Technical Report on Geology and Rock Geochemistry at the DASS Bornite Vein Deposit Tenure #571072

Statement of Work Event Number: 5137830

Location: Mt Flannigan NW of Upper Campbell Lake Vancouver Island; Alberni Mining Division

NTS 92F/03, 04 NAD 83 Latitude: 49°56' N, Longitude: 125° 42' W UTM Zone 10, 306500 E, 5536000 N

*Project Period:* **April 2011 to November 2011** 

Owner and Operator: Walter Crombie #56- 951 Homewood Road Campbell River, BC V6E 3X1

Author: Hardolph Wasteneys, Ph.D. P.Geo. Campbell River, BC

> Submitted: March 30, 2012

BC Geological Survey Assessment Report 32897

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#### SUMMARY

The DASS property is located in the Nanaimo Mining Division on NTS 092F-13 at Latitude 49 57'W Longitude 125 41' 48" W, 30 km west of Campbell River on the northern slopes of Mt Flannigan between 800 and 1300 m elevation, NW of Upper Campbell Lake. In 2011 contiguous tenures comprising the DASS property included #571072 (Bluejay787, 748182 (Bluejay757) and 631943 (Bluejay734) owned 100% by Walter Crombie (FMC #136244) of #56-951 Homewood Road, Campbell River, BC. The present work amounts to \$6250 and is being applied to tenure 571072 through SOW 5137830 to obtain a new good to date of November 28, 2012. The work was paid for by Walter Crombie and Hawkeye Gold and Diamond Inc. The present technical report is written by Hardolph Wasteneys PhD PGeo of Strathcona Park Lodge based on documents received from Mr. Crombie, literature review and personal observations on the property in 2009.

The work undertaken in 2011 consisted of intensive rock sampling of two bornite vein showings exposed in logging road cuts and subsequent geochemical analysis of 14 hand sorted rocks samples at Acme Analytical in Vancouver. The work involved 10 days of field work by Mr Crombie and an assistant and a one day property examination by representatives from Hawkeye Gold and Diamond including a geological consultant for the company Dr Malcolm McCallum PGeo on September 3, 2011. The property was accessed from Campbell River via Hwy 28 and by 4 wheel drive truck along deactivated logging roads that traverse much of the property. The analytical work consisted of multi-element ICP-AES method 1Dx and overlimit copper analysis by ACME method 7TD. The results show a a wide range of copper grades up to 20% Cu which appears to be solely attributable to the bornite content of the veins. Silver grades are directly proportionate to the copper and range up to 43 ppm corresponding to copper grade of 20%.

The showings consist of quartz-bornite veins with epidote-chlorite alteration occurring in shallow north dipping basaltic agglomerates and massive flows of the Upper Triassic Karmutsen Formation. The veins are widely spaced and commonly 1 cm in thickness, steeply dipping and strike E-W at the northern of the two showings and at 038/85 E at the southern. The local structural setting includes N-S and NW-SE trending block faults on both sides of the property that regionally displace Mesozoic strata of the Karmutsen formation and overlying Quatsino Limestone and Bonanza Group volcanics as well as Jurassic intrusives of the Island Intrusive Suite.

Previous work on the property includes prospecting by Walter Crombie and a geological and geochemical report by RJ Cathro (2008; MEMPR Assessment report #30383.

The age and origin of the bornite veins is unknown, but a large granodioritic intrusive of the Island Intrusive Suite to the east is associated with magnetite skarns at Bacon Lake, Camp Lake (Minfile 092F-571), the former Argonaut Mine (Minfile 092F-075) and Iron River (Minfile 092F-076), which typically occur in enclaves of Quatsino Limestone enveloped by the Jurassic intrusive rocks. A broader hydrothermal origin as a distal type of mineralization related to the skarn forming events may be inferred for the bornite veins. However, the timing of formation of the fractures has not been determined and may be related to later block faulting and perhaps dextal shear events that offset the Jurassic intrusives.

# INTRODUCTION

### **Property Description and Location**

The DASS Property is located 30 km west of Campbell River on Vancouver Island, British Columbia, centred at NAD 83 49°56' North and longitude 125°41'50" West, UTM zone 10 5536661 N, 306775 E on NTS map sheets 92C/13.14 and 92F/03.04 within the Alberni Mining Division (Figure 1) and within the Comox-Strathcona Regional District. It consists of 3 cell claims amounting to 1268 hectares.

#### Access, Climate, Local Resources, Infrastructure and Physiography

The DASS property overlooks Upper Campbell Lake, straddling the NE ridge of Mt Flannigan (Fig. 1.), and is bounded to the west and north by Ranald Creek and to the East by Nikie Creek. The northern ridge of Flannigan forms a bisected ramp that descends gently to the north from a 1580 m summit towards rolling hills around the Greenstone Creek (Fig. 2). The western slope of Mt Flannigan drops steeply into Tlools Creek which forms a linear N-S valley within Strathcona Provincial Park. Ranald Creek and Nikie Creek also occupy N-S trending topographic lineaments and the property lies mainly above 800 meters elevation up to the ridge top at 1300 meters. The claims are in the Nanaimo Mining Division and on topographic map sheet NTS 92F/13.

