

Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical & Petrographic

TOTAL COST: \$4500

AUTHOR(S): H. Sigurgeirson SIGNATURE(S): _____

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): n/a YEAR OF WORK: 2018

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5680038

PROPERTY NAME: Mal-Wen

CLAIM NAME(S) (on which the work was done): _____

1053101, 1053102, 1057409

COMMODITIES SOUGHT: Cu, Au

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE002, 058, 059 & 269

MINING DIVISION: Nicola NTS/BCGS: 092H/098

LATITUDE: 49 ° 56 ' _____ " LONGITUDE: 120 ° 27 ' _____ " (at centre of work)

OWNER(S):

1) Victory Resources Corporation 2) _____

MAILING ADDRESS:

734-1055 DUNSMUIR STREET

Vancouver, BC V7X 1B1

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

1) Victory Resources Corporation 2) _____

MAILING ADDRESS:

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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Basalt, Granodiorite, Diorite, Triassic Nicola Group, Jurassic Pennask Batholith, propylitic, potassic, quartz vein, chalcopryite, stockwork

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 403, 449, 1049, 1089, 1586, 1718, 4082, 4230,

8453, 9078, 9194, 9195, 9590, 24800, 26469, 27039, 28905, 30405, 30728, 31194, 32160, 35449 & 35487

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	4 samples	1053101	\$1500
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic	3 thin sections	1053101	\$3000
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
TOTAL COST:			\$4500

Geochemical & Petrographic
Assessment Report
on the Mal-Wen Property

Aspen Grove, British Columbia
Nicola Mining Division

Map Sheet 092H/098

UTM 683000 E, 5535 500 N (Zone 10)

Claims 1053101, 1053102 & 1057409

Prepared for:
Victory Resources Corporation

Prepared by:
Helgi Sigurgeirson, P.Geol.
June 23, 2018

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2. Petrographic Report from June 2017 program

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1. Whole Rock Assay and QA/QC certificates
2. Geochemical Assay and QA/QC certificates

Introduction

Location, Access and Physiography

The property is about 30 km southeast of Merritt in south-central British Columbia (Figure 1). It is accessed by taking highway 97C southeast to the Loon Lake Road Exit (Figure 2), which connects to the logging road network which criss-crosses the property. The property is centred at approximately 685000E, 5535000N (Zone 10).

The topography is moderate and is characterized by rolling hills. It ranges in elevation from 1500 m in the southeast part of the property to 1050 m in the Quilchena Creek valley in the northwest corner of the property. Most of the property is covered by second growth forest, and cut blocks at various stages of regrowth are common. Summers are generally hot and dry and snow can be expected from November to March.

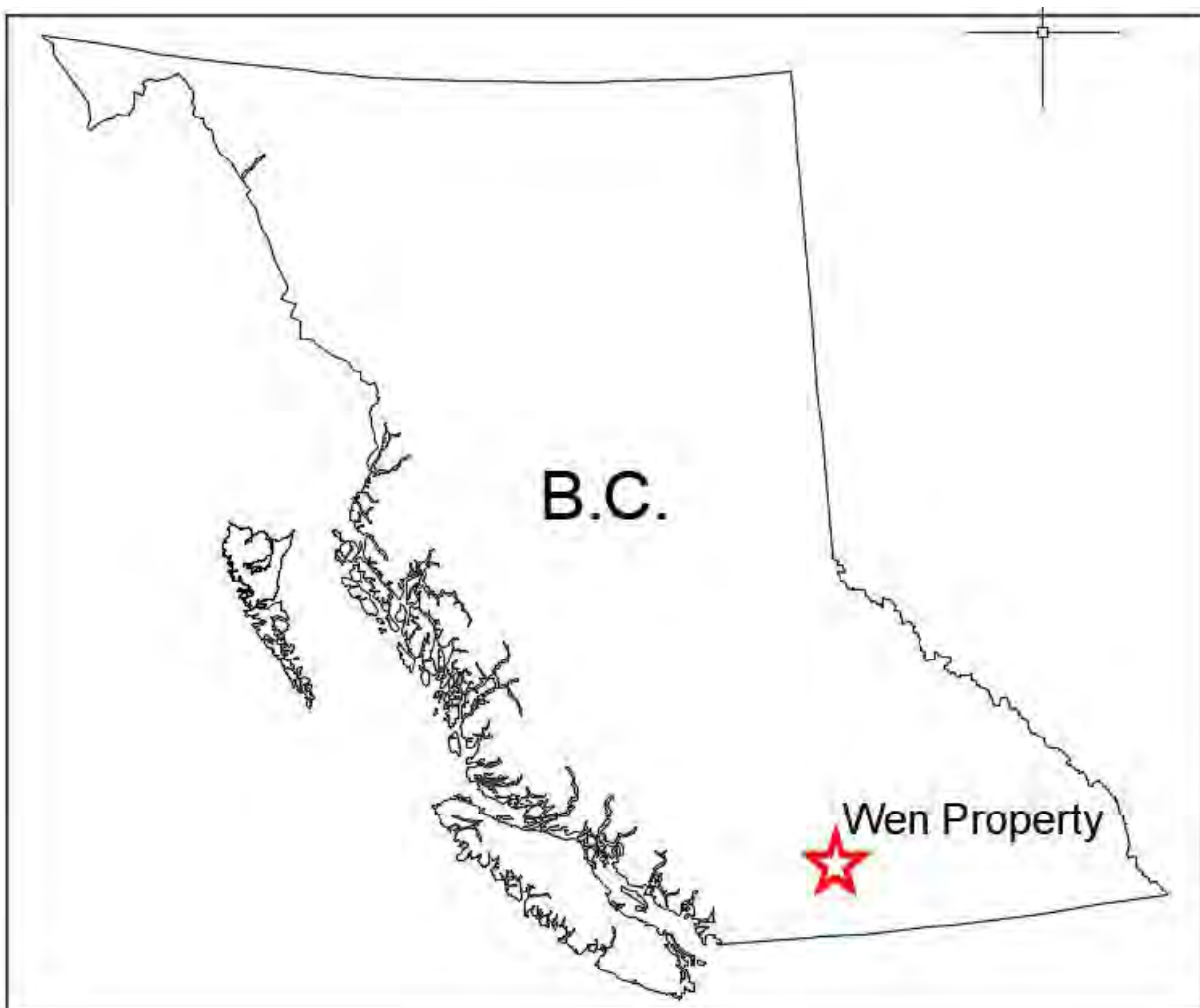


Figure 1 : Location Map

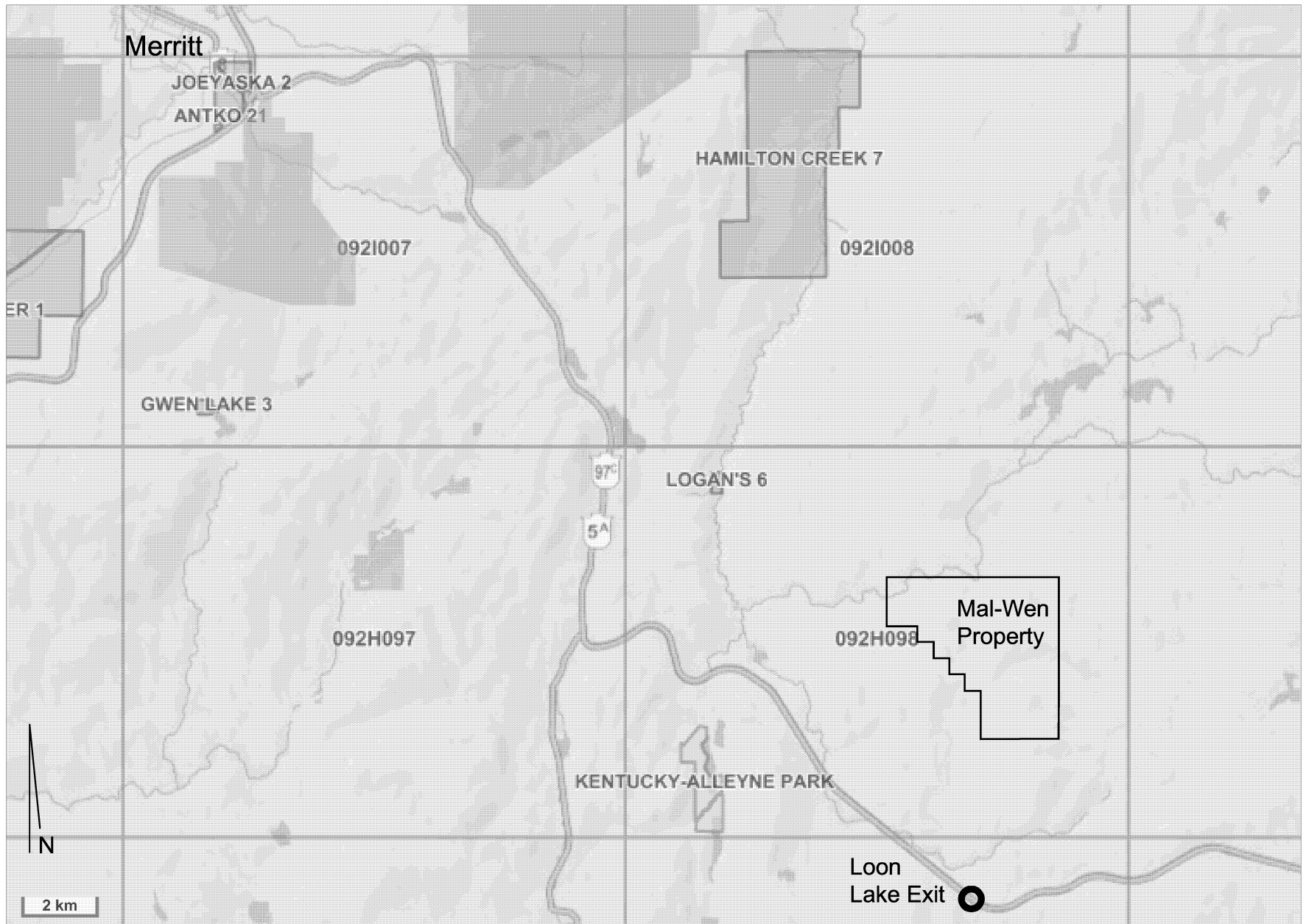


Figure 2: Access Map

Property Definition

The Mal-Wen Property consists of 3 claims totalling 1621.63 hectares (Figure 3). The claims are 100% held by Victory Resources Corporation. A statement of work was filed (EV#5680038) for the work described in this report on January 3, 2018. Claim details are given in Table 1. Base map from MapPlace (2017).

Claim	Good to Date	Hectares
1053101	2018/JUL/24	727.8
1053102	2018/JUL/24	685.92
1057409	2018/JUL/24	207.91

Table 1: Claim details.

Previous Work

A considerable amount of exploration has been done on the property and is summarized in Table 2. However, most of these programs were small and narrowly focused. Reconnaissance mapping was done by Consolidated Skeena Mines Ltd. (Sharp, 1968) over part of the property and limited mapping was done in the Mal and Wen Prospect areas. Consolidated Skeena Ltd. (Sharp, 1968) put in large soil and magnetometer grids in the Mal Prospect area. Nitracell Canada Ltd. (Kierans, 1972) put in a large soil, magnetometer and IP grid in the Wen Prospect area. Significant drill programs were done by Nitracell Canada Ltd. (Kierans, 1972), George Resource Company Ltd. (Verley, 1997) and Victory Resources at the Wen Prospect (Verzosa, 2003; Sookchoff, 2007, 2008 & 2009). The Mal Prospect was mainly drilled by Kerr-Addison Gold Mines Ltd. (alluded to in other reports, but not recorded) and Abaton Resources Ltd. (Tully, 1981). Limited mapping and petrography were done by Victory Resources in 2017 (Sigurgeirson, 2018).

Mal-Wen Property Minfiles (Figure 3):

HN-Wen (092HNE058) - A Cu[±]-Au quartz vein and stockwork mineralization.

Echo (092HNE059) – A number of minor chalcopyrite showings.

