone has not been found, with no documented post 1930's work. Other zones that have not seen significant work on the Quesnelle Gold Quartz Mine Property are discussed below and there is also good potential for significant mineralization to occur beneath the glacial cover.

The North zone, approximately 1 km north of the Main shaft consists of numerous narrow quartz veins hosted by greenstone. Noranda obtained gold values in excess of 1 g/t in four trenches, including 1.42 g/t over 2m and 1.24 g/t over 3m. Grab samples taken from veins in two other trenches assayed 6.36 g/t and 1.38 g/t. A sample from an outcrop at a landing in the area returned 3.62 g/t Au. The zone lies 1.2 km northwest (possibly along trend?) of the Cayenne working.

The Cayenne showing, 1 km east of the Main zone, covers a 0.6 to 1.2m wide quartz vein and several smaller quartz stringers hosted by highly altered and weathered quartz sericite schist. Gold values have been reported from both the quartz and from the schist. A quartz sample reportedly returned 6.86 g/t Au in 1918 and 8.23 g/t Au, 13.7 g/t Ag in 1930. Gold values have been spotty, but there is no documentation of systematic sampling and the trend of mineralization has not been documented or is unknown; the adit trends 145°. No work has been documented in recent times and if the zone trends northwest, it may extend 1.2 km to the North zone.

The Pioneer showing, 1.9 km north of the Main zone, consists of a northerly trending, northeast dipping, narrow quartz vein with galena and sphalerite hosted by carbonaceous shale. A 7.6 cm seam returned 21% Pb, 3% Zn and 1423 g/t Ag and anomalous gold values have also been recorded from the vein. No recent work has been documented.

There is excellent potential on the Quesnelle Gold Quartz Mine Property to discover an orogenic gold ±silver deposit consisting of gold ±silver bearing quartz veins and quartz-carbonate-pyrite replacement style mineralization similar to those within the Wells-Barkerville mining camp, about 75 km to the southeast. The author is unable to verify this information and the information is not necessarily indicative of the mineralization on the Property which is the subject of this report. Significant gold ±silver mineralization has been delineated on the Property in old workings, trenches and drill holes, with the IP geophysical survey indicating potential for expansion and additional zones. Other showings with anomalous gold values have not been evaluated.

A contingent two phase exploration program is recommended to consist of a Phase 1 program of compilation and integration with the preparation of a 3D model, sections and plans, followed by detailed mapping and sampling, and excavator trenching with a budget of \$210,000. Contingent on positive results from Phase 1, a Phase 2 diamond drill program with a \$500,000 budget is proposed to follow up results from Phase 1.

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## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

### **2.1 Qualified Person, Participating Personnel and Scope**

Ms. Jean M. Pautler, P.Geol. of JP Exploration Services Inc. (“JPEX”) was commissioned by Golden Cariboo Resources Ltd., Vancouver, British Columbia, a company duly incorporated under the laws of the Province of British Columbia, to examine and evaluate the geology and mineral potential of the Quesnelle Gold Quartz Mine Property (the “Property”), consisting of 8 contiguous claims, and to make recommendations for the next phase of exploration work in order to test the resource potential of the property. Based on the literature review and site visit by the author on the property, recommendations are made for the next phase of exploration work. An estimate of costs has been made based on current rates for drilling, trenching, geochemical and geophysical surveys and professional fees in British Columbia. Regional geological data and current exploration information have been reviewed to determine the geological setting of the mineralization and to obtain an indication of the level of industry activity in the area.

This report was prepared to comply with Golden Cariboo Resources Ltd.’s obligations pursuant to NI 43-101. A valuation was conducted by Bruce McKnight in April, 2019, based on the author’s September, 2018 report and the subsequent LiDAR/orthoimagery survey. No material changes have occurred on the property since the 2018 report. The current report includes the survey data and outlines the recent purchase agreement.

The report describes the property in accordance with the guidelines specified in National Instrument 43-101 and is based on historical information, a review of recent exploration in the area, and a site visit by the author on May 23, 2018 at which time select showings, trench and drill sites were examined. A LiDAR and orthoimagery survey was completed after the author’s site visit but consisted of aerial surveys, which leave no trace on the ground. The author has reviewed assessment records filed with the government, news releases and the website of Golden Cariboo Resources Ltd. and of other companies conducting work in the regional area, as noted under section 2.3, “Source Documents”, and reviewed private data of Standard Drilling and Engineering Ltd. (“Standard Drilling”) to ensure that no further work has been done and the site visit remains current for the purposes of this report for Golden Cariboo Resources Ltd., which has undertaken no exploration activities on the Project.

No work has been conducted by Golden Cariboo Resources Ltd. on the Quesnelle Gold Quartz Mine Property, but Standard Drilling funded an IP geophysical survey in 2017 and a LiDAR and orthoimagery survey in 2018. Previous work between 1866 and 2016, has included: about 1250m of early underground development; prospecting, mapping and sampling; about 20 line km of soil sampling; less than 30 line km of ground magnetic, minor IP and 7.64 line km of self potential geophysical surveying; hand trenching and over 500m of excavator trenching; road construction and maintenance; an airborne magnetic and electromagnetic survey on adjacent ground which overlaps the Property area; and 2863m of diamond drilling in 22 holes.

## 2.2 Terms, Definitions and Units

All costs contained in this report are denominated in Canadian dollars. Distances are primarily reported in metres (m) and kilometres (km) and in feet (ft) when reporting historical data. GPS refers to global positioning system, with UTM co-ordinates reported in Nad 83, Zone 10 projection. Minfile showing refers to documented mineral occurrences on file with the British Columbia Geological Survey. DDH refers to diamond drill hole. IP refers to induced polarization and SP to self potential, types of geophysical surveys. The Oligocene to Pliocene conglomerate will be referred to as the “Miocene” conglomerate in this report. MMI refers to a type of soil survey utilizing mobile metal ions, useful in detecting mineralization beneath glacial till and younger cover rocks.

The term ppm refers to parts per million, which is equivalent to grams per metric tonne (g/t) and ppb refers to parts per billion. The abbreviation oz/ton and oz/t refers to troy ounces per imperial short ton. The symbol % refers to weight percent unless otherwise stated.

Element abbreviations used in this report include: gold (Au), silver (Ag), lead (Pb), zinc (Zn), copper (Cu), molybdenum (Mo), and arsenic (As). Minerals found on the Hixon Property include pyrite and pyrrhotite (iron sulphides), galena (lead sulphide), sphalerite (zinc sulphide), chalcopyrite (copper sulphide), molybdenite (molybdenum sulphide), arsenopyrite (iron, arsenic sulphide) and native gold and silver. Tennantite (copper, iron-zinc, arsenic sulphide is documented in early reports (*Minister of Mines, 1886*).

## 2.3 Source Documents

Sources of information are detailed below and include available public domain information and personally acquired data.

- Research of Minfile data at <http://www.em.gov.bc.ca/Mining/Geolsurv/Minfile/default.htm> on August 1, 2018 and July 20, 2019.
- Research of mineral titles at <https://www.mtonline.gov.bc.ca/mtov/jsp/searchTenures.jsp> and on August 1 and September 7, 2018 and July 23, 2019. \*
- Review of annual assessment and company reports filed with the Ministry of Energy and Mines as documented under section 27.0, “References”.
- Review of the news releases and website or public data of Golden Cariboo Resources Ltd. \* and of other companies in the regional area.
- Various historical newspaper archives at <http://historicalnewspapers.library.ubc.ca> and <http://pgnewspapers.lib.pg.bc.ca>.
- Review of geological maps and reports completed by the British Columbia Geological Survey or its predecessors and the Geological Survey of Canada.
- Published scientific papers on the geology of the region, gold quartz deposits, and mineral deposits.
- Site visit by the author on May 23, 2018, and a review of previous exploration programs on the Property.

Title documents and option agreements were reviewed for this study as identified with an asterisk (\*) above. The title and option information were relied upon to describe the ownership of the property and claim and option summaries in Section 4.2, “Land Tenure”.



## 2.4 Limitations, Restrictions and Assumptions

The author has relied in part upon work and reports completed by others in previous years in the preparation of this report as identified under Section 2.3, “Source Documents” and Section 27.0, “References”. The author has assumed that the previous documented work on the properties and in the region is valid and has not encountered any information to discredit such work. Thorough checks to confirm the results of such work and reports have not been done. Unless otherwise stated the author has not independently confirmed the accuracy of the data. Exploration assessment reports, listed in Section 27.0, “References”, were completed by competent professionals and/or reputable prospectors and have been accepted by the Mining Recorder.

## 3.0 RELIANCE ON OTHER EXPERTS

This section is not relevant to this report since there is no reliance on other experts.

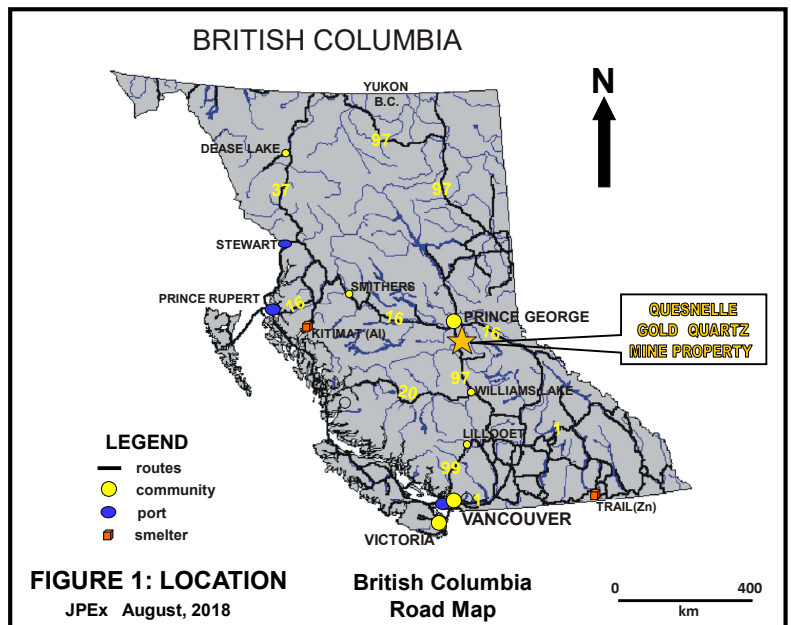
## 4.0 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location (Figures 1 to 3)

The Quesnelle Gold Quartz Mine Property, NTS map sheets 93G/07 & 08 (BCGS map sheets 93G 048 & 049) is located 4 km northeast of Hixon, British Columbia, approximately 721 km north of Vancouver, British Columbia by paved highway (Figures 1 and 3). It encompasses the drainage of Hixon Creek (Figure 2). The property is centred at a latitude of 53°26.5'N and longitude of 122°31'W.

### 4.2 Land Tenure (Figure 2)

The Quesnelle Gold Quartz Mine Property comprises the Hixon Gold Mineral Tenure Online (MTO) claims consisting of 8 contiguous claims covering an area of approximately 770 hectares in the Cariboo Mining Division, British Columbia (Figure 2). The 20.1 ha survey parcel District Lot 9545 (Washburn Lateral) is not part of the Property area, reducing the size to 750.2575 hectares. The claims were acquired in accordance with Mineral Titles Online on NTS map sheets 93G/07 & 08 available for viewing at <http://www.mtonline.gov.bc.ca>. The claims are registered in the name of Angelique Justason, Client Number 133276 (50%) and Tom Hatton, Client Number



111317 (50%), who will be referred to as the “optionors”. A table summarizing pertinent claim data follows.

**TABLE 1: Claim data summary**

<b>Title No.</b>	<b>Claim Name</b>	<b>Issue Date</b>	<b>Expiry Date</b>	<b>Area (ha)</b>
1011635	HIXON GOLD	2012/AUG/01	2019/NOV/15	250.3449
1011669	HIXON GOLD	2012/AUG/01	2019/NOV/15	38.512
1011717	HIXON GOLD	2012/AUG/02	2019/NOV/15	115.5591
1011719	HIXON GOLD	2012/AUG/02	2019/NOV/15	57.7711
1013059	HIXON GOLD	2012/AUG/02	2019/NOV/15	19.2627
1013060	HIXON GOLD	2012/AUG/02	2019/NOV/15	19.2627
1021404	HIXON GOLD	2013/AUG/02	2019/NOV/15	173.3533
1042906	HIXON GOLD	2016/MAR/18	2019/NOV/15	96.2917
<b>TOTAL</b>	<b>8 claims</b>			<b>770.3575</b>

The Hixon Gold claims were optioned by J.F. Callaghan (“Callaghan”) as per an agreement, dated July 22, 2016, whereby Callaghan had an option to earn a 100% interest in the property through a series of staged payments to the optionors (50% disbursed to each optionor), totaling the purchase price of \$400,000 cash.

**TABLE 2: Option agreement summary**

<b>Timing</b>	<b>\$ Cash</b>
Signing July 22, 2016	\$40,000
July 22, 2017	40,000
July 22, 2018	80,000
July 22, 2019	80,000
July 22, 2020	80,000
July 22, 2021	80,000
<b>TOTAL</b>	<b>\$400,000</b>

An amount of \$240,000 remains outstanding and is addressed in the following purchase transactions. Standard Drilling subsequently purchased the Property from Callaghan. The Property is subject to a Property and Sale agreement between Golden Cariboo and (a private company operated by Callaghan), dated May 25, 2019, whereby Golden Cariboo can purchase the Hixon Gold claims for a total consideration of \$567,000 consisting of \$267,000 in cash and \$300,000 in shares (6,000,000 at \$0.05). Included in the cash total are annual payments of \$80,000 due in each of 2019, 2020 and 2021 to fulfil the option agreement obligation outlined in Table 2. The terms of the acquisition are subject to approval by the TSX venture exchange. There are no other royalties, back-in rights, payments, or other agreements and encumbrances to which the property is subject.

The Property is situated within the traditional territory of the Lheidli T'enneh First Nation. There are no lands within the Property area that are withdrawn from staking and exploration. The mineral claims are situated on Crown Land and fall under the jurisdiction of the British Columbia Government. Under the provision of Section 14 of the Mineral Tenure Act, a claim grants the holder the right to use the surface for mining exploration purposes, but this is not a "surface right" such as on privately owned land. The claim holder has the right to enter onto the surface subject to the provisions in

Section 11(2) of the Act which excludes this right under certain conditions, none of which encumber the Property.

A mineral claim holder is required to perform assessment work and is required to document this work to maintain the title as outlined in the regulations of the British Columbia Ministry of Energy and Mines. The amount of work required is \$5.00 per hectare for the first two years, \$10.00 per hectare for the third and fourth years, \$15.00 per hectare for the fifth and sixth, and \$20.00 per hectare thereafter. Alternatively, the claim holder may pay twice the equivalent amount to the British Columbia Government as “Cash in Lieu” to maintain title to the claims.