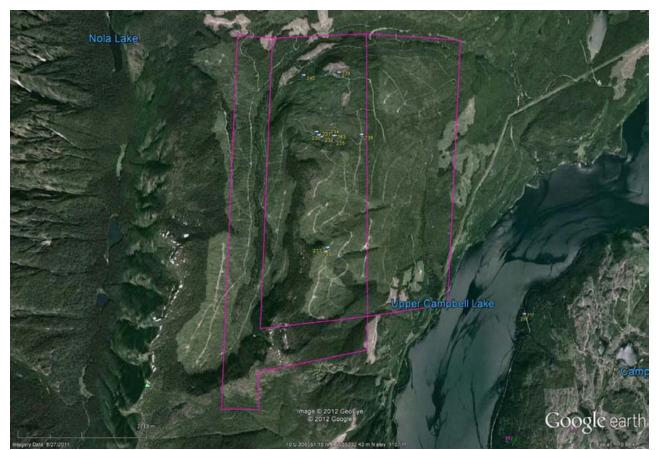


Figure 1: Google Earth Image of the claim area on Mt Flannigan

Access throughout the property is provided by a network of logging roads shown on August 2011 satellite images in Figures 2 and 3 that are connected to Highway 28 by the BC Hydro Strathcona Dam at the north end of Upper Campbell Lake and a wooden trestle bridge 3 km to the south on to Elk Main. The highway runs west 80 km from Campbell River to Buttle Narrows around the eastern shores of the lake and then to Gold River along the south side of the Elk River Valley. Most of the logging areas requiring radio communications. The route taken by the writer is shown from Strathcona Park Lodge on Figure 3, 6 and 7 as a yellow line.

Much of the property has been logged within the past 25 years and can be clearly seen on recent 2011 Google Earth images (Figure 1 and 2). The only remaining old-growth forest lies in a N-S spine that runs through the center of tenure 571072 and in a riparian zone along Ranald Creek.

Helicopter access can be obtained by charter from Campbell River, a flight of approximately 15 minutes. A high voltage BC hydro transmission line traverses the lower slopes of Mt Flannigan above Upper Campbell Lake connecting generating facilities at Upper Campbell Lake dam and the west coast at Gold River.

#### The DASS Property

The DASS property comprises 3 contiguous mineral claims amounting to 1268 hectares straddling the NE ridge of Flannigan Mountain and covers an area of about 2 kilometres east-west by 5 kilometres north-south (Table 1 & Figures 1, 3 and 6). All of the current assessment credits are being applied to Bluejay787 Tenure 571072.

	Tenure			
Claim Name	Number	Owner	Good To Date	Area
BlueJay787	571072	136244 (100%) Walter Crombie	2012/Nov/28	499
Bluejay757	748182	136244 (100%) Walter Crombie	2012/Apr/14	499
BlueJay734	631943	136244 (100%) Walter Crombie	2012/Sept/10	270

Table 1: DASS Property Claim Group List



Figure 2: NE aspect of Mt Flannigan (note waypoints from 2009 geological work)

### **Property History**

The Blue Jay 787 claim group was staked in November 2007 by Walter Crombie in an area previously included within Strathcona Provincial Park that had been deleted in a land swap with Raven Lumber and subsequently Timber West. The deleted section, known as Ranald Creek, shifted the park boundary west from a former N-S line to a steep ridge line overlooking the Tlools Valley. No exploration work prior to that done by Mr Crombie would have been recorded.

### **Regional Geology**

Vancouver Island lies within the Insular Tectonic Belt of the Canadian Cordillera, a belt composed of four groups of Paleozoic and Mesozoic volcanic arc and sedimentary rocks, which together comprise a displaced Terrane named Wrangellia. This terrane was regionally metamorphosed, folded and extensively intruded by Jurassic granitoid plutons belonging to the Coast Plutonic Complex, which are unconformably overlain by Cretaceous clastic sediments and intruded by Tertiary hypabyssal stocks of mafic to felsic composition. Figure 3 shows the distribution of major stratigraphic and intrusive groups in the central part of Vancouver Island with the Redford district highlighted.

The Devonian Sicker Group, the oldest stratigraphic unit in Wrangellia, is an island arc assemblage of differentiated mafic to felsic volcanics exposed on Vancouver Island in uplifted blocks principally near Buttle Lake and east of Port Alberni (Fig. 3). In the Buttle Lake uplift in the centre of Vancouver Island the Sicker Group is the host to the Myra Falls Kuroko type massive sulphide deposits. Smaller massive sulphide deposits are present in the Sicker Group as far south as Duncan.

Significant parts of Vancouver Island are underlain by the Triassic Vancouver Group which includes a thick pile of tholeiitic flood basalts of the Karmutsen Formation, overlain by the Quatsino Formation limestone and Parsons Bay Formation black argillite and marl. Jurassic strata include calcareous siltstones of the Quatsino and Harbledown Formations overlain by Bonanza Formation mafic to felsic volcanics representing an emergent island arc sequence. Small areas of Bonanza Formation are present to the NE of the DASS property near Paterson Lake where they overlie Quatsino Limestone and are preserved in a NW trending fault-bounded graben structure. These Paleozoic and Mesozoic strata are extensively intruded by Jurassic granitoid plutons of the Island Intrusive Group and more localized, shallow level, subvolcanic Tertiary intrusions of the Mt Washington and Clayoquot Intrusive Suites (previously called the Catface Intrusions). Tertiary stocks are commonly located along regional faults and as epizonal intrusions and represent continental arc magmatism above a paleo-subduction zone located west of the current coast of Vancouver Island.

The Mesozoic rocks rocks appear weakly metamorphosed and have been identified in roof pendants in various localities associated with magnetite skarn bodies some of which contain chalcopyrite and bornite. The Quatsino limestone is, probably, the host of the Argonaut, Iron River and Brynnor magnetite skarn deposits and many other similar skarns deposits including those on Texada Island. Some including the Merry Widow skarn near Port MacNeill, also produced significant copper and gold in association with magnetite.

Locally, at Bacon Lake, 5 km east of the property garnet-epidote skarns also host bornite, pyrrhotite and chalcopyrite mineralization related to magnetite skarn bodies. Cobalt mineralization, probably as cobaltite, is commonly associated with sporadic gold mineralization in some of the magnetite skarns (e.g. Brynnor, Wasteneys, 2008; and Bacon Lake, Ferguson, 2012).