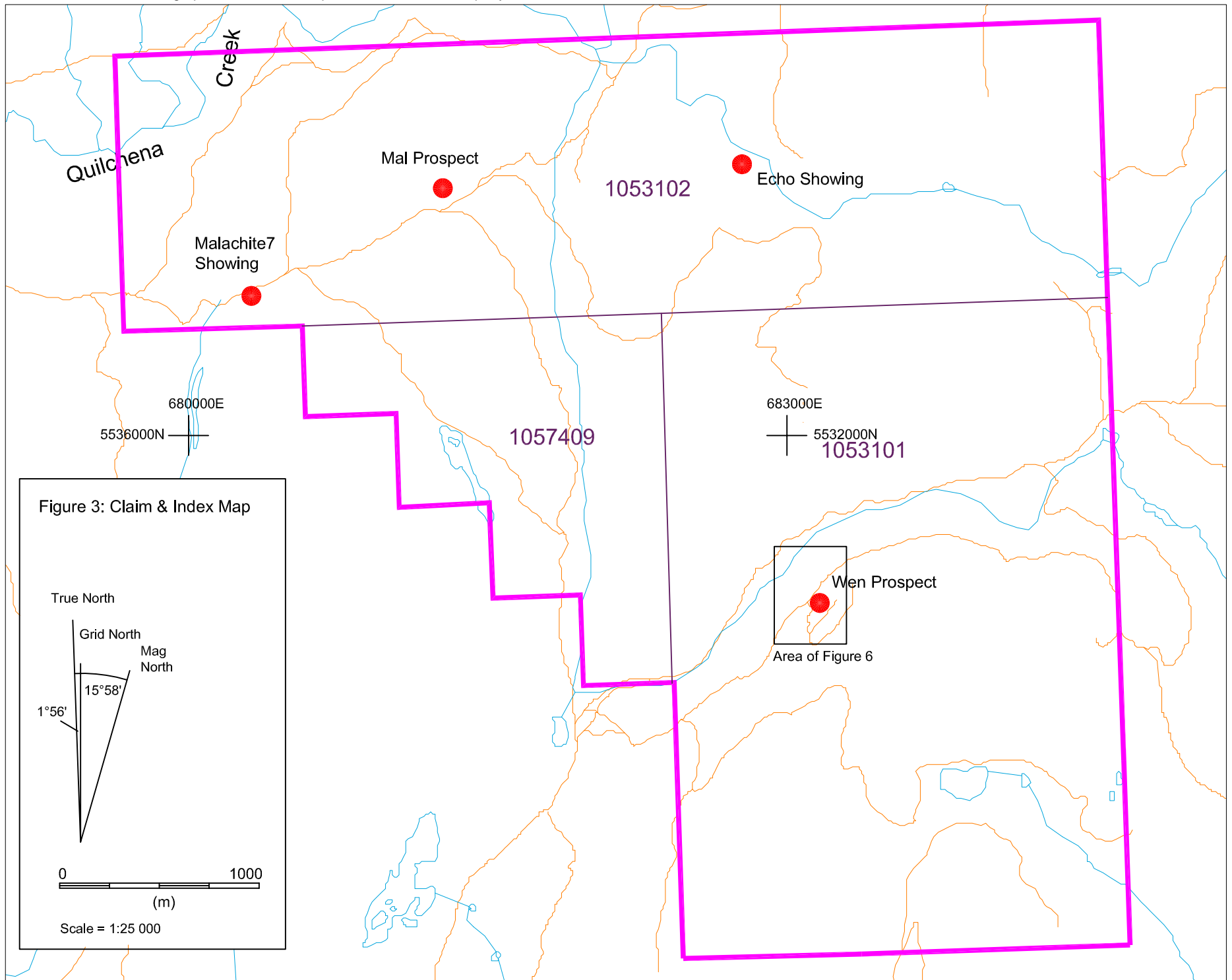
Mal (092HNE002) – A Cu skarn prospect.

Malachite 7 (092HNE269) – A Cu skarn showing.

Work Program Summary

The purpose of the January 2018 work program was to resample core from DDH 2010-5 and a rock sample from 2017 samples to investigate the relationship between the intrusives, hydrothermal breccias and mineralization at the Wen Prospect.

The core was brought from Kelowna to Pender Island on December 30 and 31, 2017. January 2, 2018 was spent selecting, describing and preparing the samples for shipping. Six samples were selected. From these, 3 were submitted for petrography, 4 for whole rock analysis and 1 for geochemical analysis.



Year	AR#	Author(s)	Company	Zone	Geological	Geochemical	Geophysical	Drilling	Other
1961	403	Rutherford	Skeena Silver Mines Ltd.	Wen			e.m. (40 km)		
1962	MMPRAR1 961	Smith	Noranda Exploration	Wen					2195 m of stripping
1963	MMPRAR1 962	Smith	Skeena Silver Mines Ltd.	Mal				19 DDHs (1216 m)	Limited trenching
1962	449	Sirola	Kerr-Addison Gold Mines Ltd.	Mal	Prospect area (~345 ha.)	~560 soil samples (rubeanic)	SP (39 km), mag (34 km)		
1967	1049	Sharp	Consolidated Skeena Mines Ltd.	Mal, Echo		c.300? Preliminary soil samples			
1967	1089	Sharp	Consolidated Skeena Mines Ltd.	Wen, Echo, Mal			Airborne mag, e.m. & radioactivity (~530 km)		
1968	1586	Sharp	Consolidated Skeena Mines Ltd.	Mal	Reconnaissance	~1000 soil samples	Mag (~25 km)		
1968	1718	Boniwell	Consolidated Skeena Mines Ltd.	Mal			IP (37.4 km)		
1972	4082	Lewis	Balfour Mines Ltd.	SW			Airborne mag (500 ha.)		
1972	4230	Kierans	Nitracell Canada Ltd.	Wen	Prospect area	1367 soil samples 5 rock samples	IP, mag (26 km)	5 DDHs (884.7 m)	
1972	(4230)	Walcott	Nitracell Canada Ltd.	Wen			IP (amount unknown)		
1980	8453	Tully	Abaton Resources Ltd.	Mal		1 rock sample	VLF, mag (29.6 km)		Trenching (123 m)
1981	9078	Mark	Omineca Resources Ltd.	Mal (south)			e.m. (6.5 km)		
1981	9194	Mark	Core Energy Corporation	Echo			e.m. (4.8 km)		
1981	9195	Mark	Kastle Energy Corporation	Echo			e.m. (4.8 km)		
1981	9590	Tully	Abaton Resources Ltd.	Mal				7 DDHs (616.18 m)	
1997	24800	Verley	George Resource Company Ltd.	Wen				16 DDHs (1636.8 m)	
2001	26469	Dahrouge	Commerce Resources Corporation	Au, Mal, Wen	Reconnaissance	19 rock samples (& 2 silt?)			
2000	(27039)	Walcott	Commerce Resources Corporation	Mal, Wen			IP (amount unknown)		
2003	27039	Verzosa	Lateegra Resources Corporation	Mal, Wen		430 soil samples	VLF (5.8 km), mag (26.1 km)	6 DDHs (702.5 m)	
2005		Verzosa	Victory Resources	Au, Mal, Wen					43-101 Report
2007	28905	Sookochoff	Victory Resources	Wen		47 MMI soil samples			
2008	30405	Sookochoff	Victory Resources	Wen				1 DDH (88.39 m)	
2009	30728	Sookochoff	Victory Resources	Wen				4 DDHs (183.43 m)	
2009	31194	Sookochoff	Victory Resources	Mal (south)					Lineament study (509 ha.)
2011	32160	Sookochoff	Victory Resources	Wen				6 DDHs (702.5 m)	
2015	35449	Sookochoff	Victory Resources	Mal (south)			IP (3.3 km)		
2016	35487	Sookochoff	Victory Resources	Wen			Mag (1.8 km)		Lineament study (960 ha.)
2018		Sigurgeirson	Victory Resources	Wen	Wen Prospect (3.5 ha.)				Petrography (1 sample)
2018		Sigurgeirson	Victory Resources	Wen, Mal, Echo	Mal Prospect (8 ha.), Wen area (4 ha.)	11 overburden samples & 22 rock samples			Prospecting (40 ha.), petrography (3 samples)

Table 2: Property History

Regional Geology

The property is located within the Quesnel Terrane, which is composed of Paleozoic and Mesozoic arcs and is an important metallogenic belt hosting numerous porphyry Cu-Au-Mo deposits. The property is within the eastern Belt of the late Triassic Nicola Group, which is composed of basaltic volcanic rocks and fine grained sediments. The Nicola Group rocks are intruded by granodiorites and quartz diorites of the early Jurassic Pennask Batholith (Preto, 1979; Monger, 1989). Major north-south trending faults, such as the Kentucky-Alleyne Fault immediately west of the property, are the dominant structural feature in the area. The metamorphic grade of the Nicola group rocks is commonly prehnite-pumpellyite.

The Dillard Creek Property, about 20 km to the south, hosts an alkalic porphyry system in the same (eastern) belt of the Nicola Group (Mihalynuk & Logan, 2013) as the property (Figure 4). The alkalic porphyry deposits of the Iron Mask Batholith also occur within Nicola Group volcanics, about 75 km to the north (Logan & Mihalynuk, 2006). In addition, Logan et al (2011) consider the Pennask Batholith to be part of the Takomkane/Wildhorse Suite, one of the three main mesozoic magmatic suites that displays Cu Porphyry mineralization. The Brenda Deposit, about 20 km to the east is an example of a porphyry deposit associated with this suite.

Property Geology

Recent mapping by the BC Geological Survey (Mihalynuk et al, 2017) shows the property to be underlain by 3 units (Figure 5), 2 of which are part of the eastern belt of the Nicola Group. The central part of the property is dominated by augite phyric mafic volcanic rocks, mapped as augite porphyry breccia. Both the Mal and Wen prospects are within this unit. Part of the Pennask Batholith cuts across the northern edge of the property. This appears to be mainly a white, hornblende granodiorite in those exposures in the area seen by the author. The western part of the property is mainly underlain by rocks of the eastern siliciclastic succession, mainly siltstone and sandstone. The rocks are generally unfoliated. Bedding is commonly west dipping.

Mineralization

The Main (or Adit) Vein at the Wen Prospect (Figure 5) is a chalcopyrite bearing quartz vein that is commonly about 1 m in true thickness, but has occasional shoots up to 4.4 m in true thickness (Verley, 1996; Sookochoff, 2008, 2009 & 2011). Cu grades in the various drill intersects were commonly in the 0.5 to 1% range. Au grades were more erratic, with half of the vein intersections being under 1 g/t, but ranging up to 16.6 g/t Au over 4.4 m (true width) in DDH 96-1. It was traced about 100 m laterally and at least 60 m down dip. It remains open at depth, to the north and possibly to the south. It runs along the west edge of a poorly defined zone of alteration and erratic mineralization at least 70 m wide and over 450 m in length (Kierans, 1972, Verley, 1996 & Sigurgeirson, 2018). It has been traced at least 180 m down dip and is open to depth. Chalcopyrite and/or pyrite bearing quartz-carbonate veinlets form a crude stockwork zones. Epidote alteration is ubiquitous and often strong. Hematite (sometimes specular) alteration is common. Grades are generally low, but occasional high grade intersects are reported (3.6% Cu over 1.6 m in DDH 96-3). Mineralization, anomalous soils, magnetometer highs, and a weak IP anomaly suggest the zone continues to the north. Anomalous soils, mag highs and observed alteration suggest there may be a continuation to the south as well.

The Mal Prospect is a chalcopyrite bearing epidote-garnet-magnetite skarn (Verzosa, 2003) at or near

near a contact between the sediments and basaltic volcanics. Within the volcanics are areas of finer grained skarn with spotty Cu mineralization. There is no description available for the Malachite 7 mineralization, except that chalcopyrite is present within volcanic rocks.

The Echo Showing is a chalcopyrite and malachite showing associated with an old adit (Sharp, 1968). To the south of the Echo Showing are a number of other old workings and copper showings.