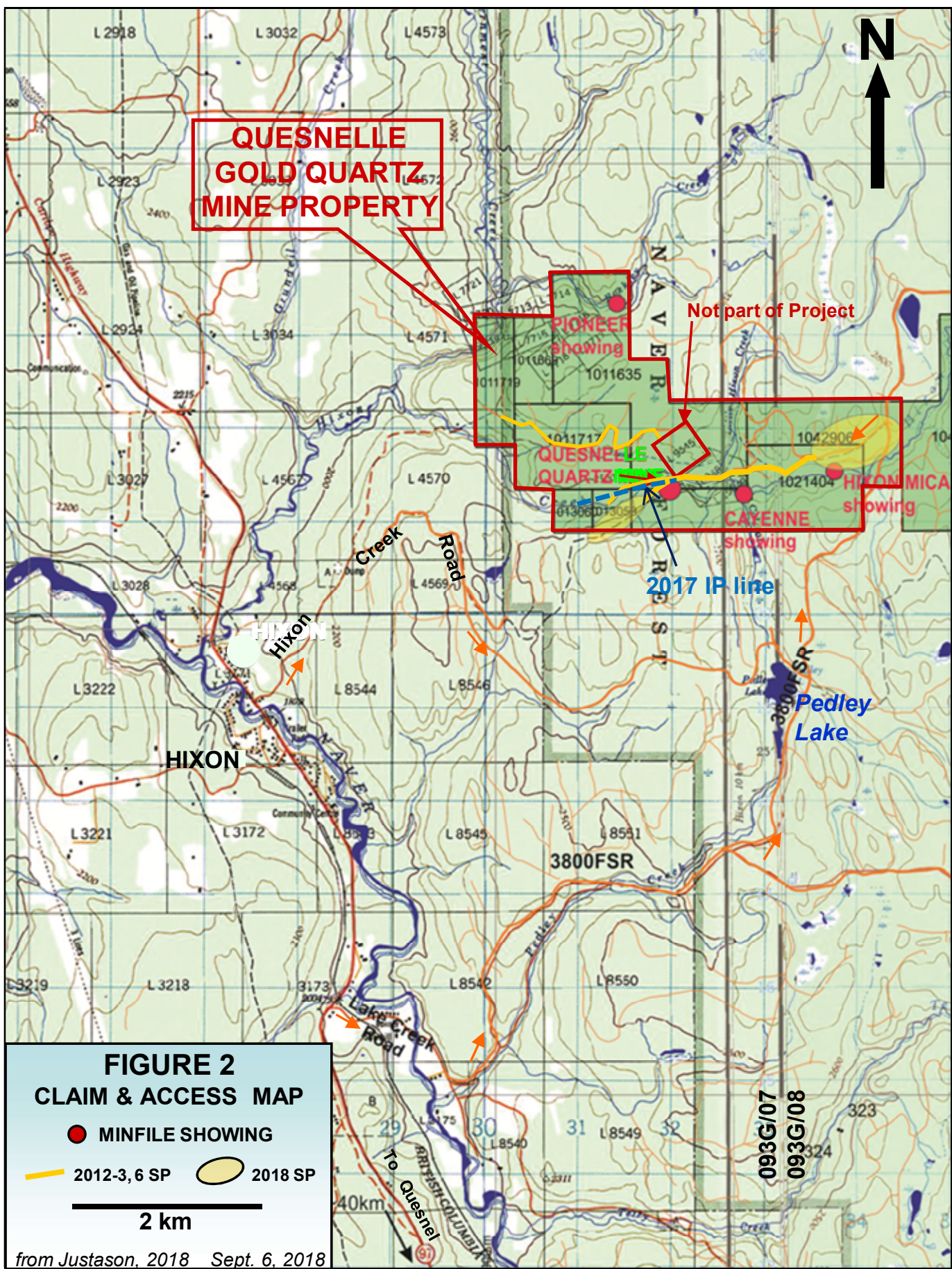
Preliminary exploration activities do not require permitting, but significant drilling, trenching, blasting, cut lines, excavating and induced polarization geophysical surveys may require a permit, obtained by filing a Notice of Work and Reclamation with the British Columbia Ministry of Energy and Mines. A permit is currently in place for the Quesnelle Gold Quartz Mine Property, Permit Number MX-11-277 and Mine Number 1101942, valid to December 31, 2020. To the author’s knowledge, the Quesnelle Gold Quartz Mine Property area is not subject to any environmental liability. Reclamation of the old workings at the Quesnel Quartz deposit was completed in 2000. The author does not foresee any significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY (Figures 1 and 2)**

### **5.1 Access, Local Resources and Infrastructure**

The Property is accessible via Highway 1 to 97 from Vancouver (*Figure 1*). From Hixon the property is accessible via the Lake Creek Road by turning left just past the railway bridge south of Hixon to the 3800 Forest Service Road (FSR) (Pedley Lake Road) on the left at km 1.8, which is followed to a road junction at Pedley Lake at km 7 (*Figure 2*). Continue straight (north) for 3.2 km to a turn off on the left. Alternatively, the Hixon Creek road can be taken on the right from the north end of Hixon to Pedley Lake, a distance of 9 km, then turning left. At km 4 on the Hixon Creek road a branch road on the left extends for 2.1 km to a creek, which requires a culvert to access the remaining 2 km to the property boundary by vehicle, as opposed to ATV (*Figure 2*).

Hixon is the closest town with a population of approximately 280. Facilities include a service station, grocery store, restaurant and accommodation with main industries of forestry, construction, transportation and tourism. Hixon is located along BC Highway 97 about 60 km south of Prince George (population of 74,000) and 45 km north of Quesnel (population of 9,300), where more complete facilities, including the availability of heavy equipment, and mining oriented labour forces are available. Prince George is the major service and supply centre and transportation hub for northern British Columbia with an international airport, hospital and college. Main industries include forestry, mining, services, manufacturing, construction and transportation.



## 5.2 Physiography, Climate and Infrastructure (Figure 2)

The Property lies within the Fraser Plateau part of the Interior Plateau of central British Columbia and is characterized by a gentle rolling topography with incised streams (*Figure 2*).

Elevations on the Property range from about 635m along Hixon Creek in the southwestern Property area to about 890m above sea level. Vegetation in the area consists of fir and spruce forest, much of which has been logged within the Property area. Thick brush, including alder and devil's club occur within the creek valleys. Water is available year round from Hixon Creek, and its tributaries, which flows southwesterly into Naver Creek, part of the Fraser River watershed (*Figure 2*).

The area has warm summers and cool winters with high precipitation. Highs of 20 to 25°C are common in summer with lows of 5 to 10°C, while winter highs average 3 to -5°C with lows of -5 to -10°C, although -20°C and below is not uncommon. The exploration season extends from May to November.

Although there do not appear to be any topographic or physiographic impediments, and suitable lands appear to be available for a potential mine, including mill, tailings storage, heap leach and waste disposal sites, engineering studies have not been undertaken and there is no guarantee that such areas will be available within the subject property. The nearest source of power is at Hixon.

## 6.0 HISTORY (Figures 2 to 5)

The Quesnelle Gold Quartz Mine Property covers the Pioneer and Cayenne showings and the Quesnel Quartz deposit as documented by the British Columbia Geological Survey Branch as Minfile Numbers 093G 013, 093G 014 and 093G 015, respectively (*British Columbia Minfile, 2018*) (*Figure 2*). Most of the historical work has been undertaken on the Quesnel Quartz gold-silver deposit, which produced 2,048 tonnes grading 3.14 g/t Au and 4.18 g/t Ag in 1932 and 1939, with an additional 217 tonnes of unknown grade reported in 1878 (*British Columbia Minfile, 2018*). The Cayenne gold-silver showing lies 1 km east of the Quesnel Quartz deposit; some historical exploration was completed on it in conjunction with work on the Quesnel Quartz deposit. The Pioneer showing is a silver-lead-zinc occurrence with anomalous values in gold, which produced 4 tonnes of ore in 1927 grading 202 g/t Ag, 3.15% Pb and 0.05% Zn from a galena-sphalerite bearing quartz vein, but no recent documented exploration (*British Columbia Minfile, 2018*). An occurrence of mica (Hixon Mica), hosted in mica schists of the Snowshoe Group, is also reported 1 km upstream of the Cayenne showing along Hixon Creek, but no additional information is available.

Hixon Creek, which dissects the property, is a placer creek which has seen limited, small-scale placer production since the mid 1860's. From Ministry of Mines Reports prior to 1945, estimates of up to \$2,000,000 worth of placer gold was mined from Hixon Creek.

A summary of the historical work completed by various operators on the individual occurrences, as documented in British Columbia Minfile, reports on file with the government (e.g. Annual Reports of, and assessment reports filed with, the British Columbia Ministry of Energy and Mines and publications of the Geological Survey of Canada), and various private company data, is tabulated below separately for each occurrence. Much of the work on the Quesnel Quartz deposit is documented in historical newspaper archives.

**Pioneer: (work by T. Rush, J. Peters and associates)**

- 1926 Underground development of 27.4m consisted of an adit, winze and drift, exposing a 7.6 cm seam of galena and sphalerite which returned 21% Pb, 3% Zn and 1423 g/t Ag (*Minister of Mines, 1927*).
- 1927 Underground development of 21.3m consisted of a shaft and an adit with 4 tonnes of ore grading 202 g/t Ag, 3.15% Pb and 0.05% Zn shipped (*Minister of Mines, 1928*).

**Cayenne:**

- 1918 A 41m adit was driven on the Belmont group owned by McLarty and Gillis and 6.86 g/t Au was returned from a quartz sample (*Minister of Mines, 1919*).
- 1926 The area was restaked by Hahn and Strbac as the Cayenne group and some sampling was undertaken but no significant results were reported (*Minister of Mines, 1927*).
- 1929 The showing was optioned by Cariboo Lode Mines Limited and the adit was extended to 53m and sampled, returning 8.23 g/t Au, 13.7 g/t Ag (*Minister of Mines, 1930*).
- 2004 Diamond drilling of 273.6m of NQ core in 3 holes was conducted by Cayenne Gold Mines Ltd. 500m east of the showing area in conjunction with work on the Quesnel Quartz deposit, but intersected the "Miocene" conglomerate with no significant results (*Javorsky and Briden, 2005*).

**Quesnel Quartz:**

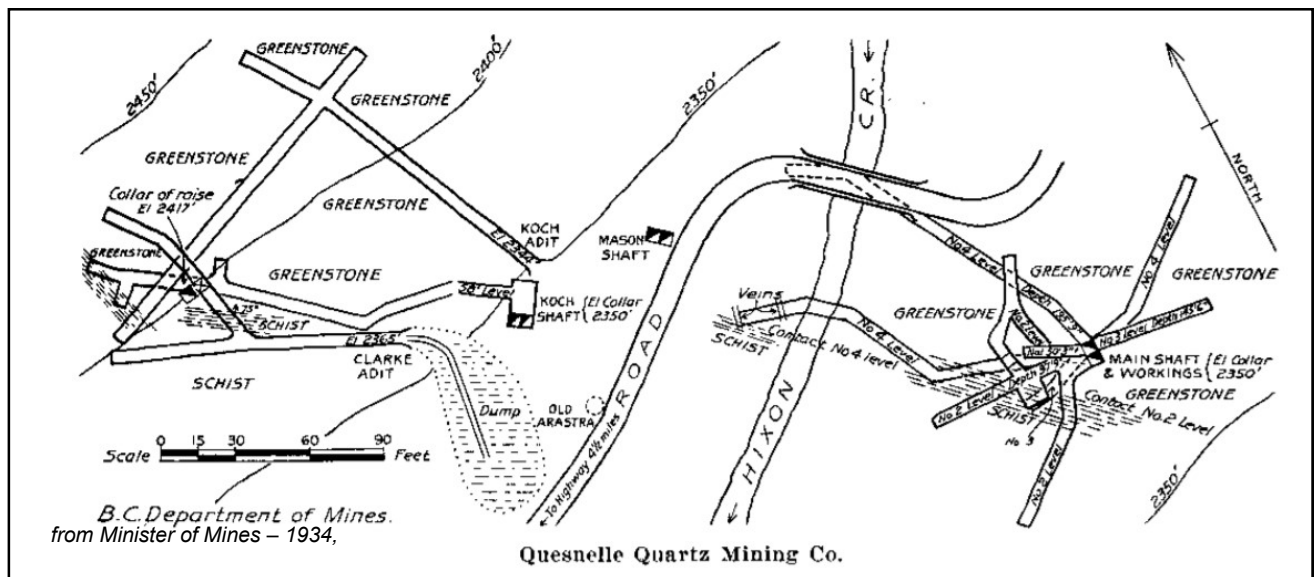
- 1865 Discovery of visible gold in quartz during ditch construction along Hixon Creek in conjunction with placer mining activities.
- 1866-1886 Initially underground development on the auriferous quartz veins along Hixon Creek was undertaken by individuals and then the Quesnelle Quartz Mining Co. Ltd. ("QQM Co.") was formed in the 1870's which continued the underground work. A stamp mill was built in 1878 with reported production of 217 tonnes of ore (*Minister of Mines, 1878 and 1886*).
- 1918 Minor work consisting of re-opening some workings and underground development was completed under option (*Minister of Mines, 1919*).
- 1929-30 The showing was optioned by Cariboo Lode Mines Ltd. and some underground rehabilitation work was performed (*Minister of Mines, 1930 and 1931*).
- 1932-1939 Quesnelle Quartz Mining Company reorganized and dewatered the existing workings and completed additional underground development consisting of the Koch adit and shaft and Clarke adit on the north side of the creek, and continued to develop the Main shaft (-4 levels) with over 275m of workings, including a 61m winze from the 4th level (levels 5 & 6), extensive drifting on the three lowest levels. In the Main shaft workings 29 quartz veins were recorded and sampled (*Minister of Mines, 1934 to 1939*). Production of 2,048 tonnes grading 3.14 g/t Au and 4.18 g/t Ag was reported primarily in 1939, with some from 1932 (*British Columbia Minfile, 2018*). Work ceased abruptly in 1939, presumably because of the war.

The hoisting shaft head frames, concentrator, and mining facilities built by the Quesnelle Quartz Mining Company in the 1930's are all gone. The concrete foundations of the Main Shaft head frame and remains of the ore bin are still evident.

Over 1220m of underground workings are reported on the Quesnel Quartz deposit, with those documented in reports of the Minister of Mines, summarized below in Table 3 with the workings from the Cayenne and Pioneer showings. A plan of the central underground workings at the Quesnel Quartz deposit is shown in Figure 4, and Figure 5 depicts the showings over the entire Property area.

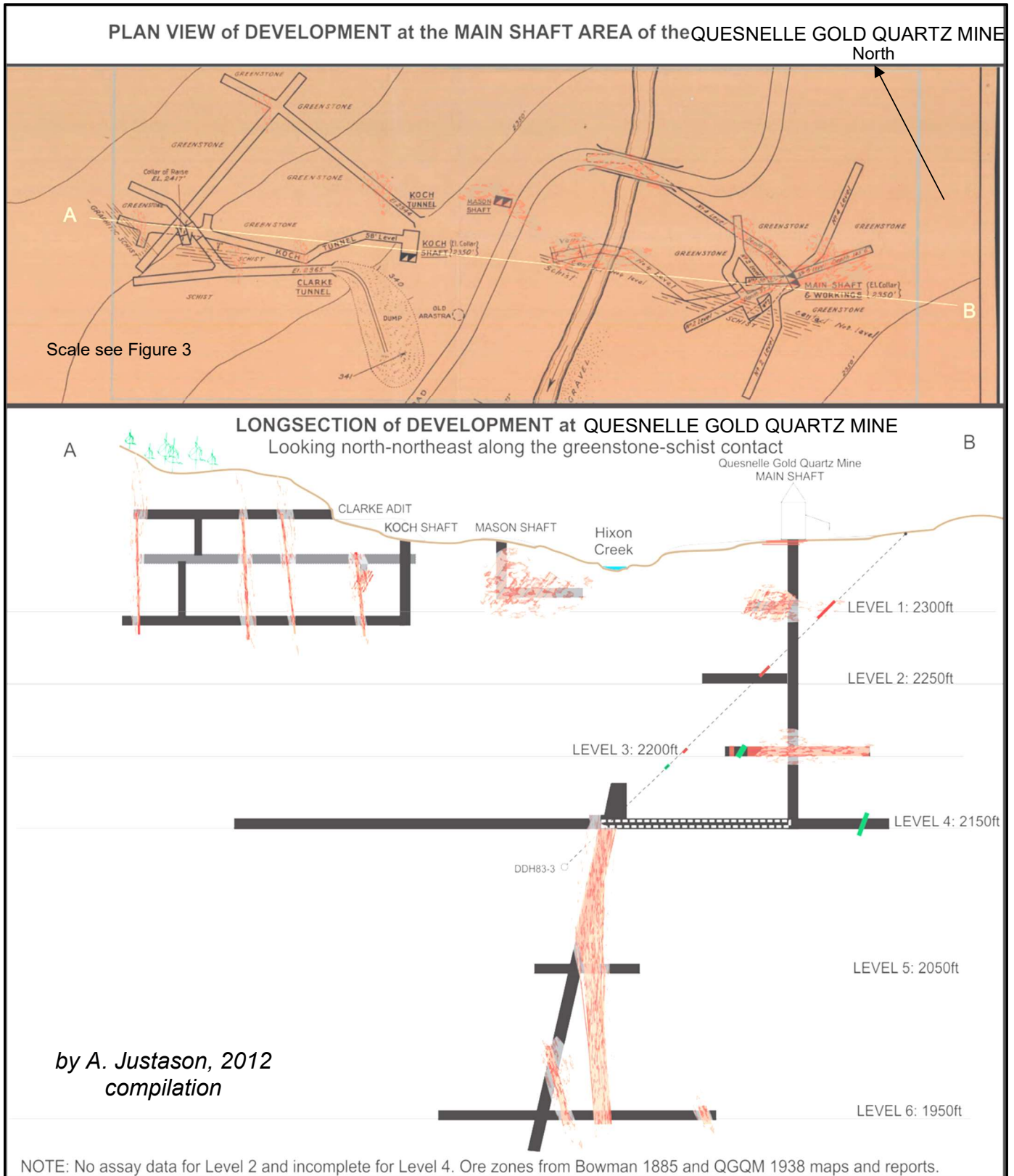
**TABLE 3: Underground development specifications**