#### **Property Geology and Mineralization**

The DASS property is underlain entirely by shallowly north dipping mafic flows and epiclastic deposits of the Upper Triassic Karmutsen Formation. The stratigraphic section immediately underlying Mt Flannigan is well over 1 km thick and varies from a thick pillow-dominated interval at the lake level to more epiclastic dominated section in the main exposures on the north end of the ridge. Minor plagioclase porphyritic dykes observed at one of the showing may be apophyses of an Island Intrusive Suite granodioritic complex underlying a 150 sq km area to the SW.

Mineralization is in the form of ca. 1 to 2 cm thick, discrete veins widely spaced and traceable for a few meters in logging road outcrops. The vein filling is largely massive bornite interveined with white quartz, but varies to bornite and or chalcocite dispersed in white quartz and some carbonate. Malachite forms c. 2 mm crystalline masses replacing the bornite in the more dispersed style of vein filling and also botriodal crusts on more massive bornite. The extent of the mineralization is uncertain because of thin overburden and logging

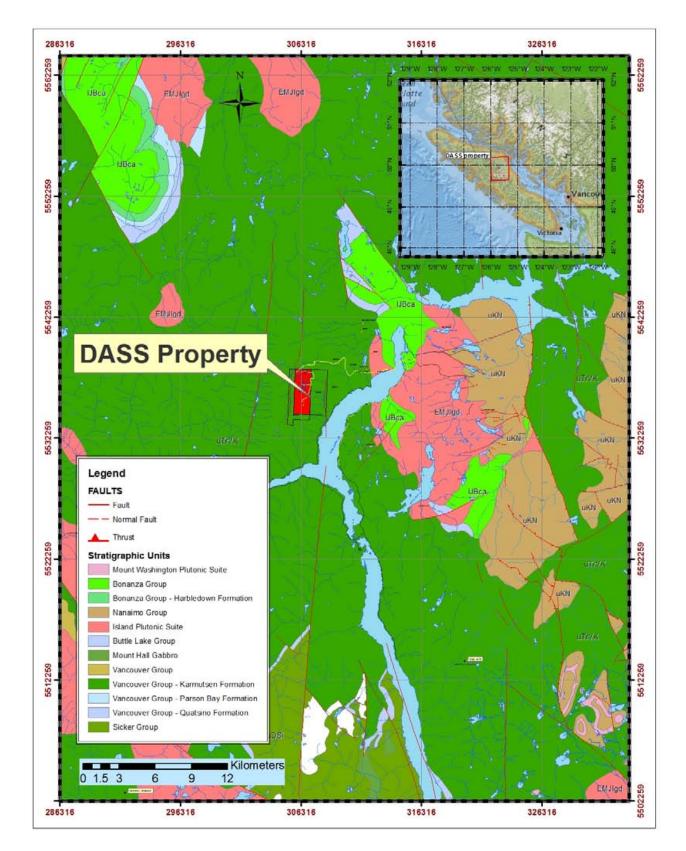


Figure 3: Regional Geology

debris, but well exposed in 2 widely separated showings from which samples have been procured and shown in Figure 6 as stations UC2 and D11.

### 2011 Work Program

Exploration during the 2011 period consisted of intensive rock sampling from two roadside showings within the claim for geochemical analysis. The samples were collected by Walter Crombie, Greg Neeld, President of Hawkeye Gold and Diamonds and supervised by Dr. Malcolm McCallum P.Geo. a consultant for the company. Five 20 litre buckets of rock samples were collected from the two sites and hand sorted into 7 sub samples from each location for analysis to arrive at a range of proportions of veins material.

The samples were shipped to ACME labs in Vancouver for analytical work that included 1Dx multi element ICP-AES analysis following Aqua Regia digestion and over limit copper assaying by 7TD method. Significant and pertinent results are tabulated below in Table 1; analytical records are in Appendix 1

Sample site UC2 is located on a west trending branch road that crosses the ridge top (Figure 6). The host rock is a massive basalt of the Karmutsen Formation and shows epidote – chlorite regional metamorphic assemblages. The mineralization consists of 1 to 2 cm thick massive interlayered quartz - bornite veins traceable over a few meters of strike length oriented 272 and dipping at 85 degrees north.

Sample D11 from the southern showing (Figure 6) was derived from cuspate veins consisting of bornite and possibly chalcocite crystals dispersed in a matrix of quartz and calcite. Crystalline malachite partially replaces the bornite. The bornite comprises up to 50% of the veins filling.

### **Geochemical Analysis Methods**

Rock samples were chemically analysed at ACME Analytical Laboratories Ltd, 852 Hastings Street, Vancouver. Analyses received for 14 samples including replicates and field blanks are tabulated in Appendix A, Table 1. All rocks were analysed by ACME Analytical method 1 DX ICP-ES on 0.5 gram splits of the pulp and involving a dissolution using a hot Aqua Regia HCl – HNO<sub>3</sub> solution. This analytical method gave a broad spectrum of useful elemental data for 34 elements that included S and Au ( Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, Au, Th, Sr, Cd, Sb, Bi, V, Ca%, P%, La, Cr, Mg%, Ba, Ti%, B, Al%, Na%, K%, W, S%, Hg, Tl, Sc and Ga). Reanalysis for Cu over the 1% Cu limit was done by ore grade method 7TD and involved an HF- HNO<sub>3</sub>-HClO<sub>4</sub> dissolution with HCl pickup after fuming off the solution from a 0.5 gram split. Rocks were also analysed by the G6 method for Au, Pt and Pd involving 30 gm Pb collection fire assay.

Laboratory quality control methods included replicate analyses and insertion of appropriate standards at regular intervals. Review of the quality control data (Appendix A) shows an adequate degree of precision and accuracy for the purposes of this exploration work.