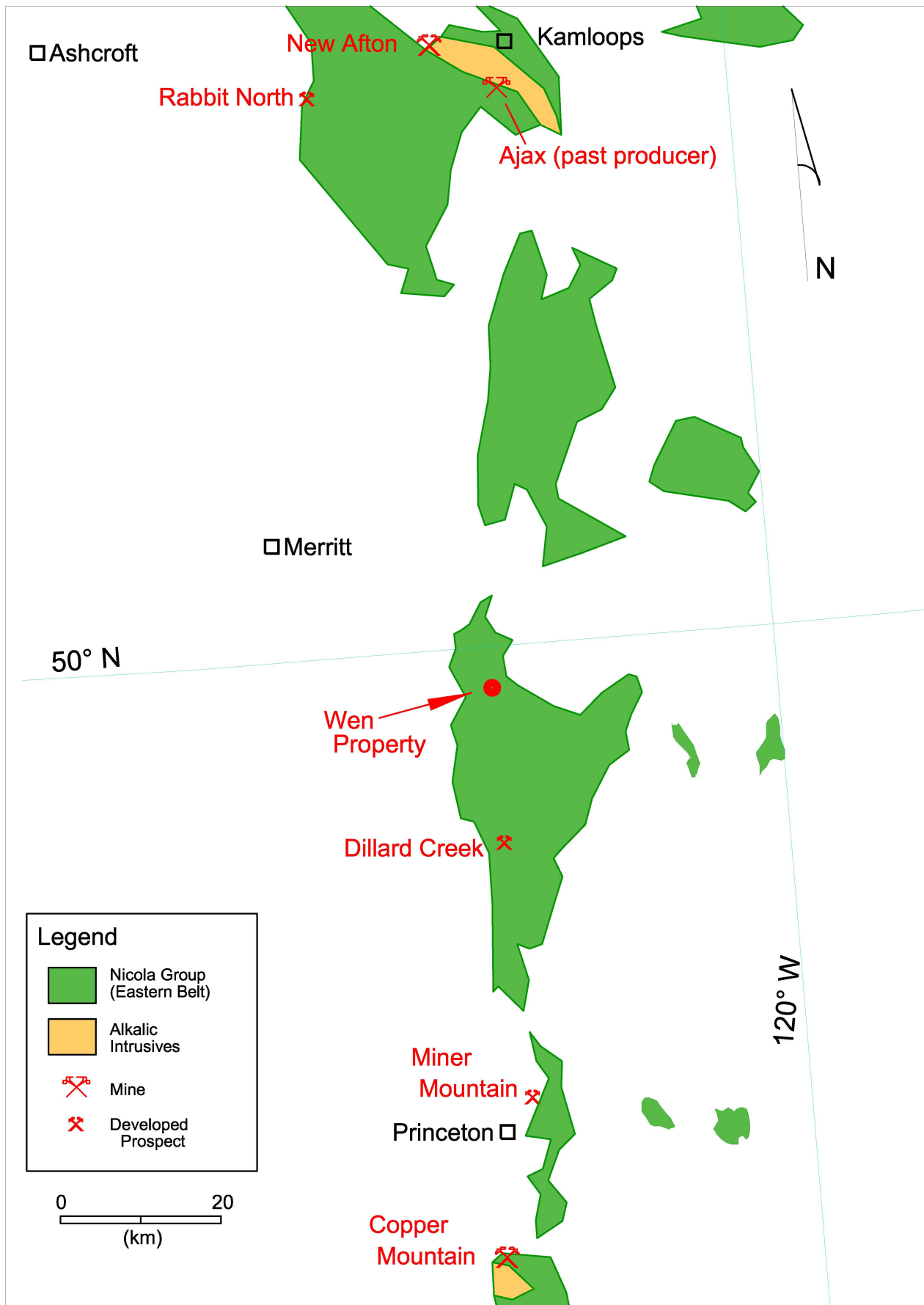


Figure 4: Alkalic Porphyry Mines and Prospects associated with the eastern belt of the southern Nicola Group.

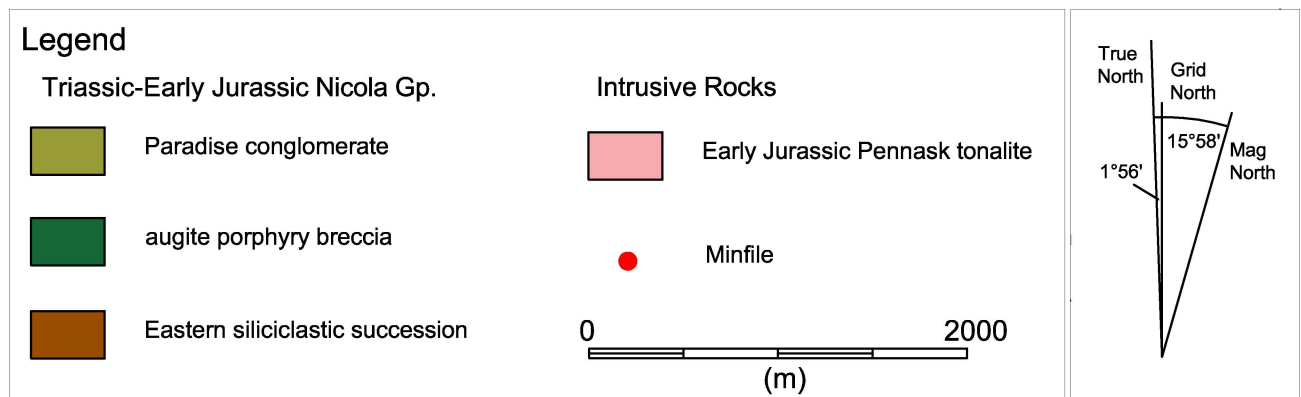
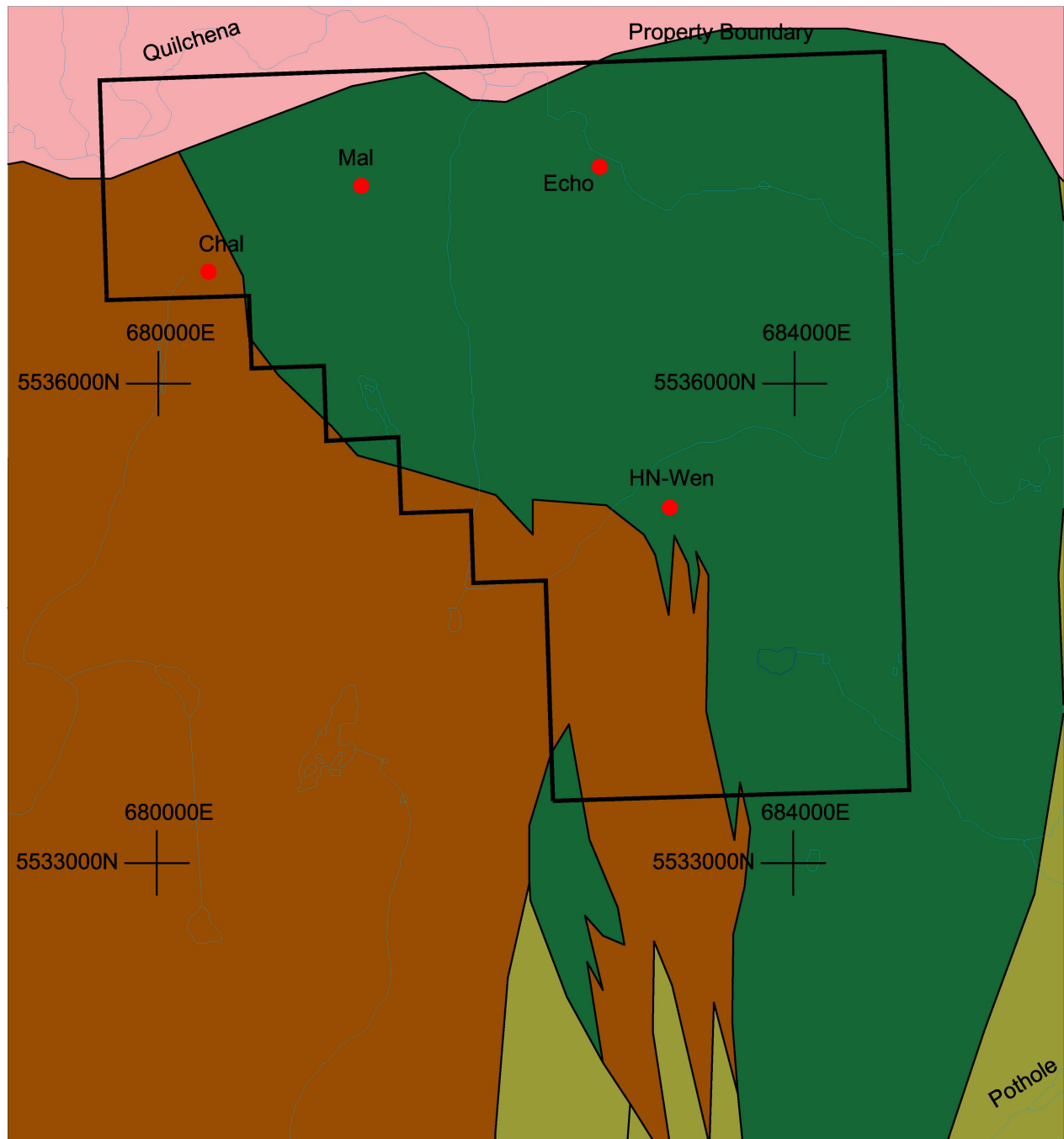


Figure 5: Property Geology Map

Scale = 1:40 000

Petrography

Two core samples from DDH 2010-5 and a rock sample from the 2017 program were selected for petrographic analysis. Sample descriptions are given in Table 3. Sample 30.082 had previously been submitted for geochemical analysis (as Sample J488625) (Sigurgeirson, 2018a). The location of DDH 2010-5 and Sample 30.082 are shown on Figure 6 (Sookochoff, 2011?). The location of the samples within the drill hole is shown on Figure 7.

The petrographic report is in Appendix I.

Sample 30.082 was selected for petrography to better identify the types of alteration visible in the breccia fragments. This sample returned greater than 1% Cu in previous analysis (Sigurgeirson, 2018b) and appeared to have types of alteration consistent with an alkalic porphyry system (Figure 8). Petrography identified quartz, chlorite, calcite and hematite in the matrix, and epidote, kspars, and possibly plagioclase (albite?) as alteration minerals within the clasts. The clasts were identified as diorite porphyry.

Sample 1 was selected to determine whether this part of the drill core might represent a less altered example of the Sample 3, which had previously been submitted for petrographic analysis in June of 2018 (Sigurgeirson, 2018a). Sample 3 had been tentatively identified as a plagioclase (hornblende) phyrical hypabyssal rock (microsyenite?), though it was uncertain whether the kspars was primary or secondary. The petrographic report for sample 3 has been included in Appendix I for reference. Petrographic analysis of Sample 1 indicates that it is a multistage hydrothermal breccia with fragments of an earlier calcite matrix breccia, composed of small fragments of basalt and hornblende phyrical diorite, in a chlorite-quartz matrix. It may be that the diorite fragments in Sample 1 are a less altered equivalent to the hornblende phyrical rock in Sample 3, but there are textural differences between the two rocks which make this uncertain.

Sample 2 was selected to identify the rock type in this section of the core which had been tentatively called diorite during the quicklog done in June 2017. It was identified petrographically as a pyroxene phyrical basalt.

The identification of diorite porphyry associated with mineralization, alteration and brecciation is significant in that it is consistent with the hypothesis that the Wen Prospect mineralization is part of an alkalic porphyry system. The diorite porphyry is a distinct phase from the pyroxene phyrical basalts and gabbros that are dominant in the area.

Sample #	Easting	Northing	DDH	Depth	Lithology	Description	Thin section?	Assay type
1	683132	5535146	2010-05	36.5 m	BRX	Dark grey-green with pale orange-pink patches. Very fine grained mafic with indistinct granules (clasts or crystals) forms angular clasts in a partly jigsaw fit breccia with a dark green aphanitic matrix (probably chlorite).	Yes	WR
2	683132	5535146	2010-05	46 m	BAS	Dark grey-green porphyritic basalt with ~15% subhedral Px (up to 1 mm) & ~20% subhedral to anhedral white FI in an aphanitic matrix. Frequent Cb & Ep veinlets.	Yes	WR
3	683132	5535146	2010-05	31 m	DIO?	Dark grey-green and orange brown Hb-Pl phyric intrusive. Matrix is very fine grained and orange brown. ~25% dark green subhedral mafic phenocrysts (up to 1 mm) and ~20% subhedral white FI (up to 1 mm). ~1% disseminated Py & frequent Cb or Ch veinlets.	(Yes)*	WR
4	683132	5535146	2010-05	71.4	BRX?	Medium grey-green porphyritic mafic with pale orange brown patches (similar to 1). The rock is weakly brecciated by irregular Cb-Ch veinlets. Px & Hb phyric.	No	WR
5	683132	5535146	2010-05	7.6	VEIN	Massive grey-white Qz vein with clots and bands of Cp and dull black Tt? (up to 1 cm). Irregular veinlets of orange-red Cb? Crosscut the Qz vein at ~2 cm spacing.	No	Geochem
30.082 / J488625	683055	5535335	n/a	n/a	BRX/DIO	Altered & brecciated gabbro. Angular jig-saw fit clasts with feldspathic groundmass and about 10% mafic phenocrysts (<=1mm, occasional rectangular Hb?). Patchy white or pink or green alteration (Al-K-Ep or Ac?). Dark grey, hard aphanitic matrix (Qz-Ch or Ac?) with about 1% clots of Cp.	Yes	(Geochem)*

