

Assessment Report on the 2012 Trenching, and Diamond Drill Program

Charlotte Property

Whitehorse Mining District, Yukon Territory

In reference to claims and leases:

DD1-2 (YA59596-YA59597)	DD15-28 (YA59610 – YA59623)	DOME 1-4 (73537-73540)
DOME 6-7 (73542-73543)	DOME 8(73694)	DOME 14 (73700)
DOME 16-20(73702-73706)	DOME 25-28(77746-77749)	DOME 33-43(77754-77764)
DOME 49-58(77770-77779)	DOME 60-61 (77781-77782)	DOME 63-66 (77784-77787)
DOME 78-84 (81842-81848)	DOME 86 (81850)	EEK 1-9 (YA87210-YA87218)
EEK 14-18 (YA87223-YA87227)	HIW 1-2 (YA24813-YA24814)	HIW 7 (YA24819)
HIW 9 -17 (YA23835-YA23843)	JOANNE 1-6 (74283-74288)	ONT 38 (YA87204)
ONT 40 (YA87206)	ONT 42 (YA87208)	ONT 44-47 (YA92665-658)
TBR 1-8 (YA86690-YA86697)	ROSE (4241)	GOLDEN EAGLE (4278)
WAR EAGLE (4279)	SHAMROCK (4354)	SPOT (4361)
ARLEP (4368)	PHYLLIS (4369)	RUB (55633)
PUB (55663)	SUN DOG (55665)	CUB (55666)
JAM (55890)	PAM (55892)	NICOLA 0-4 (YE63027-31)
NICOLA 5-6 (YE63039-40)	NICOLA 8-11 (YE63036-38, 41)	

Located at Latitude 62°09'00.07"N, Longitude
137°09'50.32"

NTS Mapsheet 115I/03

For Work Performed Between May 27th - September 29th, 2012

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1.0 Summary

The Charlotte Property is located in the Mount Nansen area of the west-central Yukon Territory, Canada, approximately 60 kilometers west of the town of Carmacks. The property is accessible by an all-weather gravel road from Carmacks and consists of 139 contiguous full or fractional quartz mining claims and leases that comprise a total area of 2390.76 hectares.

The region lies within the Tintina Gold Belt, a 200 km wide and 1,200 km-long trend of mid- to Late Cretaceous granitoid intrusions (diorite, granodiorite, quartz monzonite, and syenite) extending from central Alaska, across central Yukon, to the Yukon-British Columbia border, roughly parallel to the ancient North America craton boundary. The Tintina Gold Belt includes several significant gold deposits, including Pogo, Fort Knox, True North, Donlin Creek and Shotgun.

The Mount Nansen area is underlain by metamorphosed intrusives, sedimentary and volcanic rocks in the Dawson Range of the Yukon-Tanana geologic terrane. These rocks are intruded by Early Cretaceous felsic plutonic rocks and overlain by mid-Cretaceous Mount Nansen mafic to intermediate volcanic rocks and related sub-volcanic feldspar porphyry dykes and plugs.

The area has been worked by placer and hard rock explorers intermittently since the first placer gold discovery on Nansen Creek in 1899. The first geology map of the area was produced in 1933 while hard rock mining of one of the vein systems first occurred in 1947. The vein systems have been subsequently periodically mined by several operators in the 1960's, 1970's and again late 1980 and early 1990's. Exploration has occurred throughout the area regularly since the mid 1940's by numerous individuals, companies, and syndicates. Most notably, in the mid to late 1980's and again in the early to mid 1990's and 2000's considerable exploration took place on the Discovery Creek, Webber, Flex and Huestis areas including in 2010 the completion of a 14 hole diamond drill program on the Flex Zone by Guinness Exploration Inc. They also undertook trenching at the Orloff-King and GRW prospects. In the fall 2010, Ansell optioned the claims from Guinness Exploration and continued to plan and execute the 2011 field program.

Field work continued in 2012 which comprised of 1883.46 m of diamond drilling in 6 drill holes all centred on the Flex Zone and excavator trenching in the Eliza Creek Extension area that consisted of two completed trenches for 373.71 m and two partially completed trenches for 383.50 m.

Assay results for the trenches show low anomalous values for gold associated with andesite in trench ECE TR12-01 but no significant values in trench ECE TR12-02. Results from the drilling however, indicated numerous mineralized zones and veins from 300 ppb Au and greater. Most of these can be correlated with previously interpreted vein systems while others are not. These latter zones may represent new zones or due to historic selective sampling techniques, were overlooked.

The drilling program expanded the known extent of the Flex Zone to the west, south, at depth and down plunge. As a result of the program, mineralization remains open in all directions and presents new target zones for future drilling.

A total of 720 core samples and 105 trench rock samples were collected and submitted to Acme Analytical Labs in Whitehorse. A rigorous QA/QC program was maintained by CMG personnel during the program. In total 113 samples were submitted as blanks, duplicates or standards.

The following conclusions were derived from the 2012 program:

1. The multi-veined Flex Zone continues to the south of historical drill holes by at least 50 m.
2. There are 3 mineralized subzones or pods in the Flex Zone trending in a NW-SE direction and dipping steeply to the SW. Each zone contains 3-5 individual braided veins that are strongly structurally controlled and are comprised of pyrite and arsenopyrite, with variable amounts of sphalerite, galena and stibnite and possibly pyrargyrite and bournonite.
3. The relationship between the southern extension of the Flex Zone and the Huestis Zone is unknown.
4. The relationship of the Flex Zone and the Webber Zone to the west is also unknown.
5. The Flex Zone remains open to depth, down plunge and along strike both to the north and south.
6. DDH-12-275 tested possible host rocks at shallow depth between the Flex and Webber Zones but no new zones or veins were discovered.
7. DDH-12-276 and DDH-12-279 successfully tested the down plunge extension of the north pod mineralization.
8. Drilling clearly shows that the Flex Zone veining and mineralized zones continue to depth and retain their grade tenor and widths.
9. There is a SSE trending and westerly dipping fault on the western side of the deposit that separates the Webber from the Flex Zones.
10. There are numerous ENE trending, south dipping faults throughout the Flex Zone that are responsible for dividing up the deposit into 3 pods as well as creating a series of dropped down blocks.
11. The trenches in the Eliza Creek Extension area, were located within the phyllic zone of alteration and did not contain economic mineralization.
12. Trench results did not accurately represent the soil geochemistry and may be due to variations in the historical soil geochemical data.
13. The geophysical and geochemical trends in the Eliza Creek Extension region suggest that the mineralization is further to the east and to the north within the core of the porphyritic intrusion.
14. The geophysical and geochemical trends in the region suggest that the mineralization is further to the east and to a lesser degree, to the north in the centre of the porphyry.

Following on these conclusions are these recommendations:

1. Compilation of all data should be ongoing.
2. The historical work on both the Webber and Huestis Zones shows that there is potential to expand these deposits. Several drill holes should be collared on these deposits.
3. A detailed structural investigation into the regional deposits and structural history should be undertaken.
4. Diamond drilling in the Flex Zone should continue and be concentrated on a regular grid pattern to outline the plunge/depth continuity of the various veins/mineralized pods such that a new resource calculation can be completed.
5. Selective sampling of the drill holes has left some gaps in the dataset so it is recommended that additional sampling be undertaken.
6. All sample pulps from the 2012 drilling should be re-run with multi-element ICP such that alteration and mineral association patterns can be established and be correlated with past sampling.

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7. A limited whole rock geochemical study should be undertaken to expand upon and extend the ICP dataset to characterize the mineralizing systems.
8. Drilling between the middle and southern pods, namely west of DDH 98-238.
9. Follow up and expand upon surface mapping results from 2010 and 2011.
10. Due to the possible variation in the analytical methods for the historical soil sampling, a statistical levelling of the data should be performed prior to performing any additional backhoe trenching or drilling. Ground checks should also be completed.
11. Continued construction of longitudinal sections for each zone with pierce points and labeled tagged zones.
12. Construction of grade x thickness plots from the longitudinal sections and contouring of data.

A total of \$1,016,759.12 was expended on the 2012 diamond drilling and trenching program.

2.0 Property Description and Location

The Charlotte Project is located within the Whitehorse Mining District on NTS mapsheet 1151/03 (Figure 1). The claim block consists of 139 contiguous full or fractional quartz mining claims and leases (see Table 1 and Figure 2) for a total of 2390.76 hectares centred at approximately N 62°03'00.07"/W 137°09'50.32". Of these, 128 claims are held under the name 101073531 Saskatchewan Ltd. while 11 claims are held 100% by Ansell Capital Corp.

The Mt. Nansen area is part of the traditional territory of the Little Salmon/Carmacks First Nation. Certain aboriginal rights extend over all territory lands and are guaranteed by the Canadian Constitution. Much of the property lies on crown land and management is the responsibility of the Yukon Territorial Government. However, a part of the claim block is situated on settlement land and its management is subject to the terms and conditions of the 1998 final negotiated agreement between the governments of Canada, the Yukon and the Little Salmon/Carmacks First Nation. The legal mineral claim owner retains the right to work on claims held in good standing that overlie settlement lands. However, if the mineral claims are allowed to lapse, the area under expired tenure will revert to the First Nation.

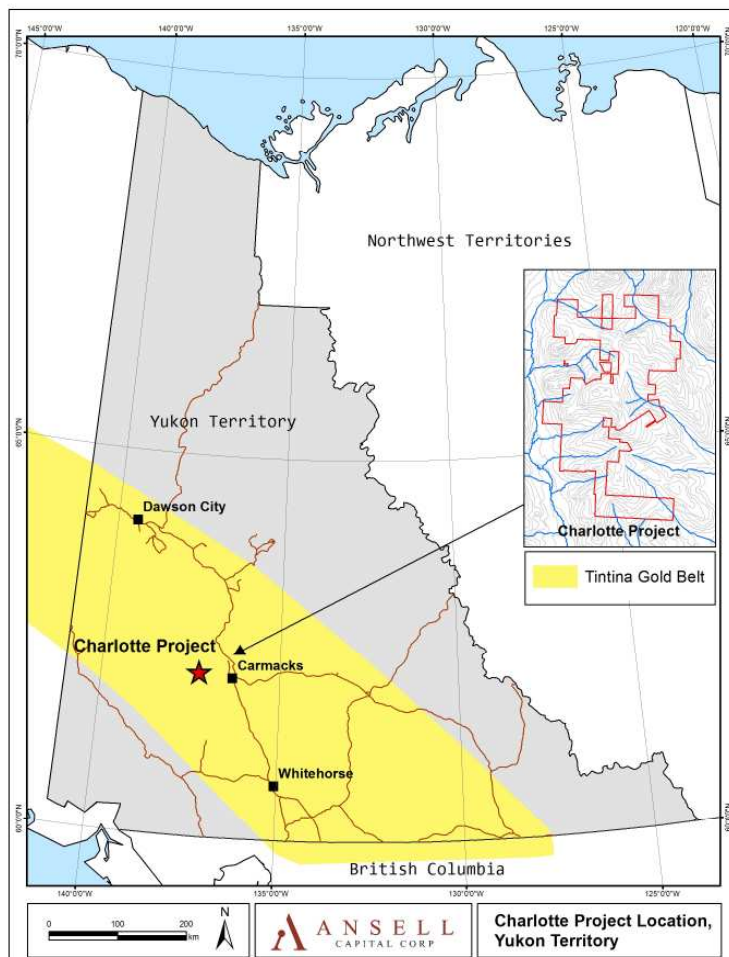


Figure 1: Charlotte Property Location

Future development of the Charlotte Project will require constant consultation with the Little Salmon/Carmacks First Nation to ensure constitutionally-protected aboriginal rights are not infringed and to ensure management of settlement land meets the terms and conditions of the final agreement. Channels of communication have been established by CMG as per the requirements of the Class 3 Mining Lands Permit, numbered LQ 00356, which was issued to facilitate the 2012 exploration program. The Little Salmon/Carmacks First Nation administration office is located in Carmacks.

3.0 Accessibility, Local Resources and Infrastructure

Whitehorse, situated 180 km to the SE of the property (Figures 1 and 3), is a full service community with all the amenities necessary to service an advanced staged exploration or mining project. It has an experienced work force and is also the centre of the Territorial Government including the Mining Recorders office and the Yukon Geological Survey. The

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international airport has daily air service to Calgary, Edmonton and Vancouver as well as summer season direct flights to Europe.

The village of Carmacks, 60 km east of the property, has a population of approximately 450. Amenities are limited but include lodging, fuel and mechanical service as well as a grocery/hardware supplier. There is a limited pool of skilled workers such as electricians and mechanics but a large number of willing unskilled workers some of which have participated in Ansell's programs. Carmacks is also the administration centre of the Little Salmon/Carmacks First Nation.

The paved Klondike Highway joins Whitehorse with Carmacks and from there the property can be directly accessed via the all weather Mt. Nansen Mine Road.

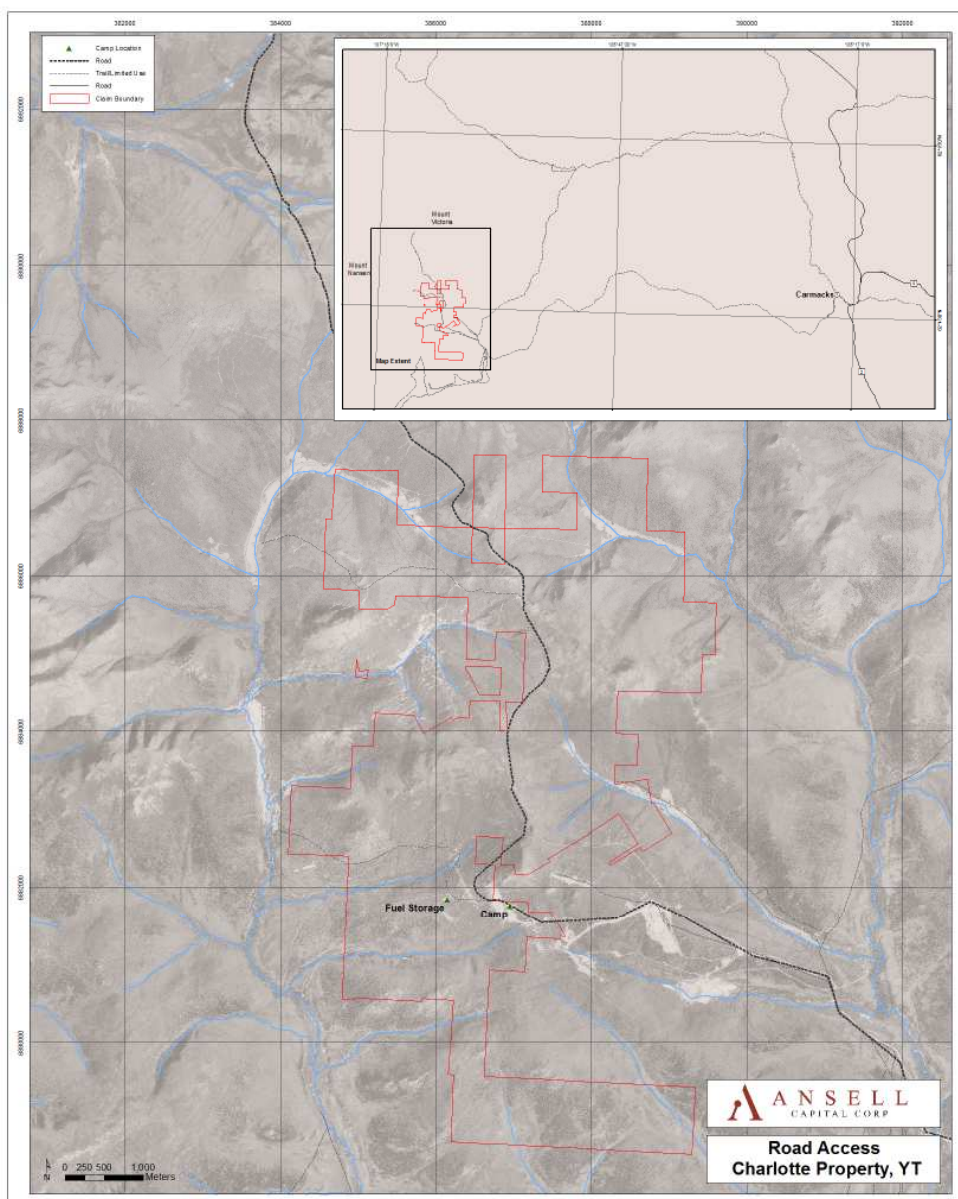


Figure 3: Charlotte Property Access and Location

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Table 1: List of Claims

Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
4241	ROSE	OW00044	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	20.41
4278	GOLDEN EAGLE	OW00045	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	20.95
4279	WAR EAGLE	OW00046	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	20.76
4354	SHAMROCK	OW00047	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	20.72
4361	SPOT	OW00049	101073531 Saskatchewan Ltd. - 100%	06/02/2018	NA	19.91
4368	ARLEP	OW00051	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	14.47
4369	PHYLLIS	OW00052	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	20.25
55633	RUB	OW00054	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	1.84
55663	PUB	OW00056	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	1.93
55665	SUN DOG	OW00057	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	3.20
55666	CUB	OW00058	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	1.29
55890	JAM	OW00059	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	11.64
55892	PAM	OW00060	101073531 Saskatchewan Ltd. - 100%	09/10/2019	NA	2.64
73537	DOME 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	15.09
73538	DOME 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	15.50
73539	DOME 3	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	17.28
73540	DOME 4	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	17.97
73542	DOME 6	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	17.31
73543	DOME 7	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	25.33
73694	DOME 8	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	12.46
73700	DOME 14	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.06
73702	DOME 16	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.60
73703	DOME 17	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.40
73704	DOME 18	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.55
73705	DOME 19	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	16.73
73706	DOME 20	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	13.41

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Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
74283	JOANNE 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.78
74284	JOANNE 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.50
74285	JOANNE 3	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.35
74286	JOANNE 4	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	14.77
74287	JOANNE 5	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.82
74288	JOANNE 6	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.69
77746	DOME 25	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	15.19
77747	DOME 26	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.53
77748	DOME 27	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.31
77749	DOME 28	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.73
77754	DOME 33	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	25.49
77755	DOME 34	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	23.28
77756	DOME 35	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.38
77757	DOME 36	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	23.95
77758	DOME 37	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	14.23
77759	DOME 38	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.47
77760	DOME 39	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	14.95
77761	DOME 40	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.50
77762	DOME 41	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.75
77763	DOME 42	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.92
77764	DOME 43	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.46
77770	DOME 49	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	8.18
77771	DOME 50	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.82
77772	DOME 51	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.04
77773	DOME 52	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.83
77774	DOME 53	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.79
77775	DOME 54	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	14.68

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Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
77777	DOME 56	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	13.35
77778	DOME 57	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.46
77779	DOME 58	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.40
77781	DOME 60	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.05
77782	DOME 61	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.90
77784	DOME 63	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.50
77785	DOME 64	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.87
77786	DOME 65	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.65
77787	DOME 66	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.17
81842	DOME 78	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	25.40
81843	DOME 79	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	24.09
81844	DOME 80	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	24.19
81845	DOME 81	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.50
81846	DOME 82	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	23.25
81847	DOME 83	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.71
81848	DOME 84	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.36
81850	DOME 86	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.75
YA23835	HIW 9	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.43
YA23836	HIW 10	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.82
YA23837	HIW 11	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.54
YA23838	HIW 12	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.92
YA23839	HIW 13	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.71
YA23840	HIW 14	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.54
YA23841	HIW 15	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.14
YA23842	HIW 16	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.85
YA23843	HIW 17	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.91
YA24813	HIW 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	4.73
YA24814	HIW 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	5.15

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Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
YA24819	HIW 7	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	3.01
YA59596	DD 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.61
YA59597	DD 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.34
YA59610	DD 15	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.19
YA59611	DD 16	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.20
YA59612	DD 17	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.37
YA59613	DD 18	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.84
YA59614	DD 19	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.16
YA59615	DD 20	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.89
YA59616	DD 21	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.63
YA59617	DD 22	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.16
YA59618	DD 23	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.68
YA59619	DD 24	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.29
YA59620	DD 25	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.17
YA59621	DD 26	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	17.64
YA59622	DD 27	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.48
YA59623	DD 28	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.70
YA86690	TBR 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	8.92
YA86691	TBR 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	20.15
YA86692	TBR 3	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	20.02
YA86693	TBR 4	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	20.83
YA86694	TBR 5	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	18.33
YA86695	TBR 6	-	101073531 Saskatchewan Ltd. - 100%	06/02/2023	06/02/2027	20.91
YA86696	TBR 7	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	15.95
YA86697	TBR 8	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.78
YA87204	ONT 38	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.25
YA87206	ONT 40	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.33

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Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
YA87208	ONT 42	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	5.73
YA87210	EEK 1	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.06
YA87211	EEK 2	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.07
YA87212	EEK 3	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.69
YA87213	EEK 4	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.67
YA87214	EEK 5	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.79
YA87215	EEK 6	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.57
YA87216	EEK 7	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	19.96
YA87217	EEK 8	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.90
YA87218	EEK 9	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	22.63
YA87223	EEK 14	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.34
YA87224	EEK 15	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.20
YA87225	EEK 16	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	21.75
YA87226	EEK 17	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.00
YA87227	EEK 18	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	20.73
YA92655	ONT 44	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	16.79
YA92656	ONT 45	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	12.90
YA92657	ONT 46	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	18.47
YA92658	ONT 47	-	101073531 Saskatchewan Ltd. - 100%	06/02/2022	06/02/2026	14.40
YE63027	NICOLA 0	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	4.37
YE63028	NICOLA 1	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	6.51
YE63029	NICOLA 2	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	6.65
YE63030	NICOLA 3	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	6.72
YE63031	NICOLA 4	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	6.61
YE63036	NICOLA 9	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	5.13
YE63037	NICOLA 10	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	4.87
YE63038	NICOLA 8	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	2.99

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Grant Number	Claim Name	Lease Number	Owner	Expiry Date	Date Requested	Area (ha)
YE63039	NICOLA 5	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	6.86
YE63040	NICOLA 6	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	3.88
YE63041	NICOLA 11	-	Ansell Capital Corp - 100%	20/06/2016	20/06/2020	1.17
* The given expiry date does not include assessment credits obtained during the 2012 field season.						

4.0 Physiography and Climate

The Charlotte Property is located on the eastern margin of the Dawson Range. This area lies northwest of the maximum extent of the Wisconsin ice sheet and as a result, has remained unaffected by the most recent (Pleistocene) glaciations (Figure 4) (Eaton and Archer, 1989). The terrain is that of a deeply weathered and incised peneplain characterized by deep, wide and dendritic drainages. Local elevations range from 1030 m in the deeper valleys to 1500 m on ridge tops (Melling, 1995; Rodger, 1996). Outcrop is rare and typically documented as felsenmeer of resistant rock units on ridge tops and peaks.

The Dawson Range is characterized by a temperate continental climate, with warm summers and cold winters. Average seasonal temperatures range from -25°C in winter to 15°C in the summers. Average precipitation for the Mt. Nansen area is approximately 250 millimetres, most of which falls in the summer months. Local snow pack is typically 30-40 cm deep in late winter (Stroshein, 2007b).

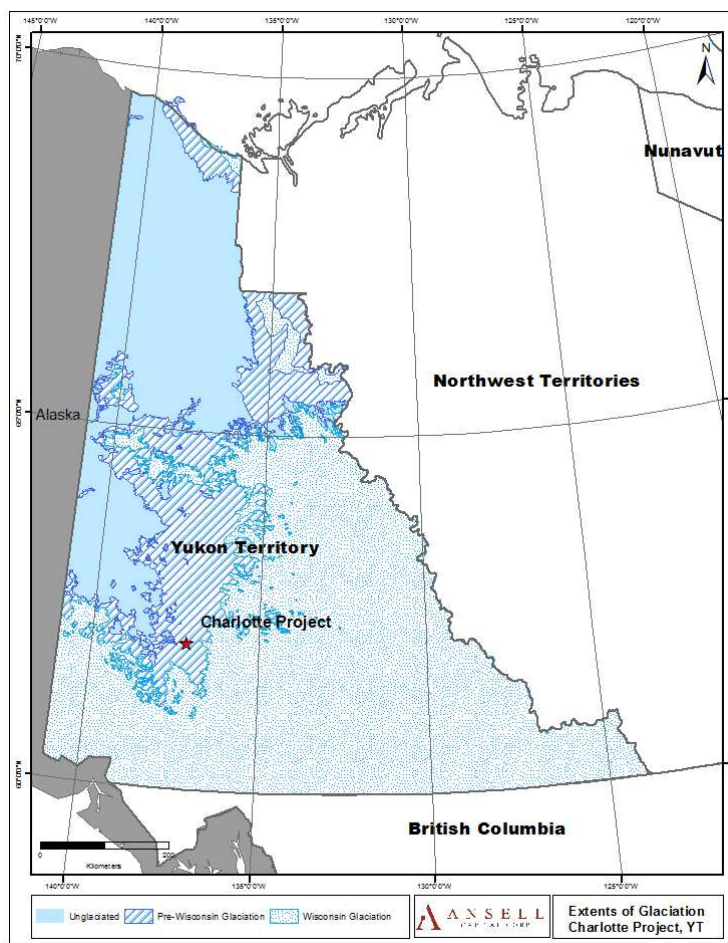


Figure 4: Extents of Glaciation

Permafrost is common in the area and varies according to the slope aspect and vegetation thickness (Stroshein, 2007b). North facing slopes typically do not exhibit an active layer and are frozen immediately under the vegetative mat. More southerly aspects have an active layer that will thaw to a depth of 1-2 m by the late summer months (Eaton and Archer, 1989).

5.0 Exploration History

The following is a brief outline of the history of exploration in the area.

1899: Captain Henry Seymour discovered placer gold in Nansen Creek. Other placer discoveries were made in the early 1900s, but none were large enough or rich enough for sustained development (Lecuyer, 1997).

1930: Gold was discovered in the Mt. Freegold area to the north and after considerable work the La Forma Mine was brought into production (Saunders, 1980).

1937: Silver and lead was discovered by K. Paulson on what is now the Klaza Property immediately north of the Charlotte property (Saunders, 1980).

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1943: Prospectors A. Brown and G. McDade discovered the first lode gold deposit, now known as the Brown-McDade Deposit, located immediately to the east of the Charlotte Property.

1946: Brown-McDade Mines Ltd. formed and began an extensive program of underground drilling and development. Concurrently, Conwest Explorations Ltd. discovered and explored the Webber Zone while the Huestis Syndicate identified and delineated the Huestis Zone, both currently on the Charlotte Property.

1958: Interest in the Mt. Nansen area was revived.

1962: The Mt. Nansen Exploration Syndicate optioned properties that overlap with the Charlotte claim block. This group explored the Webber and Huestis Zones with geochemical surveys, bulldozer trenching and one diamond drill hole in the Webber.

1963: Mt. Nansen Mines was formed by the syndicate. The Webber Zone was further explored with bulldozer trenching and three diamond drill holes

1964: Peso Silver Mines Limited acquires control of Mt. Nansen Mines Ltd. and continued exploration on the Brown-McDade, Webber and Huestis Zones with underground development and diamond drilling between 1964 and 1967 (Walls and Eaton, 1987).

1965: Peso Silver trenched on the Discovery property located to the west of the Charlotte claims (Ellemers and Stroshein, 2005).

1967: A production decision was made and construction of a 200 ton/day mill was started at the Brown-McDade property.

1968: On the same ground as Peso Silver's work Associated Geological Services undertook a soil sampling survey (Ellemers and Stroshein, 2005).

1969: Copper porphyry deposit known as Cyprus was discovered on the NW corner of the property.

1968 and 1969: Esanser Explorations Ltd. conducted exploration on the neighbouring Klaza Property which included geochemical and geophysical surveys, geological mapping, rock sampling, some trenching and also the construction of 14 km of road from the Mount Nansen Mines campsite (Saunders, 1980).

1970: Cyprus showing worked by Area Exploration Company a subsidiary of Cyprus Exploration Corporation. They undertook soil geochemistry and airborne geophysics.

1971: Mount Nansen Mines undertook reconnaissance geological mapping and silt sampling on the adjacent Etzel Property (McClintock, 1986)

1973: Detailed exploration continued on the Cyprus showing with ground geochemical and geophysical surveys, 3463 m of diamond drilling and 951 m of percussion drilling (Franzen, 1986)

1975: Production ceased until 1975 when the Brown-McDade Mine was reopened.

1978: Asbestos Corp. completed trenching and drilled 8 holes for 122 m on what will become the Aurchem Exploration Ltd's Discovery Creek Project immediately west of the

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Charlotte claims. This drilling was following up anomalous gold values in trenches located north of the Etzel (Ellemers and Stroshein, 2005).

1980: BRX Mining and Petroleum Ltd. completed three short bulldozer trenches, seven drill holes for 447.3 m and a geochemical soil survey on the Tawa, now the Klaza Property (Saunders, 1980).

1984: Due to unfavourable results, the Brown-McDade property remains inactive until it was acquired by BYG Resources Inc. ("BYG") (Stroshein, 2007b). The nearby Etzel Property was staked by Mr. Gordon Dickson.

1985: Chevron Minerals optioned the claims that now comprise the current Charlotte Property, as well as those that cover the Brown-McDade mine and mill site.

1985 and 1987: Archer, Cathro & Associates was contracted by Chevron to oversee and execute an intensive exploration program (Eaton and Archer, 1988). By the end of the 1987 field season, Archer-Cathro had completed or overseen geological mapping over various parts of the property, test geophysical surveys, a 6300 soil geochemical survey, aerial photography, baseline and claim surveys, rehabilitation of the Brown-McDade adit portal, 24,121 m of excavator trenching, 1283.5 m of percussion drilling in 17 holes, 2605 m of diamond drilling in 41 holes, and metallurgical, geotechnical and environmental studies (Eaton and Walls, 1988). Exploration focused mainly on delineation of oxide mineralization near surface that would be amenable to open-pit mining. However drilling also expanded the underground sulphide occurrence at the Webber and Huestis Zones (Eaton and Archer, 1989). The previously unrecognized Flex Zone was discovered during this time.

1985: Mr. Gordon Dickson undertakes bulldozer trenching on the Etzel Property.

Pre-1986 and 1986: Kerr Addison optioned the Discovery Project claims and undertakes geological mapping, sampling as well as magnetometer, VLF-EM, SP and resistivity surveys, trenching and the drilling of 19 holes for 1594 m (Ellemers and Stroshein, 2005).

Pearl Resources options the Etzel and Wedge claims from Mr. Gordon Dickson and undertook geological mapping.

1987 -1988: Chesbar Resources Inc. drilled 2372 m in 21 holes on the Discovery Project claims (Ellemers and Stroshein, 2005).

1988: BYG took on sole proprietorship of the Mt. Nansen Project with exploration conducted by Archer-Cathro which consisted of 1473 m of trenching on the Dickson, Huestis and Brown-McDade Zones and 5397 m of diamond drilling primarily on the Brown-McDade Zone and substantially less on the Orloff-King and Dickson Zones (Eaton and Archer, 1989). Exploration was put on hiatus between 1989 and 1994.

1989 to 1994: BYG undertook metallurgical testing, mill flow sheet designs, tailings disposal assessments, and baseline environmental and assessment studies during the exploration hiatus between 1989 and 1994.

1994 to 1996: BYG's exploration on the property consisted of:

Diamond drilling on the Brown-McDade and Flex in 1994 (990 m in 12 holes).

Diamond drilling on the Flex and Huestis in 1995 (1,490 m in 21 holes).

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Diamond drilling programs in 1996 consisted of 7 holes (400 m) on the Webber and Huestis/Flex junction and 10 holes (700 m) on the BMD hanging wall zone (Vince Vein).

1996 to 1997: Mining and milling of oxide ore from the Brown-McDade pit commenced November 1996 and ran until November 1997 with commercial gold production achieved on January 1, 1997.

1998: BYG's diamond drilling in 1998 included 30 holes (2,229 m) on the Flex Zone, 10 holes (762 m) on the BMD, 12 holes (1,009 m) on the BMD trend, 4 holes (402 m) on the Breccia Zone (approximately 1 km north of the Brown-McDade Zone), and 1 hole (123 m) on the Orloff King (Middleton, 2009).

Late 1997 to 1999: The mill was forced to close when unseasonably heavy rainfall runoff coupled with mill effluent caused a water imbalance that the tailings impoundment could not adequately contain. Water treatment facilities were installed to meet water quality discharge objectives and the mine restarts in January 1998. The mill was forced to work at less than full mill capacity until new pumping equipment could be installed which overcame circuit problems and finally allowed the mill to operate at full capacity. The mine ceased production in February 1999 (Denholm et al., 2000).

1999: BYG was ordered to terminate operations in 1999 due to non-compliance with the terms of the water license set forth by the Yukon Water Board. BYG entered into bankruptcy shortly after termination and the property came under the control of the Department of Indian and Northern Affairs ("DIAND"). D. Manning and Associates of Vancouver, BC was appointed by DIAND as receiver the same year, but soon resigned.

2001: Aurchem Exploration Ltd. performed prospecting and geological mapping on the Discovery Project claims.

2002 to 2003: Aurchem Exploration Ltd. followed this work up with trenching.

2004: Aurchem Exploration Ltd. completed 8 diamond drill holes for 695 m on the Discovery Project (Ellemers and Stroshein, 2005).

2004: PriceWaterhouseCoopers ("PWC") was appointed receiver of the former BYG property and subsequently divided the property into a core claim block and a peripheral claim block. The core claim block was withdrawn from staking for environmental remediation. The peripheral claim block was opened up to tender (Denholm et al., 2000).

2007 to 2008: 101073531 Saskatchewan Ltd (Sask Co) purchased the peripheral claim block, which includes the Charlotte claim block, from PWC in two transactions for a total of \$3.2 million. In addition, Sask Co entered into an option with PWC to acquire the Dome 12 claim in consideration of the sum of \$25,000 expiring 2018 (Middelton, 2009).

Sask Co undertakes an airborne VTEM-Magnetic survey. A total of 638 line kms were flown (Middelton, 2009).

2010: Guinness Exploration Inc. commenced work on the Charlotte Property in 2010 which saw the completion of 14 drill holes for 1442.82 m, as well as excavator trenching and limited reconnaissance mapping and rock sampling. Later that year Ansell Capital Corp. options the Charlotte Property from Guinness Exploration.

2011: Ansell Capital Corp. optioned the Discovery Creek Property from Aurchem Exploration. Ansell undertook diamond drilling (3607.93 m in 22 holes), soil sampling (1107

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samples), geological mapping, excavator trenching (591.71 m) and claim staking on both the Charlotte and Discovery Creek properties. Results detailed several Au in soil anomalies and the continuation of the known grade and tenor of the Flex Zone veins.

Great Bear Resources optioned the Etzel claims from Ansell Corp. drilled three holes for 696.17 m, collected 478 soil samples to trace the extensive gold in soil anomalies on the adjacent Klaza Property and completed 255.7 m of excavator trenching.

Rockhaven Resources Ltd. diamond drills intersect significant mineralization along an 850 m strike length within the Klaza Zone. The zone remains open for expansion along strike in both directions and at depth. Mineralization exhibited exceptional continuity with 36 of 40 diamond drill holes testing the Klaza zone in 2010 and 2011 intersecting at least 1.0 gram gold equivalent/tonne over widths ranging between 3.04 and 36.50 m (average 13.04 m). This zone was open to extension down-dip and along strike in both directions.

2012: Ansell completes six diamond drill holes on the Flex Zone for 1883.46 m and two mapped/sampled trenches (373.71 m) in the Eliza Creek Extension area on porphyry targets.

6.0 Adjacent Properties

The Charlotte Property and the adjacent properties are located in the Whitehorse Mining District. There are over thirty known mineral occurrences in the Mount Nansen area and the vast majority are held by Aurchem Exploration Ltd. (396 full or fractional claims) or Archer, Cathro & Associates Ltd (Figure 5).

Work in the area has primarily focused on epithermal vein mineralization through geophysics, soil geochemistry, trenching and diamond drilling. The primary exploration targets on Aurchem's claim block are in Discovery Creek and Iron Creek drainages. Both epithermal Au-Ag-Pb-Zn veins and Au±Cu±Mo porphyry mineralization have been identified in the Discovery Creek drainage. The Iron Creek area, known as the VIC claims and located northeast of Discovery Creek, has been explored for epithermal Au veins. Work has included geophysics, soil geochemistry, trenching and diamond drilling.

Archer, Cathro & Associates Ltd. (Rockhaven Resources Ltd.) is the other major stakeholder in the Mt. Nansen area. Work by Archer-Cathro in 2010 to 2012 has focused on the Klaza claims and has consisted of confirmation trenching and diamond drilling on the Klaza, BYG and BRX Zones.

A number of other claims in the area are held by Roger Hulstein, Frank Cochrane and Bill Trerice. Little data is available on these holdings, as the claims have changed hands on many occasions. All of the above information is in the public domain.

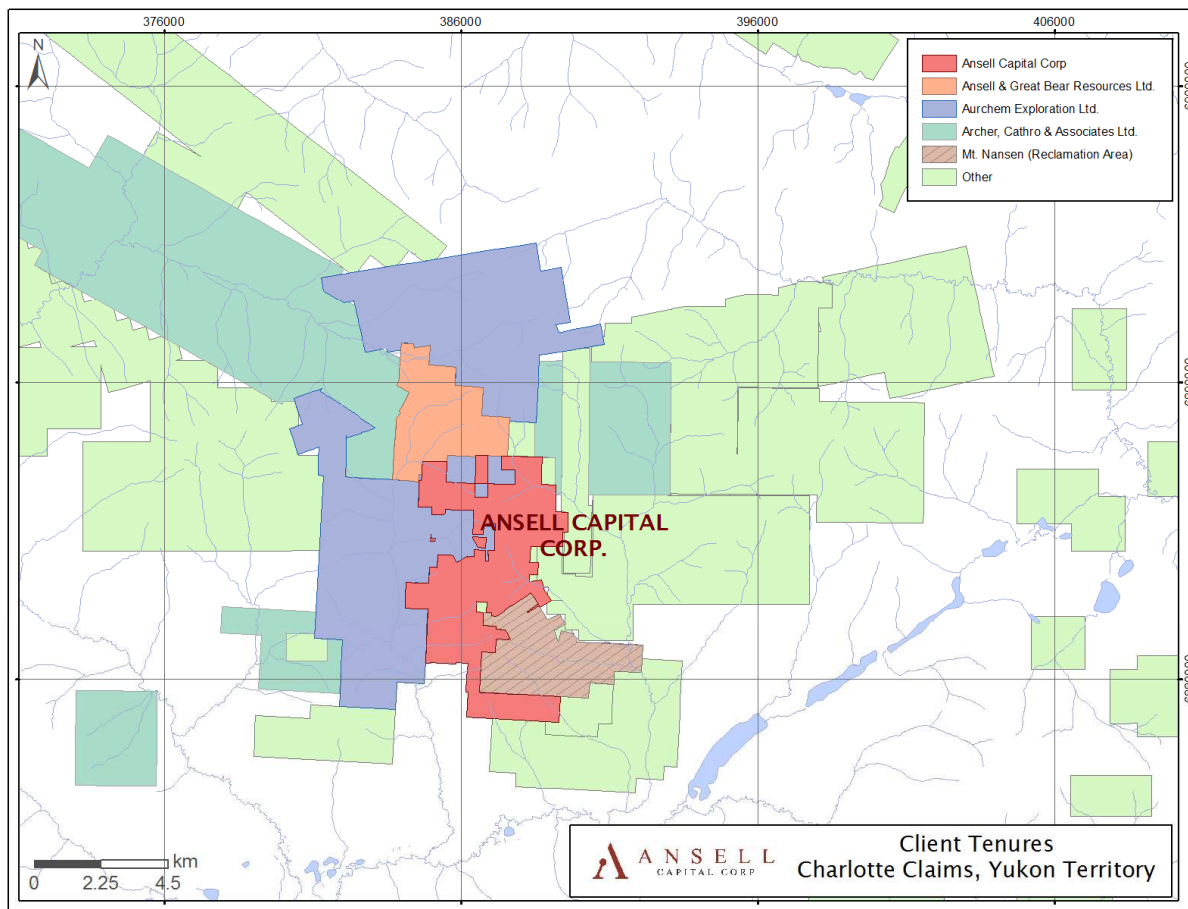


Figure 5: Adjacent Properties

7.0 Geological Setting

7.1 Regional Geology

The Mt. Nansen Trend occurs within the Yukon-Tanana Terrane which is a large accreted terrane that is part of an agglomeration of terranes bounded by the Tintina Fault to the northeast and the Denali Fault to the southwest (Nelson and Colpron, 2007; Figure 6).

The Charlotte Property is located within the Mt. Nansen Trend which is a 15 km long northwest-trending structural corridor, which is host to more than 30 recorded mineral occurrences of epithermal and porphyry origin. Many of the mineral occurrences are northwest-striking, steeply-dipping epithermal sulphide-bearing quartz veins that occur in all lithologies. The Mount Nansen Trend is the southeast extent of the Dawson Range Mineral Belt, which extends to the Sixty Mile River area 250 km to the northwest (Hart and Langdon, 1997).

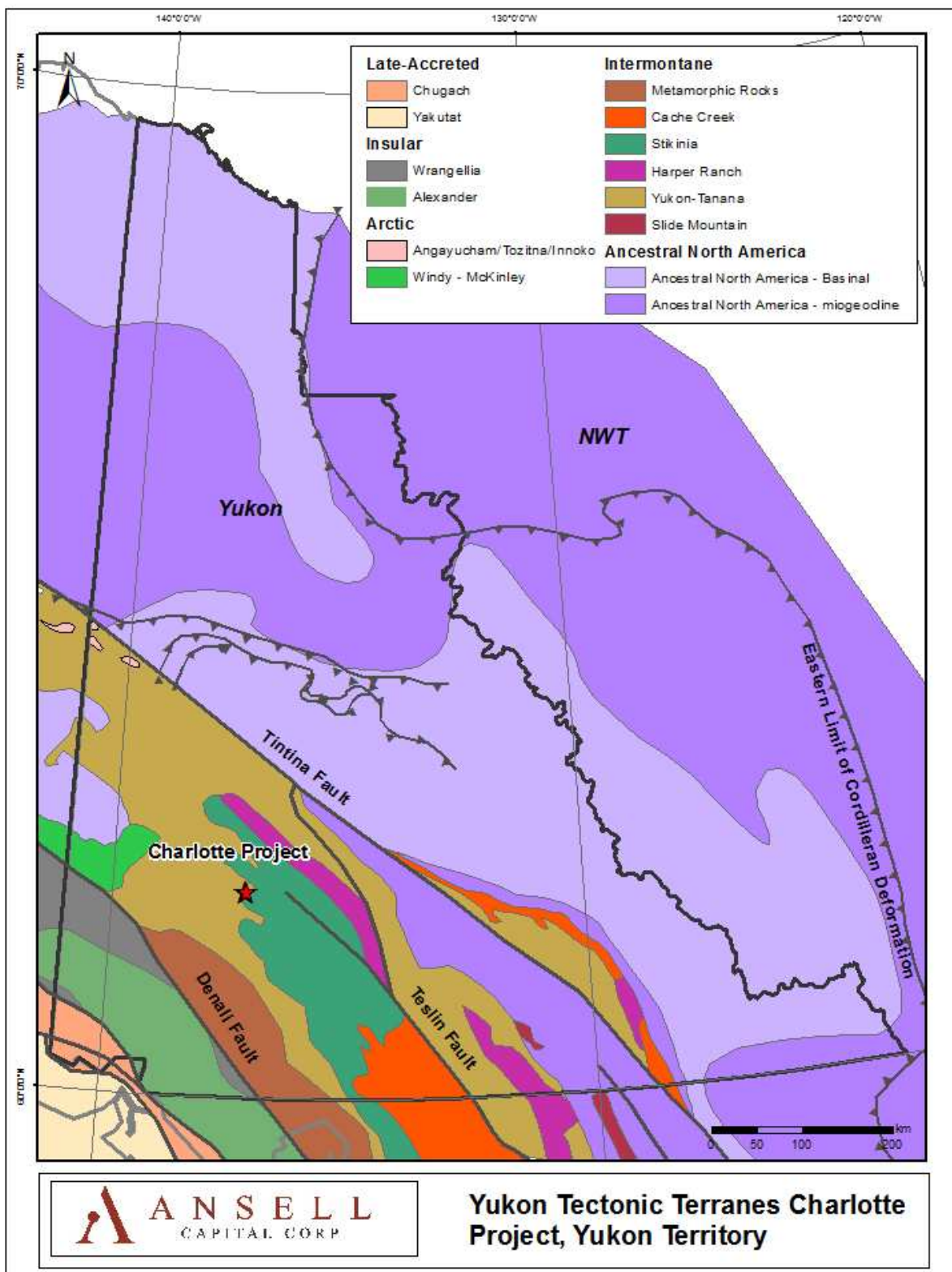


Figure 6: Tectonic Assemblages of the Yukon Territory (after Nelson and Colpron, 2007)

The Yukon-Tanana Terrane in the vicinity of Mount Nansen is comprised of Devonian and older meta-igneous and meta-sedimentary rocks dominated by chlorite schist and felsic ortho-gneiss (Hart and Langdon, 1997). The metamorphic rocks are intruded by alkali-feldspar-rich plutonic suites of Early Jurassic age, including the Big Creek and the Granite Mountain batholiths. The most prominent plutonic suite in the region is the sheet-like granodiorite sill of the Dawson Range batholith which is mid-Cretaceous in age (Carlson, 1987).

An alkali-feldspar quartz syenite of uncertain age forms an intrusive body in the Bow Creek drainage north of the upper section of the Klaza River. Volcanic rocks in the area are represented by the mid-Cretaceous Mount Nansen Group suite that forms andesitic fragmental and flow units within nested calderas. The last phase of the Mount Nansen Group volcanism resulted in hypabyssal intrusion of quartz-feldspar porphyry and quartz monzonite stocks, dykes, sills and the extrusion of minor pyroclastic flows. The Late Cretaceous Carmacks Group suite is composed of extensive and locally stacked basaltic flows of shoshonitic composition (Hart and Langdon, 1997).

The metamorphic assemblage is divided into meta-sedimentary and meta-igneous rock suites. The meta-sedimentary suite is composed of micaceous quartz-feldspar gneiss, schist and quartzite. Carbonate rocks occur near the property but are of limited volume. The meta-igneous suite consists of biotite-hornblende-feldspar gneiss and coarse-grained granodiorite ortho-gneiss with lesser amphibolites (Carlson, 1987).

The metamorphic rocks are intruded by a number of plutonic suites. Volumetrically important units in the area include the Big Creek batholith which is recognized by its megacrystic alkali feldspars and its variable, but generally quartz-poor, composition. Quartz-rich megacrystic alkali feldspar plutonic rocks have been mapped in the area and are considered to be Early Jurassic in age, and may be part of the Granite Mountain batholith. The most volumetrically dominant plutonic unit in the Mount Nansen area is the mid-Cretaceous biotite-hornblende granodiorite of the Dawson Range batholith. All of the plutonic and metamorphic rocks are cut by the mid-Cretaceous Coffee Creek Plutonic Suite, which crops out as dykes, sills, plugs and stocks of quartz-feldspar porphyry and quartz monzonite (Carlson, 1987).

Cretaceous volcanic rocks cap the other rock units in the area. In the immediate vicinity of the Charlotte Property, the Mt Nansen Group volcanics, coeval to the Coffee Creek plutonic suite, primarily outcrop as andesitic fragmental units and flows. The Late Cretaceous Carmacks Group volcanic complex is not found in the immediate vicinity of the Charlotte Property, but is volumetrically significant in the area. It is related to the Prospector Mountain plutonic suite and often comprises flat lying pyroclastic tuffs and flow units. It is frequently recognized capping prominent ridges in the area (Stroshein 2007a and b).

7.2 Property Geology

Four rock types dominate the immediate geology of the Charlotte Property (Figure 7). These are the Paleozoic metamorphic Nasina Assemblage to the south, the mid-Cretaceous granodiorite of the Dawson Range batholiths in the centre, the mid-Cretaceous, quartz-feldspar porphyry of the Coffee Creek plutonic suite to the north and the mid-Cretaceous andesite of the Mt. Nansen Group volcanic suite, coeval to the Coffee Creek plutonic suite, surrounding the claim block (Walls and Eaton, 1987).

The oldest rocks underlying the claim block are metamorphosed rocks of the Paleozoic Nasina Assemblage. These occur in the southern portion of the property and include strongly foliated, intercalated quartz-feldspar-chlorite gneiss, quartzite, amphibolite and

augen gneiss. Foliation generally strikes northeast and dips steeply to the northwest. The main mineralized zones including the Webber, Flex and Huestis Zones (Melling, 1995) are hosted by these rocks.

A mid-Cretaceous Dawson Range batholith of medium to coarse-grained and locally foliated biotite-hornblende granodiorite intrudes the Nasina Assemblage in the northern third of the property. At the very north end of the property, this granodiorite has in turn been intruded by a large mid- Cretaceous pluton of the Mount Nansen (quartz-feldspar) Porphyry Intrusive complex which is related to the Coffee Creek Plutonic Suite (Melling, 1995).

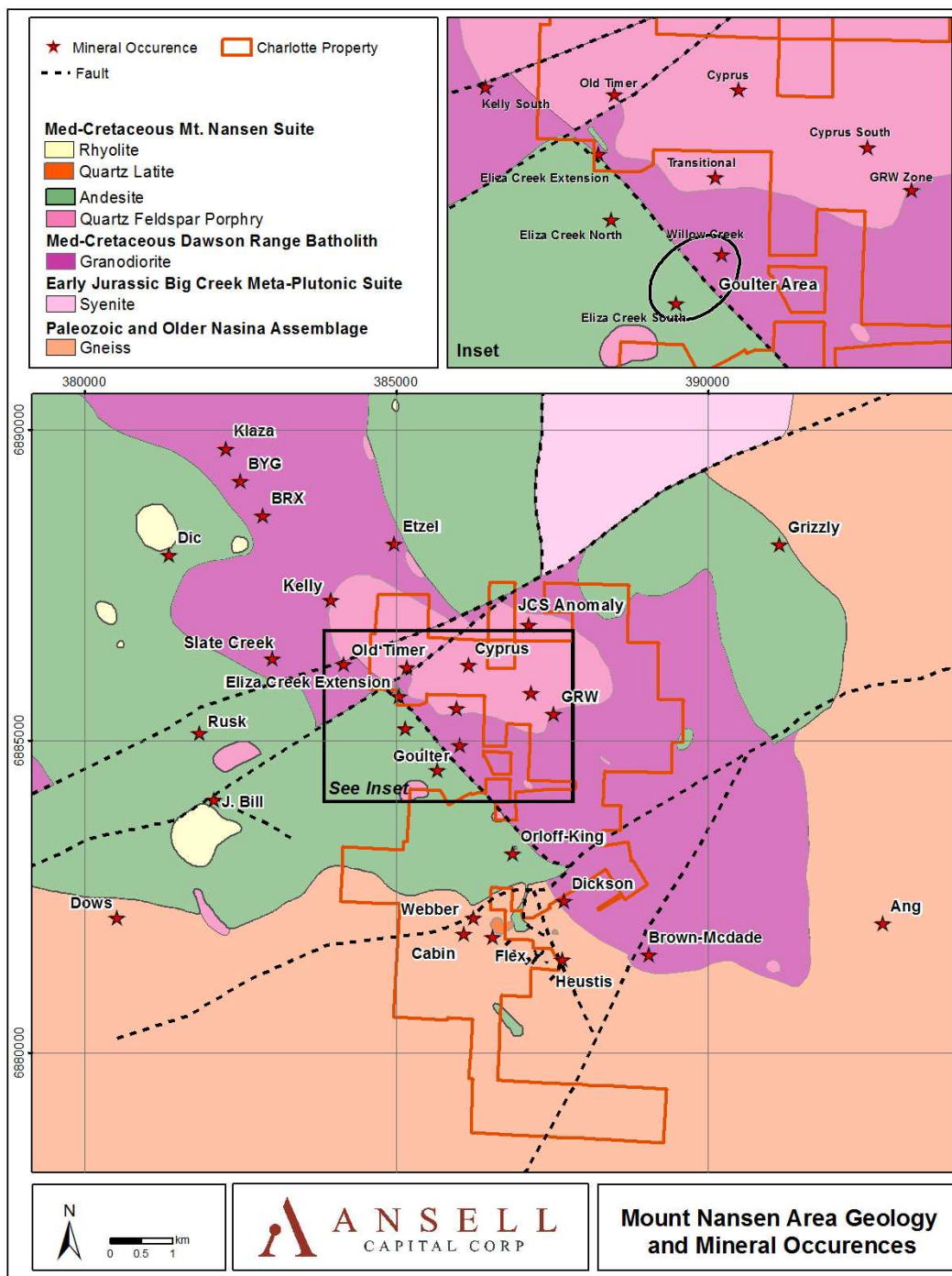


Figure 7: Mount Nansen Area Geology and Mineralized Zones (after Easton and Walls, 1987)

Both the metamorphic and intrusive rocks are unconformably overlain by the andesite of the Mt. Nansen Volcanic Suite, which dominates the central portion of the property and is typified by fragmental and flow units. Small plugs, dykes and sills of quartz-feldspar porphyry are observed to intrude this andesite (Melling, 1995). The main quartz-feldspar porphyry intrusive complex hosts the porphyry style mineralization known on the property (Sawyer and Dickinson, 1975).

Five hydrothermal alteration facies have been documented and include propylitic, phyllic, silicic, argillic and potassic. Of these the propylitic is most widespread and is commonly associated with plutonic rocks adjacent to the Mount Nansen Porphyry system.

The property and area have undergone a complex structural history of folding and faulting/shearing. Complex fault intersections in igneous host rock such as quartz-feldspar porphyry can produce steeply plunging breccia pipes. A number of these occurrences have been documented across the property and include those within the Mount Nansen Porphyry complex (Eaton and Archer, 1989).

The structural setting has had a dramatic effect on the morphology of the vein systems which vary from planar and consolidated, such as the Huestis and Webber Zones, to complex and anastomosing, like the Flex Zone. Vein systems are continuous up to 550 m in length and from 2 m to as much as 8 m wide (Denholm et al., 2000). Faulting and shearing are the two main structural features of the property.

Two mineralization styles occur on the Charlotte Property: precious metal vein and porphyry style. Both conform generally to accepted deposit models. Further, they fit into an encompassing model for transition from porphyry to epithermal style mineralization (Hart and Langdon, 1997).

The main mineralized zones consist of a series of anastomosing, sulphide-quartz veins that are preferentially hosted in northwesterly trending fault/shear structures. These structures appear to cut foliated Early Mississippian gneissic rocks and are spatially related to the mid-Cretaceous intrusive suite. A secondary northeasterly-trending set of fault structures is known from detailed mapping at several mineralized zones. The northeasterly structures appear to cross-cut and offset the main fault structures, creating structurally-suitable areas for the localization of mineralization at the intersection with northwesterly faults.

Typical vein gangue mineralogy consists of quartz $\pm$ carbonate. Sulphides tend to occur in semi-massive to massive rods, or as smaller masses, blebs and disseminations throughout the vein system. Sulphide mineralogy tends to be dominated by pyrite with lesser galena, sphalerite, chalcopyrite, arsenopyrite and stibnite (Denholm et al., 2000). Gold mineralization occurs as fine-grained inclusions (5-40 microns) within or at the interstices between sulphide crystals (Lecuyer, 1997). Silver mineralization typically occurs as inclusions within galena and sphalerite crystals. High cadmium values are also associated with gold and silver mineralization. Estimates for a silver to gold ratio vary according to the worker and their set of parameters. Denholm et al (2000) reported silver to gold ratio of 7:1 in vein style mineralization and 3:1 in breccia-pipe style mineralization. BYG reported an average ratio of 50:1 (Stroschein, 1998).

The second mineralized style occurs as a low grade porphyry copper-molybdenum zone associated with a quartz feldspar porphyry intrusion in the northeastern end of the property. The Cu-Mo mineralization is typically found as both stockworks and disseminations. Copper mineralization is widespread and has a typical grade of <0.12% Cu. Molybdenum mineralization, on the other hand, is associated with localized silicification and breccia

zones. Molybdenum values on the property are generally low with an average grade of approximately <0.01% Mo. Local higher grade Cu – Mo zones are noted from fracture systems and also associated with rare precious metal values. Lead, zinc, silver and gold values are also associated with porphyry-mineralization, but have not been systematically explored (Sawyer and Dickinson, 1975).

Some zones have a well-developed leach cap overtop of a supergene enrichment, which gives way at depth to hypogene sulphide mineralization. Surficial weathering can vary in depth from 5 m to 150 m, depending on location and slope aspect. It does not occur in every deposit and prospect, but notably in the BMD, Flex and Porphyry zones (Stroshein, 1998; Walls and Eaton, 1987). Substantial enrichment and alteration can occur to 150 m depth, but seems to wane after 75 m. In the vein zones, such as the BMD, the ore mineralogy has not been studied in detail but supergene enrichment does not seem to significantly affect gold or silver grades. However, in the Porphyry zone, supergene enrichment has locally doubled grades. The highest copper grades there range from 0.5-0.6% Cu (Walls and Eaton, 1987).

There are numerous historically described mineralized zones located on and adjacent to the Charlotte Property. The mineralized structures, which occur in a 2.5 km wide, 15 km long trend known as the Mount Nansen Trend, exhibit differential and variable intensities of regional metasomatism and hydrothermal alteration, typified by strong bleaching and intensive clay development.

7.3 Mineralized Zones

The following is a brief description of some of the known mineralized zones on and immediately adjacent to the Charlotte Property.

7.3.1 Brown-McDade Zone

The Brown-McDade deposit consisted of both an oxide zone and a lower sulphide zone. In the sulphide zone, two styles of mineralization have been noted with the more prevalent being a series of anastomosing quartz veins and veinlets with lesser carbonate that contain varying amounts of sulphide. However, and of less importance, sulphides also occur in a siliceous breccia. The anastomosing veins occur in fracture zones which cut coarse-grained granodiorite and are spatially associated with a series of quartz porphyry dykes injected along a dominant structure known as the “Footwall Fault” which strikes at approximately 160° and dips 50°-60° to the southwest. The sulphide breccia mineralization; however, occurs at the north end of the Brown-McDade zone at the locus of intense faulting (Denholm et al., 2000; Melling, 1995).

7.3.2 Webber Zone

The Webber Zone consists of a NW striking and SW dipping quartz vein system hosted by the metamorphic assemblage and an extensive northeast striking porphyry body. The system is comprised of two veins, the No. 1 and No. 2, which occur respectively along a fault's foot and hanging walls. These veins which vary in width from 0.3 m to 2.0 m have been explored over a strike length of 500 m through a combination of surface stripping, trenching and underground development.

From the underground work the gold mineralization associated with arsenopyrite and lesser stibnite occurs in shoots or rods which are typically 25 m in horizontal strike length and 100 m along plunge. Sampling has defined seventeen ore shoots which on average grade 14.06

gpt Au and 917 gpt Ag. Transitions between mineralized and unmineralized sections of vein tend to be very sharp and shoots tend to correlate well with surface mineralization.