#### Table 2. Analytical Data for DASS rock samples from UC2 and D11 sites, 2011

**Note:** data ordered by increasing % Cu in both blocks Results measured by 1DX method except as indicated

		7TD													G6	G6
Sample	Wgt	Cu %	Ag	S %	Ga	Pb	Zn	As	Sr	Cd	La	Ва	W	Sc	Au	Pd
D11-2	0.22	0.15	0.4	0.76	2.5	1.5	46	1	9	0.6	5	0.5	1	12.0	0.01	0.02
UC2-5B	1.21	0.9	2.6	0.15	14.0	1.5	64	1	22	3.2	5	2.0	1	18.0	0.01	0.01
UC2-5A	0.73	1.08	3.1	0.23	11.0	1.5	50	3	20	3.0	6	2.0	1	16.0	0.01	0.01
UC2-3	0.78	1.97	5.7	0.32	9.0	1.5	40	1	88	1.5	5	0.5	1	7.0	0.01	0.01
D11-6	2.01	2.2	3.3	0.64	2.5	1.5	46	1	25	0.6	5	0.5	1	8.0	0.01	0.02
D11-3	1.34	3.37	6.1	1.28	2.5	1.5	46	1	22	0.9	4	1.0	1	17.0	0.01	0.02
D11-4	0.29	3.68	5.1	1.34	2.5	1.5	28	1	22	0.8	5	1.0	1	16.0	0.01	0.02
UC2-4	0.87	6.15	16.1	1.22	8.0	3.0	25	7	13	4.7	2	1.0	1	8.0	0.08	0.01
UC2-6	1.28	7.1	20.7	1.41	14.0	1.5	45	1	19	5.3	4	0.5	1	13.0	0.01	0.01
UC2-1	0.49	7.83	20.1	1.54	6.0	7.0	86	2	27	2.3	4	0.5	1	2.5	0.02	0.01
D11-5	1.38	15.39	33.5	3.39	2.5	1.5	45	1	67	1.4	4	2.0	1	14.0	0.01	0.01
UC2-2	1.97	15.75	43.1	2.93	14.0	4.0	44	4	15	6.8	4	2.0	12	13.0	0.01	0.01
D11-1	1.03	20.76	40.1	4.53	2.5	1.5	46	1	37	1.3	5	0.5	1	17.0	0.02	0.01

Sample	Fe %	Ca %	Р%	Mg %	Ti %	Al %	Na %	Κ%	Ni	Со	Mn	V	Cr
D11-2	8.00	3.80	0.06	1.03	0.76	3.56	0.02	0.01	33	23	550	230	40
UC2-5B	6.02	5.74	0.06	1.86	0.69	6.38	0.01	0.01	55	31	820	242	33
UC2-5A	5.11	5.59	0.06	1.56	0.62	5.52	0.01	0.01	52	30	711	210	24
UC2-3	3.30	3.87	0.08	0.86	0.32	3.17	0.01	0.01	23	17	387	132	11
D11-6	6.88	3.13	0.06	0.71	0.73	2.55	0.03	0.01	36	24	404	213	33
D11-3	7.56	2.86	0.06	1.14	0.81	2.80	0.03	0.01	38	22	442	247	52
D11-4	4.70	3.17	0.05	0.63	0.69	2.46	0.03	0.01	25	15	270	218	43
UC2-4	3.14	3.45	0.03	0.73	0.32	2.95	0.01	0.01	26	14	362	109	13
UC2-6	5.14	4.99	0.04	1.40	0.48	5.02	0.01	0.01	40	23	629	187	25
UC2-1	2.73	2.88	0.06	0.49	0.18	2.27	0.01	0.01	12	10	276	77	7
D11-5	7.33	1.76	0.04	1.08	0.53	1.87	0.02	0.01	38	23	434	161	36
UC2-2	4.19	5.10	0.04	0.81	0.45	4.30	0.01	0.01	30	19	379	153	11
D11-1	8.80	1.34	0.04	1.28	0.56	1.55	0.02	0.01	36	21	405	147	37

results in ppm except where noted in %

Table 2:

#### **Geochemical Interpretation**

The 14 samples show a wide range of copper grade ranging up to 20 %. The copper grades are linearly proportional to silver (Figure 4) and also to sulphur (Figure 5). These correlations and the observation solely of bornite with partial oxidation to malachite as the present sulphide mineral indicate that the silver is in solid solution in the bornite. Minor correlations also exist between Mn and Fe (Table 2), but these are also dependent on host mafic volcanic composition. Gallium was notably below detection limit of 5 ppm at the northern site (D11-1 to 6) in contrast with a range from 6 to 14 ppm at the southern UC2 showing.

The copper grades represent variations in hand sorting of grab samples and should not be interpreted as grades across measured widths.

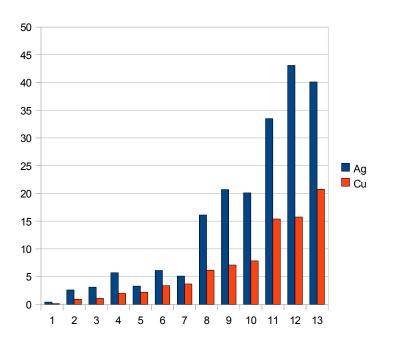


Figure 4: Covariation of Copper % and Silver (ppm)

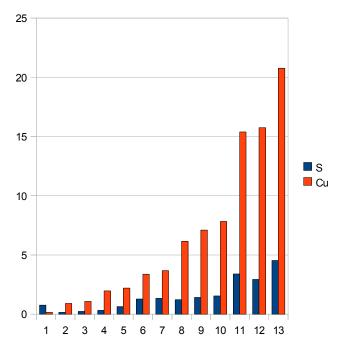


Figure 5: Covariation of Copper % and Sulphur %

#### **Previous Exploration of the Dass Property**

Following prospecting work in 2007 and 2008 by Walter Crombie the area was examined by RJ Cathro of Cathro Resources Corporation, Kamloops and reported on in Assessment report 30383 (Cathro, 2008). At the time, bornite vein material had only been observed in displaced road material and a limited soil sampling survey was undertaken to locate in-place mineralization.