(*)* done during a previous program

Abbreviations: Px = pyroxene, FI = feldspar, Cb = carbonate, Ep = epidote, Hb = hornblende, Py = pyrite, Ch = chlorite, Qz = quartz, Ac = actinolite, Cp = Chalcopyrite, Tt = Tetrahedite; BRX = breccia, BAS = basalt, DIO = diorite; WR = whole rock

Table 3: Sample Descriptions

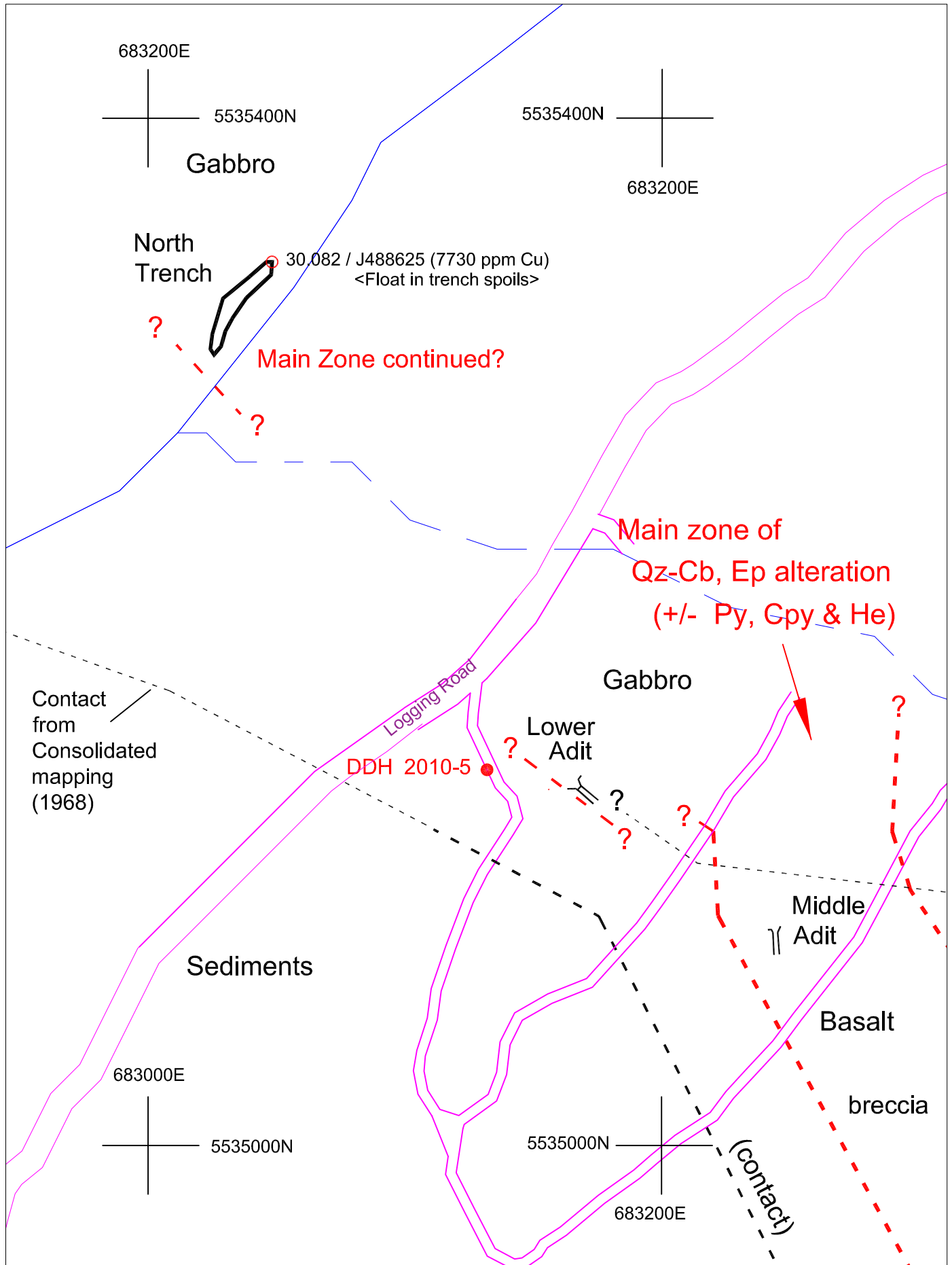


Figure 6: Sample Location Map

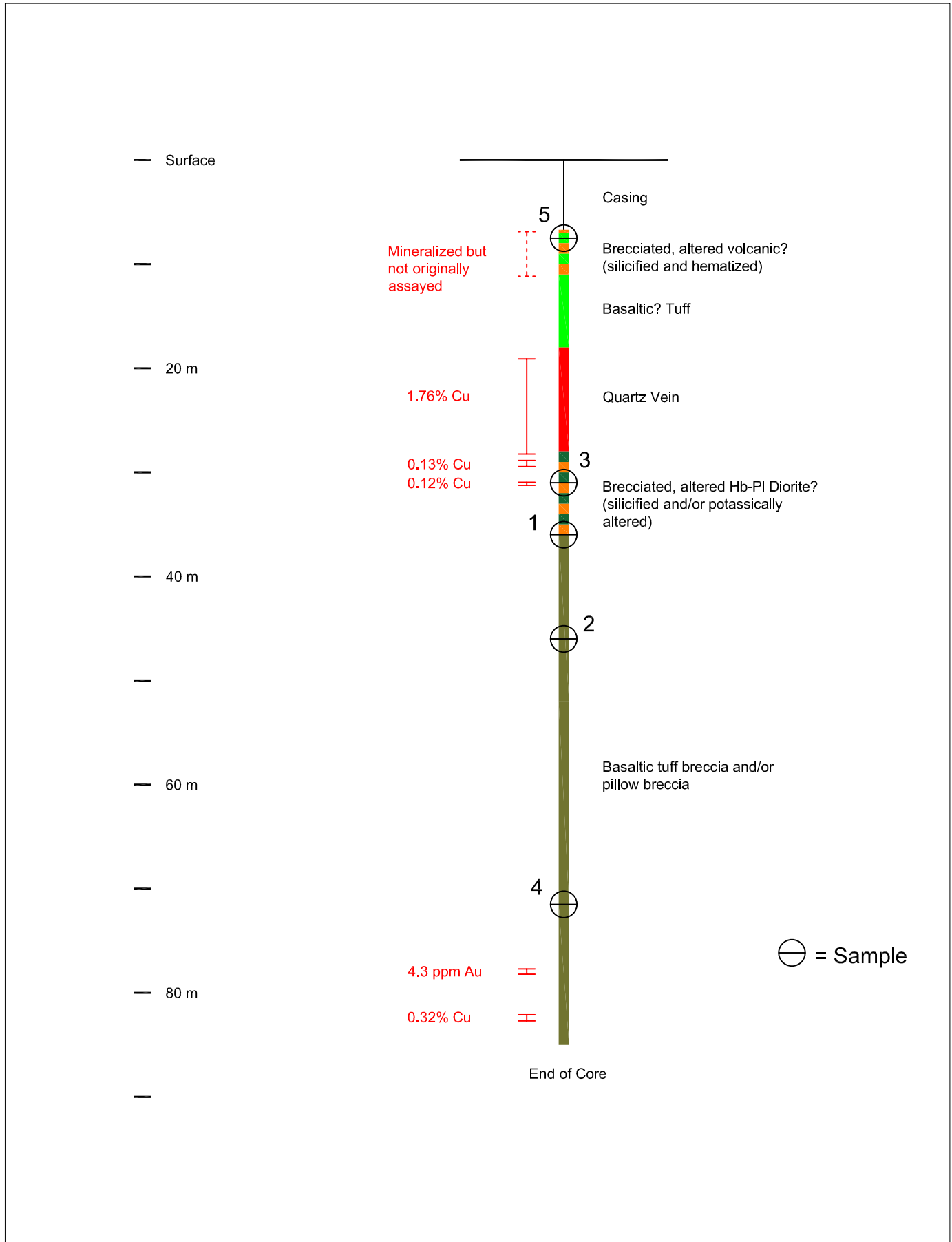


Figure 7: Sample locations within Hole 2010-05

Scale = 1:500



Figure 8: Altered, brecciated and mineralized diorite from the Wen Prospect.

Geochemical Surveys

Five core samples were selected from DDH 2010-5 (Table 3). Sample descriptions are given in table 3. Samples 1 – 4 were submitted for whole rock analysis. Sample number 5 was submitted for geochemical analysis. Samples 1 & 2 were also submitted for petrography. Sample 3 had previously been submitted for petrographic analysis (Sigurgeirson, 2018a). The location of DDH 2010-5 is shown on Figure 6 (Sookchoff, 2011). The location of the samples within the drill hole is shown on Figure 7. Appendix II contains the assay and QA/QC certificates.

Lithochemical Sampling

Samples 1 – 4 were submitted for lithochemical analysis. The purpose of the whole rock sampling was to determine whether the hornblende phyric intrusive (Sample 3) could be distinguished from basalts and gabbros on the basis of their geochemistry. Core from hole 10-5 was used as it provided both pyroxene and hornblende phyric rock samples that were associated with mineralization.

Samples were crushed to 75% less than 2 mm, 250 g were split off and pulverized to 85% passing 75 microns. The samples were subjected to a sodium peroxide fusion followed by ICP-AES and ICP-MS analysis for major and trace elements. They were then submitted to ore grade borate fusion and XRF analysis for the major elements under reported or not reported by the main analysis (ie. Si and Na).

Some of the samples were re-examined in the light of the results. Sample 4 is texturally similar to Sample 1, which was determined by petrography to be a breccia with two clast types. As it appears that

Samples 1 and 4 are likely both breccias, they have been omitted from the following plots.

Sample J488680 was not re-analyzed, but a close re-examination identified what are likely fine hornblende phenocrysts.

On a TAS plot (Le Maitre et al, 1989) the basalts and gabbros sampled from the Wen Prospect area in the summer of 2017 (Sigurgeirson, 2018b) generally plotted in the basalt to basaltic trachyandesite fields (Figure 9). The two hornblende bearing samples (Sample 3 and J488680) plot as more alkaline and siliceous. Sample 2 plots within the basalt field.

On a Zr/Ti vs Nb/Y (Pearce, 1996) all the rocks sampled in the Wen Prospect area in 2017 and 2018 plot in a reasonably tight group in the basalt field. (Figure 10). Sample J488680 is a notable outlier, again plotting as more evolved and alkaline. Sample 3 plots in the same general area as the rest of the samples on this plot, though it still has the second highest Zr/Ti value (after J488680). Sample 2 plots further in the subalkaline direction than the main group of samples.

On an REE plot (Sun and McDonough, 1989) the hornblende bearing samples are distinct from each other and from the main group of samples (Figure 11). Sample J488680 is has an elevated and steeper profile than the main group of samples, while Sample 3 has a flatter, lower profile than most, with a positive Eu anomaly. Sample 2 has a similar profile to the main group of samples.

The lithogeochemical sampling was somewhat inconclusive. Only Sample 3 was recognized as hornblende bearing when the samples were submitted. Sample 1 and Sample 30.082 were recognized as hornblende bearing during petrographic analysis, but Sample 1 was a mixture of 2 clast types and therefore of limited use, while Sample 30.082 had not been submitted for lithogeochemical analysis. A re-examination of the handsample for J488680 identified probable hornblende phenocrysts. This sample is clearly a more alkaline and evolved intrusive phase, but it is not directly associated with mineralization. Sample 3 is directly associated with mineralization, but is less clearly differentiated from the basalts and gabbros on the basis of it's geochemistry. Sample 30.082 is directly associated with mineralization, but it's lithogeochemistry is unknown.