Historic diamond drilling has tested vein continuity above and below the adit, as well as along strike. This work indicates that the Webber zone is truncated to the northwest by the Webber Creek Fault.

7.3.3 Huestis Zone

The Huestis Zone which consists of a NNW striking, ESE dipping quartz vein system varying in width from 0.3 to 2.0 m is hosted by metamorphic gneiss of the Nasina Assemblage. Sampling and underground development has outlined sixteen ore shoots which vary in length from 10 m to 50 m. Shoots average, however, 27 m in length, 1.0 m in width and have a mean grade of 19.4 g/t Au and 442 g/t Ag.

7.3.4 Flex Zone

The Flex Zone, which is presumed to be a well and complexly developed fault structure, lies between the Webber and Huestis Zones. It was discovered in 1985 and has been since defined by stripping, surface trenching and diamond drilling. It is comprised of a complex series of anastomosing narrow quartz veins that in fill fractures in the Paleozoic aged metamorphic basement rocks (Denholm et al, 2000). The veins, including the Main Vein, the Footwall Vein, the East and Hanging Wall Veins, are sub-parallel and dip steeply to the west (Anderson and Stroshein, 1998). The veins are offset by unmineralized east to northeast trending faults. The Flex Zone has been delineated over a strike length of 550 m and is open at depth (Struyk and Dadson, 2012; Denholm et al, 2000; Melling, 1995).

The top 15-40 m of the Flex Zone has undergone significant supergene alteration and therefore the sulphide minerals within the veins are mostly altered to limonite or other oxides (Denholm et al, 2000; Melling, 1995). Structural control on the individual veins is complex which makes for difficult correlation between surface showings and drill hole intercepts (Denholm et al, 2000). Further compounding the problem, is the historical stripping of the Main zone which made re-establishment of hole locations drilled prior to 1998 difficult.

The veins range from 5 to 110 cm thick but extensive silicification of the wall rock extends ore grade widths up to 7 m (Stroshein, 2007b). Refer to Figure 9 for the surface trace of veins in the Flex Zone.

7.3.5 Orloff-King Zone

The historical work on the Orloff-King Zone, located 1400 m N of the Flex Zone focused on the low grade oxide mineralization exposed in trenches and intersected in shallow drill holes. In 2010, however, exploration focused on unfinished trenches located to the northwest of known mineralization. Here discontinuous mineralization has been outlined through extensive trenching over a strike length of approximately 1 km. This zone is open to the north, has a northwest extension, and has peak grades of 7.05 g/t Au and 34.7 g/t Ag over 0.7 m. In 2011 saw the completion of mapping 1 trench left open from 2010 for 49.30 m and 4 drill holes for a total of 607.46 m. Work confirmed the presence of several narrow Au+/-Ag sulphide breccia zones with alteration halos that are narrower than those seen in the Flex zone but parallel to the regional mineralizing trend. The zone is open to the NW, SE and at depth.

7.3.6 Porphyry Zone (Cyprus and Cyprus South)

The Porphyry Zone located ENE of Tit Mountain, consists of the Cyprus and Cyprus South showings. The showings are low grade Cu-Mo porphyry style mineralization which have been explored in the early 1970's with diamond drilling and more recently with soil sampling in 1985 and 1986. No follow up work has been done.

7.3.7 Eliza Creek Extension

The Eliza Creek Extension showing is located on the northeast flank of Tit Mountain. It consists of four shear zones within hornblende granodiorite which has been intruded by feldspar porphyry dykes. It is a continuation of the Eliza Creek South and Eliza Creek North showings hosted in the Mt. Nansen Volcanic Suite. Significant trenching work was done in 1994 and 2003 with the latter exposing ENE shears and veins running 0.20 g/t Au and 11.55 g/t Au respectively.

7.3.8 Cabin, GRW, Dickson Zones

Other mineralized zones of the Charlotte Property include the Cabin, GRW, and Dickson. All are vein targets but have received significantly less development than the major zones. These targets have been explored with soil geochemistry and follow-up trenching. None, to date, have been diamond drilled.

7.3.9 Klaza Deposits

The Klaza property hosts four parallel, 1 to 75 m wide, structural zones of epithermal to mesothermal type gold-silver mineralization. All zones consist of quartz-sulphide veins, breccias and fracture networks that are spatially associated with quartz-feldspar porphyry dykes that intrude granitic country rocks. The zones exhibit exceptional lateral and down-dip continuity and collectively define a 1500 m wide, northwesterly trending structural corridor (from Rockhaven Resources Ltd., webpage).

8.0 2012 Exploration Program

The 2012 exploration program concentrated on diamond drilling at the Flex Zone and to a lesser extent excavator trenching in the Eliza Creek Extension area at the north end of the property.

Figure 8 illustrates the affected areas along with the type of work which was performed. All work was done in accordance with the Yukon Class 3 permit LQ000356 under the Quartz Mining Act.

8.1 Personnel, Contractors and Program Chronology

The Charlotte project was supervised by Project Manager Peter Dadson, P.Geol. with Project Geologist Nicola Struyk, P. Geo., Project Geologist Jay Page, 1 Junior Geologist, 5-6 Geo-technicians, and a cook. As the project progressed, numerous personnel adjustments were made in order to facilitate the changes in the project including the addition of a four man diamond drill crew. A personnel list forms Appendix 1.

The following is a chronological summary of the summer's work.

May 24-27 Initial crew mobilization from Vancouver to the Charlotte Project

May 27-June 5	Initial crew mobilized to property and established camp.
June 6	Drill arrived on site, trenching had begun.
June 19	Consulting Geologist and Ansell Capital Corp management toured the property.
July 20	Phase 1 drilling terminates after four holes and 1361.34 m.
Aug. 10	Phase 2 drilling starts for a planned 2 holes and 500 m.
Aug. 21	Phase 2 drilling terminates after drilling two holes for 522.12 m.
Aug. 26	Camp demob is complete.
Sept. 29	Reclamation complete.

8.2 QA/QC Methodology

There was a strict QA/QC policy in place for the 2012 exploration program, including chain of custody for samples. All samples were stored in a secure seacan on site in camp to await transportation. The samples were then delivered in person to Acme Labs' Whitehorse sample preparation facility by one of the camp personnel or by the expediter complete with a chain of custody form.

Trenches were spotted using handheld GPS's to locate each station within the trench. A station was determined to be a major change in slope or direction. The trenches were continuously sampled where bedrock was observed. Location of each sample was interpolated from the station points. Roughly every 20th sample was a QA/QC sample and alternated between a dolomite blank and a duplicate. Most trenches had at least one each of these QA/QC sample types. Each sample location was recorded on sample sheets in the field and then transferred to a digital file on a regular basis.

The QA/QC program for the drilling was more stringent. During the field season, each drill hole was spotted using a handheld Garmin GPS. During the logging and sampling procedure, every 20th sample had a standard placed within the sample sequence. In addition to the standards, either a dolomite blank sample or a quarter-core duplicate were placed in the sample sequence. On average every 10th sample was a QA/QC sample.

Acme Labs also prepared their own QA/QC methods by systematically inserting standards, blanks and replicates into sample batches (Appendix 4 contains the certificates for the core samples and Appendix 6 for trenches).

8.3 Analytical Procedures

All rock and core samples were analyzed by Acme Laboratories in Vancouver (see Appendix 7 for laboratory procedures). All were crushed in their entirety, using a crusher made of tool steel to a -10 mesh sieve. A 250 g aliquot of this coarse material was crushed to 85% passing a -200 mesh sieve.

Assays for gold (Au), and silver (Ag) were obtained using fire assay with gravimetric finish for all core samples. ICP-MS techniques were used for all trench samples.

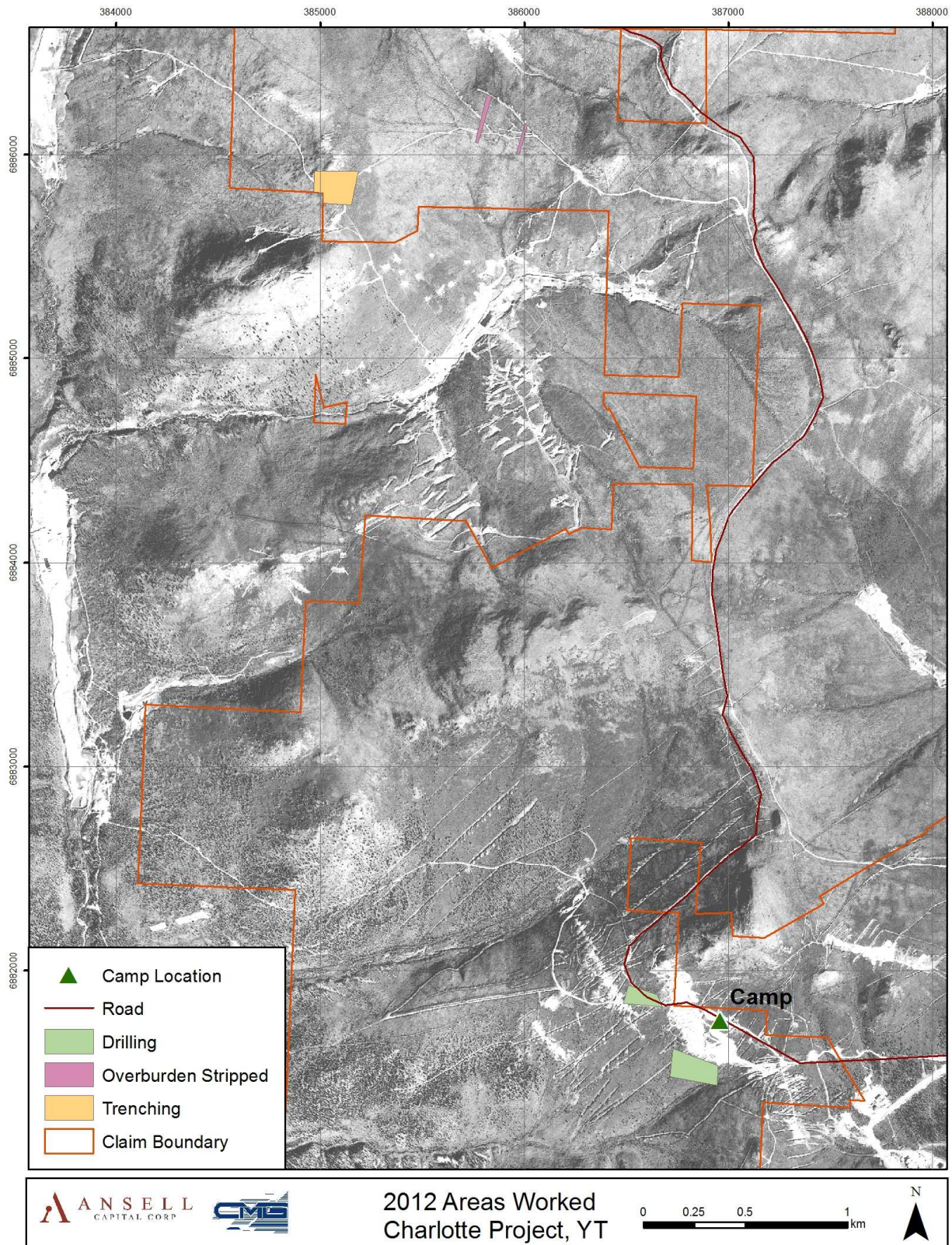


Figure 8: Location of 2012 Exploration

9.0 2012 Diamond Drill Program

A total of 1883.46 m of HQ core was drilled in 6 holes on the Flex Zone utilizing a LF90 drill provided by DJ Drilling out of Watson Lake, YT. Holes were modelled to test the down-dip extension of the zone as well as the down plunge of the northern pod. For locations and a summary of all new diamond drill holes, see Figure 9 and Table 2.

All of the drill holes were numbered in accordance with the historical naming scheme with “DDH” (Diamond Drill Hole) dash “12” (the year) dash “275” the next hole number in sequence. The numbering of holes continued in sequence from when drilling was previously conducted in 2011.

Upon completion of a drill hole, the casing was generally removed from the ground and a wooden peg was then inserted into the ground to mark the collar location. An engraved metal tag was attached denoting the hole number, azimuth, dip, and length of hole. The one exception were holes DDH-12-276 and DDH-12-279 which had a numbered peg installed but the casing was left in case Ansell wanted to re-enter the hole at a later date.

A Hitachi ZX 200 excavator was utilized to construct new pads, generally 20 m in diameter, dig sumps and provide other drill water drainage when required. Fore and back sight pickets or two foresights depending on the terrane, were used to orient the mast of the drill at the desired azimuth upon being established on the pad. A Silva compass was used to orient the pickets and the drill rig. The desired dip was confirmed with the use of an inclinometer by placing it on the head of the drill.

Down hole surveys were taken at an average of every 10 m using a Ranger multi-shot downhole survey tool at the completion of each hole.

The drill core was boxed at the drill site and after an appropriate number of boxes had accumulated it was driven to camp for logging. Upon receipt, a geotechnician measured the beginning and ending depth for each core box, marked these on the upper left and lower right of the box respectively, labelled all core boxes with aluminum tags, made RQD measurements and stapled the sample tags to the inside of the box.

The geologist logged the core into the logging template present on a laptop computer. The entire hole was not sampled from top to bottom but selectively based on mineralization and alteration styles. All samples were marked out by the geologist using, with few exceptions, a maximum of 1.5 m sample length. Exceptions included areas of significant core loss. The entire hole was then photographed by a geotechnician prior to splitting.

Sample intervals were cut in half by a geotechnician using a diamond rock saw, such that half the core was left in the box as a record. For the quartered core duplicates, the remaining half core was re-sawn in half such that a quarter of the original whole was placed in the sample bag and a quarter core representative sample remained in the box. The samples were placed in polypropylene bags with each secured by a nylon zap strap.

The samples were then placed into polypropylene woven rice sacks and kept in secure storage to await transportation to the analytical preparation laboratory in Whitehorse. The core was stored on-site approximately 600 m west of camp on a previously stripped area located on claim Dome 3. A location map is given as Figure 2 which shows the exact location of this core storage facility. In 2012 it was expanded to include three new core racks which could accommodate 576 boxes or roughly 1800 m of core.

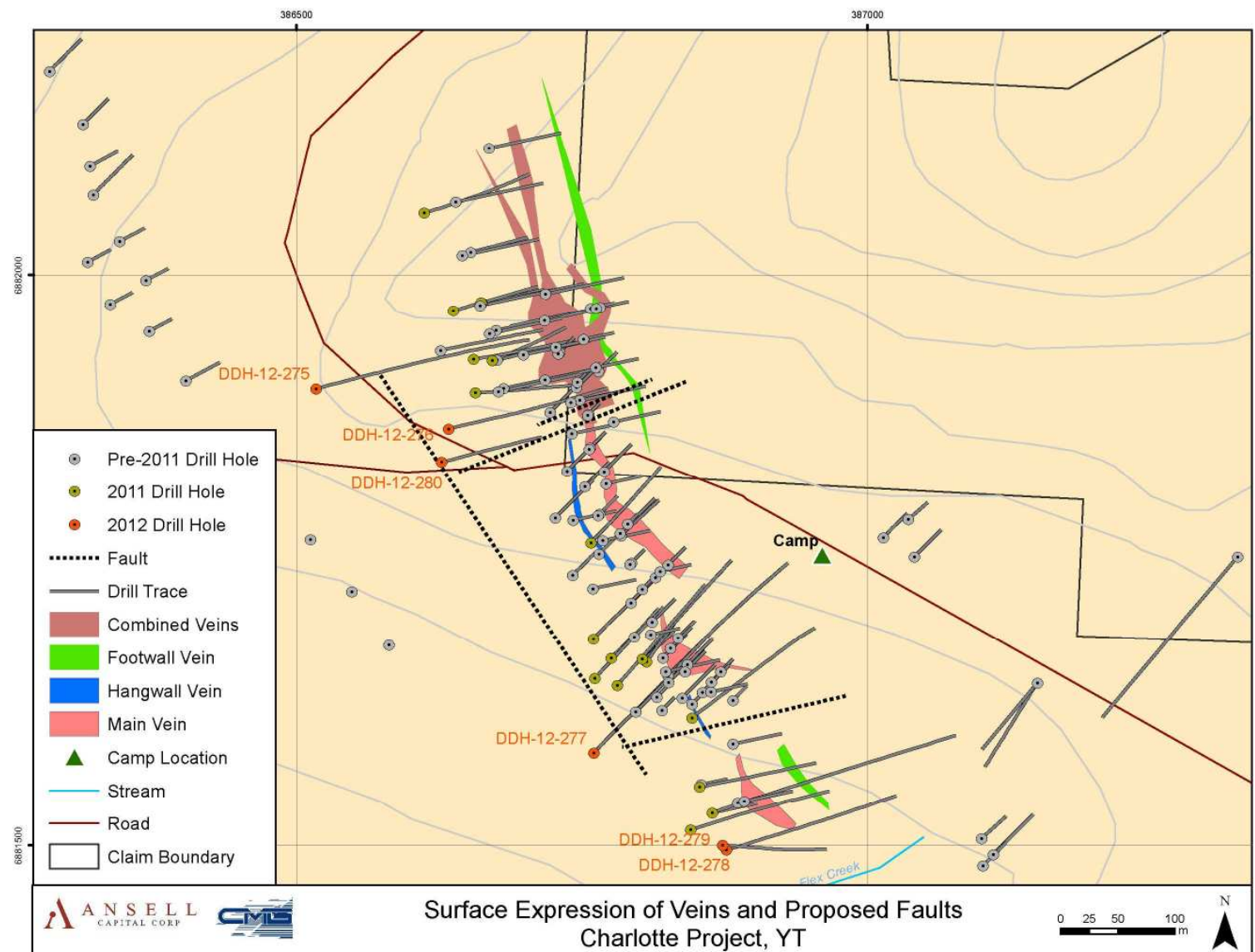


Figure 9: Flex Zone drill plan

9.1 Drill Hole Summary

Provided below is a summary of each drill hole that targeted the Flex deposit (Table 2). A detailed description of each drill hole can be found in the drill logs in Appendix 3 and assay certificates in Appendix 4. A surface plan of all the 2012 diamond drill holes is presented in Figure 9 while Table 3 is a listing of gold intersections.

Table 2: Drill Hole Summary

Hole	Easting	Northing	Elev (m)	Len(m)	Azimuth	Dip	Zone
DDH-12-275	386523	6881903	1335	343.51	75	-56	Flex
DDH-12-276	386634	6881870	1335	306.93	77	-61	Flex
DDH-12-277	386760	6881581	1285	410.67	45	-51.2	Flex
DDH-12-278	386876	6881496	1255	300.23	73	-55.4	Flex
DDH-12-279	386876	6881496	1255	273.71	94.1	-70.7	Flex
DDH-12-280	386627	6881836	1325	248.41	76	-71.1	Flex

Table 3: Drill Hole Intersections

Hole	Sample	From (m)	To (m)	W (m)	Au (gpt)	Ag (gpt)
DDH-12-275	1748585	217.93	218.70	0.77	0.925	13
DDH-12-275	1748590	223.98	224.94	0.96	0.733	1
DDH-12-275	1748617	292.28	292.88	0.60	12.2	217
DDH-12-276	1748657	113.00	113.72	0.72	1.158	54
DDH-12-276	1748659	113.72	114.00	0.28	15.9	280
DDH-12-276	1748661	114.00	117.00	3.00	0.521	4
DDH-12-276	1748673	157.59	158.04	0.45	1.658	69
DDH-12-276	1748675	158.04	158.80	0.76	13.4	1028
DDH-12-276	1748678	158.80	159.92	1.12	0.817	34
DDH-12-276	1748679	159.92	162.00	2.08	0.502	7
DDH-12-276	1748682	166.00	170.00	4.00	0.637	7
DDH-12-276	1748687	203.59	204.85	1.26	60.7	1069
DDH-12-276	1748710	289.76	290.17	0.41	1.659	49
DDH-12-277	1748796	206.90	207.33	0.43	0.874	132
DDH-12-277	1748851	297.03	297.40	0.37	28.9	408
DDH-12-277	1748852	297.40	297.75	0.35	12	73
DDH-12-277	1748853	297.75	298.10	0.35	27.4	84
DDH-12-277	1748870	389.54	390.87	1.33	1.041	13
DDH-12-278	1748881	91.95	92.27	0.32	2.643	6
DDH-12-278	1748884	94.56	96.50	1.94	0.544	119
DDH-12-278	1748889	103.30	104.02	0.72	2.167	8
DDH-12-278	1748921	183.85	184.46	0.61	0.689	3
DDH-12-278	1748922	184.46	184.90	0.44	5.279	11
DDH-12-278	1748925	184.90	185.32	0.42	3.822	27

Hole	Sample	From (m)	To (m)	W (m)	Au (gpt)	Ag (gpt)
DDH-12-278	1748927	185.32	185.82	0.50	9.827	93
DDH-12-278	1748929	185.82	186.88	1.06	1.521	5
DDH-12-278	1748930	186.88	187.76	0.88	3.647	6
DDH-12-278	1748931	187.76	188.54	0.78	4.774	293
DDH-12-278	1748937	191.41	191.60	0.19	5.808	125
DDH-12-278	1748950	237.73	238.02	0.29	1.152	17
DDH-12-279	1750003	40.23	40.74	0.51	1.201	1.0
DDH-12-279	1750087	162.97	163.43	0.46	1.976	132.0
DDH-12-279	1750107	177.72	178.22	0.50	0.777	7.0
DDH-12-279	1750132	199.80	200.96	1.16	0.576	1.0
DDH-12-279	1750136	203.97	204.60	0.63	0.511	3.0
DDH-12-279	1750137	204.60	205.50	0.90	0.623	4.0
DDH-12-279	1750139	206.22	207.40	1.18	0.570	5.0
DDH-12-279	1750152	226.70	227.35	0.65	1.010	8.0
DDH-12-280	1750196	57.30	58.13	0.83	0.586	1
DDH-12-280	1750252	143.92	144.87	0.95	0.758	35
DDH-12-280	1750253	144.87	145.13	0.26	44.5	910
DDH-12-280	1750254	145.13	145.40	0.27	73.3	1527
DDH-12-280	1750256	145.40	145.86	0.46	11.2	153
DDH-12-280	1750257	145.86	146.27	0.41	86.8	911
DDH-12-280	1750259	146.27	146.56	0.29	1.021	24
DDH-12-280	1750278	166.10	166.62	0.52	14.2	63
DDH-12-280	1750296	188.06	189.12	1.06	0.606	5
DDH-12-280	1750297	189.12	189.78	0.66	0.728	22
DDH-12-280	1750299	189.78	190.18	0.40	0.925	65
DDH-12-280	1750300	190.18	190.58	0.40	1.093	20
DDH-12-280	1750301	190.58	190.83	0.25	1.572	272
DDH-12-280	1750304	190.83	191.56	0.73	7.197	171
DDH-12-280	1750309	194.44	194.96	0.52	24.1	1591
DDH-12-280	1750311	194.96	195.53	0.57	27.3	1297
DDH-12-280	1750313	195.53	196.20	0.67	26.2	1091
DDH-12-280	1750322	200.92	201.54	0.62	0.545	51
DDH-12-280	1750323	201.54	202.69	1.15	1.272	32
DDH-12-280	1750325	204.00	205.62	1.62	0.584	5

9.1.1 DDH-12-275

DDH-12-275 (Figures 9 and 10) was designed to test, at a deeper level, the mineralization in the northern pod of the Flex Zone, as well as, to explore the rocks between the Webber and Flex Zones.

The hole was cased to 15.24 m and from there to 117.96 m cored highly fractured and sheared mafic gneiss which is fine grained, medium grey in colour and varies from being unaltered, moderately clay altered to strongly silicified. Intense silicification occurs at the base of the unit.

Pyrite, as fine grained disseminations, occurs throughout but only in trace concentration. However, between 63.48 m and 63.90 m there is a pale green coloured interval consisting of quartz and feldspar that is pervasively altered by chlorite and silicified that contains up to 20% pyrite and a trace of red-brown sphalerite.

For about 25 m (117.96 m - 142.17 m) downhole from the mafic gneiss is feldspar porphyry which is off-white to grey in colour near the upper contact and within zones of silicification. Other intervals are light brown to greyish green in colour. Alteration is generally pervasive and consists of silicification, limonite and lesser chlorite and clay.

The feldspar phenocrysts are 1 to 5 mm in size and account for about 30% of the rock volume. Quartz is remnant in the matrix. Pyrite occurs in localized zones as lenticular blebs in concentrations to 5% but more commonly as a trace component.

Amphibole to 50% occurs in the logged granodiorite (142.17 m – 148.94 m) with both quartz and feldspar constituting 20% each. The unit is pervasively altered but only weakly chloritized. Fine grained blebs of pyrite are evenly disseminated within the unit.

Diorite (148.94 m – 174.45 m) is generally medium grey in colour, fine grained and mineralized with trace amounts of pyrite as either narrow veinlets or disseminations. The bottom 10 m of this interval from 164.95 m to 174.00 m has increased concentrations of pyrite to 10% as blebs and clusters in silicified and chloritized intervals. Silicification is pervasive and well developed.

The mafic gneiss, which is between 174.45 m and 191.80 m, is medium grey in colour, fine grained and variably altered by patchy but pervasive silicification, moderately intense chloritization, relatively weak sericitization and clay. Pyrite, locally to 10%, occurs as fine grains and disseminated blebs.

The gneiss is followed by quartz-feldspar porphyry which extends to the base of the hole at 343.51 m. This rock type is generally grey in colour but variable due to alteration type and style which results in colours ranging from beige to apple green. The matrix is siliceous and very fine grained to aphanitic. The feldspar phenocrysts are euhedral laths 3-8 mm in size while the quartz eyes are smaller > 5 mm in size, fractured although some have a euhedral hexagonal outline. The matrix constitutes 70% of the rock while the phenocrysts make up the remaining 30%.

Pyrite as fine grained disseminations or narrow stringers occur throughout but rarely greater than trace in concentration. However this does increase significantly beginning at about 290.93 m where the disseminations increase to 5%. This marks the sulphidization halo associated with a sulphide enriched quartz vein between 292.59 m and 292.88 m. This mineralization is accompanied by intense silicification and a diagnostic green colouration.

Downhole the sulphide diminishes by 293.24 m as does the intensity of alteration and the green colouration. For the remaining segment of the hole, the quartz-feldspar porphyry is relatively unaltered and unmineralized.

Structurally this hole reflects what has been recorded in other holes either during this drill program or historically. The top of the hole has fractured bedrock and faulting and/or shear were encountered throughout the hole with some intervals being entirely pieces of rubble.

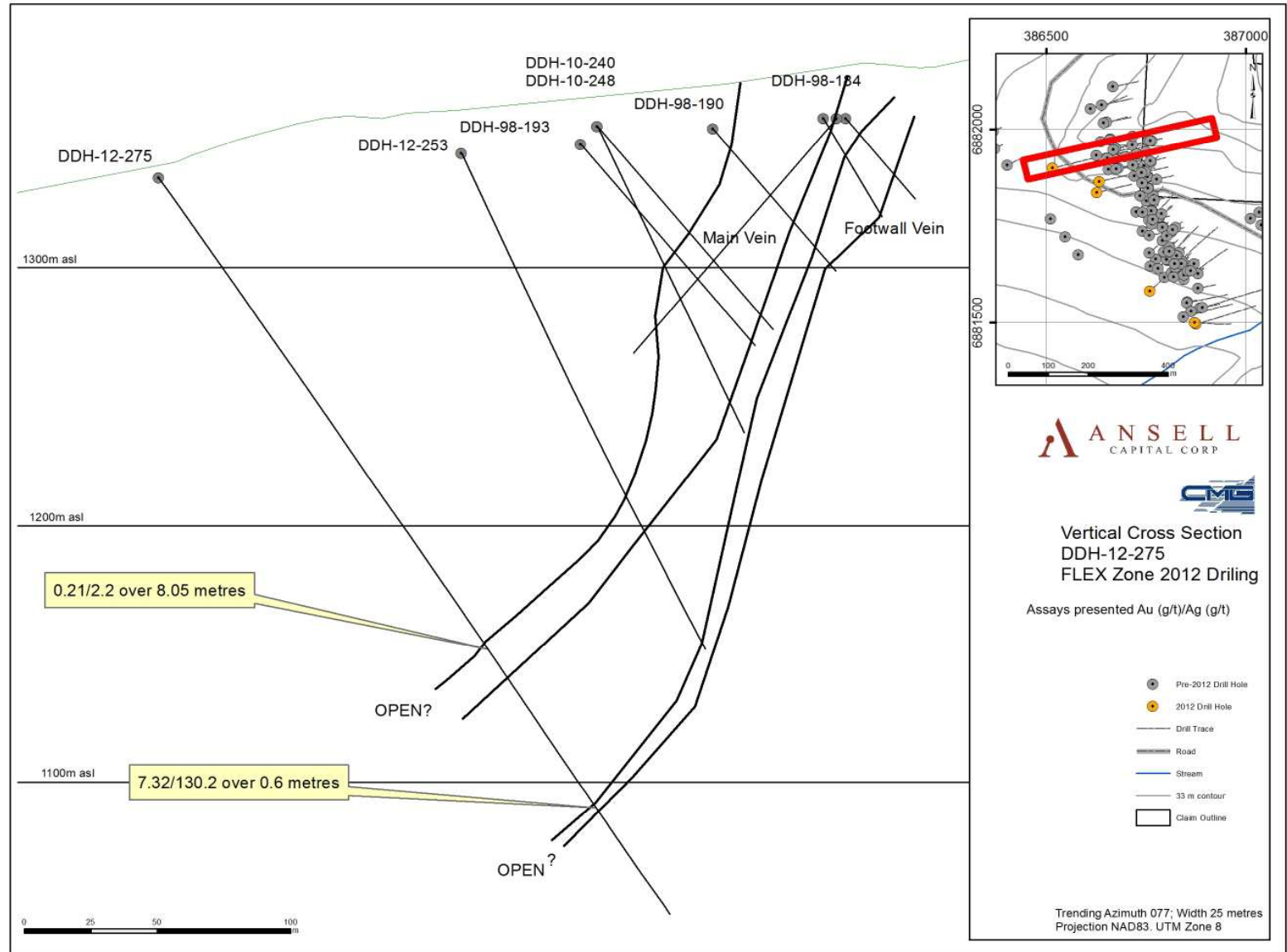


Figure 10: Drill Section: DDH-12-275

Foliation angles were variable from 20 dtca (degrees to core axis) to 70 dtca with most being in the range of 50 to 60 dtca. Angle of fractures unlike the faults/shears generally measured within the range of 30 to 60 dtca with some being 0 dtca or as high as 165 dtca. Intensity of fracture when noted was moderate. Veining also had variable core angles, intensity and widths.

As expected the sampling of this hole revealed low values for both gold and silver. However the mineralized interval from 292.28 m to 292.88 m did return a gold value of 12.2 gpt Au and silver at 217 gpt over 0.60 m.

Up hole there is a broad weakly mineralized interval from 216.00 m and extending to 225.98 m. This is an interval of quartz feldspar porphyry intrusion cut by clay gouge fault zones noted to contain quartz vein fragments and low concentrations of fine grained disseminated pyrite. Intense silicification is present at the top of the section while potassic alteration is evident further down hole. Colouration is variable from beige through grey to apple green and red-brown depending on alteration style and intensity. The highest gold value is 925 ppb Au with 13 gpt Ag from 217.93 m to 218.70 m and it occurs within a faulted zone with grey coloured gouge, quartz, patchy pinkish potassic alteration and trace disseminated pyrite.

The drill section (Figure 10) also shows a number of other historic holes with hole DDH-10-253 occurring approximately 100 m up dip. Correlation is difficult but it appears that this upper low gold zone may correlate, based on one core angle to the mineralized interval at about 144 m down hole in this 2010 hole. The higher grade intercept at 292.28 m may correlate with an interval in DDH-10-253 starting at about 158.00 m and extending to approximately 163.00 m. This would be assuming a dip of -80 degrees. If this dip was applied to the upper zone in DDH-12-275 then this would correlate with a very weakly mineralized interval from 72.00 m to 81.00 m in DDH-10-253.

9.1.2 DDH-12-276

This hole is a test of the down plunge continuation of mineralization (Figures 9 and 11). From the base of the casing at 9.14 m and extending to 113.72 m are mafic gneisses as intersected in DDH-12-275. These units are fine grained, moderately to well-foliated and having a blue-grey colouration. Narrow intervals, however, have been described as being off-white to orange, tan, yellow or medium grey depending on the intensity and style of alteration and the concentration of quartz veining. Trace pyrite as fine grained disseminations occurs throughout however several altered zones contain up to 2% pyrite.

A breccia from 75.65 m to 76.48 m contains between 5% to 10% fine grained, disseminated pyrite as well as either galena or stibnite within narrow fractures. This interval is light to grey in colour and has a microcrystalline matrix. Clasts are angular, sub-centimetre in size, rotated and consist of gneissic host rock and white bull quartz. The matrix constitutes 60% of the rock, clasts 30% and sulphides make up the remaining portion.

Between 113.72 m and 114.00 m is a brecciated sulphide vein consisting of white quartz and clasts to 5 cm in size. The sulphides which occur within the dark grey quartz include 10%-15% fine grained disseminated pyrite, about 10% arsenopyrite as clusters and trace chalcopyrite, red-brown sphalerite and possibly galena.

Mafic gneiss continues from 114.00 m down to 156.76 m however unlike the similar rocks at the top of the hole, these are more highly altered by silica, chlorite, biotite/muscovite, sericite and clays. Colours are lighter overall and vary from pale yellow, dark green to whitish. Grain size remains fine, however some intervals are medium grained. Foliation

planes are generally not well defined in some segments while others are well preserved and wavy or at various core angles in respect to the core axis.

Pyrite is the most common sulphide present but generally at low concentrations. At about 137.54 m, however and continuing to the base of the unit at 156.76 m, the concentration of pyrite increases to a maximum of 10% accompanied by trace galena, sphalerite and possibly stibnite. Within this interval, the argillically altered “bleached gneiss” between 149.90 m and 152.37 m is the most heavily mineralized with upwards of 10% pyrite and 1% sphalerite of which some occurs in concordant quartz veins in close association with a pale green alteration (chlorite?).

This mineralization is immediately adjacent to a vein zone which continues from 156.76 m to 159.92 m. This is a white or white-grey “marbled” quartz vein system that has been well fractured, in part brecciated and contains clasts/fragments of clay as well as altered and silicified host rock. Pyrite, to 30%, occurs as fine to medium grained patches and also as fine grained disseminations within the quartz veins. Stibnite is prominent within the bottom portion of the interval and is mixed with up to 15% red-brown sphalerite, molybdenite and possibly a trace of galena. Also in this zone is 5% arsenopyrite which is closely associated with pyrite.

White clay altered and mineralized (10% pyrite) bleached mafic gneiss continues from 159.92 m to 169.68 m where it is in faulted contact with a quartz-feldspar porphyry that extends to 204.59 m.

This intrusive is grey, hard, has an aphanitic matrix and is 70% by volume plagioclase feldspar phenocrysts and fractured quartz eyes. Pyrite as disseminations occurs within the unit but only in trace amounts. Sericite alteration is common and has a pale apple green colouration.

A brecciated sulphide vein containing up to 90% sulphides occurs between 204.59 m and 204.85 m. Pyrite with stibnite, arsenopyrite and bornite have been noted along with a trace of sphalerite.

From 204.85 m to the base of the hole at 306.93 m is quartz-feldspar porphyry altered by silica flooding, sericite and clay. However there are several intervals of unaltered porphyry. Sulphide mineralization is low overall however there are elevated concentrations of pyrite associated with zones of more intense alteration in particular from 271.91 m to 283.79 m. Here the pale apple green coloured rock is pervasively altered by sericite and silica and cut by narrow quartz-carbonate veinlets mineralized with pyrite, arsenopyrite, sphalerite and trace amounts of galena and stibnite.

A 14 cm quartz vein at 289.78 m is heavily mineralized with 30% pyrite, 4% galena but only traces of arsenopyrite and stibnite.

Structurally, fracturing is most common and evident throughout the hole. Faulting and to a lesser extent shearing have been logged and is also very common. Brecciation is present and where it does occur is quite strongly developed.

Sampling indicated three strongly mineralized zones and one weaker zone near the base of the hole. The first of these is a continuous zone from 111.00 m to 117.00 m where gold values ranged from 226 ppb Au to 15900 ppb Au. Host rock for this interval is gneiss but it is highly altered by pervasive silica and in part clays. The highest gold comes from a brecciated sulphide vein with quartz and mineralized with 15% pyrite as disseminations and as small masses. Arsenopyrite to 10% occurs with the pyrite as does traces of fine grained

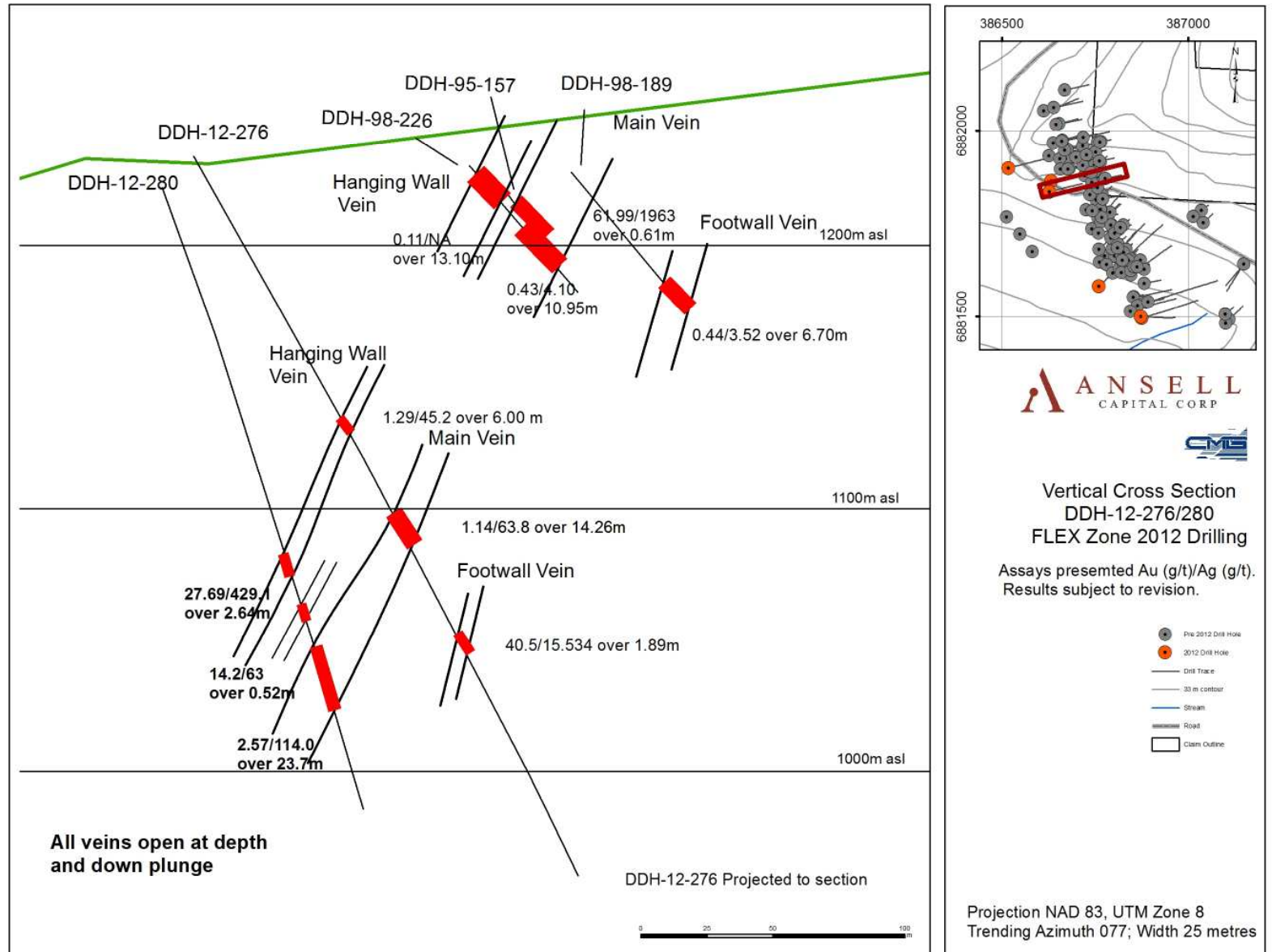


Figure 11: Drill Section: DDH-12-276 / 280

chalcopyrite, red-brown sphalerite, stibnite and galena. Fine grained pyrite also occurs in the immediate footwall in grey quartz veinlets.

The second mineralized interval occurs between 152.00 m and 170.00 m where values are generally lower than the above intersection. Here 23 ppb Au is the lowest with 13400 ppb Au being the greatest over a cored length of 0.76 m. A sulphide rich quartz vein is the cause of the gold values and it includes the above 0.76 m interval but extends from 157.59 m to 159.92 m. This vein averages about 45% sulphides with the 0.76 m section having >75%. Pyrite is the most common sulphide at 25% to 30%. It is brassy in colour and occurs as disseminations and clusters. Red-brown sphalerite is present as large irregular clusters and has associated with it stibnite, a trace of galena and possibly molybdenite(?). Arsenopyrite is closely allied with pyrite and is present as fine grained, needle-like, high relief, bright silvery crystals.

A similar type vein between 204.59 m and 204.85 m is the source of the third zone which assayed 60700 ppb Au. This vein did not however have a quartz component as the two previous veins. Pyrite constituted 90% of the vein with lesser percentages being stibnite, arsenopyrite, red-brown sphalerite and possibly bornite. A late stage 0.70 cm quartz vein cross cuts the mineralization and it is along the contacts of this vein where the arsenopyrite forms. The stringer is also mineralized with 2% to 3% very fine grained pyrite.

A very narrow interval from 289.78 m and 289.92 m cored a sulphide rich quartz vein mineralized with up to 30% pyrite, 4% galena and traces of arsenopyrite and possibly stibnite. The sampled interval from 289.76 m to 290.17 m returned 1659 ppb Au and the host to the vein is a quartz-feldspar porphyry.

9.1.3 DDH-12-277

DDH-12-277 (Figures 9 and 12) was drilled to test the deep extension of the middle pod. It was cased to 16.76 m whereby it cored mafic gneisses consisting of interbedded schist, garnet gneiss and amphibolitic gneiss to 94.87 m. Within this interval the core was badly broken and blocky, and alteration was minimal.

From 25.80 m to 64.98 m is a large shear zone characterized by rubbly core and gouge. There is little quartz veining but there is one mafic intrusive dike. Foliation is relatively constant ranging from 40-60 dtca.

From 94.87 m and continuing to 96.00 m is a yellow-orange clay seam that is correlative with a similar clay seam found in other drill holes. From the base of this feature to 138.44 m is the continuation of the mafic gneiss as previously described. Throughout this large interval, 96.00 m to 138.44 m, are a number of small shear zones and abundant white clay alteration of the gneiss. Continuing downhole and between 138.44 m and 140.12 m is a mint green coloured quartz-feldspar breccia which is followed down to 190.35 m with an inter-fingering contact between the mafic gneiss and a fragmental breccia. This breccia is clast dominated and the matrix is not well defined however there are patches of quartz-feldspar porphyry which appear to be interstitial. A felsic dike occurs from 190.34 m to 191.47 m after which there is an interval dominated by clay altered mafic gneiss intruded by several sulphide rich quartz veins. From 213.13 m felsic dikes were observed intruding the mafic gneiss and from 261.26 m to 271.03 m the core is dominated by silicified quartz-feldspar porphyry which in turn is followed by strongly silicified mafic gneiss.

Between 297.16 m and 300.05 m is a zone of sulphide veins and veinlets some of which consist of almost 90% sulphide with the majority of the sulphide consisting of arsenopyrite. Pyrite to 10% and sphalerite to an observable maximum of 15% also occur in this zone which has a narrow breccia for an upper contact. This is a clast supported feature with a

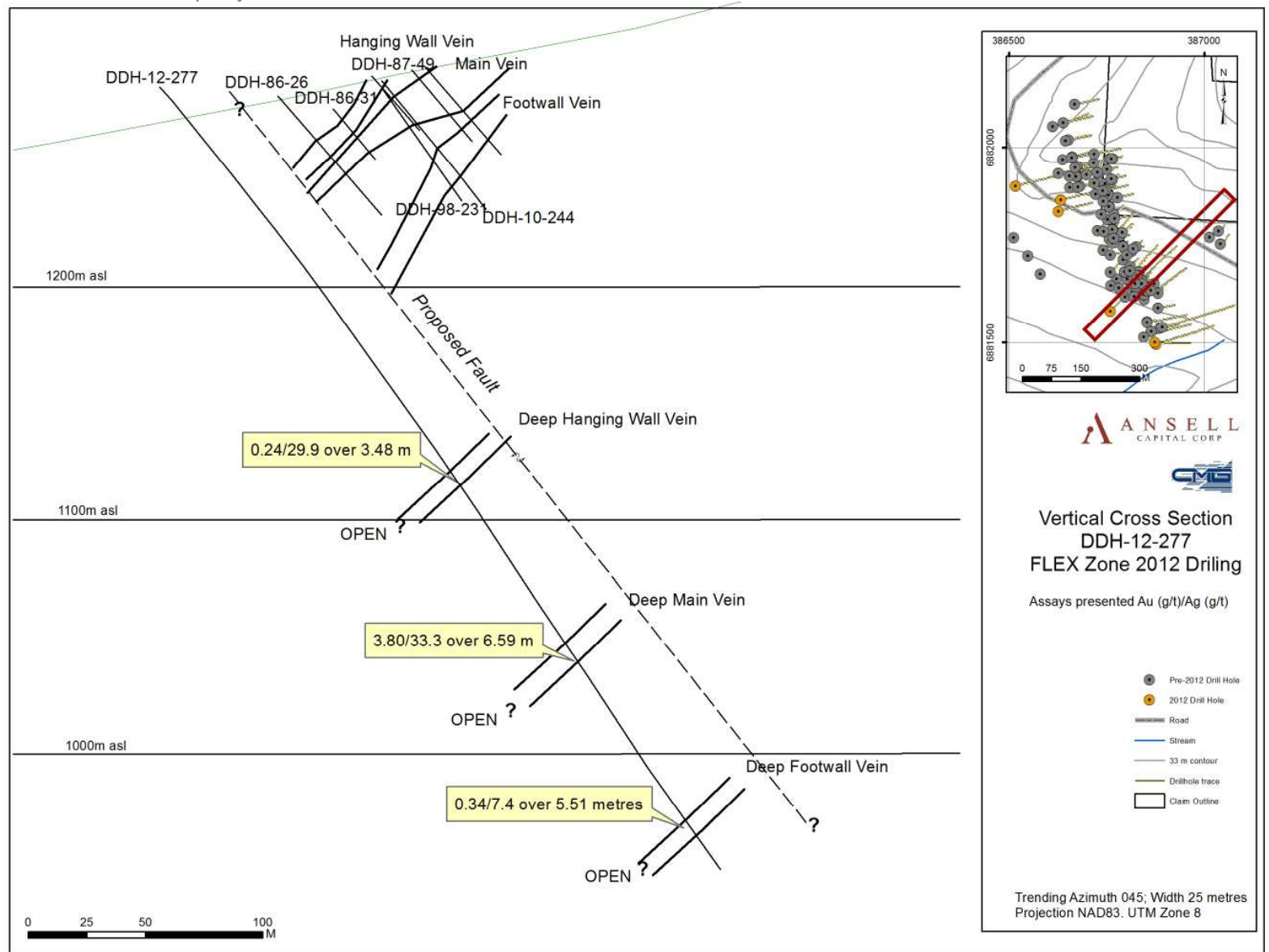


Figure 12: Drill Section: DDH-12-277

grey quartz matrix. Clasts are sub-angular to sub-rounded and consist of clay altered mafic gneiss.

From 303.87 m to 328.73 m is another interval of quartz-feldspar porphyries intruding mafic gneiss and both are strongly silicified. Numerous fault zones are evident within the quartz-feldspar porphyry to 349.87 m while diorite intrudes the package to 354.58 m. This rock is very fine grained, dark green in colour and soft. Feldspar phenocrysts constitute 40% of the intrusive are lath shaped and milky white in colour. It is pervasively altered by carbonate and crosscut by fine carbonate stringers.

Silicified mafic gneiss and breccia occur down hole to 376.80 m and from there to the base of the hole, at 410.57 m, is a clay altered quartz-feldspar porphyry within which there is a section from 383.85 m to 397.14 m of sulphide veinlets similar to the above described mineralization.

This hole has shown a paucity of well mineralized vein structures as has been intersected in other holes in the middle pod of the Flex Zone. This relative lack of mineralization suggests that the hole intersected a more distal portion of the main mineralized zone(s). This is supported by the abundant pervasive alteration, the alteration styles and the abundance of quartz-feldspar porphyry intrusions.

9.1.4 DDH-12-278

This hole (Figures 9 and 13) is at the southerly end of the Flex Zone area and was designed to extend the zone a further 25 m to the south as well as to explore the ground, at depth, between the Flex and the Huestis Zones.

Highly fractured ground caused the hole to be cased to 24.38 m where there was 40 cm of pebbles composed of mafic gneiss and finally bedrock at 24.78 m. Mafic gneiss continued downhole to 84.43 m.

This rock unit is fine grained and moderately foliated between 55-70 dtca. Although generally a medium grey in colour there are variations to light grey, grey brown and even a rusty orange brown depending on type of alteration and its intensity. Mineralization in the form of disseminated, fine grained pyrite occurred in some intervals but only in trace amounts. The one exception would be a quartz breccia zone between 57.70 m and 57.80 m where pyrite had a concentration of 2-3%.

Limonite is the most common alteration throughout the unit where it forms prominently along fractures in moderate intensities. Also noted in some segments is rare silicification, chlorite, epidote and clay. These in general would form patches and occur sporadically in the unit with weak (epidote and clay) and moderate (chlorite) intensities.

At 84.43 m and extending to 85.85 m is a clay altered granodiorite dyke which is medium grained, equigranular and composed of 60% feldspar, 30% quartz and 10% mafics. It is white or light grey in colour, soft and pervasively and strongly altered by clay. Contacts are sharp and at the upper contact are included fragments of the mafic gneiss host rock.

A white and fractured quartz vein occurs at the lower contact and it continues to 86.13 m. Here again the contacts are sharp at 65 dtca and the vein is mineralized with trace fine grained pyrite.

Mafic gneiss dominates the stratigraphy down to 118.42 m. This unit is similar to the mafic gneiss at the beginning of the hole. It is fine grained and generally a medium grey in colour.

Foliation intensity is variable from weak to strong over short intervals. Compositionally it consists of amphibole, biotite and plagioclase feldspar with minor quartz and chlorite.

Within this unit are three breccia zones that are closely related to faults and/or shears. They occur between 91.28-93.10 m, 99.57-100.60 m and 102.29-102.82 m. All are dark grey or black in colour, have variable intensities of foliation, display ductile deformation and contain fragments of quartz of irregular shape and size within a blackish siliceous matrix. Fragments make up to 90% of the rock volume in the middle zone. Only trace amounts of pyrite occur in the upper zone while the middle interval has up to 5% fine grained and disseminated pyrite while the lower zone has up to 12% pyrite some of which occurs within a single band.

Between the lower breccia and the host mafic gneiss is a shear zone from 102.82 m to 104.02 m which consists of an interval of blocky core containing fragments of silicified fault breccia, clay altered fault breccia and mafic gneiss. Upper contact is lost but the lower is sharp at 115 degrees to the core axis.

Mafic gneiss that is clay altered dominates between 104.02 m and the base of the sequence at 118.42 m however within this segment is another breccia as described above from 106.69 m and 107.23 m. This is identical to the above and contains up to 8% pyrite as fine grained disseminations as well as thin bands and sub-rounded fragments of silicified and clay altered gneiss.

Another breccia zone follows and continues downhole to 120.34 m. This consists of 90% clasts which are sub-angular to rounded, vary in size from sub-cm to about 8 cm and consist of clay altered mafic gneiss, silicified mafic gneiss, bright green clay altered gneiss and white quartz within a matrix of grey quartz. Unlike the other breccias this unit is unmineralized.

The interval of mafic gneiss from 120.34 m to 127.12 m is grey to beige or tan in colour, fine grained and from weak to well foliated. Clay alteration varies from weak to moderate and it is within these segments that the host contains up to 5% disseminated and blebby pyrite. Two faults/shears also occur within the interval and probably account for the clay alteration. These are weakly mineralized with pyrite and are marked by blocky core. Contacts are both sharp and steep at 90 dtca.

Mafic gneiss and clay altered varieties continue to 134.90 m interspersed with faulting and fault breccias. At this point and continuing to 157.67 m are mafic gneisses but these have been intruded by quartz-feldspar porphyries. These have a brownish colouration are moderately hard and highly fractured. Phenocrysts which constitute up to 50% of the rock are up to 5 cm in size, euhedral to subhedral, clay altered and mainly feldspar. Quartz phenocrysts are few in number, grey in colour and fractured. Trace disseminated pyrite is the only sulphide noted.

Clay altered mafic gneiss was cored from 157.67 m to 166.89 m with one narrow section having a pervasive silica overprint. Pyrite to 8% occurs throughout as disseminations in the host or within narrow quartz stringers.

A quartz-feldspar porphyry intrusion re-appears at 166.89 m and with a clay seam and some faulting extends to 172.94 m. The porphyry is similar to the one previously described and is followed by mafic gneisses which are in part propylitically altered with chlorite and epidote and mineralized with up to 8% fine grained blebby pyrite.

A wide fault breccia occurs between 175.55 m down to 184.46 m. This unit is light grey in colour includes some clay enrichment near its base and moderate to strong silicification elsewhere. As with other breccias, clasts constitute up to 90% of the rock with only 10%

being matrix. The clasts are sub-angular to rounded, variable in size and consist of altered mafic gneiss as well as grey and white quartz. Pyrite, as disseminations and restricted to the matrix, amounts to 3% and a trace of stibnite has been recorded. The lower contact is sharp at 50 degrees to the core axis.

This breccia is followed by a sulphide breccia vein which is interrupted by a narrow interval of mafic gneiss from 185.82 m to 186.88 m but extends to 188.89 m. The upper vein, 184.46 m to 185.82 m, is complex contains 35% sulphides, 20% silicified mafic gneiss, 30% quartz vein and 15% clasts. Arsenopyrite dominates the sulphide package with 15% and is found as fine grained needle-like crystals within the quartz matrix but also occurs within a massive sulphide band at about 184.64 m. Pyrite with sphalerite are also within the matrix and in this band along with hematite which also occurs as separate veinlets. The intervening mafic gneiss, which is strongly clay altered, contains between 5% and 8% fine grained pyrite.

The second vein, 186.88 m to 188.89 m, is similar to the above mentioned vein however its sulphide content is higher at >50% with pyrite dominating at 25% followed by arsenopyrite at 15%, then sphalerite at 10% and finally 2% stibnite.

Quartz-feldspar porphyry intrudes with a possible vein from 188.89 m to 196.90 m. The vein may actually be fragments of the above veins and out of place in the core box.

This is followed by an interval of mafic gneiss to 206.02 m. These are clay altered rocks that are fine grained, light grey in colour and with quartz stringers mineralized by disseminated pyrite to 2% and traces of sphalerite and stibnite. The rock's foliation is developed by alternating bands of feldspar and grey quartz.

A series of light to dark grey breccias and fault breccias occur from 206.02 m to 217.32 m and consist of 90% clasts of clay altered mafic gneiss and white and grey quartz. Within the middle part of this segment are also clasts of quartz-feldspar porphyry. Ductile deformation is evident as is weak propylitic alteration. Rubbly core has been interpreted as being caused by faulting.

Silicified and clay altered mafic gneiss with only weak pyrite mineralization continues to 224.71 m whereby it is followed by another interval of brecciation and faulting before another intrusion of quartz-feldspar porphyry at 235.11 m.

This intrusion ends at 238.02 m is followed by a fault breccia as previously described, a narrow felsic dyke from 214.62 m to 242.80 m and then from that point to the base of the hole, at 300.23 m, a continuous zone of brecciation. In all cases the breccia is similar with 90% clasts of altered mafic gneiss and grey and white quartz. With the exception of between 280.82 m and 293.75 m which contains up to 3% disseminated pyrite the zone does not contain appreciable sulphides.

Sampling has outlined three mineralized zones. The first is a broad continuous interval from 91.95 m to 104.02 m. This is essentially a zone of brecciation and faulting with mafic gneiss being the host rock. Ductile deformation is evident throughout the interval as are a number of shears. Quartz veining is common even within the mafic gneiss and the sulphide mineralization is restricted to fine grained to very fine grained pyrite which in one short interval has a concentration of 12%. Pervasive and moderately to strong silicification is well developed in the zone while limonite and clays are less common. The best gold values of 2643 ppb Au over 0.32 m and 2167 ppb Au over 0.72 m occur at the start and finish of this zone. Between these end markers gold values are lower and vary from 52 ppb Au to 544 ppb Au.