The writer examined the main roadside outcrops on the tenure in the fall of 2009 accompanied by Walter Crombie and assisted by James Wasteneys. Structural features and mineralization at several sites were mapped and compiled as part of the present work shown in Figure 7. The line of the traverse through the property is shown in Figure 7 as a yellow line that follows drivable logging roads. Notable features include fault zones or shears, quartz vein complexes and granodioritic dykes cutting the amygdaloidal mafic volcanic flows and agglomerates of the Karmutsen Formation. The extents of the granodioritic intrusives on the Dass property were not determined, but are assumed to be dykes emanating from the intrusive complex exposed east of Upper Campbell Lake.

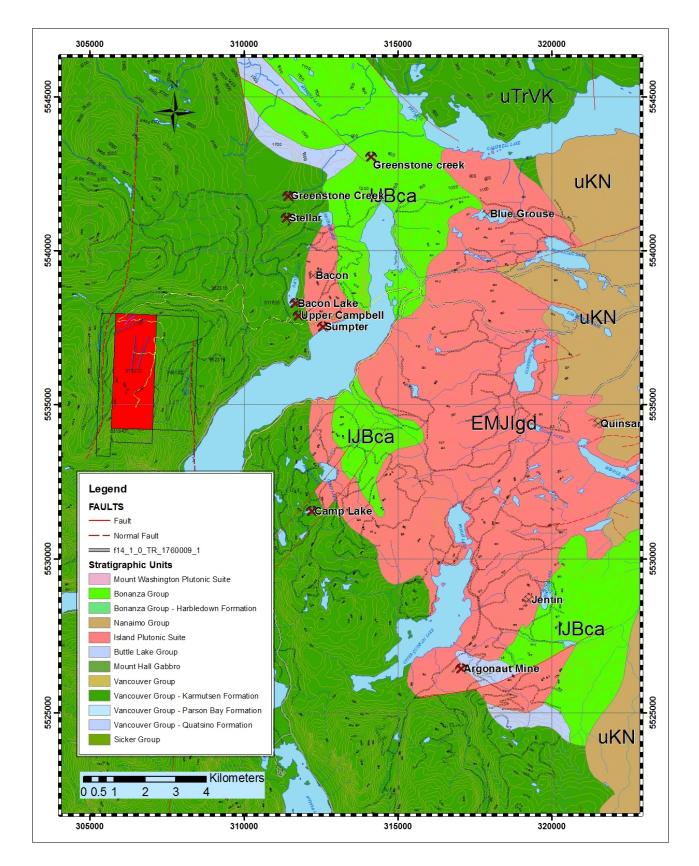


Figure 6: District Geology

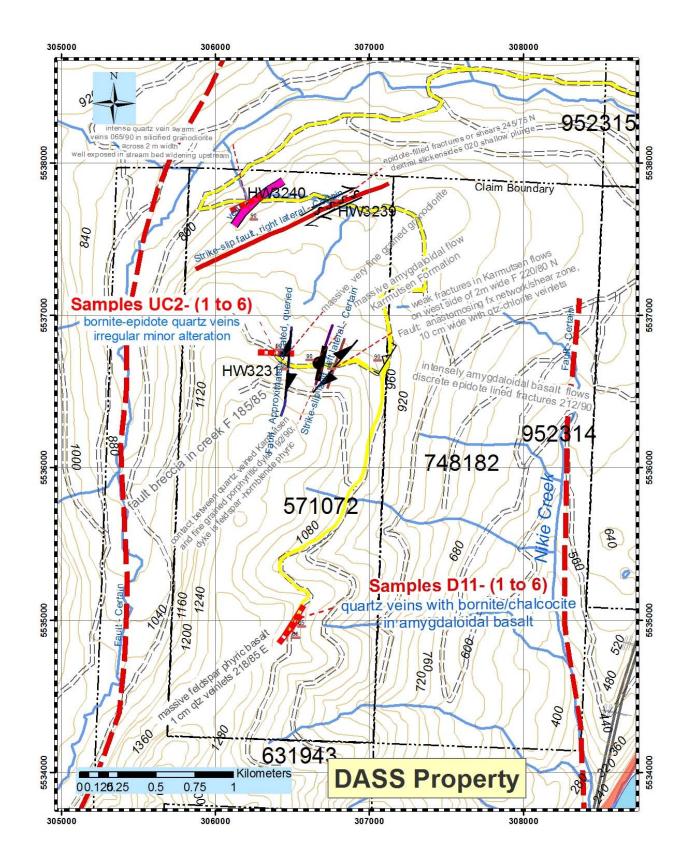


Figure 7: Property Geology

#### **Conclusions and Recommendations**

The bornite veins at the Dass property are somewhat unusual within the immediate district where most copper mineralized discoveries have been in skarns, although the Karmutsen Formation is renowned to be copper-rich and host to innumerable uneconomic concentrations of chalcopyrite and bornite in shear zones and on fracture surfaces. The copper sulphides along with native copper are generally considered to be the result of remobilization during low-grade metamorphism from syngenetic deposits in prehnite filled amygdules, which are more commonly encountered in the subaerial flows towards the top of the nearly 6 km thick stratigraphic section (Lincoln, 1981; Surdam, 1968).