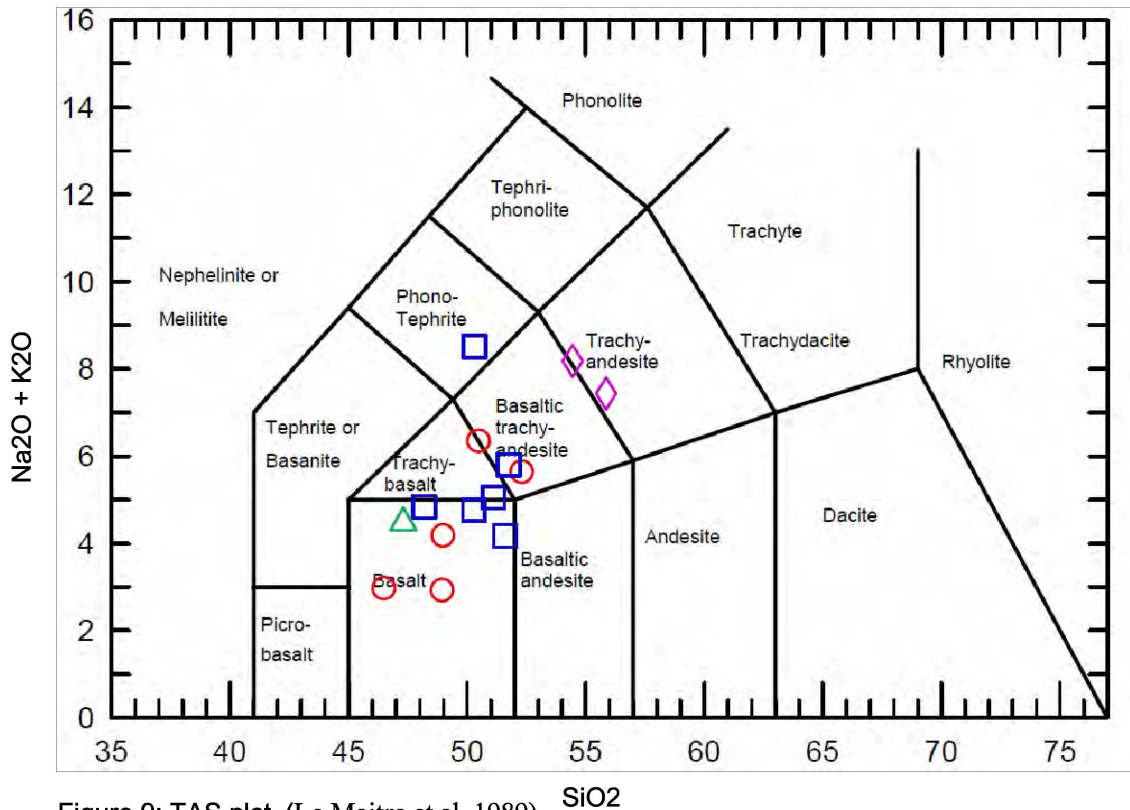


Figure 9: TAS plot. (Le Maitre et al, 1989)

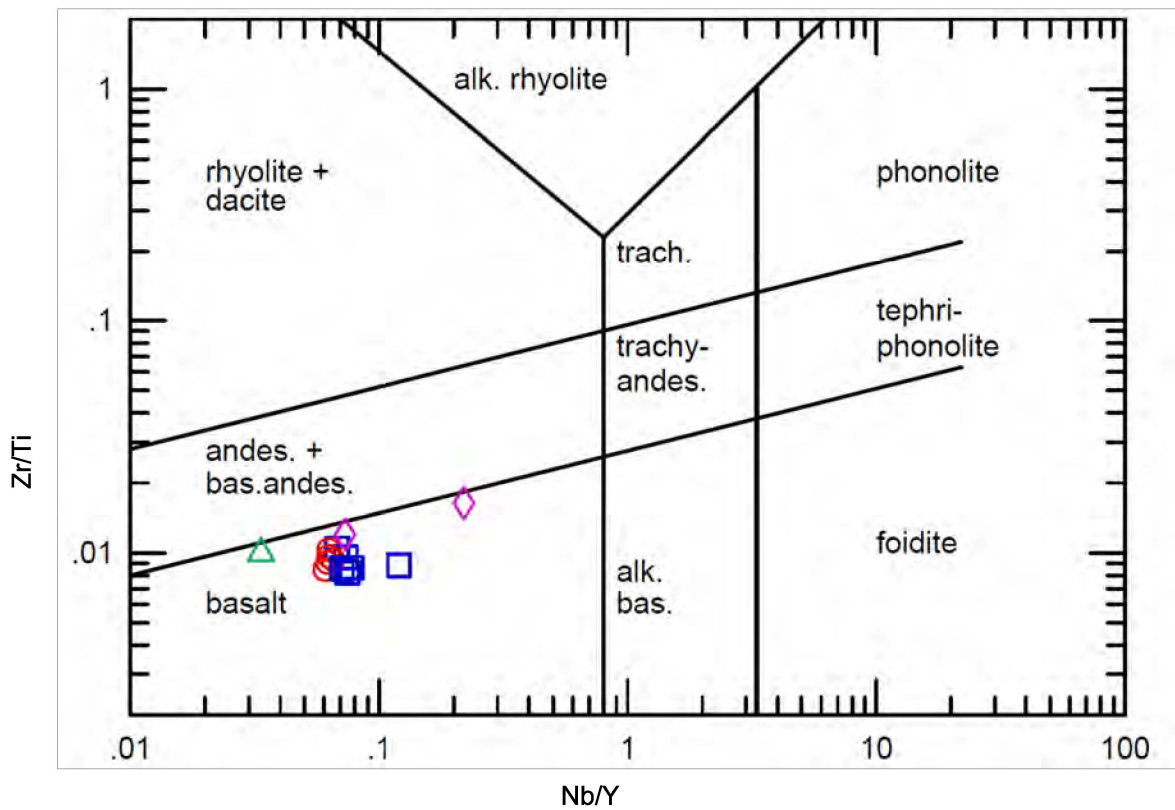


Figure 10: Trace element discriminant plot (Pearce, 1996)

red circles = gabbro samples from 2017 program; blue squares = basalt samples from 2017 program; green triangle = basalt sample from 2018 program; magenta diamonds = hornblende bearing samples from 2018 program

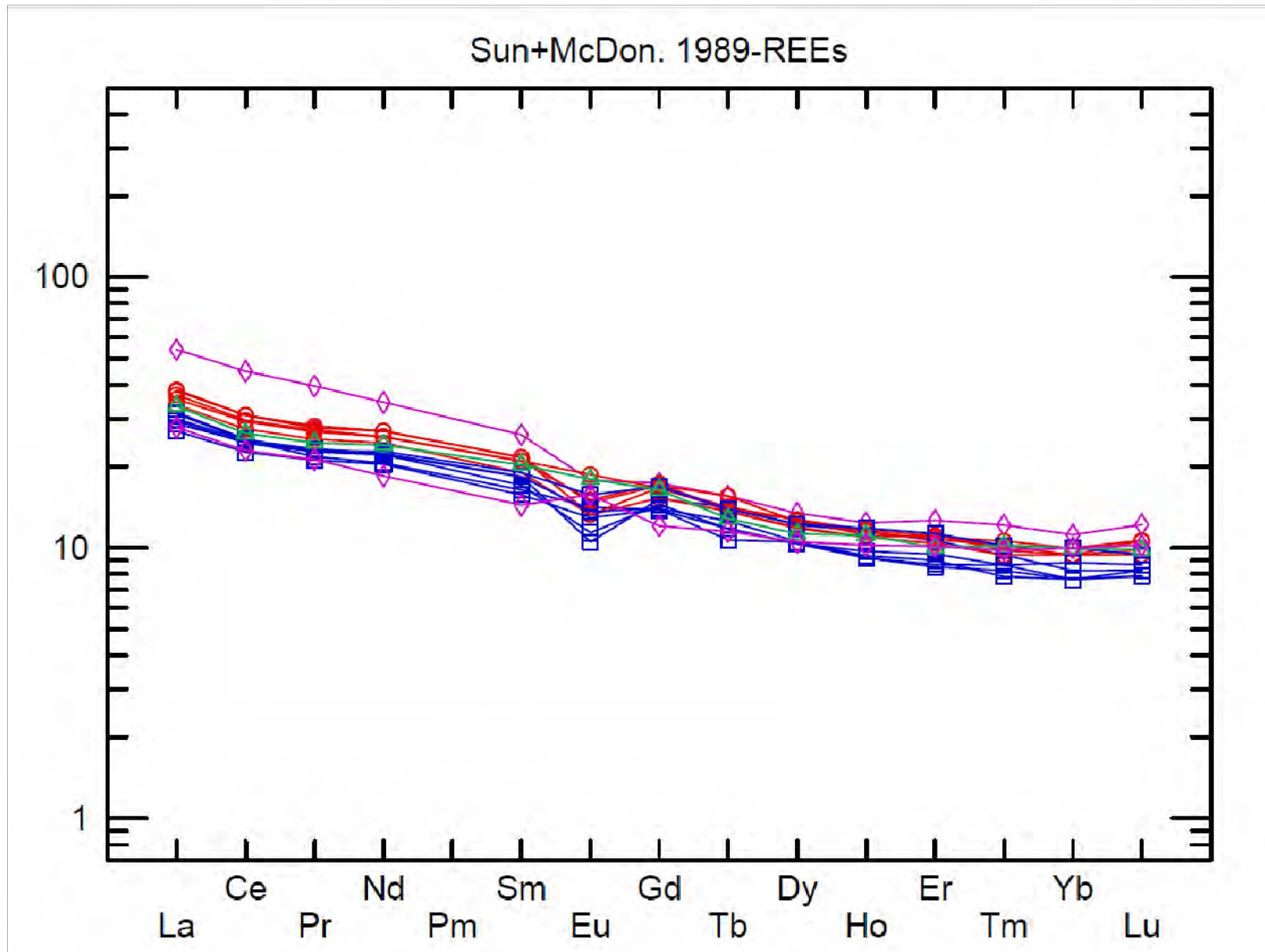


Figure 11: REE plot

red circles = gabbro samples from 2017 program; blue squares = basalt samples from 2017 program; green triangle = basalt sample from 2018 program; magenta diamonds = hornblende bearing samples from 2018 program

Geochemical Sampling

One chalcopyrite bearing quartz vein sample was submitted for geochemical analysis. The purpose of the sampling was to identify the dull black mineral in the quartz vein at the top of hole 10-5. Sample descriptions are given in Table 3. The location of DDH 2010-5 is shown on Figure 6. The location of the samples within the drill hole is shown on Figure 7. Appendix II contains the assay and QA/QC certificates.

Samples were crushed to 75% less than 2 mm, 250 g were split off and pulverized to 85% passing 75 microns. 30 gram sub-samples were subjected to fire assay for Au, Pt and Pd with ICP-AES finish. They were also subjected to aqua regia digestion and ICP-AES analysis.

The assays returned over 1% Cu, 1890 ppm As and 1120 ppm Sb, which suggests that the mineral in question is tetrahedrite. This section of the drill core was not sampled in 2010 and features significant mineralization.

Conclusions and Recommendations

Petrography in 2017 and 2018 has identified altered hornblende bearing intrusives that are directly associated with mineralization. These rocks may be diorites and are distinct from the pyroxene phyrlic basalts and gabbros that dominate the area. Diorites are commonly associated with alkalic porphyry style mineralization in the region (Mihalynuk and Logan, 2013). Breccias were observed in outcrop and core during the previous programs, and more was identified during petrography, suggesting that hydrothermal breccias may be more widespread than previously thought. More mapping sampling and petrography is needed to define the extents of these rock types, and to determine whether the diorites and breccias observed in the Wen Prospect area are part of a larger alkalic porphyry system.

References

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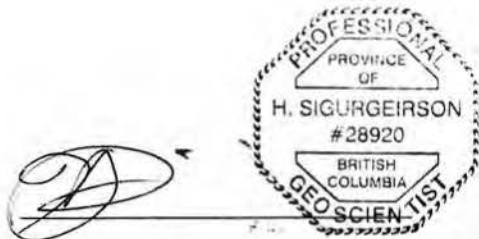
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Statement of Qualifications

I certify the following:

1. I graduated in 1995 from the University of British Columbia with a B.Sc. in the Geological Sciences.
2. I have worked in mining and mineral exploration continuously since graduation.
3. I have worked on VMS, porphyry, epithermal and mesothermal Au vein, anorthosite hosted Ti, nephrite and other exploration programs in Canada, Mexico and China. I have developed and operated 3 dimension stone quarries on the BC coast.
4. I am a professional geoscientist in the Association of Professional Engineers and Geoscientists of British Columbia, and have been a member in good standing (member #28920) since 2004.
5. I carried out the work program described herein and wrote this report.