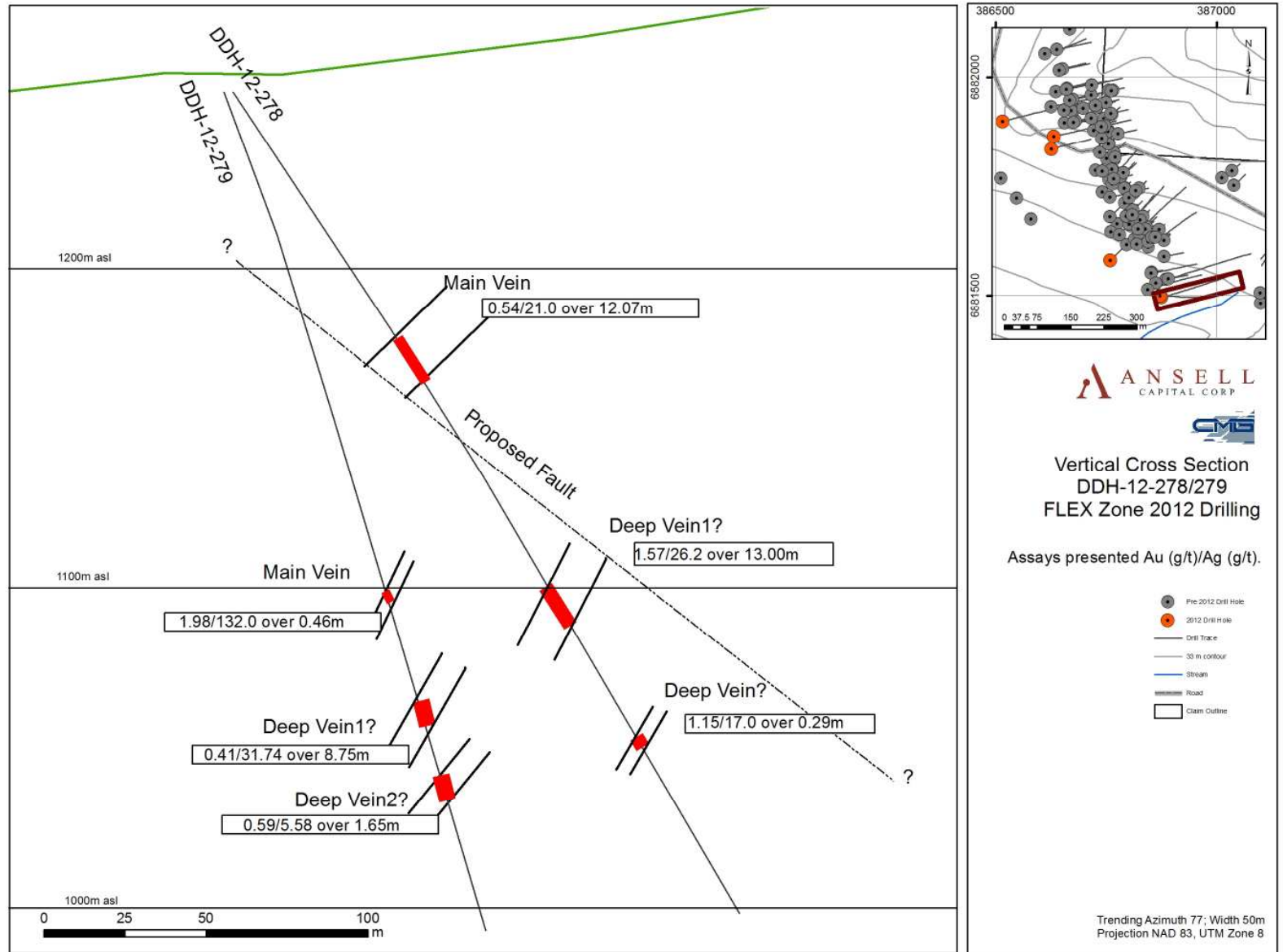


Figure 13: Drill Section: DDH-12-278 / 279

The second zone occurs between 183.85 m to 191.60 m. This interval contains not only a fault breccia but also sulphide rich brecciated veins, clay altered mafic gneiss and a clay altered quartz-feldspar porphyry. Sulphide mineralization is best developed within the veins where combined concentrations are as high as 52%. Fine grained pyrite is the most common sulphide variety reaching an estimate of 25% in one vein. It is almost always associated with arsenopyrite, red-brown sphalerite and to a lesser extent stibnite as fine disseminations or in thin bands, clusters or veinlets. The highest gold assay in this zone is 9827 ppb Au over 0.50 m whereas the best weighted average is 3.8 gpt Au/4.69 m.

Of some question is the assay of 5808 ppb Au from 191.41 m to 191.60 m. The logger specifically states that the mineralized “pebbles” may actually be out of place and therefore this gold value is not included in the weighted average.

The last zone is a single sample from 237.73 m – 238.02 m that comes from a sericite altered and pale apple green coloured quartz-feldspar porphyry which has been intruded by a 6 cm wide quartz vein mineralized with pyrite and arsenopyrite at 90 dtca. The gold assay here is 1152 ppb Au.

9.1.5 DDH-12-279

This hole, drilled from the same pad as DDH-12-278, is at an azimuth of 095 and is a step out test of the mineralization in this preceding hole which encountered a mineralization zone that has a weighted average of 3.79 gpt Au over a core length of 4.69 m. By having a dip of -71 degrees, this hole attempted to penetrate the continuation of this zone in the down plunge direction (Figures 9 and 13).

Casing and overburden at the top of the hole continued until 24.08 m. At that point mafic gneiss was intersected which generally has an orange-green colouration and is well foliated at 70-80 dtca.

From 34.00 m to 36.70 m the mafic gneiss becomes less silicified but there is an increase in limonite and sericite alteration.

Brecciation of the mafic gneiss occurs from 36.70 m to 38.97 m where the rock retains the orange-grey colouration but has a marked increase in silica. Clasts of the host consist of 95% of the rock and are angular. Blebs of pyrite to 3% are noted throughout. Alteration other than silica includes moderate limonite and sericite. Foliation is at 65 degrees to the core axis and both the upper and lower contacts are sharp and at the same core angle.

Within this interval is a 10 cm brecciated quartz-feldspar vein which is moderately iron stained and mineralized with pyrite blebs.

Faulted biotite mafic gneiss occurs between 38.97 m and 39.27 m whereby biotite-sericite mafic gneiss continues to 56.59 m. This is similar to the gneiss at the top of the hole but has a stronger intensity of silica, sericite, epidote and chlorite alteration.

A strongly limonitic fault breccia from 56.59 m to 57.40 m contains <1 cm sized quartz clasts with possible ground black sulphides. It is orange black in colour, has an upper contact of gouge and a lower sharp but serrated contact. This fault also has affected the mafic gneiss up hole from 55.78 m to 56.59 m which has been described as an interval with 20% quartz clasts and sericitic wisps. Quartz veins are moderately contorted and are parallel to the 70 dtca.

Below the fault is a similar section, 57.40 m to 61.83 m which is also strongly limonitic and having relic dark grey siliceous bands.

Faulting continues from 61.83 m to 62.79 m and is similar to the above noted fault and it also is followed by mafic gneiss that contains numerous subunits down to 68.91 m. This interval is not well mineralized but does contain up to 1% fine to medium grained pyrite as disseminations as well as thin lenses that form parallel to foliation.

Granodiorite intrudes the mafic gneiss from 68.91 m to 74.00 m and is described as being medium grained, variably altered with clay and silica and light to dark grey to white in colour. Pyrite occurs as disseminations, thin lenses and hairline stringers in a total concentration of about 3%.

A light to dark grey sericite enriched mafic gneiss continues to 80.40 m. A considerable portion of the core is badly broken and may represent faulting although only minor gouge was noted between 75.24 m and 75.50 m. One narrow granodiorite dyke of 10 cm width forms part of this interval which has 2% pyrite, trace chalcopyrite and strong silicification for several metres immediately downhole.

A similar granodiorite dyke occurs from 80.40 m to 81.57 m and is followed by light to medium grey moderately to well foliated mafic gneiss down to 88.05 m. It has strong silica alteration but only weakly altered by sericite, calcite, limonite, chlorite and clay. Pyrite is the only sulphide present which has a concentration range of 2-3% and it occurs as disseminations, hairline stringers and thin foliation parallel lenses. A narrow granodiorite dyke also intrudes this gneiss.

A strongly altered black, yellow-green coloured matrix supported breccia with rounded to subrounded quartz clasts extends from 88.05 m to 88.90 m. Pyrite, to 5%, as disseminations, lenses and stringers occurs throughout the section. A diagnostic pale, mint green alteration is described and may possibly be fuchsite or mariposite.

Well foliated mafic gneiss with patchy sericitization and silicification and light to dark grey in colour continues from 88.90 m to 104.44 m. It is characterized by broken and contorted white quartz veins and zones of increased brecciation towards the lower contact. Pyrite most commonly occurs as fine disseminations but is also found as hairline stringers. Average concentration is 2%.

Between 104.44 m and 105.95 m is a sulphide enriched fault zone that cross cuts the mafic gneiss and is followed by siliceous gneiss which in turn is followed by another fault zone from 107.75 m to 112.16 m. These fault zones contain up to 70% gouge but also fragments of mafic gneiss and are mineralized with up to 2% pyrite. The intervening gneiss is moderately silicified and has 1% disseminated pyrite.

Mafic gneiss returns over a short interval to 116.59 m. It is white to dark grey in colour, strongly clay altered, sericite is present and pyrite occurs as patchy disseminations with an overall concentration of 1%.

Within this interval are two narrow quartz-feldspar porphyry dykes and a 67 cm gouge filled fault.

From 116.59 m to 125.11 m is a strongly clay altered quartz-feldspar porphyry which is light grey to white or pale yellow-green in colour. Clay altered relic feldspar phenocrysts are evident and measure 1-2 mm in width. Pyrite, locally to 30%, occurs as disseminated blebs and there appears to also be a black, very fine grained ground sulphide which may also be pyrite. Quartz veins with pyrite are present as are broken white quartz veins which are parallel to the core's axis.

Within this rock unit are several faulted sections and also the bright green alteration possibly fuchsite. Similar rocks continue to 133.89 m.

A white to pale brown coloured granodiorite dyke followed by a siliceous quartz-feldspar porphyry which has feldspar phenocrysts to 2 mm in size and about 3% disseminated pyrite extends to 136.40 m.

A fault between 136.40 m and 136.86 m marks the upper contact zone of a brecciated granodiorite that continues to 143.33 m. This dyke in turn is cross cut by a 69 cm diorite dyke.

Another quartz-feldspar porphyry, grey to brown in colour with 2% fine grained pyrite and corroded feldspar phenocrysts continues to 148.20 m. This interval includes a sulphide breccia zone with a carbonate matrix and quartz clasts to 5 mm in size.

Clay altered mafic gneiss with a granodiorite dyke occurs from 148.20 m to 153.74 m. It is grey to pale yellow in colour, moderately silicified and sericitized and is mineralized with 2% fine grained disseminated pyrite.

Up to 10% pyrite is present within an altered granodiorite between 153.74 m and 155.68 m and is followed by moderately contorted and silicified mafic gneiss down to 159.91 m. The lower 80 cm of this unit is faulted and contains 2% pyrite as well as traces of chalcopyrite and a very fine grained black sulphide.

Brecciation and faulting continue to 162.33 m within which there is a 93 cm granodiorite dyke. The sequence to 193.46 m is similar with numerous narrow intervals of brecciated/faulted gneiss, faults, sulphide breccias and granodiorite dykes. Pyrite is the main sulphide present with concentrations to 12% but more commonly in the 1-2% range. One sulphide breccia which is medium to dark grey in colour has one quartz-carbonate vein but more importantly contains a low concentration of arsenopyrite, galena and sphalerite and a trace of chalcopyrite. This interval extends from 177.72 m to 178.22 m.

Brecciation within silicified, pale yellow grey gneiss continues down hole interspersed with quartz-feldspar porphyries and narrow whitish intrusions of granodiorite. Silicification is strongly developed whereas sericitization although evident is not prominent, clay is moderate to weak and carbonate is sporadic as is brown hydrothermal biotite. Pyrite is the dominant sulphide present and occurs most commonly as disseminations or blebs and small masses in the range of 1-2%.

Deep orange brown coloured quartz-feldspar porphyry from 193.46 m to 195.39 m contains 30% clay altered feldspar phenocrysts to 4 mm in size and disseminated pyrite to 5%. This intrusion forms the base of this sequence.

From 195.29 m and continuing to 219.64 m is a brecciated interval that includes both silicified gneiss and granodiorite. The entire interval has a pale yellow-grey colouration and is typified by having 95% clasts with little matrix. Clasts are generally as termed of a felsic gneiss having variable clay, sericite, silica and brown hydrothermal biotite alteration. The matrix is a mix of pyrite and quartz.

Within the bottom 6 m of the sequence clasts of clay altered granodiorite increase in number and quartz-sulphide veins become more contorted. Overall pyrite averages about 2% with traces of arsenopyrite and chalcopyrite also being noted.

Faulted and clay altered granodiorite continues to 210.78 m whereby another fragmental breccia interval similar to those immediately up hole extends to 218.41 m. This approximate

8 m interval has narrow segments of mafic gneiss and although being strongly enriched with silica has a pale green-grey colouration. Disseminated pyrite and pyrite within quartz veins constitutes the sulphide component of the unit with a concentration in the range of 1-2%.

Quartz-feldspar porphyry again intrudes from 218.41 m to 223.77 m. This medium brown to green-brown coloured rock has clay altered phenocrysts in the size range of <1-3 mm. Silica content is high whereas clay alteration affecting the feldspar phenocrysts is weak. Pyrite to 1% occurs within hairline fractures. Towards the base of the unit between 221.89 m and 222.24 m, the porphyry is strongly faulted and intruded by dark black sulphide-quartz veins. Faulting but not the veining continues to 223.77 m.

Between 223.77 m and 273.71 m is a series of breccias some of which are sulphide bearing and relatively narrow. Interspersed within the sequence are a number of faults. Most of these, like the sulphide breccias, are narrow and all have associated gouge.

The fragmental breccias are strongly siliceous, mineralized with up to 3% pyrite as lenses or small masses and are pale brown, green or yellow in colouration. The largest component of this interval is composed of these breccia types. The narrowest appears to be at the beginning and being just over a metre in width. The widest, on the other hand, is about 30 m and this is the rock unit in which the hole ends.

The sulphide breccias, as noted, are generally narrow with the widest being 86 cm. All are dark grey to black in colour and are either sulphide or quartz-sulphide veins that crosscut the fragmental breccia hosts. Pyrite is common to all with concentrations ranging from 1-5% and occurring as blebs or small irregular masses. In addition all contain arsenopyrite as well as traces of chalcopyrite and one has a trace of sphalerite.

Assay results have shown a number of narrow to broad weakly mineralized intervals that correlate in part with zones in hole DDH-12-278 or historical holes in the immediate area.

The first intercept from 40.23 m to 41.78 corresponds to a 0.50 cm wide pyrite-arsenopyrite vein within biotite-sericite enriched mafic gneiss. It could be directly related to a quartz-feldspar porphyry intrusion downhole between 41.79 m and 41.99 m. Although narrow it is mineralized with 1% finely disseminated pyrite and an unidentified black sulphide.

A very narrow interval from 162.97 m to 163.43 m assayed 1.976 gpt Au. It is a sulphide bearing breccia vein bordered on either side by felsic gneiss. The vein contains coarsely disseminated and blebby arsenopyrite, galena and pyrite with a trace of chalcopyrite. Quartz and carbonate form the matrix. The vein has a black to grey colouration whereas the bordering gneisses are yellow to light grey and mineralized with 1% disseminated pyrite.

A short distance downhole is a 1.44 m section from 165.73 m to 167.17 m that has gold values ranging from 172 ppb Au to 261 ppb Au. This is a fault breccia zone with gouge and clasts of quartz and felsic gneiss. With an average concentration of 3% pyrite with one short interval of 34 cm that contains approximately 12 % pyrite. Traces of chalcopyrite and an unidentified sulphide are also present.

Combined with the section above, this zone occurs within a large sequence of veining, faulting and intrusions of granodiorite. There is no direct correlation with intercepts in DDH-12-278.

The broadest zone extends from 198.65 m to 208.60 m and consists of gold values ranging from 105 ppb Au to 623 ppb Au. It occurs within a brecciated interval of felsic gneiss and granodiorite with moderate to strong silicification, weak to moderate sericitization, weak

carbonate and K-spar and moderate clay development. All alteration styles are patchy and fracture controlled.

The interval is subdivided into two sub-intervals but both have clasts of felsic gneiss or granodiorite with the matrix constituting only 10% or less of the rock volume. Rock colour for both is a pale yellow-grey and mineralization is also similar with pyrite being in the 2% range, minor arsenopyrite and traces of chalcopyrite and an unidentified very fine grained black sulphide.

From the section and comparison to hole DDH-12-278, it seems this zone, although weak, correlates well with an interval from 184.46 m to 197.00 m in the latter hole. The differences in gold values may be due to the fact that the intercept in DDH-12-279 may either be a short distance above or below the down plunge extension of the mineralization.

The last mineralized zone occurs between 223.77 m and 229.70 m. This is a sulphide breccia zone bordered by faulted fragmental breccia which is a pale brown-green-yellow in colour and strongly siliceous. Pyrite, as clots or small lens shaped masses, varies from 1-3% and has associated trace amounts of chalcopyrite.

The sulphide breccia is a dark grey to black vein that crosscuts the enveloping fragmental breccia. It contains 3-5% pyrite and trace concentrations of arsenopyrite, sphalerite, chalcopyrite and a fine grained unknown black sulphide. As with the bordering rocks, it is strongly siliceous, moderately clay enriched and moderately sericitized. Quartz veining is 50% by volume of the rock and there are sharp contacts at 20 dtca.

9.1.6 DDH-12-280

This hole, spotted 27 m SSE and 12 m westerly of DDH-12-276, was a further down plunge test of that hole's mineralization (Figures 9 and 11).

Casing and overburden extend to 15.56 m whereby the hole intersected mafic gneiss to 20.42 m. This is a light orange coloured rock due to the strong limonite alteration. A sooty brown-black manganese forms on fracture surfaces sometimes with a dendritic pattern. Pyrite occurs as fine grained disseminations and in quartz stringers but is only in trace concentrations. The lower contact is faulted and at 45 dtca.

This structure is extensive and continues to 26.82 m. It is a light orange to beige in colour and consists of gouge which constitutes 80% of the interval. The remaining 20% consists of 1 mm to 2.5 cm sized clasts of altered mafic gneiss and quartz. Pyrite again in trace amounts is within the gouge.

Silica content rises in the next unit of mafic gneiss which extends to 33.13 m. Limonite and manganese staining persist, pyrite remains at trace levels and the colouration is again a pale orange-brown.

Quartz-feldspar porphyry occurs within the following fault zone which continues to 36.03 m. It is not well described but is probably injected into the fault plane and broken by further movement.

The next section, also a light orange-brown in colour continues down to 55.15 m and consists of several faults, two silica and sericite enriched gneisses bordering a 10.37 m interval of quartz-feldspar porphyry. This intrusive, which is moderately altered, is in some sub-intervals strongly foliated. Feldspar phenocrysts are subhedral to anhedral, 1-4 mm in size and altered to clay. There are two preferential directions for quartz veining and

stringers which total <1% by volume of the rock unit. Pyrite as disseminations or blebs remains at trace concentration.

Mafic gneiss continues to 121.96 m however within this large interval are many subunits and faults. At the beginning, the gneiss is a green-grey or pale grey in colour, well foliated and strongly altered by silica and moderately by limonite and chlorite. Sericite is weakly represented while hematite is more abundant. All are patchy and/or fractured controlled. More siliceous intervals have been noted to be moderately magnetic, contain 1% hematite and 10-15% chlorite with trace biotite. These areas also contain 2-3% disseminated pyrite although overall the concentration averages 1% to 69.41 m.

On the hanging wall side of the fault zone between 70.00 m and 72.01m, the mafic gneiss for 59 cm becomes dark green to black in colour, is less siliceous, non-mineralized but remains moderately magnetic.

Within the fault, quartz veining increases to 60% by volume over a 48 cm interval followed by the intrusion of feldspar porphyry which occurs at the base between 71.33 m and 72.01 m.

The next section of mafic gneiss which continues to 93.53 m is similar to the one above. It too is a pale green-grey in colour with some orange-grey intervals. Within this unit is the first appearance of red garnets. These are 2-3 mm in size but only in trace amounts. At its base, from 92.01 m to 92.72 m is also an aphanitic dark green to black segment which borders a fault zone. In this case, as opposed to the section above, 70.00 m – 72.01 m, it is mineralized with up to 2% pyrite.

Faulting from 93.53 m to 95.73 m is followed by mafic gneiss to 113.60 m whereby there is another fault to 114.39 m. This gneiss, which is dark to pale green-grey in colour, has trace pyrite also contains garnets which are now upwards to 1 cm in diameter and are dark red or red-brown in colour. Concentration however remains low at <1% until 99.46 m where they increase to 2%. Within the unit are two narrow dykes of porphyritic granodiorite.

From 121.96 m to 122.30 m is another fault containing clasts of both mafic gneiss and feldspar porphyry which makes up the next unit.

This porphyry (122.30 m to 124.43 m) is a medium grey to orange grey in colour with remnant feldspar phenocrysts 1-3 mm in size and disseminated pyrite to 1%.

Weakly foliated and weak to moderately magnetic mafic schist forms an extensive unit from 124.43 m to 143.33 m. It is variably siliceous and is composed of chlorite, biotite and garnet. Pyrite occurs as disseminations to 15% while the garnets are dark red, anhedral and measure from 2-4 mm in size. Within the unit is a 41 cm wide quartz-feldspar porphyry dyke.

Faulted mafic gneiss (143.33 m to 143.92 m) precedes a fault zone which consists of 50% gouge and 50% white to pale grey clasts of granodiorite and sulphide breccia veins. Pyrite as small masses and disseminations totals about 3%, while galena, chalcopyrite and an unidentified sulphide all occur in trace amounts.

The fault is followed by an extremely faulted sulphide breccia vein which consists of white to dark grey quartz mineralized with pyrite (5%), euhedral galena (1%) and 2% sphalerite as well as traces of arsenopyrite and chalcopyrite. This structure starts at 144.87 m and continues to 146.56 m.

From this point down to 152.65 m is an alternating series of faults and quartz-feldspar porphyry intrusions. Each fault is dark green to blackish in colour, gouged and consists of fragments of chlorite-biotite mafic gneiss. One has disseminated pyrite to 1% while the others are stated to be unmineralized.

The porphyries are white or pale to medium grey in colour, have been silicified and contain only relict phenocrysts 2-3 mm in size. The upper 60 cm wide dyke is mineralized with 1% pyrite.

The next sequence of rock units is a repetition of mafic gneisses and fault zones. This continues from 152.65 m and extends to 169.81 m. All intervals of the mafic gneiss are dark green to black in colour, generally biotitic and having moderate chlorite alteration. Sericite and calcite are also present at moderate levels. Pyrite when present is no greater than 1% and occurs as fine grained disseminations.

From 169.81 m to 186.84 m is a mixed sequence of rock units and faults. Within in this interval are dark green mafic gneisses that have been altered by biotite and chlorite however felsic gneisses form the majority of this sequence.

These rocks are white or pale grey or green in colour, moderately to strongly silicified and sericitized. Clay alteration is also strong or moderate in intensity. Pyrite, as disseminations and fracture coatings, increases to 7% in the bottom 2.5 m of the interval while at the top it is only trace.

A quartz-feldspar dyke from 171.97 m to 175.25 m is brown grey in colour, strongly silicified and unmineralized.

From 186.84 m and continuing to 194.96 m is another mixed interval but consists mainly of sulphide breccias and veins and is interspersed with faults, felsic gneisses and a narrow granodiorite dyke. Colour ranges from white to dark grey to a green-grey for most of the interval while the sulphide vein at the base of the sequence has a black-blue colouration. Host rock for the breccia at the beginning is felsic gneiss which based on the number of such intervals is probably the host for the entire unit. Silicification is strongly developed in the breccia as is clay while sericitization is of moderate intensity and calcite/carbonate is weak.

The brecciated units have disseminated, vein hosted and blebs of sulphide mineralization consisting of an average of 4% pyrite, 1% arsenopyrite, 1% sphalerite, 0.5% chalcopryrite and a trace of galena.

The 52 cm vein at the base is 90% sulphides with 30% being pyrite, 10% arsenopyrite, 10% sphalerite, 5% chalcopryrite, 30% of a blue grey sulphide possibly stibnite and a trace of galena.

The vein's lower contact is lost in a fault which is 80% gouge, 10% dark grey quartz and 10% sulphide clasts. This fault from 194.96 m to 196.24 m marks the beginning of the last rock sequence in this hole which ends at 248.41 m.

Variously coloured quartz-feldspar porphyry makes up over 95% of the interval with fault zones being the remaining 5%. In most cases the porphyries are broken or faulted.

All are strongly siliceous or silicified with some having moderate clay, weak sericite and weak chlorite and talc. Feldspar phenocrysts vary in size from 1-7 mm and constitute up to 50% of any one interval. In particular would be a dark brown to grey brown and glassy porphyry from 225.92 m to 248.41 m.

Disseminated pyrite to 2% is common throughout although 0.5% sphalerite was noted in one segment with an equal percentage of an unknown blackish sulphide. Only trace chalcopyrite and arsenopyrite is evident in the beginning fault and the brecciated porphyry on the immediate footwall.

The assay results have defined four mineralized intercepts. The first is close to the top of the hole between 57.30 m and 59.96 m. Although there may have been some contamination in the sampling procedure, the values still indicate a weak interval from 214 ppb Au to 586 ppb Au. Logging shows this zone to occur within a sequence of mafic gneiss mineralized with 3% disseminated pyrite but also having an 83 cm fault zone with gouge on the contact with a siliceous granodioritic appearing gneiss. This latter rock unit has 2-4% pyrite and a 0.5 cm wide vein of pyrite and arsenopyrite.

The second interval is broader and is continuous from 143.92 m to 147.60 m or 3.68 m of core length. Within this section gold values range from 142 ppb Au to 86.8 gpt Au.

This is a sulphide vein and/or breccia zone with considerable faulting. The veins/faults contain up to 5% pyrite, 1% galena, 2% sphalerite, 1% of a blackish sulphide possibly stibnite as well as traces of arsenopyrite and chalcopyrite.

Although a narrow segment of mafic gneiss occurs immediately on the hanging wall, the host is variably siliceous chlorite-biotite-garnet mafic schist up hole with quartz-feldspar porphyry and quartz veining. Downhole are continued quartz-feldspar porphyritic intrusions combined with faults that contain clasts of chlorite-biotite gneiss and gouge. In both cases sulphide mineralization is restricted to pyrite in low concentrations.

About 20 m further downhole is the third zone between 166.10 m and 168.00 m which encompasses the following three segments of 14.2 gpt Au over 0.52 m, 10 ppb Au over 0.96 m and 437 ppb Au over 0.42 m. At the centre of this zone is a 4 cm wide sulphide vein at 166.27 m which contains 5% pyrite, 1% each of arsenopyrite, galena, chalcopyrite, an unidentified black sulphide as well as 2% sphalerite. Up hole is intense clay alteration and mafic gneiss while downhole is an interval of sericitic alteration which contains 5% pyrite.

The last zone is also broad and continuous from 181.80 m to 205.62 and is defined by gold values ranging from 130 ppb Au to 27.3 gpt Au. The highest assays of 24.1 gpt, 27.3 gpt and 26.2 gpt Au form a single intercept of 1.76 m and have a weighted average of 25.9 gpt Au.

This section is a complex sequence of felsic gneisses, breccia, sulphide veins, faults and at the base a quartz-feldspar porphyry intrusion. The high grade interval corresponds directly with a sulphide vein and a fault zone immediately downhole. The vein consists of 90% sulphide made up of 30% pyrite, 30% stibnite and/or pyargyrite/bournonite with 10% each of arsenopyrite and sphalerite. Chalcopyrite measures 5% while only a trace of galena was noted.

The fault is 80% gouge with clear dark grey quartz and 10% sulphide clasts.

An intercept of 60.7 gpt Au in DDH-12-276 at 204.59 m possibly corresponds with a series of pyrite veins at 237.28 m in DDH-12-280.

9.2 Drill Hole Discussion

The drill program was successful in achieving its primary goal of confirming previous gold mineralization but also expanding on the mineralization at depth and down plunge, in

particular holes DDH-12-278, 279 and 276 and 280. All were successful in expanding the Flex Zone mineralization and should a resource figure be calculated then all have added tons and ounces of gold and silver over previous years' drill programs.

The deposit is clearly fault controlled (Figure 9). There is a hypothesized western fault that divides the Webber and Flex Zones. This is confirmed in several holes, namely 253, 262, 272, 275 and 277 where anticipated intersections were not encountered even though the step outs are about 25 m. The most probable explanation is an east dipping fault, termed the West Fault, which has down dropped the veins to the SE. In DDH-12-277 there are deep, although narrow vein intersections. A similar situation, but to a lesser degree, was also encountered in DDH-12-275. DDH-11-253 encountered few promising vein intersections.

There are well defined faults that are paralleling veins, particularly the Hanging Wall Vein in the northern pod. This fault seems to be on the upper contact, but is not continuous. It appears that in the northern pod especially, that the veins are healed breccias consisting of various sulphides and gouge. The faults seem to have used the vein plane as a plane of weakness and have incrementally dropped them down to the south. A later pulse of mineralization probably occurs during this faulting event. Off-setting these are south dipping EW faults, trending at about 070. These faults may be the cause of the clear definition of the three mineralized pods.

The veins' surface expression plainly indicates an anastomosing system. The Hanging Wall and Main Veins merge to form a large intersection in the middle of the northern pod. It is suspected that the intersection in holes DDH-11-257 to DDH-11-271 is also formed in a similar fashion but to a lesser degree. More investigation is required to substantiate this hypothesis.

10.0 2012 Trenching

The purpose of the current trenching program was to outline porphyry style mineralization which would form the basis of additional diamond drilling. Targets were derived from Au and Cu in soil anomalies from either the historic BYG survey or from sampling undertaken in 2011. A total of 742.9 m of excavating have been used to meet these objectives. Of this only 359.4 m has been mapped and sampled due to the permafrost. The two trenches that remained open in 2011 have now been completed.

Two trenches, ECE TR12-01 and 02 were excavated in the Eliza Creek Extension area north of Tit Mountain. These were initially begun in 2011 but due to the permafrost conditions could not be mapped and sampled. Two additional trenches PHY-TR-12-01 and -02, located 620 and 800 m to the east, had vegetation removed but were not completed, again, due to the permafrost conditions.

All of the trenches were numbered in accordance to the historical naming scheme with the Initials of the zone "ECE" (Eliza Creek Extension) dash TR"12" (the year) dash "01" the next trench number in sequence for that particular zone).

During mapping, both the floor and rib of each trench was systematically surveyed using a Silva compass, a measuring tape, and a GPS unit. This allowed for any changes in the elevation and direction of the trench floor to be accurately recorded. The rib depth was also measured, with special attention given to measuring changes in both overburden and bedrock depth.

The entire rib of the trench was continuously sampled approximately 30 cm above the trench floor. Sample intervals normally ranged from less than 1 m to 1 m in suspected

areas of mineralization, and to 2-3 m elsewhere. Care was exercised to ensure that the sample was collected uniformly across each interval.

Figure 14 illustrates the trench locations in relationship to the camp and the Flex Zone.

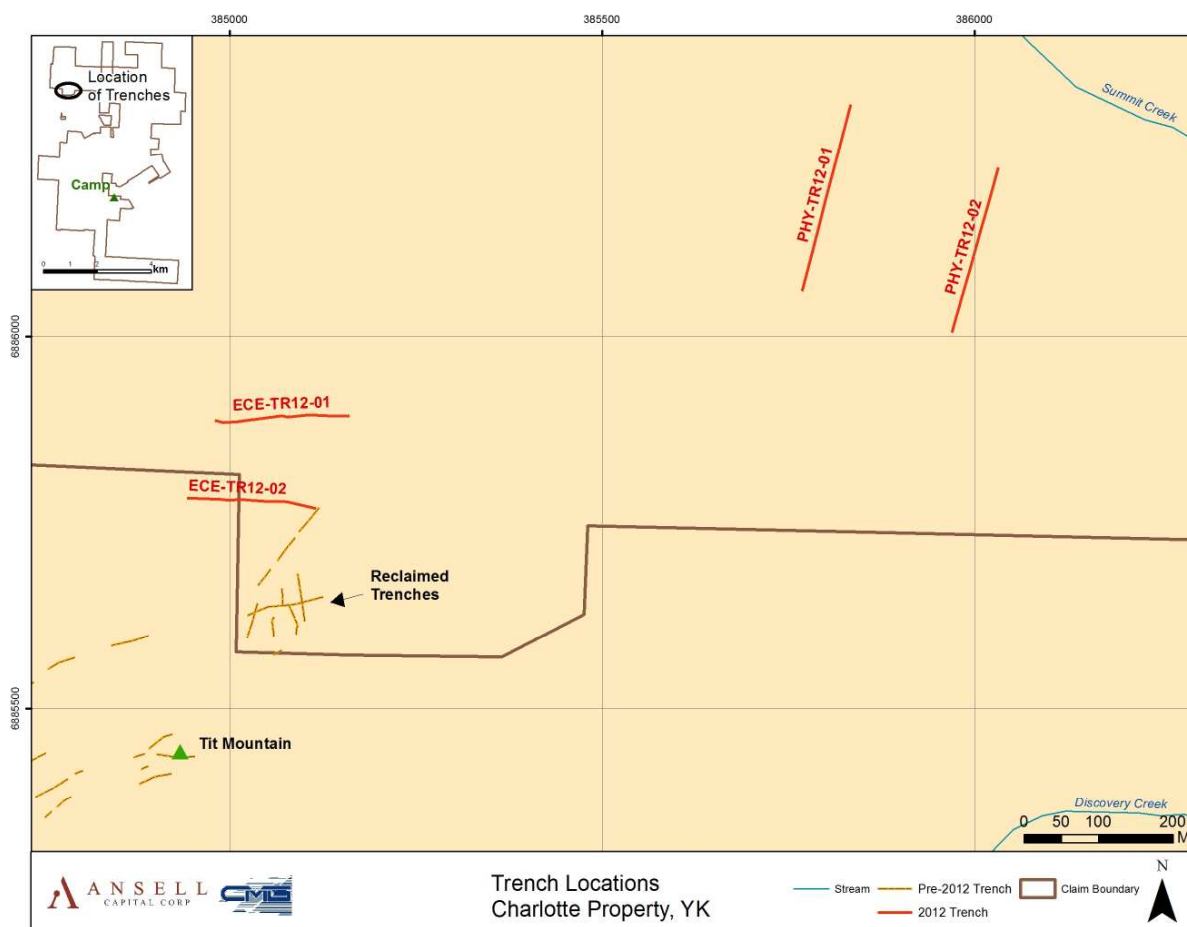


Figure 14. Location of the 2012 Trenches

10.1 Eliza Creek Extension Zone

Work in the Eliza Creek Extension ("ECE") Zone consisted of mapping the two trenches that were left open from 2011 work, totalling 359.94 m. Table 4 below outlines the exact lengths and affected claim blocks in this zone.

Table 4: Total trenching in the Eliza Creek Extension Zone and Affected Claims

Trench	Total Length (m)	Claim	Length in Claim (m)	Grant Number
ECE-TR12-01	190.12	TBR 2	151.44	YA86691
		TBR 1	38.68	YA86690
ECE-TR12-02	183.59	TBR 4	105.85	YA86693
		JFB 1*	77.74	YA86692

*Claim that is no longer part of the current claim block

10.1.1 Trench ECE TR12-01

Logging (Figures 15a and 15b, log in Appendix 5 and assay certificate in Appendix 6) commenced at the western end of the trench where from the start and continuing to 25.80 m is andesite. This unit has been described as being very fine grained; light grey in colour and massive. The weathered surface is orange-red with purple manganese on the fracture surfaces. Alteration by silica is pervasive and from moderate to strongly developed. On the other hand, this unit is poorly mineralized with unevenly distributed fine grained, blebby pyrite to 2% and a trace of chalcopyrite.

Within this initial interval is a shear between 17.00 m and 18.50 m and veinlets of quartz or feldspar at 22.20 m and 23.20 m respectively. Neither is mineralized.

Between 25.80 m and 32.10 m is an andesitic dyke which has a highly weathered fault as an upper contact (west contact). This rock is aphanitic, dark grey, massive and contains 1% pyrite as disseminations or small masses. It is siliceous as evidenced by the conchoidal fracture and displays a rare but weak magnetism.

This unit is followed by a fault zone that continues to 35.70 m. It has been logged as having a gradational contact with fresh andesite to the west then a fault gouge section and possibly oxidized and clay altered sediments. Clasts within the fault consist of silicified andesite, clay altered porphyry and unaltered andesite. The lower contact is sharp at 230/34.

A plagioclase phyrlic porphyritic andesite has been mapped from 35.70 m to 47.30 m. Although subdivided by a fault structure at 40.50 m - 41.50 m, it is interpreted to be the same unit.

It is a massive rock, very light grey in colour, silicified and having a conchoidal fracture. White feldspar phenocrysts have been altered to clay and are 1-2 mm in size. Disseminated pyrite to 3% occurs throughout and is oxidized. Iron and manganese oxides form on cleavage and fracture surfaces.

From 47.30 m to 54.80 m is also andesite with variable intensities of silicification and possibly albitization. Similar to the last andesite, this interval is not mineralized and is cut by an andesitic dyke between 47.80 m and 48.30 m.

A quartz-feldspar porphyry dyke, which has an off white to light grey colouration is very fine grained, intrudes the andesite from 54.80 m to 57.70 m. It is massive, has up to 20% feldspar phenocrysts, a conchoidal fracture and to 7% fine grained disseminated pyrite and a trace of both arsenopyrite and chalcopyrite.

Between 57.70 m and 63.20 m is a sequence of rock types, two of which are described as massive, aphanitic, dark grey volcanic rock or andesitic dykes. Both have widths in the metre range and occur on either side of an altered andesite. This latter unit is about 3 m wide and is medium grey in colour and very hard due to an elevated silica content. It contains up to 30% subhedral to euhedral feldspar phenocrysts and 3% blebby and fine grained disseminated pyrite.

This trio of rock units could represent the siliceous and relatively narrow aphanitic chill margins of an andesitic dyke having a porphyritic core.

A fault zone separates this feature from another andesite dyke that extends to 68.50 m. It is similar to the above dykes/chills and is mineralized with 1-2% pyrite which surrounds quartz veinlets.

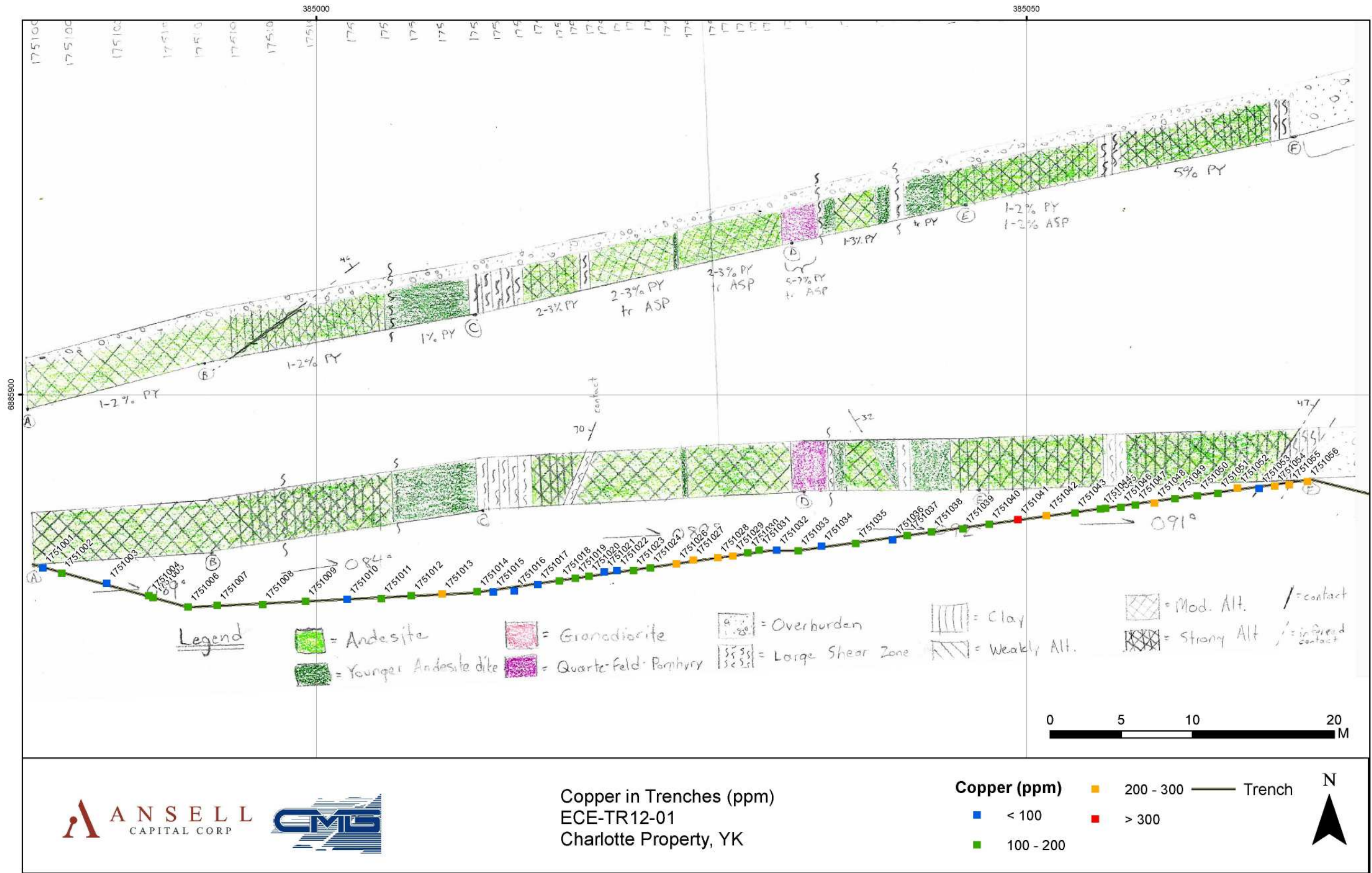


Figure 15a: Trench ECE TR12-01

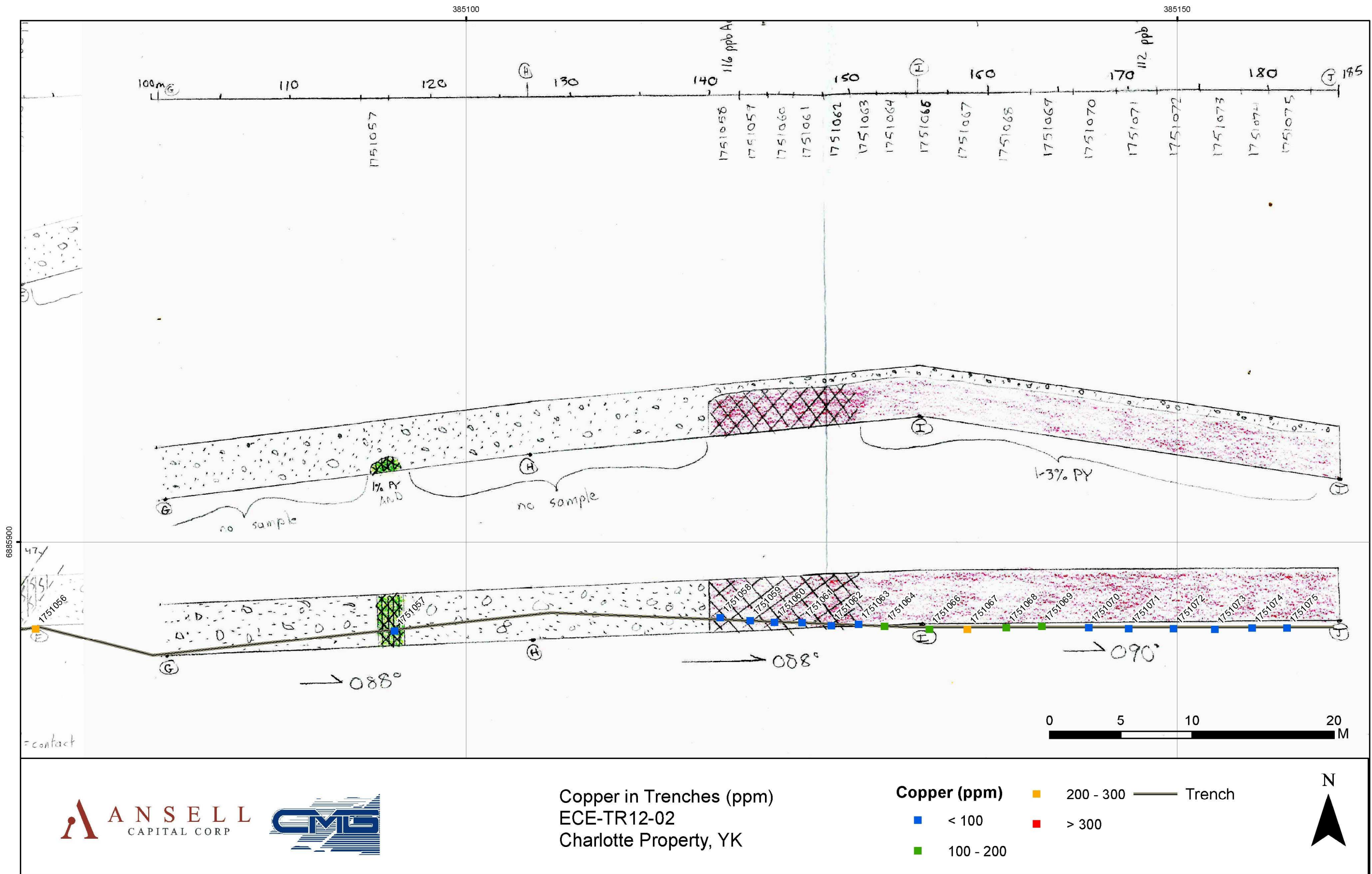


Figure 15b: Trench ECE TR12-01

From 68.50 m and continuing to 77.60 m is a massive altered andesite with strong silicification and a light grey colouration. Silicification is possibly due to a marked increase in quartz veinlets. Pyrite and arsenopyrite as small masses and as narrow stringers give an estimated sulphide content of about 4%.

Faulting separates this unit from a porphyritic andesite that extends from 80.30 m to 90.60 m. It is light grey to whitish in colour, strongly altered by silica and very fine grained. Pyrite, up to 5%, is the only sulphide noted and it occurs as fine to medium grained blebs or masses.

A faulted interval continues from 90.60 m to 92.40 m and is then followed by overburden to 115.20 m. An altered andesite with no phenocrysts and 1% pyrite extends a short distance to 116.80 m whereby it is followed by overburden to 140.50 m. This interval marks the contact zone between the andesite and granodiorite that persists to the end of the trench at 182.40 m.

The granodiorite is white to grey; medium grained and composed of 50% quartz, 40% plagioclase, 6% K-spar and 4% mafics. Pyrite is irregularly distributed as fine to medium grained disseminations.

Assay results show gold is generally low with only 11 samples having results greater than 100 ppb. Fire assay with AA finish numbers recorded fewer “anomalies” but generally followed the ICP results for gold. With the exception of one sample, all of the gold highs occurred in the andesitic rocks and most particular with those intervals having strong alteration and mineralized with up to 5% disseminated pyrite and weaker arsenopyrite. This zone is close to but not immediately adjacent to the granodiorite which dominates the eastern end of the trench.

There is one As anomaly associated with the Au within a shear at the beginning of an overburden interval. The other gold anomalies have elevated As but an order of magnitude less.

Other elements have broad intervals of elevated values some of which correspond with gold. S and Se are quite specific whereas Pb records higher values in the granodiorite as does Th and La. Each of these elements has a direct correspondence in a segment of the andesite west of the gold interval. The alteration intensity is less and the pyrite concentration is also lower.

Cu is more widespread than Mo but both have low responses within the granodiorite.

10.1.2 Trench ECE TR12-02

This trench is a continuation of the test in ECE TR12-01. It is located 100 m S of the other trench, is 183.59 m in length and trends generally in an E-W direction (Figures 16a and 16b, log in Appendix 5 and assay certificate in Appendix 6).

From the beginning at 0.00 m and extending to 24.70 m the trench is shallow, partially caved and consists of no rock exposures. Float blocks within this interval however are of granodiorite.

Between 24.70 m and 32.20 m is a granodiorite. It has been described as being black and white or having a salt and pepper texture, is medium grained and equigranular. Composed of 40% quartz, 20% feldspar and 40% mafics, it is non-mineralized.

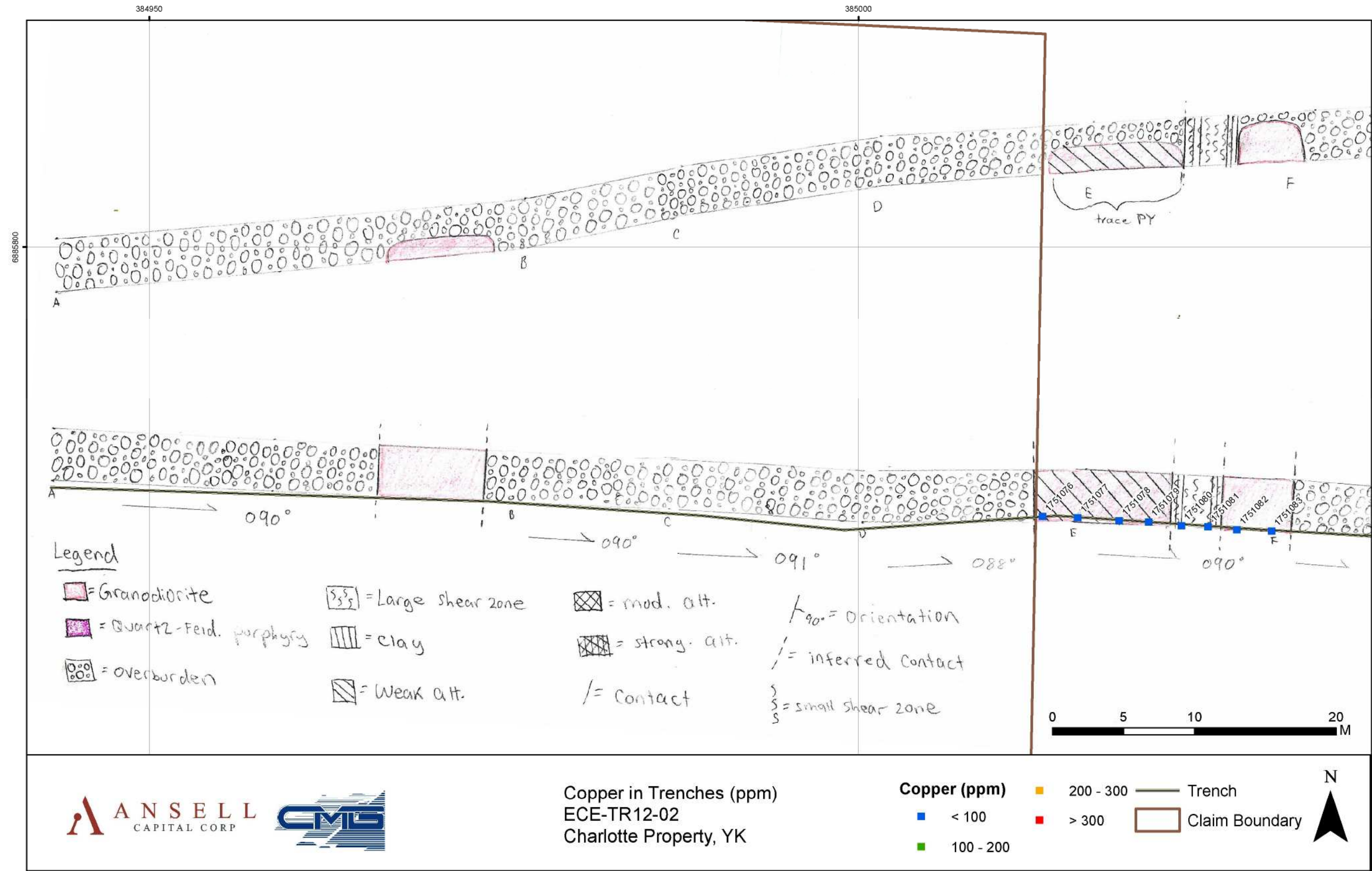


Figure 16a: Trench ECE TR12-02

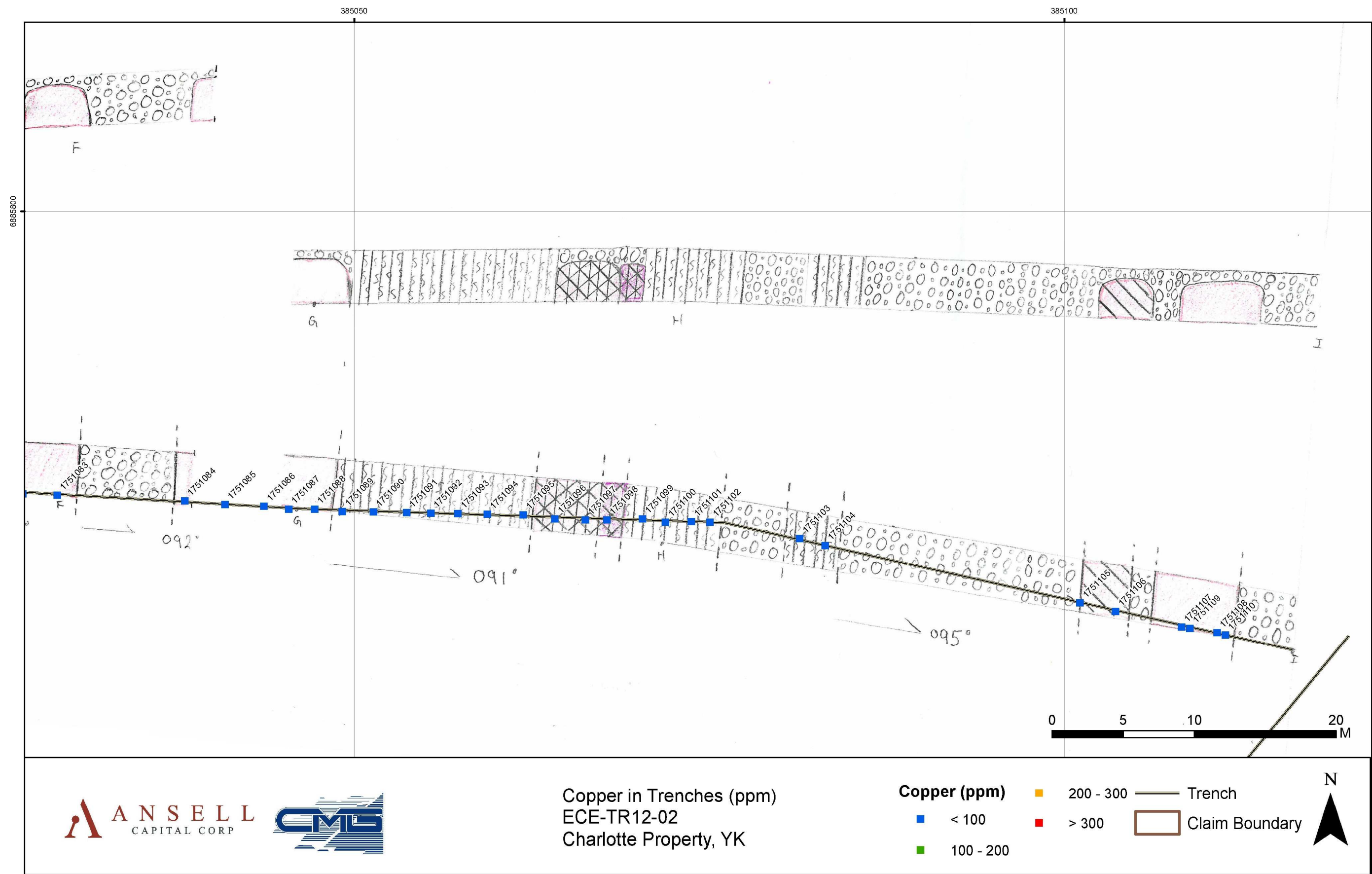


Figure 16b: Trench ECE TR12-02

Overburden with granodiorite float extends from 32.20 m to 72.60 m. Granodiorite, as described above with the exception of containing a trace concentration of fine grained, disseminated pyrite continues to 82.10 m.

A fault zone characterized by granodiorite pebble sized clasts and clay extends to 86.40 m and is followed to 91.20 m by unaltered, salt and pepper granodiorite as occurred between 24.70 m – 32.20 m.

Rusty orange coloured clay/overburden continues to 98.50 m whereby it is followed by unaltered to weakly altered granodiorite to 108.20 m.

Faulting marked by broken pebble-like granodiorite mixed with rusty orange clay varying with red-brown and tan-gold clay occurs from 108.20 m to 122.50 m. Some of the clasts are angular and display white clay altered feldspars.

The mineralogy of the granodiorite changes through this faulted zone to one having 60% quartz, 35% altered feldspars and 5% orange coloured oxidized mafics. This unit extends to 126.70 m whereby it is in contact with a quartz-feldspar porphyry. This is a dyke, it is strongly altered and continues to 128.50 m. It has a light grey colouration, is fine grained, moderately hard, pervasively altered by clay and unmineralized. Contacts are obscure.

Faulting resumes and continues to 135.40 m and is marked by broken rock fragments of granodiorite, gouge and clay. Overburden from 135.40 m to 139.50 m marks a large trench cave and from which faulting continues to 143.90 m.

A large expanse of overburden typified by rusty orange clay extends to 159.90 m and may represent the extension of the above described fault zone. Moderately altered granodiorite continues to 163.90 m followed by overburden to 166.00 m and then unaltered granodiorite.

The trench encounters overburden again from 171.40 m to 177.00 m.

Assay results have shown only low values for both Au and Ag with the best being 84.6 ppb Au and 0.90 ppm Ag (sample 1751091). This is markedly different than trench ECE TR12-01.

A brief analysis of the results shows that the sample interval of 1751091 to 1751106 or in some cases to 1751110 shows a marked trend in element values. This interval corresponds from 112.00 m to 163.90 m or for some elements to 171.40 m or the end of the sampling. Reference to the above lithological description shows this interval to include the faulted zones and those underlain by the quartz-feldspar porphyry dyke and altered granodiorite.

Generally within this interval both Al% and Na% have lower values than the rest of the samples but K% shows an increase. Sc, Ga, Ni, W and Mn also record lower numbers while Se, Mo, Pb and V have elevated results in comparison to the other samples. This can only be attributed to the hydrothermal fluids that resulted in the alteration patterns.

10.2 Trench Results

The trench program, as initially proposed to follow-up Cu-Au soil anomalies, was to be more extensive but due to program changes was curtailed early in the season such that work could focus on the Flex Zone mineralization. A summary of selective results is presented as Table 5. Trenching from 2012 did not yield as promising results as expected, however elevated Au results were still encountered in trench ECE TR12-01. These would be of

Zone	Trench	Sample No.	From	To	Width	Au (ppb)	Cu (ppm)	Mo (ppm)	Ag (ppm)	Lithology
Eliza Creek Extension	ECE-TR12-01	1751013	30.00	32.10	2.10	36.9	218.3	0.6	0.5	andesite
		1751026	46.80	48.10	1.30	68.5	207.3	23.7	0.9	andesite
		1751027	48.10	49.80	1.70	56.8	228.4	1.4	0.7	andesite
		1751028	49.80	50.90	1.10	89.6	203	27.9	0.7	andesite
		1751029	50.9	52.1	1.2	115.0	268.5	43.6	1.3	andesite
		1751040	68.5	70.5	2.0	120.1	166.1	0.7	0.5	andesite
		1751041	70.5	72.5	2.0	289.3	407.7	0.9	2.0	andesite
		1751042	72.5	74.5	2.0	112.2	264.4	0.4	0.7	andesite
		1751045	76.5	77.6	1.1	180.7	130.3	0.6	0.5	andesite
		1751046	77.6	79.0	1.4	106.3	127.1	0.4	0.4	fault
		1751047	79.00	80.30	1.30	62.5	148.1	51.7	0.5	fault
		1751048	80.30	81.90	1.60	71.8	206.6	0.7	0.6	andesite
		1751050	83.3	84.6	1.3	122.2	176.4	1.4	0.8	andesite
		1751055	90.6	91.4	0.8	100.4	257.5	1.3	0.9	fault
		1751056	91.4	92.4	1.0	152.2	267.3	2.7	0.6	fault
		1751058	140.5	142.3	1.8	116.0	69.5	2.3	0.3	granodiorite
		1751067	157.00	160.00	3.00	99.6	200.5	0.8	1.3	granodiorite
		1751071	169.0	172.0	3.0	112.7	69.5	1.1	0.3	granodiorite

Table 5: Trench Assay Results

interest due to the historic gold results on Tit Mountain and further south at Eliza Creek. Whether there is any genetic relationship, however, is conjectural at this time.