Working	Location	Easting	Northing	Elev. (m)	Az. (°)	Length (m)	Comments
Main Shaft	Quesnel Quartz	531802	5921644	745		63	=Washburn, Senator Reid
Main workings	Quesnel Quartz	531802	5921644	745		600+	drifts at 6 levels
Koch Shaft	Quesnel Quartz	531745	5921685	744		21+	and drifts
Koch Adit	Quesnel Quartz	531751	5921686	745		53	
Clarke Adit	Quesnel Quartz	531735	5921685	747		61	
Mason Shaft	Quesnel Quartz	531765	5921690			12+	and drifts
Raven Adit	Quesnel Quartz	531533	5921680	738		35	= Stewart, Alvensleben
Stewart Shaft	Quesnel Quartz	~531610	~5921647				
Colgrove	Quesnel Quartz	~531950	~5921685	763			shaft & 3 adits
Morrison Shaft	Quesnel Quartz	~531340	~5921560				
Johnson Shaft	Quesnel Quartz	531084	5921416				
Hercules Shaft	Quesnel Quartz	~531460	~5921480				
Belmont Adit	Cayenne	~532806	~5921518	777		41	location approximate
Rush Workings	Pioneer	~531353	~5923517	739		48.7	2 adits, shaft



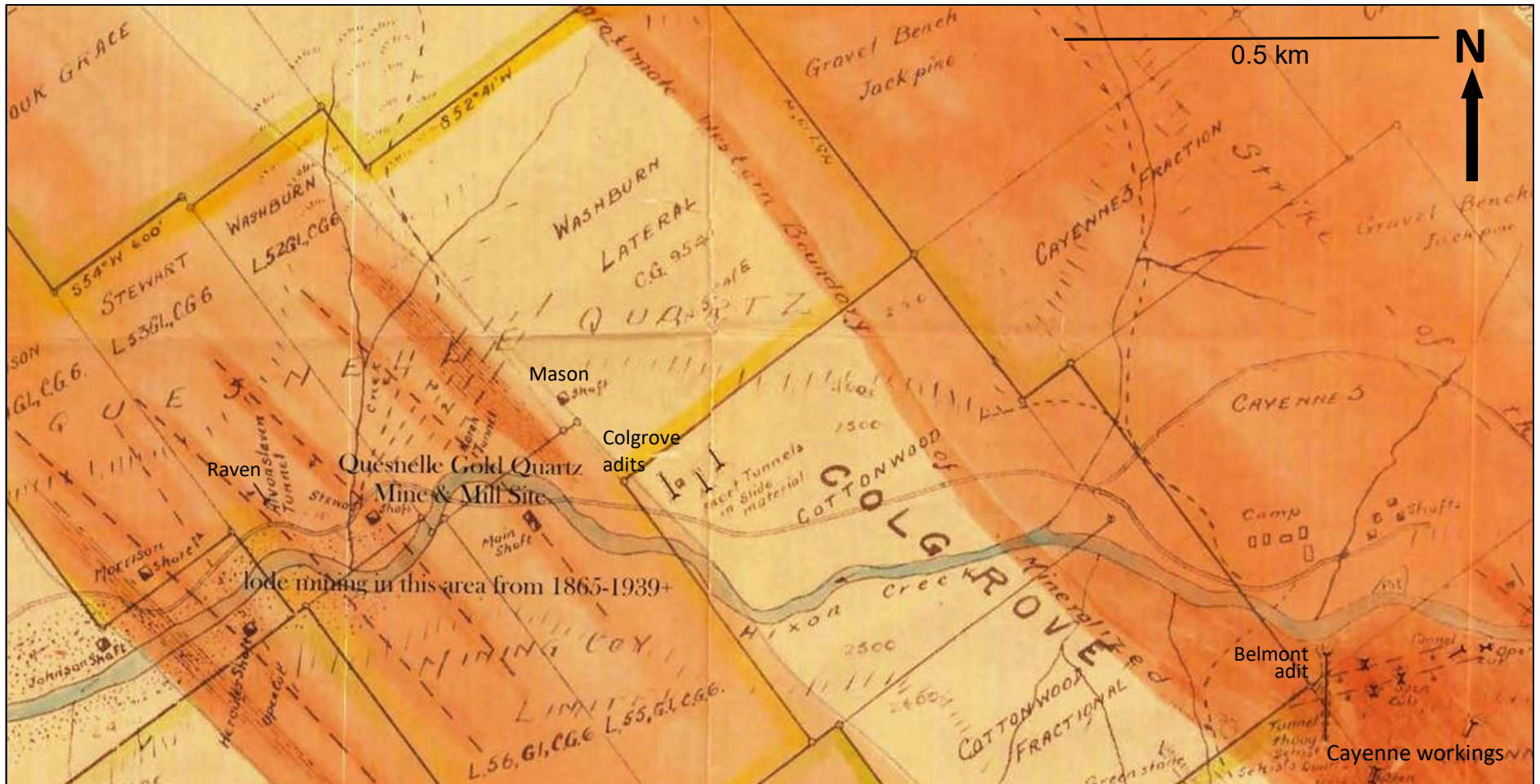
**FIGURE 3: Plan of main workings of the Quesnel Quartz deposit**

Files of Newton Ker, the past president of the Quesnelle Quartz Mining Company, were recently (circa. 2016) released by the family, including many assay certificates, cross sections and mine plan maps and assay plans. Justason has been compiling this data and has depicted the mineralized zones on the longitudinal section in Figure 4 on the following page. The mineralized zones will be discussed under section 7.3, "Mineralization".



**FIGURE 4: Main workings of the Quesnel Quartz deposit showing mineralized zones**





**FIGURE 5: Historical plan map - Quesnel Quartz deposit and Cayenne workings**

The Property area remained dormant from 1939 until 1971 at which time Bethlehem Copper Corporation Ltd. ("Bethlehem") optioned the four claims over the Main Shaft area and staked a large block of claims surrounding them. About 60% of the property (northern portion) lies within the current Property area. Bethlehem's exploration programs are summarized below:

1971 A reconnaissance geochemical soil survey (579 B-horizon soils at 152m stations on lines 213m apart from a 320° trending baseline), geological mapping, sampling and a photogeological study were completed. A 0.5 km by >3 km northwest trending arsenic-gold anomaly was delineated despite the grid being oriented near-parallel to the regional geological strike. Only samples returning >8 ppm As and/or 1.5 ppm Ag (10%) were analyzed for gold.

1972 The soil geochemical anomaly was tested with a 449m diamond drill program in 4 holes, but only 2 holes were drilled in the current Property area, located northeast of the Main shaft. The holes intersected "Miocene" conglomerate with no significant gold or silver values and the property was allowed to lapse.

In 1979 Esperanza Explorations Ltd. optioned six claims over the old workings from Victor Guinett and Andrew Harman and added a larger block of claims surrounding them. They completed an initial evaluation program and collected 11 rock samples returning 0.03 to 2.88 g/t Au (*Jenks, 1979*). The property was optioned to Golden Rule Resources Ltd. ("Golden Rule") of Calgary, which contracted Taiga Consultants Ltd. ("Taiga") to complete their 1980 to 1983 work programs as summarized below. About 40% of the grid (northwest portion) lies within the current Property area. The work from 1980 to 1983 appears to have been completed for Calpetro Resources under option from, or joint venture with, Golden Rule.

1980-81 Ground magnetic and VLF-EM geophysical surveys (25m readings), B-horizon soils at 25m stations (957 samples for multi-element analyses) and mapping was conducted over a 30.5 km blazed-and-flagged grid over the central portion of the property (*Fox, 1981*). The northern 40% of the grid area, but 60% of the lines (15 km) and about 574 samples lie within the current Property area, since lines over a 1 km<sup>2</sup> area around the old workings were at a 100m line spacing rather than 200m.

The soil survey returned a value of 2650 ppb Au at the Koch zone with other values of 460 and 930 ppb Au away from the known workings. The magnetic survey outlined a 150-300m wide by 3.6 km magnetic high anomaly, open to the south, with offsets suggestive of a northwest trending dextral fault regime, and a series of strong, northerly trending conductors (A to S) parallel to formational geologic contacts interpreted from the ground magnetic survey (*Allan, 1984*).

About 500m of bulldozer trenching, primarily in 3 trenches (91 samples) was also completed over the favourable greenstone-schist contact and 27 rock samples collected in the Quesnel Quartz area with trench results of 5.28 g/t Au over 3m from 20m above the Raven adit (*Allan, 1984*).

1983 Diamond drilling totaling 354m in 4 holes was completed in the Raven adit and Main shaft areas with poor recovery in 2 holes, one of which was lost before target depth (*Allan, 1984*). Results include 5.72 g/t Au, 20.6 g/t Ag over 1.5m in DDH 83-1 and 1.28 g/t Au, 13.3 g/t Ag over 6.1m in DDH 83-3 (*Allan, 1984*).

In 1984 Noranda Exploration Company Ltd. (“Noranda”) commissioned Questor Surveys Ltd. to conduct an airborne electromagnetic and magnetic survey over the Yardley Lake and Hixon mineral claims of Gabriel Resources Inc. and surrounding area, which included the Quesnelle Gold Quartz Mine Property area (*Konings, 1984*). The INPUT survey was successful in delineating a large number of conductors in favourable stratigraphy in the Hixon area. The Property area and surroundings was acquired by Hixon Gold Resources Inc. in 1986, which jointly optioned the property to Noranda (operator) and Gabriel Resources. The 1987 and 1988 programs consisted of 1835 soil and 215 rock chip samples in 1987, 486 samples in 1988, ground magnetic (66.35 line km) and IP (8.5 km) geophysical surveys over a 57.3 line km grid, only about 30% of which covers the current Property area. Anomalies were followed up with 34 bulldozer trenches, with 916.5m of diamond drilling in 8 holes on the Quesnel Quartz deposit (*Simmons, 2008b*). The soil geochemistry outlined anomalies in the vicinity of the mine workings, but the IP response was weak. The magnetic survey was useful in delineating geological contacts.

The property was subsequently allowed to lapse and the area of the current Quesnelle Gold Quartz Mine Property was acquired by prospector Dave Javorsky who in 1997 to 1998 completed a program of research, prospecting, road rehabilitation, and 2 trenches (which successfully uncovered the Clarke and Koch workings), and 6 samples were collected and assayed for gold and silver with no significant results (*Javorsky, 1998*).

In 2000, reclamation work was completed near the Briscoe pit and at the Quesnelle Gold Quartz Mine and Mill site, carried out under Section 17 of the Mines Act.

Javorsky optioned the ground to Cayenne Gold Mines Ltd. (“Cayenne Gold”), which carried out the following programs on their ground, which now included the current Quesnelle Gold Quartz Mine Property and ground near Pedley Lake (not part of the current Property area). The work discussed below only includes the work undertaken on the current Property area. (\* denotes that all assay certificates are not included in the indicated reports.)

- |      |  |
|------|--|
| 2004 | Prospecting, line cutting, sampling and diamond drilling of 273.6m of NQ core in 3 holes 500m east of Cayenne showing area; the latter intersected the “Miocene” conglomerate with no significant results ( <i>Javorsky and Briden, 2005</i> ).  |
| 2006 | Prospecting, trenching (34m in 2 trenches) and sampling was conducted across the Main shaft area (15m) and east of the Raven adit (19m), targeting a greenstone/schist contact zone for gold mineralization. The Main shaft was re-located with 68.8 g/t Au over 1m* about 5m to the west and 2.70 g/t Au over 5m, including 8.83 g/t Au over 1m from 3m to the northeast. The Raven trench returned 0.41 g/t Au over 6m, centred 10m east of the adit ( <i>Briden, 2006*</i> ). |
| 2007 | Prospecting and diamond drilling of 596m of NQ core in 3 holes from one pad at the Main shaft area with 6.75 g/t Au and 54.5 g/t Ag over 3m from DDH 07-1 and 11.8 g/t Au and 12.9 g/t Ag over 1.5m from DDH 07-3 ( <i>Simmons, 2008*</i> ). A rock sample from the Landing outcrop, 700m north of Main Shaft, assayed 3.62 g/t Au ( <i>Simmons, 2008a</i> ).  |
| 2008 | Prospecting and diamond drilling of 583m of BQ core in 2 holes from one pad between the Main shaft and Raven adit, but no significant results were obtained ( <i>Simmons, 2008c</i> ).   |

The Quesnelle Gold Quartz Mine Property was acquired by Angelique Justason and Tom Hatton in 2012, 2013 and 2016 to cover the known mineral occurrences discussed above. Exploration by Justason and Hatton, conducted between 2012 and 2017, has included self potential (“SP”) geophysical surveying (locations shown on Figure 2) and rock geochemistry as summarized below:

- 2012-13      Completion of 3.14 line km of SP geophysical surveying over the Quesnel Quartz deposit area detected known mineralized zones and suggested an open 500m extension to the northwest (*Justason, 2014*).
- 2014        Exploration of historical showings of the Quesnel Quartz deposit with the collection of 9 rock samples (4 acid digestion-ICP-AES finish for multi-element analysis and metallic screen for Au), which returned 7.25 g/t Au, 30.1 g/t Ag; 6.96 g/t Au, 14.9 g/t Ag; 5.75 g/t Au, 30.7 g/t Ag from the Main shaft dump with associated Pb (0.1-0.5%), As (0.1%) and Ca (3-4%) values from replacement style mineralization consisting of highly pyritic, carbonate altered rock (greenstone?) (*Justason, 2015*).
- 2016        A 2.5 line km SP geophysical survey was completed along on old mining road along Hixon Creek to crosscut veins, geological trends and structures associated with the Quesnel Quartz deposit and the Cayenne showing. Two main targets were highlighted and several anomalous areas, which correlate to previous soil and geophysical anomalies (*Justason, 2016*).
- 2017        A 2.0 line km SP geophysical survey was completed, extending the 2016 survey to the east and west, and highlighted possible fault zones, conductive and narrow rock units, or contacts (*Justason, 2018*).

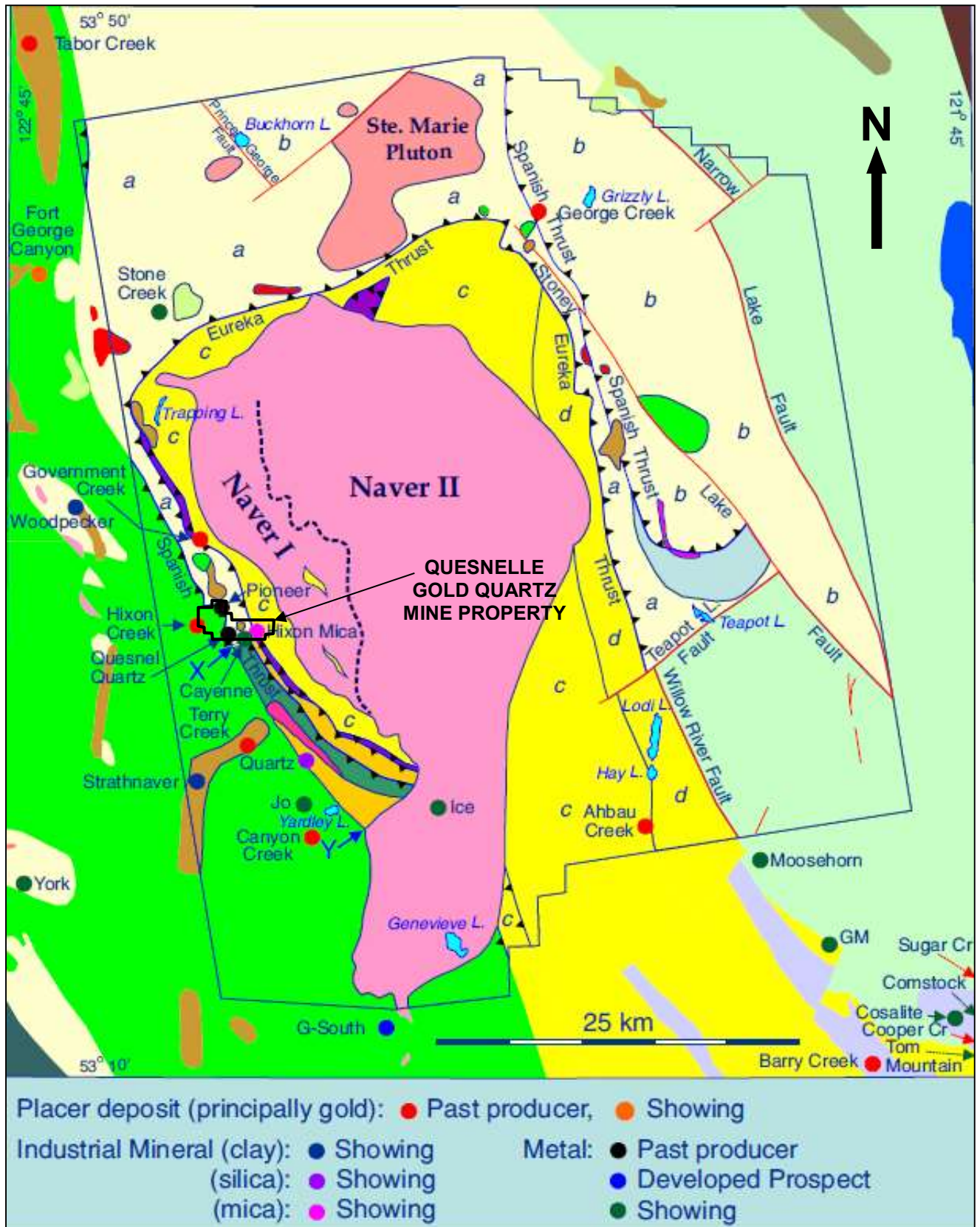
The work conducted over the Quesnelle Gold Quartz Mine Property by Frank Callaghan in 2017 will be discussed under section 9.0, “Exploration”. All drill programs completed in the area encompassing the Property are discussed under section 10.0, “Drilling”.