H. Sigurgeirson, P. Geo

JUNE 23, 2018

Date

This document represents an electronic version of the original hard copy document, sealed, signed and dated by Helgi Sigurgeirson, P. Geo and retained on file. The content of the electronically transmitted document can be confirmed by referring to the original hard copy and filed

Cost Statement

Consultant	Days	Rate	Amount	Total
H. Sigurgeirson, P.Geo.	Fieldwork: January 2, 2018	\$550.00	1	\$550.00
	Travel (half rate)	\$275.00	2	\$550.00
	Report	\$1,600.00	1	\$1,600.00
Subtotal				\$2,700.00
Mileage				
2007 F-150 4x4		\$100.00	2	\$200.00
Expenses				
Accommodations		\$80.00	1	\$80.00
Fuel		\$80.00	2	\$160.00
Food		\$50.00	2	\$100.00
Subtotal				\$340.00
Rock Sample Analysis				\$340.00
Petrography				\$920.00
TOTAL =				\$4,500.00

Appendix I

1. Petrographic Report from 2018 program
2. Petrographic Report from June 2017 program

Report 180282
Helgi Sigurgeirson,
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April, 2018

Samples: 30.082, 10-5 36.5, 10-5 46 m

Summary:

Sample 30.082 is of hydrothermal breccia. It contains abundant fragments of diorite porphyry that contain abundant plagioclase phenocrysts and minor ones of quartz in a matrix of extremely fine grained plagioclase-K-feldspar, with disseminated grains of opaque and of apatite. Less abundant fragments are of diorite in which plagioclase is altered slightly to strongly to epidote and hornblende is altered completely to quartz-(tremolite-epidote). A few fragments are dominated by K-feldspar. Fragments are contained in a veinlike matrix of quartz with patches of chlorite; the matrix also partly replaces some of the fragments.

Sample 10-5 36.5 m contains fragments of slightly porphyritic basalt and of coarser plagioclase crystals (possibly from the basalt or from diorite or diorite porphyry); these are set in a groundmass dominated by calcite with minor chlorite and quartz. The basalt contains stubby prismatic plagioclase phenocrysts in a matrix of very fine lathy to equant plagioclase with accessory dusty opaque. Fragments up to a few cm in size of this calcite-healed breccia are contained in a patchy matrix of chlorite, quartz-(pyrite), and calcite. Late veinlets are of calcite.

Sample 10-5 46 m is of porphyritic basalt that contains subhedral to euhedral phenocrysts of plagioclase (altered slightly to sericite) and of clinopyroxene (altered completely to tremolite-calcite-chlorite-[quartz]) and disseminated grains of magnetite are set in a groundmass of plagioclase with accessory K-feldspar (identified mainly from the yellow stain on the offcut block). A zone at one end of the section up to 1 cm wide was replaced moderately to strongly by calcite and epidote. A few, in part banded veins and veinlets are of calcite with lesser quartz and locally minor chlorite and opaque. A wispy veinlet is of opaque.

Photographic Notes:

The scanned section shows the gross textural features of the sections; these features are seen much better on the digital image than on the printed image. For the photographs, sample numbers are shown in the upper left corner, photo numbers are shown in the lower left corner, and the letter in the lower right corner indicates the lighting conditions: incident light in crossed nicols = X. Locations of photographs are shown on the scanned section. The list of photo descriptions is at the end of the report.

**Sample 30.082 Brecciated Hypabyssal Diorite Porphyry, Diorite
Matrix: Quartz-Chlorite**

The sample contains fragments of diorite porphyry that contains abundant plagioclase phenocrysts and minor ones of hornblende quartz in a matrix of extremely fine grained plagioclase-K-feldspar that contains disseminated grains of opaque and of apatite. Less abundant fragments are of diorite in which plagioclase is altered slightly to strongly to epidote and hornblende is altered completely to quartz-(tremolite-epidote). A few fragments are dominated by K-feldspar. Fragments are contained in a veinlike matrix of quartz with patches of chlorite, which also partly replaces some of the fragments.

mineral fragments	percentage	main grain size range (mm)
phenocrysts		
plagioclase	17-20%	0.3-1
hornblende	5- 7	0.5-0.8
groundmass		
plagioclase	10-12	0.02-0.03
K-feldspar	4- 5	0.01-0.03
opaque	0.5	0.07-0.15
apatite	0.2	0.07-0.1
epidote	0.2	0.03-0.08
matrix		
quartz	35-40	0.3-1.5 (a few up to 3 mm long)
chlorite	10-12	0.015-0.025
calcite	2- 3	0.3-1
hematite	0.2	0.2-0.5

In the diorite porphyry, plagioclase forms subhedral to euhedral prismatic phenocrysts that contain dusty semi-opaque inclusions. A few patches up to 1.5 mm long are of aggregates of finer grained, anhedral plagioclase (0.1-0.3 mm). In more strongly altered patches, plagioclase is replaced moderately by epidote.

In the groundmass, some patches are dominated by prismatic plagioclase and other by equant plagioclase, with minor to abundant patches of equant K-feldspar (in part identified by the distribution of yellow stain on the stained offcut block).

Epidote forms disseminated grains and clusters of a few grains.

Calcite forms scattered ragged grains up to 1 mm across and several discontinuous lenses/veinlets up to 0.1 mm wide in size.

Opaque forms anhedral, equant grains.

Apatite forms disseminated equant, subhedral grains. In some strongly altered patches, apatite is the only primary mineral remaining.

In the diorite, plagioclase forms equant to prismatic grains that were altered slightly to strongly to disseminated grains of epidote, and, in more strongly altered fragments, plagioclase was altered to quartz-epidote.

Hornblende(?) forms equant to prismatic grains that were altered completely to quartz with wispy elongate grains of tremolite parallel to the c-axis, and in places with disseminated flakes and/or patches of chlorite.

A few fragments up to a few mm long are dominated by equant K-feldspar.

The breccia matrix is dominated by submosaic quartz grains that contain minor to abundant patches and disseminated equant flakes of chlorite.

Chlorite is concentrated in several patches up to 2 mm in size, mainly near one end of the section.

Calcite forms scattered equant grains and discontinuous lenses up to 1 mm long and 0.1 mm wide, some of which also occur in altered fragments. A few of the lenses also contain minor to accessory epidote and minor quartz.

Hematite (possibly after chalcopyrite) forms interstitial patches up to 0.5 mm in size; thinner parts of these patches have a deep reddish brown colour.

Sample 10-5 36.5 m

Brecciated Porphyritic Basalt, Diorite(?)

Matrix 1: Calcite-(Chlorite)

Matrix 2: Chlorite-Quartz-Calcite

Late Veinlets: Calcite

Fragments of slightly porphyritic basalt and of coarser plagioclase crystals (possibly from the basalt or from diorite or diorite porphyry) are set in a groundmass dominated by calcite with minor chlorite and quartz. The basalt contains stubby prismatic plagioclase phenocrysts in a matrix of very fine lathy to equant plagioclase with accessory dusty opaque. Fragments up to a few cm in size of this calcite-healed breccia are contained in a patchy matrix of chlorite, quartz-(pyrite), and calcite. Late veinlets are of calcite.

mineral	percentage	main grain size range (mm)
basalt fragments		
phenocrysts		
plagioclase	2- 3%	0.5-0.7
groundmass		
plagioclase	5- 7	0.02-0.03 (equant); 0.03-0.07 (lathy)
chlorite	1	0.02-0.03
opaque	1	dusty-0.01
diorite, diorite porphyry fragments		
phenocrysts		
plagioclase	8-10	0.3-0.8
hornblende	1	0.5-1.2
groundmass		
plagioclase	2- 3	0.015-0.03
opaque	0.5	0.1-0.3
breccia matrix 1		
calcite	55-60	0.02-0.05
chlorite	1- 2	0.015-0.025
quartz	0.3	0.05-0.2
breccia matrix 2		
chlorite	10-12	0.015-0.03
calcite	4- 5	0.03-0.1, locally up to 2 mm
quartz	3- 4	0.02-0.5
pyrite	0.3	0.05-0.1
late veinlets		
calcite	1	0.02-0.05

Basalt fragments, mainly from 0.5-1 mm in size, contain accessory subhedral to euhedral prismatic plagioclase phenocrysts in a groundmass unoriented lathy plagioclase to equant plagioclase with scattered patches of chlorite and accessory dusty to extremely fine grained opaque.

Fragments of diorite and diorite porphyry from 0.5-3 mm in size are dominated by coarser plagioclase grains and locally hornblende (altered completely to quartz-(calcite)). Diorite porphyry fragments have a sparse matrix of much finer grained plagioclase. Some fragments contain minor to accessory disseminated equant anhedral opaque grains.

A few fragments up to 0.7 mm across are dominated by very fine grained plagioclase that was replaced partly by calcite.

(continued on page 2)

Rock fragments are contained in an early breccia matrix of calcite with scattered patches of chlorite and grains of quartz. Opaque forms disseminated anhedral equant grains in the calcite matrix; their origin is uncertain.

Fragments up to a few cm across of the calcite-healed breccia are enclosed in a patchy matrix of chlorite and lesser quartz and calcite in a variety of intergrowths dominated by monominerallic patches of each mineral with lesser intimate intergrowths of chlorite-calcite and of quartz-chlorite. Some coarse calcite grains are strained moderately. A few quartz-rich patches contain accessory disseminated euhedral cubic grains of pyrite(?).

Late irregular veinlets, mainly in the late breccia matrix and mainly less than 0.05 mm wide are of calcite.

Sample 10-5 46 m Porphyritic Basalt
Replacement: Calcite-Epidote
Veins, Veinlets: Calcite-Quartz-(Chlorite-Opaque); Opaque

Subhedral to euhedral phenocrysts of plagioclase (altered slightly to sericite) and of clinopyroxene (altered completely to tremolite-calcite-chlorite-[quartz]) and disseminated grains of magnetite are set in a groundmass of plagioclase with accessory K-feldspar (identified mainly from the yellow stain on the offcut block). A zone at one end of the section up to 1 cm wide was replaced moderately to strongly by calcite and epidote. A few, in part banded veins and veinlets are of calcite with lesser quartz and locally minor chlorite and opaque. A wispy veinlet is of opaque.

mineral	percentage	main grain size range (mm)	
phenocrysts			
plagioclase	17-20%	0.07-0.7	(a few up to 1 mm long)
clinopyroxene	8-10	0.2-1	(a few up to 1.5 mm long)
magnetite	2- 3	0.05-0.2	(0.02 mm in clusters)
groundmass			
plagioclase	35-40	0.002-0.02	
K-feldspar	5- 7	0.002-0.02	
semi-opaque	0.3	dusty	
apatite	minor	0.05-0.1	(one grain 0.2 mm long)
replacement			
calcite	8-10	0.05-0.1	
epidote	5- 7	0.03-0.07	
veins, veinlets			
1) calcite-(quartz-chlorite-opaque)			
	4- 5	0.1-0.5 (ct), 0.05-0.1 (qz), 0.02-0.03 (cl, op)	
2) opaque	0.1	0.02-0.05(?)	

Plagioclase forms subhedral to euhedral, prismatic to equant phenocrysts that are altered slightly to sericite.

Clinopyroxene forms subhedral to euhedral equant to stubby prismatic phenocrysts that were altered completely to pseudomorphic to irregular tremolite or tremolite/actinolite with patches of calcite, less commonly to intergrowths of calcite-chlorite, and locally to chlorite-calcite-quartz.

Magnetite forms disseminated equant grains and a few clusters up to -0.2 mm across of much finer grains.

The groundmass is dominated by plagioclase and lesser K-feldspar, with disseminated dusty semi-opaque. Apatite forms disseminated, anhedral, equant grains.

In a zone up to 1 cm wide at one end of the section, many plagioclase phenocrysts were replaced slightly to strongly by epidote and the groundmass was replaced strongly to completely by calcite and lesser epidote.

A few diffuse lenses up to 1 mm long and 0.05 mm wide contain abundant epidote.

Veins up to 0.5 mm wide are of calcite with much less abundant quartz, and locally also with chlorite and opaque. One vein is banded finely between calcite and quartz. Calcite forms several veinlets, mainly less than 0.1 mm wide, some of which extend off the main veins into the rock. One of these has a rim of opaque up to 0.02 mm wide on both sides.

An irregular veinlet 0.02-0.1 mm wide is of opaque.