11.0 Reclamation work

There were two portions to the reclamation work during the 2012 field season (Figures 17 and 18). The first was the reclamation of trenches and drill pads created and left unclaimed during both the 2011 and 2012 field seasons. The second was a small amount of reclamation of old Aurchem workings from the 1990's and early 2000's. All reclamation involved loosening, leveling and contouring the disturbed areas. In addition, the original vegetation that had been set aside during excavation was replaced on top of the area. Some claims were dropped and returned to the owner between the 2011 and 2012 field seasons which cut one trench in half. Both trenches were completely reclaimed upon mapping, even the portion that was no longer part of the current claim block.

The trenches are located in the ECE area and involved backfilling both the historic trenches as well as the 2012 excavations. This work was almost completed but was cut short due to program changes. The total area reclaimed is 4929 m². Figures 17 and 18 are pictures of reclaimed trenches ECE-TR12-01 and 02. Table 4 outlines the 2012 trench statistics while Table 6 are two partially excavated trenches that will be finished in 2013. Table 7 is a list of disturbed areas for drilling in the Flex Zone area while Table 8 is a reclamation summary for 2012.

Table 6: Trenches Stripped of Overburden

Trench	Total Length (m)	Claim	Length in Claim (m)	Grant Number
PHY-TR-12-01	238.5	DOME 65	130.3	77786
		DOME 66	108.2	77787
PHY-TR-12-02	145.0	DOME 63	145.0	77784



Figure 17: Reclaimed trench ECE TR12-01



Figure 18: Reclaimed trench ECE TR12-02

Table 7: Cleared Areas due to 2012 Drilling

Hole	Disturbed Area (m ²)	Claim
DDH-12-275	832	Dome 2
DDH-12-276	434	Dome 1
DDH-12-277	376	Dome 6
DDH-12-278/279	1174	Dome 6
DDH-12-280	87	Dome 2

Table 8: Summary of Reclamation since 2010

Reclamation Summary				
Year	Drilling	Trenching	Historical	Total(m ²)
2010	96	5,180.80	20,000.00	25,276.80
2011	2,609.50	1,438.00	2,781.00	6,828.50
2012	2,903.00	718.8	4,929.00	8,550.80
Total(m ²)	5,608.50	7,337.60	27,710.00	40,656.10

12.0 Conclusions

1. The multi-veined Flex Zone continues to the south of historical drill holes by at least 50 m.
2. There are 3 mineralized subzones or pods in the Flex Zone trending in a NW-SE direction and dipping steeply to the SW. Each zone contains 3-5 individual braided veins that are strongly structurally controlled and are comprised of pyrite and arsenopyrite, with variable amounts of sphalerite, galena and stibnite and possibly pyargite and bournite.
3. The relationship between the southern extension of the Flex Zone and the Huestis Zone is unknown.
4. The relationship of the Flex Zone and the Webber Zone to the west is also unknown.
5. The Flex Zone remains open to depth, down plunge and along strike both to the north and south.
6. DDH-12-275 tested possible host rocks at shallow depth between the Flex and Webber Zones but no new zones or veins were discovered.
7. DDH-12-276 and DDH-12-279 tested successfully the down plunge extension of the north pod mineralization.
8. Drilling clearly shows that the Flex Zone veining and mineralized zones continue to depth and retain their grade tenor and widths.
9. There is a SSE trending and westerly dipping fault on the western side of the deposit that separates the Webber from the Flex Zones.

10. There are numerous ENE trending, south dipping faults throughout the Flex Zone that are responsible for dividing up the deposit into 3 pods as well as creating a series of dropped down blocks.
11. The trenches in the Eliza Creek Extension area, were located within the phyllic zone of alteration and did not contain economic mineralization.
12. Trench results did not accurately represent the soil geochemistry and may be due to variations in the historical soil geochemical data.
13. The geophysical and geochemical trends in the Eliza Creek Extension region suggest that the mineralization is further to the east and to the north within the core of the porphyritic intrusion.
14. The geophysical and geochemical trends in the region suggest that the mineralization is further to the east and to a lesser degree, to the north in the centre of the porphyry.

13.0 Recommendations

1. Compilation of all data should be ongoing.
2. The historical work on both the Webber and Huestis Zones shows that there is potential to expand these deposits. Several drill holes should be collared on these deposits.
3. A detailed structural investigation into the regional deposits and structural history should be undertaken.
4. Diamond drilling in the Flex Zone should continue and be concentrated on a regular grid pattern to outline the plunge/depth continuity of the various veins/mineralized pods such that a new resource calculation can be completed.
5. Selective sampling of the drill holes has left some gaps in the dataset so it is recommended that additional sampling be undertaken.
6. All sample pulps from the 2012 drilling should be re-run with multi-element ICP such that alteration and mineral association patterns can be established and be correlated with past sampling.
7. A limited whole rock geochemical study should be undertaken to expand upon and extend the ICP dataset to characterize the mineralizing systems.
8. Drilling between the middle and southern pods, namely west of DDH-98-238.
9. Follow up and expand upon surface mapping results from 2010 and 2011.
10. Due to the possible variation in the analytical methods for the historical soil sampling, a statistical levelling of the data should be performed prior to performing any additional backhoe trenching or drilling. Ground checks should also be completed.
11. Continued construction of longitudinal sections for each zone with pierce points and labeled tagged zones.
12. Construction of grade x thickness plots from the longitudinal sections and contouring of data.

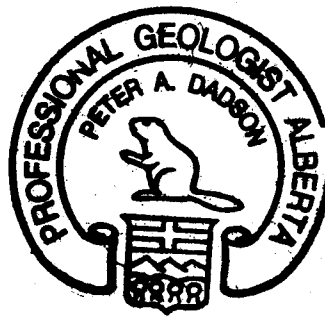
14.0 Expenditures

The 2012 exploration program which included diamond drilling, excavator trenching and trench/drill pad reclamation had a total expenditure of \$1,016,759.12. Appendix 2 presents a detailed list of expenditures.

Respectfully submitted,



Peter Dadson B.Sc, P.Geol.



Nicola Struyk B.Sc., P.Geo.



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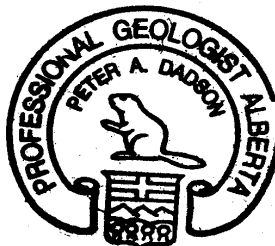
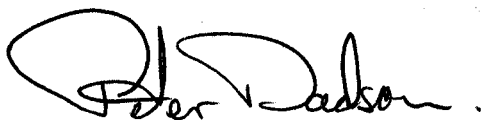
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16.0 Certificates of Authors

I, Peter Dadson, of 52 Hirtle's Beach Road, Kingsburg, Nova Scotia, hereby certify that:

1. I am a graduate of Carleton University, Ottawa (1974) with a Bachelor of Science degree in geology.
2. I am a self-employed geologist retained by Coast Mountain Geological Ltd. of 620-650 West Georgia Street, Vancouver, British Columbia.
3. I have been working in the profession since 1974 in Canada, the United States of America, Albania and West Africa.
4. I am a member in good standing in the following professional associations:
 - a) Association of Professional Engineers and Geoscientists of Alberta (Member No. M63980)
 - b) Society of Economic Geologists
 - c) Society for Geology Applied to Mineral Deposits
5. I have read the definitions of "Qualified Person" set out in 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.
6. I am the co-author for the preparation of the report titled "Assessment Report on the 2012 Trenching and Diamond Drill Program, Charlotte Property, Whitehorse Mining District, Yukon Territory" dated November 1, 2012 utilizing my experience as project manager of the 2012 exploration program.
7. I was on-site numerous times during the program.
8. To the best of my knowledge, information and belief, this report contains all the scientific and technical information that is required to be disclosed to make this report not misleading.
9. I have had no direct involvement with Ansell Capital Corp. other than in the role of consultant through Coast Mountain Geological Limited.



Peter Dadson, B.Sc., P.Geol.

Nicola M. Struyk
Exploration Geologist
Coast Mountain Geological Limited
620-650 West Georgia Street, Vancouver, BC, V6B 4N9
Ph (604) 681-0209
Email: nstruyk@coastmountaingeo.com

I, Nicola M. Struyk, B.Sc., of Vancouver, BC do hereby certify that:

1. I graduated with a B.Sc. (Honours) degree in Earth and Ocean Sciences and Geography from the University of Victoria in 2005.
2. I have practiced my profession for 7 years. This experience includes primarily precious and base metal exploration in Yukon Territory, British Columbia, Alaska and Sweden.
3. I am the junior author and am, in part, responsible for the preparation of the technical report titled "Assessment Report on the 2012 Trenching and Diamond Drill Program, Charlotte Property, Whitehorse Mining District, Yukon Territory", and dated November 1, 2012 (the "Assessment Report") relating to the Charlotte Property.
4. I am currently under the employ of Coast Mountain Geological Ltd.
5. I am a member in good standing with the following professional associations:
 - a) Association of Professional Engineers and Geoscientists of British Columbia (Member No. 376002)
 - b) Society of Economic Geologists
6. I was the onsite Project Geologist of the project from May to June and August 2012 and was present for the mob and demob of the camp site.

Dated at Vancouver, BC

Respectfully submitted,



Nicola M. Struyk, B.Sc., P.Geo.

APPENDIX 1

Personnel

Personnel

P. Dadson Project Manager	Kingsburg, Nova Scotia	May 31 to July 4, 2012
N. Struyk Senior Project Geologist	Vancouver, BC	May 31 to June 17 August 9 to August 23, 2012
J. Page Senior Project Geologist	Kelowna, BC	June 14 to July 19, 2012
M. Pickering Safety Supervisor	Rossland, BC	May 27 to June 6, 2012
K. Graber Camp Manager	Surrey, BC	May 27 to June 10 June 20 to July 16 August 10 to August 26, 2012
M. Dean Camp Manager	Christina Lake, BC	May 27 to June 23 August 20 to August 26, 2012
S. Dowler Junior Geologist	Victoria, BC	June 8 to July 16, 2012
R. Dubman Junior Geotech	Burnaby, BC	June 8 to July 16 August 11 to August 26, 2012
G. Sotiropoulos Senior Tech, First Aid	Vancouver, BC	May 27 to June 28 July 10 to July 15 August 10 to August 16, 2012
S. Silverfox Cook	Carmacks, YK	June 7 to June 21 July 5 to July 15 August 10 to August 16, 2012
L. Martel Cook, First Aid	Whitehorse, YK	May 31 to June 7 June 21 to July 5 August 16 to August 24, 2012
L. Kratschat Junior Geologist	Victoria, BC	July 3 to July 18 August 13 to August 26, 2012
J. Lewis Senior Tech, First Aid	Whiterock, BC	June 27 to July 12, 2012
T. Denbigh Labourer	Surrey, BC	May 27 to June 2 June 5 to June 11 August 20 to August 26, 2012
M. Turner Senior Geotech	Vancouver, BC	May 27 to June 11 June 16 2012

A. Breese Junior Geotech	West Vancouver, BC	May 27 to June 23, 2012
R. Sharan Junior Geotech	West Vancouver, BC	June 2 to July 2, 2012
B. Singha Junior Geotech	West Vancouver, BC	June 2 to June 28, 2012

APPENDIX 2
Statement of Expenditures

LIST OF EXPENDITURES*		
Categories	Cost	Totals
Mobilization/Demobilization		\$71,248.73
Personnel	\$38,350.00	
Container Mob	\$7,000.00	
Supplies for Mob/Demob	\$7,865.35	
Travel	\$14,622.48	
Accommodation	\$3,410.90	
Vehicles and Expenses		\$33,600.00
CMG Truck Rental	\$19,200.00	
Emergency Transport Vehicle	\$11,200.00	
Flat Bed trailer	\$3,200.00	
Camp Operations		\$221,372.86
Camp Running Costs	\$49,791.67	
Food	\$28,324.23	
Fuel	\$74,339.02	
Expediter	\$17,554.18	
Supplies	\$34,413.76	
Communication	\$7,040.00	
Field Gear rental	\$9,910.00	
Geology		\$645,687.75
Personnel	\$221,456.25	
Trenching and Assays	\$12,835.00	
Drilling and Assays	\$386,466.50	
Reclamation	\$24,930.00	
Office Studies		\$44,849.78
Pre-Season Planning and Prep	\$29,631.44	
Post season Compilation and Reporting	\$15,218.34	
PROJECT TOTAL		\$1,016,759.12

*Note that setup and tear down time and supplies were shared by Great Bear Resources. This is taken into account in the table above.

APPENDIX 3
Diamond Drill Logs

Property: Charlotte
Area: Flex
Client: Ansell Capital Corp.

Hole Id: **DDH-12-275**
Logged By: Scott Dowler
Date Logged: June 15, 2012 - June 25, 2012



Collar Location:			
Actual:			
Datum:	<u>NAD83, Zone 8</u>		
Easting:	<u>386523</u>	Azimuth:	<u>075 °</u>
Northing:	<u>6881903</u>	Dip:	<u>-56 °</u>
Elevation:	<u>1335</u>	Length:	<u>343.51m</u>
Proposed:			
Easting:	<u>0386519</u>	Azimuth:	<u>075 °</u>
Northing:	<u>6881903</u>	Dip:	<u>-55 °</u>
Elevation:	<u>1330</u>	Length:	<u>500m</u>

Survey Type: Ranger Single Shot			
Distance	Azi	Dip	Accept
29.57	075.3	-55.6	
84.43	075.9	-55.7	
130.15	076.2	-56.0	
178.92	076.5	-56.3	
233.78	077.3	-56.8	
279.50	078.8	-56.3	
334.37	081.6	-55.2	
343.51	080.7	-55.0	

Drilling Information:	
Contractor:	<u>DJ Drilling</u>
Core Diameter:	<u>HQ</u>
Start Date:	<u>15-Jun-2012</u>
End Date:	<u>24-Jun-2012</u>
Casing In:	<u>15-Jun-2012</u>
Casing Capped:	<u>24-Jun-2012</u>
Units:	<u>Metric</u>

Hole Objective:
-Test the northern pod of the Flex Zone
-Test the area between the Webber and Flex zones

Lithology Summary			
From	To	Lith	Comment
0.00	15.24	CASING	
15.24	117.96	Mafic Gneiss	
117.96	142.17	Feldspar Porphyry	
142.17	148.94	Granodiorite	
148.94	174.45	Diorite	
174.45	191.80	Mafic Gneiss	
191.80	343.51	QFP	

DDH-12-275 was drilled to test the deep intersection of the northern pod of the Flex Zone and to test the area between the Webber and Flex Zones for prospective mineralization.

From 15.24 to 117.96m is a highly fractured and sheared interval of mafic gneiss. Intermittent and patchy alteration varies from unaltered to moderately clay altered to strongly silicified over >1m wide intervals. Near the lower contact of the mafic gneiss silicification becomes intense and much more frequent. Sampling begins at that point and continues almost uninterrupted past the last minor ore zone. Following the mafic gneiss is an interval of Feldspar Porphyry (approx 25m wide) that contains localized zones of lenticular pyrite blebs. Below the feldspar porphyry are two fault bounded, intermediate composition lithologies interpreted to be Granodiorite and Diorite respectively and are intermittently clay and silica altered. Next in the log, comes a small zone of Mafic Gneiss and following that from 191.8 to 343.51m (EOH) is the Quartz Feldspar Porphyry (QFP). The top of the QFP has feldspar phenocrysts altered to clays and has patchy potassic alteration. There are still a lot of rubbly, fault-like zones at the top of this lithology. Below that the QFP is relatively unaltered except for occasional sericitic and silicified zones, until reaching the sulphide rich vein from 292.59m to 292.88m where proximal silicification and sericitic alteration are dominant. Below 292.88 to 302.9m there are occasional sulphide rich stringers/veinlets that gradually wane down hole. From 302.9m to the end of the hole the QFP is relatively unaltered.

It has been interpreted that the large amount of faulting in this hole is due to a large shear zone between the Weber and Flex zones, oriented in approximately a NE-SW direction. The lack of economic mineralization in this hole is hypothesized to be due to undercutting the zone, meaning DDH-12-275 has cut through a distal environment of the prospective vein system. This is shown by the few sulphide rich stringers and veins as well as patchy, strong alteration. The feldspar porphyry is believed to be genetically related to the QFP and the Granodiorite and Diorite are believed to be later intrusive events. Evidence for this is the relative lack of alteration and the fault bounded contacts.

Charlotte Project
DDH-12-275 Detailed Log

Hole Id: DDH-12-275
Logged By: S. Dowler

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
0.00	15.24			CAS		CASING																									
15.24	38.30			MGn	Mafic Qtz-Feld-Amph Gneiss	Core is very blocky and broken-up over the first 5m of the hole. Cleavage and fracture planes have undergone moderate limonite alteration and have abundant MnO staining. Qtz-feld-amph Gn is medium grey, fg, and strongly foliated. Foliation varies from 50-60 degrees to CA. Weak chloritization scattered along mafic grain boundaries. Trace vfg disseminated sulphides- py. Alteration is patchy with some areas silicified, others clay altered. 1-2% qtz veining over the interval. A few minor faults.	tr						disseminated	medium grey																	patchy
		16.41	16.58	MGn		Weakly foliated mafic gneiss containing 10% amph, 40% feld, 40% qtz, many limonite weathered crystals, stringers of chlorite? (pale green, v. soft, vfg; in fractures)																									
		17.75	17.78	Vn		Discordant, white quartz veinlet containing boxwork, oxidized relict py? 60 degrees to CA.																									
		18.06	18.09	Vn		White, brown, grey quartz veinlet containing trace vfg py on vein margin. 80 degrees to CA.	tr						rare																		
		20.70		FZ		Small micro shear with abundant gouge at 70 degrees to CA.																									
		22.02	23.62	MGn		Gradational upper and lower contact, pervasive quartz flooding. Sil? Alb? At 23m foliation at 55 deg to CA. Limonite weathering along foliations, trace chlorite? Alteration also along foliations. At 22.5 is a 0.03m wide grey clay. From 23.04-23.5 is a fault characterized by blocky, rubbly, ground-up core.								light grey	3						3				1			3		pervasive	
		25.30	26.62	MGn		Bleached gneiss, light grey, fine grained, altered to grey clay minerals (INTERP: feld altering to clays, qtz just being dislodged when scratched). Few qtz stringers within altered zone. Upper contact is gradational over a 5cm wide zone. Lower contact with fault. Foliation unchanged.								light grey															4	pervasive	
		25.50	25.65	vn		Fractured, grey, 2cm wide quartz vein void of mineralization at 60 degrees to CA crosscut by 2cm wide brecciated quartz vein containing sub-cm sized angular quartz and host rock clasts. Brecciated vein at 45 deg to CA. Matrix weathered to FeOx.																									
		25.70		vn		2cm wide, dead, grey quartz vein showing right lateral displacement of 1.5cm along an orientation of 165 deg to CA .																									
		26.62	31.57	FZ		Entire zone characterized by blocky, rubbly, ground up core and gouge with few zones of competent core (10-20cm chunks). Competent core at 28.29-28.81m with weak foliation of 65 deg to CA at 28.6m. Cleavage/ fracture planes have undergone abundant limonite alteration. One 3cm wide bull quartz vein at 30.1m oriented at 75 deg to CA followed by extremely rubbly core. Sharp upper contact at 60 deg to CA and sharp lower contact at 75 deg to CA.							medium grey							3										fracture planes and gouge	
		33.02	33.30	FZ		Upper contact of fault consists of gouge followed by consolidated gouge and rubble with MnO staining on fracture planes. Upper contact is sharp at 75 deg to CA.																									
		34.83	34.91	FZ		Small micro shear with abundant gouge at 50 degrees to CA.																									
		35.00		MGn		Foliation @ 60 deg to CA.																									
		36.15	37.30	MGn		Strongly silicified zone of gneiss with a number of zones of quartz flooding and four small quartz veinlets. Upper contact is gradational over a length of 20cm.								light grey	4															pervasive	
		36.22		vn		1cm wide, vuggy qtz stringers with epidote crystals in vugs.																						4		crystals in vugs	
		36.33	36.80	MGn		Quartz flooded host rock with remnant foliation and chlorite in blebs throughout (~5%). Contacts irregular. Limonite in micro-fractures.								white	5															pervasive	
		37.09	37.20	MGn		Quartz flooded host rock with remnant foliation and crystals of host rock (ghosted). Chlorite alteration in blebs throughout (~10%). Contacts sharp at 40 deg to CA. Limonite in micro-fractures. Bottom of unit is a 1cm wide bull, white, fractured quartz vein.								white	5										3					pervasive	
38.30	71.35			FZ	Fault Zone with Mafic Gneiss	Large fault zone characterized by abundant rubbly, blocky core and zones of completely pulverized rock/ gouge and clay. Few zones of competent mafic gneiss (30-70cm wide). A large amount of limonite alteration. Trace veining. No contact within fault zone. Foliation at 45m: 60 deg to CA, at 58m: 50 deg to CA.								medium grey	4														4		patchy, localized zones
		42.95	43.83	MGn		White, speckled, highly silicified, quartz flooded zone of relatively competent rock within the fault. No distinct veinlets. Gradational contacts. Bottom 25cm is almost all an off-white colour, fg, no mineralization --> intense sil?. Limonite alteration is v. common throughout.								speckled S+P to off-white	5						4								5		pervasive
		44.90	45.20	MGn		Weakly clay altered gneiss with moderate limonite weathering, blocky core.								medium grey							3									3	
		45.42	46.25	MGn		Off-white, fg, v. hard rock. Intensely sil? Alb? blocky core. Limonite in fractures and on cleavage surfaces. Trace fg disseminated py. Weak foliation at 55 deg to CA.	tr						disseminated	off-white	5														5		pervasive
		48.35	51.40	MGn		See description for 38.3-71.35m. Zone of moderately competent rock .																									
		53.20	53.34	BX		Broken up, fractured , white quartz, 70% clast, 30% matrix; matrix is replaced almost completely by pyrite (25% of interval). Clasts are angular and range from sub cm to cm size. Limonite alteration along grain margins. Upper contact is irregular and at approx. 40 deg to CA. Possible fining up hole sequence of clasts.	0.25						matrix replacement																		
		54.05	57.00	MGn		White to orange coloured rock with abundant randomly oriented micro-fractures containing limonite and MnO. Hard, moderate sil? Alb? Weak foliation at 40 deg to CA. Bottom of unit is weakly-moderately clay altered.								white to orange	3														3	3	
		62.80	63.30	MGn		Off-white to orange weakly clay altered zone. A few angular quartz and host rock fragments within. Limonite alteration is sporadic, along fractures and altered mafics? Calcareous clays present.								white to orange															2		pervasive
		63.48	63.90	MGn		Pale grey-green rock consisting of quartz-feld, fine grained, equigranular--> chloritized and silicified? Three mm scale quartz stringers in this interval with brown proximal alteration envelopes (limonite). This interval is moderately hard (softer than unaltered mafic gneiss). Fine grained, brassy py in blebs throughout (20%), trace red brown sphal?? in contact with py near upper contact.	20				tr		blebby	pale grey green	3						3				3						gradational away from stringers
		68.88	69.78	MGn		See description for 38.3-71.35m. Zone of moderately competent rock.																									
71.35	88.72			MGn	Mafic gneiss	Core is blocky. Cleavage and fracture planes have undergone weak limonite alteration. qtz-feld-amph-bio Gn is dark grey, fg and weakly to moderately foliated. foliation varies from 55-70 degrees to CA. Some concentrated, conformable, 1-10cm wide felsic bands (qtz, feld) randomly throughout. Trace vfg disseminated sulphides- py-tr pyrrhotite (po). Alteration is patchy with some areas silicified, others clay altered. Tr qtz veining over the interval. A few minor faults. At 71m fol. is 55 deg to CA, at 81m fol is 60 deg to CA.	tr						disseminated, pyrrhotite (one 0.5cm blotch)	dark grey											2					patchy	
		73.12		MGn		Parasitic/ drag fold with a fold axis of 0 deg to CA.																									

Charlotte Project
DDH-12-275 Detailed Log

Hole Id: DDH-12-275
Logged By: S. Dowler

Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact			
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
0.00	15.24																							
15.24	38.30			50-60			50-70	moderate		1-2		qtz									overburden	n/a		
		16.41	16.58																					
		17.75	17.78						60	100	2	qtz												
		18.06	18.09						80	100	3	qtz	py											
		20.70			70	5																		
		22.02	23.62	55	55	4															gradational		gradational	
		25.30	26.62																		gradational	55	sharp	
		25.50	25.65						60, 145	50	0.02	qtz, breccia		qtz, host rock	50	angular	weathered to FeOx	50	3					
		25.70					165	2	60	100	0.02	qtz												
		26.62	31.57	65		4				tr										60	sharp, gouge	75	sharp, gouge	
		33.02	33.30			4														75	sharp, gouge			
		34.83	34.91		50	4														50	sharp, gouge	50	sharp, gouge	
		35.00																						
		36.15	37.30							4-5	.01-.02	qtz	chlorite, epidote,								gradational		gradational	
		36.22																						
		36.33	36.80							10	2 X 0.02m	qtz	chlorite											
		37.09	37.20						40	5	0.01	qtz	chlorite							40	sharp	40	sharp	
38.30	71.35			50-60			0-180	intense		tr										n/a	sharp			
		42.95	43.83																		gradational		gradational	
		44.90	45.20																					
		45.42	46.25	55																				
		48.35	51.40																					
		53.20	53.34							1		qtz	py	qtz	70	angular	py + host rock	30	4	40	irregular		fault	
		54.05	57.00	40			0-180	3													gradational		gradational	
		62.80	63.30																					
		63.48	63.90						120 and 150	3	0.005	qtz	py											
		68.88	69.78																					
71.35	88.72			55-70						tr										55	fault			
		73.12																						

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
		75.68		MGn		Magnetic, d. brown metallic mineral in small blotch within chloritized quartz veinlet --> pyrrhotite.																								
		77.79	81.18	FZ		Blocky, rubbly broken-up core with gouge and clay.																								
		81.18	81.75	MGn		Pale green to grey calcareous alteration zone with remnant foliation, weak clay alteration as rock is relatively soft. Some chloritization near margins of gradational contacts. Trace py along foliation.	tr					foliations	pale green to grey					3							2					
		82.65	84.70	MGn		Randomly oriented, white carbonate stringers with brown-red hematite, tr specular hematite and blebs of pyrite, possibly some sphalerite in a 4mm wide veinlet oriented at 45 deg to CA. These veinlets are within a weakly carbonate altered zone. Moderate limonite alteration on cleavage and fracture surfaces.																								
		83.41	85.66	FZ		Blocky, rubbly broken-up core with gouge and clay.																								
		86.15	87.14	MGn		Off-white to grey, fg v .hard rock. Intensely sil? Alb? blocky core. Weak limonite in fractures and on cleavage surfaces. trace fg disseminated py. Weak foliation at 55 deg to CA. Consolidated, chloritized clay from 86.7 to 86.85m- small fault.							off-white to grey	5											2					pervasive
		87.00		VN		5cm wide grey to white quartz vein with 1mm wide hematite filled micro-fractures.																								
		87.88		vn		Irregular shaped qtz vein with pyrite blotches and trace chlorite.																								
88.72	101.60			FZ	Fault Zone with Mafic Gneiss	Large fault zone characterized by abundant rubbly, blocky core and rare zones of gouge and clay. Few zones of competent mafic gneiss. Cleavage and fracture planes have undergone weak limonite alteration. qtz-feld-amph-bio Gn is dark grey, fg and weakly to moderately foliated. Foliation varies from 50-60 degrees to CA. Biotite appears to be the largest portion of mafics. Trace disseminated py in contact with biotite grains. Trace magnetite. Scattered zones of silicified host rock and clay altered rock. Weak chloritization of mafics.	tr					disseminated	medium grey	3											1				3	patchy
		90.00		MGn		Foliation at 50 deg to CA.																								
		93.17	94.08	MGn	sil	Zone of moderately to strongly silicified mafic gneiss that has had quartz flooding and contains abundant stringer veinlets (0.02-2cm wide). Two generations of white qtz veining as can be seen by cross-cutting relationships. Minor d. red hematite. 1st gen of veinlets at ~150 deg to CA, 2nd gen of veinlets at 80-90 deg to CA. Contacts unknown dude to blocky core.							medium grey	3-4																pervasive
		94.26	95.72	MGn	carb, clay, lim alt	Light grey rock with rusty orange brown splotches. Hardness is medium, suggesting weak clay alteration and there is also weak effervescence due to minor carbonate flooding. The brown splotches are caused by weak limonitic alteration in patches. There are mm sized, low angle (almost CA parallel) qtz-carb veinlets scattered throughout that react vigorously with HCl. Contacts are gradational.							light grey with patchy rusty brown				2			3								2	pervasive	
		96.00		MGn		Foliation at 60 deg to CA.																								
		96.87	99.21	MGn		Zone of moderately competent rock. See 88.72-101.6m for rock description.																								
101.60	108.22			MGn	Mafic Feld, Qtz, Amph, Bio Gneiss	Core is blocky. Cleavage and fracture planes have undergone weak limonite alteration. qtz-feld-amph-bio Gn is medium grey, fg and weakly to moderately foliated. foliation varies from 55-70 degrees to CA. Tr fg disseminated py. Trace chlorite alt. of mafics. A large portion of this zone is moderately to strongly silicified. limonite alteration on fractures. Trace veining.	tr					disseminated	medium grey								2					1				fractures -lim patchy- chl
		101.60	103.37	MGn	sil	Light grey rock that has undergone quartz flooding. Chlorite alteration increases slightly in this interval.							light grey	4												3				pervasive
		104.00		MGn		Foliation at 55 deg to CA.																								
		107.00	108.22	MGn	sil	Light greyish pale green rock that has undergone quartz flooding. Chlorite alteration is moderate, discontinuous quartz blebs in localized zones with clusters of fg py and rare fg Po? (weak magnetism). Contacts are gradational.	tr					clusters	light grey - pale green	4												3				pervasive- sil patchy- chl
108.22	117.96			FZ	Fault Zone with Mafic Gneiss	Fault zone characterized by very broken-up core and highly altered (sil, clay) zones as well as limonitic alteration (4). colour varies from off white to rusty orange brown. Weak fabric remains in some spots-- MGn. Very little competent rock and poor recovery. Vuggy, no sulphides.							off white to rusty orange brown																	
		108.22	111.86	MGn	sil	Off-white to light brown orange, v hard, intensely silicified rock with no fabric observed. Elongate, white quartz lenses and discontinuous veinlets of sub-cm width and variable length (~2-8cm). Light brown orange colour caused by weak limonitic alteration.							off white	5							2									pervasive
		114.00	117.35	MGn	clay, lim alt	Rusty orange brown, vuggy with faint, weak foliation in spots (at 60 deg to CA). Mod hardness to soft. No sulphides.							rusty orange brown							4								3		
117.96	142.17			FP	Feldspar Porphyry	Upper contact is irregular with the preceding, large fault. there is abundant limonite alteration proximal to the contact. Additionally there is a ~1m section of highly altered mafic gneiss (INTERP: interfingering contact with the porphyry--> very irregular). the lower contact is also within a fault. the QFP is an off white - light grey colour with an phaneritic matrix (feld?? + qtz??). feld phenos are 1-5mm, whereas qtz is remnant in the matrix. phenos account for 30% of the rock material. The host rock is moderately clay altered and there are a few zones of silicification. trace py in lenticular blebs, generally surrounded by d grey finer grained (become more common down hole).	tr					lenticular blebs	off white - l grey	4												3			3	
		118.26	119.00	MGn	Mafic Gneiss	Part of the interfingered irregular contact with the qtz feld porphyry. It is d brown, fg, vuggy with quartz and feld crystals. Mafics appear to be altered to clays. Weak ghosted foliation? Upper contact is irregular and averaged to be at 20 deg to CA. Lower contact is marked by a minor (4mm wide), white quartz veinlet with an irregular orientation.							dark brown															2	pervasive	
		120.97	121.40	FP		L brown, mod clay alt., some phenos altered to chlorite, trace fg py.	tr					disseminated	light brown															2	pervasive	
		123.12	123.60	FP		Strong, patchy chlorite alteration- light grey-green, soft. Trace fg disseminated py.	tr					disseminated	light greyish green												4				patchy	
		124.80	125.50	FP		3-5% lenticular py blebs, weak alignment at 60 deg to CA.	3-5					lenticular blebs																		
		126.07	126.47	FP		Strongly silicified, few mm wide quartz stringers along fracture planes, ghosted phenos.	tr					lenticular blebs	off white to grey	5																pervasive
		128.48	128.93	Bx	Quartz Crackle Breccia	Tan coloured crackle breccia with 1-5mm wide, angular quartz clasts and carbonate replacement of the matrix. Irregular contacts. No sulphide.							tan					5											matrix repl	
		129.39	130.63	FP		Intense, pervasive silicification causing porphyritic texture to be ghosted. Lenticular py blebs (0.5-2cm long by 0.1-0.5mm wide) surrounded by d. Grey oxide and oriented at 20 to 40 deg to CA.	2-3					lenticular blebs	off white to grey	5																pervasive
		130.00		FP		Cleavage at 45 deg to CA.																								
		130.63	133.00	FP		Limonite alteration becomes pervasive throughout the rock, otherwise same as 117.96-142.17m.															4									pervasive
		132.02	132.90	FZ		Blocky, rubbly core with clay and gouge along fracture planes.																								

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact			
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
		75.68																						
		77.79	81.18																					
		81.18	81.75																					
		82.65	84.70																					
		83.41	85.66		n/a	2																		
		86.15	87.14																					
		87.00							90	100	0.05	qtz	hem											
		87.88							random	100	0.02	qtz	py, chl											
88.72	101.60			50-60						1	variable	qtz	hem							80	n/a	n/a	broken, randomly oriented rock	
		90.00		50																				
		93.17	94.08						150, 80-90	30	mm scale to 2cm	qtz	tr hem											
		94.26	95.72						0	2	mm sized	carb									gradational		gradational	
		96.00		60																				
		96.87	99.21																					
101.60	108.22			60						tr														
		101.60	103.37																					
		104.00		55																				
		107.00	108.22						lense	tr	mm	qtz	py, po									gradational		gradational
108.22	117.96				n/a	5				1														
		108.22	111.86							2-4	mm's	qtz												
		114.00	117.35	60																				
117.96	142.17									tr												irregular, faulted		within a fault
		118.26	119.00																		20	irregular		
		120.97	121.40																					
		123.12	123.60																					
		124.80	125.50																					
		126.07	126.47																					
		128.48	128.93											qtz	50	angular	carbonate / clay	50	1			irregular		irregular
		129.39	130.63	20, 40 py lenses																		gradational over 2 cm		gradational
		130.00																						
		130.63	133.00																					
		132.02	132.90		n/a	1																		

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
		134.95	135.50	FP		Intense, pervasive silicification causing porphyritic texture to be ghosted. Trace lenticular py blebs.	tr						lenticular py blebs	off white to grey	4															pervasive	
		135.10		FP		Cleavage at 60 deg to CA.																									
		135.87	137.72	FP		Intense, pervasive silicification causing porphyritic texture to be ghosted. Trace lenticular py blebs.	tr						lenticular py blebs	off white to grey	4															pervasive	
		135.95		FP		Cleavage at 45 deg to CA.																									
		137.78	145.06	FZ	faulted contact	Very blocky, rubbly core containing feldspar porphyry fragments and grading into granodiorite fragments. Trace lenticular py blebs throughout. Limonite alteration is patchy within rock and pervasive along cleavage and fracture planes. Some MnO staining on cleavage/ fractures. some fragments have been strongly silicified. Contacts are irregular.	tr						lenticular py blebs	off white to grey	5						3									pervasive- sil, pathy + cleavage surfaces- lim	
142.17	148.94			GD	Amphibole Granodiorite	Faulted upper contact (see above). Fine to medium grained, salt and pepper appearance, equigranular to v. weakly porphyritic. 50% amph, 20 qtz, 20 feld, 10 chl. Chloritization is weak and found throughout the entire unit. Some sections are carbonaceous. Limonite alteration is common on all cleavage and fracture planes and pervasive in localized sections of rock. Sulphide proximal to veinlets, trace veining of sub-cm scale. lower contact at 45 deg to CA .	tr						veinlet proximal, scattered	salt and pepper					3						4			1		subtle- chl pervasive- carb	
		145.06	146.32	GD	carb	Strongly, pervasive carbonate alteration, equigranular texture still in tact. trace pyrite proximal to in filled fractures of tan coloured clay oriented at 80-110 deg to CA.	tr						localized	l grey					4										2	pervasive- carb fracture infilled- clay	
		147.00	148.00	FZ		Fault zone with gravel, a 20cm wide section of carbonate altered GD and abundant fragments of unaltered GD. Lower contact at 90 deg to CA.								salt and pepper																	
		148.00	148.94	GD	carb	Strongly, pervasive carbonate alteration, equigranular texture still in tact. Trace carbonate stringers with localized, trace py. Bottom contact has a 3cm wide zone of white clay altered rock in contact with mafic gneiss clasts of a large fault zone. Limonitic alteration proximal to carb veinlets and pervasive from 148.5-148.86m.	tr						proximal to veinlets	light grey and brown patches					4			3							3		pervasive -carb patchy- lim proximal to bottom contact- clay
148.94	173.62			FZ	Fault Zone with Mafic Intrusive (diorite)?	Entire interval characterized by intermittent blocky, rubbly, ground up core and competent core. Colour varies from medium grey to dark grey and light grey in strongly silicified zones. Fine grained, equigranular to massive texture with 50% mafics (amph?) and 45% plagioclase feldspar, <5% qtz. trace fine grained disseminated pyrite throughout even in clay and gouge intervals. Sharp upper and lower contact. Trace veining.	tr						disseminated	grey	4														4		patchy
		148.94	149.96	Di		Light grey, rubbly core and gouge. No sulphide.																									
		149.96	150.31	Di		Pale grey green, moderate hardness, pervasive clay alteration and pervasive chloritization. 3-5% qtz veining containing trace pyrite.	tr						disseminated in tiny veinlets and blebs of qtz	pale grey green												4			4		pervasive
		150.31	151.34	Di		Rubbly core with some polished surfaces.																									
		151.34	151.94	Di		Medium grey, fine grained, equigranular. Interstitial, tan coloured clay alteration and weak pervasive chloritization, trace fg disseminated py.	tr						disseminated	medium grey												1			3		interstitial- clay pervasive- chlorite
		151.94	152.72	Di		Rubbly core with trace disseminated py and py blebs concentrated along micro fractures within interval.	tr						disseminated, fracture infill																		
		152.72	154.68	Di		Pale grey green colour, moderate hardness, due to moderate-strong, pervasive silicification. Weak pervasive chloritization. Many mm scale, randomly oriented stringer veinlets of qtz with trace py in clusters. Trace py disseminated throughout. Weak fabric at 40 deg to CA. Sharp lower contact at 20 deg to CA with clay alt fault interval.	tr						disseminated, veinlets	pale grey green	4											1					pervasive
		154.68	155.35	Di		Medium grey, rubbly core and clay alteration of fragments.																									
		155.35	156.18	Di		Medium grey, pervasive, moderate to strong clay alteration, trace fg diss py.	tr						disseminated	medium grey	3-4																pervasive
		156.18	157.75	Di		Larger fragments and rubble. 10cm wide gravel zone at bottom contact.																									
		157.75	159.42	Di		Pale grey green colour, moderate hardness, due to moderate-strong, pervasive silicification. Weak pervasive chloritization. Many mm scale, randomly oriented stringer veinlets of qtz with trace py in clusters. Trace py disseminated throughout.	tr						disseminated, veinlets	pale grey green	4											1					pervasive
		159.42	160.17	Di		Rubbly core with some polished surfaces.																									
		160.17	160.63	Di		Pale grey green colour, moderate hardness, due to moderate-strong, pervasive silicification. Weak pervasive chloritization. Many mm scale, randomly oriented stringer veinlets of qtz + blebs of qtz with trace py in clusters. Trace py disseminated throughout.	tr						disseminated, veinlets	pale grey green	4											1					pervasive
		160.63	161.89	Di		Blocky, rubbly core with some clay altered fragments.																									
		161.89	164.95	Di		Patchy clay alteration resulting in a light grey colour. Abundant rubble. One 2mm wide Qtz veinlet oriented at 40 deg to CA- fractures? .No sulphide.								light grey to medium grey															4		patchy
		164.95	165.48	Di		Light grey, intensely silicified fragments with stringers of tan coloured clay gouge in the same orientation as qtz veinlets. Trace qtz veinlets and clay alteration stringers are at low core angles (@165m 30 deg to CA). 2-3% v f g py in blebs (look d. grey without hand lens).	2-3						blebby	light grey	5														4		pervasive- sil localized stringers- clay
		165.48	166.24	Di		Strongly clay altered zone with abundant rubble. Trace fg diss py.	tr						disseminated	medium grey															4-5		pervasive
		166.24	168.14	Di		Light grey, intensely silicified, competent fragments with stringers of tan coloured clay gouge in the same orientation as qtz veinlets. Qtz veinlets/ veins and clay alteration stringers at random orientations (45 deg to CA). 2-3% v f g py in blebs (look d. grey without hand lens).	2-3						blebs	light grey	5														4		pervasive- sil localized stringers- clay
		167.90		VN	vn	At 167.9m is a 10cm wide grey green intensely silicified quartz vein at 40 deg to CA.																									
		168.14	169.07	Di		Rubbly core and angular gravel.																									
		169.07	170.87	Di		D grey moderate-strongly silicified interval of competent core containing 5-10% f gr py in blebs and clusters throughout. Chlorite alteration of micro fractures oriented at approx 50 and 130 deg to CA.	5-10						blebs, clusters	d grey	5											3					pervasive- sil micro-fractures- chl
		170.87	173.62	Di		Abundant blocky, pulverized rock, gouge and clay. 5% fine grained py in the fault gouge/ clay. Sharp lower contact at 130 deg to CA.	~5						in gouge	d grey																	

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Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact			
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
		134.95	135.50																					
		135.10					60	3																
		135.87	137.72																					
		135.95					40	3																
		137.78	145.06																		irregular		irregular	
142.17	148.94						50			tr											abundant rubble within a fault- appears to be sharp transition	45	faulted	
		145.06	146.32				80-110	2																
		147.00	148.00			3-4																90	sharp	
		148.00	148.94																					
148.94	173.62									tr											45	sharp	130	fault with gouge
		148.94	149.96																					
		149.96	150.31						blebs	3-5	sub cm	qtz	py											
		150.31	151.34																					
		151.34	151.94																					
		151.94	152.72																					
									random, almost crackle breccia	5-10%	mm sized	qtz	py									20	faulted	
		152.72	154.68																					
		154.68	155.35																					
		155.35	156.18																					
		156.18	157.75																					
									random, almost crackle breccia	5-10%	mm sized	qtz	py											
		157.75	159.42																					
		159.42	160.17																					
									random, almost crackle breccia	20-30	mm sized	qtz	py											
		160.17	160.63																					
		160.63	161.89																					
									40	tr		qtz												
		161.89	164.95																					
		164.95	165.48				30			tr	1-2mm	qtz												
		165.48	166.24																					
		166.24	168.14				45			3-5	1-2mm, 10cm vein	qtz												
		167.90					40			>90	10cm	qtz												
		168.14	169.07																					
		169.07	170.87																					
		170.87	173.62			3-4																130	fault gouge	

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
173.62	174.45			Di	Diorite	Fine grained, equigranular to massive texture with 50% mafics (amph?) and 45% plagioclase feldspar, <5% qtz. D. grey moderate-strongly silicified interval of competent core containing 5-10% f gr py in blebs and clusters throughout. Patchy chlorite alteration. Down hole contact is gradational with mafic gneiss--> abundant quartz flooding directly at contact (intense sil). INTERP: diorite came after gneiss and remobilization occurred along contact.	5-10						blebs, clusters		d grey	3-4															patchy-chl pervasive- sil		
		174.00		Di		Oriented py clusters at 30 deg to CA.																				3							
174.45	191.80			MGn	Feld-amph-qtz gneiss	Feld-amph-qtz Gn is medium grey, m. grained, and strongly foliated. foliation varies from 30-50 degrees to CA. Weak chloritization scattered along mafic grain boundaries and within fractures. 1-2% fg py in blebs throughout interval. Alteration is patchy with some areas silicified, others clay altered. Trace qtz-carb veining over the interval. One major, 9m wide, fault zone.	1-2						blebs		medium grey	4														2		patchy	
		176.00	177.60	MGn	sil	Quartz flooding of MGn with ghosted, faint foliation.									light grey	5																pervasive	
		178.00		MGn		Foliation at 35 deg to CA.																											
		178.20		MGn		Foliation at 50 deg to CA.																											
		178.96	186.55	FZ	FZ	Fault zone characterized by blocky, broken up core, as well as clay and gouge. Bottom contact at 120 deg to CA.																											
		187.00		MGn		Foliation at 60 deg to CA.																											
						Off white to light grey (even faint green tinge--> sericite alt.), with med. Grey speckles. quartz flooded, intensely silicified interval with tan coloured clay alteration along faint foliations. Blebs of qtz within, but no veins/ veinlets (trace f gr py clusters in veinlets). 5-10% v fg py in blebs, commonly oriented along relict foliation (at 60 deg to CA). py are d. grey specs w/o hand lens. Upper and lower contact are irregular but general orientations can be measured.	5-10						blebs		off white to l grey	5			1												2	pervasive- chl + sil foliations- tan clay	
		187.75	189.60	MGn																													
		188.00		MGn		Foliation (faint) at 60 deg to CA.																											
		190.00		MGn		Foliation (faint) at 40 deg to CA.																											
		190.45	191.53	MGn		Moderate to strong quartz flooding of MGn with ghosted, faint foliation.									medium grey	4																pervasive	
						Soft, l. grey, pervasive clay altered zone at the lower contact due to porphyry intrusion??																											
		191.30	191.80	MGn		Lower contact at 55 deg to CA.																								4		pervasive	
191.80	343.51			QFP	Quartz Feldspar porphyry	Entire lithology consists of very broken up fractured rock. Its characteristics are spotted, grey, hard, distinctly porphyritic rock. The matrix is aphanitic with phenos consisting of medium grained (3-8mm sized), lathe-shaped feldspar phenos and medium grained (3-5mm sized), clear and fractured quartz 'eyes' (some with a distinct hexagonal shape). The quartz pheno content varies throughout the interval. In general there is 30% phenos, 70% matrix, but it is variable. There are occasional K-spar phenos. Some sections of fine grained, disseminated py. Alteration varies from clay, sericite, chlorite, silicification and potassic. There are a number small fault zones throughout. Trace calcite stringers.	tr						disseminated		grey	4			3											3		3	patchy
						very broken up interval. QFP has a beige coloured matrix and is moderately silicified. there is patchy pink-red (potassic?) alteration throughout this section as well. Plagioclase feldspar phenos are generally altered to a soft white clay though some are altered to an apple green (sericite) clay. Alkali feldspar are partially to completely altered to a pinkish clay. at 192.8m there appears to some sort of flow texture (differential cooling?) at 50 deg to CA. trace, dark grey, very fine grained, fracture filling pyrite.	tr						fracture filling		beige	3			1														pervasive- sil pheno's- ser, clay
		191.80	197.94	QFP																													
						Patchy dark grey-green chl? Alteration within a moderately silicified interval. The majority of feldspar phenos are completely altered to white clay. At 198.2m are micro fractures? Fabric? At 45 deg to CA (darker green). Upper and lower contact are gradational over a few cm.									dark grey green	3			2								2			2		pervasive- sil patchy- chl, ser incomplete - complete alt. Of phenos- clay	
		197.94	199.95	QFP																													
		199.20	200.81	FZ		Fault zone with blocky, rubbly core and pasty gouge + clay.																											
						Same as 191.8-197.94m. Exception: a slight increase in the dark grey vfg fracture infilling py (~1%) oriented at 45 deg to CA.	1						fracture filling		beige	3			1												3	pervasive- sil pheno's- ser, clay	
		199.95	217.93	QFP																													
		201.00		QFP		Py infilling fracture at 45 deg to CA.																											
						Large fault zone of extremely broken up rock, sometimes to gravel sized particles. A number of sub-angular to sub-rounded clasts and a few cleavage/ fracture planes with gouge and clay throughout the interval.																											
		204.02	214.30	FZ																													
		207.00		QFP		Cleavage/ fracture at 50 deg to CA.																											
		212.00		QFP		Cleavage/ fracture at 45 deg to CA.																											
		214.63	214.88	FZ		Rubble and gouge.																											
						Abundant, consolidated medium grey clay and gouge. Quartz healed clay/ gouge at upper contact. Lower contact is 40cm of patchy, potassic, pinkish-red alteration intermixed with grey clay seems and white clay altered matrix. Lower contact is arbitrary at a fracture. trace fine grained disseminated py within clay.	tr						disseminated in clay		variable									3							4	pervasive fracture infilling- clay patchy- ksp	
		217.93	218.70	FZ																													
						same as 191.8-197.94m. Exception: a slight increase in the dark grey vfg fracture infilling py (~1%) oriented at 35 deg to CA. Sharp lower contact at 60 deg to CA.	1						fracture filling		beige	3			1												3	pervasive- sil pheno's- ser, clay	
		218.70	219.30	QFP																													
						apple green, pervasive, strong sericite alteration of the interval. Quartz 'eyes' still easily distinguished. Occasional localized zones of chlorite altered feldspar phenos. Qtz + feld phenos in equal proportions make up 60%, and the matrix 40%. Trace, mm wide qtz-carb-hem veinlets containing trace f gr cubic py crystals. Sharp lower contact at 0 deg to CA. The lower 20-30cm of the interval has had the porphyritic texture destroyed and in its place are thin, tan clay altered lathes of plag.	tr						in mm scale veinlets		apple green				4							1						pervasive- ser localized phenos chl	
		219.30	221.72	QFP																													
						D grey, strongly silicified unit. Qtz phenos are obscure but upon close inspection one can still make out faint qtz eyes that are fractured (make up ~25% of phenos). Rare, patchy, apple green sericitic alteration mostly of feld phenos. 50% phenos, 50% matrix. Trace fine grained disseminated py and pyrrhotite. Trace, mm wide qtz-carb-hem veinlets containing trace f gr cubic py crystals and oriented at 40 deg to CA. Within 30cm of upper contact is a zone of tan clay altered plag lathes; soft.	tr						disseminated		d grey	4			2												2	pervasive- sil pheno's- ser, localized upper contact- clay	
		221.72	223.25	QFP																													
						Same as 219.3-221.72m. Exceptions: there is also patchy, brown-red potassic alteration and sharp contacts. Lower contact is marked by mm sized, vuggy carb veinlet.	tr						in mm scale veinlets		apple green and brown-red				4						3		1					pervasive- ser localized phenos chl patchy- ksp	
		223.25	223.98	QFP																													

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Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact			
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
173.62	174.45																						gradational	
		174.00																						
174.45	191.80			30-50					random	tr	mm	qtz-carb										55	sharp, faulted	
		176.00	177.60																					
		178.00		35																				
		178.20		50																				
		178.96	186.55		120	3																120	abrupt, rough	
		187.00		60																				
		187.75	189.60	60					blebs	tr		qtz	py								20	irregular	60	irregular
		188.00		60																				
		190.00		40																				
		190.45	191.53																					
		191.30	191.80																			55	sharp, faulted?	
191.80	343.51							intense		tr	mm	qtz-carb									55	sharp		
		191.80	197.94																					
		197.94	199.95	45?			45?															gradational	gradational	
		199.20	200.81																					
		199.95	217.93																					
		201.00																						
		204.02	214.30																					
		207.00					50																	
		212.00					45																	
		214.63	214.88																					
		217.93	218.70							5-10		qtz		qtz	40	sub angular	grey clay/ gouge	60	4					
		218.70	219.30																			60	sharp	
		219.30	221.72				40		30	tr	mm	qtz-carb	hem									0	sharp	
		221.72	223.25						40	tr	mm	qtz-carb	hem								0	sharp	70	sharp
		223.25	223.98				30		30	tr	mm	qtz-carb	hem								70	sharp	70	sharp w/ carb veinlet

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
		223.98	224.16	BX	breccia	Vuggy, white quartz crackle breccia with d grey, angular, sub-cm qf porphyry clasts. Strong, pervasive silicification.								d grey	4															pervasive	
		224.17	224.94	FZ	fault	Fault zone consisting of consolidated fault gouge and rubble with polished fracture planes.																									
		224.94	225.95	QFP		Same as 219.3-221.72m. exceptions: there is also patchy, brown-red potassic alteration and sharp contacts. Lower contact is marked by mm sized, vuggy carb veinlet.	tr						in mm scale veinlets	apple green and brown-red				4					3		1					pervasive- ser localized phenos chl patchy- ksp	
		225.95	226.55	QFP		D grey, strongly silicified unit. Qtz phenos are obscure but upon close inspection one can still make out faint qtz eyes that are fractured (make up ~25% of phenos). Rare, patchy, apple green sericitic alteration mostly of feld phenos. 50% phenos, 50% matrix. Trace fine grained disseminated py and pyrrhotite. Trace, mm wide qtz-carb-hem veinlets. sharp contacts.	tr						disseminated	d grey	4			2											2	pervasive- sil pheno's- ser, localized upper contact- clay	
		226.55	229.75	QFP		Same as 219.3-221.72m. Exceptions: there is also patchy, brown-red potassic alteration on either side of a fault zone. Sharp contacts.	tr						in mm scale veinlets	apple green and brown-red				4					3		1					pervasive- ser localized phenos chl patchy- ksp	
		227.30	227.74	FZ	fault	Blocky, rubbly core and gouge.												4													
		229.75	230.81	QFP		Same as 225.95-226.55m. Exception no veinlets and pheno % increases to 70% of total interval.																									
		230.81	231.54	FZ	fault	Blocky rubbly core and paste-like consolidated gouge. Lower contact has gouge on it and is at 60 deg to CA.																									
		231.54	232.87	QFP		Apple green, pervasive, strong sericite alteration of the interval. Quartz 'eyes' still easily distinguished. Occasional localized zones of chlorite altered feldspar phenos. Patchy, red-brown, potassic alteration. Qtz + feld phenos in equal proportions make up 60%, and the matrix 40%. Trace, mm wide qtz-carb-hem veinlets containing trace fg cubic py crystals. Gradational lower contact.	tr						in mm scale veinlets	apple green				4					3		1					pervasive- ser localized phenos chl patchy- ksp	
		232.87	233.60	QFP		Same as above, except pyrite and d grey sulphide increase slightly in concentration. Fg py occurs in blebs stringers and patches associated with vfg d. grey mineral.	1-3						patches, stringers, blebs																		
		233.60	242.70	FZ		Very blocky, rubbly, ground-up core. Rock fragments same as 231.54-232.87.																									
		239.80	242.70	QFP		Blocky, rubbly core with zones of gravel and gouge. Rock fragments are that described in the initial litho summary. Unaltered.																									
		242.70	245.52	QFP		Grey-brown, hard, distinctly porphyritic rock. The matrix is aphanitic with phenos consisting of medium grained (3-8mm sized), rectangular, lathe-shaped plagioclase feldspar phenos and medium grained (3-5mm sized), clear and fractured quartz 'eyes' (some with a distinct hexagonal shape). The quartz pheno content varies throughout the interval. In general there is 60% phenos, 40% matrix, but it is variable. There is 5%, light pink, opaque K-spar phenos. Mafics (amph?- elongate) are fine to medium grained and partially to completely altered to chlorite. 5% ksp, 5% amph, 10% qtz, 40% plag, 40% matrix. Some plag is weakly altered to sericite. Accessory fg magnetite observed. Trace fine grained, cubic, disseminated py. Trace mm wide calcite veins and calcite on fracture planes.	tr						disseminated	grey				1							1						individual phenos, scattered
		244.00		QFP		Cleavage at 55 deg to CA.																									
		245.52	245.84	FZ	fault	Blocky, rubbly core and minor gouge on cleavage planes.																									
		245.84	248.90	QFP		Same as 242.7-245.52m.	tr						disseminated	grey				1												individual phenos, scattered	
		247.00		QFP		Cleavage at 25 deg to CA.																									
		248.90	253.15	FZ	fault	Abundant blocky, broken-up core, sections of gouge and gravel. Calcite on cleavage surfaces.																									
		253.00		QFP		Cleavage at 25 deg to CA.																									
		253.15	255.57	QFP		Same as 242.7-245.52m. 5cm diameter subrounded Mafic Gneiss xenolith at 253.3m.	tr						disseminated	grey				1								1				individual phenos, scattered	
		255.57	255.87	FZ	fault	Rubble, gravel and gouge.																									
		255.87	264.66	QFP		Same as 242.7-245.52m. At 264.3 is a small 15cm wide zone of weakly porphyritic QFP that is peach coloured and hard- mostly kspar and no vein material associated with it. Same mineral proportions as in the unaltered rock description. INTERP: differential magma crystallization--> more potassic section of magma.	tr						disseminated	grey				1								1				individual phenos, scattered	
		256.00		QFP		Cleavage at 30 deg to CA.																									
		257.40		QFP		There is a large, 1cm long, pinkish K-spar pheno that has a reaction rim of 1mm around the entire edge. There are other occasional kspar pheno that show this feature throughout the unaltered QFP.																									
		264.66	268.20	FZ	fault	A large proportion of this fault interval is pulverized, tiny QFP fragments within a clay/ gouge paste--> intense shearing. The upper 50cm of the fault consist of carbonate altered blocks of core that are porphyritic and generally off white in colour. They are made up of 85% phenos, 15% fine grained matrix. Pheno proportions are same as unaltered QFP except there are no discernible ksp phenos. Feld phenos completely altered to white clays. a couple of 2-8cm wide, d. grey, angular Mafic Gneiss clasts are found within one of the larger blocks.								off white				4									4		pervasive		
		268.20	269.60	QFP		Same as 242.7-245.52m.	tr						disseminated	grey				1								1				individual phenos, scattered	
		269.60	272.44	FZ	fault	Abundant gravel clasts of QFP and minor gouge, mostly on cleavage surfaces.																									
		272.44	278.57	QFP		Same as 242.7-245.52m. Amph partially altering to chlorite. Trace 1-4cm wide, d grey, sub-rounded, fabric-less, mafic xenoliths? MGn? Possible vfg biotite in a reaction rim around the xenolith (ex @176.85m). V small (1-5cm diameter) sporadic, patches of hard, light pink Ksp altered matrix, within are rare v small opaque epidote crystals with chlorite?	tr						disseminated	grey				1					1		1		1			individual phenos, scattered sporadic- ksp, epi	
		276.50		QFP		Cleavage at 40 deg to CA.																									
		278.57	279.96	FZ	fault	Mostly blocky, rubbly core with minor gouge on fracture planes.																									

