



DRILL LOG

Project: Haldane	Collar Elevation (m): 1143.0
Hole HLD10-02	Azimuth (°): 135
Location: 7082039 m North 456522 m East	Dip (°): -50.0
Logged by: T. Branson	Length (m): 126.39
Drilled by: Dorado Drilling	Horizontal Projection:
Assayed by: ALS Chemex	Vertical Projection:
Core Size: NQ	Objective To intersect the Middlecoff veins below the historic drifts
Date Started: 2010/06/14	
Date Completed: 2010/06/16	
Dip Tests By: Reflex tool	

Summary Log:

0 - 4.60m Overburden
 4.60 - 15.45 m Phyllite with common quartz veining
 15.45 - 27.00 m Quartzite
 27.00 - 35.20 m Phyllite
 35.20 - 45.00 m Felsic dyke with 1-2% arsenopyrite
 45.00 - 63.85 m Quartzite and phyllite interbedded units
 63.85 - 69.33 m Fault gouge
 69.33 - 77.25 m Fault breccia
 77.25 - 83.30 m Clay altered phyllite
 83.30 - 86.45 m Fault breccia
 86.45 - 122.50 m Quartzite
 86.45 - 90.10 m Vein fault structural zone hosting strongly weathered, oxidized, mineralized and bleached quartzite.
 93.15 - 99.50 m Quartzite mineralized and bleached with ~1% mineralization.
 117.10 - 122.50 m Quartzite with patchy manganese oxide alteration along fractures.
 118.75 - 120.15 m Strong alteration with poor recovery
 122.50 - 122.75 m Fault gouge
 122.75 - 126.39 m Quartzite with 1-3% fracture-fill and fracture-coating mineralization
 126.39 m - End of Hole



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Downhole surveys:

Depth	Dip	Azimuth
9.00	50.50	134.75
75.00	51.30	135.65
114.00	51.80	137.45

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From	To	Rocktype	& Description		0	4	0	4	0	4	0	4	0	4		From	To	Width	Sample	Ag ppm	Pb ppm	Zn ppm
			mm AS xtals (looks very much like PY, black streak, commonly striated and as bladed xtals, silvery, though in some places with a golden tint). PY also found but rarely. QVing found in places but less common than above or below section.	40																		
			From 43.55 to end of unit, LI weathering is moderate to strong along fractures and colour changes to a light brown.																			
			Lower contact is approx. at 35 deg, as it is not directly visible.																			
45.00	47.40	PQTZ		45																		
			Phyllitic quartzite.																			
			Grey, interbedded quartzite and phyllitic beds, with some boudinaged QVing, w-sLI weathering, brecciated for 15 cm at 46.00 m, rubbly in a large (~30 cm) QV for 10-15 cm before contact with fault breccia.																			
			QV Boudinage at 45.44 (2.5cm), and 45.70 (3cm). Quartz vein at 46.20 m (30 cm of broken QZ with sLI weathering of fractures)																			
47.40	47.60	FLBX																				
			Fault Breccia																			
			Overall mottled grey brown appearance with <1-5 mm sub-rounded QRTZ in matrix supported breccia in contact with 5 cm of fault gouge at bottom of unit.																			
47.60	49.50	PHYL																				
			Phyllite																			
			Strongly deformed and visible in bedding, graphitic along fractures and foliations, non-cohesive in several places almost like fault gouge, mCL throughout, hosts a few mottled QV with up to 1% PY.																			
			Lower contact is at 85 deg with QRTZ beds.																			
49.50	63.00	QRZT																				
			Quartzite	50																		
			Mainly grey QRTZ with PHYL interbeds and PHYL sections, in places heavily deformed and gougey, strongly graphitic and mCL along fractures in deformation zones. QVing common in top and bottom of section but mostly absent between 56.00 m and 59.00 m. Bedding is at 60 deg tca.																			

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From	To	Rocktype	& Description		0	4	0	4	0	4	0	4	0	4	From	To	Width	Sample	Ag ppm	Pb ppm	Zn ppm
			PHYL sections at 50.50 m (5 cm), 53.95 m (5 cm), 54.19 m (5cm, moderately deformed), 54.35 m (8 cm, moderately deformed), 54.51 m (16 cm), 56.20 m (50 cm, m-s deformed, mod-graphitic), 61.60 (55cm, .5 % PY, mod graphite)	55																	
			QVing at 49.70 m (20 cm, wide, almost net textured), 50.30 m (6 cm), 51.60 m (1 cm boudinage), 52.60 m (10 cm), 52.80 m (12 cm), 52.95 m (3.5 cm boudinage), 53.20 m (5 cm), 53.40 m (8 cm), 53.50 m (27 cm), 54.02 m (4 cm boudinage), 54.65 m (5 cm), 59.65 m (3 x 1-3 cm boudinage over 6 cm), 60.80 m (10 cm, rubbly), 62.35 m (5 cm boudinage), 62.65 m (8 cm), 62.85 m (7 cm) and 62.95 m (3 cm).																		
			Several fractures x-cut beds at 45 deg tca, between 57.00 m and 57.30 m with HE? staining.	60																	
			Fold visible at 57.70 m at 60 deg.																		
			Lower contact appears to be formed at a QV with graphitic polish.																		
63.00	63.85	PHYL																			
		Phyllite																			
			Strongly deformed with PHYL barely cohesive, strongly graphitic and sCL. QVing is abundant and holds much of the PHYL beds together. 5 cm QRTZ section towards lower contact. Unit probably represents the lead up to the Ewing fault.																		
			Lower contact grades into fault gouge/breccia.																		
63.85	69.33	FLTG																			
		Fault gouge																			
			Black at the top of unit grading into light grey around 67.60 m and to dark grey at 68.85 m . Unit is mainly a mix of gougey PHYL, QRTZ, QV fragments with 5-10 cm runs of coherent blocks of highly deformed rock within gouge. Darker sections mainly PHYL, lighter sections mainly a mix of QV and QRTZ. Lighter coloured sections are also more cohesive fault breccia, with angular to sub-angular fragments.	65																	
			From 68.85 m to end of unit is a continous clay seam with no fragmentals and uniform throughout.																		