The understanding of the DASS property mineralization would be enhanced by thorough geological mapping with emphasis on structural interpretation of the veins relative to faults and shear zones. Regional scale N-S oriented faults in the Tlools Valley may be related to apparent faults in the Ranald Creek and Nikie Creek valleys that bound the area of the claims. Subsidiary structures, possible in a Reidel shear system bounded by the major regional faults may be responsible for dilatant structures within the DASS property that form the bornite veins. As well, the proximity of the property to a large Jurassic age intrusive complex east of Upper Campbell Lake associated with numerous magnetite skarn deposits in inliers of Quatsino Limestone suggests a hydrothermal origin for the bornite veins as a distal effect of the intrusives. Significant skarn magnetite deposits have been delineated at Bacon Lake (Ferguson, 2012), and some showing there have disseminated chalcopyrite, bornite and pyrrhotite.

However, as noted above (Lincoln, 1981; Surdam, 1968), widespread localized copper concentrations in the Karmutsen volcanics, including bornite lenses in interflow sediments and native copper in some flows, have been correlated with the variations in pre-metamorphic alteration caused by the upward emergence of the thick volcanic pile from subaqueous to sub-aerial. This affected primary oxidation of iron-titanium oxide minerals, which subsequently equilibrated with oxidized metamorphic fluids leaching the syngenetically deposited copper and redepositing it where metamorphic reactions produced prehnite and pumpellyite. Given these observations it would also be important, in addition to structural evaluations, to make observations on the stratigraphic variations and metamorphic mineral assemblages of the host rocks on the Dass Property.

## References

**Cathro, R.J. And Cathro, M.C., 2008.** Geological and Geochemical Report on the DASS Property Campbell River Area, British Columbia Mineral tenure #571072 Nanaimo Mining Division NTS 92F/13 Latitude 49°56'N, Longitude125°42'W For Walter Crombie; MEMPR assessment report number 30383.

**Ferguson, D.W. 2012.** Helicopter-Borne Magnetic Survey Report: Bacon Lake Polymetallic Property, Nanaimo Mining Division, BC. MEMPR Assessment Report Number 31508.

**Gilson, C. and Houle, J, 2005.** Technical Report for the 2004 Exploration Program on the Camp Lake Property, Nanaimo Mining Division, BC 92F/13 Latitude 49°55'N, Longitude125°35'W for Better Resources MEMPR assessment report number 27717A, 68 pages.

Lincoln, T.N. 1981. The Redistribution of Copper during Low-Grade Metamorphism of the Karmutsen Volcanics, Vancouver Island, British Columbia. Econ. Geol. Vol 76, pp. 2147-2161.

Surdam, R.C., 1968. Origin of Native Copper and Hematite in the Karmutsen Group, Vancouver Island. Econ. Geol. Vol. 63, pp. 961-966.

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**Wasteneys, H.A., 2010.** Technical report on diamond drilling at the Brynnor Magnetite Deposit, Redford Property, MEMPR Assessment Report number 31392.

Hardolph Wasteneys

## **APPENDIX A: Cost Statement**

Exploration Work type	Comment	Days			Totals
Personnel (Name)* / Position Walter Crombie / prospector	April 20 to October 10	<b>Days</b> 10	\$250.00	Subtotal* \$2,500.00	
Gary McQuarrie / helper Malcolm McCallum / consultant	April 20 to October 10 04/09/11	10 1 1	•	\$1,500.00 \$0.00	
Hardolph Wasteneys / consultant	19/10/09		\$0.00 \$0.00	\$0.00 \$0.00	
	-, -, -, -		\$0.00	\$0.00	
			\$0.00	\$0.00	
Office Studies	List Dorsonnol (noto Office or	alv da n	at includa	\$4,000.00	\$4,000.00
Literature search	List Personnel (note - Office or	πιγ, αο π	\$0.00	\$0.00	
General research			\$0.00	\$0.00	
Report preparation	Hardolph Wasteneys	1.0	\$0.00	\$0.00	
				\$0.00	\$0.00
Ground Exploration Surveys Geological mapping	Area in Hectares/List Personnel				
Prospect	Walter Crombie				
Trenches	Define by length and width			\$0.00	\$0.00
Geochemical Surveying	Number of Samples	No.	Rate	Subtotal	<b>\$0.00</b>
Rock	ACME Labs	13.0	\$0.00	\$655.31	
Other (specify)			\$0.00	\$0.00	
				\$655.31	\$655.31
Other Operations Trenching	Clarify	No.	<b>Rate</b> \$0.00	Subtotal \$0.00	
Other (specify)			\$0.00 \$0.00	\$0.00 \$0.00	
			40.00	\$0.00	0
Transportation		No.		Subtotal	
Airfare	Malcolm McCallum YVR-YBL return	1.00	\$340.52		
truck rental	Comphell Diverte elsime	1120.00	\$0.00	\$0.00	
kilometers Other	Campbell River to claims	1120.00	\$0.52	\$582.40	
				\$922.92	\$922.92
Accommodation & Food	Rates per day			1.	1
Hotel			\$0.00	\$0.00	
Camp			\$0.00	\$0.00	
Meals	day rate or actual costs-specify		\$0.00	\$0.00	¢0.00
Miscellaneous				\$0.00	\$0.00
Telephone Other (Specify)			\$0.00	\$0.00	
				\$0.00	\$0.00
Equipment Rentals					
Field Gear (Specify) Other (Specify)			\$0.00	\$0.00	
Evolution work as welles				\$0.00	\$0.00
Freight, rock samples YBL to YVR			\$0.00	\$0.00	
			\$0.00	\$0.00 \$0.00	
			10.00	\$0.00	\$0.00
					-
TOTAL Expenditures	<u> </u>				\$5.578.23

TOTAL Expenditures

## Appendix B: Statement of Qualifications,

## Hardolph Wasteneys Ph.D., P.Geo.

I, Hardolph Wasteneys, Ph.D, P.Geo. resident at Strathcona Park Lodge, Campbell River BC, do hereby certify that:

- 1. I am a self employed Professional Geoscientist and have worked primarily in mineral exploration, mining, geological and U-Pb geochronological research, and geological education since 1978.
- 2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia and ot the Association of Professional Geoscientists of Ontario.
- 3. I graduated with the degree of Bachelor of Science in Geological Engineering, Mineral Exploration option from the Faculty of Applied Science, Queen's University, Kingston in 1979.
- 4. I graduated with the degree of Doctor of Philosophy (Geological Sciences) from Queen's University, Kingston in 1990. My thesis research specialized in the study of ore deposits of southern Peru under the supervision of Prof. A.H. Clark.
- 5. I was a research associate/post-doctoral fellow at the Jack Satterley Geochronology Laboratory in the Royal Ontario Museum directed by Dr. T. E. Krogh from 1990 to 1997 and completed numerous U-Pb studies on the timing of ore deposition and regional metamorphism in collaboration with university and government survey geologists and resulting in several publications in peer reviewed international journals.
- 6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- 7. I have no beneficial interest in the DASS claims nor in Hawkeye Gold and Diamonds Inc.

Signed at Strathcona Park Lodge, Campbell River BC, this 29th day of January, 2010.

Hardolph Wasteneys, Ph.D., P.Geo.

## Appendix C: Geochemical Data

ACME ANALYTICAL LABORATORES LTD. Final Report Clent: Hawkeye Gold A Diamond Inc. File Create 29-Sep-11 Job Numtk/VM11004866 Number of 13 Project: Upper Campbell Shipment IUpper Campbell-HGO P. O. NumUC-HGO-1001 Received: 13-Sep-11