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Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact		
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		223.98	224.16											QFP	70	angular	qtz	30	crackle	70	sharp	70	sharp
		224.17	224.94		70	2																	
		224.94	225.95				30		30	tr	mm	qtz-carb	hem							70	sharp	70	sharp w/ carb veinlet
		225.95	226.55						40	tr	mm	qtz-carb	hem							75	sharp	70	gradational over 2cm
		226.55	229.75				50		40	tr	mm	qtz-carb	hem							70	sharp		sharp
		227.30	227.74																				
		229.75	230.81																				
		230.81	231.54																			60	sharp
		231.54	232.87						30	tr	mm	qtz-carb	hematite										
		232.87	233.60																				
		233.60	242.70																				
		239.80	242.70																				
		242.70	245.52				30-60	moderate	variable	tr	mm	qtz-carb											
		244.00	245.52				55																
		245.52	245.84																				
		245.84	248.90				30-60	moderate	variable	tr	mm	qtz-carb											
		247.00																					
		248.90	253.15																				
		253.00																					
		253.15	255.57				30-60	moderate	variable	tr	mm	qtz-carb											
		255.57	255.87																				
		255.87	264.66				30-60	moderate	variable	tr	mm	qtz-carb											
		256.00																					
		257.40																					
		264.66	268.20			5																	
		268.20	269.60				30-60	moderate	variable	tr	mm	qtz-carb											
		269.60	272.44			3																	
		272.44	278.57				30-60	moderate	variable	tr	mm	qtz-carb											
		276.50					40																
		278.57	279.96																				

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
		279.96	280.60	VN	sulfide qtz carb vein	1-2cm wide, white-opaque quartz carbonate vein oriented at 15 deg to CA. Sulphide mineralization makes up at least 50% of the vein and is concentrated at the up hole contact. Mineralization: 15% v fg brassy py in blebs and clusters as well as in bands; 5% brown sphal in clumps/ blebs; trace vfg needle-like, very bright, silver-white arseno; 5% dark grey, streak grey, blebby sulphide mineral- no crystal habit discernible- Galena?. There is a 0.5cm wide envelope of weak to moderated, pervasive silicification of host rock. There is a 10cm wide (true thickness) envelope of sericite and calcite alteration of the QFP. It is a pale apple green colour and contains 2-5% fine grained disseminated py. The outer 1cm of the alteration grades back into the unaltered, trace py containing QFP. Percentages given in the table to the right are over the entire interval.	1-2	tr	tr	1		tr	disseminated, banded, blebs, clusters	pale apple green	4					4	4					1					pervasive- sil + cal + ser rare phenos- chl
		280.60	280.85	FZ	fault	Rubbly, broken-up rock and minor gravel, gouge and calcite.																									
		280.85	281.82	QFP		Same as 242.7-245.52m. Amph partially altering to chlorite. Trace 1-4cm wide, d grey, sub-rounded, fabric-less, mafic xenoliths? MGn? Possible vfg biotite in a reaction rim around the xenolith (ex @176.85m). V small (1-5cm diameter) sporadic, patches of hard, light pink Ksp altered matrix, within are rare v small opaque epidote crystals with chlorite?	tr						disseminated	grey				1					1			1					individual phenos, scattered sporadic- ksp, epi
		281.82	282.10	FZ	fault	Rubbly, broken-up rock. The bottom 7cm is consolidated gouge and calcite.																									
		282.10	289.14	QFP		Same as 242.7-245.52m. V. small (1-5cm diameter) sporadic, patches of hard, light pink Ksp altered matrix, within these zones is light green chlorite. 2-3cm wide alteration envelopes surround mm sized qtz-carb stringers. Alteration is pale apple green, soft-ish and reacts vigorously with acid--> likely sericite + calcification. Within the stringers is trace fg py and hematite.	tr						mm scale veinlets	generally d grey				2	3				1								patchy, localized
		283.30		QFP		Cleavage at 50 deg to CA.																									
		283.80		QFP		Cleavage at 60 deg to CA.																									
		289.14	289.59	FZ	fault	Calcified, blocky, rubbly core and a 5cm wide concentration of gouge/clay near the upper contact.																									
		289.59	290.02	QFP		Same as 242.7-245.52m. V small (1-5cm diameter) sporadic, patches of hard, light pink Ksp altered matrix, within these zones is light green chlorite. 2-3cm wide alteration envelopes surround mm sized qtz-carb stringers. Alteration is pale apple green, soft-ish and reacts vigorously with acid--> likely sericite + calcification. Within the stringers is trace fg py and hematite.	tr						mm scale veinlets	generally d grey				2	3				1								patchy, localized
		290.02	290.93	FZ		Blocky, rubbly weakly pervasive sericitic QFP fragments with tr calcite veins and tr disseminated py. Minor gouge on upper contact.	tr						disseminated	pale apple green				2													pervasive
		290.93	292.28	QFP	sericitic alt	Pale apple green, strong pervasive sericitic alteration of the QFP. Only quartz phenos remain unaltered. 2-5% f gr, brassy, cubic, disseminated py throughout interval. Trace mm wide white qtz-carb stringer at 50 deg to CA; some veins almost completely py, others containing fg disseminated py. Upper contact is gradational as is the lower contact (arbitrary).	2-5						disseminated	pale apple green				4													pervasive
		290.40		QFP		Cleavage at 50 deg to CA.																									
		292.28	292.59	QFP	intense sil.	Grey-green, intensely silicified upper envelope preceding a sulphide rich quartz vein. Mineralization: py partially-completely infilling mm scale fractures and f-med gr disseminated py throughout (total 5-10%); trace brown SPH in blebs within fractures and associated with grey, opaque qtz. Also vfg grey metallic mineral in fractures with py and SPH. grey, opaque quartz is found with a marbled texture as well as in thin mm scale veinlets throughout. There is also vuggy white quartz at 292.54m with little to no associated mineralization. Mineralized fractures are found at 45, 65, deg to CA. Dominant cleavage it at 70 deg to CA. Upper contact is a gradational increase in silicification. Lower contact is sharp with vein.	5-10			tr		tr	disseminated, blebby, fracture infilling	grey green	5																pervasive

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact							
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description					
													py, asp, sph, gal?								gradational over 1cm	15	gradational over 1cm					
		279.96	280.60																					15	15	3	2cm	qtz-carb
		280.60	280.85																									
		280.85	281.82				30-60	moderate	variable	tr	mm	qtz-carb																
		281.82	282.10																									
		282.10	289.14							tr	mm	qtz carb	py, hem															
		283.30																										
		283.80																										
		289.14	289.59			2																						
		289.59	290.02							tr	mm	qtz carb	py, hem															
		290.02	290.93			1				tr		qtz carb																
		290.93	292.28				50		50	tr	mm	qtz carb	py								gradational		gradational					
		290.40					50																					
		292.28	292.59				70		45, 65	10	mm	qtz	py sph								gradational	56	sharp, distinct					

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																		
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		292.59	292.88	VN	sulfide qtz vein	Upper and lower contact are sharp at 56 deg to CA. White/grey opaque, marbled looking quartz vein has a true thickness of 20cm with the majority of the sulphide concentrated in the bottom 5.5cm of the vein. Mineralization- py is found as bright, brassy f-med gr, cubic and disseminated within the marbled qtz of the upper portion of the vein as well as in clusters of weak bands at the bottom contact (8-12%). Fg yellowy, metallic c py is found disseminated throughout, but generally in contact with pyrite in the lower 5.5cm of the vein (tr). SPH is fine grained, red-brown and found disseminated and infilling fractures throughout the up hole portion of the vein. In the bottom 5.5cm of the vein is a 2-5cm wide, clustery band of sphalerite in contact with pyrite and arsenopyrite (3-5%). GN is found disseminated as very fine grained, silvery blue, metallic (tr). ASP is found as a silvery, metallic needle-like disseminated mineral in the upper portion of the vein and in a massive 0.5cm wide band at the bottom contact- directly at the contact a number of vfg silvery needle-like crystals are discernible (2-4%). Stibnite (STB) is characterized by a lead grey colour, metallic lustre, bladed, soft crystals and a dark grey streak. It is fine grained and can be found disseminated	8-12	2-4	tr	3-5	tr	3-5	disseminated, fracture infilled, banded	white to grey	5																	
		292.88	293.24	QFP	intense sil.	Grey-green, intensely silicified lower envelope following a sulphide rich quartz vein. Mineralization: py in mm scale fractures and f-med gr disseminated py throughout (total 3-5%); white quartz is found with a brecciated texture as well as in thin mm scale veinlets throughout. Mineralized fractures are found at 65, 75 deg to CA upper contact is sharp with the vein and the lower contact is sharp with a fault. Patchy pale apple green sericite alteration.	3-5						disseminated in host rock and in veinlets	grey green	5			1												pervasive- sil patchy- ser		
		293.24	294.14	FZ		Blocky core that has undergone weak, pervasive, sericitic alteration. The upper 20cm is a section of consolidated fault gouge. No sulphide.								pale apple green				2												pervasive		
		294.14	294.57	QFP	sericitic alt	Pale apple green, strong pervasive sericitic alteration of the QFP. Only quartz phenos remain unaltered. Trace fg py throughout interval. One 5mm wide white qtz-carb stringer at 35 deg to CA. Vein contains trace f gr py with trace d grey mineral. Lower contact is gradational.	tr						in veinlet	pale apple green				4												pervasive		
		294.57	295.00	QFP		See general litho description.																										
		295.00	295.30	VN	quartz	Grey, opaque, crackle fractured, 25cm wide qtz vein. Light to dark green, soft chlorite filling in a number of fractures--> swirly/ wavy appearance. Also vfg black, pearly sheen biotite also infilling a few fractures--> it has the same swirly/ wavy appearance. Within the biotite clusters is trace vfg py. Sharp upper and lower contacts.	tr						associated w/ biotite	grey											1					fracture infilling		
		295.30	302.55	QFP		Grey-brown, hard, distinctly porphyritic rock. The matrix is aphanitic with phenos consisting of medium grained (3-8mm sized), rectangular, lathe-shaped plagioclase feldspar phenos and medium grained (3-5mm sized), clear and fractured quartz 'eyes' (some with a distinct hexagonal shape). The quartz pheno content varies throughout the interval. In general there is 60% phenos, 40% matrix, but it is variable. There is 5%, light pink, opaque K-spar phenos. Mafics (amph?- elongate) are fine to medium grained and partially to completely altered to chlorite. 5% ksp, 5% amph, 10% qtz, 40% plag, 40% matrix. Accessory fg magnetite observed. Trace fine grained, cubic, disseminated py. Trace mm wide calcite veins and calcite on fracture planes. 1-2cm wide alteration envelopes surround mm sized qtz-carb stringers oriented the same as dominant cleavage. Alteration is pale apple green, soft-ish--> likely sericite. Within the stringers occasionally there is trace fg py. There are trace 1-5cm diameter, sub-rounded, mafic xenoliths within. There is no reaction rim around these xenoliths and there is no observable banding but there are vfg plag lath's --> INTERP: Diorite?	tr							grey brown				3							1					localized, patchy		
		297.45		QFP	xenolith	A large 10-15cm diameter, sub-rounded to sub-angular, intermediate coloured xenolith. There is no observable reaction rim. Xenolith consists of medium grained, hard, anhedral crystals. 60% mafics- biotite and amph? And 40% felsic- mostly milky white plag? rare qtz. Crystals are not obvious. INTERP: Granodiorite?																										
		298.00		QFP		Cleavage at 40 deg to CA.																										
		302.55	302.85	QFP	sericitic + clay alteration	Weak, pervasive, pale apple green sericitic alteration of feldspar phenos and groundmass preceding a sulphide rich veinlet. Minor, weak alteration of some feldspar phenos to a soft, brown clay. Trace fg disseminated py.	tr						disseminated	pale apple green				3										1	pervasive- ser some pheno's- clay			
		302.85	302.90	VN	sulfide rich stringer veinlet	Small grey and white, mostly qtz (also carb) veinlet (true thickness 2cm). Its contacts are brecciated sericitic host rock. Within the veinlet is trace fine grained py, as well as, blebby bands of py. Brown SPHAL can be found disseminated and blebby. There is also trace vfg Galena?	8-10		tr	4-5			disseminated, blebby																			
		302.90	303.78	FZ		Fault zone consisting mostly of blocky, rubbly core. The upper 5cm is a zone of consolidated gouge and clay containing trace fg disseminated py. Upper contact is sharp at 55 deg to CA.	tr						disseminated																			
		303.78	309.11	QFP		Same as 295.3-302.55m.																										
		307.00		QFP		Cleavage at 50 deg to CA.																										
		309.11	310.14	FZ		Fault zone characterized by gouge, clay and gravel fragments of QFP. Sharp upper contact at 90 deg to CA.																										
		310.14	312.41	QFP		Same as 295.3-302.55m. Patchy, dark green, chlorite alteration around carb veinlets.																										
		312.41	312.61	QFP	qtz carb veinlets	A zone consisting of two ~3cm wide qtz carb veins oriented at 50 deg to CA with associated sericitic alteration. 1-2% fine grained py throughout the vein material.	1-2						in vein material																			
		312.61	320.00	QFP		Same as 295.3-302.55m.																										
		320.00	320.71	FZ		Few rubbly blocks; mostly sand sized to v small gravel sized QFP particles. Carbonaceous.																										
		320.71	321.00	QFP		Same as 295.3-302.55m.																										
		321.00	321.27	FZ		Few rubbly blocks; mostly sand sized to v small gravel sized QFP particles. Carbonaceous. Same as 295.3-302.55m. Rare to find alteration around qtz carb veinlets. At 330m is a pale green to white alteration envelope that is sericitic and carbonaceous.																										
		321.27	338.63	QFP																												
		324.00		QFP		Cleavage at 40 deg to CA.																										
		325.00		QFP		Cleavage at 20 deg to CA.																										
		329.00		QFP		Cleavage at 50 deg to CA.																										
		338.63	339.60	FZ		Middle 25cm of fault zone is blocky, semi-competent core that is pale apple green coloured, soft (sericite alteration) and surrounding a bent, broken, discontinuous qtz-carb vein. There is trace fg disseminated py associated with the veinlet. The majority of the fault is paste-like consolidated gouge and clay also containing fg disseminated py.																										
		339.60	343.51	QFP	EOH	Same as 295.3-302.55m.																										

Charlotte Project
DDH-12-275 Detailed Log

Primary Intervals		Secondary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact			
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
									56	100	28	qtz	py, asp, cpy, gal, sph, stb							56	sharp	56	sharp	
		292.59	292.88																					
		292.88	293.24																					
		293.24	294.14																					
		294.14	294.57						35	tr	5mm	qtz-carb	py											
		294.57	295.00																					
		295.00	295.30						50	100	25	qtz	py								50	sharp	100	sharp
		295.30	302.55						50	tr	mm	qtz-carb	py								100	sharp		gradational
		297.45																						
		298.00					40																	
		302.55	302.85																					
		302.85	302.90						50	90	2cm	qtz-carb	py, sphal, gal								40	sharp	55	sharp
		302.90	303.78		55	3															55	vein in contact with gouge		
		303.78	309.11																					
		307.00					50																	
		309.11	310.14		90	3															90	sharp		
		310.14	312.41																					
		312.41	312.61						50	25	3cm	qtz carb	py											
		312.61	320.00																					
		320.00	320.71			4																		
		320.71	321.00																					
		321.00	321.27			4																		
		321.27	338.63																					
		324.00					40																	
		325.00					20																	
		329.00					50																	
		338.63	339.60																					
		339.60	343.51																					

**Charlotte Project
DDH-12-275 Down Hole Surveys**

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	GVR	MTF	DLG	Date/Time	Comment
37	11.28	12	33.91	-55.8	62420	59.5	0.996	98.3	223	-126.1	25/06/2012 10:49	Erroneous
67	20.42	325.8	347.71	-55.6	88907	63.1	0.996	110.7	343.2	-232.08	25/06/2012 10:47	Erroneous
97	29.57	53.4	75.31	-55.6	57513	76.8	0.997	97.7	254.9	-0.47	25/06/2012 10:45	
127	38.71	53.5	75.41	-55.6	57456	76.5	0.999	23.2	179.9	-1.4	25/06/2012 10:43	
157	47.85	54.1	76.01	-55.6	57514	76.5	0.999	353.3	149.9	-1.24	25/06/2012 10:40	
187	57.00	53.7	75.61	-55.9	57467	76.5	0.999	13.2	169.5	-1.73	25/06/2012 10:38	
217	66.14	54.4	76.31	-55.9	57475	76.6	0.996	163.9	320.3	-1.24	25/06/2012 10:36	
247	75.29	54.2	76.11	-55.6	57391	76.5	0.997	174.6	331.3	-0.72	25/06/2012 10:33	
277	84.43	54	75.91	-55.7	57543	76.5	0.997	217.4	13.8	-1.17	25/06/2012 10:31	
307	93.57	54.4	76.31	-55.8	57457	76.5	0.998	290.7	86.9	-3.42	25/06/2012 10:29	
337	102.72	53.2	75.11	-55.8	57401	76.6	0.996	113.6	270.4	-8.62	25/06/2012 10:26	
367	111.86	56.3	78.21	-55.9	57577	77.1	0.999	9.9	167.1	-7.25	25/06/2012 10:24	Erroneous
397	121.01	53.7	75.61	-56.1	57463	76.6	0.997	62.4	218.9	-1.64	25/06/2012 10:22	
427	130.15	54.3	76.21	-56	57432	76.7	0.996	117.6	274.3	-0.62	25/06/2012 10:19	
457	139.29	54.5	76.41	-55.9	57443	76.7	0.997	88.6	245.2	-0.49	25/06/2012 10:17	
497	151.49	54.2	76.11	-55.8	57427	76.6	0.998	40	196.6	-1.26	25/06/2012 10:14	
527	160.63	54.7	76.61	-55.7	57466	76.5	0.998	279.1	75.4	-1.51	25/06/2012 10:11	
557	169.77	54.9	76.81	-56.2	57492	76.5	0.998	312.6	108.6	-0.85	25/06/2012 10:09	
587	178.92	54.6	76.51	-56.3	57457	76.5	0.998	297.4	93.3	-0.81	25/06/2012 10:06	
617	188.06	54.9	76.81	-56.3	57538	76.7	0.996	214.2	10.5	-1.81	25/06/2012 10:04	
647	197.21	55.5	77.41	-56.2	57623	76.4	0.998	275.9	71.7	-1.12	25/06/2012 10:01	
677	206.35	55.6	77.51	-56.5	57539	76.5	0.998	305	100.8	-0.54	25/06/2012 9:58	
707	215.49	55.4	77.31	-56.6	57551	76.7	0.995	125.9	282	-0.88	25/06/2012 9:55	
737	224.64	55.1	77.01	-56.6	57540	76.7	0.996	118.4	274.4	-0.9	25/06/2012 9:52	
767	233.78	55.4	77.31	-56.8	57538	76.7	0.997	94.4	250.3	-1.31	25/06/2012 9:49	
797	242.93	55.8	77.71	-56.8	57501	76.5	0.998	328.7	124.3	-1.39	25/06/2012 9:47	
827	252.07	56.3	78.21	-56.8	57549	76.6	0.998	271.6	67.1	-3.12	25/06/2012 9:45	
857	261.21	57.4	79.31	-56.4	57681	76.5	0.997	208	3.7	-0.97	25/06/2012 9:40	
887	270.36	57.7	79.61	-56.5	57403	76.6	0.998	239.8	35.4	-2.41	25/06/2012 9:38	
917	279.50	56.9	78.81	-56.3	57528	76.7	0.996	142.8	299.1	-2.73	25/06/2012 9:36	
947	288.65	57.7	79.61	-55.9	57626	76.3	0.997	231.7	27.1	-4.58	25/06/2012 9:34	
977	297.79	56.2	78.11	-56.3	57344	76.9	0.997	110.3	266.9	-3.82	25/06/2012 9:31	
1007	306.93	57.4	79.31	-55.8	57513	76.4	0.997	214.1	9.8	-0.54	25/06/2012 9:29	
1037	316.08	57.5	79.41	-55.9	57406	76.7	0.998	52.1	208.4	-2.76	25/06/2012 9:26	
1067	325.22	58.4	80.31	-55.5	57591	76.6	0.998	231.7	28	-3.59	25/06/2012 9:24	
1097	334.37	59.7	81.61	-55.2	57462	76.6	0.998	236.4	32.8	-2.59	25/06/2012 9:21	
1127	343.51	58.8	80.71	-55	57504	76.5	0.997	227.7	24.1	0	25/06/2012 9:18	

Charlotte Project
DDH-12-275 Sample Intervals

Sample Dispatch

Property: **CHARLOTTE**

Date: **June 19, 2012**

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr
1	1748501	DDH-12-275			BLANK (all batches must begin with a blank)	<0.005	<2	
2	1748502	DDH-12-275	107.37	108.22	silicified mafic gneiss	0.021	<2	
3	1748503	DDH-12-275	108.22	111.86	intensely silicified m. Gneiss- v. Poor recovery hence the large sample interval	<0.005	<2	
4	1748504	DDH-12-275	111.86	113.55	Fault with clay, gouge, rubble	<0.005	<2	
5	1748505	DDH-12-275	113.55	116.00	Faulted Mafic Gneiss- poor recovery	<0.005	<2	
6	1748506	DDH-12-275	116.00	116.90	FZ Mafic Gneiss	<0.005	<2	
7	1748507	DDH-12-275	116.90	118.00	FZ Mafic Gneiss	<0.005	<2	
8	1748508	DDH-12-275	118.00	119.50	feld porphyry	<0.005	<2	
9	1748509	DDH-12-275	119.50	121.00	feld porphyry	<0.005	<2	
10	1748510	DDH-12-275	121.00	122.50	feld porphyry	<0.005	<2	
11	1748511	DDH-12-275	122.50	124.00	feld porphyry	<0.005	<2	
12	1748512	DDH-12-275	124.00	125.50	feld porphyry	<0.005	<2	
13	1748513	DDH-12-275	125.50	127.00	feld porphyry	<0.005	<2	
14	1748514	DDH-12-275	127.00	128.50	feld porphyry	<0.005	<2	
15	1748515	DDH-12-275	128.50	128.95	crackle breccia	<0.005	<2	
16	1748516	DDH-12-275			STANDARD CND-GS-P3C	0.259	<2	
17	1748517	DDH-12-275	128.95	130.63	str sil. Feld porphyry	<0.005	<2	
18	1748518	DDH-12-275	130.63	132.00	feld porphyry	<0.005	<2	
19	1748519	DDH-12-275	132.00	133.50	feld porphyry	<0.005	<2	
20	1748520	DDH-12-275	133.50	134.90	feld porphyry	<0.005	<2	
21	1748521	DDH-12-275	134.90	135.50	str sil. Feld porphyry	<0.005	<2	
22	1748522	DDH-12-275	135.50	135.87	feld porphyry	<0.005	<2	
23	1748523	DDH-12-275	135.87	137.78	str sil. Feld porphyry	<0.005	<2	
24	1748524	DDH-12-275	137.78	139.30	FZ feld porphyry	<0.005	<2	
25	1748525	DDH-12-275	139.30	141.00	FZ feld porphyry	0.04	<2	
26	1748526	DDH-12-275			FIELD DUPLICATE (1/4 Core) OF #1748725	0.329	<2	
27	1748527	DDH-12-275	141.00	142.17	FZ feld porphyry	<0.005	<2	
28	1748528	DDH-12-275	142.17	143.60	FZ granodiorite	<0.005	<2	
29	1748529	DDH-12-275	143.60	145.06	FZ granodiorite	<0.005	<2	
30	1748530	DDH-12-275	145.06	146.32	granodiorite	<0.005	<2	
31	1748531	DDH-12-275	146.32	148.00	granodiorite	<0.005	<2	
32	1748532	DDH-12-275	148.00	148.94	granodiorite	<0.005	<2	
33	1748533	DDH-12-275	148.94	150.50	FZ mafic intrusive (diorite)	<0.005	<2	
34	1748534	DDH-12-275	150.50	152.00	FZ mafic intrusive (diorite)	<0.005	<2	
35	1748535	DDH-12-275	152.00	152.72	FZ mafic intrusive (diorite)	0.006	<2	
36	1748536	DDH-12-275			STANDARD CND-GS-5H	3.964	54	
37	1748537	DDH-12-275	152.72	154.68	silicified mafic intrusive	<0.005	<2	
38	1748538	DDH-12-275	154.68	156.18	FZ mafic intrusive (diorite)	<0.005	<2	
39	1748539	DDH-12-275	156.18	157.75	FZ mafic intrusive (diorite)	<0.005	<2	
40	1748540	DDH-12-275	157.75	158.70	silicified mafic intrusive	<0.005	<2	
41	1748541	DDH-12-275	158.70	160.17	FZ mafic intrusive (diorite)	<0.005	<2	
42	1748542	DDH-12-275	160.17	161.89	silicified mafic intrusive	<0.005	<2	
43	1748543	DDH-12-275	161.89	164.35	FZ mafic intrusive (diorite)	0.01	<2	
44	1748544	DDH-12-275	164.35	164.95	FZ mafic intrusive (diorite)	<0.005	<2	
45	1748545	DDH-12-275	164.95	165.50	silicified mafic intrusive	<0.005	<2	
46	1748546	DDH-12-275			BLANK	<0.005	<2	
47	1748547	DDH-12-275	165.50	166.24	FZ mafic intrusive (diorite)	<0.005	<2	
48	1748548	DDH-12-275	166.24	167.50	silicified mafic intrusive	<0.005	<2	
49	1748549	DDH-12-275	167.50	168.14	silicified mafic intrusive	<0.005	<2	
50	1748550	DDH-12-275	168.14	169.07	FZ mafic intrusive (diorite)	<0.005	<2	
51	1748551	DDH-12-275	169.07	169.82	silicified mafic intrusive	<0.005	<2	
52	1748552	DDH-12-275	169.82	170.87	silicified mafic intrusive	<0.005	<2	
53	1748553	DDH-12-275	170.87	172.00	FZ mafic intrusive (diorite)	0.018	<2	
54	1748554	DDH-12-275	172.00	173.62	FZ mafic intrusive (diorite)	<0.005	<2	
55	1748555	DDH-12-275			STANDARD CND-GS-10D	9.989	<2	
56	1748556	DDH-12-275	173.62	174.45	mafic intrusive (diorite)	0.008	<2	
57	1748557	DDH-12-275	174.45	175.87	Mafic gneiss	<0.005	<2	
58	1748558	DDH-12-275	175.87	177.00	Mafic gneiss	<0.005	<2	
59	1748559	DDH-12-275	177.00	178.00	Mafic gneiss	<0.005	<2	
60	1748560	DDH-12-275	178.00	178.96	Mafic gneiss	<0.005	<2	
61	1748561	DDH-12-275	178.96	181.97	FZ Mafic Gneiss	<0.005	<2	
62	1748562	DDH-12-275	181.97	182.70	FZ Mafic Gneiss	<0.005	<2	
63	1748563	DDH-12-275	182.70	185.00	FZ Mafic Gneiss	<0.005	<2	
64	1748564	DDH-12-275	185.00	186.55	FZ Mafic Gneiss	<0.005	<2	
65	1748565	DDH-12-275	186.55	187.79	Mafic gneiss	0.012	<2	
66	1748566	DDH-12-275			FIELD DUPLICATE (1/4 Core) OF # 1748565	<0.005	<2	
67	1748567	DDH-12-275	187.79	188.52	intense sil Mafic Gneiss	<0.005	<2	
68	1748568	DDH-12-275	188.52	189.60	intense sil Mafic Gneiss	<0.005	<2	
69	1748569	DDH-12-275	189.60	191.80	mafic gneiss	<0.005	<2	
70	1748570	DDH-12-275	191.80	194.00	QFP	<0.005	<2	
71	1748571	DDH-12-275	194.00	196.00	QFP	<0.005	<2	
72	1748572	DDH-12-275	196.00	198.00	QFP	<0.005	<2	
73	1748573	DDH-12-275	198.00	200.00	QFP- mod sil.	<0.005	<2	
74	1748574	DDH-12-275	200.00	202.00	QFP- PY stringers	0.011	<2	
75	1748575	DDH-12-275	202.00	204.00	QFP- PY stringers	<0.005	<2	
76	1748576	DDH-12-275			STANDARD CND-GS-P3C	0.268	<2	
77	1748577	DDH-12-275	204.00	206.00	QFP- disseminated PY	0.005	<2	
78	1748578	DDH-12-275	206.00	208.00	QFP	<0.005	<2	
79	1748579	DDH-12-275	208.00	210.00	QFP	<0.005	<2	
80	1748580	DDH-12-275	210.00	212.00	QFP	<0.005	<2	

Charlotte Project
DDH-12-275 Sample Intervals

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr
81	1748581	DDH-12-275			BLANK	<0.005	<2	
82	1748582	DDH-12-275	212.00	214.00	QFP	<0.005	<2	
83	1748583	DDH-12-275	214.00	216.00	QFP	0.005	<2	
84	1748584	DDH-12-275	216.00	217.93	QFP	0.065	<2	
85	1748585	DDH-12-275	217.93	218.70	QFP- fault with grey clay and PY	0.925	13	
86	1748586	DDH-12-275	218.70	219.67	QFP	0.101	<2	
87	1748587	DDH-12-275	219.67	221.72	QFP	<0.005	<2	
88	1748588	DDH-12-275	221.72	223.25	str sil. QFP w/ trace Po	<0.005	<2	
89	1748589	DDH-12-275	223.25	223.98	QFP	0.01	<2	
90	1748590	DDH-12-275	223.98	224.94	FZ QFP w tr Po	0.733	<2	
91	1748591	DDH-12-275	224.94	225.98	QFP	0.167	<2	
92	1748592	DDH-12-275	225.98	228.00	QFP	0.02	<2	
93	1748593	DDH-12-275	228.00	229.75	QFP	<0.005	<2	
94	1748594	DDH-12-275	229.75	231.54	QFP	<0.005	<2	
95	1748595	DDH-12-275	231.54	232.87	QFP	<0.005	<2	
96	1748596	DDH-12-275			STANDARD CND-GS-5H	3.954	51	
97	1748597	DDH-12-275	232.87	233.60	QFP	0.029	<2	
98	1748598	DDH-12-275	233.60	236.00	QFP w/ increased PY	0.077	4	
99	1748599	DDH-12-275	236.00	238.00	FZ QFP	0.01	<2	
100	1748600	DDH-12-275	238.00	239.80	FZ QFP	<0.005	<2	
101	1748601	DDH-12-275			BLANK	<0.005	<2	
102	1748602	DDH-12-275	277.39	278.57	QFP	<0.005	<2	
103	1748603	DDH-12-275	278.57	279.96	FZ QFP	<0.005	<2	
104	1748604	DDH-12-275	279.96	280.60	alteration zone, sulfide vein within QFP	0.046	<2	
105	1748605	DDH-12-275	280.60	281.80	QFP	<0.005	<2	
106	1748606	DDH-12-275	281.80	283.50	QFP	<0.005	<2	
107	1748607	DDH-12-275	283.50	285.00	QFP	<0.005	<2	
108	1748608	DDH-12-275	285.00	286.90	QFP	<0.005	<2	
109	1748609	DDH-12-275	286.90	288.00	QFP	<0.005	<2	
110	1748610	DDH-12-275	288.00	289.14	QFP	<0.005	<2	
111	1748611	DDH-12-275	289.14	290.00	FZ QFP	<0.005	<2	
112	1748612	DDH-12-275	290.00	290.93	FZ + weak sericitic QFP	0.02	<2	
113	1748613	DDH-12-275	290.93	291.65	strongly altered QFP	0.092	<2	
114	1748614	DDH-12-275	290.93	291.65	DUPLICATE	0.092	<2	
115	1748615	DDH-12-275			STANDARD CND-GS-10D	>10.000	<2	9.7
116	1748616	DDH-12-275	291.65	292.28	strongly altered QFP	0.057	<2	
117	1748617	DDH-12-275	292.28	292.88	sulfide rich qtz vein	>10.000	217	12.2
118	1748618	DDH-12-275			BLANK	<0.005	<2	
119	1748619	DDH-12-275	292.88	294.50	sericitic QFP + FZ	0.068	<2	
120	1748620	DDH-12-275	294.50	294.80	QFP	<0.005	<2	
121	1748621	DDH-12-275	294.80	295.30	quartz vein	<0.005	<2	
122	1748622	DDH-12-275	295.30	296.00	QFP	<0.005	<2	
123	1748623	DDH-12-275	296.00	298.00	QFP	<0.005	<2	
124	1748624	DDH-12-275	298.00	300.00	QFP	<0.005	<2	
125	1748625	DDH-12-275	300.00	302.00	QFP	<0.005	<2	
126	1748626	DDH-12-275	302.00	302.55	QFP	<0.005	<2	
127	1748627	DDH-12-275	302.55	303.00	sulfide rich veinlet in QFP	0.063	<2	
128	1748628	DDH-12-275	303.00	305.00	QFP	<0.005	<2	
129	1748629	DDH-12-275	309.30	312.20	QFP	<0.005	<2	
130	1748630	DDH-12-275	312.20	312.91	veinlets w sulfide + alt QFP	0.018	<2	
131	1748631	DDH-12-275	312.91	314.90	QFP	<0.005	<2	

Property: **Charlotte**
Area: **Flex**
Client: **Ansell Capital Corp.**

Hole Id: **DDH-12-276**
Logged By:
Date Logged:

Scott Dowler
June 24 - 30, 2012



Collar Location:			
Actual:			
Datum:	NAD83, Zone 8	Azimuth:	077 °
Easting:	386634	Dip:	-61 °
Northing:	6881870	Length:	306.93 m
Elevation:	1335		
Proposed:			
Easting:	386634	Azimuth:	075 °
Northing:	6881870	Dip:	-60 °
Elevation:	1335	Length:	300 m

Survey Type: Ranger Multi Shot			
Distance	Azi	Dip	Accept
34.44	077.1	-60.8	
52.73	077.1	-60.7	
98.45	077.2	-60.8	
153.32	075.4	-62.1	
208.18	075.2	-63.3	
253.90	073.8	-63.5	
299.62	073.9	-63.6	

Drilling Information:	
Contractor:	DJ Drilling
Core Diameter:	HQ
Start Date:	24-Jun-2012
End Date:	30-Jun-2012
Casing In:	Yes
Casing Capped:	No
Units:	Metric

Hole Objective:
-Test the downplunge extension of the northern pod

Lithology Summary			
From	To	Lith	Comment
0.00	9.14	CAS	
9.14	113.72	MGn	
113.72	114.00	VN	Hanging Wall Vein
114.00	156.76	MGn	
156.76	159.92	VN	Main Vein
159.92	169.68	MGn	
169.68	204.59	QFP	
204.59	204.85	VN	Footwall Vein
204.85	306.93	QFP	

DDH-12-276 was drilled to test the down plunge extension of the northern pod of the Flex Zone.

From 9.14m to 113.72m is competent mafic gneiss with very few fault zones. There is patchy prospective looking clay alteration and silicification throughout the entire interval. Clay alteration is generally moderate to strong and pervasive where only discontinuous quartz bands allow for the distinction of gneissosity. Silicification is generally accompanied by quartz veins and veinlets. The first mineralized vein was intersected between 113.72-114m. This vein is brecciated quartz containing significant pyrite and arsenopyrite, trace galena, stibnite, sphalerite and chalcopryrite. The vein is bounded on either side by clay alteration, silicification and two large shear zones. Following the first vein is another interval of mafic gneiss between 114-156.76m where there is abundant faulting and many patches of strong argillic alteration. At 156.76-159.92m is a large zone of brecciated, intensely altered host rock, bounding a brecciated quartz vein full of sulphide fine to medium grained sulphide mineralization. The vein consists of 25-30% pyrite, 10-15% sphalerite, 4-5% arsenopyrite, 4-5% stibnite, trace galena and trace molybdenite. There was also a small speck of visible gold seen in the core after it was cut. After this vein was a 15m wide fault in which the contact between the altered Mafic Gneiss and the Quartz Feldspar Porphyry. The QFP occurs from 169.68 to 306.93m (EOH) and is relatively competent with few faults. It varies from sericite altered intervals, to silicified intervals to unaltered intervals for the remaining length of the hole. Sericite and silicification are generally found proximal to quartz veins and veinlets. At 204.59 to 204.85m is a highly fractured and broken-up sulphide rich vein containing almost 90% pyrite in addition to trace arsenopyrite, sphalerite and stibnite. The first instance of small, angular, mafic xenoliths occurs at 226m and they are found sporadically throughout the remaining length of the hole. At 289.8m is another small, broken-up sulphide rich vein. After this, alteration quickly dies out and the hole ends in unaltered, phenocryst rich (>80%) quartz feldspar porphyry.

It has been interpreted that DDH-12-276 has extended the Hanging Wall Vein, the Main Vein and the Footwall Vein to a greater depth in the Flex Zone. The veins at 114m, 157m and 205m are all expected show significant gold values.

Charlotte Project
DDH-12-276 Detailed Log

Hole Id: DDH-12-276
Logged By: S. Dowler

Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
0.00	9.14			CAS	Overburden	Overburden/ Casing																									
9.14	113.72			MGn	Feldspar Qtz Amph Biotite Schist-Gneiss	Blue-grey, fine grained, moderately-well foliated schist/ gneiss. Mineralogy is 30% mafic (amph + bio?), 40% plag, 25% qtz, 5% limonite, trace fg magnetite. There is also trace fg disseminated py throughout. Moderate limonitic alteration is patchy, generally associated with cleavage/fracture planes and mafic 'bands'. Also MnO on many fracture surfaces. Few strongly silicified zones. Foliation is quite variable over the top part of the hole. Few intervals of clay alteration and intervals of silicification. Trace quartz veinlets throughout. Upper portion of the hole is very blocky.	tr						disseminated	blue grey	2						3								1	patchy, fracture planes	
		9.14	11.26		limonite	Strongly limonite altered interval that is pale rusty orange-brown coloured with moderate hardness. Blocky rubbly core. One 4cm wide clay seem towards the irregular lower contact.								pale rusty orange-brown							4									pervasive	
		10.77				Cleavage/ foliation 50 deg to CA.																									
		11.26	12.40		clay altered rock	Zone of soft gneiss that has been pervasively clay altered, but generally kept its original blue grey colour. Upper 5cm of unit is a light butter yellow clay in contact with a bull quartz vein.																						3	pervasive		
		12.40	14.56		MGn	Same as initial litho summary. Concordant qtz veinlets w/o mineralization.																									
		12.46			foliation	Foliation 50 deg to CA.																									
		14.56	14.73		silicification	Tan coloured, strongly silicified zone with ghosted foliation. Limonite alteration of mafic minerals. Contacts obscure.								tan	4															pervasive	
		14.73	28.95		gneiss/schist	Blocky, rubbly core. Patchy blue grey mafic gneiss with lighter coloured, schist-looking rock (patchy limonitic alt). Concordant quartz veinlets are grey, white and some vuggy, boxwork. 1-2% f-med grained, cubic, brassy py, occasional clusters. Highly variable foliation from 18.4-19.15m--> parasitic fold within core. Gradational lower contact.	tr						disseminated	blue grey	2						3								1	patchy, fracture planes	
		17.58				Foliation 25 deg to CA.																									
		18.75				Foliation 0 deg to CA.																									
		19.00				Foliation 170 deg to CA.																									
		19.15				Foliation 15 deg to CA.																									
		24.00				Foliation 30 deg to CA																									
		28.95	30.02		limonite	Strongly limonite altered interval that is pale rusty orange-brown coloured with moderate hardness. Blocky rubbly core. One 4cm wide clay seem towards the irregular lower contact.								pale rusty orange-brown							3								1	pervasive	
		30.02	32.24		MGn	See initial litho summary.																									
		31.76				Foliation 50 deg to CA.																									
		32.24	32.76		silicification	Strongly silicified mafic gneiss.									4															pervasive	
		32.76	33.37	FZ	fault	Blocky, rubbly rusty orange brown, limonitic core. 20cm wide clay seem towards the bottom contact. Obscure lower contact orientation.															4								3	pervasive	
		33.37	37.20		MGn	Blue-grey, fine grained, moderately-well foliated schist/ gneiss. Mineralogy is 30% mafic (amph + bio?), 40% plag, 25% qtz, 5% limonite, trace fg magnetite. There is also trace fg disseminated py throughout. Moderate limonitic alteration is patchy, generally associated with cleavage/fracture planes. Trace quartz veinlets throughout. Core is very blocky.	tr						disseminated	blue grey																	
		37.20	41.92		patchy sil.	Off-white to rusty orange coloured. Patches of ghosted foliation and patches of completely obliterated fabric. Very hard, strongly silicified interval. Also patchy light orange limonitic alteration as well as limonite and MnO on cleavage/fracture planes. Trace quartz veinlets.								off white to rusty orange	4						4									patchy	
		41.10				Ghosted foliation at 60 deg to CA.																									
		41.92	43.00	FZ	shear	Moderately limonitic, blocky, rubbly core with minimal amounts of gouge on some fracture planes. Weak shear.								off white to rusty orange							3									patchy	
		43.00	48.28		limonite, clay, sil	Pervasive rusty orange limonitic alteration- mafic minerals appear to be completely weathered out to limonite as well. Patchy clay alteration and patchy, strong silicification. MnO on cleavage surfaces. Remnant foliation only seen via elongate quartz blebs + oxidized mafics? No sulphide. One 3cm wide limonite stained qtz vein at 44.5m (45 deg to CA).								off white to rusty orange	4						4								4	pervasive- lim patchy	
		44.20				Remnant, ghosted foliation at 40 deg to CA.																									
		46.00				Remnant, ghosted foliation at 60 deg to CA.																									
		48.28	52.55		silicification	Very blocky core. Weak to strong, patchy silicification of mafic gneiss. Zones with weak ghosted foliation and zones that are completely unaltered with moderately strong foliation. Rock colour is variable due to patchiness of the alteration. Gradational lower contact of interval. Trace fg py disseminated and in few blebs.	tr						disseminated, blebs		2-4						3									patchy	
		51.60				Foliation at 55 deg to CA.																									
		52.55	53.74		clay altered	Gradation into strong clay alteration. In the upper portion of the interval gneissosity can be seen with both the mafics and felsics. Further along the mafics have all been altered to limonite and feldspar is completely altered to white clay. Quartz visible in thin lenses/ bands. moderate, rusty orange limonite alteration is pervasive throughout. Trace mm scale discordant quartz stringer veinlets. Rock is generally an off white to rusty orange colour. No sulphide.								off white to rusty orange							3								4	pervasive	
		53.74	54.56		silicification	White orange, intense, pervasive silicification of what appears to be the previous unit. Fabric is non-existent. Mafics appear to have been altered to limonite. Lenticular quartz is the only evidence of gneissosity. There is also moderate pervasive limonite alteration of the interval. 1-2% vfg disseminated pyrite throughout the unit.	1-2						disseminated	off white to rusty orange	5						3									pervasive	
		54.56	56.74		silicification	See 48.28-52.55m.																									
		56.74	57.20	FZ	shear	Blocky rubbly core with gouge on the fracture planes.																									
		57.20	59.40		silicification	White- orange, strong pervasive silicification of Mafic gneiss. Mafics appear to be completely altered to limonite. Limonite alteration is pervasive. Parent rock mineralogy is likely feldspar, quartz. Mm thick, quartz bands show parent rock foliation. Trace fine grained, disseminated py.	tr						disseminated	off white to rusty orange	4						3									pervasive	
		57.90				Foliation at 70 deg to CA.																									
		59.40	59.71		Augen Gneiss??	Medium to coarse grained, v weakly foliated rock. Mineralogy is obscure due to alteration: 15% biotite, 35% chlorite, 45% plag, <5% quartz. Feldspar are almost oval to round throughout and point in a weak lineation of 70 deg to CA--> porphyroblasts? Partial to complete d. green chlorite alteration of mafics along v weak foliation. Trace fg disseminated py throughout.lintense quartz flooding/ silicification--> cannot scratch with carbide tipped scratcher. INTERP: Augen Gneiss.... could also be some sort of coarse grained intrusive diorite or feldspar porphyry??	tr						disseminated	white + grey	5									chl						pervasive- sil mafics- chl	
		59.71	61.19		clay alt	Strong pervasive clay alteration of augen gneiss + fg dioritic rock? 1 cm wide concordant bull qtz veinlet at the bottom contact. Dioritic material is v fine grained, equigranular, very soft due to clay alteration of feldspar and mafics (unknown). minor quartz. 1-2% silvery gold fine grained disseminated py. pervasive, moderate limonitic alteration.	1-2						disseminated	highly variable							3								4	pervasive	
		61.19	61.70		silicification	A small section of strongly silicified mafic gneiss.																									
		61.70	62.72		clay alt	The mafics have all been altered to limonite and feldspar is completely altered to white clay. Quartz visible in thin lenses/ bands. moderate, rusty orange limonite alteration is pervasive throughout. Trace mm scale discordant quartz stringer veinlets. Rock is generally an off white to rusty orange colour. No sulphide.																							3-4	pervasive- clay mafics alt to limonite	

Charlotte Project
DDH-12-276 Detailed Log

Hole Id: DDH-12-276
Logged By: S. Dowler

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact		
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
0.00	9.14																						
9.14	113.72			variable					parallel to foliation	tr	sub cm	qtz	py										
		9.14	11.26																				
		10.77		50																			
		11.26	12.40																				
		12.40	14.56																				
		12.46		50																			
		14.56	14.73																				
		14.73	28.95	variable					parallel to foliation	tr	sub cm	qtz	py										
		17.58		25																			
		18.75		0																			
		19.00		170																			
		19.15		15																			
		24.00		30																			
		28.95	30.02																				
		30.02	32.24																				
		31.76		50																			
		32.24	32.76																				
		32.76	33.37			3																	
		33.37	37.20							tr	mm	qtz									gradational		gradational
		37.20	41.92																				
		41.10																					
		41.92	43.00			1																	
		43.00	48.28							tr													
		44.20																					
		46.00																					
		48.28	52.55	55						tr	mm	qtz											gradational
		51.60																					
		52.55	53.74							tr	mm	qtz									gradational		gradational
		53.74	54.56																				
		54.56	56.74																				
		56.74	57.20																				
		57.20	59.40	65-70																			
		57.90		70																			
		59.40	59.71	70																			
		59.71	61.19							tr	1cm	qtz											
		61.19	61.70																				
		61.70	62.72																				

Charlotte Project
DDH-12-276 Detailed Log

Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																		
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		62.61				Ghosted foliation at 65 deg to CA.																										
		62.72	66.23		Augen Gneiss??	Same as 59.4-59.71m. Gradational upper and lower contact. Intense silicification until bottom 20cm of interval where clay alteration takes over, grading into the next unit.	tr					disseminated	black + white	5										2						pervasive- sil mafics- chl		
		63.60				V weak, ghosted foliation at 70 deg to CA.																										
		66.00				V weak, ghosted foliation at 80 deg to CA?																										
		66.23	68.81		white clay altered	Very light grey to white rock, with fine grained, grey, clear quartz blebs with a very weak foliation and feldspar strongly altered to a soft white clay. No mafics. Trace fg disseminated py. Gradational upper contact. Lower contact has undergone moderate silicification and is in sharp contact with mafic gneiss.	tr					disseminated	very light grey to white															4		pervasive		
		68.81	69.40		MGn	See 33.37-37.2m.																										
		69.40	69.68		Augen Gneiss??	Same as 59.4-59.71m. Sharp upper and lower contacts at 60 deg to CA. No evidence of chill margins.																										
		69.68	70.00		MGn	See 33.37-37.2m. An S-shaped, bull white qtz vein at 69.75m.																										
		70.00	70.35		silicification	Strongly silicified mafic gneiss. Mafics still discernible. Sharp upper contact at 130 deg to CA.																										
		70.35	71.96		silicification	Strongly silicified with similar description to 66.23-68.81m minus the clay alteration. There is also a slight increase in the pyrite content.	1					disseminated blebs	very light grey to white	4																pervasive		
		71.00				Foliation at 60 deg to CA.																										
		72.00				Foliation at 55 deg to CA.																										
		71.96	72.56		MGn	See 33.37-37.2m. Sharp upper contact at 70 deg to CA. Obscure lower contact.																										
		72.56	75.65		clay alt	Light bluey grey coloured rock of moderate hardness. Well foliated into mm sized bands of clear quartz and softer, white, clay altered feldspar. Clay alteration is moderate to strong and pervasive. There is also patchy l brown orange limonitic alteration and limonitic alteration of fracture surfaces. There are a number of 1cm wide concordant, white, bull quartz veins (1-2%). 1-2% f gr disseminated py throughout.	1-2					disseminated	light bluey grey																3-4	pervasive		
		74.00				Foliation at 65 deg to CA.						65																				
		75.65	75.82	BX	matrix?	Light to dark grey, microcrystalline, aphanitic matrix with a hardness of 4 (cant scratch with penny) and no reaction with acid with or without being scratched. There has been some rotation and transportation of clasts. Clasts are angular, sub cm sized, host rock fragments and white bull quartz fragments. The interval consists of 60% matrix, 40% clasts. mineralization: 5-10% vfg disseminated py, trace light blue silver, metallic, vfg, disseminated (in fractures) Stibnite, galena?? Up hole contact is at 145 deg to CA, down hole contact is at brecciated but at approx 70 deg to CA.	5-10					tr	disseminated	variable																		
		75.82	76.36		clay alt	Same as 72.56-76.65m.																										
		76.36	76.48	BX	matrix?	Light to dark grey, microcrystalline, aphanitic matrix with a hardness of 4 (cant scratch with penny) and no reaction with acid with or without being scratched. There has been some rotation and transportation of clasts. Clasts are angular, sub cm sized, host rock fragments and white bull quartz fragments. The interval consists of 40% matrix, 60% clasts. mineralization: 5-10% vfg disseminated py, trace light blue silver, metallic, vfg, disseminated (in fractures) Stibnite, galena?? Up hole contact is at 15 deg to CA, down hole contact is sharp at 50 deg to CA.	5-10					tr	disseminated	variable																		
		76.48	78.36		clay alt	Same as 72.56-76.65m.																										
		77.13				Foliation at 70 deg to CA.						70																				
		78.36	78.48	FZ	shear	Small fault zone consisting of rubbly core and 1-2cm of clay and gouge.																										
		78.48	81.06		clay, lim	fg, well foliated mafic gneiss consisting of quartz, mafics (bio + amph), feldspar altered to white clay. There is also weak, pervasive limonite alteration. Blocky core. Trace white, bull quartz veining.								l brown															2-3	pervasive- clay, patchy- lim		
		78.98				Foliation at 75 deg to CA.						75																				
		81.06	84.29		MGn	Medium grey to blue, f-med grained, well foliated bio-qtz-feld gneiss. Trace magnetite. Trace fg disseminated py. Rare chlorite and py clusters in fractures. Trace white quartz veining with no mineralization.	tr							medium grey to blue																unaltered		
		83.00				Foliation at 65 deg to CA.						65																				
		84.29	84.91	FZ	fault	Fault characterized by blocky, rubbly core with limonite on the fracture planes. Minor gouge and gravel near the up hole contact .																										
		84.91	85.32		clay alt MGn	Dirty grey to orange coloured, fine grained, moderately well foliated gneiss. Mafics alter to a grey clay and feldspar alters to a white clay, quart remains unaltered. Pervasive, weak limonitic alteration. Pervasive weak clay alteration. Trace white, grey, sub cm quartz veinlets containing trace fg py.	tr					disseminated in qtz veinlets	dirty grey to orange																2-3	pervasive		
		85.32	86.93		silicification	Light grey, very weakly foliated to equigranular texture, very hard interval. Quartz flooding/ intense silicification is pervasive throughout--> almost completely destroyed the fabric? Mafics (biotite?) partially to completely altered to d. green chlorite. 10% bio, 10% chl, 20% qtz, 60% feld. Trace fg disseminated py, gneiss or weak meta-granodiorite???	tr					disseminated	light grey	4-5										2						pervasive- sil mafics- chloritized		
		86.93	87.65	Vn	vein/clay/fault?	Very fractured, broken up rock containing fractured, broken up white quartz vein material within limonitic, clay altered host rock--> clay altered gneiss? Trace fg py in clusters within some fractures of the quartz vein. Trace chlorite. Moderate pervasive limonitic alteration.	tr					vein	variable																	pervasive		
		87.65	88.10		brown clay + quartz	Fractured up, distorted, 1-2cm wide, white-grey, bull quartz vein within moderately soft, tan brown vfg matrix of clays and other micas? Moderate-strong pervasive clay alteration.								tan brown															3-4	pervasive		
		88.10	88.66		clay alt with quartz	Same as 86.93-87.65m.																										
		88.66	88.89		brown clay + quartz	Same as 87.65-88.1m. Minor purple (scratch red) vfg splotch within tan brown f gr matrix--> hematite. Sharp upper contact at 45 deg to CA. Sharp lower contact at 70 deg to CA.								tan brown																3-4	pervasive	
		88.89	90.29		clay alt MGn	Same as 84.91-85.32m.																										
		90.00				Foliation at 80 deg to CA.																										
		90.29	90.61		brown clay + quartz	Same as 87.65-88.1m. Minor purple (scratch red) vfg splotch within tan brown f gr matrix--> hematite. Sharp upper contact at 120 deg to CA. Sharp lower contact at 120 deg to CA.								tan brown																3-4	pervasive	
		90.61	91.67		clay alt MGn	Same as 84.91-85.32m.																										
		91.67	91.84		clay alt with quartz	Same as 86.93-87.65m.																										
		91.84	92.63		silicification	Strong silicification likely overprinting what appears to be clay altered gneiss. Ghosted foliation. Trace, distorted white quartz veining. Trace fg disseminated py throughout.	tr					disseminated	grey brown	3-4																pervasive		
		92.63	95.36		Garnet biotite chlorite schist/ gneiss	Sharp upper contact at 70 deg to CA. Brown-red, soft, altered, circular (faint dodecahedron), 0.2-1cm sized, garnet porphyroblasts surrounded by biotite clearly bending around the garnet (suggesting syn-formation). Rare quartz forming in the tail of the porphyroblastic texture. Garnet frequency and size increase the closer you are to the upper contact, as does chloritized biotite(INTERP: higher heat and pressure from the up hole direction?), rare mineralogy: 5-10% garnet, 5% chlorite, 40% biotite, 40% feldspar, <5% qtz. 1-2%. 1-2%, white, 1-2cm wide quartz veins throughout the interval. Bottom contact is sharp at 80 degrees to CA and marked by a quartz vein. After this point no garnet or chlorite present--> gradational decrease in garnet up to this point. Patchy orange brown limonitic alteration throughout the unit. Trace fg disseminated py.	tr					disseminated	grey												2							sporadic
		93.60				Foliation at 55 deg to CA.																										