## **7.0      GEOLOGICAL SETTING**

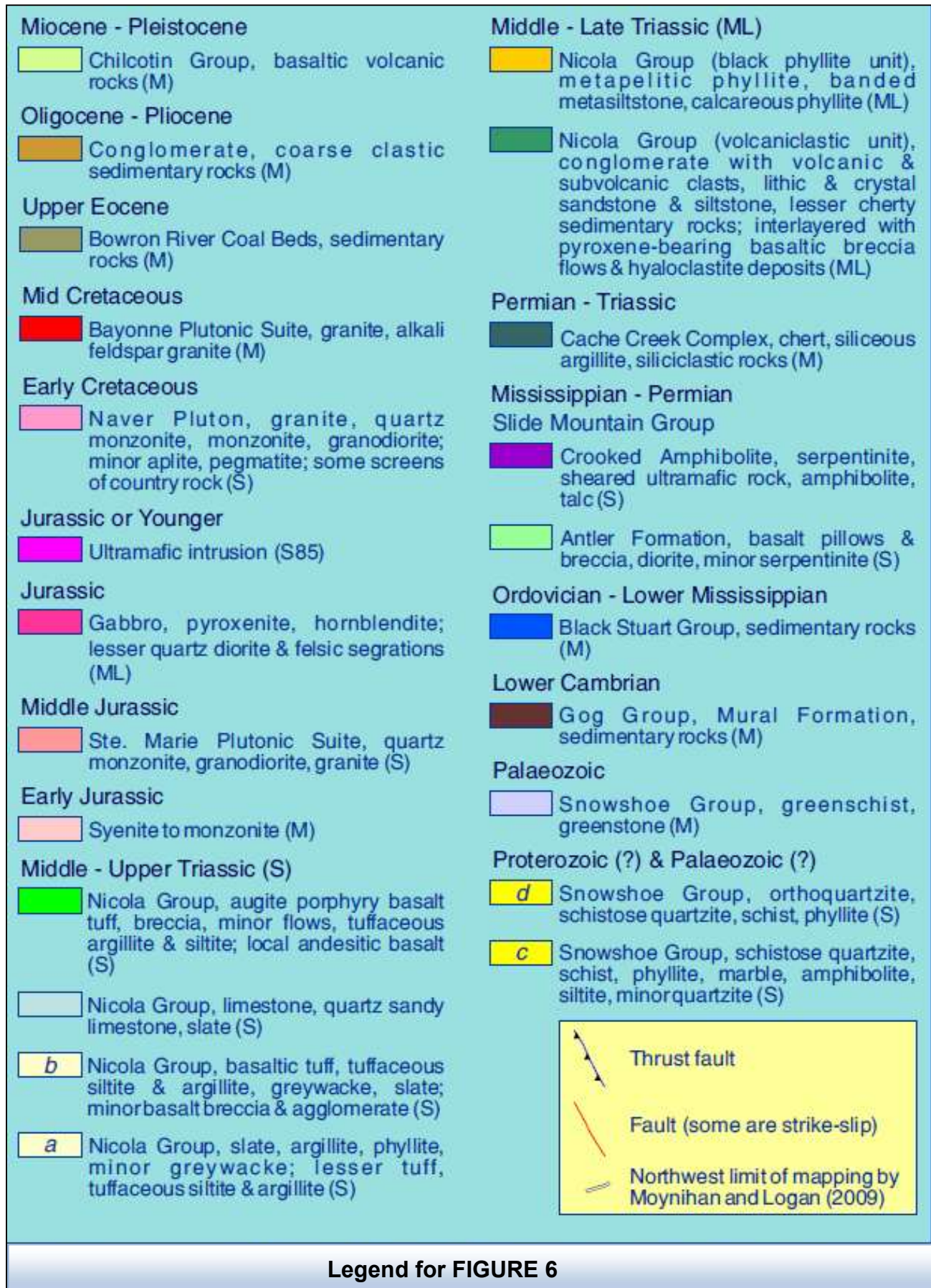
### **7.1      Regional Geology              (Figure 6)**

The regional geology of the Quesnelle Gold Quartz Mine Property is primarily summarized from Logan et al. (2010), Geoscience BC (2009) and Moynihan and Logan (2009).

The Property lies within the Quesnel terrane, just west of the Slide Mountain terrane and the Kootenay terrane (Barkerville subterrane in this area) (*Figure 6*). The Quesnel terrane represents an extensive (>2000 km) west-facing calcalkaline-alkaline Late Triassic to Early Jurassic arc that developed outboard or proximal to the western margin of North America. It is characterized by Mesozoic volcano-sedimentary arc rocks of the Nicola, Takla and Stuhini groups and coeval plutonic rocks. Within the regional area of the Property the western Nicola Group includes augite porphyry tuffs, breccias and minor flows and sedimentary rocks, followed by forearc volcanoclastic dominated successions that grade eastward across the arc into backarc Middle to Late Triassic fine grained clastic rocks (Black Phyllite unit).



**FIGURE 6: REGIONAL GEOLOGY** Legend on following page from Thomas, 2009



Legend for FIGURE 6

The eastern margin of the Quesnel terrane is marked by a discontinuous belt of variably sheared mafic and ultramafic rocks of the Crooked amphibolite, which are assigned to the Slide Mountain terrane, a Late Paleozoic marginal basin of oceanic basalt and chert that separated Quesnellia from North America.

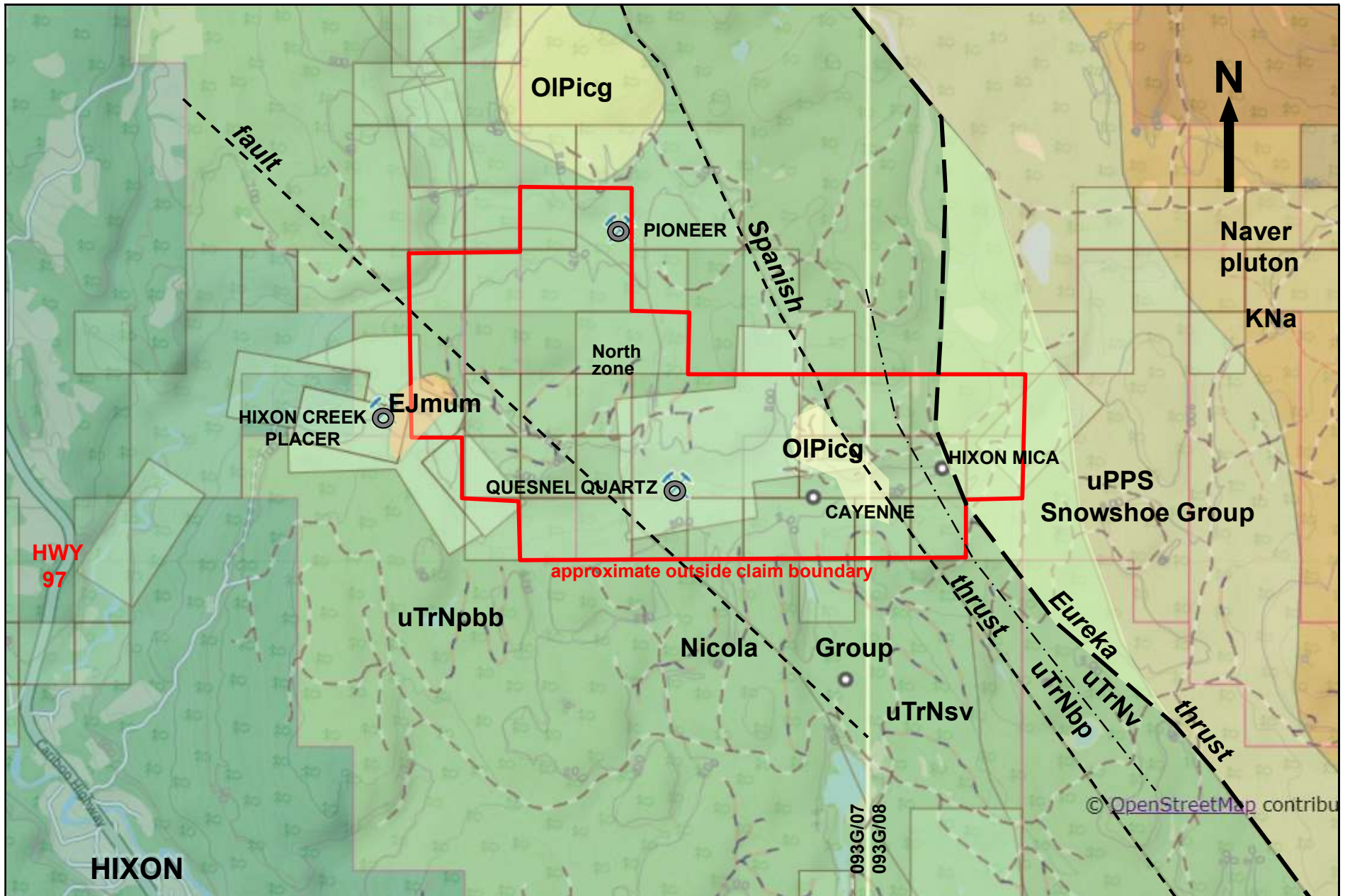
The Eureka thrust, an east-verging thrust fault, marks the eastern boundary of the Slide Mountain terrane. The footwall to the Eureka thrust comprises Proterozoic–Paleozoic Snowshoe Group rocks of the Barkerville subterrane, which are pericratonic and likely represent distal sedimentation off ancestral North America. In this region, a conglomerate near the base of the Nicola Group contains foliated clasts derived from the Snowshoe Group and the Crooked amphibolite, suggesting that the western Slide Mountain/Quesnel terrane boundary, and where Slide Mountain is absent, the Kootenay/Quesnel terrane boundary, is or was initially an unconformity. The Eureka thrust is shown to transect the Quesnelle Gold Quartz Mine Property at the Hixon Mica showing in the eastern Property area.

Younger rocks in the area include Early to Middle Jurassic and mid-Cretaceous granitic plutons, Cenozoic sedimentary and volcanic sequences, including Miocene flood basalt. The Early Cretaceous Naver pluton lies 2 km east of the eastern Property boundary.

## 7.2 Property Geology (Figure 7)

Property scale mapping has been greatly hampered by the paucity of outcrop (<0.5%). Recent mapping has not been undertaken, but historical more regional mapping was initially undertaken by Bethlehem in 1972 with more property scale mapping by Taiga for Golden Rule in 1980 to 1983. The Taiga mapping was completed at a 1:2500 scale within a 1 km<sup>2</sup> grid over the Quesnel Quartz deposit and at a 1:5000 scale along trend, with detailed 1:1000 scale mapping of trenches, old workings and roads. Much of this area is overgrown, sloughed and disturbed by later placer, logging and exploration activity and was completed prior to GPS control. The geology map used in Figure 7 is modified from the British Columbia Geological survey website and is a generalization for the geology of the property area (<http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace>).

The Quesnelle Gold Quartz Mine Property is primarily underlain by Middle to Upper Triassic volcanic and sedimentary rocks of the Nicola Group. In the western property area the Nicola Group is dominated by basalt augite porphyry of the Witch Lake succession (**uTrNpbb**). These are interlayered with transitional sedimentary rocks of the Inzana Lake succession (**uTrNvs**) in the central property area around the Quesnel Quartz deposit and include volcanic sandstone and siltstone, siltstone and sedimentary breccia, and minor basalt breccia and conglomerate. The Black Phyllite unit, which includes sandstone, siltstone, shale, slate and phyllite, bioclastic limestone, minor felsic tuff and tuffaceous argillite, occurs further west (**uTrNbp**), with minor porphyritic basalt breccia even further west (**uTrNv**). The Spanish thrust appears to separate the Inzana Lake succession from the Black Phyllite unit within the Nicola Group.



**FIGURE 7**  
**PROPERTY GEOLOGY**

**LEGEND**  
 ○ MINFILE SHOWING  
 see text page 23 and 25 for geology legend

from: <http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace>

1 km

JPEX

September 9, 2018



The eastern Property area is underlain by the Proterozoic–Paleozoic Snowshoe Group consisting of schistose quartzite, schist, phyllite and gneiss, with minor marble, quartzite and amphibolite. At the Hixon Mica showing gneiss and mica schists are documented. The Eureka thrust fault separates the Snowshoe Group of the Barkerville subterrane from the Nicola Group of the Quesnel terrane with local exposures of ultramafic rocks of the Slide Mountain terrane along its extent.

Quartz-carbonate-mariposite (listwanite) float has been found at the Main shaft dump (*Fox, 1981*) suggestive of the presence of ultramafic rocks. The listwanite could be sourced from altered ultramafic clasts within the conglomerate near the base of the Nicola Group. Minor serpentinized shear zones have been observed in greenstones, with the possibility of ultramafic rocks in the eastern property area (Hixon Mica area and/or along trend) along the Eureka thrust.

The Nicola Group is intruded by a syenite-diorite/gabbro body, assigned to the Early Jurassic Polaris Ultramafic suite (**EJmum**), along the western Property boundary. The intrusion is exposed along Hixon Creek.

The above units are locally overlain by Oligocene to Pliocene conglomerate and coarse clastic sedimentary rocks (**OIPicg**). The conglomerate was intersected in the 2004 drilling just east of the Cayenne showing and a conglomerate was intersected in the two drill holes. There is a discrepancy related to the actual position of the Bethlehem holes and they may also have been drilled in the area east of the Cayenne showing. However two old drill holes were documented by Taiga to the northeast of the Main shaft at the Quesnel Quartz deposit. It is possible that this conglomerate was part of the conglomerate which occurs in the Nicola Group.

A table of formations for the Property follows:

**Oligocene to Pliocene**      **OIPicg:** conglomerate and coarse clastic sedimentary rocks

**Early Jurassic**      **EJmum:** *Polaris Ultramafic suite:* syenite and diorite/gabbro

### **Middle to Upper Triassic**

#### ***Nicola Group:***

**uTrNv:** porphyritic basalt breccia

**uTrNbp:** *Black Phyllite unit:* sandstone, siltstone, shale, slate and phyllite, bioclastic limestone, minor felsic tuff and tuffaceous argillite

**uTrNvs:** *Inzana Lake succession:* volcanic sandstone and siltstone, siltstone and sedimentary breccia, and minor basalt breccia and conglomerate

**uTrNpbb:** *Witch Lake succession:* basalt augite porphyry

### **Proterozoic–Paleozoic**

***Snowshoe Group:*** schistose quartzite, schist, phyllite and gneiss, with minor marble, quartzite and amphibolite

### 7.3 Mineralization (Figures 2 to 8)

The Quesnelle Gold Quartz Mine Property covers the historical Pioneer and Cayenne showings and the Quesnel Quartz deposit as documented by the British Columbia Geological Survey Branch as Minfile Numbers 093G 013, 093G 014 and 093G 015, respectively (*British Columbia Minfile, 2018*) (Figure 2). The most significant mineralization to date has been found at the Quesnel Quartz deposit. The following discussion on the mineralization is primarily summarized from Allan (1984), Adamson (1988) via Simmons (2008b), reports of the Minister of Mines (1878 to 1939) and miscellaneous reports and maps of the Quesnelle Quartz Mining Company (1930's).