Analyte Wg Unit KG MDL	GM/T	G6 Pt GM/T .01 0.1	G6 Pd GM/T 01 0.0	1D Mo PPM 01	1D Cu PPM 1	1D Pb PP 1	Zn	ı Ag	1D Ni PPN 0.3	1D Co 1 PPN 1	1D Mn 1 PP1 1	11 Fe vi % 2	e As	Au M PPN		D 1D Sr Cd PPM PP 1	Sb M PP		V C	Ca I		Cr M PPN	Mg	1D 1E Ba Ti PPM % 1	В	1D 1I AI N % %	a K	W PP	S Hg M % PPN	1D TI 1 PPM 1 \$	Sc Ga PPM PPM	7TD Cu % 0
UC2-2 Rock		.02 <0.01 .01 <0.01 <0.01	<0.01 0.0 <0.01	<1 )1<1 <1	>1000 >1000 >1000	0	7 4		20.1 43.1 5.7	12 30 23	10 19 17	276 379 387	2.73 4.19 3.3 <2	2<2 4<2 <2	<2 <2 <2	27 15 88	2.3 <3 6.8 <3 1.5 <3	<3 <3 <3	77 153 132	2.88 5.1 3.87	0.06 0.04 0.08	4 4 1 5 1		2	0.18 <20 0.45 <20 0.32 <20	4.3 <	0.01 <0	0.01 <2 0.01 0.01 <2	12 2.93 < 1	<5 <5 <5	<5 6 13 14 7 9	7.83 15.75 1.97
	0.87 0. 0.73 < 0.01	0.01> 08. 0.01>	<0.01 0.0	<1 )1<1	>1000 >1000	0 <3	3	25 50	16.1 3.1	26 52	14 30	362 711	3.14 5.11	7<2 3<2	<2 <2	13 20	4.7<3 3<3	<3 <3	109 210	3.45 5.59	0.03 0.06	2 1 6 2	4 1.56	2	0.32 <20 0.62 <20			0.01 <2 0.01 <2		<5 <5	8 8 16 11	6.15 1.08
	1.21 < 0.01	<0.01		)1<1		004 <3		64	2.6	55	31	820	6.02 <2		<2	22	3.2<3	<3	242		0.06	5 3			0.69 < 20			0.01 <2	0.15<1	<5	18 14	
		.01 <0.01 .02 <0.01	<0.01		>1000				20.7 40.1	40	23 21	629 405	5.14 <2 8.8 <2		<2 <2	19 37	5.3<3 1.3<3	<3 <3	187 147		0.04 0.04	4 2 5 3	5 1.4 7 1.28		0.48 <20 0.56 <20			).01 <2 ).01 <2	1.41 <1 4.53 <1	<5	13 14 17 <5	7.1 20.76
	0.22 < 0.01	0.01× 20.01.		)1<1 )2<1		0 < 3 585 < 3		40 46	40.1	36 33	21	405 550	8.8<2		<2	37 9	0.6<3	<3	230	1.34 3.8	0.04	5 4			0.56 < 20			).01 <2		<5 <5	17 < 5	20.76
	1.34 < 0.01	< 0.01		02<1	>1000			46	6.1	38	22	442	7.56 <2		<2	22	0.9<3	<3	247	2.86	0.06	4 5			0.81 < 20			0.01 <2	1.28 < 1	<5	17 <5	3.37
D11-4 Rock	0.29 < 0.01	< 0.01	0.0	02<1	>1000	0 <3		28	5.1	25	15	270	4.7 <2	<2	<2	22	0.8<3	<3	218	3.17	0.05	5 4	3 0.63	1	0.69 < 20	2.46	0.03<0	0.01 <2	1.34 < 1	<5	16 < 5	3.68
		.01 <0.01	0.0	)1<1	>1000				33.5	38	23	434	7.33 <2		<2	67	1.4<3		161			4 3			0.53 <20			0.01 <2		<5	14 < 5	15.39
	2.01 < 0.01	<0.01	0.0	)2<1	>1000	0 <3		46	3.3	36	24	404	6.88 <2	<2	<2	25	0.6<3	<3	213	3.13	0.06	53	3 0.71	<1	0.73 <20	2.55	0.03<0	0.01 <2	0.64 < 1	<5	8<5	2.2
Pulp Duplicates D11-4 Rock	0.29<0.01	<0.01		)2<1	>1000	0 <3		28	5.1	25	15	270	4.7 <2	<2	-2	22	0.8<3	-2	210	3.17	0.05	5 4	2 0.62	4	0.69 < 20	2.46	0.02 -0	0.01 <2	1.34 < 1	<5	16<5	3.68
D11-4 REP	<0.01	< 0.01	0.0		/1000	0 5		20	5.1	25	15	2/0	4.7 ~2	~2	<2	22	0.0 5	<3	218	3.17	0.05	54	3 0.63		0.09 \20	2.40	0.03 \(	J.UT ~2	1.34 < 1	<5	10 < 5	3.00
		.02 < 0.01		)1<1	>1000	0 <3		46	40.1	36	21	405	8.8 < 2	<2	<2	37	1.3<3	<3	147	1.34	0.04	5 3	7 1.28	<1	0.56 < 20	1.55	0.02<0	).01 <2	4.53 < 1	<5	17 < 5	20.76
D11-1 REP	0.	.02 0.	02 0.0	01																												
	0.78 < 0.01	< 0.01	<0.01	<1	>1000	0 <3		40	5.7	23	17	387	3.3 <2	<2	<2	88	1.5<3	<3	132	3.87	0.08	5 1	1 0.86	<1	0.32 <20	3.17 <	0.01 <0	0.01 <2	0.32 < 1	<5	7 9	1.97
UC2-3 REP																														_		1.98
UC2-6 Rock UC2-6 REP	1.28 0.	.01 <0.01	<0.01	<1	>1000	0 <3		45	20.7	40	23	629	5.14 <2	<2	<2	19	5.3<3	<3	187	4.99	0.04	4 2	5 1.4	<1	0.48 <20	5.02 <	0.01 <0	).01 <2	1.41 <1	<5	13 14	7.1 7.11
Reference Materials																																7.11
STD PD1_STD	0	.56 0.4	47 0	6																												
STD CDN-STD	0.	.23 0	.1 0.4	18																												
STD PD1 STD	0.	.56 0.4	49 0.5	59																												
STD DS8 STD				14				319	1.6	39	6	615		27 < 2	7	66		5 7	41				2 0.62		0.11 < 20				3 0.11<1	<5	<5 <5	
STD OREASTD STD PD1 STD	0	E4 0	47 0.5		1	487	19	56	0.5	259	96	966	17.56	5<2	8	16 < 0.	.5 <3	<3	221	0.46	0.04	17 74	0 0.14	170	0.14 <20	3.77	0.01	0.07 <2	<0.05 <1	<5	45 12	
STD OREASTD	0.	.54 0.4	4/ 0.5	57																												0.02
STD SU-1ESTD																																1.16
STD DS8 STD				15	5	121	123	354	1.8	44	8	695	2.84	28<2	7	72	2.5	56	46	0.79	0.09	16 13	2 0.67	324	0.12 < 20	1	0.1	0.44	2 0.17 < 1	<5	<5 <5	
STD OREASTD				:	2	584	16	70 < 0.3		290	105 .	1045	18.22 <2	<2	7	17 < 0.	5 <3	<3	234	0.48	0.04	19 82	9 0.12	182	0.13 < 20	4.38 <	0.01	0.09<2	<0.05 <1	<5	52 9	
STD OREASTD																																0.03
BLK BLK	< 0.01	< 0.01	< 0.01																													
BLK BLK BLK BLK	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01																													
BLK BLK	NU.UT	NU.U1	~0.01	<1	<1	<3	<1	< 0.3	<1	<1	<2	e	0.01 <2	<2	<2 <	1 <0.	.5 <3	<3	<1 <	0.01	<0 001<1	<1	<0.01	<1 <1	001<20	<0.01 <	0 01 <1	01 <2	<0.05 <1	<5	<5 <5	
BLK BLK	< 0.01	< 0.01	< 0.01			-0		-0.0	-1	-1	-2	~		-2	.2	-, -0.		-0		0.01		-1	-0.01			.0.01 1			-0.00 *1	-0		
BLK BLK																																<0.001
BLK BLK				<1	<1	<3	<1	<0.3	<1	<1	<2	<	0.01 <2	<2	<2 <	1 <0.	.5 <3	<3	<1 <	0.01	<0.001<1	<1	<0.01	<1 <0	0.001 <20	<0.01 <	0.01 <0	).01 <2	<0.05 <1	<5	<5 <5	
BLK BLK																																0.03
Prep Wash	01 -0.01	-0.01	-0.01	-1		F	44	49 -0 0		-		560	1.070	-2		60 -0	E 20	-2	26	0.40	0.09	44	E 0.54	105	0 10 -00	0.90	0.00	0.46.20	-0.0E	~5	~F ~F	
G1 Prep Blank <0.0 G1 Prep Blank <0.0		<0.01 <0.01	<0.01 <0.01	<1 <1		5 5	11 18	48 < 0.3 88 < 0.3		5 5	4	562 546	1.97 <2		5 6	62 < 0.	.5 <3 .5 <3	<3	36 36				5 0.51 5 0.5		0.12 < 20				<0.05 <1 <0.05 <1	<5 <5	<5 <5 <5 5	
Gi Frep Bidlik SU.	0. VU.UI	NU.U 1	NU.U I	~1		5	10	00 -0.0		5	4	J40	1.52 ~2	~2	0	00 -0.		-0	30	0.40	0.00	14	0.0	101	0.12 ~20	0.00	0.00	0.40 ~2	-0.00 -1	~5	-0 0	