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Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		62.61		65																			
		62.72	66.23	70-80																	gradational		gradational
		63.60		70																			
		66.00		80																			
		66.23	68.81																				
		68.81	69.40																				
		69.40	69.68																	60	sharp	60	sharp
		69.68	70.00							tr	1cm	qtz											
		70.00	70.35																	130	sharp		
		70.35	71.96																				
		71.00		60																			
		72.00		55																			
		71.96	72.56																	70	sharp		
		72.56	75.65	60-70					60-70	1-2	1cm	qtz									obscure		sharp
		74.00		65																			
		75.65	75.82							10	1cm	qtz		previous host rock and qtz	40	angular	?	60	3-4	145	sharp	70	brecciation
		75.82	76.36																				
		76.36	76.48											previous host rock and qtz	60	angular	?	40	3-4	15	sharp	50	sharp
		76.48	78.36																				
		77.13																					
		78.36	78.48																				
		78.48	81.06																				
		78.98																					
		81.06	84.29	60-70					60	tr	1-3cm	qtz											sharp, broken up with fault
		83.00		65																			
		84.29	84.91																				
		84.91	85.32	70-70						tr	sub cm	qtz	py										
		85.32	86.93																				
		86.93	87.65						fractured up	20	3cm	qtz	py										
		87.65	88.10						fractured up	10	1-2cm	qtz											
		88.10	88.66																				
		88.66	88.89						fractured up	10	1-2cm	qtz								45	sharp	70	sharp
		88.89	90.29																				
		90.00		80																			
		90.29	90.61						fractured up	10	1-2cm	qtz								120	sharp	120	sharp
		90.61	91.67																				
		91.67	91.84																				
		91.84	92.63						distorted	tr	sub cm	qtz											
		92.63	95.36	55-60						1-2	1-2cm	qtz								70	sharp	80	sharp- qtz vein
		93.60		55																			

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Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																		
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		95.36	99.33		Biotite schist/ gneiss	Well-foliated, biotite, feldspar, qtz with a sharp upper contact with a 1cm wide quartz vein. Sharp lower contact at 80 deg to CA. Rare, patchy strong silicification. From 97.07-97.37m is a light rusty orange, hard, mostly felsic zone with clusters of flaky, pearly blue grey mica. The alteration in this small zone appears to be both silicification and limonitic. Just before the bottom contact is a number of rubbly fragments with some red brown hematite. Trace, white qtz veining.	tr						disseminated	medium grey	3																patchy	
		96.00				Foliation at 65 deg to CA.																										
		98.00				Foliation at 45 deg to CA.																										
		99.33	99.44	Vn	quartz vein	White to grey, fragmented bull quartz vein.																										
		99.44	100.15	FZ	fault	Blocky, rubbly core with intensely clay altered fragments. Bottom 20cm of zone is consolidated gouge and pervasively clay altered fragments.								dirty grey															5	pervasive		
		100.15	101.24		Garnet biotite schist/ gneiss	Same as previous garnet schist except garnet size range is 1-5mm and there is much less chlorite. Within 20cm of lower contact is strong pervasive limonitic alteration. Lower contact at 80 deg to CA.																										
		101.24	101.67	FZ	fault	Intense pervasive clay altered and limonitic rock with some gouge at the bottom contact.								orange brown															5	pervasive		
		101.67	102.05		schist	Light green, pervasively chloritized schist with sharp contacts. Mineralogy is grey to clear, elongate quartz blebs and white feldspar plus chloritized mafics. Relatively soft rock. No veining. 1-2% fg disseminated py. Trace interstitial tan brown clay.	1-2						disseminated	light green											4						pervasive	
		102.05	106.03		clay alt garnet gneiss	Well-foliated gneiss consisting of feldspar completely altered to white clay (kaolinite??), but biotite and quartz unaltered. Small <5mm wide, brown-red, circular, v soft garnet crystals (5% total). 1-2% concordant and discordant, white quartz veins containing trace fg disseminated py. rare patchy orange-brown limonitic alteration as well as some limonite on cleavage and fracture planes.	tr						in veinlets	grey and brown							2								3-4	pervasive- white clay patchy- lim		
		104.00				Foliation at 65 deg to CA.																										
		106.03	106.36		chlorite	Light green, pervasively chloritized schist with sharp contacts. Mineralogy is grey to clear, elongate quartz blebs and white feldspar plus chloritized mafics. Relatively soft rock. No veining. 1-2% f gr disseminated py. Trace interstitial tan brown clay. Gradational alteration contacts.	1-2						disseminated	light green											4						pervasive	
		107.00			foliation	Foliation at 40 deg to CA.																										
		106.36	108.21			Same as 102.05-106.03m.																										
		108.21	111.32	FZ	fault	Very blocky and rubbly core with minor gouge on cleavage planes and occasional consolidated gouge. Fragments consist of white clay altered garnet gneiss, limonite altered gneiss, pervasive limonite altered gneiss, white bull quartz as well as intensely argillic fragments. The argillic fragments are generally in contact with white grey quartz veins and have a yellow tinge to it with vugs and a decent amount of disseminated py (INTERP: fault will run).								variable															4	pervasive		
		111.32	113.72		extreme argillic alteration (bleached gneiss)	Faint foliation observed within the upper half meter of this interval due to quartz lenses and possibly quartz stringer veinlets, but after that the fabric is completely destroyed. The rock has been intensely altered to white and yellow coloured clays. Quartz is still present but with no foliation. This interval has a fg, equigranular appearance. Throughout the interval are 1-2% quartz stringer veinlets with no mineralization. Within 50cm of the lower contact moderate silicification overprints the argillic gneiss. No observable sulphide mineralization in this interval.								white to yellow	3															5	pervasive- clays localized at lower contact- sil	
113.72	114.00	113.72	114.00	VN	brecciated sulfide vein	Sharp contacts at 70 deg to CA. approx 0.5cm of white bull quartz at both the up hole and down hole contact. Vein is brecciated and sharp d grey quartz with sulphide has undergone some rotation. Minor vugs within white quartz (INTERP: secondary event) making up the matrix. White quartz matrix- 25% (mostly in the bottom 10cm of vein), sulphide rich d grey, angular, sub-cm sized to 5cm diameter quartz clasts- 75%. Minor limonite alteration throughout, but more concentrated near the bottom contact. There is no sulphide mineralization in the white quartz or with the limonite. Mineralization of the d grey, angular vein clasts is as follows: fg pyrite disseminated throughout but more commonly in clusters with a mud crack texture to them (total 10-15%). Very fg, silver-grey, metallic arsenopyrite in clusters with a mud crack texture to them (10%). Trace fine grained specs of brassy yellow chalcopyrite. Trace fine grained, red-brown sphalerite disseminated throughout. Trace lead grey, metallic, bladed stibnite. Trace fg purple, lead gray galena?	10-15	10	tr	tr	tr	tr	brecciated, mudcrack texture within clasts	white and d grey								3										localized
114.00	156.76	114.00	114.37	MGn	strongly silicified	Off-white-grey, strong silicification overprinting of the white clay alteration. Ghosted foliation. Repeating Z patterned grey quartz vein containing 5-10% fg py.	tr						in veinlets	off white to grey	4																pervasive	
		114.37	117.43	FZ	fault	Abundant blocky, rubbly core with gouge on most cleavage surfaces. Some small sections of clay and gouge. Many gravel pebbles are sub rounded. Bottom 40cm is a white clay hosted gravel conglomerate. INTERP: moderately intense shearing.																										
		117.43	120.20		bio-musc MGn	Weak, wavy foliation of a medium grained gneiss. Mafics- biotite, but many biotite crystals are being partially altered? to muscovite. Felsics- qtz+ feld. Sporadic, small, purple-red (streak purple red), blotches of hematite with minor specular hematite (weak magnetism) in the midst? Intensity of brown clay alteration decreases gradually away from the fault as does limonite alteration. Trace fg disseminated py. Trace qtz veining.	tr						disseminated	off white to brown							1									4	localized- clay sporadic- hem	
		120.20	120.86		chlorite	D green, fg rock with minor chlorite alteration and intense pervasive clay alteration mid-interval. Biotite, chlorite, feld, qtz. 2-3% fg disseminated py.	2-3						disseminated	d green											3				4-5	pervasive		
		120.86	123.17		bio-musc MGn	same as 117.43-120.2m. Contains small (10-15cm wide) intervals of vfg gneiss where the mafic mineral percentage has increased drastically. At 127.2m is a fractured grey quartz vein with red FeOx staining and trace pyrite. Fracture planes in the area also																										
		123.17	123.47		chlorite/ sericite	Pale green section of chlorite/ sericite altered gneiss.																				4					pervasive	
		123.47	129.03			Same as 117.43-120.2m. Contains small (10-15cm wide) intervals of vfg gneiss where the mafic mineral percentage has increased drastically. At 127.2m is a fractured grey quartz vein with red FeOx staining and trace pyrite. Fracture planes in the area also have abundant hematite staining.																										
		126.00				Foliation at 40 deg to CA.																										
		129.03	129.26		sericite?	A 1cm wide, grey, quartz vein at 140 deg to CA surrounded by qtz, feld and interstitial pale grey-green sericite. Minor, fg purple red hematite disseminated throughout the vein. 2-5% fg purple-red hematite disseminated throughout the alteration envelope. Occasionally specular hematite. Trace fg py.	tr						disseminated	pale grey green					3-4												sporadic- hem interstitial- ser	
		129.25	129.52	BX	breccia	Irregular contact at 5 deg to CA. Clasts consist of brecciated, grey to opaque, angular quartz vein material as well as weakly to moderately altered, angular host rock clasts. The contact is irregular but generally at a low angle to the CA. Within the matrix are rare purple-red hematite specs.Matrix is hard, d. grey qtz. Clast size ranges from mm's to a couple cm's. 60% clasts, 40% matrix.																										
		129.52	132.32		clay alt	Well foliated, fg gneiss with feldspar completely altered to white clay. Biotite is the mafic phase. 5% white grey, fractured quartz veins with no mineralization.																							3-4	pervasive		
		131.00				Foliation at 40 deg to CA.																										
		132.32	133.20	FZ	fault	Blocky, rubbly core with one small 10cm wide section of consolidated gouge.																										
		133.20	134.72			Same as 129.52-132.32m. At 134.2 is a 5cm wide section of light orange white entirely clay altered rock concordant with foliation.																										
		134.72	135.73	FZ	fault	Mostly gravelly rubble and gouge. Lower contact at 35 deg to CA.																										
		135.73	136.00			Same as 129.52-132.32m.																										
		136.00				Foliation at 35 deg to CA.																										

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Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		95.36	99.33							tr	cm sized	qtz								80	qtz veinlet	80	qtz vein
		96.00		65																			
		98.00		45																			
		99.33	99.44						90	100	10cm	qtz											
		99.44	100.15			3																	
		100.15	101.24																			80	sharp
		101.24	101.67			3																	
		101.67	102.05																	45	sharp	50	sharp
		102.05	106.03						steep	1-2	<1cm	qtz	py										
		104.00		65																			
		106.03	106.36																				
		107.00		40																			
		106.36	108.21																				
		108.21	111.32			3																	
		111.32	113.72							1-2	sub cm	qtz										60	sharp
113.72	114.00	113.72	114.00						70	100	true width 20cm	qtz	py, asp, cp, sph, stb, gal	qtz + sulfide	75	angular	white qtz	75	3	70	sharp	70	sharp
114.00	156.76	114.00	114.37						low angle z-shaped	2-5	0.7cm	qtz	py										
		114.37	117.43			3-4																	
		117.43	120.20							tr	qtz												
		120.20	120.86																				
		120.86	123.17																				
		123.17	123.47																				
		123.47	129.03																				
		126.00																					
		129.03	129.26						140	5	1-2cm	qtz	hem										
		129.25	129.52											qtz, altered host rock	60	angulard	qtz?	40	4	0-5	irregular		
		129.52	132.32							5	1-4cm	qtz											
		131.00		40																			
		132.32	133.20																				
		133.20	134.72																				
		134.72	135.73																				
		135.73	136.00																				
		136.00																					

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Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																				
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style			
		136.00	137.54	FZ	fault	Blocky, rubbly core with minor gouge on fracture planes and some gravelly fragments.																												
		137.54	140.09		sericite	Pervasive pale yellow-white, soft alteration--> sericite? Waxy feel to cleavage and fracture planes. At 39.2m is a 30cm wide sericitized section of gneiss with foliation still in tact. At 137.6-137.8 is a sericite altered feldspar porphyry dike? This small section appears very fine grained (also highly altered) and has white, clay altered feldspar phenocrysts. At 139.6 is a 3cm wide, white, bull quartz vein oriented at 30 deg to CA. 2-3% trace fg, disseminated py generally concentrated in the strongly sericitic portions of the interval. Gradational lower contact.	2-3						disseminated	pale yellow white																		pervasive		
		140.09	142.00		chl, gar, bio gneiss	Dark green, v soft, fg, well foliated gneiss containing syn-deformation, pink-red, <0.5cm diameter, circular to ovalar, v soft garnet porphyroblasts. Pervasive chlorite alteration of biotite. Trace fg py. At 141.3m is a sericitic alteration zone that still has in tact garnet crystals.	tr						disseminated	d green											4							pervasive		
		142.00	143.25	FZ	fault	Very rubbly core with gravel in some sections and minor gouge on cleavage planes. Patchy, orange limonite alteration on fracture planes.														3												patchy		
		143.25	143.83		sericite + qtz	Pervasive pale yellow-white, soft alteration--> sericite? Waxy feel to cleavage and fracture planes. Abundant white, irregularly oriented quartz veins with 1-2% fine grained, disseminated py. Orange limonite alteration along micro fractures and vein margins. Sometimes py replacement along fracture planes as well.	1-2						disseminated	pale yellow white						3												pervasive-ser patchy- lim		
		143.84	143.98	Vn	quartz	White quartz vein at 30 deg to CA with trace fgpy and localized, patchy orange limonitic alteration.	tr						disseminated	white						3												patchy, localized		
		143.98	144.23	FZ	fault	Rubbly ground up core.																												
		144.23	149.83		argillic alt (bleached gneiss)	Well foliated, fine grained, strongly clay altered interval. Qtz present in thin mm scale, discontinuous bands and feldspar + mafics have been completely altered to a soft white clay (kaolinite?). 3-5% white, concordant quartz veining throughout. In the veins is trace fg py and v rare fg stibnite? galena? 2-3% fg disseminated py throughout the interval. Trace red brown hematite with rare specular hematite (magnetic) associated with it.	2-3			tr			disseminated	white						2										4		pervasive-white clay specs- hem		
		147.00				Foliation at 30 deg to CA.																												
		148.00				Foliation at 55 deg to CA.																												
		149.83	149.90	Vn	quartz	White quartz vein with trace fg py.																												
		149.90	152.37		argillic alt (bleached gneiss)	Well foliated, fine grained, strongly to intensely clay altered interval. Qtz present in thin mm scale, discontinuous bands and feldspar + mafics have been completely altered to a soft white clay (kaolinite?). Some zones where the fabric has been completely destroyed and it is here where py is most abundant. There are also localized zones of pale green clay. 3-5% white, concordant quartz veining throughout. In the veins is 2-3% fine to medium grained py. Few stringer veinlets have been almost completely replaced by fine grained py and at 152.2m is a mm sized stringer veinlet that contains 50% fine grained, red-brown SP as well as fine grained py. 5-10% fg disseminated py throughout the interval.	5-10			1			disseminated, in veins/ veinlets	white																4-5		pervasive		
		151.00				Foliation at 50 deg to CA.																												
		152.37	154.23	FZ	fault	Very rubbly, broken up core consisting of the clay altered mafic gneiss and 3-5% fg disseminated py.	3-5						disseminated																					
		154.23	156.76			Same as 149.9-152.37m.																												
		155.00				Foliation at 50 deg to CA.																												
156.76	159.92	156.76	157.59	Vn	marbled vein and host rock (breccia?)	Upper contact marked by a fractured, randomly oriented, white quartz vein containing clusters of fine to med grained py and surrounded by moderately silicified host rock. Host rock is intense, pervasively white clay altered gneiss. Abundant vfg py in micro fractures. abundant quartz flooding with clay altered rock. Dark grey sections of very fine grained pyrite, almost making up some sort of matrix. At 156.8m is what appears to be a crackle brecciated 0.4cm wide band of dull red brown sphalerite. The matrix is dull white, remobilized, silicified host rock or quartz? Near this area is trace fine to medium grained, bladed, purple to lead grey, metallic stibnite? At 156.9m is a small zone of clast dominated breccia. Clasts here are pyrite bearing, clay altered host rock and the matrix is d grey, vfg disseminated pyrite. Following this zone is another highly brecciated grey-opaque quartz vein intermixed with dull white clay altered host rock as well as silicified host rock and trace fg disseminated py matrix(?). Rare splotches of soft, aqua coloured clay within host rock and generally in contact with quartz. Minor vugs. Near the down hole contact is a zone containing more host rock than other parts of the interval. There is also splotches of	15-20			1		tr	disseminated, clusters, fracture infilling		3-4																3-4		patchy	
		157.00				Foliation at 40 deg to CA.																												
		157.59	159.92	Vn	sulfide rich qtz vein	Sharp, irregular contact where mineralization increases in intensity. The upper 40cm of this section is marbled looking white and grey quartz with clustery patches of fine to medium grained, brassy pyrite with a crackled mud crack texture and dull, red brown sphalerite in clustery patches and also with this crackled mud crack texture. From 158.04-158.80m is a zone of very concentrated sulphides (>75%). In this zone pyrite is medium to coarse grained, brassy and present in very large clusters with a mud crack texture. vfg py is also present disseminated throughout quartz vein material. Sphalerite is medium to coarse grained, dull, red-brown and present in very large, irregular clusters with a mud crack texture. Associated with the sphalerite is fine grained lead grey sulphide, some with an acicular to bladed habit (stibnite), other mineralization in thin flaky sheets (molybdenite?), also possible trace galena. There are also vfg clusters of a steel grey, metallic mineral (arseno?). Arsenopyrite is also present as fine grained, needle-like, high relief, bright shiny silvery crystals associated with pyrite. 5% vuggy quartz. The bottom portion of this interval 158.80-159.92m is marbely vein, silicified host rock and sulphide similar to the previously	25-30	4-5	tr	10-15		5	clustery, disseminated, fracture infilling	dark	4																			pervasive
159.92	169.68			MGn	white clay altered (bleached)	Fine grained, strongly to intensely clay altered interval. rare qtz present in thin mm scale, discontinuous bands (foliation) and feldspar + mafics have been completely altered to a soft white clay (kaolinite?). Many zones where the fabric has been completely destroyed and it is here where py is most abundant. There are also localized zones of pale green clay. Trace white, concordant quartz veining throughout. In the veins is trace fine grained py. 5-10% fg disseminated py throughout the interval.	5-10						disseminated	white																	4-5		pervasive	
		159.92	169.68	FZ	fault	Very rubbly, clay altered mafic gneiss with minor gouge. 5% fine grained disseminated py throughout. Section of competent core from 165.75-166.42m. Bottom contact is just a change from clay altered gneiss fragments to qfp fragments.	5						disseminated	white																	4-5		pervasive	
169.68	204.59			QFP	quartz feldspar porphyry	Grey, hard, porphyritic texture. Matrix is light grey, aphanitic and phenocrysts consist of plagioclase feldspar, quartz (distinct fractured qtz 'eyes') and occasional k-spar. Phenocrysts are subhedral to euhedral, 0.2-0.8cm in size and they are randomly oriented throughout. 60-70% clasts, 30-40% matrix (variable). Trace fine grained, disseminated py throughout. There are trace, mm scale qtz-carb veinlets generally oriented parallel to dominant cleavage and fracture planes. Different alteration noted throughout the lithology are pale-apple green sericite, d green chlorite and feldspar altering to white clays.	tr						disseminated	grey					3-4							1-2					2-3		patchy	
		169.68	175.87	FZ	fault	Very rubbly, broken-up core. Upper contact is a change in fragments from clay altered mafic gneiss to quartz feldspar porphyry. QFP fragments have been pervasively altered to moderately soft, pale apple green sericite- qtz remains unaltered. Some plag phenos altered to chlorite as well as some biotite altered to chlorite.	tr						disseminated	pale apple green											1-2						1-2		pervasive-ser phenocryst alteration- chl, clays	
		175.87	176.60		sericite	Soft, moderately strong, pervasive pale apple green coloured sericite alteration of the matrix and feldspar phenocrysts. Intense alteration proximal (within mm) to quartz veinlets. 1-2% sub cm wide, grey quartz veinlets containing trace fg py.	tr						disseminated	pale apple green											1-2								pervasive-ser phenocryst alteration- chlorite	

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Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact		
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		136.00	137.54																				
		137.54	140.09	30-35					30	1	2-3cm	qtz											gradational
		140.09	142.00																		gradational		gradational
		142.00	143.25																				
		143.25	143.83							40	2-3cm	qtz	py										
		143.84	143.98						30	90	8cm	qtz	py										
		143.98	144.23																				
		144.23	149.83						30-60	3-5	sub cm to 2cm	qtz	py, stibnite? Or galena?										
		147.00		30																			
		148.00		55																			
		149.83	149.90						50	100	5	qtz	py										
		149.90	152.37	50					50	2-3	sub-cm	qtz	py, sphal										
		151.00		50																			
		152.37	154.23																				
		154.23	156.76																				
		155.00		50																			
156.76	159.92	156.76	157.59											quartz, sulfide, clay altered host rock	30	angular	disseminated py, quartz, remobilized host rock	30	40969			90	sharp
		157.00		40																			
		157.59	159.92																3	90	sharp	90	faulted
159.92	169.68									tr	mm scale	qtz	py										
		159.92	169.68			4																	gradational clast change
169.68	204.59								same as cleavage	tr	mm scale	qtz carb									gradational clast change		
		169.68	175.87																		gradational clast change		
		175.87	176.60						70	1-2	sub cm	qtz	py										

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Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
		176.60	177.51	FZ	fault	Fragments and rubble that has undergone pervasive, strong clay and sericite alteration. Minor amounts of gravel fragments.																								
		177.51	179.19		sericite/ silicification	Patchy, weak, pale apple green sericite alteration overprinted by moderate silicification. QFP is hard yet still pale apple green in spots. Occasional interstitial clusters of fine grained, brassy py. At 178.5m is a dark brown patch? of biotite with pyrite where the porphyritic texture seems to be destroyed and boundaries are angular + irregular. (INTERP: possible first instance of fragments of a different rock type similar to what is seen in the bottom of hole DDH-12-275.) Trace qtz carb veinlets with some fg py infilling.	tr						disseminated	grey to pale apple green	2-3			2-3												patchy
		178.00				Cleavage 30 deg to CA.																								
		179.19	179.65	FZ	fault	Strong sericite and clay altered fragments. Some fragments turn to fine powder when any bit of pressure is applied to them. Sharp lower contact at 40 deg to CA.																								
		179.65	180.35		sericite	Same as 175.87-176.6m. Strong sericite alteration close to contacts with fault. Sharp upper contact at 40 deg to CA.								pale apple green				3-4												patchy
		180.35	180.78	FZ	fault	Rubbly broken up core. Some fragments altered completely to clay.																								
		180.78	181.52		sericite	Weak to moderate pale apple green, somewhat soft pervasive sericitic alteration.								pale apple green				1-3												pervasive
		181.52	182.12	FZ	fault	Same as previous fault.																								
		182.12	183.59		sericite	Same as 180.78-181.52m.																								
		183.59	184.13	FZ	fault	Very rubbly core that is strongly sericite altered and strongly clay altered; v soft.																								
		184.13	188.03		sericite (patchy)	Weak, patchy, pale apple green sericite alteration. In virtually unaltered portions there are a few scattered light pink k-spar phenocrysts and fg biotite partially altering to chlorite. Sericite alteration increases slightly in intensity proximal to stringer veinlets.								grey to pale apple green	1-3									1						patchy- ser partial phenocryst alteration of bio- chl
		186.00				Cleavage at 40 deg to CA.																								
		188.03	190.81		sericite	Moderate to strong, pale apple green, pervasive sericite alteration. Some splotches of soft, tan-brown clay alteration. Still trace fg disseminated py throughout.								pale apple green				3-4										1-2		pervasive
		189.00				Cleavage at 40 deg to CA.																								
		190.81	195.67		sericite (patchy)	Same as184.13-188.03m.																								
		195.00				Cleavage at 60 deg to CA.																								
		195.67	198.09	FZ	fault	Very fragmented, rubbly core that has undergone moderate sericite alteration. Upper contact at 50 deg to CA.																								
		198.09	203.30		sericite, silicification	This interval is characterized by what appears to be 3 different generations of QFP (INTERP). This interpretation comes from the fact that there are some very sharp contacts within the porphyry. Generation A is characterized by 40% phenocrysts within a hard grey matrix. Generation B also has approximately 40% phenocrysts, but it has had its matrix completely altered to pale apple green sericite. Generation C is made up of 90% phenocrysts and nowhere has undergone sericitic alteration. White clay alteration of feldspar phenocrysts occurs throughout the entire interval. Strong silicification overprinting the other alterations from 199.54-199.74m and from 203.05-203.3m. Trace fg disseminated py throughout. Rare py infilling micro fractures that that crosscuts these different generations of QFP showing once again that sulphide mineralization is later stage event.																								
		199.00				Cleavage at 45 deg to CA.																								
		203.30	204.59	FZ	fault	Rubble blocks of moderately sericite altered QFP as well as paste like gouge with approximately 5% fine grained disseminated sulphide. Recovery here was very poor with only 40cm of rock in an interval that, based on the blocks, is over a meter long. The upper contact is arbitrary with the sulphide vein material below.	5						disseminated	grey and pale apple green				3												pervasive
204.59	204.85			VN	brecciated sulfide vein	A very broken up, rubbly vein of entirely sulphide material (no quartz) in sharp, irregular contact with the quartz feldspar porphyry. 90% trace fine grained, py. 1-2% lead grey, metallic, vfg stibnite? + trace red-brown sphalerite, trace silvery-brass coloured, bright, needle-like arsenopyrite found along margin of a qtz vein + trace peacock blue-purple, metallic bornite all found within the py matrix. the 0.7cm wide qtz vein (at 50 deg to CA) appears to cut the sulphide mineralization (INTERP) because there are very sharp contacts and it is here where the needle-like Asp is found. there is 2-3% trace vfg py within the quartz vein.	90	tr		tr	tr	1-3	massive																	
204.85	306.93			QFP	qtz feld porphyry	Grey, hard, porphyritic texture. Matrix is light grey, aphanitic and phenocrysts consist of plagioclase feldspar, quartz (distinct fractured qtz 'eyes') and occasional k-spar. Phenocrysts are subhedral to euhedral, 0.2-0.8cm in size and they are randomly oriented throughout. 60-70% clasts, 30-40% matrix (variable). Trace fine grained, disseminated py throughout. There are trace, mm scale qtz-carb veinlets generally oriented parallel to dominant cleavage and fracture planes. Different alteration noted throughout the lithology are pale-apple green sericite, d green chlorite and feldspar altering to white clays.	tr						disseminated																	
		204.85	205.19		sulfide stringers	Moderately silicified grey brown QFP with feldspar altered to clays containing two 3mm wide quartz stringer veinlets oriented at 155 and 140 deg to CA respectively. Mineralization within the veinlets is fine grained disseminated + clustery py and fine grained red brown sphalerite.	1-2						veinlets		3															pervasive
		205.19	205.60		clay + sericite	Same general litho description as above. Feldspar phenos altered completely to white clay. Patchy, moderate, pale apple green sericite alteration throughout. 1% fg disseminated py.	1						disseminated	white to pale yellow and apple green				3										3		patchy + phenocryst alt
		205.60	205.74	FZ	shear	White grey gouge and clay suggesting strong shear.																								
		205.74	207.31		clay + sericite	Same general litho description as above. Feldspar phenos altered completely to white clay. Patchy, moderate, pale apple green sericite alteration throughout. 1% fg disseminated py. Gradational lower contact.	1						disseminated	white to pale yellow and apple green				3										3		patchy + phenocryst alt
		207.31	209.21		sericite	Strong to intensely quartz flooded/ silicified zone where the porphyritic texture is almost nonexistent in some places. No sulphide.								light grey	4-5															pervasive
		209.21	219.60		unaltered QFP	See general QFP litho description. Mafic mineral is biotite. Few small, angular, 1-4cm diameter, fg, brown green mafic clasts scattered throughout. Clasts contain biotite and chlorite as well as pyrite, some have a reaction rim of tan coloured clay? patchy, white clay alteration throughout (see 217.05m). Moderate, patchy, dark, forest green chlorite alteration from 217.65-219.37m. trace fg disseminated py. Some py infilling microfractures. Trace cleavage parallel, qtz-carb stringer veinlets.	tr						fracuture infilling, disseminated	white to grey										2-3				2-3		patchy
		210.00				Cleavage at 50 deg to CA.																								
		213.00				Cleavage at 60 deg to CA.																								
		214.00				Cleavage at 50 deg to CA.																								
		216.00				Cleavage at 45 deg to CA.																								
		219.00				Cleavage at 60 deg to CA.																								
		219.60	220.05		silicification	Medium grey ,moderately quartz flooded/ silicified zone with 3-5% vfg py in blebs and disseminated throughout. Ghosted porphyritic texture. Gradational contacts.	3-5						blebs + disseminated	medium grey	3-4															
		220.05	221.15		clay	Minor clay alteration.																								
		221.15	223.34		silicification	Strong to intense pervasive silicification. Interval is d grey, v hard and mafics have been altered to d green chlorite, 1% f gr disseminated py throughout. Calcite on cleavage planes. Gradational contacts.	1						disseminated	dark grey	4-5									1-2						pervasive- sil mafics- chl
		222.00				Cleavage at 55 deg to CA.																								

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Primary Intervals		Secondary		Foliation		Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact		
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description	
		176.60	177.51																					
		177.51	179.19							tr	mm	qtz carb	py											
		178.00		30																				
		179.19	179.65																			40	sharp	
		179.65	180.35																	40 sharp				
		180.35	180.78																					
		180.78	181.52																					
		181.52	182.12																					
		182.12	183.59																					
		183.59	184.13																					
		184.13	188.03																					
		186.00																						
		188.03	190.81																					
		189.00																						
		190.81	195.67																					
		195.00																						
		195.67	198.09																		50	sharp		
		198.09	203.30																					
		199.00																						
		203.30	204.59					4																
204.59	204.85								50	5	0.7cm	qtz	py	0	0	n/a	pyrite	90-100	2-3		faulted			
204.85	306.93																							
		204.85	205.19						140 + 155	1-2	mm's	qtz	py, sph											
		205.19	205.60																					
		205.60	205.74			4																		
		205.74	207.31																				gradational	
		207.31	209.21																		gradational		gradational	
		209.21	219.60						40-60	tr	mm scale	qtz-carb												
		210.00					50																	
		213.00					60																	
		214.00					50																	
		216.00					45																	
		219.00					60																	
		219.60	220.05																		gradational		gradational	
		220.05	221.15																					
		221.15	223.34																		gradational		gradational	
		222.00					55																	

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Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
		223.34	224.60		FZ	Extremely pervasive white clay altered rubble and fragments. Consolidated gouge. Strong shearing. A few strongly silicified blocks throughout.																									
		224.60	225.70		silicification	Moderately silicified interval, phenocrysts slightly more visible than last silicified unit. Trace vfg py.																									
		225.70	225.99		FZ	Blocky, rubbly core with gouge on cleavage and fracture planes. Sharp upper contact at 120 deg to CA.																									
		225.99	246.93		xenolith QFP?	Very competent, light grey, hard quartz feldspar porphyry. Rare pink k-spar phenos. Interstitial matrix biotite is partly to completely altered to dark green chlorite throughout. Phenocrysts are <0.5cm in diameter in this interval and the rock is pheno dominated. Trace fg disseminated py. Rare fracture infilling py. Many cleavage planes have large clusters of fg py. There are many d-grey to black, mafic patches that vary in size from sub-cm diameter to 10's of cm. These patches have sharp angular contacts, less quartz and abundant biotite leading to the INTERP that they are xenoliths. At 229m is a CA parallel qtz veinlet that acts as a sharp contact with the xenolith (?). On one side of the vein is the xenolith and on the other side is unaltered QFP therefore this cannot be alteration however it could be just a different chemistry magma within the QFP?? Occasionally the contacts of these mafic patches are convoluted--> weak silica overprint? At 235.78m is a mafic veinlet (1cm wide) at 140 deg to CA with sharp contacts, but no cooling margins (Diorite?). Mafic minerals are more concentrated on vein margins whereas feldspar is found mid vein. At 235.9m is a 5cm wide, angular, pentagon shaped, mafic xenolith with clear foliation of	tr						disseminated, fracture infilling	light grey	1-2									1-2							pervasive- sil mafic altered- chl
		229.00				Cleavage at 50 deg to CA.																									
		235.00				Cleavage at 40 deg to CA.																									
		241.00				Cleavage at 55 deg to CA.																									
		245.00				Cleavage at 55 deg to CA.																									
		246.93	247.55	FZ	shear	Sharp up hole contact marked by a 1cm wide white calcite vein at 45 deg to CA. mMinor rubble. 40cm of consolidated, clay and sericite altered gouge and gravel. Alteration is pervasive. Shearing is strong.								white to pale apple green				3										4	pervasive		
		247.55	248.41		silicification	Matrix is brown, phenocrysts are subhedral to euhedral. Pink-red Kspar makes up ~5% of phenos. Few plag phenos altered to soft, pale apple green sericite. Weak to moderate silicification of rock. 1% mm sized qtz-carb veinlets throughout. Trace f gr disseminated py. Trace f gr magnetite.	tr						disseminated	brown	2-3			1												pervasive	
		248.00				Cleavage at 55 deg to CA.																									
		248.41	249.67		sericite	Light grey to pale yellow coloured matrix. Feldspar phenos altered to pale yellow to pale apple green relatively soft sericite. Biotite altering to tan clay and vfg py? No magnetite. Weak, pervasive sericite alteration. Gradational contacts. Trace fg disseminated py.	tr						disseminated	pale yellow to pale apple green				1-2												pervasive	
		249.67	251.03		silicification	Same as 247.55-248.41m.																									
		251.03	252.83	FZ	fault	Blocky rubbly core that has been subject to weak, pervasive sericite alteration.																									
		252.83	262.81		sericite	Hard, pale apple green, very competent rock. Feldspar phenocrysts are completely altered to pale apple green sericite, but are still distinguishable from the matrix. Mafics are completely altered to bright green and dark green chlorite as well as some veinlet proximal feldspar phenocrysts. Moderate, pervasive sericite alteration throughout interval. Trace mm thick qtz carb veinlets containing trace fg py, sometimes completely pyrite replaced.	tr						veinlets	pale apple green				3						2						pervasive- ser some phenocrysts altered to chl	
		254.00				Cleavage at 55 deg to CA.																									
		257.00				Cleavage at 30 deg to CA.																									
		258.00				Cleavage at 40 deg to CA.																									
		262.81	265.21		silicification	Generally white coloured rock (silica overprinting?) but faint pale apple green colour visible. Very hard, strong, pervasive silicification. 1-2% randomly oriented qtz-carb veinlets commonly in filled with 50% trace fine grained py. 2-3% fg py in blebs throughout the interval. Wide gradational contacts. From 264.96-265.08m is a possible crackle breccia? The clasts have moved very little and are silicified host rock fragments in a pale green, sericite and carbonate cement that is difficult to distinguish from the host rock due to its similar colouration, hardness and the proportion of clasts. It is best observed by its vigorous reaction with acid. (90% clasts, 10% matrix).	2-3						disseminated, fracture infilling	white with pale apple green	3-4			2-3	2-3											pervasive- sil, ser proximal to veinlets- cal	
		263.00				Cleavage at 35 deg to CA.																									
		265.21	267.43		sericite	Same as 252.83-262.81m.																									
		267.00				Cleavage at 50 deg to CA.																									
		267.43	267.70	FZ	fault	Rubbly core with minor gouge on fracture planes. Within the fragments a good portion of the phenocrysts have been altered to dark green, soft chlorite.																									
		267.70	269.77		sericite	Same as 252.83-262.81m.																									
		269.77	271.91		silicification	Strong to intensely silicified overprinting causing a dark green interval. Patches of rock where the porphyritic texture is completely destroyed. 1% v thin (1mm) qtz-carb veinlets randomly oriented throughout and containing fg py. Trace fine grained, disseminated py throughout. upper and lower contact are gradational over a width of approximately 20cm.	tr						disseminated, fracture infilling, veinlets	pale green to dark green	4-5															pervasive	
		271.00				Cleavage at 35 deg to CA.																									
		271.91	283.79		sulfide veinlets + sericite	Pale apple green rock with variable hardness. Pervasive, weak to moderate sericite alteration; patchy, moderate silicification and some phenocrysts have been altered to dark green chlorite. In general, rock is lighter in colour and softer proximal to veinlets. 2-3%, randomly oriented qtz-carb veinlets throughout (generally oriented between 15-30 deg to CA) containing differing amounts of sulphide mineralization. The thinnest veinlets contain only fg disseminated py. At 272.65m is a section 20cm wide containing two qtz carb veins oriented at 20 deg to CA and containing 2-3% fg disseminated py, containing 2-3% fg red-brown sphalerite, and trace fg blue, lead grey, metallic stibnite. At 276.4m is a white-grey qtz vein, oriented at 25 deg to CA. This vein has a number of little veinlets splaying out from it and contains a few host rock clasts, as well as, fg brassy py, fg red brown sphalerite and 3-5% vfg, silver, shiny, needle-like crystals of arsenopyrite concentrated near the up hole margin of the vein. From 283.02-283.56m the rock is unaltered, d grey.	1-3	1-3	tr	1-3		tr	disseminated, f gr within veins/ veinlets	pale apple green	2-3			3						2						pervasive- ser patchy- sil rare phenos- chl	
		273.00				Cleavage at 35 deg to CA.																									
		277.00				Cleavage at 40 deg to CA.																									
		280.00				Cleavage at 60 deg to CA.																									
		283.79	284.73	FZ	fault	Blocky, rubbly, sericite altered core.																									
		284.73	289.78		sericite	Same as 252.83-262.81m. Core is blocky and rubbly in the last 2m of the interval. Silicified overprint increases in intensity down interval. Rare patchy, light pink potassic alteration of matrix. At 287.6m is a patch of d. forest green, chlorite alteration. At 286.2m is a 1cm wide qtz-carb veinlet at 40 deg to CA that has 1-3% fg disseminated py within. Lower contact with vein is obscure due to rubbly nature of core--> INTERP: possible fault, but no gouge.	tr						veinlets	pale apple green				3					1		2					pervasive- ser some phenocrysts altered to chl patchy- ksp	
		288.00				Cleavage at 40 deg to CA.																									
		289.78	289.92	Vn	sulfide rich qtz vein	Very broken up quartz vein at 60 deg to CA with abundant sulphide. True thickness is likely only approximately 5cm. Mineralization consists of 20-30% fg py in clusters, 2-4% fg, disseminated, blue lead grey, cubic, galena, trace bladed, lead grey stibnite, trace, vfg, silver-grey, metallic arsenopyrite clustered at the down hole contact. The vein is predominantly sulphide. Down hole contact is sharp at 60 deg to CA, up hole contact is obscure because the vein is very broken up.	20-30	tr		2-4		tr	clusters, disseminated																		

Charlotte Project
DDH-12-276 Detailed Log

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		223.34	224.60			4																	
		224.60	225.70																				
		225.70	225.99																	120	sharp		
		225.99	246.93				40-50		140	tr	1cm	mafics											
		229.00					50																
		235.00					40																
		241.00																					
		245.00																					
		246.93	247.55		45	4														45	sharp		
		247.55	248.41				50		variable	1	mm	qtz carb	py								gradational		gradational
		248.00																					
		248.41	249.67																		gradational		gradational
		249.67	251.03																				
		251.03	252.83																				
		252.83	262.81						35	tr	mm	qtz carb	py										
		254.00					55																
		257.00					30																
		258.00					40																
		262.81	265.21						random	1-2	mm	qtz carb	py	host rock	90	angular	sericite, calcite	10	1		gradational		gradational
		263.00					35																
		265.21	267.43																				
		267.00					50																
		267.43	267.70																				
		267.70	269.77																				
		269.77	271.91						random	1	mm	qtz carb	py								gradational		gradational
		271.00																					
		271.91	283.79				35-40		15-30	2-3	mm to 1cm	qtz carb and quartz	py, sph, stb, ga, asp								gradational		
		273.00					35																
		277.00					40																
		280.00					60																
		283.79	284.73																				
		284.73	289.78						35	tr	mm	qtz carb	py										
		288.00					40																
		289.78	289.92						60	100	3-5cm	qtz	py, gal, stb, asp								obscure, rubbly	60	sharp

Charlotte Project
DDH-12-276 Detailed Log

Primary Intervals		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
		289.92	290.56		sericite	Same as 252.83-262.81m. Moderate silicification overprint.																								
		290.56	292.41		silicification	Very hard, d brown, strongly to intensely silicified QFP. 2-4% mm sized, randomly oriented quartz stringer veinlets void of mineralization. Pale apple green sericite alteration proximal to veinlets. Occasional feldspar pheno altered to d green, soft chlorite. Trace fg disseminated py and magnetite. Rare 1-3cm wide, angular black xenoliths. The xenoliths appear to be fine grained, composed of predominantly mafics + silica overprinted feldspar (Diorite?) and they have a pale apple green, 'halo' (reaction rim) around them. Gradational contacts.	tr				disseminated	d brown	5			1-2								1						pervasive- sil localized- ser rare phenos- chl
		292.00				Cleavage at 45 deg to CA.																								
		292.41	294.79		sericite	Pervasive, weak, pale apple green sericite alteration. Rock is still hard. Feldspar phenocrysts are completely altered to pale apple green sericite, but are still distinguishable from the matrix. Some mafics are completely altered to bright green and dark green chlorite as well as some veinlet proximal feldspar phenocrysts. Trace mm sized qtz carb veinlets with no mineralization. Gradational contacts.						pale apple green				1													pervasive	
		294.79	297.32		unaltered QFP	80% phenocrysts, 20% matrix. Phenocrysts are 3-7mm wide, euhedral to subhedral. 55% feldspar, 35% qtz, 10% biotite, tr fg disseminated py and magnetite. Rock is hard, grey, porphyritic. Trace randomly oriented stringer veinlets with pyrite replacement. Trace 1-10cm wide, angular to sub-angular, fg, black, xenoliths. They are composed of feldspar, qtz, but mostly mafics (bio?) and there is partial alteration to chlorite.																								
		295.00				Cleavage at 50 deg to CA.																								
		297.32	302.35		sericite	same as 292.41-194.79m. No chlorite altered phenocrysts. Veinlets contain f gr disseminated py																								
		301.00				Cleavage at 40 deg to CA.																								
		302.35	306.93		Unaltered QFP	Same as 294.79-207.32m. From 363.94-364.19m is a strongly silicified d brown zone similar to 290.56-292.41m. Within this zone is a large (~20cm wide) rounded-sub rounded xenolith (intrusion? Diorite?) of the black mafic rock--> same as xenoliths. It consists of medium grained feldspar, biotite and minor qtz. Pyrite filled fractures cut this feature showing they came later. INTERP: the brown silicified zone is an alteration envelope around the diorite (?) intrusion and the lack of chill margins is due to the two bodies being of similar temperature.																								
		EOH																												

Charlotte Project
DDH-12-276 Detailed Log

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
		289.92	290.56																				
		290.56	292.41						random	2-4	mm	qtz									gradational		gradational
		292.00					45																
		292.41	294.79																		gradational		gradational
		294.79	297.32																				
		295.00					50																
		297.32	302.35																				
		301.00																					
		302.35	306.93																				
		EOH																					

Charlotte Project
DDH-12-276 Down Hole Surveys

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	TEMP (F)	TMP (C)	GVR	MTF	DLG	Date/Time	Comment
53	16.15	61.7	83.7	-60.8	56710	77	1	48.7	9.28	14.6	167	-15.5	01/07/2012 17:36	Erroneous
83	25.30	57.4	79.4	-60.8	57327	77	1	48.4	9.11	312	105	-8.6	01/07/2012 17:33	Erroneous
113	34.44	55.1	77.1	-60.8	57531	77	1	48.2	9.00	120	272	-2.4	01/07/2012 17:31	
143	43.59	55.7	77.7	-60.7	57413	77	1	47.8	8.78	36.6	189	-2.3	01/07/2012 17:29	
173	52.73	55.1	77.1	-60.7	57462	77	1	47.3	8.50	341	133	-3.3	01/07/2012 17:27	
203	61.88	54.2	76.2	-60.6	57431	77	1	47.3	8.50	244	36	-2.2	01/07/2012 17:25	
233	71.02	54.8	76.8	-60.5	57416	77	1	47.3	8.50	262	54.3	-1.0	01/07/2012 17:23	
263	80.16	54.5	76.5	-60.5	57342	77	1	47.5	8.61	211	3.9	-5.2	01/07/2012 17:21	
293	89.31	55.9	77.9	-60.8	57480	77	1	47.8	8.78	74	226	-2.4	01/07/2012 17:19	
323	98.45	55.2	77.2	-60.8	57177	77	1	48.0	8.89	199	351	-1.5	01/07/2012 17:16	
353	107.60	55.6	77.6	-60.6	57383	77	1	48.2	9.00	271	63.7	-2.3	01/07/2012 17:14	
383	116.74	55.3	77.3	-61.1	57483	77	1	48.4	9.11	44.9	197	-1.2	01/07/2012 17:12	
413	125.88	55.0	77.0	-61.2	57461	77	1	48.9	9.39	255	46.2	-4.0	01/07/2012 17:11	
443	135.03	54.0	76.0	-61.7	57482	77	1	49.3	9.61	179	330	-2.4	01/07/2012 17:09	
473	144.17	53.5	75.5	-62.0	57538	77	1	50.0	10.00	97.6	249	-0.6	01/07/2012 17:06	
503	153.32	53.4	75.4	-62.1	57525	77	1	50.7	10.39	227	17.8	-3.0	01/07/2012 17:04	
533	162.46	54.2	76.2	-62.3	57598	77	1	50.7	10.39	316	107	-3.4	01/07/2012 17:02	
563	171.60	53.3	75.3	-62.3	57582	76	1	51.1	10.61	250	40.5	-1.0	01/07/2012 16:59	
593	180.75	53.1	75.1	-62.4	57605	77	1	52.0	11.11	224	14.2	-3.8	01/07/2012 16:57	
623	189.89	54.0	76.0	-62.8	57589	77	1	52.5	11.39	21.5	171	-108.9	01/07/2012 16:55	
653	199.04	81.8	103.8	-69.2	57559	80	1.3	53.2	11.78	265	56.8	-111.8	01/07/2012 16:53	Erroneous
683	208.18	53.2	75.2	-63.3	57560	77	1	54.1	12.28	346	135	-1.3	01/07/2012 16:50	
713	217.33	52.8	74.8	-63.3	57455	77	1	54.7	12.61	291	79.8	-0.9	01/07/2012 16:48	
743	226.47	52.8	74.8	-63.5	57378	77	1	55.0	12.78	26	175	-3.0	01/07/2012 16:46	
773	235.61	52.0	74.0	-63.6	57385	77	1	55.0	12.78	166	315	-1.2	01/07/2012 16:43	
803	244.76	52.3	74.3	-63.8	57404	77	1	54.7	12.61	107	256	-2.4	01/07/2012 16:41	
833	253.90	51.8	73.8	-63.5	57265	77	1	54.7	12.61	14.3	164	-2.7	01/07/2012 16:38	
863	263.05	51.2	73.2	-63.8	57398	77	1	54.7	12.61	181	330	-4.7	01/07/2012 16:36	
893	272.19	52.4	74.4	-63.6	57457	77	1	54.7	12.61	4.1	153	-0.7	01/07/2012 16:33	
923	281.33	52.6	74.6	-63.6	57453	77	1	54.7	12.61	15.5	165	-1.7	01/07/2012 16:31	
953	290.48	52.2	74.2	-63.5	57458	77	1	54.5	12.50	263	52.8	-1.2	01/07/2012 16:29	
983	299.62	51.9	73.9	-63.6	57486	77	1	53.8	12.11	211	0.5	-4.7	01/07/2012 16:26	
1007	306.94	53.2	75.2	-63.4	57428	77	1	50.9	10.50	227	16.5	-6.0	01/07/2012 16:17	

Charlotte Project
DDH-12-276 Sample Intervals

Sample Dispatch

Property: CHARLOTTE Date: July 24, 2012

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
1	1748632	DDH-12-276			BLANK	<0.005	<2		
2	1748633	DDH-12-276	52.30	53.74	Mafic gneiss	<0.005	<2		
3	1748634	DDH-12-276	53.74	54.56	intense sil. Mafic gneiss	<0.005	<2		
4	1748635	DDH-12-276			STANDARD CND GS P3C	0.264	<2		
5	1748636	DDH-12-276	54.56	56.50	Mafic gneiss	<0.005	<2		
6	1748637	DDH-12-276	56.50	59.00	Mafic gneiss	<0.005	<2		
7	1748638	DDH-12-276	59.00	60.70	Mafic gneiss	<0.005	<2		
8	1748639	DDH-12-276	60.70	62.79	Mafic gneiss	<0.005	<2		
9	1748640	DDH-12-276	62.79	65.00	Augen gneiss	<0.005	<2		
10	1748641	DDH-12-276	65.00	66.23	Augen gneiss	<0.005	<2		
11	1748642	DDH-12-276	66.23	68.00	intense clay alt mafic gneiss	<0.005	<2		
12	1748643	DDH-12-276	68.00	70.00	Mafic gneiss	<0.005	<2		
13	1748644	DDH-12-276	70.00	72.00	Mafic gneiss	<0.005	<2		
14	1748645	DDH-12-276	72.00	73.44	Mafic gneiss	<0.005	<2		
15	1748646	DDH-12-276	73.44	75.65	Mafic Gneiss	<0.005	<2		
16	1748647	DDH-12-276	75.65	76.48	Breccia + Mafic Gneiss	<0.005	<2		
17	1748648	DDH-12-276	76.48	78.36	Mafic Gneiss	0.008	<2		
18	1748649	DDH-12-276	102.00	104.00	white clay altered mafic gneiss	0.01	<2		
19	1748650	DDH-12-276	104.00	106.00	white clay altered mafic gneiss	<0.005	<2		
20	1748651	DDH-12-276	106.00	108.00	white clay altered mafic gneiss	0.005	<2		
21	1748652	DDH-12-276	108.00	110.00	FZ clay altered mafic gneiss	<0.005	<2		
22	1748653	DDH-12-276	110.00	111.00	FZ clay altered mafic gneiss	0.056	<2		
23	1748654	DDH-12-276	111.00	112.00	extremely argillic mafic gneiss in FZ	0.226	<2		
24	1748655	DDH-12-276			STANDARD CND-GS-5H	3.981	52		
25	1748656	DDH-12-276	112.00	113.00	extremely argillic mafic gneiss	0.394	<2		
26	1748657	DDH-12-276	113.00	113.72	extremely argillic mafic gneiss	1.158	54		
27	1748658	DDH-12-276	113.00	113.72	DUPLICATE OF 1748657	0.337	6		
28	1748659	DDH-12-276	113.72	114.00	sulfide rich vein	>10.000	>300	15.9	280
29	1748660	DDH-12-276			BLANK	0.006	<2		
30	1748661	DDH-12-276	114.00	117.00	FZ clay altered mafic gneiss	0.521	4		
31	1748662	DDH-12-276	117.00	119.00	Mafic gneiss	0.044	<2		
32	1748663	DDH-12-276	119.00	121.00	Mafic gneiss	<0.005	<2		
33	1748664	DDH-12-276	142.00	144.00	white clay altered mafic gneiss	<0.005	<2		
34	1748665	DDH-12-276	144.00	146.00	white clay altered mafic gneiss	<0.005	<2		
35	1748666	DDH-12-276	146.00	148.00	white clay altered mafic gneiss	<0.005	<2		
36	1748667	DDH-12-276	148.00	150.00	white clay altered mafic gneiss	0.017	<2		
37	1748668	DDH-12-276	150.00	152.00	white clay altered mafic gneiss	0.08	<2		
38	1748669	DDH-12-276	152.00	154.23	white clay altered mafic gneiss	0.185	8		
39	1748670	DDH-12-276	154.23	155.74	white clay altered mafic gneiss	0.135	<2		
40	1748671	DDH-12-276	155.74	156.69	white clay altered mafic gneiss	0.298	3		
41	1748672	DDH-12-276	156.69	157.59	white clay altered mafic gneiss	0.306	12		
42	1748673	DDH-12-276	157.59	158.04	brecciated clay altered gneiss and sulfide rich q	1.658	69		
43	1748674	DDH-12-276			STANDARD CND-GS-10D	9.902	<2		
44	1748675	DDH-12-276	158.04	158.80	sulfide rich vein (high grade)	>10.000	>300	13.4	1028
45	1748676	DDH-12-276			BLANK	0.015	9		
46	1748677	DDH-12-276			BLANK	0.006	<2		
47	1748678	DDH-12-276	158.80	159.92	sulfide rich vein	0.817	34		
48	1748679	DDH-12-276	159.92	162.00	FZ clay altered mafic gneiss (at 160.15 is a color/ compositional change from more sulfide rich rock to less sulfide rich FZ rock)	0.502	7		
49	1748680	DDH-12-276	162.00	164.00	FZ clay altered mafic gneiss	0.023	<2		
50	1748681	DDH-12-276	164.00	166.00	FZ clay altered mafic gneiss	0.108	<2		
51	1748682	DDH-12-276	166.00	170.00	FZ clay altered mafic gneiss	0.637	7		
52	1748683	DDH-12-276	170.00	172.00	FZ qtz feld porphyry	<0.005	<2		
53	1748684	DDH-12-276	172.00	175.87	FZ qtz feld porphyry	0.071	<2		
54	1748685	DDH-12-276	201.00	203.30	QFP	<0.005	<2		
55	1748686	DDH-12-276	203.30	203.59	pyrite rich fault gouge	0.472	14		
56	1748687	DDH-12-276	203.59	204.85	brecciated sulfide vein	>10.000	>300	60.7	1069
57	1748688	DDH-12-276			BLANK	0.009	9		
58	1748689	DDH-12-276	204.85	205.19	QFP w/ sulfide stringer	0.217	4		
59	1748690	DDH-12-276	205.19	207.00	QFP	0.012	<2		
60	1748691	DDH-12-276	219.60	221.15	str silicified QFP	<0.005	<2		
61	1748692	DDH-12-276	221.15	222.08	str silicified QFP	0.02	<2		
62	1748693	DDH-12-276	222.08	223.34	str silicified QFP	0.009	<2		
63	1748694	DDH-12-276	223.34	224.60	str silicified QFP	0.006	<2		
64	1748695	DDH-12-276			STANDARD CND-GS-P3C	0.223	<2		
65	1748696	DDH-12-276	269.77	271.00	str silicified QFP	<0.005	<2		
66	1748697	DDH-12-276	271.00	272.40	str silicified QFP	<0.005	<2		
67	1748698	DDH-12-276	272.40	272.84	sulfide rich veinlets in sericite QFP	0.065	2		
68	1748699	DDH-12-276	272.84	274.47	sericite altered QFP	<0.005	<2		
69	1748700	DDH-12-276	274.47	276.26	sericite altered QFP with stringers	<0.005	<2		

Charlotte Project
DDH-12-276 Sample Intervals

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
70	1748701	DDH-12-276			BLANK	<0.005	<2		
71	1748702	DDH-12-276	276.26	276.84	sulfide rich veinlets in sericite QFP	0.189	<2		
72	1748703	DDH-12-276	276.84	278.00	sericite altered QFP with stringers	0.019	<2		
73	1748704	DDH-12-276	278.00	280.00	sericite altered QFP with stringers	<0.005	<2		
74	1748705	DDH-12-276	280.00	282.00	sericite altered QFP with stringers	<0.005	<2		
75	1748706	DDH-12-276	282.00	283.71	sericite altered QFP with stringers	<0.005	<2		
76	1748707	DDH-12-276	283.71	286.00	FZ sericite altered QFP with stringers	0.009	<2		
77	1748708	DDH-12-276	286.00	288.00	sericite altered QFP with stringers	0.048	2		
78	1748709	DDH-12-276	288.00	289.76	sericite altered QFP with stringers	0.018	<2		
79	1748710	DDH-12-276	289.76	290.17	sulfide rich vein	1.659	49		
80	1748711	DDH-12-276	290.17	291.84	str silicified QFP	<0.005	<2		

Property: **Charlotte**
Area: **Flex**
Client: **Ansell Capital Corp.**

Hole Id: **DDH-12-277**

Logged By: **Scott Dowler**
Date Logged: **June 30 to July 7, 2012**



Collar Location:			
Actual:			
	Datum:	NAD83, Zone 8	
	Easting:	386760	Azimuth: 045 °
	Northing:	6881581	Dip: -51.2 °
	Elevation:	1285	Length: 410.67 m
Proposed:			
	Easting:	386760	Azimuth: 045 °
	Northing:	6881581	Dip: -50 °
	Elevation:	1285	Length: 411 m

Survey Type:		Ranger Multi Shot	
Distance	Azi	Dip	Accept
23.47	043.6	-51.0	
50.90	045.4	-51.3	
96.62	044.3	-52.9	
151.49	044.2	-54.5	
197.21	042.8	-55.0	
252.07	044.6	-56.8	
306.94	047.5	-56.5	
352.66	048.5	-55.8	
398.38	049.0	-54.1	

Drilling Information:	
Contractor:	DJ Drilling
Core Diameter:	HQ
Start Date:	30-Jun-2012
End Date:	7-Jul-2012
Casing In:	No
Casing Capped:	No
Units:	Metric

Hole Objective:
-To test the deep intersection of the middle pod

DDH-12-277 was drilled to test the deep extension of the middle pod.
DDH-12-277 collared into an interbedded schist, garnet gneiss and amphibolites gneisses between 16.76m to 94.87m that have all been grouped into mafic gneiss. The core over this interval is very broken-up, blocky and alteration is minimal. Within this interval is a large shear zone (25.8-64.98m) characterized by rubbly core and gouge. There is little quartz veining and a lone mafic intrusive dike. Foliation is relatively constant ranging from 40-60 deg to CA. Between 94.87-96.00m is a yellow-orange clay seam that can be correlated in other drill holes. Underlying this between 96.00-138.44m, the mafic gneiss is intersected again. Throughout this large interval are a number of small shear zones and abundant white clay alteration of the gneiss. Abundant pyrite is seen throughout this interval in stringers and veinlet form. From 138.44 to 140.12m is a mint green quartz feldspar breccia with an odd, almost wormy, texture. Between 140.12 to 190.35m an interval of inter-fingered mafic gneiss and a fragmental breccia of varying mafic gneiss sub-lithologies was intersected. The fragmental breccia is clast dominated and the composition of the matrix is unclear but occasionally patches of QFP appear interstitially. After a felsic dike from 190.34-191.47m, the hole went back into an interval dominated by clay altered mafic gneiss, but with some sulphide rich quartz veins not seen previously. Below 213.13m felsic dikes are observed interbedded with mafic gneiss of varying alteration. Between 261.26 to 271.03m is a mostly silicified QFP and an underlying this strongly silicified mafic gneiss. Between 297.16-300.05m is a high grade zone of sulphide veins and veinlets. Some of these veins are almost 90% sulphide with the majority of the sulphide being made up of (No Suggestions). From 303.87-328.73m is QFP interfingering with mafic gneiss and both are strongly silicified. From 354.58-376.8m is interbedded mafic gneiss with fault breccia (ductile deformation) mafic gneiss. The last interval is from 376.8 to 410.57m and comprises a clay altered QFP unit. There is an unique section from 383.85 to 397.14m where there is a section of high grade sulphide veinlets. DDH-12-277 ends in weakly clay altered QFP at 410.67m.
It has been interpreted that this observed interbedded sequence is due to drilling along foliation (down dip). The relative lack of mineralization suggests that we are a distal representation of the ore zone as we did see abundant alteration and a few minor sulphide rich veins. The fact that only cm scale sulphide veinlets were seen in the prospective QFP could be due to a lack of dilation large enough for abundant mineralization to occur in. Instead the sulphides precipitated out into the little amount of space (veinlets) that was available to them.