List of Photographs
(page 1 of 2)

Photo	Section	Description
01	30.082	diorite porphyry: abundant plagioclase phenocrysts in a groundmass of plagioclase-(K-feldspar) with disseminated anhedral patches of opaque (probably ilmenite/leucoxene), two replacement patches of chlorite, and two of quartz-chlorite, one of which contains a grain of sphene.
02	30.082	K-feldspar-rich fragment with disseminated grains and clusters of epidote, replacement patches of quartz, and veinlets of calcite-epidote-(quartz).
03	30.082	altered diorite: plagioclase altered strongly to quartz-epidote; hornblende altered completely to quartz with discontinuous ribs of tremolite parallel to the original c-axis; minor opaque; bordered by replacement/vein zones of quartz-chlorite.
04	30.082	small fragment of porphyritic hypabyssal diorite (altered strongly to chlorite-quartz-(calcite); matrix of quartz with patches of chlorite (mainly in and near fragment) and one interstitial patch of deep red-brown hematite.
05	10-5 36.5	fragments of basalt (minor small plagioclase phenocrysts in a matrix of lathy to equant plagioclase with accessory opaque and minor quartz; fragments of plagioclase in a matrix of calcite with a few patches of dusty opaque-calcite and minor grains of quartz and of opaque.
06	10-5 36.5	fragment of diorite porphyry: prismatic to equant plagioclase (altered slightly to sericite and calcite) and a grain of opaque, in a sparse matrix of much finer grained plagioclase; replacement patch of calcite.
07	10.5 36.5	bottom centre: small patch of plagioclase-calcite-quartz (probably altered fragment); rest of photo; patchy late replacement of chlorite, calcite, and quartz; later veinlets of calcite.
08	10-5 36.5	diorite porphyry: large and small plagioclase phenocrysts and a few hornblende phenocrysts (altered completely to quartz-[calcite]) in a groundmass dominated by plagioclase with disseminated grains of opaque and minor calcite.
09	10-5 46	numerous phenocrysts of plagioclase (altered slightly to dusty sericite) and two of clinopyroxene (one altered to pseudomorphic tremolite with patches of calcite and the other altered completely to calcite-chlorite) and disseminated grains of magnetite are set in a groundmass of plagioclase with accessory K-feldspar and disseminated dusty semi-opaque; to the right: vein of calcite-quartz with a small offshooting veinlet of calcite.
10	10-5 46	plagioclase phenocrysts (some fresh, some altered strongly to completely to epidote), clinopyroxene phenocrysts (altered completely to pseudomorphic tremolite/actinolite and patches of calcite) in a groundmass dominated by calcite with patches of epidote and disseminated grains of magnetite.

List of Photographs
(page 1 of 2)

Photo	Section	Description
11	10-5 46	plagioclase phenocrysts (altered slightly to sericite), two clinopyroxene phenocrysts (altered completely to tremolite-[calcite-chlorite]), and an anhedral equant grain of magnetite in a groundmass of plagioclase with moderately abundant patches of epidote, and lesser patches of calcite; wispy veinlet of opaque.
12	10-5 46	plagioclase phenocrysts (altered slightly to sericite) and clinopyroxene phenocrysts (altered completely to pseudomorphic tremolite and lesser calcite and quartz) in a groundmass of plagioclase with accessory K-feldspar and two grains of magnetite; banded vein of calcite-quartz.

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Report for: Saxifrage Geologic Services Ltd.

Sent to: Mr. Sigurgeirson

Report 170420

July 7, 2017

**Petrographic Report on One Rock Sample
for Saxifrage Geologic Services Ltd.**

Fabrizio Colombo, Ph.D., P.Geo.
fab.petrologic@gmail.com

Table of Contents

1. Introduction.....3
2. Bibliography.....3
3. Petrographic Description.....4
 Sample 1: DDH 10-5 31.0 m.....4

1. Introduction

Mr. Sigurgeirson of Saxifrage Geologic Services Ltd. submitted one rock sample to Vancouver Petrographics for petrographic analysis. The client suggested this rock is a “potassically altered intrusive or volcanic”, and did not provide any geological background information.

Sample 1 was cut and prepared as ~20 × 40 mm thin section (see the image of the billet on the first page of the description).

The attached “Petrographic Descriptions” section provides the following: (i) the petrographic rock classification; (ii) a brief microstructural description; (iii) the alteration minerals in decreasing order of abundance; (iv) a table with the modal percentage and average grain size for each mineral; and (v) a detailed description of the minerals in decreasing order of abundance.

The petrographic classification follows the recommendations of Gillespie and Styles (1999).

The microstructural terminology used in this report follows the recommendations and definitions of Vernon (2004), Passchier and Trouw (2005), and Ramdohr (1980). Some of the petrographic and microstructural terms are defined in the glossary.

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3. Petrographic Description

Sample 1: DDH 10-5 31.0 m

Plagioclase-[amphibole]-phyric hypabyssal rock (microsyenite?)

Quartz-calcite-chlorite-opaque minerals veins and veinlets



Subhedral to angular pseudomorphs of chlorite and euhedral to subhedral phenocrysts of plagioclase are immersed within a very fine-grained groundmass, which is dominated by K-feldspar. The porphyritic microstructure is crosscut by irregular veins and veinlets of quartz, chlorite and calcite.

Alteration: chlorite: weak; **calcite-quartz(?)**-**rutile(?)**: subtle to weak; **white mica-oxides:** subtle.

<i>Mineral</i>	<i>Alteration and Weathering Mineral</i>	<i>Modal %</i>	<i>Size Range (mm)</i>	<i>Distinguishing Features</i>
plagioclase-[amphibole]-phyric hypabyssal rock (~90% of PTS)				
<i>phenocrysts</i>				
[amphibole]	chlorite-calcite-rutile-opaque minerals	15–20	[am: up to 2 long] ch: up to 0.1	ch: moderate relief, very weak pleochroism with pale green tints, straight extinction, low birefringence, negative elongation
plagioclase		2–4	up to 0.5	low relief, first order grey birefringence, albite and albite-Carlsbad twinnings
[biotite]	white mica-oxides	tr	0.8	wm: moderate relief, birefringence up to third order blue, straight extinction
<i>groundmass</i>				
K-feldspar		60–63	up to 0.05	low relief, low birefringence (up to first order grey)
plagioclase		10–12	up to 0.1	low relief, first order grey birefringence, rare albite

Mineral	Alteration and Weathering Mineral	Modal %	Size Range (mm)	Distinguishing Features
				twinnings
	rutile(?) - opaque minerals	0.5–1	up to 0.03	
	calcite	tr	up to 0.05	high relief, extreme birefringence, brisk reaction to cold dilute (10%) HCl
quartz-calcite-chlorite-opaque minerals veins and veinlets (~11% of PTS)				
opaque minerals		3	up to 5 long	
quartz		3	up to 0.5	low relief, birefringence up to first order white
calcite		3	up to 1	high relief, extreme birefringence, brisk reaction to cold dilute (10%) HCl
chlorite		2	up to 0.1	moderate relief, very weak pleochroism with pale green tints, straight extinction, low birefringence, negative elongation

Chlorite forms fine-grained crystals, which completely replaced subhedral to angular pseudomorphs (up to 2 mm long). The pseudomorphs show lozenge and prismatic shape suggesting they replaced amphibole. Within the pseudomorphs, the chlorite is associated with very fine-grained dispersions of opaque to quasi-opaque minerals (rutile and opaque minerals?). The chlorite is concentrated within some segments of the up to 2.5 mm thick vein, in which it forms irregular domains along the vein walls associated with quartz in the median zone of the vein. Very fine- to fine-grained flakes of chlorite, together with fine-grained patches of calcite are dispersed within the groundmass. Thin veinlets are chlorite-rich or quartz-rich, and because of their mineral composition and they branched off from the veins, I interpret the veinlets as having formed during the same infill stage that formed the veins.

K-feldspar forms very fine- to fine-grained anhedral crystals within the groundmass, in which the K-feldspar is intergrown with fine-grained plagioclase. I tentatively interpret the K-feldspar as a magmatic mineral. This interpretation is based on its homogeneous distribution within the groundmass and its relatively clear appearance under plane polarized transmitted light. More samples would need to be analyzed to confirm this interpretation.

Plagioclase forms euhedral to anhedral phenocrysts (up to 0.5 mm), which are distinguished by their typical albite and albite-Carlsbad twinnings. The plagioclase is subtly altered by very fine-grained unresolved dispersions. The abundance of amphibole phenocrysts and K-feldspar within the groundmass indicate this hypabyssal rock is alkaline. The plagioclase is

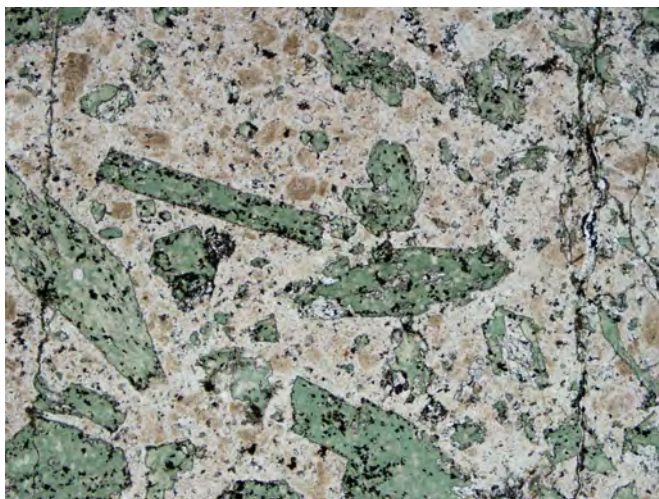
subordinate to the amphibole and the K-feldspar. In some cases, the anhedral crystals of plagioclase are chaotically dispersed and probably resorbed by the K-feldspar within the groundmass. I interpret these microstructures as evidence of disequilibrium between the plagioclase and the K-feldspar during the latest magmatic stages.

Calcite is concentrated within irregular domains within the veins and veinlets, and its is dispersed as fine-grained patches within the groundmass.

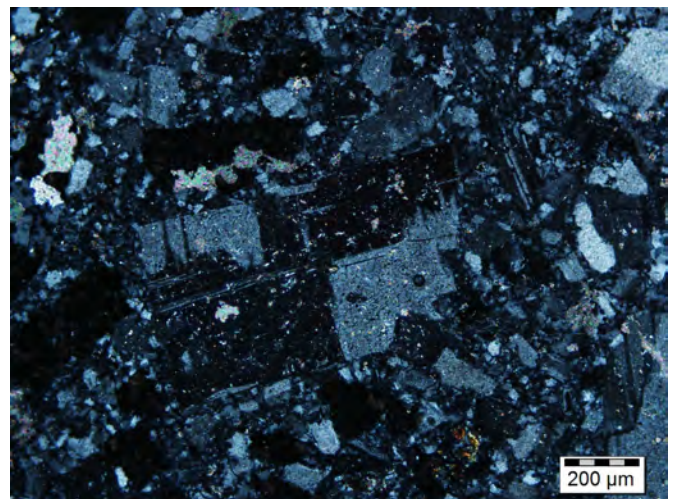
Opaque minerals (probably including pyrite?) form medium-grained subhedral crystals (up to 5 mm long) concentrated within the veins. The magnetic susceptibility was measured on the billet and is 0.454×10^{-3} SI.

Quartz is concentrated within the median zone of some segments of the veins. Within the vein, the quartz forms blocky to anhedral crystals (up to 0.5 mm). The quartz is fine-grained within the veinlets.

A rare phenocryst of biotite (up to 0.8 mm) is completely replaced by **white mica** and irregular oxidized patch.



Photomicrograph 1a: Euhedral pseudomorphs of chlorite (green), probable rutile, and opaque minerals replaced amphibole and are immersed within a K-feldspar dominated groundmass (white). Plane-polarized transmitted light.



Photomicrograph 1b: A subhedral crystal of plagioclase (in the centre of this photomicrograph) is immersed within a groundmass of K-feldspar and finer-grained plagioclase. Plane-polarized transmitted light.

This report consists of 6 pages and is signed by

[F. Colombo, Ph.D., P.Geo.](#)

E-mail: fab.petrologic@gmail.com

Tel: +1-778-855-3196

Web: www.petrographically.com

Appendix II

Assay and QA/QC certificates



Certificate of Analysis
Work Order : VC180921
[Report File No.: 000029741]

Date: June 25, 2018

To: Helgi Sigurgeirson
COD SGS MINERALS - GEOCHEM VANCOUVER
 Victory Resources Corporation
 Suite 734, 1055 Dunsmuir Street
 Vancouver
 BC V7X 1B1

P.O. No.: Victory Resources/Mal-Wen 5 samples
Project No.: -
Samples: 5
Received: Mar 27, 2018
Pages: Page 1 to 15
 (Inclusive of Cover Sheet)

Methods Summary

<u>No. Of Samples</u>	<u>Method Code</u>	<u>Description</u>
5	G_LOG02	Pre-preparation processing, sorting, logging, boxing
5	G_WGH79	Weighing of samples and reporting of weights
5	G_PRP89	Weigh, dry,(up to3.0 kg) crush to 75% passing 2 mm, split 250 g, pulverize to
4	ZMS_ICM90A	Package - GE_ICM90A (GE_IC90A+GE_IC90M)
4	GE_IC90A	Sodium Peroxide fusion/ICP-AES finish
4	GE_IC90M	Sodium Peroxide fusion/ICP-MS finish
4	GO_XRF76V	Ore grade Borate fusion, XRF
1	GE_FAI313	@Au, Pt, Pd, FAS, ICP-AES, 30g - 5ml (Clean Pots only)
1	GE_ICP14B	Aqua Regia digestion/ICP-AES package

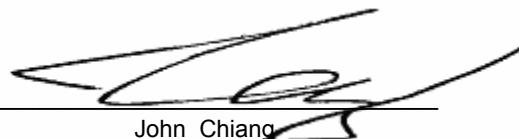
Storage: Pulp & Reject

REJECT STORAGE : DISPOSE AFTER 30 DAYS
 PULP STORAGE : DISPOSE AFTER 90 DAYS

Comments:

Upon Client's request, this Certificate/Report has been issued in more than one original. Only the first original is a legally binding document and may be used for any legal purpose, including payment.