Historically, at least three main northwest trending gold-silver zones were identified crossing Hixon Creek over a distance of 500m at the Quesnel Quartz deposit. From east to west the zones were the Washburn, the Stewart, and the Morrison ledges, which were explored by: the Main shaft, associated workings and the Mason shaft; the Stewart shaft and possibly the Raven adit and; the Morrison and Hercules shafts, respectively. The mineralization at the Mason shaft is probably a separate zone from the Washburn (Main) and explored the East zone, which was intersected in Noranda's 1987 to 1988 drill programs.

The gold-silver mineralization was found to occur primarily in quartz  $\pm$ carbonate veins, but also in the quartz-carbonate-pyrite altered greenstone, and less commonly in quartz sericite schists, but proximal to and following the contact between the greenstone and schists. The latter two types are referred to as replacement ore. The veins, which vary from a few centimetres up to about 1.8m in width, generally terminate against the contact. Mineralization includes native gold, native silver, galena, sphalerite, chalcopyrite, molybdenite, arsenopyrite, pyrrhotite and pyrite. Both quartz vein hosted and replacement style mineralization was documented, with replacement mineralization within the pyritized and carbonatized greenstone more prevalent at depth. The pyrite is fine grained, commonly with other sulphide, and can comprise 30% of the rock.

The Main zone, which has seen the most work, comprises the principal gold zone on the Quesnelle Gold Quartz Mine Property and consists of a network of quartz veins over a northwest trending, 70°NE dipping, 40m wide by 140m long and 190m deep zone. Up to 29 quartz veins were recorded in the mine workings which extend 120m vertically beneath the surface.

The geological setting within the mine (Main shaft and associated workings) was mapped by the British Columbia Department of Mines in 1933 and 1934 after dewatering by the Quesnelle Quartz Mining Company (*Minister of Mines 1936*). The geology consisted of dark green, fine grained greenstone (meta-basalt), in contact on the southwest with quartz sericite schists (volcaniclastic and possibly other sedimentary rocks). Lithological contacts strike 320°. In the upper levels of the mine, dips are steeply northeast and in the lower levels, they dip moderately southwest. Moderate to intense hydrothermal alteration is pervasive. In basalts, it comprises quartz, carbonate, and

pyrite; in the felsic schists, it consists of clay and pyrite. The oxidized or weathered zone in the basalt ranges from 25 to 30m in depth.

The Main zone was intersected in DDH 83-1, 83-3, 87-1, 87-2, 88-4, 88-5, 88-6 and 07-1, and is stratiform (essentially parallel to the volcanic-sedimentary contact. Quartz veins occur almost exclusively in greenstone. A second vein system within the zone strikes northeast and generally dips steeply southeast and occurs proximal to the contact.

The East zone lies 25m northeast of the Main zone and consists of a northwesterly trending quartz vein zone apparently dipping northeast and stratiformly hosted by greenstone. It was traced over a length of 90m in seven drill holes (DDH 83-1, 87-1, 87-2, 88-4, 88-5, 88-6, 07-3) and remains open to the northwest.

The Raven zone lies 270m westerly from the Main zone near the site of an old adit. A chip sample collected in 1981 from a quartz vein exposed by a trench 20m above the Raven adit assayed 5.28 g/t Au over 3m (*Allan, 1984*). Drilling has not been successful on this zone, possibly due to the extremely poor core recoveries encountered.

The North zone (*Figure 7*), approximately 1 km north of the Main shaft north of an old logging landing at 531886mE, 5922319mN, consists of numerous narrow quartz veins hosted by greenstone. Noranda obtained gold values in excess of 1 g/t in four trenches, including 1.42 g/t over 2m and 1.24 g/t over 3m. Grab samples taken from veins in two other trenches assayed 6.36 g/t and 1.38 g/t (*Simmons, 2008b*). A sample from the landing outcrop returned 3.62 g/t Au (*Simmons, 2008a*). The zone lies 1.2 km northwest (possibly along trend?) of the Cayenne working.

The Cayenne showing, 1 km east of the Main zone, covers a 0.6 to 1.2m wide quartz vein and several smaller quartz stringers hosted by highly altered and weathered quartz sericite schist. Gold values have been reported from both the quartz and from the schist. A quartz sample reportedly returned 6.86 g/t Au in 1918 (*Minister of Mines, 1919*) and 8.23 g/t Au, 13.7 g/t Ag was obtained in 1930 (*Minister of Mines, 1930*). Gold values have been spotty, but there is no documentation of systematic sampling and the trend of mineralization has not been documented or is unknown; the adit trends 145°. No work has been documented in recent times.

The Pioneer showing, 1.9 km north of the Main zone, consists of a northerly trending, northeast dipping, narrow quartz vein with galena and sphalerite hosted by carbonaceous shale. A 7.6 cm seam returned 21% Pb, 3% Zn and 1423 g/t Ag (*Minister of Mines, 1927*). Anomalous gold values have also been recorded from the vein. No recent work has been documented.

An industrial mineral showing of mica (Hixon Mica) is located within the Barkerville subterranean near the eastern Property margin, straddling Hixon Creek.

## 8.0 DEPOSIT TYPE

The main deposit model for the Quesnelle Gold Quartz Mine Property is the orogenic (also known as mesothermal, gold quartz, greenstone, Mother Lode) type, consisting of gold bearing quartz veins and quartz-carbonate-pyrite replacement style mineralization. Deposits are of post-Middle Jurassic age in the Cordillera, and appear to form immediately after accretion of oceanic terranes to the continental margin. The following characteristics of the gold-quartz vein deposit model are primarily summarized from Ash and Alldrick (1996). Associated deposit types include gold bearing sulphide mantos, silica veins and placer gold.

This type of deposit typically occurs as gold bearing quartz-carbonate veins and veinlets with minor sulphides crosscutting varied hostrocks and localized along major regional faults and related splays. The wallrock is typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo. Largest concentrations of free gold are commonly at, or near, the intersection of quartz veins with serpentized and carbonate altered ultramafic rocks.

Gold-quartz vein type mineralization commonly occurs in a system of en echelon veins on all scales. Tabular fissure veins occur in more competent host lithologies, with veinlets and stringers forming stockworks in less competent lithologies. Generally lower grade bulk-tonnage styles of mineralization may develop in areas marginal to veins with gold associated with disseminated sulphides (replacement style) and may also be related to broad areas of fracturing with gold and sulphides associated with quartz veinlet networks. Major ore controls are secondary structures at a high angle to relatively flat-lying to moderately dipping collisional suture zones, and competent host rocks.

Ore minerals include native gold, pyrite, arsenopyrite, with lesser galena, sphalerite, chalcopyrite, pyrrhotite, tellurides, scheelite, bismuth minerals, cosalite, tetrahedrite, stibnite, molybdenite and gersdorffite (nickel, arsenic sulphide) in a gangue of quartz and carbonates (ferroan-dolomite, ankerite, ferroan-magnesite, calcite and siderite), and lesser albite, mariposite (fuchsite), sericite, muscovite, chlorite, tourmaline, graphite. Host rocks are varied including mafic volcanic rocks, ultramafic and mafic intrusions, fine clastic rocks, chert, and felsic to intermediate intrusions. On the Quesnelle Gold Quartz Mine Property quartz-carbonate veins are present and mineralization is hosted by mafic volcanic, with possible ultramafic, and lesser sedimentary rocks. Native gold, pyrite, arsenopyrite galena, sphalerite, chalcopyrite and tennantite have been identified on the property.

Silicification, pyritization and potassium metasomatism generally occur adjacent to veins (usually within a metre) within broader zones of carbonate alteration, extending up to tens of metres from the veins. Carbonate alteration consists of talc and iron-magnesite in ultramafic rocks, ankerite and chlorite in mafic volcanic rocks, graphite and pyrite in sediments, and sericite, albite, calcite, siderite and pyrite in felsic to intermediate intrusions. Quartz-carbonate altered rock and pyrite are often the most prominent alteration minerals in the wallrock. Fuchsite/mariposite, sericite and scheelite are common where veins are associated with felsic to intermediate intrusions.

Elemental associations are gold, silver, arsenic, antimony, potassium, lithium, bismuth, tungsten, tellurium and boron, ±(copper, lead, zinc and mercury). Geophysics is useful in outlining faults indicated by linear magnetic anomalies and areas of carbonate alteration indicated by negative magnetic anomalies due to destruction of magnetite.

## **9.0 EXPLORATION (Figures 8 to 9)**

Exploration by Standard Drilling on the Quesnelle Gold Quartz Mine Property has consisted of a 1.14 line km IP and resistivity geophysical survey and 750 hectares of LiDAR and orthoimagery over the Quesnel Quartz deposit area at a cost of \$25,500.

### **9.1 Geophysics (Figures 2 and 8 to 9)**

A one line 1.14 line km induced polarization and resistivity geophysical survey line was completed by Geotronics Consulting Inc. for Frank Callaghan in the fall of 2017 along a road across the Quesnel Quartz deposit (*Mark, 2018*). Location of the survey line is shown in Fig 2.

The survey outlined four anomalies, marked A to D (*Figures 8 and 9*), which correspond to the Mason (East) zone, Washburn (Main), Stewart/Raven and Morrison-Hercules mineralized zones at the Quesnel Quartz deposit. The response is encouraging particularly for anomalies C and D, since drilling of the Raven zone has not been successful, but hampered by extremely low core recovery, and no documentation of mineralization encountered at the Morrison and Hercules adits, has been found. A summary of the anomalies from Mark (2018) follows:

Anomaly A occurs at the extreme eastern end of the survey line at station 1090E, appears to be vertically dipping, averages about 20m in width and probably reflects mineralization at the Mason shaft (probably correlative to Noranda's East zone). Anomaly B is centered at about 980E, averages about 70m in width, is dipping vertically, and appears to consist of two parts. Either one of these parts, or both, are probably reflecting the Washburn (Main) mineral zone within the Quesnel Quartz mine. In addition, the IP and resistivity inversion sections suggest a thrust fault dipping at a shallow angle to the west through the mineralization. Anomaly C is centered at 780E, is about 110m in width, appears to be dipping vertically as well and is very likely reflecting the Stewart/Raven mineral zone within the Quesnel Quartz mine. Anomaly D is centered at 520E, is about 100m wide, dips about -60° to the east and probably reflects the Morrison mineral zone.

The IP inversion section shows all four mineral zones extending to at least 40m deep, open to depth. In addition, the widths of the anomalies given above are probably close to true width since the historical maps show a northwest strike to the mineralization and the average direction of the line was east-northeasterly.

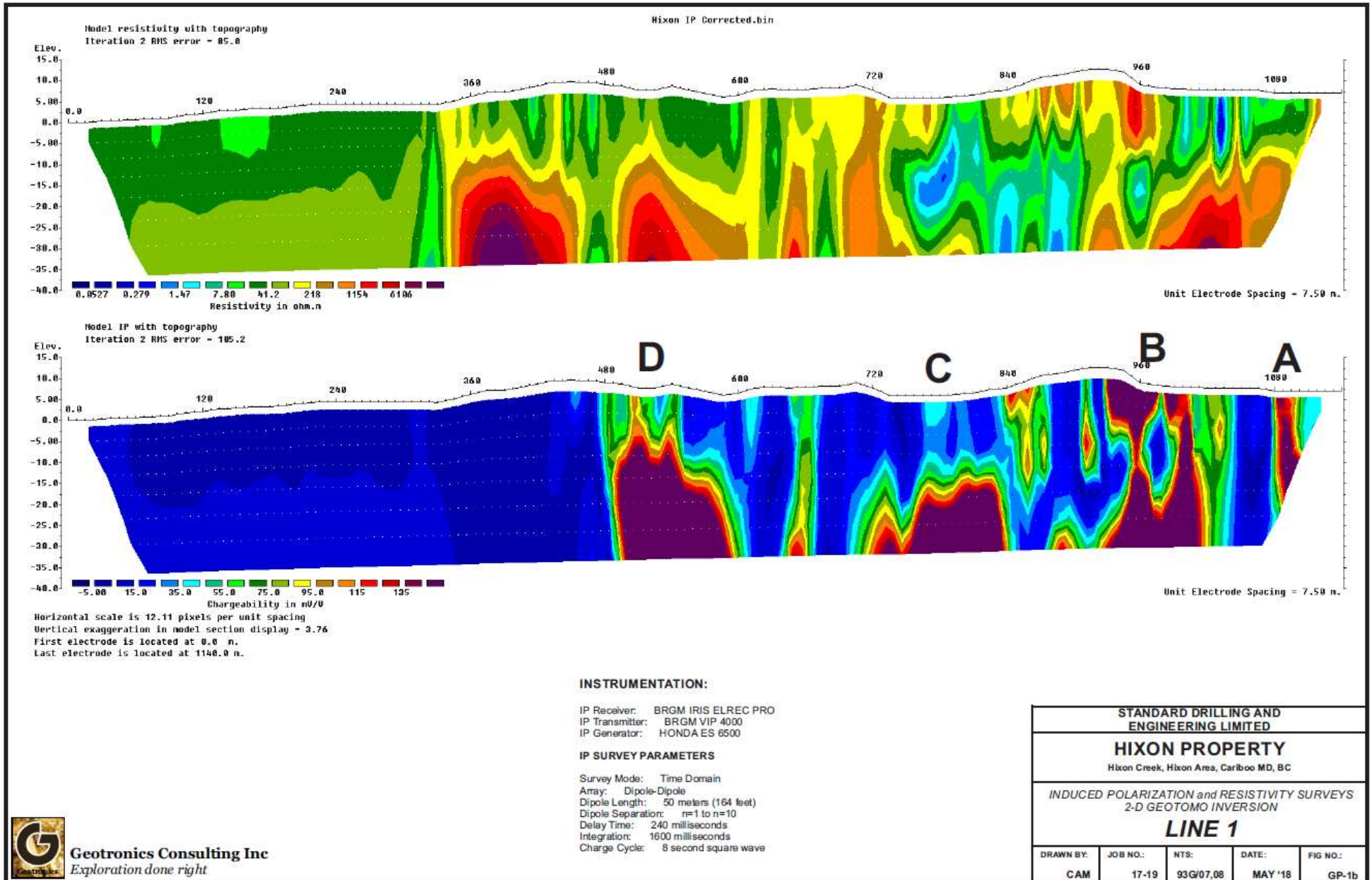


FIGURE 8: IP and RESISTIVITY 2D INVERSION PLOT (Mark, 2018)

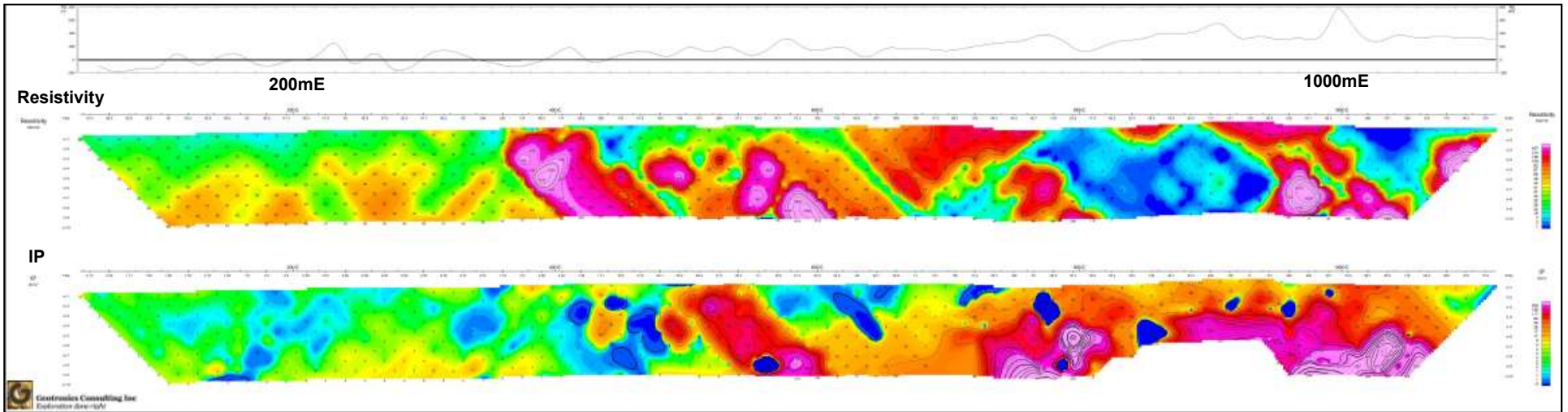


FIGURE 9: IP and RESISTIVITY PSEUDOSECTION PLOT (Mark, 2018)