Lithology Summary			
From	To	Lith	Comment
0.00	16.76	CAS	
16.76	94.87	MGn	
94.87	96.00	Clay	
96.00	138.44	MGn	
138.44	140.12	BX	
140.12	145.43	MGn	
145.43	150.02	BX	
150.02	150.99	MGn	
150.99	151.31	BX	
151.31	151.74	MGn	
151.74	154.41	BX	
150.99	151.31	BX	
151.31	151.74	MGn	
151.74	154.41	BX	
154.41	158.70	MGn	
158.70	159.44	BX	
159.44	160.60	MGn	
160.60	161.09	MGn	
161.09	161.41	BX	
161.41	190.35	MGn	
190.35	191.47	F	
191.47	213.13	MGn	
213.13	214.57	FP	
214.57	214.87	MGn	
214.87	215.77	F	
215.77	216.34	MGn	
216.34	216.87	F	
216.87	261.26	MGn	
261.26	271.03	QFP	
271.03	293.45	MGn	
293.45	294.04	FP	
294.04	295.19	MGn	
295.19	297.75	MGn	
297.75	298.03	VN	
298.03	303.87	MGn	
303.87	306.45	QFP	
306.45	328.73	MGn	
328.73	349.87	QFP	
349.87	350.46	Di	
350.46	351.92	QFP	
351.92	352.94	Di	
352.94	353.70	MGn	
353.57	354.58	Di	
354.58	376.80	MGn	
376.80	410.57	QFP	

Charlotte Project
DDH-12-277 Detailed Log

Hole Id: DDH-12-277
Logged By: S. Dowler

Primary		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y	Altn Style
0.00	16.76			CAS	Overburden																										
16.76	94.87			MGn	Amphibolite Gneiss	Dark grey, hard, weakly to moderately well foliated, fg gneiss. Mineralogy: 40% amphibole, 20% feldspar, 20% biotite, 10% quartz, 10% chlorite. Weak pervasive alteration of amphibole to chlorite. 1-2% white with smoky grey, quartz veining generally containing trace fg blebby py. Veining is 0.5-4cm wide and either oriented parallel to cleavage or between an angle of 90-115 deg to CA. Rusty orange brown limonite alteration on cleavage and fracture planes.														1-2				1-2						pervasive- chl cleavage/ fractures- lim	
		16.76	20.30	MGn	Amphibolite Gneiss	See above.																									
		19.00		MGn		Foliation at 50 deg to CA.																									
		20.30	21.01	FZ	fault	Rubbly core altered to mica, biotite and clays. Upper and lower contact at 50 deg to CA.																									
		21.01	22.55	MGn	Amphibolite Gneiss	Same as general litho description.																									
		22.00		MGn		Foliation at 50 deg to CA.																									
		22.55	22.68	FZ	fault	rubbly core with minor gouge at up hole contact.																									
		22.68	25.80	MGn	Amphibolite Gneiss	same as general litho description. At 23.97m is a series of micro folds in the foliation. At 25.19m is a 4cm wide white quartz vein with trace red-brown sphalerite. At 25.35m is a parasitic drag fold.																									
		25.00		MGn		Foliation at 40 deg to CA.																									
		25.80	64.98	MGn	Large shear zone	This large, strongly sheared interval consists of abundant blocky core, rubble, gouge and paste-like consolidated gouge. Many of the rock fragments are pervasively altered to rusty orange brown limonite and cleavage + fracture planes have limonite and MnO staining. The upper contact is sharp at 50 deg to CA and is marked by 20cm of extremely biotite altered, soft rock. From 39.11 to 39.69m is a zone of light grey, semi-competent rock with foliation parallel, mm-scale, white quartz veinlets. some veinlets have been completely replaced by fg py. trace white quartz veining found throughout the fault zone. core gradually becomes more competent down hole. From 55.75m to 57.6m is a zone of semi-competent amphibolite gneiss.														1-2										pervasive, fracture planes	
		33.00		MGn		Foliation at 35 deg to CA.																									
		39.00		MGn		Foliation at 35 deg to CA.																									
		51.00		MGn		Foliation at 45 deg to CA.																									
		56.00		MGn		Foliation at 55 deg to CA.																									
		57.00		MGn		Foliation at 60 deg to CA.																									
		64.98	70.12	MGn	Amphibolite Gneiss	Same as general litho description. Slight increase in biotite modal %. Few mm sized, white quartz stringers that have been almost completely replaced by py. Oriented at 40 and 130 deg to CA. Patchy, forest green chlorite alteration in bands. Bottom contact is sharp with an almost core axis parallel, white, bull quartz vein.																		2-3						patchy	
		68.00		MGn		Foliation at 40 deg to CA.																									
		70.12	71.82	FZ	fault	Blocky, rubbly, gravel core fragments with limonitic alteration on cleavage and fracture planes.																									
		71.82	72.81	MGn	Amphibolite Gneiss	Same as 64.98 to 70.12m. At 71.7m is a smoky grey to white, fractured up quartz vein with a number of elongate, angular brecciated host rock clasts that have undergone significant chlorite alteration. Lower 40cm before the contact is very felsic and siliceous, with ghosted foliation suggesting (INTERP) the following interval is an intrusive body.																									
		72.81	73.38		Gabbro dike??	Black, vfg to aphanitic, v hard rock bounded by silicified gneiss on either side. It contains trace fg disseminated py, trace fg magnetite and has many mm wide qtz veinlets cutting through it that have been partially to completely replaced by pyrite. Contacts are sharp.	tr						disseminated, fracture infilling	black	4															pervasive	
		73.38	77.21	MGn	Garnet gneiss	D grey, fine to medium grained, well foliated gneiss. Mineralogy: 35% amphibole, 35% feldspar, 10% quartz, 10% biotite, 5% chlorite, 5% garnet. Garnet crystals are pinkish, 2-7mm wide, subhedral, hard and scattered throughout. Foliation does not appear to bend around them. Weak to moderate forest green chlorite alteration is present in patchy bands throughout the interval. Trace fg disseminated py throughout. Trace fg magnetite. Trace mm wide, white qtz veinlets partially replace by fg brassy py.	tr						disseminated, fracture infilling	d grey										2-3						patchy bands	
		74.00		MGn		Foliation at 40 deg to CA.																									
		77.00		MGn		Foliation at 40 deg to CA.																									
		77.21	77.42	FZ	fault	Small fault with rubbly core and minor gouge on cleavage and fracture planes.																									
		77.42	81.36	MGn	Garnet gneiss	Same as 73.38-77.21.																									
		81.00		MGn		Foliation at 40 deg to CA.																									
		81.36	86.01	FZ	fault	Broken up rubbly, garnet gneiss. Limonite on fracture planes.																									
		86.01	86.11	VN	PY in quartz vein	Broken up, rubbly white and smokey, grey, hard, vuggy quartz vein containing 1-2% fg py. Original width is likely 10cm wide. Abundant rusty orange brown limonite alteration near the lower contact. Lower contact at 25 deg to CA.	1-2						disseminated	white to smokey grey						1-2										patchy	
		86.11	90.42	FZ	fault	Broken up, rubbly core consisting of garnet gneiss and muscovite schist. Some fracture planes host ground up gouge. Patchy to pervasive rusty, orange-brown limonite alteration. Intensity of shearing: 2. Contact orientation unknown.														1-2										patchy	
		85.00		MGn		Foliation at 50 deg to CA.																									
		90.42	91.50	MGn	Mafic Gneiss/ schist	medium grey rock with a green tinge containing feldspar, amph, biot, qtz, muscovite gneiss that has undergone weak patchy, d. Green chlorite alteration. First occurrence of muscovite bands (muscovite alteration facies?) in this hole. Rusty orange-brown limonite alteration along cleavage and fracture planes. trace fg disseminated py. 1-2% white to opaque, concordant, 0.2-0.7mm wide quartz veins	tr						disseminated	medium grey with a green tinge										1-2						patchy	
		91.00		MGn		Foliation at 40 deg to CA.																									
		91.50	92.64		Intermediate composition porphyritic Dike	Medium grey with a bluish tinge, hard, porphyritic rock with sharp contacts. Rectangular shaped to ovalar anhedral phenos, completely replaced by pistachio green, hard, epidote (propylitic alteration?). Size of phenos varies from 1-5mm and phenos make up 5-10% of the rock. 10-12% fg, blebby py throughout. Limonite alteration is present on cleavage and fracture planes. Sharp, irregular upper contact at approximately 25 deg to CA with a 0.5cm wide chill margin? Sharp lower contact at 45 deg to CA with rubbly rock--> no chill margin. Trace mm sized white-grey qtz carb veinlets with partial fg pyrite replacement. There is a 1cm wide qtz carb vein at 92.36m, oriented at 60 deg to CA that is almost completely replaced by py and has vfg d grey sulphide along vein margins (stibnite). No magnetite.	10-12						blebby	medium grey													3				phenocryst s
		92.64	94.87	MGn	silicification	Blocky light grey core that is well foliated in the upper portion of the interval. Foliation becomes slightly ghosted in the last meter of the interval. Mineralogy: feldspar, quartz, muscovite, biotite. Minor, patchy, d green chlorite alteration. Moderate, pervasive silicification. Trace grey and white quartz in lenses and veinlets with no mineralization. Trace fg py throughout. Rusty orange brown limonite on cleavage and fracture planes. At 94.2m is a 5cm wide rotten green + grey + yellow clay seem oriented at 60 deg to CA. Lower contact is sharp at 60 deg to CA and proximal to the lower contact the host gneiss is highly fractured but still competent.	tr						disseminated	light grey	3										1				1	pervasive- sil patchy- chl	
		93.30		MGn		Foliation at 40 deg to CA.																									
94.87	96.00	94.87	96.00	Clay	clay seam	White, v soft, pervasive clay alteration with yellow and orange (lim?) staining. Contains many sub angular to angular, light grey mafic gneiss fragments. 1-2% fg disseminated py. Sharp upper contact at 60 deg to CA. Sharp lower contact at 55 deg to CA.	1-2						disseminated	white to grey							1-2									patchy	

Charlotte Project
DDH-12-277 Detailed Log

Hole Id: DDH-12-277
Logged By: S. Dowler

Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
0.00	16.76																						
16.76	94.87			50-55					50-55 and 90-125	1-2	0.5-4cm	qtz	py									50	sharp
		16.76	20.30																				
		19.00		50																50	sharp	50	sharp
		20.30	21.01	50-55																			
		21.01	22.55																				
		22.00		50																			
		22.55	22.68																				
		22.68	25.80																				
		25.00		40																			
		25.80	64.98	35-55		4			foliation parallel	tr	mm scale	qtz	py							50	sharp		
		33.00		35																			
		39.00		45																			
		51.00		45																			
		56.00		55																			
		57.00																					
		64.98	70.12																				
		68.00																					
		70.12	71.82																				
		71.82	72.81																				
		72.81	73.38						140	tr	mm	qtz	py							100	sharp		sharp
		73.38	77.21	40						tr	mm	qtz	py										
		74.00																					
		77.00																					
		77.21	77.42																				
		77.42	81.36																				
		81.00		40																			
		81.36	86.01																				
		86.01	86.11						25	100	10cm	qtz	py									25	sharp
		86.11	90.42			2																	
		85.00		50																			
		90.42	91.50						foliation parallel	1-2	0.3-0.7mm	qtz											
		91.00		40																			
		91.50	92.64						60-80	tr	mm to cm	qtz carb	py, stb?							25	sharp, irregular	45	sharp
		92.64	94.87							tr	sub cm	quartz								45	sharp	60	sharp
		93.30		40																			
94.87	96.00	94.87	96.00			5														60	sharp	55	sharp

Charlotte Project
DDH-12-277 Detailed Log

Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration															
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y
96.00	138.44	96.00	98.80	MGn	Mafic Gneiss	Light grey, moderate hardness, well foliated. Upper 50cm of interval is blocky core with many mm wide cleavage parallel clay seems and patchy limonite alteration. Relative soft core is due to pervasive, weak to moderate clay alteration of feldspar and mafics. Foliation is still visible via mm sized qtz bands. Limonite alteration on cleavage and fracture planes. 20-30% d grey, (sulphide?) concordant, quartz veining that is partially to completely replaced by fg py and other sulphides? Rare 1-4cm wide white, bull quartz veins (INTERP: later veining event?). Total 2-3% py throughout interval due to veining.	2-3					tr	in veinlets	light grey															3-4	pervasive
		98.28		MGn		Foliation at 55 deg to CA.																								
		98.80	98.91	FZ	fault	Abundant brown gouge and gravel. Sharp lower contact at 20 deg to CA.																								
		98.91	100.39	MGn	muscovite, limonite, clay gneiss	White to light brown-orange coloured, moderately soft, pervasively clay altered rock. Relict, ghosted foliation present. Muscovite altered, mafic gneiss. 10-15% concordant, white and grey quartz veins generally sub-cm in size, but occasionally slightly wider. Veinlets contain abundant fg py and vfg grey sulphide? Patchy rusty orange-brown limonite weathering throughout interval. Trace fg disseminated py.	tr					tr	disseminated, veinlets	white to light orange brown														3-4	pervasive- clay patchy- lim	
		100.39	100.54	VN	quartz vein	White, bull quartz vein with rusty orange brown limonite on fracture planes. Upper and lower contact at 60 deg to CA.																								
		100.54	101.74	MGn	muscovite, limonite, clay gneiss	Same as previous.																								
		101.74	102.11	FZ	shear	Abundant blocky, rubbly core with rusty orange-brown gouge/ clay. Trace fg disseminated py. Few quartz frags. Pervasive orange-brown limonite alteration. Sharp upper contact at 60 deg to CA, sharp lower contact at 100 deg to CA. Moderate shearing.	tr						disseminated	rusty orange-brown																pervasive
		102.11	103.22	MGn	silicified muscovite, limonite, clay altered gneiss	Same as 98.91-100.39m. Pervasive, weak to moderate silicification. The bottom 20cm of the unit have had the foliation completely destroyed and is not silicified. At 102.53m is one cm wide, white, foliation parallel, quartz vein containing fg, clustery py mid vein and fg, blue-grey, soft, blebby sulphide (moly?, stib?).	2-3					tr	disseminated, veinlets	light grey	2-3													2-3	pervasive, patchy	
		102.47		MGn		Foliation at 60 deg to CA.																								
		103.22	107.59	FZ	fault	Large blocky, rubbly gravelly fault zone consisting of mafic gneiss as well as some clay and minor gouge. Patchy to pervasive, rusty, orange-brown limonite alteration. Unaltered blocks and rubble contain trace fg disseminated py. Lower contact at 60 deg to CA. Shearing of moderate to strong intensity.																								
		107.59	111.27	MGn	clay alteration	Off white to light grey coloured, moderately hard, blocky core. Relict foliation is obvious by discontinuous quartz bands. Feldspar and mafics are weakly to moderately altered to a white clay. Limonite staining on cleavage and fracture planes. 5-10% mm wide, randomly oriented quartz veinlets partially to completely replaced by py. 10-15% fg disseminated, blebby py throughout interval. pPssible d grey, vfg sulphide as well? At 109.45m is a soft, pale, light green alteration envelope around a mm scale qtz veinlet--> chlorite, sericite?? At 110.9m (at 45 deg to CA) is a 1cm wide, white quartz vein containing clusters of fg py and blebs of soft, fg, blue-grey, metallic mineral--> molybdenite? stibnite?	10-15					tr	disseminated, blebby	off white to light grey											1				2-3	pervasive- clay rare- chl fractures- lim
		108.44		MGn		Foliation at 55 deg to CA.																								
		111.27	111.97	FZ	fault	Rubbly core with limonite alteration on cleavage and fracture planes. Rock fragments are same as preceding lithology. Fragments of white quartz vein; some frags have py infilling fractures in the quartz. Lower contact at 60 deg to CA.																								
		111.97	113.00	MGn	clay alteration	Same as 107.59-111.27m. Weak to moderate silica overprint.										1-2														
		112.60		MGn	foliation	Foliation at 60 deg to CA.																								
		113.00	118.22	FZ	fault	Rubbly, gravel sized, white clay altered mafic gneiss fragments. Abundant paste-like gouge and clay. Upper and lower contact at 70 deg to CA. 3-5% fg disseminated py, trace d grey sulphide. Intense shearing.	3-5					tr	disseminated																	
		118.22	119.22	MGn	clay alteration	Off white to light grey coloured, v soft, pervasively clay altered core. Foliation has been completely destroyed. 30-40% grey bands? (similar to quartz veinlets seen previously). Possibly sulphide rich, common to find py. Trace fg py throughout. Grey stripes commonly oriented at 80-115 deg to CA. Occasional pale green tinge to rock--> sericite, chlorite?	tr					tr	disseminated, veinlets?	off white to light grey															5	pervasive
		119.22	123.08	FZ	shear zone	Extremely pulverized rock with gouge, and paste-like clay, angular gravel and sand sized fragments. White clay alteration is intense and pervasive throughout the host rock gneiss. Muscovite can be found on some fracture planes. No py? Faint, pale grey-green tinge to some fragments. Intense shearing. upper contact at 120 deg to CA.								light grey to pale grey-green										2-3				5	pervasive- clay patchy- chl	
		123.08	125.96	MGn	clay alteration	Off white to light grey coloured, moderately soft, pervasively clay altered core. Foliation is apparent in some places. 30-40% grey qtz veinlets (mm scale) common throughout. Abundant fg disseminated py in veinlets and disseminated in alteration envelopes around veinlets. Few mm wide, foliation parallel clay seams. 5-10% fg disseminated py throughout. Interstitial tan coloured clay replacement near the gradational down hole contact. At 125.14m is a small section of convoluted foliation and quartz veining (INTERP: plastic deformation).	5-10						disseminated, veinlets	off white to light grey															3	pervasive
		124.42		MGn		Foliation at 65 deg to CA.																								
		125.27		MGn		Foliation at 60 deg to CA.																								
		125.96	127.00	MGn	sericite + chlorite + clay alteration	Same as previous except pervasive fg, soft, light yellow and pale green micaceous foliated crystals--> sericite + chlorite alteration?																								
		127.00	129.24	FZ	shear zone	Rubbly, extremely pulverized core with zones of consolidated paste-like clay and gouge with angular rock fragments. 10cm of consolidated gouge directly at the upper contact. Many soft, pale, pistachio green fragments--> chlorite, sericite alt?? 2-3% fg disseminated py. Intense shearing. upper contact at 40 deg to CA.	2-3						disseminated	light grey, pale green											2-3					patchy, scattered fragments
		129.24	131.67	MGn	clay alteration	Off white to light grey coloured, weak to moderate, pervasive clay alteration of feldspars and sometimes mafics. Foliation is at a low core angle and is relict. It's visible due to unaltered, discontinuous, mm wide quartz bands. Mafics are fine grained, biotite and amphibole. 1-3% smokey grey, foliation parallel and disrupted quartz veins containing trace fg disseminated py. Upper and lower contact are obscure due to fractured nature of the faults.	tr						veinlets	off white to light grey															3-4	pervasive
		130.00		MGn		Foliation at 180 deg to CA.																								
		130.87		MGn		Foliation at 50 deg to CA.																								
		131.05		MGn		Foliation at 30 deg to CA.																								
		131.21		MGn		Foliation at 35 deg to CA.																								
		131.31		MGn		Foliation at 10 deg to CA.																								
		131.67	132.44	FZ	fault	Blocky, rubbly, broken-up, strong, pervasively white clay altered core. Abundant clay and gouge on cleavage and fracture planes. Trace fq muscovite. Weak shearing. Trace fg disseminated py.	tr						disseminated	off white to light grey															4	pervasive
		132.44	135.35	MGn	clay alteration of biotite gneiss	Foliation is at a low angle to CA (drilling down dip?). Medium grey, soft, moderately well foliated gneiss with 45% biotite, 3% white clay altered feldspar, 15% smokey grey quartz and 10% muscovite. Trace mm scale, foliation parallel, smokey grey quartz veinlets throughout the interval containing blebs of fg, brassy, disseminated py. there is sometimes a soft, d green, <1cm wide alteration envelope around veinlets, likely consisting of chlorite. Pervasive moderate clay alteration. Lower contact marked by a 1cm wide, smokey grey quartz vein.								medium grey														2-3	pervasive	
		132.64		MGn		Foliation at 5 deg to CA.																								
		133.84		MGn		Foliation at 20 deg to CA.																								
		135.35	136.18		clay + silicification	Same as 129.24-131.67m. There has been moderate silica overprinting. The bottom contact is at 10 deg to CA.																								
		135.90		MGn		Foliation at 10 deg to CA.																								

Charlotte Project
DDH-12-277 Detailed Log

Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
96.00	138.44	96.00	98.80	50-55					50-55	20-30	mm to cm	quartz	py, other sulphide?							55	sharp	20	sharp
		98.28		55																			
		98.80	98.91																	20	sharp		
		98.91	100.39																				
		100.39	100.54						60	100	14cm	qtz											
		100.54	101.74																				
		101.74	102.11			3														60	sharp	100	sharp
		102.11	103.22																				
		102.47		60																			
		103.22	107.59			3-4																60	sharp, gouge
		107.59	111.27						random	5-10	mm's	qtz	py, stb?										
		108.44																					
		111.27	111.97																			60	sharp
		111.97	113.00																				
		112.60																					
		113.00	118.22			5														70	sharp	70	sharp
		118.22	119.22																				
		119.22	123.08			5														120	sharp		
		123.08	125.96	60-65					foliation parallel	30-40	mm's	qtz	PY, other sulphide?										
		124.42		65																			
		125.27		60																			
		125.96	127.00																				
		127.00	129.24			5														40	sharp		
		129.24	131.67	low angle					foliation parallel 0-35 deg	1-3	mm to cm	qtz	py										
		130.00		180																			
		130.87		50																			
		131.05		30																			
		131.21		35																			
		131.31		10																			
		131.67	132.44			1-2																	
		132.44	135.35						foliation parallel	tr	mm scale	qtz	py										
		132.64		5																			
		133.84		20																			
		135.35	136.18																			10	sharp
		135.90		10																			

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y	Altn Style
		136.18	138.44	MGn	clay alteration	Same as 132.44-135.35m. Bottom 50cm is strong, pervasively white clay altered gneiss with a moderate silica overprint. Directly at the contact is convoluted foliation, that is likely caused by ductile deformation.																									
		136.75		MGn		Foliation at 50 deg to CA.																									
		137.23		MGn		Foliation at 50 deg to CA.																									
138.44	140.12	138.44	140.12	F?BX?	felsic dike?? mint green + quartz and feldspar breccia	Intermixed angular white quartz, smokey grey quartz and pale, mint green mineral with a moderate hardness (<7, scratched w/ a nail) INTERP: silicified sericite altered feldspar? The brecciation is intense and would be impossible to reconstruct. Clasts are angular and range in size from mm to cm's. Trace fg disseminated py throughout. There are multiple phases to this brecciation, but it is difficult to determine an age relationship, although it appears that smokey grey quartz makes up the matrix. Cccasional vfg, d grey sulphide on fracture planes. There are a number of CA parallel fractures. Upper contact is irregular with convoluted mafic gneiss. The lower contact is irregular with well foliated, silicified mafic gneiss. There appears to be <1cm wide breccia vein material parallel to foliation interfingering into the lower unit. Lower contact measured at approx 115 deg to CA.	tr					tr	disseminated	white, grey, pale mint green	5				3-4												pervasive
140.12	145.43	140.12	141.69	MGn	silicification	Light grey, occasionally with a pale green tinge, v hard. Rock is composed of 60-70% white clay altered feldspar and smoky grey quartz all in thin mm wide bands, with occasional pale green alteration and dark green, chlorite alteration. All of this appears to have had a silicification overprint as it is very hard (barely scratchable w/ a carbide tip scratcher). Trace fg disseminated py throughout. Upper contact is irregular at approx 115 deg to CA. Lower contact is sharp at 140 deg to CA. Trace smokey grey, quartz veining at 25 deg to CA.	tr						disseminated	light grey	5														4-5	pervasive	
		140.20		MGn		Foliation at 25 deg to CA.																									
		141.00		MGn		Foliation at 25 deg to CA.																									
		141.69	142.48		biotite/clay altered mafic intrusive? Biotite gneiss	Salt and pepper, moderately soft, v weakly foliated. Mineralogy is mostly plag and biotite. Pervasive weak clay and biotite alteration. 1-2% randomly oriented, mm sized white qtz carb veinlets throughout. Very broken up interval. INTERP: biotite altered mafic intrusive? Upper contact is irregular with a breccia unit at approx 115 deg to CA. Lower contact is at 180 deg to CA with abundant fault gouge.																							1-2	pervasive	
		142.48	143.87	FZ	fault	Dark grey, rubble and fragments with chloritized biotite and pervasive weak clay alteration. Abundant, consolidated clay and gouge (>80% of interval). Many, polished, CA parallel fracture planes with consolidated gouge on them. Intense shearing. Lower contact is marked by qtz carb veining and chlorite as well as rock of the previous unit in contact at 20 deg to CA.																									
		143.87	145.43	MGn	clay, silicification biotite gneiss	Foliation is at a low angle to CA (drilling down dip?). Medium grey, soft, moderately well foliated gneiss with 45% biotite, 3% white clay altered feldspar, 15% smokey grey quartz and 10% muscovite. pervasive, weak to moderate clay alteration. The bottom 40cm are increasingly more silicified. Trace mm scale, foliation parallel, smokey grey quartz veinlets throughout the interval containing blebs of fg, brassy, disseminated py. There is sometimes a soft, d green, <1cm wide alteration envelope around veinlets, likely consisting of chlorite. Pervasive moderate clay alteration. Lower contact is sharp at 15 deg to CA.																							2-3	pervasive-clay gradational lower contact- sil	
		144.70		MGn		Foliation at 30 deg to CA.																									
145.43	150.02			BX	Fragmental breccia	Clast dominated (>90%) fragmental breccia. clasts are of diverse composition ranging from biotite gneiss, clay altered mafic gneiss, silicified mafic gneiss, smokey grey quartz, white quartz and QFP. Clasts are angular to sub-angular and range in size from sub cm to 20cm's wide. The clasts have been transported and reconstruction would be impossible. Matrix is not obvious. quartz looks 'interstitial' in some spots, partially surrounding some clasts. other areas have pale apple green, sericite altered QFP, partially surrounding clasts, while still other areas have a fresher QFP (just phenos sericite altered) partially surrounding mafic gneiss clasts. It is a very complicated system. INTERP: multi-phase brecciation with possibly 3+ pulses of chemically different matrix material (see 148.24m). At this spot there are three matrix-looking components in contact with each other?? this interpretation is also supported by observing clay and silica altered mafic gneiss clasts + unaltered gneiss. INTERP: some clasts have travelled a great distance. Trace fg py in sporadic locations- matrix and host rock. Trace, late stage, white, mm wide, randomly oriented qtz veinlets. No discernable alteration of entire breccia; some areas of pale apple green sericite alteration, some areas of	tr					tr	disseminated clusters	highly variable																	
150.02	150.99			MGn	silicification	Grey, blue, hard, well-foliated gneiss. Mineralogy: quartz, feld, bio, chlorite. Biotite is partially to completely altered to chlorite. Pervasive moderate to strong silicification of the interval. Discontinuous, foliation parallel and white and grey quartz veining + same type of veining at 60 deg to CA. Veins are 0.5-1.5cm wide. mm sized, randomly oriented, white, quartz veinlets cut the other veins (later stage event- same as in breccia). Upper contact is very irregular and rounded. Lower contact with the breccia begins at 150.48m and is at an angle of 175 deg to CA. INTERP: drilling down dip--> not true thicknesses.																			2-3					pervasive-sil biotite alt-chl	
		150.50		MGn		Foliation at 165 (15?) deg to CA.																									
150.99	151.31			BX	Fragmental breccia	Same as 145.43-150.02m. Low angle contacts with MGn, continues to 151.7 on bottom half of core.																									
151.31	151.74			MGn	silicified biotite gneiss	Same as 150.02-150.99m. Lower contact is rubbly core.																									
151.74	154.41			BX	Fragmental breccia	Same as 145.43-150.02m. Clasts are generally smaller (between mm to 3cm). Few larger clasts that are generally of biotite gneiss composition. Matrix makes up less than 10%, is vfg, hard, off-white and is of unknown comp... Quartz? From 153.6-154.2m is a brown, vfg, mod. Hard matrix containing fg biotite, rare sericite altered, euhedral feld phenos, and opaque qtz eyes as well as 3-5% trace fg py. Gradational contact between the two different matrix. INTERP: Two distinctly different pulses of brecciation with same clasts.																									
		154.41	157.10	FZ	shear	Abundant pulverized, gravelly rock. Majority of fragments are of clay altered mafic gneiss but a few breccia fragments near the up hole contact. Abundant paste-like gouge and clay. Contacts are obscure, but are likely foliation parallel. Moderately intense shearing.																									
154.41	158.70			MGn	clay altered biotite gneiss	Medium blue grey, moderately hard, fg, well foliated biotite gneiss. Upper 90cm of interval has undergone moderate to strong, pervasive, white clay alteration. 2-3% randomly oriented, mm wide, white quartz veinlets that contain fg py.	tr						veinlets	medium blue grey															3-4	gradational from upper contact	
		158.33		MGn		Foliation at 170 deg to CA.																									
158.70	159.44			BX	Fragmental breccia	Clast dominated (>70%) fragmental breccia. Clasts are of diverse composition ranging from biotite gneiss, clay altered mafic gneiss, silicified mafic gneiss, smokey grey quartz and white quartz. No QFP clasts this time. Clasts are sub-rounded to sub-angular and range in size from sub cm to 7cm near the upper contact. The clasts have been transported, eroded and reconstruction would be impossible. The matrix is grey-brown, aphanitic, and moderately hard (6-7) near the upper contact but grades into a light grey, aphanitic, moderately hard matrix. INTERP: some clasts have travell. Lower contact very irregular with mafic gneiss.	1						disseminated, veinlets	highly variable																	
		157.75		VN	quartz vein	White CA parallel vein. True width unknown.																									
159.44	160.60			MGn	biotite gneiss	Well foliated, black, fg, biotite gneiss with weak clay alteration. Also abundant (10%), 1-2cm wide, foliation parallel, grey, opaque quartz veins. Trace fg disseminated py.	tr						disseminated	black															2-3	pervasive	
160.60	161.09			MGn	fg gneiss	Vfg, v well foliated, grey brown mafic gneiss containing 2-3% fg, disseminated py. V weak d green tinge suggesting weak chloritization of mafics. Moderate, pervasive silicification. Irregular, blown apart lower contact at 0-90 deg to CA. Trace 2-3mm wide, grey quartz veining at 10 deg to CA.	2-3						disseminated	grey brown	3										1					pervasive	
		160.97		MGn		Foliation at 10 deg to CA.																									
161.09	161.41			BX	fragmental breccia	Clasts are from 1mm to 4cm wide and are angular clasts of the previous host rock unit. Minor rotation of clasts that have travelled a great distance thus brecciation is weak to moderate. Clasts 50%, matrix 50%. Matrix is a beige colour, aphanitic, moderately hard and has weak effervescence--> quartz-carbonate? INTERP: no late stage veinlets, thus this is a later stage event. Irregular contacts.																									

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
		136.18	138.44																				
		136.75		50																			
		137.23		50																			
138.44	140.12	138.44	140.12											qtz	?	angular	qtz	?	5			115	irregular
140.12	145.43	140.12	141.69						25	tr	<1cm	qtz								115	irregular	140	sharp
		140.20																					
		141.00																					
		141.69	142.48						random	tr	mm scale	qtz carb								115	irregular	180	sharp, gouge
		142.48	143.87																	180	sharp	20	sharp
		143.87	145.43						foliation parallel	tr	mm scale	qtz										15	sharp
		144.70																					
145.43	150.02								random	tr	mm scale	qtz	MGn, altered MGn, Biotite Gn, QFP, qtz		90	sub- angular to angular	QFP? Qtz?	10	5	15	sharp		
150.02	150.99			v low angle					variable	1	mm to cm	qtz	py								irregular	175	sharp
		150.50		165																			
150.99	151.31																						
151.31	151.74																						
151.74	154.41																						
		154.41	157.10			3																	sharp
154.41	158.70								random	tr	mm	quartz	py								sharp, fault	20	sharp, irregular
		158.33		170																			
158.70	159.44								random	tr	mm	qtz	py	see descriptio n	70	sub rounded to sub angular	?	30	5	20	irregular		irregular
		157.75																					
159.44	160.60								foliation parallel	10	1-2cm	qtz									irregular		sharp
160.60	161.09								10	tr	2-3mm	qtz									sharp	0-90	irregular
		160.97																					
161.09	161.41																						

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y
161.41	190.35			MGn		Variable composition gneiss that has undergone varying alterations from clay, to silicification, sericitization, chlorite, potassic etc.																								
		161.41	164.00	MGn	ductile deformation of fg gneiss	Same as 160.6-161.09m. Convoluted foliation suggesting plastic deformation. Weak, patchy, d green chloritization of mafic gneiss. Trace mm wide, white quartz veining partially to completely replaced by py.	tr					veinlets	grey brown with a green tinge																	
		162.00		MGn		Foliation at 20 deg to CA.																								
		164.00	164.89	FZ	fault	Blocky, rubbly core of the previous lithology. No gouge.																								
		164.89	168.42	MGn	mafic gneiss	Grey, brown, medium hardness, moderately well foliated mafic gneiss that has seen its texture partially destroyed due to alteration. Mineralogy is vfg, but rock is likely made up of mostly biotite and plag. Weak to moderate pervasive, brown clay alteration and weak carbonate alteration. Foliation almost parallel to CA. Trace fg disseminated py throughout. 1% foliation parallel, sub cm wide, grey quartz veins throughout. mm scale, randomly oriented white quartz veinlets containing fg py. Gradational lower contact.	tr					disseminated, veinlets	grey brown				1-2											2-3	pervasive	
		167.00		MGn		Foliation at 0 deg to CA.																								
		168.42	170.79	MGn	silicification	Off white to light grey, hard, well foliated and semi-convoluted gneiss. There has been a strong silica overprint of likely white clay alteration. 1% fg clusterly py. At 170.1m is a CA parallel, white and smokey grey quartz vein with very irregular contacts. Within the 'vein' is trace fg, disseminated py and v rare fg, soft, blue lead grey, metallic stibnite. A secondary set of randomly oriented white quartz veinlets that have been partially to completely replaced by fg py and that crosscut the previously mention vein. These veinlets have an approximately 1cm wide, d grey alteration envelope around them as well as stibnite salvages. Lower contact is at 40 deg to CA. Occasional v small areas of teal coloured, soft alteration mineral.	1				tr	clusterly	off white to light grey	4																pervasive
		168.50		MGn		Foliation at 160 deg to CA.																								
		169.89		MGn		Foliation at 30 deg to CA.																								
		170.79	174.07	FZ	fault	Blocky, rubbly silicified mafic gneiss fragments. No gouge.																								
		174.07	174.87	MGn	silicification	Off white to light grey coloured, fg, clay altered gneiss. Foliation has been partially to completely destroyed-It is occasionally seen as ghosted, but is impossible to measure a true orientation. Feldspar and mafics have been completely altered to white clay and sub mm wide, discontinuous qtz is foliated v weakly. There's has been a later silicification thus giving the clay altered gneiss a moderate hardness (6-7). Trace interstitial beige coloured clay alteration. 3-5% mm wide, randomly oriented, kinked + distorted, white-grey qtz stringer veinlets throughout. They have a small (mm scale) alteration envelope around them and are partially to completely replaced by vfg py. They also contain vfg grey stibnite salvages.	tr					veinlets	off white to light grey	3-4														3-4	pervasive	
		174.87	175.68	FZ	weak shear	Blocky, rubbly core.																								
		175.68	176.23	MGn	silicification	Same as 174.07-174.87m.																								
		176.23	180.31	FZ	shear	Blocky and rubbly core, plus, abundant angular, pea to golf ball sized gravel fragments. Minor gouge on cleavage and fracture planes. More competent lengths of core are highly fractured and healed by abundant, smokey grey, quartz veining. This veining is also broken-up, distorted and fractured. It contains trace fg py throughout. Total of 5-10% quartz veining. Strong shear. Upper contact is at 75 deg to CA and lower contact is at 120 deg to CA.																								
		180.31	180.88	MGn	silicification	Same as 174.07-174.87m. A large amount of grey, fractured up, py mineralized quartz. Intense veining, flooding of core.																								
		180.88	182.34	FZ	shear	Very rubbly core with abundant clay and gouge. 3cm wide section of consolidated gouge at the upper contact. Abundant d grey gouge on fracture planes throughout interval. Fragments are of silicified mafic gneiss and quartz. Many fragments have polished fracture/ cleavage surfaces that are CA parallel and have slicken lines. 1-2% fg disseminated py throughout rubble and gouge as well as py contained in veinlets and veins. INTERP: true orientation of fault (movement shown by slicken lines) is parallel to direction of drilling.	1-2					disseminated, veinlets	grey	3-5																
		182.34	182.92	MGn	silicification	Same as 180.31-180.88m.																								
		182.92	185.40	MGn	clay altered	Off white to light grey, medium hard, well foliated gneiss. Feldspar has been completely altered to white clay 1% fg clusterly py. Clay alteration is moderate. quartz is present in mm thick, discontinuous bands with clay altered feldspar and beige coloured clay giving a distinct foliation. There doesn't appear to be silicification of the interval, rather, just abundant quartz from the parent rock. 1-3% vfg disseminated py throughout. Trace, randomly oriented, mm wide, grey quartz veinlets with abundant fg py contained within. Trace red brown, vfg, streak brown sphalerite in one mm sized veinlet.	1-3			tr		disseminated	off white to grey														3	pervasive		
		183.20		MGn		Foliation at 15 deg to CA.																								
		185.10		MGn		Foliation at 0 deg to CA.																								
		185.40	186.33	MGn	silicified biotite gneiss	D grey, well foliated gneiss consisting of biotite and feldspar. Strong to intense, pervasive silicification. 5-7% fg disseminated py throughout interval. 1-2% white quartz veining at a low angle to the CA and void of mineralization.	5-7					disseminated	d grey	5															pervasive	
		186.33	188.85	MGn	convoluted, clay altered gneiss	Same as 182.92-185.4m. Convoluted foliation. There is a discontinuous, light grey to white, 1-2cm wide, quartz veinlet for almost the entire length of the interval and proximal to it is soft, light green clay alteration. Rare fg py in the qtz vein.	1-3			tr		disseminated	off white to grey															3	pervasive localized-green clay	
		188.85	189.55	MGn	light green clay altered rock??	Amorphous, light green, soft (scratched with a penny), clay altered rock containing 10-15% white to grey, randomly oriented, 1-3cm wide, quartz veining. There is a later stage qtz veining system that contains fg py and cuts through the previously mentioned qtz veins. There is also pale yellow, clay in spots throughout.																								
		189.75		MGn		Foliation at 20 deg to CA.																								
		189.55	190.35	MGn	convoluted, clay altered gneiss	Same as 182.92-185.4m. Convoluted foliation. No green clay.																								
190.35	191.47			F	felsic dike	Pale medium to coarse grained, felsic intrusive consisting of 50% qtz, 50% feld, no mafics and 2-3% fg disseminated py. Texture is v weakly porphyritic to equigranular. Feldspar is pervasively altered to very pale apple green, soft sericite. L grey wormy, sporadic silica overprint due to later stage veining. Grey, mm sized qtz veining cutting the intrusion and containing abundant vfg disseminated py. Trace stibnite in these veinlets. Sharp upper contact at 40 deg to CA.	2-3					disseminated	v pale apple green	4			2												pervasive-ser patchy- sil	
191.47	213.13	191.47	191.96	MGn	clay altered	Grey green, fg, well-foliated gneiss. Mm sized quartz bands and mm sized, white clay altered feldspar bands plus pale green chlorite altered bands. Trace fg disseminated py throughout. Trace mm wide d grey quartz veinlets throughout containing vfg py, possible other sulphide?	tr					disseminated	grey green															3-4	pervasive	
		191.70		MGn		Foliation at 60 deg to CA.																								
		191.96	193.26	FZ	shear	Rubbly, ground up core fragments and angular gravel. Abundant gouge on cleavage and fracture planes. Fragments are of the previous lithology and have abundant grey, py rich qtz veining. 5cm thick zone of consolidated paste-like grey clay and gouge on the shallow lower contact. Shearing is strong. The lower contact is at 165 deg to CA.							off white to grey															3-4	pervasive	
		193.26	195.00	MGn	clay altered	Ssame as 191.47-191.96m. 5-10% 1-5mm wide, d grey, quartz veinlets containing fg py and vfg, grey sulphide? Stibnite? From 194.42-194.52m is a pale apple green, soft sericite altered dike of quartz porphyry at 90 deg to CA. It contains 2-3% fg disseminated py and the upper contact is sharp.																								
		193.70		MGn		Foliation at 55 deg to CA.																								
		195.00	197.51	FZ	shear zone	Consisting of blocky, rubbly core and abundant gouge on cleavage and fracture planes. 10-15cm of gouge can be found near the upper contact. From 195.32-195.68m is a zone of competent core that has been clay altered and contains abundant mm wide grey veinlets.																								

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
161.41	190.35																						
		161.41	164.00							tr	mm scale	qtz	py										
		162.00		20																			
		164.00	164.89																				
		164.89	168.42						fol parallel + randomly oriented	1	mm and sub cm	qtz	py										gradational
		167.00																					
		168.42	170.79						random	3	mm and CA parallel, wide	qtz	py, stb										
		168.50																					
		169.89																					
		170.79	174.07																				
		174.07	174.87						random	3-5	mm	qtz	py										
		174.87	175.68																				
		175.68	176.23																				
		176.23	180.31			4		4	fractured	5-10	variable	qtz	py							75	sharp	120	sharp
		180.31	180.88																				
		180.88	182.34			4-5			fractured	1-2	variable	qtz	py							90	sharp		
		182.34	182.92																				
		182.92	185.40						random	tr	mm	qtz	py									145	sharp
		183.20		15																			
		185.10		0																			
		185.40	186.33	30					0	1-2	n/a	qtz								145	sharp		sharp
		186.33	188.85						random	tr	mm	qtz	py										
		188.85	189.55																				
		189.75		20																			
		189.55	190.35																				
190.35	191.47									tr	mm scale	qtz	py, stb							40	sharp		
191.47	213.13	191.47	191.96																				
		191.70		60																			
		191.96	193.26			3-4															sharp	165	sharp
		193.26	195.00																				
		193.70		55																			
		195.00	197.51																				

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m		Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cl a y
		197.51	198.64	MGn	chlorite	D green, fg, very weakly foliated gneiss. Strong, pervasive, soft, d green chlorite alteration throughout the interval. Trace fg disseminated py. From 198.09-198.47m is a 1 cm wide, grey fractured quartz vein at 170 deg to CA containing clusters of brassy py mid vein and trace, vfg lead blue grey, metallic stibnite along the salvages. There is also a series of mm wide grey veinlets containing py and d grey sulphide?	tr					tr	veinlets	d green												3					pervasive
		198.64	199.92	MGn	clay alteration	Biotite, quartz and clay altered plag in mm scale discontinuous bands. Strong pervasive white clay alteration of feldspar in a mafic gneiss that completely destroys the fabric near the upper contact. Elsewhere clay alteration is moderate and fabric can still be observed. 1-2% mm wide, grey qtz veinlets containing vfg py and d grey sulphide?	tr						veinlets	off white to light grey															3-4	pervasive	
		199.40		MGn		Foliation at 60 deg to CA.																									
		199.92	200.92	MGn	chlorite	D green, soft, fg, weakly foliated interval that has undergone strong, pervasive chlorite alteration. Foliation is back to being at a low angle to CA (~5 deg). Trace fg disseminated py throughout. Two foliation parallel 2-5mm wide, white qtz-carb veinlets that have abundant red hematite staining within and fg disseminated py. There is also d grey sulphide near vein margins? other sulphide? other minor d grey veinlets.	tr						disseminated	d green												3-4				pervasive	
		200.92	201.10	FZ	fault	Rubble with abundant consolidated gouge on cleavage and fracture planes. Strong shear zone. Sharp upper contact at 70 deg to CA. Sharp lower contact at 130 deg to CA.																									
		201.10	201.79	MGn	biotite gneiss	Fg, weakly foliated, salt and pepper coloured, biotite gneiss. Interval is soft and has undergone weak, pervasive clay alteration. Sharp upper and lower contact at 50 deg to CA that cuts the previous interval's foliation. Foliation in this interval is also 50 deg to CA--> a drastic change to the previous interval. INTERP: mafic intrusive (Diorite) that has been metamorphosed to biotite gneiss. Trace mm wide, white, qtz veinlets with fg py.								salt and pepper														1-2	pervasive		
		201.79	202.69	MGn	chlorite	Same as 199.92-200.92m. Near the upper contact is a CA parallel, white, fractured quartz vein that contains blebs of fg py. Foliation completely destroyed. Sharp lower contact at 120 deg to CA.																									
		202.69	203.30	MGn	biotite gneiss	F-m gr weakly foliated biotite gneiss. Weak pervasive clay alteration. Trace mm wide, white qtz veinlets w/o mineralization. Coarser grained, more felsics, foliation at low CA differentiate this bio gneiss from the previous one. The lower contact is sharp at 10 deg to CA and continues for a length of 60cm. Contact is measure at the mid point.								salt and pepper															1-2	pervasive	
		203.30	207.12	MGn	silicification	Light grey, hard, well foliated gneiss. Strong, pervasive silicification of interval. Vuggy core (1-2%), 3-5% quartz veining. Veins/veinlets vary from white to grey to dark grey quartz and mineralization ranges from py, stb, sph, asp. The mm sized veinlets are generally randomly oriented but a common orientation is at 15 deg to CA. Many of the veinlets have a 0.5-1cm wide d grey alteration halo around them. Trace mm wide white qtz-carb veinlets. Amount and orientation make the interval almost like a crackle breccia, but not quite. Trace fg disseminated py throughout. Total of 5-10% py, 1% stb, 1% sph, 1% asp. Sharp upper contact at 10 deg to CA. Silicification intensifies away from this contact.	5-10	1			1		1	disseminated, veins	l grey	4															pervasive
		204.00		MGn		Foliation at 20 deg to CA.																									
		207.00		MGn	high grade veinlets	At the upper portion of this high grade zone (206.9m) are mm sized, discontinuous fractures oriented at 40 deg to CA containing fg red-brown sphalerite and vfg blue-grey metallic stibnite, and fg brassy py? At 207m is a 1.5cm wide, dilated, white to opaque quartz vein containing trace fg py, trace vfg blue grey, metallic stibnite along salvages, abundant f-m gr, red-brown sphalerite along salvages as well as a large concentration of vfg to fg silvery, metallic, lathe-shaped, monoclinic arsenopyrite crystals.																									
		207.12	207.33	BX	calcite breccia	Clast dominated breccia with white calcite as the matrix. 80% clasts, 20% matrix. angular clasts of brecciated host rock containing fg blebby py and sulphide vein. Breccia is oriented at approx 20 deg to CA. Sulphide rich vein has the same mineralogy as described previously. Sulphide vein clast at 207.22m is of the same width and mineralization style as an in-place vein at the breccia margin (207.33m). it has moved 13cm at an angle of 15 deg to CA. INTERP: quick pulse of late stage brecciation through a previously dilated zone (path of least resistance) that brecciated the already in place sulphide mineralization.																									
		207.33	209.29	MGn	silicification	Same as 203.3-207.12m. 1-2% fg disseminated py. Sharp lower contact at 65 deg to CA. Rare vugs.																									
		208.10		MGn		Foliation at 10 deg to CA.																									
		209.29	209.43	VN	sulphide rich qtz vein	Smokey, grey fractured quartz vein containing 5% fg, blebby and disseminated py throughout. 1% fg red-brown, blebby sphalerite mostly as vein salvage. Trace vfg disseminated, metallic silver grey asp. Trace vfg blue, lead grey metallic stibnite(?) near the lower contact + rare, aphanitic, d grey sulphide (stb?). 10% intensely silicified, sub rounded host rock clasts near the upper contact. Trace mm wide, white, randomly oriented qtz-carb veinlets. sharp upper contact at 65 deg to CA. sharp, irregular lower contact at approx 90 deg to CA.	5	tr			1		tr	disseminated, blebby																	
		209.43	210.96	MGn	silicification	Same as 203.3-207.12m. Rare vugs.																									
		210.40		MGn		Foliation at 0 deg to CA.																									
		210.96	211.71	FZ	shear	Rubbly core that is strongly clay altered. Abundant consolidated grey clay and gouge on cleavage and fracture planes. 4cm thick clay on upper contact. Pervasive, moderate clay alteration. Sharp upper and lower contact at 25 deg to CA. Mod to str shearing. 1-2% fg disseminated py.	1-2						disseminated	l grey															3	pervasive	
		211.71	212.53	MGn	clay altered	Light grey, hard, well foliated gneiss. Moderate to strong, patchy clay alteration of interval. 1-2% randomly oriented, grey quartz veining containing fg py. Trace disseminated and blebby fg py. Sharp upper contact at 25 deg to CA.	tr						disseminated, blebs, veinlets	l grey															3-4	patchy	
		212.15		MGn		Foliation at 40 deg to CA.																									
		212.53	213.13	MGn	silicification	Off white to l grey, fg, well foliated gneiss. Mm sized discontinuous qtz and feldspar bands. Moderate, pervasive silicification of the interval. 1-2%, mm wide qtz veinlets partially to completely py replaced. Trace fg disseminated py. Sharp upper contact at 50 deg to CA. Sharp, irregular lower contact.	tr						disseminated	l grey	3															pervasive	
		212.82		MGn		Foliation at 10 deg to CA.																									
213.13	214.57			FP	Feldspar Porphyry	Light grey, moderately hard, porphyritic intrusive. 15-20% 1-5mm sized, off-white, clay altered feldspar phenos within a light grey, aphanitic matrix. weak pervasive clay alteration of feldspar. 1% py in fg blebs. 1-2% mm wide, d grey quartz veinlets generally oriented at 15 deg to CA. Veinlets contain moderate amounts of fg py. 1-8mm wide alteration envelopes commonly found around the veinlets. Bottom 50cm of interval has more of an equigranular to weakly porphyritic texture. Irregular contacts.	1						blebs	l grey															1-2	pervasive	
214.57	214.87			MGn	silicification	Same as 212.53-213.13m.																									
214.87	215.77			F	felsic dike	Off white to grey medium to coarse grained, felsic intrusive consisting of 50% qtz, 50% feld, no mafics and 2-3% fg disseminated py. Texture is equigranular. Feldspar is pervasively altered to, soft white clay. Feldspar and quartz grains are anhedral blob-like crystals giving the interval an odd texture. Trace grey, mm sized qtz veining cutting the intrusion and containing minor vfg disseminated py. trace blebby py throughout. Finer grained crystals are found near the margins--> possible chill margin.	tr						blebs	off white + grey															2	pervasive feldspar alt	
215.77	216.34	215.77	216.00	MGn	silicification	Same as 212.53-213.13m.																									
		215.83		MGn		Foliation at 35 deg to CA.																									
		216.00	216.15	BX	quartz breccia	White and grey fractured quartz breccia that is matrix dominated with v few host rock clasts within. There is one large clast. 1-2% fg blebby py, trace fg, red brown sphal, trace blue grey, metallic stibnite? 1% vfg, metallic grey sulphide (asp?) as vein salvages, sphal also generally found near margins. Sharp upper contact at 25 deg to CA. Sharp lower contact at 40 deg to CA.	1-2	1			1		tr	disseminatedec, blebby, vein salvages																	
		216.15	216.34	MGn	silicification	Same as 212.53-213.13m.																									
216.34	216.87			F	felsic dike	Same as 214.87-215.77m. One 20cm wide, sub-rounded, silicified gneiss clast within, near the upper contact. INTERP: felsic dike intruded after the gneiss.	1						blebs	l grey															1-2	pervasive	

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
		197.51	198.64						random and 0 deg	1-2	mm to 1 cm	qtz	py, stb?										
		198.64	199.92							1-2	mm	quartz	py, other sulfide?										
		199.40		60																			
		199.92	200.92						5	1	2-5mm	qtz-carb	py, hem									50	sharp
		200.92	201.10			4																	
		201.10	201.79	50						tr	1mm	qtz	py							50	sharp	50	sharp
		201.79	202.69																				
		202.69	203.30							tr	mm	qtz										10	sharp
		203.30	207.12	15-20					random	3-5	1mm to 2 cm	qtz	py, stb, sp, asp							10	sharp		
		204.00		20																			
		207.00							40	100	1.5cm	qtz	py, stb, sp, asp										
		207.12	207.33											host rock, sulphide vein	80	angular	calcite	20	3				
		207.33 208.10	209.29	10																			
		209.29	209.43						65	100	10-12cm	qtz	py, sp, asp, stb										
		209.43 210.40	210.96	0																			
		210.96	211.71																	25	sharp, gouge	25	sharp
		211.71	212.53							tr	mm	grey qtz	py							25	sharp	50	sharp
		212.15		40																			
		212.53	213.13							1-2	mm	grey qtz	py							50	sharp		sharp, irregualr
		212.82		10																			
213.13	214.57								15	1-2	mm	grey qtz	py								irregular		irregular
214.57	214.87																						
214.87	215.77									tr	mm	qtz	py								irregular		irregular
215.77	216.34	215.77 215.83	216.00	35																			
		216.00	216.15											sil gneiss	5	angular	qtz	90	1-2	25	sharp	40	sharp
		216.15	216.34																				
216.34	216.87								15	1-2	mm	grey qtz	py								irregular		irregular

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y	Altn Style
216.87	261.26	216.87	220.05	MGn	calc. clay, silicification	Light grey, medium hard, v weakly foliated, calcified (dolomitized?) gneiss with 2-3% veining. Texture almost completely destroyed, rock composition is clay altered, beige coloured feldspar and grey quartz. Moderate pervasive clay and carbonate alteration with overprinted moderate pervasive silicification. Thin mm scale, white to grey veins composed of qtz-carb are generally oriented at 20 deg to CA (but many other orientations as well) and contain fg disseminated py throughout + vfg stibnite (?) along vein salvages. stibnite(?) appears more associated with qtz whereas py was found with both qtz and carbonate veins. Some carbonate veins appear to re-open old qtz veins with carb found mid vein and quartz on the margins. 1-2% fg disseminated py and blebby py throughout rock. At 218.42-218.47m is a med to coarse grained, qtz, feld felsic intrusive dike (at 90 deg to CA).	1-2					1	disseminated, in veinlets	l grey	3				3											3-4	pervasive
		218.64		MGn		Foliation at 5 deg to CA.																									
		220.05	221.61	MGn	calc. clay, silicification	Same as 216.87-220.05m. Overprint of strong, pervasive silicification. Gradational contacts.								l grey	4																pervasive
		220.30		MGn		Foliation at 25 deg to CA.																									
		221.61	224.70	MGn	calc. clay, silicification	Same as 216.87-220.05m. Many veinlets now also contain fg red-brown sphalerite. From 222.18 to 222.45m is a zone of concentrated qtz-carb veinlets containing py, sphal, stb. Almost a crackle breccia. Minor vugs in this small interval.																									
		223.60		MGn		Foliation at 25 deg to CA.																									
		224.70	226.64	MGn	sil. garnet bitotite gneiss	Dark grey black, fg, weakly-moderately well foliated gneiss. Made up of approximately 55% biotite, 30% feldspar and 10% qtz. Trace, pink-brown, anhedral garnet crystals. Trace fg magnetite. trace fg disseminated py. Strong to intense overprint of pervasive silicification. 2-5% randomly oriented, mm scale, qtz-carb veinlets containing abundant fg py, tr vfg sphal and tr vfg stb(?). Mineralization found within both qtz and carb veinlets. Commonly a 1-10mm wide, pale green (sericite?) alteration envelope around veinlets. Upper contact is sharp at 25 deg to CA and within 20cm of the contact is pervasive dark green chlorite alteration. INTERP: cause of silicification was last event due to overprinting of all other alterations.	1			tr		tr	veinlets	d grey black	5			1							3						pervasive-sil veinlet proximal-ser localized at upper contact- chl
		225.82		MGn		Foliation at 20 deg to CA.																									
		226.64	222.87	MGn	calc. clay, silicification	Same as 216.87-220.05m. Metallic, silver-grey vfg ASP found in one veinlet at 227m. Gradational contacts.	1-2	tr		tr		1	disseminated, in veinlets	l grey	3				3											3-4	pervasive
		222.87	231.68	MGn	sil. garnet bitotite gneiss	Same as 224.7-226.64m. Veinlets do not all contain stb and sph. Most veinlets do contain abundant fg py. fg. dark green mineral associated with py in some qtz-carb veins. No other info to go by due to silica overprint and fg nature of mineral (chlorite?). Lower contact is gradational at 25 deg to CA and is bordered by 30cm of d green chlorite.	1			tr		tr	veinlets	d grey black	5			1							3						pervasive-sil veinlet proximal-ser localized at upper contact- chl
		228.82		MGn		Foliation at 25 deg to CA.																									
		231.68	232.33	MGn	calc. clay, silicification	Light grey, medium hard, v weakly foliated, calcified (dolomitized?-reaction w/ acid only when scratched) gneiss with 2-3% veining. Texture almost completely destroyed, rock composition is clay altered, beige coloured feldspar and grey quartz. Moderate pervasive clay and weak carbonate alteration with overprinted moderate pervasive silicification. Thin mm scale, white to grey veins composed of qtz-carb are generally oriented at 25 deg to CA (but many other orientations as well) and contain fg disseminated py throughout. No stb and no sph. trace fg disseminated py throughout. rock. Sharp lower contact with a fault at 25 deg to CA.	tr						disseminated, veinlets	l grey	3				1-2											3-4	pervasive
		231.90		MGn		Foliation at 25 deg to CA.																									
		232.33	232.87	FZ	fault	Blocky, rubbly core with very minor gouge on cleavage and fracture planes. Few polished cleavage surfaces. Upper contact at 25 deg to CA.																									
		232.87	233.41	MGn	calc. clay, silicification	Same as 231.68-232.33m.																									
		233.32		MGn		Foliation at 20 deg to CA.																									
		233.41	234.13	MGn	sil. garnet bitotite gneiss	Dark grey black, fg, weakly-moderately well foliated gneiss. Made up of approximately 55% biotite, 30% feldspar and 10% qtz. Trace, pink-brown, anhedral garnet crystals. Trace fg magnetite. Trace fg disseminated py. Strong to intense overprint of pervasive silicification. 1-2% randomly oriented, mm scale, qtz-carb veinlets containing fg py. No stb, no sph. Commonly a 1-3mm wide, pale green (sericite?) alteration envelope around veinlets. Gradational contacts at 20 deg to CA.	tr						disseminated, veinlets	d grey black	4-5			2													pervasive-sil veinlet proximal-ser
		234.13	234.53	MGn	calc. clay, silicification	Same as 231.68-232.33m. Again d green mineral in qtz-carb vein with py. Patches of brown mica-phlogopite?																									
		234.53	235.28	MGn	sil. garnet bitotite gneiss	Same as 233.41-234.13m.																									
		235.28	236.05	MGn	intense silicification	L grey, fg, v hard, weak relict foliation. The rock is composed of clay altered, beige feldspar and grey quartz. Moderate pervasive clay alteration that has an overprint of intense, pervasive silicification. Trace fg disseminated py. 1-2% veining throughout. White 0.5-1cm wide, foliation parallel veins as well as sub mm sized qtz carb veinlets that are partially to completely py replaced. Sharp lower contact with gneiss that is not nearly as silicified- contact at 35 deg to CA.	tr						disseminated	l grey	5															3-4	pervasive
		236.05	238.14	MGn	clay altered, silcified muscovite gneiss	L grey to beige, fg, moderately well foliated gneiss with a medium hardness. Composed of 60% beige, clay altered feldspar, 30% muscovite, 10% quartz. Bottom 50cm of the interval shows convoluted, discontinuous foliation, typical of ductile deformation. 1-2% grey and white quartz veining and most of the vein material is found as discontinuous lenses and blebs within the convoluted zone. Trace fg clusterly py can be found in few vein. One mm wide veinlet near the bottom contact contained trace fg stibnite. Alteration phase one: pervasive, moderately strong clay alteration; phase 2: moderate silicification. Upper contact is sharp at 35 deg to CA. Lower contact is sharp and irregular at approximately 25 deg to CA.								l grey to beige	3															3-4	pervasive
		236.93		MGn		Foliation at 25 deg to CA.																									
		238.14	238.70		Diorite	Salt and pepper coloured, fg, equigranular, moderately soft interval with a sharp, irregular upper contact. Plag altered to white clay, mafic mineralogy is amphibole(?) and alters to biotite. moderate, pervasive clay alteration. weak pervasive potassic alteration (musc + bio). Also minor amounts of muscovite. Muscovite content picks up near gradational down hole contact. INTERP: mind blown, no idea what's going on. altered intermediate intrusive- Diorite?								salt and pepper																3	pervasive
		238.70	240.32	MGn	musc + bio gneiss	Fg, d grey, weak to moderately foliated mafic gneiss composed of feldspar, bio, musc. Strong to intense, pervasive silica overprint. Trace fg blebby py. Trace, mm scale, randomly oriented qtz and carb veinlets.	tr						blebs	d grey	4-5																pervasive
		240.18		MGn		Foliation at 30 deg to CA.																									
		240.32	242.00		Diorite	Same as 238.14-238.7m. Patchy d green chlorite alteration, biotite alteration and silicification proximal to qtz veins and veinlets. Veining makes up 1-2% of the interval and contains fg py and trace vfg stibnite. Lower contact is again gradational with muscovite content picking up down hole.								salt and pepper	3										3						patchy
		242.00	243.38	MGn	biotite gneiss	Same as 238.7-240.32m. At 243.1m is a broken up, fractured, discontinuous white quartz vein.																									
		243.38	243.88	FZ	fault	Blocky, rubbly silicified and chloritized mafic gneiss. Some cleavage and fracture planes have been polished.																									