Certified By :



John Chiang
 QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at <http://www.scc.ca/en/search/palcan/sgs>

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample
 n.a. = Not applicable -- = No result
 *INF = Composition of this sample makes detection impossible by this method
 M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion
 Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
 Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Element	WtKg	@Al	@Ba	@Be	@Ca	@Cr	@Cu	@Fe
Method	G_WGH79	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A
Det.Lim.	0.01	0.01	10	5	0.1	10	10	0.01
Units	kg	%	ppm	ppm	%	ppm	ppm	%
1	0.093	4.00	210	<5	13.4	80	10	4.74
2	0.312	6.98	400	<5	10.6	40	140	6.63
3	0.161	8.09	1650	<5	3.9	30	10	5.84
4	0.606	7.65	2290	<5	5.0	30	30	6.32
5	0.268	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1		4.04	210	<5	13.6	80	20	4.74
*Std SY4		11.0	350	<5	5.5	20	<10	4.45
*Bik BLANK		<0.01	<10	<5	<0.1	<10	<10	<0.01

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Element Method Det.Lim. Units	@K	@Li	@Mg	@Mn	@Ni	@P	@Sc	Si
	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A
	0.1	10	0.01	10	5	0.01	5	0.1
	%	ppm	%	ppm	ppm	%	ppm	%
1	0.5	10	2.25	1530	23	0.10	24	18.2
2	0.7	10	2.51	1560	20	0.20	31	19.0
3	3.1	10	2.51	1000	29	0.12	27	21.9
4	3.1	20	2.25	980	24	0.21	27	22.9
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	0.6	20	2.24	1550	24	0.10	24	18.8
*Std SY4	1.4	40	0.30	840	22	0.05	<5	23.4
*Bik BLANK	<0.1	<10	<0.01	<10	<5	<0.01	<5	<0.1

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Element Method Det.Lim. Units	@Sr GE_ICM90A 10 ppm	@Ti GE_ICM90A 0.01 %	@V GE_ICM90A 5 ppm	@Zn GE_ICM90A 5 ppm	@Ag GE_ICM90A 1 ppm	@As GE_ICM90A 5 ppm	@Bi GE_ICM90A 0.1 ppm	@Cd GE_ICM90A 0.2 ppm
1	280	0.22	171	84	<1	<5	<0.1	0.2
2	620	0.37	327	74	<1	<5	<0.1	<0.2
3	370	0.37	232	94	<1	<5	0.2	0.4
4	640	0.40	309	75	<1	<5	<0.1	<0.2
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	290	0.22	176	86	<1	<5	<0.1	0.2
*Std SY4	1250	0.16	6	100	<1	<5	<0.1	<0.2
*Bik BLANK	<10	<0.01	<5	<5	<1	<5	<0.1	<0.2

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Element Method Det.Lim. Units	@Ce GE_ICM90A 0.1 ppm	@Co GE_ICM90A 0.5 ppm	@Cs GE_ICM90A 0.1 ppm	@Dy GE_ICM90A 0.05 ppm	@Er GE_ICM90A 0.05 ppm	@Eu GE_ICM90A 0.05 ppm	@Ga GE_ICM90A 1 ppm	@Gd GE_ICM90A 0.05 ppm
1	8.6	19.8	1.0	1.65	0.96	0.53	10	1.93
2	16.2	26.1	2.4	2.86	1.66	1.04	18	3.36
3	14.0	32.7	1.7	2.67	1.68	0.91	14	2.48
4	14.5	23.0	1.1	2.56	1.41	1.10	14	2.73
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	8.0	18.6	1.0	1.65	0.94	0.52	9	1.73
*Std SY4	130	2.7	1.7	20.4	15.6	2.09	36	15.3
*Bik BLANK	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<1	<0.05

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Element Method Det.Lim. Units	@Ge GE_ICM90A 1 ppm	@Hf GE_ICM90A 1 ppm	@Ho GE_ICM90A 0.05 ppm	@In GE_ICM90A 0.2 ppm	@La GE_ICM90A 0.1 ppm	@Lu GE_ICM90A 0.05 ppm	@Mo GE_ICM90A 2 ppm	@Nb GE_ICM90A 1 ppm
1	<1	<1	0.34	<0.2	4.1	0.17	<2	<1
2	2	1	0.63	<0.2	7.9	0.25	<2	<1
3	<1	1	0.58	<0.2	6.6	0.26	<2	1
4	1	1	0.52	<0.2	7.2	0.21	<2	<1
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	<1	<1	0.35	<0.2	3.8	0.14	<2	<1
*Std SY4	1	11	4.70	<0.2	62.5	2.30	<2	11
*Bik BLANK	<1	<1	<0.05	<0.2	<0.1	<0.05	<2	<1

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Element	@Nd	@Pb	@Pr	@Rb	@Sb	@Sm	@Sn	@Ta
Method	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A	GE_ICM90A
Det.Lim.	0.1	5	0.05	0.2	0.1	0.1	1	0.5
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	5.8	<5	1.26	10.1	0.3	1.5	<1	<0.5
2	11.2	7	2.32	19.3	0.8	3.1	<1	<0.5
3	8.6	6	2.01	54.4	0.8	2.2	<1	<0.5
4	10.4	7	2.17	61.0	0.5	2.7	<1	<0.5
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	5.6	<5	1.19	9.5	0.3	1.5	<1	<0.5
*Std SY4	61.8	11	16.1	55.0	0.1	13.8	7	0.7
*Bik BLANK	<0.1	<5	<0.05	<0.2	0.2	<0.1	<1	<0.5

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Element Method Det.Lim. Units	@Tb GE_ICM90A 0.05 ppm	@Th GE_ICM90A 0.1 ppm	@Tl GE_ICM90A 0.5 ppm	@Tm GE_ICM90A 0.05 ppm	@U GE_ICM90A 0.05 ppm	@W GE_ICM90A 1 ppm	@Y GE_ICM90A 0.5 ppm	@Yb GE_ICM90A 0.1 ppm
1	0.28	0.8	<0.5	0.14	0.92	<1	9.0	0.9
2	0.48	1.6	<0.5	0.26	1.25	<1	14.9	1.7
3	0.43	1.7	<0.5	0.25	0.94	3	13.7	1.7
4	0.42	1.6	<0.5	0.20	1.07	1	12.5	1.3
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	0.27	0.7	<0.5	0.15	0.89	<1	8.4	0.9
*Std SY4	2.88	1.1	<0.5	2.47	0.76	<1	117	16.1
*Bik BLANK	<0.05	<0.1	<0.5	<0.05	<0.05	<1	<0.5	<0.1

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Element Method Det.Lim. Units	@Zr GE_ICM90A 0.5 ppm	@LOI GO_XRF76V -10.000 %	@SiO2 GO_XRF76V 0.01 %	@Al2O3 GO_XRF76V 0.01 %	@Fe2O3 GO_XRF76V 0.01 %	@MgO GO_XRF76V 0.01 %	@CaO GO_XRF76V 0.01 %	@K2O GO_XRF76V 0.01 %
1	23.1	17.0	42.1	7.52	6.99	3.75	19.3	0.60
2	37.0	8.85	42.6	13.5	9.51	4.37	15.7	0.86
3	46.0	5.73	49.6	15.3	8.49	4.24	5.82	3.71
4	38.1	5.95	50.2	14.5	9.40	3.84	7.29	3.76
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
*Rep 1	22.8							
*Std SY4	598							
*Bik BLANK	<0.5							
*Rep 1		17.0	42.3	7.57	6.98	3.78	19.4	0.62
*Std SY4		4.54	49.6	20.7	6.25	0.55	8.04	1.66
*Bik BLANK		N.A.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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Element Method Det.Lim. Units	@Na2O GO_XRF76V 0.01 %	@TiO2 GO_XRF76V 0.01 %	@MnO GO_XRF76V 0.01 %	@P2O5 GO_XRF76V 0.01 %	@Cr2O3 GO_XRF76V 0.01 %	@V2O5 GO_XRF76V 0.01 %	Sum GO_XRF76V 0 %	Au@ GE_FAI313 1 ppb
1	1.78	0.37	0.20	0.23	0.01	0.03	99.9	N.A.
2	3.17	0.62	0.20	0.46	<0.01	0.06	99.9	N.A.
3	3.74	0.64	0.13	0.27	<0.01	0.05	97.7	N.A.
4	3.04	0.68	0.13	0.51	<0.01	0.06	99.4	N.A.
5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	235
*Rep 1	1.81	0.36	0.20	0.23	0.01	0.04	100.2	
*Std SY4	7.26	0.28	0.11	0.13	<0.01	0.01	99.1	
*Bik BLANK	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	N.A.	
*Rep 5								226
*Bik BLANK								<1
*Std OREAS251								493

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Element Method Det.Lim. Units	@Ag GE_ICP14B 2 ppm	@Al GE_ICP14B 0.01 %	@As GE_ICP14B 3 ppm	@Ba GE_ICP14B 5 ppm	@Be GE_ICP14B 0.5 ppm	@Bi GE_ICP14B 5 ppm	@Ca GE_ICP14B 0.01 %	@Cd GE_ICP14B 1 ppm
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	31	0.03	1890	16	<0.5	8	3.03	9
*Rep 5	31	0.03	1820	16	<0.5	<5	3.12	9
*Std OREAS601	52	0.78	301	441	0.5	20	1.03	8
*Blk BLANK	<2	<0.01	<3	<5	<0.5	<5	<0.01	<1

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Element Method Det.Lim. Units	@Co	@Cr	@Cu	@Fe	@Hg	@K	@La	@Li
	GE_ICP14B	GE_ICP14B	GE_ICP14B	GE_ICP14B	GE_ICP14B	GE_ICP14B	GE_ICP14B	GE_ICP14B
	1	1	0.5	0.01	1	0.01	0.5	1
	ppm	ppm	ppm	%	ppm	%	ppm	ppm
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	20	19	>10000	3.95	16	0.01	<0.5	1
*Rep 5	19	23	>10000	3.90	16	0.01	<0.5	1
*Std OREAS601	3	51	1020	2.23	<1	0.25	22.9	7
*Bik BLANK	<1	<1	<0.5	<0.01	<1	<0.01	<0.5	<1

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Element Method Det.Lim. Units	@Mg GE_ICP14B 0.01 %	@Mn GE_ICP14B 2 ppm	@Mo GE_ICP14B 1 ppm	@Na GE_ICP14B 0.01 %	@Ni GE_ICP14B 1 ppm	@P GE_ICP14B 0.01 %	@Pb GE_ICP14B 2 ppm	@S GE_ICP14B 0.01 %
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	1.40	383	11	<0.01	14	<0.01	80	2.83
*Rep 5	1.42	377	11	<0.01	14	<0.01	80	2.77
*Std OREAS601	0.21	433	3	0.07	27	0.04	273	1.06
*Bik BLANK	<0.01	<2	<1	<0.01	<1	<0.01	<2	<0.01

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Element Method Det.Lim. Units	@Sb GE_ICP14B 5 ppm	@Sc GE_ICP14B 0.5 ppm	@Sn GE_ICP14B 10 ppm	@Sr GE_ICP14B 0.5 ppm	@Ti GE_ICP14B 0.01 %	@V GE_ICP14B 1 ppm	@W GE_ICP14B 10 ppm	@Y GE_ICP14B 0.5 ppm
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	1120	2.0	<10	31.2	<0.01	31	<10	1.4
*Rep 5	1060	2.0	<10	31.2	<0.01	30	<10	1.4
*Std OREAS601	21	1.3	<10	33.6	0.01	9	<10	5.7
*Bik BLANK	<5	<0.5	<10	<0.5	<0.01	<1	<10	<0.5

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Report File No.: 0000029741

Element	@Zn	@Zr
Method	GE_ICP14B	GE_ICP14B
Det.Lim.	1	0.5
Units	ppm	ppm
1	N.A.	N.A.
2	N.A.	N.A.
3	N.A.	N.A.
4	N.A.	N.A.
5	357	1.4
*Rep 5	356	1.3
*Std OREAS601	1350	28.1
*Blk BLANK	<1	<0.5

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