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From	To	Rocktype	& Description	CB	CL	MM	MS	SY	From	To	Width	Sample	Ag ppm	Pb ppm	Zn ppm
			Lower contact is broken with QZBX.	0	4	0	4	0	4	0					
69.33	77.25	QZBX	Quartzite Breccia						75.90	77.20	1.30	475128	6.2	21	493
			Mainly clast supported matrix of angular fragments with QZ+/-LI cement quartzite breccia, with some deformed PHYL breccia sections and non-brecciated QRTZ. Very rubbly through most of the unit and fault gougey in places. Strong LI in places, especially towards the end of the unit.												
			QV at 75.25 m (12 cm).												
			PHYL breccia sections at 74.00 m (30 cm, two 2 cm zones of fault gouge), 74.70 m (8 cm) and 75.30 m (10 cm).												
			Lower contact semi-distinct with altered unit.												
77.25	83.30	PHYL	Altered Phyllite						81.00	82.60	1.60	475129	1.3	3600	2930
			Strongly CL, CY, and LI alteration of PHYL . Very soft and easily broken, rubbly and incohesive between 80.0 m and 81.0 m. Bedding visible from 81.35 m to end of unit												
			From 81.00 m to 81.30 m, there is strong black alteration/almost metallic in appearance (MN?) along fractures, picking up again at 82.20 m for 20 cm.												
			From 82.25 m to end of unit several zones of light brown-yellow clay are hosted between cohesive beds of altered PHYL.												
			Lower contact is rubbly and indistinct with cohesive fault gouge.												
83.30	86.45	FLBX	Fault breccia						83.40	84.05	0.65	475130	114.0	15200	7350
			Brown to dark brown to orange in colour, mainly cohesive, matrix supported with 1-10mm subangular clasts hosted within a black gougey matrix. Strong LI weathering through most of the unit. 1% PY disseminated throughout. Hosts two, thin (1-2mm) metallic veins crossing core at 30 deg tca at 83.70 and 85.20. Difficult to discern due to weathering and fine grained nature of the metallic but likely galena+/-sphalerite.						84.05	84.90	0.85	475131	126.0	3950	6430
									84.90	85.40	0.50	475132	41.8	1675	7660
									85.40	86.45	1.05	475133	9.3	1525	2230