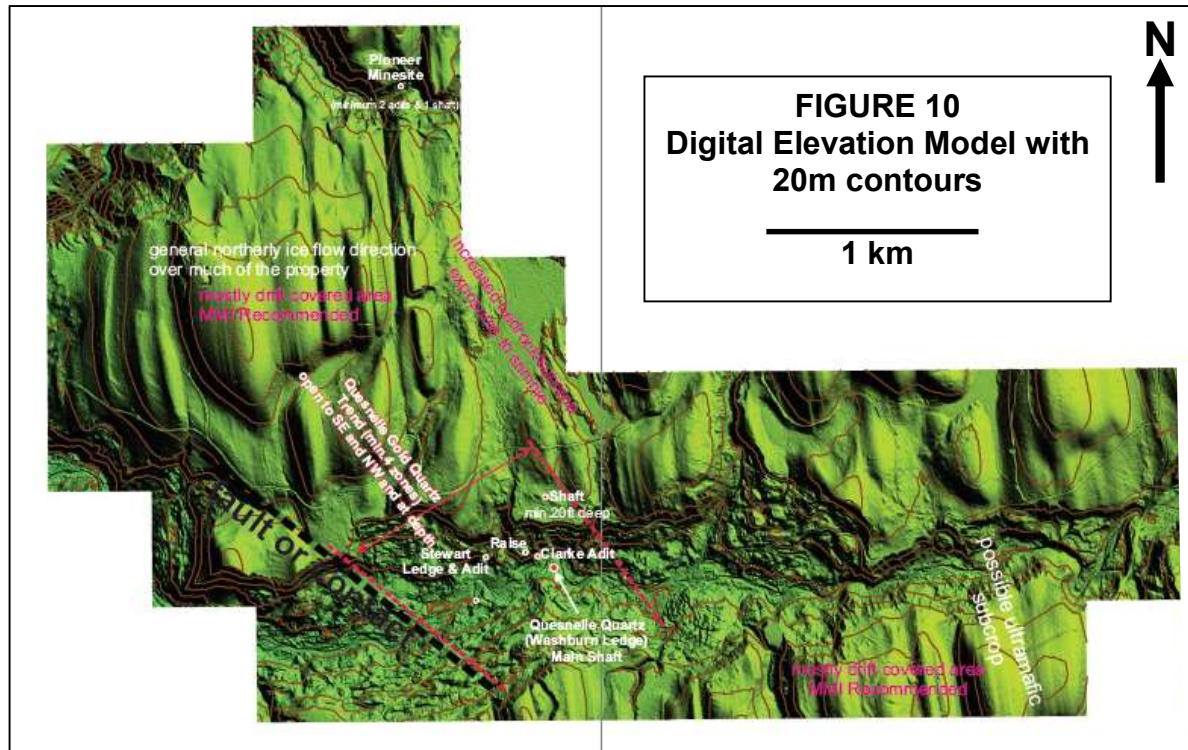


FIGURE 10  
Digital Elevation Model with  
20m contours  
1 km

## 9.2 Remote Sensing (Figure 10)

LiDAR and orthoimagery were flown over the Property by Eagle Mapping Services Ltd. of Port Coquitlam, British Columbia on October 5, 2018 for Standard Drilling (*Justason, 2019*). A total of 750 hectares was flown over the entire property, using a Piper Navajo aircraft and a Riegl 1560 laser. Orthoimagery was acquired using an 80 megapixel Trimble camera at a resolution of 15 cm. LiDAR (Light Detection and Ranging) is a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light. LiDAR uses laser light to measure distance rather than radio waves as in RADAR. The result is the ability to produce accurate, detailed surface models quickly at reduced costs over conventional photogrammetric mapping.

The LiDAR survey was flown to provide a digital elevation model (“DEM”) for draped contour maps and a bare-earth view of the ground below the canopy of vegetation in order to enhance structural and stratigraphic interpretation, and identify old workings and outcrop exposures (particularly in areas of poor exposure). An orthoimage was prepared to provide an accurate base for future surveys. A Trimble RTX system was used during the survey so that no ground control or base stations were required to be set up on site. The accuracy of the data was better than 15 cm vertically and 30 cm horizontally.

The LiDAR data clearly identifies the true elevation of several of the old workings in the digital elevation model (“DEM”) which can be used in subsequent 3D modelling (*Figure 10*). A table of key elevations are noted below and as certain features are groundtruthed, additional data may be provided, including updating historical drill hole collars.

**Table 4: Comparison of old survey versus LiDAR elevations**

LOCATION	QQM Co. Elevation in feet	LiDAR DEM Elevation in feet (ft)
Main Shaft Collar	2395	2350 ft (730m)
Stewart Adit	nil	2401.57 ft (732m)
Clarke Adit	2365	2411.42 ft (735m)
Clarke Raise	2417	2467.2 ft (752m)

## 10.0 DRILLING (Figures 11 to 13)

No drilling has been conducted by Golden Cariboo Resources Ltd., Standard Drilling or Frank Callaghan on the Quesnelle Gold Quartz Mine Property, but a total of 2863m of diamond drilling in 22 holes was previously completed between 1972 and 2007 in seven programs. The drilling includes 2590m in 19 holes on the Quesnel Quartz deposit, shown in Figure 11, and 273.4m in 3 holes near the Cayenne showing. In the drill tables “Elev.” denotes elevation and “Az.” azimuth. The drill programs are summarized in Table 5 below.



**Table 5: Summary of drill programs on Quesnelle Gold Quartz Mine Property**

Year	Location	Company	Holes	Size	Depth (m)
1972	NE of Main	Bethlehem	2		140.2
1983	Main, Raven	Golden Rule	4	BQ,NQ	353.6
1987	Main, Raven	Noranda	3		276.5
1988	Main, Raven	Noranda	5		640
2004	E of Cayenne	Cayenne Gold	3	NQ	273.4
2007	Main Shaft	Cayenne Gold	3	NQ	596.4
2008	Main Shaft	Cayenne Gold	2	BQ	583
			<b>22</b>		<b>2863.1</b>

The following account of the drill programs is summarized from Fox (1980 and 1981) for Bethlehem's 1972 program, Allen (1984) for the 1983 Golden Rule program, Simmons (2008b) for Noranda's 1987 and 1988 programs and Briden (2005) and Simmons (2008a and c) for Cayenne Gold's 2004, 2007 and 2008 drill programs. All holes were road accessible.

In 1972 Bethlehem targeted a 0.5 km by >3 km northwest trending arsenic-silver soil anomaly, the northern 60% of which lies on the current Property area, with a 449m diamond drill program in 4 holes. Only 140.2m in 2 holes were drilled on the Quesnelle Gold Quartz Mine Property which appear to have been located northeast of the Main shaft based on Fox (1981 - Map 1A). However, the locations are plotted northeast of the Cayenne workings on a regional grid location map in Fox (1980 - Figure 4). The Bethlehem drill report was not filed for assessment and could not be located by the author. Specifications are given in Fox (1980 - p 21).

The 1983 drill program by Golden Rule was completed by Drilcor Ltd. of Delta, British Columbia and targeted the Raven adit with 2 holes and the Main shaft area with 2 holes. The first hole utilized BQ wireline tools, but NQ was used on the rest of the holes. Recovery averaged only about 60% but was about 40% in DDH 83-2 and 52% in DDH 83-4, with 80% recovery in DDH 83-1 and 85% in DDH 83-3, except through weathered zones. DDH 83-4 was lost before target depth. The entire core was sampled (242 samples) and 174 sludge samples were also collected at 1.5m intervals throughout the holes except for below 81.4m in DDH 83-1 due to loss of circulation and above 21.9m in DDH 83-4. Sludge samples consist of drill cuttings to aid in the evaluation of zones with poor core recovery. They do not provide qualitative results. Poor recovery can result in lower grades due to the loss of the soft sulphide portions, which tend to carry the grade.

The Noranda drill report was not filed for assessment and could not be located by the author. The only details found by the author are from the NI 43-101 report by Simmons (2008b) filed on SEDAR (website at [sedar.com](http://sedar.com)). Drill specifications and footage of significant results were not given. Drill recoveries are assumed to have been good in the Main shaft area, but only 15% recovery was reported from 87-3 in the Raven area.

The 2004, 2007 and drill 2008 programs by Cayenne Gold were conducted by Adam Diamond Drilling Limited of Princeton British Columbia. The 2004 holes were all drilled from the same site located 1.5 km east of the Main shaft area about 500m east of the Cayenne workings. All three 2007 holes were also drilled from a common site, located

72m northeast of the Main shaft to test the validity of earlier drilling and to probe for additional gold mineralization. The hole depth of 198.8m was limited by the drill capability, but the drill type used was not reported. The 2008 holes were also drilled from a common site located between the Main shaft and the Raven adit to test for mineralization near the schist/greenstone contact along a VLF-EM conductor axis identified in 1983 (*Allan, 1984*). The holes were collared in the schist and drilled towards the greenstone.

Drill recoveries were good in 2004, averaging approximately 80% despite the friable nature of the rock, were reported to be good in 2007, even in the highly altered/weathered upper portions of the holes, and recoveries were not reported in 2008. Ten samples of core and/or sludge were collected in 2004 with 258 samples in 2007 and 82 in 2008, amounting to about 75% of the core in the 2007 and 2008 programs.

Drill hole specifications are outlined in Table 6, below. Drill specifications are not known for specific holes in the Noranda program, but all holes drilled in the Main zone (DDH 87-1 and -2, and DDH 88-4 to -6, and -8) appear to be at 240°. DDH 87-3 and 87-7 targeted the Raven zone.

**TABLE 6: Drill hole specifications**

DDH No.	UTM Nad 83, Easting	Zone 10 Northing	Elev. (m)	Az. (°)	Dip (°)	Depth (m)
72-3 <sup>^</sup>	531926	5921737	-	176	-60	91.44
72-4 <sup>^</sup>	531911	5921674	-	356	-60	48.77
83-1 <sup>*</sup>	531843	5921694	-	228	-45	131.7
83-2 <sup>*</sup>	531574	5921714	-	257	-45	82.9
83-3 <sup>*</sup>	531821	5921634	-	313	-45	101.2
83-4 <sup>*</sup>	531505	5921673	-	032	-45	37.8
87-3 <sup>*v</sup>				-152		
87-7 <sup>*v</sup>				-245?		
04-1 <sup>*</sup>	533410	5921640	795	270	-45	121.92
04-2 <sup>*</sup>	533410	5921640	795	090	-45	88.39
04-3 <sup>*</sup>	533410	5921640	795	-	-90	63.09
07-1	531860	5921682	733	240	-55	198.8
07-2	531860	5921682	733	240	-85	198.8
07-3	531860	5921682	733	280	-50	198.8
08-4	531645	5921660	752	040	-50	282
08-5	531645	5921660	752	040	-70	301

<sup>^</sup> location as per old drill sites in Fox (1981); <sup>\*</sup> location is approximate

<sup>v</sup> location as per Simmons (2008b) but only partially legible

Both drill holes in Bethlehem's 1972 program were drilled east of the main vein structures and reportedly intersected oxidized and faulted (or sheared) Miocene conglomerate with no significant gold or silver values (*Fox, 1980*).

DDH 83-1 and 83-3 partially targeted the schist/greenstone contact near the Main shaft, with marginally encouraging results. Exceptionally poor core recovery hampered the evaluation of the potential of this zone, and particularly low recoveries were encountered within mineralized intervals. DDH 83-2 and 83-4 targeted a possible extension of the Raven adit quartz vein and significant trench results to the north. DDH

83-2 intersected a continuous section of black graphitic argillaceous phyllite. It was subsequently assumed that the hole had been drilled down-dip but DDH 83-4 also intersected the graphitic argillaceous phyllite and had to be abandoned (due to stuck rods) at 37.8m. No anomalous assays were obtained from the Raven zone.

Noranda drilled two more holes on the Raven zone in 1987 and 1988, encountering poor recovery and no significant results despite the fact that DDH 87-4 targeted an 8.2 g/t Au over 6m trench intercept and DDH 87-3 intersected altered greenstone. Drilling on the Main zone was more promising with two separate zones identified, separated by 25m. The Main zone proper, as exposed in the Main shaft and intersected in DDH 87-1, -2, 88-4, 88-4 and 88-6, as well as previously in DDH 83-1 and -3, was found to consist of two vein systems; one strikes northwest and dips 70° degrees to the northeast, essentially paralleling the volcanic-sedimentary contact in a stratiform fashion, and the other strikes northeast and usually dips steeply southeast.

The East zone lies 25m northeast of the Main zone and consists of a northwesterly trending quartz vein zone apparently dipping northeast and stratiformly hosted by greenstone. It was traced over a length of 90m in six drill holes (DDH 83-1, 87-1, 87-2, 88-4, 88-5, 88-6) and remains open to the northwest. Values appear to weaken to the southeast. The zone has generally been intersected in weathered rocks where the core recovery is poorer.

All three drill holes in the 2004 program in the Cayenne area intersected a chaotic Miocene conglomerate for their entire length. The conglomerate is completely unsorted, clastic, angular and made up of clasts of varying proportions of schist and greenstone indicating a local origin. The matrix is composed of small fragments and a high proportion of clay and probably represents a mud flow which has been deposited on an irregular weathered surface. The three 2007 drill holes were essentially drilled in greenstone with only the bottom of DDH 07-3 intersecting metasedimentary rocks (schist). The top vertical 30m of core in the 2007 holes was generally intensely altered and/or weathered such that the original rock type could not be determined.

The schist/greenstone contact was intersected in the 2008 drill holes with a dip to the southwest and is consistent with the dip of the contact found in the lower underground levels of the Main shaft (*Quesnelle Quartz Mining Company, 1930's*).

The 2007 drill holes encountered multiple zones of gold and silver mineralization and ended in sulphide mineralization (*Simmons, 2008a*). Results are shown in Table 6, below and shown in Figures 12 and 13. The 2008 drill holes reportedly encountered multiple zones of mineralization in both the schist and greenstone, but results were low with maximum values of 0.046 g/t Au over 15.5m in DDH 08-4 and 1.41 g/t Au over 0.5m in DDH 08-5. These holes would have been drilled in the wrong direction to intersect the northeast dipping Main zone.

Significant drill results are summarized in Table 7 below. True widths of the zones cannot be calculated at this stage due to the uncertainty of the actual orientations and/or correlations of the mineralized zones. A drill plan and sections are shown in Figures 11 to 13).

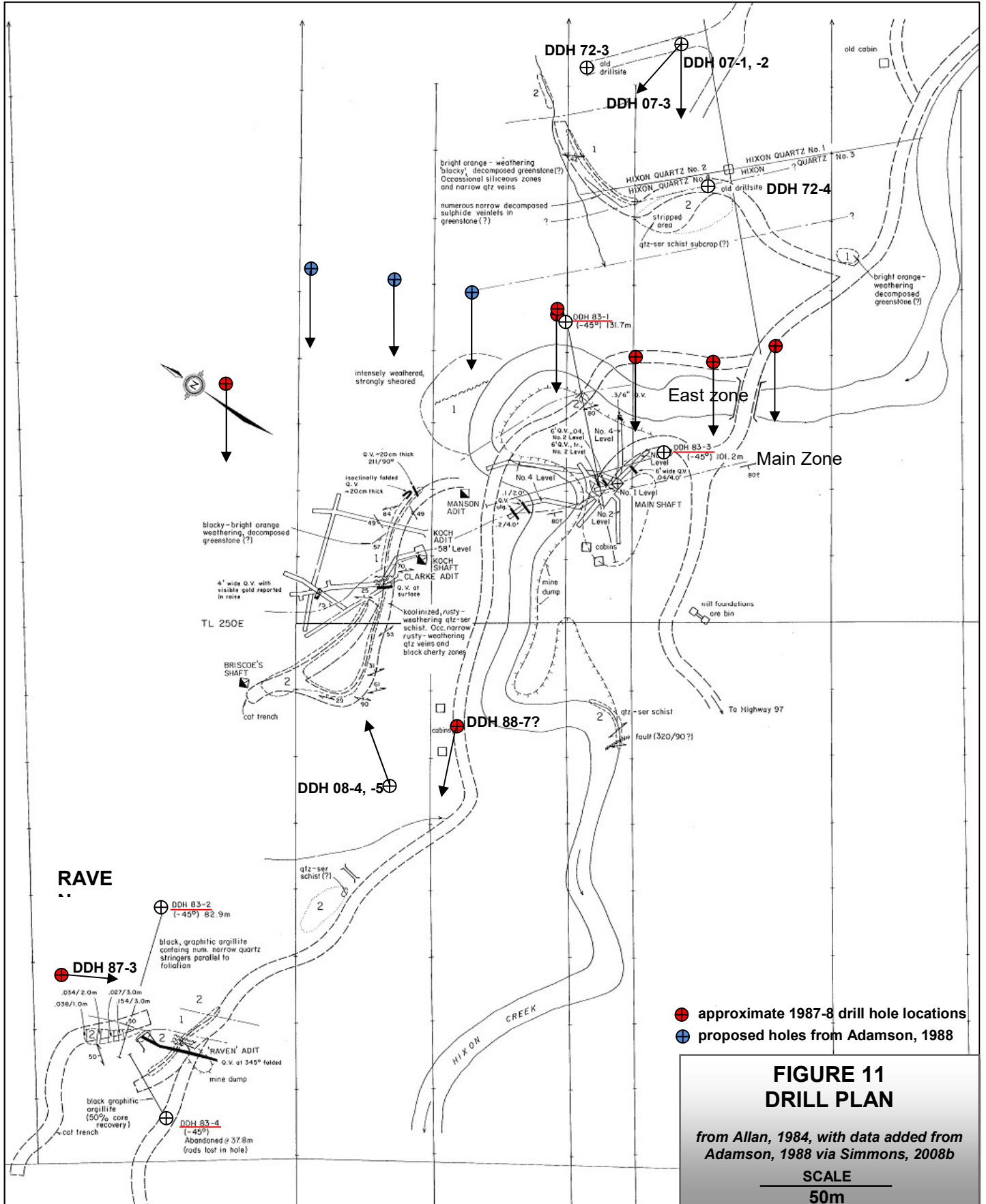
**TABLE 7: Significant drill results**

DDH No.	Zone	From (m)	To (m)	Length (m)	Au (g/t)	Ag (g/t)
<b>83-1</b>	East	22.0	23.5	<b>1.5</b>	<b>7.3</b>	<b>sludge</b>
and	Main	81.4	82.9	1.5	2.24	4.3
and*	Main	87.5	90.5	3.0	1.88	6.8
and	Main	96.6	97.5	1.5	2.20	4.0
and	Main	104.2	105.7	1.5	3.60	4.9
and	Main	<b>108.8</b>	<b>110.3</b>	<b>1.5</b>	<b>5.72</b>	<b>20.6</b>
and	Main	119.3	121.0	1.7	1.88	1.5
<b>83-3*</b>	Main	20.4	25.0	4.6	1.28	3.7
and*	Main	<b>40.2</b>	<b>46.3</b>	<b>6.1</b>	<b>1.28</b>	<b>13.3</b>
incl.*	Main	40.2	43.5	3.3	1.93	21.9
and	Main	64.6	65.8	1.2	1.94	6.3
<b>87-1</b>	Main			<b>1.5</b>	<b>5.1</b>	
and	Main			1.5	1.0	
and	East			3.0	1.0	
<b>87-2</b>	Main			1.0	2.6	
and*	East			4.0	0.48	
<b>87-4</b>	East			1.0	1.6	
and*	East			<b>2.8</b>	<b>3.3</b>	
<b>88-5*</b>	Main			<b>3.0</b>	<b>4.8</b>	
and	Main			1.0	2.5	
and	Main			1.0	2.2	
and	Main			1.9	1.6	
and*	Main			3.0	1.1	
and*	East			<b>2.75</b>	<b>5.2</b>	
and*	East			2.8	2.2	
<b>88-6*</b>	East			3.5	0.55	
and*	Main			3.0	1.1	
<b>07-1*</b>	?	128.6	133.2	4.6	0.78	<2
and*	Main	151.8	159.1	7.3	0.62	2.3
and	Main	<b>179.3</b>	<b>182.3</b>	<b>3.0</b>	<b>6.75</b>	<b>54.5</b>
and	Main	198.0	198.8 EOH	0.8	2.13	<2
<b>07-2</b>	East?	182.8	183.7	0.9	1.80	0.4
<b>07-3</b>	East?	<b>60.1</b>	<b>61.6</b>	<b>1.5</b>	<b>11.8</b>	<b>12.9</b>
and*	East?	66.9	69.2	2.3	2.23	3.9
and*	Main	190.4	198.8 EOH	8.4	0.51	1.5

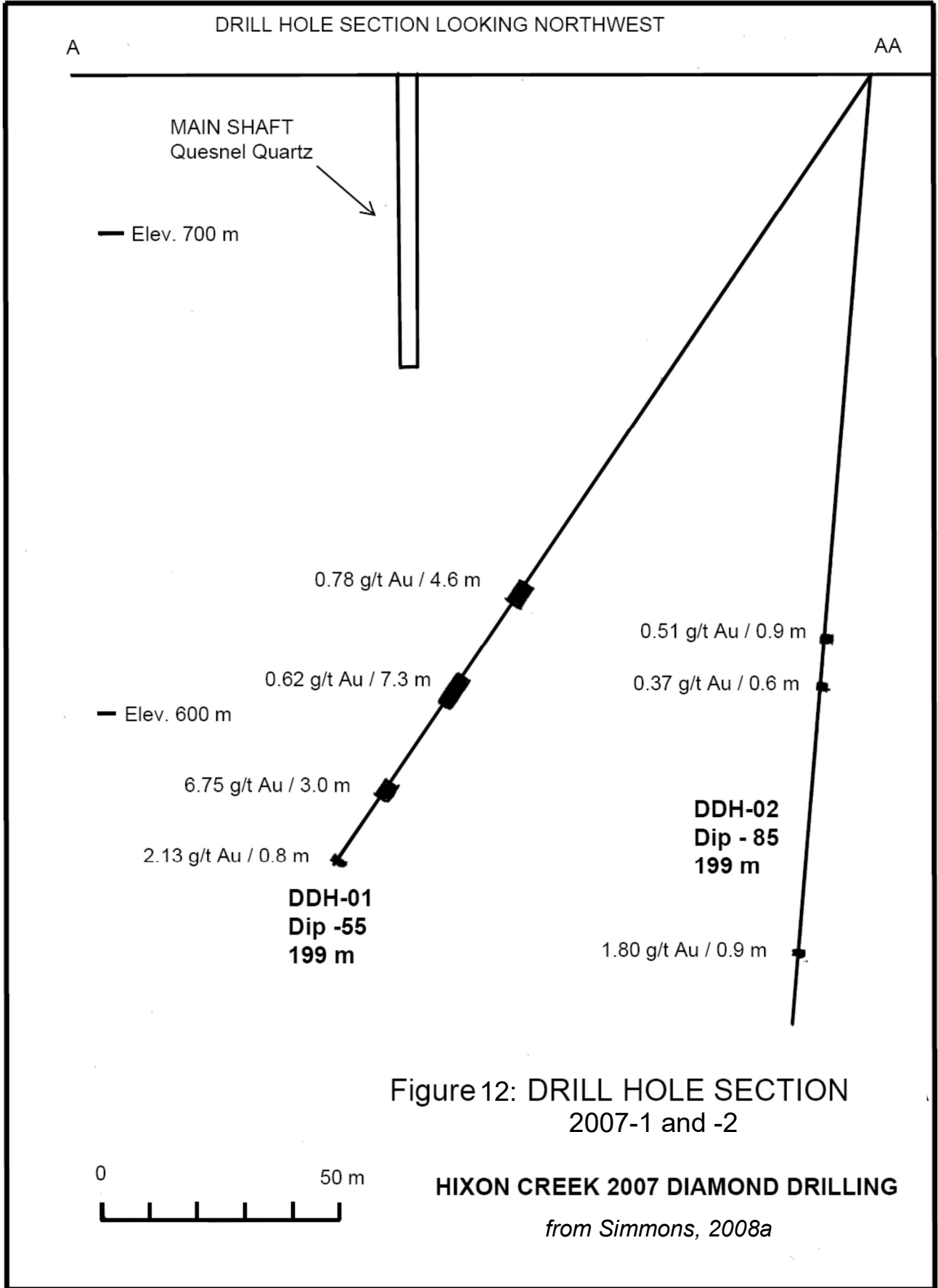
\* denotes weighted average

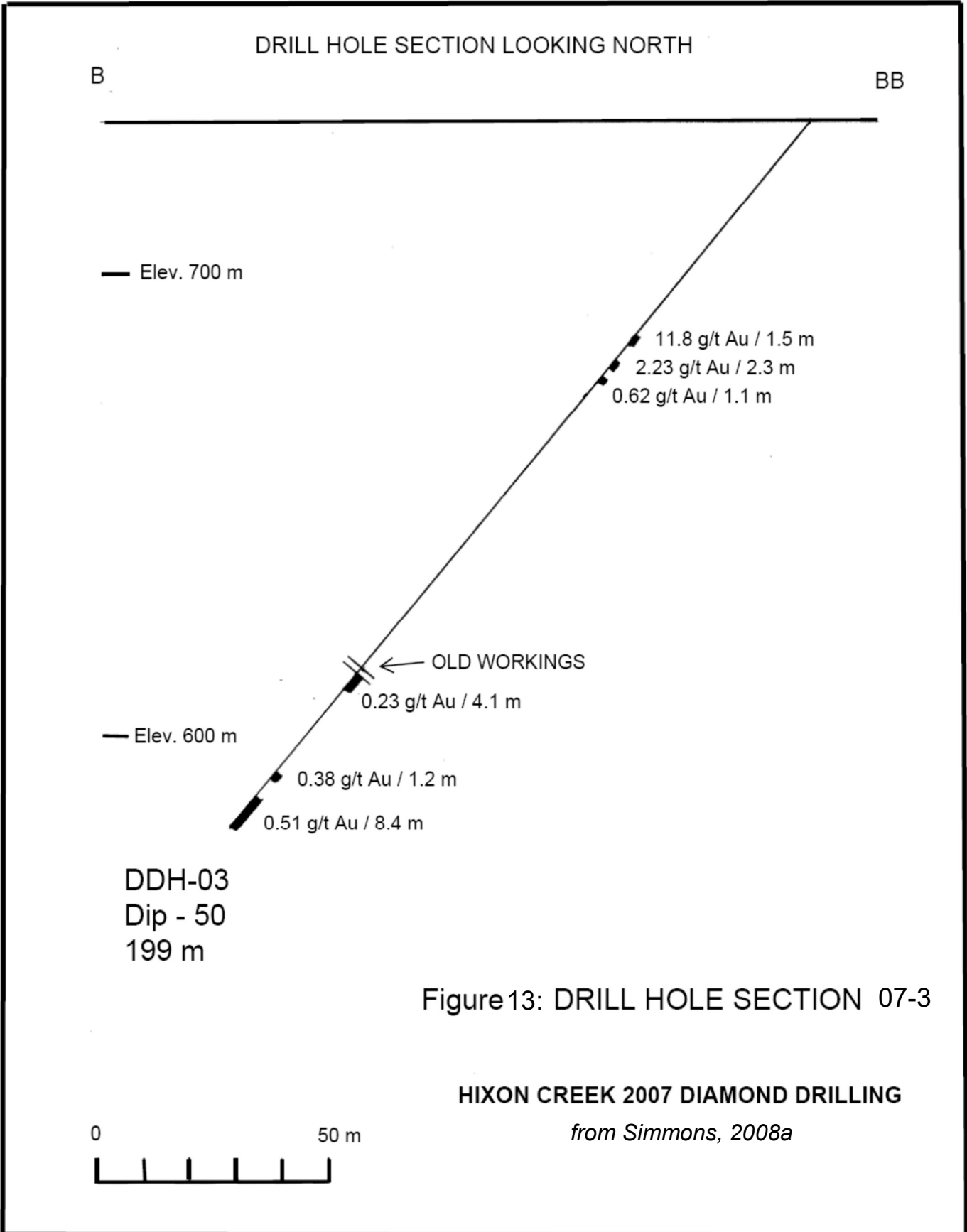
true widths cannot be determined since orientations of the mineralized zones are not definitively known

Drill sampling methods are discussed under Section 11.0, "Sample Preparation, Analyses and Security", below.



**FIGURE 11  
DRILL PLAN**  
from Allan, 1984, with data added from Adamson, 1988 via Simmons, 2008b  
SCALE  
50m





## 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Complete details of the drill programs are not in the public record and only limited second hand data was found for the Bethlehem and Noranda programs. In general, the core would be measured and marked with core box start and core box finish at the upper left (start) and lower right (finish) of each box and core recovery measured or approximated in percent. Geologists would then log core and measure out sample intervals. Typical sample intervals were 0.76 to 1.7m, but were reduced across significant vein or mineralized intercepts and at significant lithological boundaries. Core was split in half with a mechanical core splitter and half sent to the laboratory for assay and the remaining half put back in the core box as a record.

The 2008 diamond drill program was supervised by Brian Simmons and logged by Alex Briden and Alison Dueck and/or Brian Simmons. The 2007 diamond drill core and rock samples were taken by or under the supervision of Brian Simmons P. Geo and Alex Burton P. Geo., P. Eng. The sulphide/quartz sections of the diamond drill core were split and sampled on a daily basis using a six inch core splitter. Half of the core was sent for analysis. After the initial assay results were received, additional sampling was done in 2007 on non-split sections of core. In both 2007 and 2008, the core sample length was typically 2.5 feet (0.76m). The sample bags were tied with plastic zip locks and samples were kept in a locked vehicle until delivery to the assay lab. In 2004 H.A. Briden spotted the drill holes, logged the core, split some of it and handed it in for assay; no additional information is reported.

In 2008 the 82 drill core samples were sent to ALS Chemex in Vancouver, British Columbia and analyzed for gold and silver by fire assay and ICP- atomic emission spectroscopy (AES) techniques for the gold analysis and aqua regia digestion with an atomic absorption (AAS) finish for silver. In 2007 the 258 samples were sent to ALS Chemex and ACME Analytical Laboratories (ACME) Vancouver, British Columbia and were analyzed for gold and silver using fire assay with an AAS finish, and a gravimetric finish on results >1,000 ppb Au. The 2004 samples were analyzed for gold by fire assay and ICP- emission spectroscopy by ACME Sample preparation in 2004, 2007 and 2008 involved drying, fine crushing to better than 70% passing minus 2 mm, then pulverizing a 150g split to better that 85% passing 75 microns.

In 1983 all core recovered (242 samples) was logged by project geologist, C. Aussant, split and sampled. Sample intervals were generally at 1.0 to 1.5m intervals, but varied based on mineralization and geological contacts. In addition, 174 sludge samples were collected at 1.5m intervals where possible. All samples were assayed for gold and silver by Terrain Research Labs Ltd. in Calgary, Alberta. Analytical techniques consisted of a fire assay with an atomic absorption (AA) finish on a 25 gram sample aliquot.

In the 2004 to 2008 drill programs quality control procedures were implemented at the laboratories involving the regular insertion of blanks and standards and check repeat analyses and resplits (re-analyses on the original sample prior to splitting). No documented quality assurance and quality control (QAQC) samples were inserted by



the companies. There is no evidence of any tampering with or contamination of the samples during collection, shipping, analytical preparation or analysis. All sample preparation was conducted by the laboratories. The laboratory is entirely independent from the issuer. ALS Chemex and ACME Analytical Laboratories in Vancouver, British Columbia were ISO 9001:2000 accredited facilities and certified for the procedures performed. In the author's opinion, the sample preparation, analysis and analytical procedures are adequately reliable for the purposes of this technical report.

A sampling protocol should be implemented involving the routine and regular insertion of blanks, standards and duplicates sent to the primary laboratory, and re-assaying of selected mineralized pulps at a second independent laboratory in future trenching and drill programs on the Property.

## **12.0 DATA VERIFICATION**

The geochemical data was verified by sourcing original analytical certificates and digital data, where available. Analytical data quality assurance and quality control was indicated by the favourable reproducibility obtained in laboratory inserted standards, blanks and duplicates (repeats). There does not appear to have been any tampering with or contamination of the samples during collection, shipping, analytical preparation or analysis. Quality control procedures are outlined under Section 11.0, "Sample Preparation, Analyses and Security". In the author's opinion, the data provided in this technical report is adequately reliable for its purposes.