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From	To	Rocktype & Description	CB	CL	MN	MS	SY	From	To	Width	Sample	Ag ppm	Pb ppm	Zn ppm
		Towards lower contact breccia becomes more QRTZ-rich and retains the strong LI character.												
		Lower contact is rubbly with QRTZ.												
86.45	122.50	QRZT						86.45	86.65	0.20	475134	15.2	1940	3550
		Quartzite						86.65	87.20	0.55	475135	8.0	1055	1215
		Varying quartzite unit with several different types of alteration affecting the unit from clay, bleaching, w-m LI weathering, MN fracture fluid alteration envelopes with metallic residue on fracture surfaces, a pinkish red (HE?) alteration is prominent in places. Bedding varies from 40-60 deg, where visible.						87.20	87.60	0.40	475136	9.5	692	2760
		At top of unit, hard, dark red 1-3 mm veinlets cut through the QRTZ for 20 cm. Possibly mineralized. Interval was sampled. Veinlets dissipate at 87.00 m.						87.60	88.35	0.75	475137	6.1	799	1905
		From 87.00 m for 40 cm, zone is fractured with strong LI weathered fracture-fill and mod MN along fractures.						88.35	88.95	0.60	475138	3.5	203	779
		Strong MN and w-sLI fracture coating in bleached QRTZ from top of unit to 90.00 m, with alteration halos 1-5 mm in width. No MN along fractures from 90.10 m to 93.15 m Reddish alteration also commonly associated with fractures, especially from 90.00 m onwards to 99.5 m, except in bleached zones. 91.35-93.15 m, moderately bleached and wLI with minor QVing.						88.95	90.00	1.05	475139	2.8	233	612
		93.15 - 97.00 m moderately bleached with three 1-3 mm veinlet spanning ~50 cm with MN and reddish alteration at 5 deg tca. Several fractures also host MN alteration in this interval. Bleached zone with MN fracture halos continues to 99.50 m.						90.00	90.70	0.70	475140	3.0	1010	1330
		Strong bleaching/lightening of QRTZ from 99.50-107.70 m with wLI and minor mainly 1-3 mm QVing (15 cm at 104.25 m). 107.70 m unit becomes slightly phyllitic to 108.60 m, though with a 35 cm sLI QV cutting through bedding at 107.95 m. Bleached QRTZ, with abundant QVing from 108.60-110.90 m followed by weak patchy bleaching and wLI mainly around fractures to 113.10 m. Reddish alteration at 111.95 m for 5 cm and over 40 cm at 112.70 m.						90.70	91.35	0.65	475141	1.0	351	612
		From 113.10 m to 115.10 m, QRTZ is fairly uniform with bedding at 30 deg tca,						91.35	93.43	2.08	475142	1.0	158	335
								93.43	94.00	0.57	475143	0.2	37	227
								94.00	96.00	2.00	475144	8.2	266	803
								96.00	97.15	1.15	475145	1.6	92	472
								97.15	99.00	1.85	475146	19.4	150	406
								99.00	99.50	0.50	475147	14.8	45	363
								99.50	102.00	2.50	475148	2.6	42	148
								102.00	105.00	3.00	475149	1.8	29	88
								105.00	108.00	3.00	475150	7.3	47	182
								108.00	108.60	0.60	475151	6.8	12	167
								108.60	109.45	0.85	475152	6.3	12	117
								109.45	111.95	2.50	475153	3.0	8	88
								111.95	114.00	2.05	475154	2.0	10	74
								114.00	115.50	1.50	475155	2.1	55	114
								114.00	115.50	1.50	475156	1.9	81	169
								115.50	117.00	1.50	475157	3.6	84	251
								117.00	118.85	1.85	475158	9.8	624	499
								118.85	120.15	1.30	475159	12.0	775	2660
								120.15	120.90	0.75	475160	7.5	218	1495
								120.90	122.50	1.60	475161	11.7	488	794

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From	To	Rocktype & Description	CB	CL	MM	MS	SY	From	To	Width	Sample	Ag ppm	Pb ppm	Zn ppm
		w-mLI along fractures and within 1-2 mm veinlets x-cutting beds. Only slight bleaching around fractures at 114.85 m for 8 cm and towards end of zone where bleaching starts to become pervasive. At 115.90 m, QRTZ is weakly bleached with a light brown colour and has wLI weathering to 117.10 m. Vfg sandy bed at 116.85 m. Bedding at 40 deg tca.	0	4	0	4	0	4	0	4				
		MN fracture coating and alteration halos weak between 117.10 m and 117.65 m and bleaching becomes stronger. Weakly bleached between 118.00 m and 118.75 m, though there is patchy MN alteration around fractures, as is weak reddish alteration and wLI. Strongly bleached and m-sLI from 118.75-120.15 m with up to 60% MN alteration, nearly becoming pervasive.												
		120.15-120.45 m is a phyllitic zone with with sLI and strong reddish alteration along bedding and fractures. Below phyllitic zone, bleaching is mainly bedding oriented with ~10 cm bleached beds followed by 10 cm non bleached beds with 1-3% MN + LI alteration along fractures and veinlets.												
		121.90-122.5 m QRTZ is strongly bleached with mod LI, weak reddish alteration and 1-3% fracture fluid alteration MN.												
		Lower contact with clay seam at ~122.5 m.												
122.50	122.75	CYSM												
		Clay Seam												
		70cm of mainly grey clay with 1-3mm fragments of QRTZ.												
122.75	126.39	QRZT						122.75	123.50	0.75	475162	13.3	460	725
		Quartzite						123.50	123.75	0.25	475163	38.9	514	1755
		Strongly bleached throughout with w-mLI and MN along fractures.						123.75	125.60	1.85	475164	2.8	309	1070
		Strongest zone of alteration is between 123.50 m and 123.75 m, with a high density of fracturing and 40% alteration halo with sulphides forming along fractures. 1-3% fracture-fill alteration halos for whole unit. Sulphide mineralization less prevalent from 125.60 m to 126.19 m, especially in the phyllitic beds for 10cm at 125.85 m.						125.60	126.18	0.58	475165	13.5	1320	2590
		Between 126.19 m and 126.39 m (E.O.H.) is highly weathered and almost appears faulted with sulphides within.						126.18	126.39	0.21	475166	17.0	3800	25600
126.39	126.39	EOH												

Drill Log Legend

- APHY
- CYSM
- DYKE
- FLBX
- FLBX
- FLTG

- OVBN
- PHYL
- PQTZ
- QRZT
- QZBX
- S-fold

- bedding
- fault
- fold
- foliation
- vein