Three pyritic quartz vein samples were collected by the author during the site visit on May 23, 2018, two samples from the dump area on the Main shaft and one from the dump area of the Clarke adit. The Main shaft dump samples returned 0.97 and 1.26 g/t Au with, but

## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

The Quesnelle Gold Quartz Mine Property is at an early exploration stage and no metallurgical testing has been carried out.

## **14.0 MINERAL RESOURCE ESTIMATES**

There has not been sufficient drilling on the Quesnelle Gold Quartz Mine Property to undertake a resource calculation.

### 23.0 ADJACENT PROPERTIES

The Quesnelle Gold Quartz Mine Property is adjoined to the northwest and southeast by the 22,892 hectare Cayenne Project of Barkerville Gold Mining Ltd. ("BGM"), which owns the Bonanza Ledge, Cariboo Gold Quartz, and Island Mountain mines at Wells, British Columbia, 75 km to the southeast of the Quesnelle Gold Quartz Mine Property. The Cayenne claims were staked by BGM in 2016 for their exploration potential based on regional setting, local geology, historical mineral occurrences and gold in stream sediment anomalies (*Layman, 2017b*). The Cayenne property area was explored intermittently since the 1970s with geological mapping, geochemical sampling, diamond drilling and geophysics.

Numerous historical placer operations and six hardrock Minfile occurrences are noted within the bounds of the Cayenne Project: the Jo (Minfile 093G 004), the Government (Minfile 093 067), the Tom/Yardley Lake (Minfile 093G 068) and the Ped (Minfile 093G 070) gold, ±silver, ±copper showings; the Ice molybdenum showing within the Naver pluton (Minfile 093G 006); and the Quartz silica showing (Minfile 093G 029). Mineralization within the first four showings generally consists of pyrite and chalcopyrite in orogenic style quartz veins with results of 0.65 g/t Au and 106.8 g/t Ag reported from the Government showing (*Kowalchuk and Newton, 1987*) and 0.82 g/t Au from drilling on the Tom showing which did not reach the favourable sulphide bearing dyke contact (*Kowalchuk and Newton, 1987*). In addition, visible gold has been reported from the Ped showing with a peak value of 23.69 g/t Au from quartz veinlets hosted by gabbroic rocks within the Nicola Group volcanic package (*Yorkston, 1997*).

In 2016, BGM conducted a more than 1350 line kilometre airborne VTEM and magnetic geophysical survey across and adjacent to the Cayenne Project. A northwest trending geophysical magnetic high anomaly with associated VTEM conductors was found to coincide with mapped fault structures along the contact between the volcanoclastic and metasedimentary units and known mineralized zones. The estimated depth to the top of the conductors is approximately near surface to 200m (*Layman, 2017a and b*).

The Quesnelle Gold Quartz Mine Property is also adjoined to the east by the mineral titles owned by Angelique Justason. The western and southwestern Gold Ridge property area covers prospective stratigraphy of the Barkerville subterrane, which hosts the Bonanza Ledge, Cariboo Gold Quartz, and Island Mountain mines at Wells, British Columbia.

The author is not able to verify the above information and the information is not necessarily indicative of the mineralization on the Quesnelle Gold Quartz Mine Property.

### 24.0 OTHER RELEVANT DATA AND INFORMATION

To the author's knowledge, there is no additional information or explanation necessary to make this technical report understandable and not misleading.

## 25.0 INTERPRETATION AND CONCLUSIONS

There is excellent potential on the Quesnelle Gold Quartz Mine Property to discover an orogenic gold  $\pm$ silver deposit consisting of gold  $\pm$ silver bearing quartz veins and quartz-carbonate-pyrite replacement style mineralization similar to those within the Wells-Barkerville mining camp, about 75 km to the southeast. The author is unable to verify this information and the information is not necessarily indicative of the mineralization on the Property which is the subject of this report. Significant gold  $\pm$ silver mineralization has been delineated on the property in old workings, trenches and drill holes, with the IP geophysical survey indicating potential for expansion and additional zones. Other showings with anomalous gold values have not been evaluated.

The Quesnelle Gold Quartz Mine Property covers the historical Pioneer and Cayenne showings and the Quesnel Quartz deposit as documented by the British Columbia Geological Survey Branch as Minfile Numbers 093G 013, 093G 014 and 093G 015, respectively (*British Columbia Minfile, 2018*). The most significant mineralization to date has been found at the Quesnel Quartz deposit. Historically, at least three main northwest trending gold-silver zones were identified crossing Hixon Creek over a distance of 500m at the Quesnel Quartz deposit. From east to west the zones were the Washburn, the Stewart, and the Morrison ledges, which were explored by: the Main shaft, associated workings and the Mason shaft; the Stewart shaft and possibly the Raven adit and; the Morrison and Hercules shafts, respectively. The mineralization at the Mason shaft is probably a separate zone from the Washburn (Main) and explored the East zone, which was identified as a separate zone by Noranda in 1987 to 1988.

The gold-silver mineralization was found to occur primarily in quartz  $\pm$ carbonate veins, but also in the quartz-carbonate-pyrite altered greenstone, and less commonly in quartz sericite schists, but proximal to and following the contact between the greenstone and schists. The latter two types are referred to as replacement ore. The veins, which vary from a few centimetres up to about 1.8m in width, generally terminate against the contact. Mineralization includes native gold, native silver, galena, sphalerite, chalcopyrite, molybdenite, arsenopyrite, pyrrhotite and pyrite. Both quartz vein hosted and replacement style mineralization was documented, with replacement mineralization within the pyritized and carbonatized greenstone more prevalent at depth. The pyrite is fine grained, commonly with other sulphide, and can comprise 30% of the rock.

The Main zone, which has seen the most work, comprises the principal gold zone at the Quesnel Quartz deposit and consists of a network of quartz veins over a northwest trending, 70°NE dipping, 40m wide by 140m long and 190m deep zone. Twenty-nine quartz veins were recorded in the mine workings which extend 120m vertically beneath the surface. The geology within the mine (Main shaft and associated workings) appears to consist of dark green, fine grained greenstone (meta-basalt), in contact on the southwest with quartz sericite schists (volcaniclastic and possibly other sedimentary rocks). Lithological contacts strike 320°. In the upper levels of the mine, dips are steeply northeast and in the lower levels, they dip moderately southwest. Moderate to intense hydrothermal alteration is pervasive. In basalts, it comprises quartz, carbonate, and

pyrite; in the felsic schists, it consists of clay and pyrite. The oxidized or weathered zone in the basalt ranges from 25 to 30m in depth.

The Main zone was intersected in DDH 83-1, 83-3, 87-1, 87-2, 88-4, 88-5, 88-6 and 07-1, and is stratiform (essentially parallel to the volcanic-sedimentary contact. Quartz veins occur almost exclusively in greenstone. A second vein system within the zone strikes northeast and generally dips steeply southeast and occurs proximal to the contact. Diamond drill results from the Main zone include 5.72 g/t Au, 20.6 g/t Ag over 1.5m in DDH 83-1, 13.3 g/t Ag over 6.1m in DDH 83-3, 5.1 g/t Au over 1.5m in DDH 87-1, 4.8 g/t Au over 3.0m in DDH 88-5 and 6.75 g/t Au and 54.5 g/t Ag over 3m from DDH 07-1.

The East zone lies 25m northeast of the Main zone and consists of a northwesterly trending quartz vein zone apparently dipping northeast and stratiformly hosted by greenstone. It was traced over a length of 90m in seven drill holes (DDH 83-1, 87-1, 87-2, 88-4, 88-5, 88-6, 07-3) and remains open to the northwest. Diamond drill results include 7.3 g/t Au over 1.5m from sludge in DDH 83-1, 3.3 g/t Au over 2.8m in DDH 88-4, 5.2 g/t Au over 2.75m in DDH 88-5 and 11.8 g/t Au and 12.9 g/t Ag over 1.5m in DDH 07-3.

The Raven zone lies 270m westerly from the Main zone near the site of an old adit. A chip sample collected in 1981 from a quartz vein exposed by a trench 20m above the Raven adit assayed 5.28 g/t Au over 3m. Drilling has not been successful on this zone, possibly due to the extremely poor core recoveries encountered.

The IP survey in 2017 outlined four anomalies which correspond to the Mason (East) zone, Washburn (Main zone), Stewart/Raven and Morrison-Hercules mineralized zones at the Quesnel Quartz deposit. The response is encouraging particularly for the Raven and Morrison anomalies, since drilling of the Raven zone has not been successful due to extremely low core recoveries, and detailed information on the Morrison-Hercules zone has not been found, with no documented post 1930's work. Other zones that have not seen significant work on the Quesnelle Gold Quartz Mine Property are discussed below and there is also good potential for significant mineralization to occur beneath the glacial cover.

The North zone, approximately 1 km north of the Main shaft consists of numerous narrow quartz veins hosted by greenstone. Noranda obtained gold values in excess of 1 g/t in four trenches, including 1.42 g/t over 2m and 1.24 g/t over 3m. Grab samples taken from veins in two other trenches assayed 6.36 g/t and 1.38 g/t. A sample from an outcrop at a landing in the area returned 3.62 g/t Au. The zone lies 1.2 km northwest (possibly along trend?) of the Cayenne working.

The Cayenne showing, 1 km east of the Main zone, covers a 0.6 to 1.2m wide quartz vein and several smaller quartz stringers hosted by highly altered and weathered quartz sericite schist. Gold values have been reported from both the quartz and from the schist. A quartz sample reportedly returned 6.86 g/t Au in 1918 and 8.23 g/t Au, 13.7 g/t Ag in 1930. Gold values have been spotty, but there is no documentation of systematic

sampling and the trend of mineralization has not been documented or is unknown; the adit trends 145°. No work has been documented in recent times and if the zone trends northwest, it may extend 1.2 km to the North zone.

The Pioneer showing, 1.9 km north of the Main zone, consists of a northerly trending, northeast dipping, narrow quartz vein with galena and sphalerite hosted by carbonaceous shale. A 7.6 cm seam returned 21% Pb, 3% Zn and 1423 g/t Ag and anomalous gold values have also been recorded from the vein. No recent work has been documented.

The Quesnelle Gold Quartz Mine Property is at an early stage of exploration, and as such considered a high risk. The above interpretations and the following recommendations for work are based on the results of geochemical and geophysical surveys, which are subject to a wide range of interpretation, with primarily sloughed historical trenching, limited data available on historical drilling and inaccessible underground development. There are no specific risks that the author foresees that would impact continued exploration and development of the property. Although the author believes the surveys on the property are scientifically valid, evaluating the geological controls on mineralization is hampered by a paucity of outcrop exposure.

## **26.0 RECOMMENDATIONS**

The Quesnelle Gold Quartz Mine Property is a property of merit and warrants continued exploration. There is excellent potential on the Quesnelle Gold Quartz Mine Property to discover an orogenic gold ±silver deposit consisting of gold ±silver bearing quartz veins and quartz-carbonate-pyrite replacement style mineralization similar to those within the Wells-Barkerville mining camp, about 75 km to the southeast. The author is unable to verify this information and the information is not necessarily indicative of the mineralization on the Property which is the subject of this report.

The reports on the Noranda and Bethlehem drill programs should be located and complete results from these and the old data recently released from the Quesnelle Quartz Mining Company require compilation to plot detailed plans and sections of the workings and mineralized zones and construct a 3D model using the recently acquired data from the LiDAR survey.

This should be followed by detailed mapping and sampling of the property, including the Pioneer mine and Cayenne showings, the North zone and the Morrison-Hercules adit areas, and groundtruthing of specific features from the LiDAR survey that require verification or confirmation. This should be facilitated by excavator trenching in critical areas to gain geological information. In addition, old trenches should be cleaned out and sampled. Access can be improved at this time.

A contingent Phase 2 diamond drill program is recommended to follow up significant results from Phase 1.

## 26.1 Budget

Based on the above recommendations, the following contingent two phase exploration program with corresponding budget is proposed. Phase 2 is entirely contingent on results from Phase 1.

### Phase 1

• Data compilation, integration	\$10,000
• property mapping and sampling (geologist, prospector)	35,000
• road/trail rehabilitation	10,000
• trenching and sampling	70,000
• 3D model	20,000
• geochemistry (200 samples @ \$50/ea., plus freight & QAQC)	11,000
• meals and accommodation	10,000
• transportation, communication	9,000
• preparation, report and drafting	15,000
• contingency	<u>20,000</u>
<b>TOTAL:</b>	<b>\$210,000</b>

### Phase 2 (contingent on results from Phase 1) diamond drilling

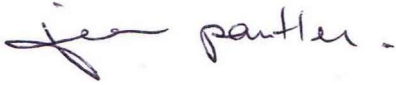
• diamond drilling (2500m in 7-9 holes)	350,000
• geochemistry (500 samples @ \$40/ea., incl. freight)	20,000
• geologist, sampler	30,000
• transportation, communication	15,000
• meals and accommodation	20,000
• preparation, report and drafting	20,000
• contingency	<u>45,000</u>
<b>TOTAL:</b>	<b>500,000</b>

**PHASE 1 & 2 TOTAL**  
**\$710,000**

**SIGNATURE PAGE**

Respectfully submitted,

Effective Date: July 28, 2019

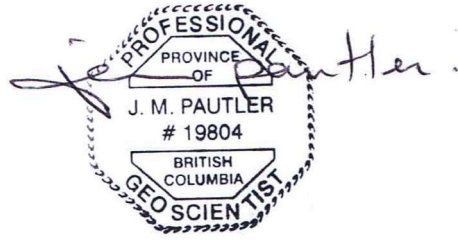


"Jean Pautler"

Signing Date: July 28, 2019

Jean Pautler, P.Geol.

The signed and sealed copy of this Signature page has been delivered to Golden Cariboo Resources Ltd.



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**CERTIFICATE OF QUALIFIED PERSON**

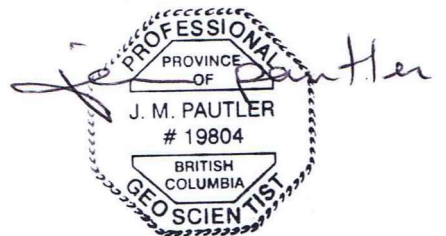
- 1) I, Jean Marie Pautler of 103-108 Elliott Street, Whitehorse, Yukon Territory am self-employed as a consultant geologist, authored and am responsible for all sections of this report entitled "Technical report on the Quesnelle Gold Quartz Mine Property", dated July 28, 2019.
- 2) I am a graduate of Laurentian University, Sudbury, Ontario with an Honours B.Sc. degree in geology (May, 1980) and 38 years mineral exploration experience in the North American Cordillera. Pertinent experience includes the acquisition and delineation of the Tsacha (3T's) epithermal gold deposit, British Columbia, and the evaluation of, and exploration for, orogenic type deposits in the Bralorne, Cassiar, Atlin and Wells-Barkerville gold camps.
- 3) I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC Registration Number 19804).
- 4) I have visited the subject mining property of this report and am a "Qualified Person" in the context of and have read and understand National Instrument 43-101. This report was prepared in compliance with NI 43-101.
- 5) This report is based on a site visit by the author on May 23, 2018 after the latest exploration programs on the ground on the claims. I do not have any prior involvement on the Quesnelle Gold Quartz Mine Property.
- 6) At the effective date of the technical report, to the best of my knowledge, information, and belief, the technical report contains all scientific and technical information required to be disclosed to make the technical report not misleading.
- 7) I am entirely independent, as defined in section 1.5 of National Instrument 43-101, of Golden Cariboo Resources Ltd., Standard Drilling and Frank Callaghan, any associated companies and the Quesnelle Gold Quartz Mine Property. I do not have any agreement, arrangement or understanding with Golden Cariboo Resources Ltd., Standard Drilling or Frank Callaghan, or any affiliated company to be or become an insider, associate or employee. I do not own securities in Golden Cariboo Resources Ltd., or any affiliated companies and my professional relationship is at arm's length as an independent consultant, and I have no expectation that the relationship will change.

Dated at Carcross, Yukon Territory this 28<sup>th</sup> day of July, 2019.

"Signed and Sealed"

*Jean Pautler*

"Jean Pautler"



Jean Pautler, P.Ge. (APEGBC Reg. No. 19804)  
 JP Exploration Services Inc.  
 #103-108 Elliott St  
 Whitehorse, Yukon Y1A 6C4

The signed and sealed copy of this Certificate page has been delivered to Golden Cariboo Resources Ltd.