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
216.87	261.26	216.87	220.05						20	2-3	mm scale	qtz carb	py, stb										
		218.64		5																			
		220.05	221.61																				
		220.30		25																			
		221.61	224.70																				
		223.60		25																			
		224.70	226.64						random	2-5	mm scale	qtz carb	py, stb, sph							25	sharp		
		225.82		20																			
		226.64	222.87						20	2-3	mm scale	qtz carb	py, stb										
		222.87	231.68						random	2-5	mm scale	qtz carb	py, stb, sph										
		228.82		25																			
		231.68	232.33							2-3	mm scale	qtz-carb	py									25	sharp
		231.90		25																			
		232.33	232.87																	25	sharp		
		232.87	233.41																				
		233.32		20																			
		233.41	234.13	20						1-2	mm scale	qtz-carb	py										
		234.13	234.53																				
		234.53	235.28																				
		235.28	236.05							1-2	mm to cm	qtz and qtz-carb	py									35	sharp
		236.05	238.14						convolute d	1-2	mm to cm	qtz	py							35	sharp	25	sharp, irregular
		236.93		25																			
		238.14	238.70																	25	sharp, irregular		gradational
		238.70	240.32							tr	mm scale	qtz and carb											
		240.18		30																			
		240.32	242.00							1-2	mm to cm	qtz and carb	py, stb										gradational
		242.00	243.38																				
		243.38	243.88																				

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																	
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cl a y	Altn Style	
		243.88	247.39	MGn	strongly Silicified bio gneiss	Fg, well foliated, v hard, grey-green biotite gneiss. Strong pervasive d green chlorite alteration. An overprint of strong pervasive silica flooding. 1% fg disseminated and blebby py. 2-3% white and grey quartz and carb veins ranging from 1-3cm in thickness and containing fg, clustery py in the core and trace fg stibnite in salvages. From 244.7-244.89 is a zone with a high concentration of quartz veins at 20 deg to CA. The veins have stibnite concentrated along the vein salvages and py in clusters. There is also carbonate in the core and a small, l grey, softer alteration envelope around the veins that is weakly carbonate flooded. There is a similar quartz carb rich zone from 236.38 to 236.52m with the same alteration envelope. Late stage, mm sized, randomly oriented qtz veinlets containing fg py.	1							disseminated, blebby	l grey green	4										3					pervasive	
		244.08		MGn		Foliation at 25 deg to CA.																										
		245.88		MGn		Foliation at 20 deg to CA.																										
		247.39	248.04	MGn	clay altered	Soft, off white, well foliated gneiss that has been subject to strong pervasive clay alteration of feldspar. Also contains, brown phlogopite. 2-3% fg disseminated py throughout. Trace, 3-5mm sized, grey quartz veins containing abundant fg clusterv py. Gradational contacts at 30 deg to CA.	2-3							disseminated	off white														3-4	pervasive		
		248.04	248.53	MGn	intense silicification	Intensely silicified, light grey green interval that has had the gneissosity completely destroyed. Trace mm scale qtz and carb veinlets. Veinlets contain fg clustery py. D green mineral associated with py in some veins. Gradational contacts.									l grey green	5									3					pervasive		
		248.53	258.70	MGn	propylitic, strongly Silicified bio gneiss	Fg, hard, well-foliated, grey green biotite gneiss. Trace, pinkish, anhedral garnet crystals throughout. Foliation is distorted and wavy in some areas. Splotches of pistachio coloured epidote and dark green chlorite are frequent throughout. Overprint of strong, pervasive silicification. 5-10% clustery, blebby fg py, generally found associated w/ biotite, not qtz or feld. trace red, hematite alteration found proximal to some veinlets and on fracture planes. 1-2% mm scale, randomly oriented (generally fol parallel) qtz and carb veinlets partially to completely replaced by fg, clustery py. From 257.21-257.39m is a 8cm wide (true thickness) quartz-carbonate vein containing minor fg clustery py. Upper contact is gradational. Lower contact is at 45 deg to CA.	5-10							blebby, clustery	grey green	4									3		3			pervasive-sil splotches-epi, chl		
		249.11		MGn		Foliation at 20 deg to CA.																										
		251.06		MGn		Foliation at 40 deg to CA.																										
		256.40		MGn		Foliation at 30 deg to CA.																										
		258.70	259.42	MGn	clay altered	Of white coloured, soft, moderately foliated gneiss that has undergone strong pervasive, white clay alteration of feldspar. There is also pervasive carbonate alteration of the interval. Foliation is still visible due to sub mm wide, discontinuous quartz bands. 3-5% fg disseminated py throughout interval, sometimes with d green, soft chlorite (?) associated with it. Rare, grey-opaque quartz blebs, lenses. At 258m is a 3cm wide, grey feldspar porphyry dike, oriented at 30 deg to CA. The 2-5mm wide feldspar phenos have been altered to white clay and the entire dike has been overprinted by carbonate alteration. Sharp upper contact at 45 deg to CA and marked by a 3cm wide zone of biotite. Lower contact is gradational at 45 deg to CA. INTERP: carbonate alteration of this interval occurred post dike emplacement--> carb is later stage event.	3-5							disseminated	off white					3									4	pervasive		
		259.42	260.72	MGn	propylitic, strongly Silicified bio gneiss	Same as 248.53-258.7m.																										
		260.72	260.88	FZ	minor fault	Rubby core with minor gouge on cleavage and fracture planes. Upper contact at 90 deg to CA. Lower contact at 60 deg to CA.																										
		260.88	261.26	MGn	propylitic, strongly Silicified bio gneiss	Same as 248.53-258.7m.																										
		260.90		MGn		Foliation at 30 deg to CA.																										
261.26	271.03	261.26	262.06	QFP	unaltered	D brown grey, hard, distinctly porphyritic. 40-60% phenos throughout the interval (highly variable). Phenos are 2-7mm wide, euhedral to subhedral crystal shape and there are more feldspar phenos than quartz phenos. Feldspar phenos are milky white, rectangular and quartz phenos are grey to opaque, fractured and 'eye' shaped. Fg biotite can be seen in the matrix. 2-3% fg, blebby py. Trace mm scale, grey quartz carb veinlets, occasionally with trace fg py. Trace fg magnetite. Upper contact is sharp and irregular.	2-3							blebby	d brown grey																	
		262.06	263.28	QFP	clay, carbonate altered	Same as 261.26-262.06m. Rock is off-white coloured and soft. Strong, pervasive white clay and carbonate alteration of both the matrix and the phenos. Patchy d green, soft chlorite alteration of feldspar phenos. Gradational contacts.									off white					3									4	pervasive		
		263.28	263.90	FZ	fault	Blocky, rubbly, clay altered core.																										
		263.90	265.37	QFP	strongly silicified QFP	Same as 261.26-262.06m. Medium grey, slightly ghosted texture, hard. Strong, pervasive silicification. White carbonate alteration proximal (1-5mm envelope) to carb veinlets.									l grey	4															pervasive	
		265.37	265.79	QFP	clay + carb altered	Same as 261.26-262.06m. Weak, pervasive, white clay and carbonate alteration of feldspar phenos. Gradational contacts.									off white					2-3									1-2	pervasive		
		265.69	267.00	QFP	strongly silicified QFP	Same as 261.26-262.06m. Medium grey, slightly ghosted texture; hard. Strong, pervasive silicification. White carbonate alteration proximal (1-5mm envelope) to carb veinlets.									l grey	4															pervasive	
		267.00	267.73	QFP	clay + carb altered	Same as 261.26-262.06m. Weak, pervasive, white clay and carbonate alteration of feldspar phenos. Gradational contacts. One 2-3cm wide, white, soft calcite vein with large crystals of calcite on a fracture surface.									off white					2-3									1-2	pervasive		
		267.73	268.42	QFP	strongly silicified QFP	Same as 261.26-262.06m. Medium grey, slightly ghosted texture, hard. Strong, pervasive silicification. White carbonate alteration proximal (1-5mm envelope) to carb veinlets.									l grey	4															pervasive	
		268.42	268.90	QFP	clay + carb altered	Same as 261.26-262.06m. Weak, pervasive, white clay and carbonate alteration of feldspar phenos. Gradational contacts. Rare feldspar phenos having a wormy texture of quartz within.									off white					2-3									1-2	pervasive		
		268.90	271.03	QFP	strongly silicified QFP	Same as 261.26-262.06m. Medium grey, slightly ghosted texture, hard. Strong, pervasive silicification. White carbonate alteration proximal (1-5mm envelope) to carb veinlets. Lower contact is sharp at 30 deg to CA. Porphyritic texture gradually disappears over the last 45cm of the QFP and minor epidote alteration becomes prevalent. Mm scale carbonate and quartz veinlets are generally oriented at 30 deg to CA and they begin to be almost completely filled by py and epidote as you approach the down hole contact.									l grey	4														pervasive		
271.03	293.45	271.03	272.81	MGn	str silicified biotite gneiss	Fg, hard, well-foliated, grey green biotite gneiss. Most biotite crystals are partially to completely altered to d green chlorite. Sporadic splotches of pistachio coloured epidote and dark green chlorite are frequent throughout. Overprint of strong to intense, pervasive silicification. 3-5% clustery, blebby, disseminated fg py, generally found associated w/ biotite, not qtz or feld. 1-2% mm scale, randomly oriented white, carb veinlets with carbonate flooded alteration envelopes that sub cm to 4cm wide. Sharp upper contact at 30 deg to CA. Gradational lower contact.	3-5							disseminated, blebby, clustery	grey green	4-5									3		3			pervasive-sil patchy- chl, ser		
		272.00		MGn		Foliation at 45 deg to CA.																										
		272.81	276.45	MGn	carbonate flooded	Fg, l grey, well foliated, moderate hardness, weak effervescence. Weak, pervasive (INTERP: secondary) carbonate alteration. patchy, moderate, d green chlorite alteration. 3-5% fg disseminated and blebby py. Trace white cm scale, distorted, quartz veining containing clustery py in the vein core. 5% mm scale, randomly oriented, white carbonate veining, containing trace fg py, trace blue-grey metallic stibnite in veinlet salvages and trace fg brown sphalerite. Gradational contacts.	3-5				tr		tr	disseminated, blebby, within veinlets	l grey					2					2					pervasive-carb patchy-chl		
		275.00		MGn		Foliation at 45 deg to CA.																										

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
		243.88	247.39							2-3	cm scale	qtz, carb	py, stb										
		244.08		25																			
		245.88		20																			
		247.39	248.04							tr	mm scale	qtz	py							30	gradational	30	gradational
		248.04	248.53							tr	mm scale	qtz	py										
		248.53	258.70							tr	mm scale	qtz, carb	py								gradational	45	sharp
		249.11		20																			
		251.06		40																			
		256.40		30																			
		258.70	259.42						30	tr	3cm	FP								45	sharp	45	gradational
		259.42	260.72																				
		260.72	260.88																	90	sharp	60	sharp
		260.88	261.26																				
		260.90																					
261.26	271.03	261.26	262.06							tr	mm	qtz-carb	py								sharp, irregular		
		262.06	263.28																				
		263.28	263.90																				
		263.90	265.37																				
		265.37	265.79																				
		265.69	267.00																				
		267.00	267.73																				
		267.73	268.42																				
		268.42	268.90																				
		268.90	271.03																			30	sharp
271.03	293.45	271.03	272.81							1-2	mm	carb								30	sharp		gradational
		272.00		45																			
		272.81	276.45							5	mm	carb	py, stb, sp										
		275.00		45																			

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																	
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cl a y	Altn Style	
		276.45	293.45	MGn	str to intensely silicified	Fg, dark grey-green, v hard, v well foliated, biotite gneiss. Both black and brown (phlogopite?) biotite are present in distinct bands throughout. Biotite has been partially to completely altered to dark green chlorite throughout the entire interval. Patchy, rare propylitic alteration consisting of pistachio green epidote intermixed with green chlorite. strong to intense, pervasive silicification. 1-2% fg disseminated py concentrated within the biotite, not the qtz or feld. trace, v rare veining. Minor red-brown hematite staining on cleavage and fracture planes. Very competent core. Gradational upper contact. Sharp, irregular lower contact. From 287.9-288.6m is a zone where the foliated texture is completely non-existent. At 293.05m is a zone of blebby, white quartz that contains trace fg disseminated py and it is almost the only veining in the entire interval.	1-2							disseminated	d grey green	4-5									4		3			pervasive-sil, chl patchy- chl, epi		
		278.00		MGn		Foliation at 45 deg to CA.																										
		280.00		MGn		Foliation at 45 deg to CA.																										
		282.00		MGn		Foliation at 30 deg to CA.																										
		287.00		MGn		Foliation at 40 deg to CA.																										
		289.00		MGn		Foliation at 40 deg to CA.																										
		292.00		MGn		Foliation at 45 deg to CA.																										
293.45	294.04			FP	black feldspar Porphyry	Hard, d grey, aphanitic matrix with milky white, anhedral phenos that are 1-4mm wide. Possibly biotite in the matrix. Matrix dominated: 60% matrix, 40% phenos. Trace mm scale, py filled qtz-carb veinlets oriented at 20 deg to CA. The veinlets are cut by another set of mm scale carb veinlets (trace) oriented at 90 deg to CA that contain no mineralization. Around both of these veinlets systems is a 3-7mm wide, grey green alteration envelope--> chlorite, carbonate mixture. Trace fg magnetite. Both the upper and lower contacts are sharp and irregular with chloritized gneiss. Possibly porphyritic Diorite? INTERP: interfingering contact.									d grey										2					veinlet envelopes		
294.04	295.19			MGn	str to intensely silicified	Same as 276.45-293.45m.																										
295.19	297.75	295.19	297.16	MGn	clay altered	L grey interbanded with medium grey. Fg, well banded (mm sized), moderately hard gneiss. Weak to moderate, pervasive alteration of feldspar to white clay. Grey quartz present in mm sized, discontinuous bands. Medium grey zones only occur proximal to the upper contact. 3-5% fg blebby py found in clay altered sections. trace, mm scale, foliation parallel qtz veinlets containing abundant fg py. As you approach the lower contact with the sulphide vein trace fg sphalerite can be found in a few veinlets.	3-5							blebby	l grey and medium grey														2-3	pervasive		
		296.50		MGn	foliation	Foliation at 45 deg to CA.																										
		297.16	297.23	BX	sulphide rich breccia	Clast dominated breccia with a grey quartz matrix. Clasts 80%, Matrix 20%. Most clasts are sub-angular to sub-rounded, clay altered gneiss. There are a few clasts of quartz vein containing fg clusters of py and fg sphalerite blebs. Minor vugs in the matrix. Mineralization: 2-3% fg clustery py, 2-3% fg clustery, red-brown sphalerite, 1% fg, soft, blue-grey, metallic stibnite (possibly moly too). All sulphide minerals are found in contact with each other within the clusters. Brecciation is moderately intense. Sharp contacts at 70 deg to CA.	2-3				2-3		1	clustery																		
		297.23	297.31	MGn	silicification	Pervasive, strong silicification overprint of clay altered gneiss that is found between a breccia and a vein.																										
		297.31	297.40	VN	sulphide rich qtz vein	Smokey, grey quartz vein that is 25% quartz and 75% sulphide. The quartz is found mid-vein and has a vuggy core. Mineralization is described from the up hole contact to the down hole contact. The first 0.5cm contains fg blebby py and fg sphal within grey quartz. The following 1.5cm is a section of quartz and host rock crackle breccia with fg py and sphal within the quartz. Next is a 1-3mm wide band of asp, followed by a 7-10mm wide band of red brown sphal with py on the down hole margin. Following that is the smokey grey quartz. The sequence repeats itself in reverse order to the down hole contact, but it is 90% asp minimal sphal and py. 1-2% fg, bladed, blue-grey, metallic stibnite is found throughout the bands. Total of 40-50% asp, 10-15% sp, 5-8% py, 1-2% stb. Sharp upper and lower contact at 70 deg to CA.	5-8	40-50		10-15		1-2	banded, blebs																			
		297.40	297.75	MGn	clay altered	Same as 259.19-297.16m. Mm scale qtz veinlets contain fg, metallic, silver-grey asp on the vein salvages and fg brown sphal in the core.		tr		tr																						
297.75	298.03			VN	sulphide rich qtz vein	Vein matrix consists of 80% smokey grey and white quartz with 20% milky white carbonate. The carbonate is found in the core of the vein and is of variable thickness + intergrowing, irregularly into the quartz at its margins. Within the carbonate are few angular, grey quartz clasts, a minor amount of vugs and abundant, vfg to fg, clustery, py. Along the upper vein contact is a 1-2cm thick cluster of vfg, metallic, silver-grey asp. Along the lower contact is a 2-4cm wide irregularly bounded, cluster of vfg asp. Abundant clustery brown sp is found on the inner side of the asp. Next in the sequence is clustery, brassy-yellow, metallic py, sometimes with a 'mud-crack' texture to it. py, ap, and sph can also be found in intermixed in clusters. Occasionally laths of fg asp are observed. 1% blue-grey, metallic, fg, blebby (occasionally bladed) stb is found within all these clusters. On a broken surface one can see chalcopyrite, bornite and black sphalerite. Within the grey quartz portion of the vein is broken, brecciated clumps of clustery sulphide. Total 3-5% py, 20-25% asp, 10-15% sph, 1-2% stb, 1%cpy, trace bornite, trace galena. Upper contact is sharp at 75 deg to CA. Lower contact is sharp at 65 deg to CA. INTERP: multiple stages of mineralization on the same, and chemistry of	3-5	20-25	tr	10-15	1	1-2	clustery, concentrated																			
298.03	303.87	298.03	300.05	MGn	clay altered + sulphide rich veinlets	L grey, fg, moderately well banded gneiss with a medium hardness. Weak to moderate, pervasive white clay alteration of feldspar. Grey qtz present in sub-mm scale discontinuous bands. 10-12% fg blebby py throughout. 1% 3-5mm wide, grey quartz bands (at 130 deg to CA) containing abundant fg red-brown sphal as well as fg blue-grey, metallic stibnite and fg, brassy py. Also trace qtz stringer veinlets filled partially to completely with vfg py and oriented at an angle of 30 deg to CA. Sharp upper contact at 65 deg to CA.	10-12				tr			blebby, veinlets	l grey														2-3	pervasive		
		300.05	300.98	MGn	tan clay altered	Tan coloured, fg, moderately foliated gneiss with a medium hardness and a v weak reaction with acid when scratched. Moderate, pervasive tan clay alteration and weak pervasive dolomite alteration. 3-5% fg disseminated, blebby py. 3-5% foliation parallel, d grey qtz veinlets containing abundant vfg py. 2-3% randomly oriented, sub-cm wide, white qtz-carb veinlets scattered throughout containing abundant fg py. Rare patches of unaltered mafic gneiss. Sharp lower contact with intrusive at 40 deg to CA.	3-5							disseminated, blebby, in veinlets	tan					1								3	pervasive			
		300.98	301.23	QFP-d	QFP dike	Tan coloured, porphyritic QFP dike with a moderately soft hardness and a weak reaction with acid when scratched. Moderate, pervasive tan clay alteration and weak pervasive dolomite alteration. 60% matrix, 40% phenos. Phenos are 1-3mm wide. Feldspar phenos are subhedral and difficult to distinguish from the groundmass (feldspar groundmass too??). Quartz phenos are fractured up, few qtz 'eyes'. No mineralization. Trace sub-mm wide, white, qtz-carb veinlets at 115 deg to CA. Sharp upper contact at 40 deg, sharp lower contact at 50 deg.									tan						1							3	pervasive			
		301.23	303.87	MGn	tan clay altered	Same as 300.05 to 300.98m. Sharp irregular shaped intrusion of l brown QFP centered at 303.1m. The 10cm before the irregular lower contact have been pervasively altered to d green, chlorite. INTERP: d green chlorite alteration and irregular contact indicates QFP intruded post clay and carbonate alteration of the mafic gneiss.																		1					localized			
		302.00		MGn		Foliation at 45 deg to CA.																										
303.87	306.45	303.87	306.45	QFP	d brown QFP	D brown, hard, porphyritic. Phenos of quartz and feldspar are 2-4mm wide, and anhedral to subhedral. The rock is unaltered. Trace fg disseminated py. At least two generations (at 15 deg to CA and at 35 deg to CA) of white, 1mm wide, carbonate veinlets w/o mineralization. Sometimes there is a 1-3mm wide, l grey alteration envelope around these veinlets. Silica rich, lighter grey-green coloured over the last 20cm of the interval before a sharp, irregular, lower contact.	tr							disseminated	d brown						1								proximal to veinlets			

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Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
		276.45	293.45																		gradational		sharp, irregular
		278.00		45																			
		280.00		45																			
		282.00		30																			
		287.00		40																			
		289.00		40																			
		292.00		45																			
293.45	294.04								20 + 90	tr	mm scale	qtz-carb	py										
294.04	295.19																						
295.19	297.75	295.19	297.16							tr	mm scake	qtz	py, sphal										
		296.50		45																			
		297.16	297.23											clay altered host rock, quartz vein	80	sub- angular to sub rounded	quartz	20	2-3	70	sharp	70	sharp
		297.23	297.31																				
		297.31	297.40						70	90	9cm	qtz	py, asp, stb, sp							70	sharp	70	sharp
		297.40	297.75																				
297.75	298.03								65-75	100	28cm	qtz-carb	py, asp, stb, sp, cp, ga, bn							75	sharp	65	sharp
298.03	303.87	298.03	300.05						30 + 130	1-2	mm's	quartz	py, sp. Stb							65	sharp		
		300.05	300.98						random	3-5	sub cm	qtz and qtz-carb	py									40	sharp
		300.98	301.23						115	tr	sub mm	qtz-carb								40	sharp	50	sharp
		301.23	303.87																				
		302.00		45																			
303.87	306.45	303.87	306.45						15 + 35	tr	1mm	carb									irregular		irregular

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Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration															
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cla y
306.45	328.73	306.45	313.42	MGn	Amphibolite - Biotite Gneiss	Fg, d grey to black, weakly foliated mafic gneiss. Mineralogy is amphibole (?), biotite, plag, chlorite, epidote, minor qtz. Biotite is partially to completely altered to d green chlorite. Chlorite alteration therefore is moderate and patchy. Weak propylitic alteration consisting of pistachio green epidote occurring sporadically in small splotches with v dark green chlorite, and often, clusters of brassy, metallic py. Rare blebs of burgundy hematite and rare burgundy hematite on fracture planes. 1-2% fg, disseminated py and clusters of py throughout. Trace fg magnetite. 1-2% variably oriented, white carbonate and grey quartz veinlets throughout. Many veinlets contain abundant py within. Lower contact is gradational.	1-2						disseminated, clusters	d grey black								1			3		1			patchy- chl sporadic-epi, hem
		311.40		MGn		Foliation at 50 deg to CA.																								
		313.42	314.37	MGn	strongly silicified amphibolite biotite gneiss	Same as previous, but with a light grey, intense, pervasive silicification overprint. Sharp lower contact at 160 deg to CA.							light grey	5															pervasive	
		314.00		MGn		Foliation at 45 deg to CA.																								
		314.37	317.23	FZ	shear	blocky, rubbly amphibolite, biotite gneiss with abundant clay and calcite on cleavage and fracture planes. Weak shear zone. A 15cm wide white and grey quartz vein is just before the bottom contact. Directly at the bottom contact is a 3cm wide section of consolidated grey clay. the sharp lower contact is at 50 deg to CA																								
		317.23	318.83	MGn	strongly silicified amphibolite biotite gneiss	Same as previous, but with a light grey, intense, pervasive silicification overprint. Sharp lower contact at 160 deg to CA.							l grey	5																
		318.83	320.00	FZ	shear	Abundant consolidated white clay throughout. Trace fg disseminated py. Sharp upper contact at 160 deg to CA. Sharp lower contact with a large quartz vein at 50 deg to CA.	tr					disseminated																		
		320.00	320.60	VN	quartz	Large l grey quartz vein with trace py in scattered clusters and in fractures. Rare, white sub-cm wide, calcite veins cutting the quartz and oriented at 75 deg to CA.	tr					clusters, fracture controlled																		
		320.60	328.73	MGn	str-int silicified mafic gneiss	Fg, v hard, l grey mafic gneiss. Biotite is partially to completely altered to d green chlorite. Chlorite alteration therefore is moderate and patchy. Weak propylitic alteration consisting of pistachio green epidote occurring very rarely in small splotches with v dark green chlorite, and often, blebs of brassy, metallic py. Patchy, brown biotite (phlogopite). Intense, pervasive overprint of silicification. 1-2% fg, disseminated py and blebs of py throughout. Trace variably oriented, white carbonate and grey quartz veinlets throughout. Minimal amounts of py in the veinlets. Lower contact is sharp and irregular.	1-2					disseminated, blebby	l grey	5							3		3		1					
328.73	349.87	328.73	329.01	QFP	quartz feldspar porphyry	Medium grey, hard, distinctly porphyritic rock that is approximately 50% aphanitic matrix and 50% 2-5mm wide, subhedral to euhedral phenos. Phenos consist of grey to opaque quartz 'eyes' and milky white feldspar. Biotite is coarse grained but still part of the matrix(?). 2-3% fg disseminated py. Moderate, pervasive silicification overprint. Trace fg, randomly oriented, carbonate stringer veinlets. Irregular upper contact.	2-3					disseminated	medium grey	3																pervasive
		329.01	329.68	FZ	shear	Weak shear zone consisting of blocky, rubbly, ground up core. No gouge, but abundant calcite on fracture planes and ground up throughout. Sharp upper contact at 150 deg to CA.																								
		329.68	330.84	QFP	quartz feldspar porphyry	Medium grey, hard, distinctly porphyritic rock that is approximately 50% aphanitic matrix and 50% 2-5mm wide, subhedral to euhedral phenos. Phenos consist of grey to opaque quartz 'eyes' and milky white feldspar. Biotite is coarse grained but still part of the matrix(?) 2-3% fg disseminated py. Moderate, pervasive silicification overprint. Trace fg, randomly oriented, carbonate stringer veinlets.	2-3					disseminated	medium grey	3																pervasive
		330.84	332.24	FZ	shear	Moderately intense shear zone consisting of blocky, rubbly core and abundant consolidated gouge on cleavage planes that are parallel to the CA--> orientation of the fault? Abundant calcite on fracture planes and ground-up throughout.																								
		332.24	335.37	QFP	quartz feldspar porphyry	Same as 329.68-330.84m.	2-3					disseminated	medium grey	3																pervasive
		334.62	335.37	FZ	shear	Weak shear zone consisting of blocky, rubbly, ground up core. No gouge, but abundant calcite on fracture planes and ground up throughout. Contacts are sharp, but obscure due to rubbly nature.																								
		335.37	335.95	QFP	quartz feldspar porphyry	Same as 329.68-330.84m.																								
		335.95	336.65	FZ	shear zone	Weak shear zone consisting of blocky, rubbly, ground up core. No gouge, but abundant calcite on fracture planes and ground up throughout. Contacts are sharp, but obscure due to rubbly nature.																								
		336.65	337.39	QFP	quartz feldspar porphyry	Same as 329.68-330.84m.																								
		337.39	337.62	FZ	shear zone	Weak shear zone consisting of blocky, rubbly, ground up core. Minor amounts of consolidated gouge and calcite on fracture planes and ground up throughout. Contacts are sharp, but obscure due to rubbly nature.																								
		337.62	348.07	QFP	quartz feldspar porphyry	Same as 329.68-330.84m.																								
		348.07	348.77	FZ	shear zone	Blocky, rubbly, highly fractured up core with abundant, soft, white calcite on cleavage and fracture planes. V weak shearing. Sharp lower contact at 25 deg to CA.																								
		348.77	349.87	QFP	silicified QFP	Same as 329.68-330.84m. Highly fractured, brittle interval that has been healed by a strong, pervasive overprint of silicification that completely destroys the porphyritic texture and causes the rock to be a slightly darker shade of grey.							d grey	4															pervasive	
349.87	350.46			Di	Feldspar phyric Diorite dike	Vfg, porphyritic, d green, soft, strongly calcareous intrusion. 60% matrix, 40% phenos. Matrix is aphanitic and has been pervasively altered to dark green chlorite. Phenos are mostly small (1-3mm), lathe-shaped, milky white feldspar. There is very little black anhedral mafics as phenos (?). No magnetite. Strong pervasive, d green chlorite alteration, no mineralization. Strong, pervasive carbonate alteration. Trace, sub-mm thick, white carbonate veinlets. Both contacts are very irregular. INTERP: irregular, interfingering dike intrusion that we are going in and out of. Also this dike would be the cause of the fractured and silicified intervals surrounding the dike							d green					5						5					pervasive	
350.46	351.92	350.46	350.72	QFP	silicified QFP	Same as 329.68-330.84m. Highly fractured, brittle interval that has been healed by a strong, pervasive overprint of silicification that completely destroys the porphyritic texture and causes the rock to be a slightly darker shade of grey.							d grey	4															pervasive	
		350.72	350.91	VN	quartz vein with py	Milky, white, fractured quartz vein containing patchy d green chlorite alteration and trace fg disseminated py throughout. Contacts are sharp at 55 deg to CA.	tr					disseminated	white												2-3				patchy	
		350.91	351.92	QFP	silicified QFP	Same as 329.68-330.84m. Highly fractured, brittle interval that has been healed by a strong, pervasive overprint of silicification that completely destroys the porphyritic texture and causes the rock to be a slightly darker shade of grey. Centered at 351.6m is a blob of chlorite altered diorite.							d grey	4															pervasive	
351.92	352.94			Di	Feldspar phyric Diorite dike	Same as 349.87-350.46m. Very irregular contacts. Some of the contacts are CA parallel.																								
352.94	353.70			MGn	Silicified Mafic Gneiss	L grey, strongly silicified gneiss that is highly fractured. Contacts are sharp, but irregular. Ghosted relict foliation is somewhat visible in spots. 5-10% disseminated and blebby py. Approximately 5% randomly oriented, white calcite veining throughout.							l grey	4-5															pervasive	

Charlotte Project
DDH-12-277 Detailed Log

Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
306.45	328.73	306.45	313.42						variably	1-2	mm scale	qtz and carb	py										gradational
		311.40		50																			
		313.42	314.37																		gradational	160	sharp
		314.00		45																			
		314.37	317.23																				
		317.23	318.83																				
		318.83	320.00																	160	sharp	50	sharp
		320.00	320.60						50	100	60cm	qtz	py							50	sharp	50	sharp
		320.60	328.73							tr	sub cm	qtz and carb	py							50	sharp		irregular
328.73	349.87	328.73	329.01																		irregular		sharp
		329.01	329.68			1														150	sharp		
		329.68	330.84																				
		330.84	332.24			3																	
		332.24	335.37																				
		334.62	335.37																				
		335.37	335.95																				
		335.95	336.65																				
		336.65	337.39																				
		337.39	337.62																				
		337.62	348.07																				
		348.07	348.77		25	1																25	sharp
		348.77	349.87																	25	sharp		
349.87	350.46									tr	1mm	carb									irregular		irregular
350.46	351.92	350.46	350.72																				
		350.72	350.91						55	100	19cm	qtz	py, chl							55	sharp	55	sharp
		350.91	351.92																				
351.92	352.94																						
352.94	353.70							4		5	mm scale	carb									sharp, irregular		sharp, irregular

Charlotte Project
DDH-12-277 Detailed Log

Primary		Secondary		Lith Code	Lithology	Description	Mineralization								Alteration																	
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tou r	An k	Li m	He m	Ksp	Ma g	Ch l	Tal c	Ep i	Al b	Cl a y	Altn Style	
353.70	354.58			Di	Feldspar phyric Diorite dike	Same as 349.87-350.46m. Very irregular contacts. Some of the contacts are CA parallel.																										
354.58	376.80	354.58	354.93	MGn	Silicified fault breccia	L grey, v hard, deformed interval where foliation is non-existent. Marbled appearance due to distorted, fractured, discontinuous, white quartz veining (5-10%) throughout. Biotite and chlorite common along quartz margins. Moderate, patchy, d green chlorite alteration. Strong, pervasive silicification. Trace fg disseminated py. Trace late stage, fracture infilling white carbonate veining. INTERP: ductile deformation.	tr						disseminated	l grey	4										2						pervasive-sil patchy- chl	
		354.93	355.60	MGn	Silicified Mafic gneiss	L grey, v hard, fractured interval with faint, ghosted foliation. Trace fg disseminated py. Contacts are arbitrary and gradational. Intense, pervasive silicification overprint makes it difficult to distinguish much of anything. Trace mm scale, foliation parallel, white carbonate veinlets.	tr						dissemnated	l grey	5																pervasive	
			355.60	MGn	Silicified Mafic Gneiss fault BX?	L grey, v hard, deformed interval where foliation is highly variable and convoluted. There are a number of different mafic gneiss clasts that are very faint and appear to have been welded together as a mush. (INTERP: ductile deformation) The rock has a bit of a marbled appearance. Patchy, brown biotite (phlogopite?), patchy black biotite, patchy d green chlorite. Intense silica overprint of all the alterations. 3-5% fg disseminated py throughout, but not constant everywhere (highly variable). At approx 357m is a completely in tact, grey quartz vein containing abundant, fg, patchy py. Trace, mm scale, white carbonate veinlets generally oriented at 40-60 deg to CA. INTERP: there was at least one stage of veining with mineralization post silicification overprint. There was a late stage carb veining as well. Contacts are gradational and arbitrary.	3-5						disseminated, patchy	l grey	5							2		2							pervasive-sil patchy- chl, biotite (Ksp)	
		356.00		MGn	foliation	Relict foliation at 35 deg to CA.																										
		359.00		MGn	foliation	Weak relict foliation at 40 deg to CA.																										
			360.90	MGn	Silicified Mafic gneiss	Light grey, v hard interval with distinct, relict foliation. Minor, convoluted foliation. Distinct mm scale bands of quartz, feldspar and thicker bands of biotite. Partial to complete alteration of biotite to chlorite (patchy). Trace fg disseminated py. From 361.95-362.8m is patchy d green chlorite alteration with 10-12%, fg, blebby py. Occasional red hematite blebs. Trace, mm scale, white carbonate veinlets generally oriented at 40-50 deg to CA and containing minor fg py.	tr						disseminated	l grey	5										3						pervasive-sil patchy- chl	
			365.28	MGn	Silicified Mafic Gneiss fault BX?	L grey, v hard, deformed interval where foliation is highly variable and convoluted. There are a number of different mafic gneiss clasts that are very faint and appear to have been welded together as a mush. (INTERP: ductile deformation) The rock has a bit of a marbled appearance. Patchy, brown biotite (phlogopite?), patchy black biotite, patchy d green chlorite. Intense silica overprint of all the alterations. 3-5% fg disseminated py throughout, but not constant everywhere (highly variable). Abundant, distorted, discontinuous, marbled, white quartz containing trace fg py. Weak crackle breccia in zones throughout- veinlet material is carbonate. Trace mm scale, randomly oriented white carb veinlets throughout.	3-5						disseminated	l grey	5							2		2							pervasive-sil patchy- chl, biotite (Ksp)	
376.80	410.57	376.80	383.85	QFP	clay altered	Medium grey, moderately hard, porphyritic rock. 50-60% aphanitic, grey matrix. 40-50% 3-7mm sized, euhedral and subhedral phenos of white clay altered feldspar (mostly plag) and grey-opaque, fractured quartz 'eyes'. Weak pervasive, white clay alteration and weak pervasive carbonate alteration of feldspar phenos. Trace fg disseminated py. trace sub mm sized, grey, quartz veining (commonly at 0-170 deg to CA) that is partially to completely filled with fg, clustery py. This set of veinlets also has a 1-5mm wide, d grey alteration envelope around them. The upper contact is sharp, irregular and accompanied by a 3cm wide carbonate altered zone in the bottom 3cm of the previous litho. The lower contact is arbitrarily chosen as the first spot where sphal and stibnite can be found in veinlets.	tr						disseminated	medium grey						2										2		pervasive phenocryst alteration
		378.00		QFP		Cleavage at 50 deg to CA.																										
		381.00		QFP		Cleavage at 30 deg to CA.																										
			383.85	QFP		Same as 376.8-383.85m. Arbitrary upper contact chosen where high grade sulphide veinlets begin. In addition to the CA parallel py filled veinlets there are now. Sub mm to 1cm sized, white and grey predominantly qtz veinlets (sometimes carb) with good sulphide mineralization. The frequency of these veinlets picks up down hole. Minor amount of vugs in these veinlets. Mineralization within the veinlets: fg disseminated py, fg, disseminated sphal, vfg disseminated stibnite (occasionally blades), v rare, fg, cubic, lead grey-blue galena. 1% total sulphide total within the veinlets. v rare, disseminated, vfg blue grey sulphide- stb? rare patchy, l brown, pink alteration of matrix and pink, potassic alteration of feldspar picks up within a few meters of the down hole contact. The lower contact is sharp at 40 deg to CA.	tr		tr	tr		tr	veinlets	medium grey						2										2		pervasive phenocryst alteration
		387.00		QFP		Cleavage at 55 deg to CA.																										
		389.00		QFP		Cleavage at 60 deg to CA.																										
		389.53	390.90	FP?	pervasive clay + carb alteration	Beige coloured, moderately soft, weakly porphyritic, weak to moderate reaction w/ acid. phenos of feldspar only and relict? 5-10% fg blebby py throughout. 1-2% mineralized white grey quartz carb veinlets (same as previous interval). There are no CA parallel, py filled veinlets. INTERP: this dike came after the CA parallel py filled veinlets. sharp, moderately irregular upper and lower contact. Sharp upper and lower contact at 45 deg to CA.	5-10		tr	tr		tr	disseminated, veinlets	beige						3									3		pervasive	
		390.90	397.14	QFP	sulphide veinlets	Same as 383.85-389.53m.																										
		393.00		QFP		Cleavage at 70 deg to CA.																										
		396.00		QFP		Cleavage at 45 deg to CA.																										
			397.14	QFP	clay altered	Medium grey, moderately hard, porphyritic rock. 50-60% aphanitic, grey matrix. 40-50% 3-7mm sized, euhedral and subhedral phenos of white clay altered feldspar (mostly plag) and grey-opaque, fractured quartz 'eyes'. Weak pervasive, white clay alteration and weak pervasive carbonate alteration of feldspar phenos. Trace fg disseminated py. Trace sub mm sized, grey, quartz veining (commonly at 0-170 deg to CA) that is partially to completely filled with fg, clustery py. This set of veinlets also has a 1-5mm wide, d grey alteration envelope around them. The upper contact is sharp, irregular and accompanied by a 3cm wide carbonate altered zone in the bottom 3cm of the previous litho.	tr						disseminated	medium grey						2									2		pervasive phenocryst alteration	
		399.00		QFP		Cleavage at 60 deg to CA.																										
			401.50	QFP	clay altered	Beige coloured, moderately hard, porphyritic. Phenos of quartz are abundant proximal to the upper contact. Phenos of feldspar are altered to white clay and fg (1-2mm). 5-10% fg blebby py throughout. Gradational lower contact.	5-10						disseminated	beige															2		pervasive phenocryst alteration	
			403.97	FP?	clay altered	D grey-black, porphyritic, moderately soft, moderate reaction with acid. White clay altered feldspar phenos, no quartz phenos. Gradational upper contact and lower contact.																										
			404.52	QFP	clay altered	Medium grey, moderately hard, porphyritic rock. 50-60% aphanitic, grey matrix. 40-50% 3-7mm sized, euhedral and subhedral phenos of white clay altered feldspar (mostly plag) and grey-opaque, fractured quartz 'eyes'. Weak pervasive, white clay alteration and weak pervasive carbonate alteration of feldspar phenos. Trace fg disseminated py. the bottom 70cm of this interval are pervasively altered to moderately soft, grey-brown clay and carbonate. increase of blebby py in the clay altered zone. Trace white carbonate stringers throughout.	1-2						disseminated, blebby	medium grey to grey brown						3									3		pervasive	
			405.52	QFP	clay altered	Medium grey, moderately hard, porphyritic rock. 50-60% aphanitic, grey matrix. 40-50% 3-7mm sized, euhedral and subhedral phenos of white clay altered feldspar (mostly plag) and grey-opaque, fractured quartz 'eyes'. Weakly pervasive, white clay alteration and subtle carbonate alteration of feldspar phenos. 3-5% fg py occurring as blebs and disseminated throughout. Two major orientations of qtz/carb veinlets 150-160 deg to CA and 40-60 deg to CA (1-8mm in width). In several of the veins orientated 150-160 deg to CA, clusters of py occur as well as a d grey alteration envelope around them. INTERP: the veinlets orientated 40-60 deg to CA are later stage than the other dominant set of veinlets as which can be observed by several cross-cutting relationships.	3-5						disseminated, blebby	medium grey						1									3		pervasive	
					EOH	EOH																										

Charlotte Project
DDH-12-277 Detailed Log

Primary		Secondary		Foliation	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensi ty	to CA	Intensi ty	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Roundin g	Matri x	% Matrix	Intensi ty	to CA	Description	to CA	Description
~~353.70~~	~~354.58~~																						
354.58	376.80	354.58	354.93							5-10	distored	qtz and carb	py										
		354.93	355.60	35-40						tr	mm scale	carb											
		355.60	360.90						40-60	tr	mm scale, one 1cm wide quartz vein	qtz and carb	py (qtz)										
		356.00		35																			
		359.00		40																			
		360.90	365.28						40-50	tr	mm scale	carb	py										
		365.28	376.80						randomly oriented	tr	mm scale	carb	py										
376.80	410.57	376.80	383.85						170-180	tr	mm scale	qtz	py								sharp, irregular		
		378.00																					
		381.00																					
		383.85	389.53						50-60	1%	sub mm to 1cm	qtz carb	py, sp, sb, ga									40	sharp
		387.00																					
		389.00																					
		389.53	390.90						50-60	1-2	submm to 1cm	qtz-carb	py, sp, sb, ga							45	sharp	45	sharp
		390.90	397.14																				
		393.00																					
		396.00																					
		397.14	401.50						170-180	tr	mm scale	qtz	py								sharp, irregular		
		399.00																					
		401.50	403.97																				gradational
		403.97	404.52																				
		404.52	405.52							tr	mm scale	carb									gradational		gradational
		405.52	410.57						40-60, 355	tr	mm scale	qtz/carb	py								gradational		EOH

Charlotte Project
DDH-12-277 Down Hole Surveys

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	TEMP (F)	TEMP (C)	GVR	MTF	DLG	Date/Time	Comment
77	23.47	21.6	43.6	-51.0	57818	76.4	1	47.1	8.39	228.7	37.6	-3.45	08/07/2012 23:29	
107	32.61	22.9	44.9	-51.2	57632	76.4	1	46.9	8.28	70.6	238.9	-0.88	08/07/2012 23:27	
137	41.76	23.0	45.0	-51.0	57593	76.4	1	46.6	8.11	77.2	245.5	-1.31	08/07/2012 23:25	
167	50.90	23.4	45.4	-51.3	57483	76.3	1	46.6	8.11	81.8	249.7	-2.12	08/07/2012 23:23	
197	60.05	22.7	44.7	-51.6	57545	76.1	1	46.4	8.00	220.8	28.6	-10.71	08/07/2012 23:21	
227	69.19	26.7	48.7	-52.0	57337	76.6	1	46.4	8.00	82.4	248.9	-8.86	08/07/2012 23:19	
257	78.33	23.4	45.4	-52.4	57370	76.6	1	46.2	7.89	319.8	127.7	-2.39	08/07/2012 23:17	
287	87.48	24.3	46.3	-52.5	57152	76.6	1	46.2	7.89	20.5	187.8	-5.47	08/07/2012 23:14	
317	96.62	22.3	44.3	-52.9	57497	76.1	1	46.2	7.89	169.2	336.6	-2.19	08/07/2012 23:12	
347	105.77	21.8	43.8	-53.5	57508	76.2	1	46.2	7.89	252.9	60.5	-2.19	08/07/2012 23:10	
377	114.91	21.9	43.9	-54.1	57502	76.4	1	46.2	7.89	295.4	102.8	-1.51	08/07/2012 23:08	
407	124.06	22.4	44.4	-53.9	57452	76.4	1	46.2	7.89	295.3	102.6	-1.53	08/07/2012 23:06	
437	133.20	22.6	44.6	-54.3	57495	76.5	1	46.4	8.00	331.1	138.1	-3.03	08/07/2012 23:04	
467	142.34	21.5	43.5	-54.4	57433	76.3	1	46.4	8.00	243.6	50.9	-1.96	08/07/2012 23:02	
497	151.49	22.2	44.2	-54.5	57381	76.3	1	46.6	8.11	128.5	295.5	-1.11	08/07/2012 23:01	
527	160.63	22.0	44.0	-54.8	57447	76.4	1	46.9	8.28	109.5	276.4	-3.87	08/07/2012 22:59	
557	169.78	20.6	42.6	-54.8	57382	76.3	1	47.1	8.39	210.1	17.7	-2.46	08/07/2012 22:57	
587	178.92	21.5	43.5	-54.8	57480	76.3	1	47.5	8.61	11.6	178.7	-2.39	08/07/2012 22:55	
617	188.06	20.6	42.6	-54.9	57459	76.4	1	47.8	8.78	286.4	94.1	-0.6	08/07/2012 22:53	
647	197.21	20.8	42.8	-55.0	57417	76.3	1	48.2	9.00	214.1	21.6	-3.35	08/07/2012 22:51	
677	206.35	22.0	44.0	-55.3	57436	76.4	1	48.4	9.11	111.2	277.9	-1.44	08/07/2012 22:49	
707	215.50	22.3	44.3	-55.6	57447	76.4	1	48.9	9.39	78.5	244.9	-3.85	08/07/2012 22:47	
737	224.64	21.0	43.0	-55.9	57387	76.3	1	49.1	9.50	221.2	28.1	-3.02	08/07/2012 22:45	
767	233.78	22.0	44.0	-56.3	57411	76.6	1	49.6	9.78	306.5	113.1	-2.73	08/07/2012 22:42	
797	242.93	22.8	44.8	-56.7	57469	76.6	1	49.8	9.89	306.1	111.9	-0.49	08/07/2012 22:41	
827	252.07	22.6	44.6	-56.8	57434	76.5	1	50.2	10.11	355	160.7	-3.73	08/07/2012 22:39	
857	261.22	24.0	46.0	-56.5	57401	76.3	1	50.5	10.28	193.8	358.6	-1.52	08/07/2012 22:37	
887	270.36	24.5	46.5	-56.5	57523	76.5	1	50.9	10.50	202.8	7.8	-2.32	08/07/2012 22:35	
917	279.50	25.3	47.3	-56.4	57356	76.4	1	51.1	10.61	142.3	306.7	-0.32	08/07/2012 22:33	
947	288.65	25.2	47.2	-56.4	57471	76.5	1	51.6	10.89	338.2	142.9	-1.91	08/07/2012 22:31	
977	297.79	24.5	46.5	-56.4	57432	76.4	1	52.0	11.11	213.5	18.3	-2.85	08/07/2012 22:29	
1007	306.94	25.5	47.5	-56.5	57490	76.4	1	52.3	11.28	158	322.2	-2.08	08/07/2012 22:26	
1037	316.08	24.8	46.8	-56.7	57515	76.5	1	52.5	11.39	242.6	47.2	-3.26	08/07/2012 22:24	
1067	325.23	26.0	48.0	-57.0	57518	76.5	1	52.5	11.39	50	214	-1.84	08/07/2012 22:22	
1097	334.37	25.9	47.9	-56.4	57503	76.5	1	52.7	11.50	107.2	271.4	-3.78	08/07/2012 22:19	
1127	343.51	27.2	49.2	-56.1	57470	76.4	1	52.9	11.61	125.8	289.6	-2.21	08/07/2012 22:17	
1157	352.66	26.5	48.5	-55.8	57535	76.6	1	52.9	11.61	329.7	134.2	-3.53	08/07/2012 22:15	
1187	361.80	25.3	47.3	-55.4	57473	76.4	1	52.9	11.61	223.1	28.1	-7.03	08/07/2012 22:13	
1217	370.95	27.9	49.9	-55.1	57375	76.5	1	52.9	11.61	332.8	137	-2.84	08/07/2012 22:11	
1247	380.09	26.9	48.9	-54.8	57535	76.5	1	52.9	11.61	344.2	149.1	-1.56	08/07/2012 22:09	
1277	389.23	27.4	49.4	-54.5	57510	76.4	1	52.9	11.61	97.8	262.5	-1.54	08/07/2012 22:07	
1307	398.38	27.0	49.0	-54.1	57477	76.3	1	53.2	11.78	155.7	320.6	-2	08/07/2012 22:05	
1337	407.52	26.4	48.4	-53.7	57477	76.3	1	53.4	11.89	202.8	8.2	Infinity	08/07/2012 22:03	Erroneous

Charlotte Project
DDH-12-277 Sample Intervals

Sample Dispatch

Property: **CHARLOTTE** Date: **July 10, 2012**

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
	1748712	DDH-12-277			BLANK (all batches must begin with a blank)	<0.005	<2		
2	1748713	DDH-12-277	75.68	77.00	Garnet Gneiss	<0.005	<2		
3	1748714	DDH-12-277	77.00	79.00	Garnet Gneiss	<0.005	<2		
4	1748715	DDH-12-277			STANDARD CND-GS-5H	3.658	53		
5	1748716	DDH-12-277	79.00	81.00	Garnet Gneiss	<0.005	<2		
6	1748717	DDH-12-277	81.00	83.00	FZ garnet gneiss	<0.005	<2		
7	1748718	DDH-12-277	83.00	85.70	FZ garnet gneiss	<0.005	<2		
8	1748719	DDH-12-277	85.70	86.20	quartz vein with py	<0.005	5		
9	1748720	DDH-12-277	86.20	89.50	FZ mafic gneiss	<0.005	<2		
10	1748721	DDH-12-277	89.50	91.50	FZ mafic gneiss	<0.005	<2		
11	1748722	DDH-12-277	91.50	92.64	intermediat comp, porphyritic intrusive	<0.005	<2		
12	1748723	DDH-12-277	92.64	94.87	silicified mafic gneiss	0.022	<2		
13	1748724	DDH-12-277	94.87	96.00	clay seam	0.033	<2		
14	1748725	DDH-12-277	96.00	97.40	moderately clay altered mafic gneiss	0.034	<2		
15	1748726	DDH-12-277	97.40	98.80	moderately clay altered mafic gneiss	<0.005	<2		
16	1748727	DDH-12-277	98.80	100.54	clay altered mafic gneiss	<0.005	<2		
17	1748728	DDH-12-277	100.54	102.40	clay altered mafic gneiss	0.071	<2		
18	1748729	DDH-12-277	102.40	103.22	clay altered, silicified, mineralized mafic gneiss	0.014	<2		
19	1748730	DDH-12-277	103.22	104.93	FZ mafic gneiss	<0.005	<2		
20	1748731	DDH-12-277	104.93	106.50	FZ mafic gneiss	0.008	<2		
21	1748732	DDH-12-277	106.50	107.60	FZ mafic gneiss	0.008	<2		
22	1748733	DDH-12-277	107.60	109.00	clay altered mafic gneiss	<0.005	<2		
23	1748734	DDH-12-277	109.00	111.00	clay altered mafic gneiss	0.011	<2		
24	1748735	DDH-12-277			STANDARD CND-GS-10D	9.514	<2		
25	1748736	DDH-12-277	111.00	113.00	clay altered gneiss w/ silica overprint	0.008	<2		
66	1748737	DDH-12-277	113.00	115.00	FZ clay altered gneiss	0.01	<2		
27	1748738	DDH-12-277	115.00	118.22	FZ clay altered gneiss- v poor recovery	0.102	2		
28	1748739	DDH-12-277	118.22	120.00	clay altered mafic gneiss	0.008	<2		
29	1748740	DDH-12-277	120.00	122.00	FZ clay altered mafic gneiss	<0.005	<2		
30	1748741	DDH-12-277	122.00	124.00	clay altered mafic gneiss	0.015	<2		
31	1748742	DDH-12-277	124.00	126.00	clay altered mafic gneiss	0.008	<2		
32	1748743	DDH-12-277	126.00	128.00	FZ clay altered mafic gneiss	<0.005	<2		
33	1748744	DDH-12-277	128.00	130.00	clay altered mafic gneiss	<0.005	<2		
34	1748745	DDH-12-277	130.00	132.00	clay altered mafic gneiss	<0.005	<2		
35	1748746	DDH-12-277	132.00	134.00	clay altered mafic gneiss	<0.005	<2		
16	1748747	DDH-12-277	134.00	136.00	clay altered mafic gneiss	<0.005	<2		
37	1748748	DDH-12-277	136.00	137.30	clay altered mafic gneiss	<0.005	<2		
38	1748749	DDH-12-277	137.30	138.44	clay altered mafic gneiss	<0.005	<2		
39	1748750	DDH-12-277	138.44	140.12	qtz, feld breccia	<0.005	<2		
40	1748751	DDH-12-277	140.12	141.69	silicified mafic gneiss	<0.005	<2		
41	1748752	DDH-12-277	141.69	143.87	FZ + bio alt. Mafic dike	<0.005	<2		
42	1748753	DDH-12-277	143.87	145.43	silicified mafic gneiss	<0.005	<2		
43	1748754	DDH-12-277	145.43	147.00	silicified mafic gneiss	<0.005	<2		
44	1748755	DDH-12-277			STANDARD CND-GS-P3C	0.269	<2		
45	1748756	DDH-12-277	147.00	149.00	fragmental breccia	<0.005	<2		
46	1748757	DDH-12-277	149.00	151.00	fragmental breccia	<0.005	<2		
47	1748758	DDH-12-277	151.00	153.00	fragmental breccia	<0.005	<2		
48	1748759	DDH-12-277	153.00	153.60	fragmental breccia	<0.005	<2		
49	1748760	DDH-12-277	153.60	154.41	fragmental breccia	<0.005	<2		
50	1748761	DDH-12-277	153.60	154.41	DUPLICATE OF 1748760	<0.005	<2		
51	1748762	DDH-12-277	154.41	155.50	FZ Mafic gneiss	<0.005	<2		
52	1748763	DDH-12-277	155.50	157.00	FZ mafic gneiss	<0.005	<2		
53	1748764	DDH-12-277	157.00	159.00	mafic gneiss	<0.005	<2		
54	1748765	DDH-12-277	159.00	161.00	mafic gneiss + breccia	<0.005	<2		
55	1748766	DDH-12-277	161.00	163.00	mafic gneiss + breccia	<0.005	<2		
16	1748767	DDH-12-277	163.00	165.00	convoluted mafic gneiss	<0.005	<2		
57	1748768	DDH-12-277	165.00	166.54	clay + carb altered gneiss	<0.005	<2		
58	1748769	DDH-12-277	166.54	168.47	clay + carb altered gneiss	<0.005	<2		
59	1748770	DDH-12-277	168.47	170.79	silicified gneiss- stb in veinlets	<0.005	<2		
60	1748771	DDH-12-277	170.79	174.07	FZ silicified gneiss- stb in veinlets	<0.005	<2		
61	1748772	DDH-12-277	174.07	176.10	FZ silicified gneiss- stb in veinlets	<0.005	<2		
62	1748773	DDH-12-277	176.10	179.03	silicified gneiss	<0.005	<2		
63	1748774	DDH-12-277	179.03	180.91	silicified gneiss + qtz	0.006	<2		
64	1748775	DDH-12-277			STANDARD CND-GS-5H	4.132	52		
65	1748776	DDH-12-277	180.91	182.34	FZ + silicified mafic gneiss	0.01	<2		
66	1748777	DDH-12-277	182.34	184.43	clay altered gneiss	0.008	<2		
67	1748778	DDH-12-277	184.43	186.35	clay altered gneiss	<0.005	<2		
68	1748779	DDH-12-277	186.35	187.80	silicified biotite gneiss	<0.005	<2		
69	1748780	DDH-12-277	187.80	188.85	clay altered gneiss with green clay	<0.005	<2		
70	1748781	DDH-12-277	188.85	189.55	amorphous green clay rock	<0.005	<2		
71	1748782	DDH-12-277	189.55	190.35	clay altered gneiss	<0.005	<2		
72	1748783	DDH-12-277	190.35	191.55	felsic intrusive dike	<0.005	<2		
73	1748784	DDH-12-277	191.55	193.26	FZ + clay alt gneiss	<0.005	<2		
74	1748785	DDH-12-277	193.26	195.00	clay altered gneiss	<0.005	<2		
75	1748786	DDH-12-277	195.00	197.00	FZ clay alt gneiss	<0.005	<2		
16	1748787	DDH-12-277	197.00	198.12	chlorite alt gneiss	<0.005	<2		
77	1748788	DDH-12-277	198.12	198.64	gneiss	<0.005	<2		
78	1748789	DDH-12-277	198.64	200.11	clay alt gneiss	0.013	<2		
79	1748790	DDH-12-277	200.11	202.65	chlorite alt gneiss	<0.005	<2		
80	1748791	DDH-12-277	202.65	203.65	biotite gneiss	<0.005	<2		
81	1748792	DDH-12-277	203.65	204.85	silicified gneiss	<0.005	<2		
82	1748793	DDH-12-277	204.85	206.00	silicified gneiss	<0.005	<2		

Charlotte Project
DDH-12-277 Sample Intervals

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
83	1748794	DDH-12-277	206.00	206.90	silicified gneiss	0.168	17		
84	1748795	DDH-12-277			STANDARD CND-GS-10D	9.589	<2		
85	1748796	DDH-12-277	206.90	207.33	sulphide rich interval	0.874	132		
86	1748797	DDH-12-277			BLANK	<0.005	<2		
87	1748798	DDH-12-277	207.33	208.30	silicified gneiss	0.117	16		
88	1748799	DDH-12-277	208.30	209.17	silicified gneiss	0.107	7		
89	1748800	DDH-12-277	208.30	209.17	DUPLICATE O 1748799	0.07	10		
90	1748801	DDH-12-277	209.17	209.48	sulphide rich qtz vein	0.172	5		
91	1748802	DDH-12-277			BLANK	<0.005	<2		
92	1748803	DDH-12-277	209.48	210.96	silicified gneiss	0.044	3		
93	1748804	DDH-12-277	210.96	213.20	FZ gneiss	0.049	<2		
94	1748805	DDH-12-277	213.20	214.66	feldspar porphyry	0.005	<2		
95	1748806	DDH-12-277	214.66	214.66	felsic intrusive dike	<0.005	<2		
96	1748807	DDH-12-277	215.99	216.34	sulphide rich qtz breccia	0.032	5		
97	1748808	DDH-12-277			BLANK	<0.005	<2		
98	1748809	DDH-12-277	216.34	218.00	felsic intrusive + gneiss	0.011	3		
99	1748810	DDH-12-277	218.00	219.00	mafic gneiss	0.02	<2		
100	1748811	DDH-12-277	219.00	220.00	mafic gneiss	0.007	<2		
101	1748812	DDH-12-277	220.00	221.00	mafic gneiss	0.013	<2		
102	1748813	DDH-12-277	221.00	222.00	mafic gneiss	0.013	<2		
103	1748814	DDH-12-277	222.00	223.00	mafic gneiss	0.066	5		
104	1748815	DDH-12-277			STANDARD CND-GS-P3C	0.266	<2		
105	1748816	DDH-12-277	223.00	224.00	mafic gneiss	0.04	<2		
106	1748817	DDH-12-277	224.00	225.00	mafic gneiss	0.055	2		
107	1748818	DDH-12-277	225.00	226.73	mafic gneiss	0.068	<2		
108	1748819	DDH-12-277	226.73	227.87	mafic gneiss	0.079	<2		
109	1748820	DDH-12-277	227.87	229.71	mafic gneiss	<0.005	<2		
110	1748821	DDH-12-277	229.71	231.68	mafic gneiss	<0.005	<2		
111	1748822	DDH-12-277	231.68	233.41	silicified, clay alt gneiss	0.007	<2		
112	1748823	DDH-12-277	233.41	235.28	silicified garnet gneiss	<0.005	<2		
113	1748824	DDH-12-277	235.28	236.05	intensely silicified mafic gneiss	<0.005	<2		
114	1748825	DDH-12-277	236.05	238.14	clay alt + sil gneiss	<0.005	<2		
115	1748826	DDH-12-277	238.14	240.10	silicified biotite gneiss	<0.005	<2		
116	1748827	DDH-12-277	240.10	242.10	intermediate intrusive	<0.005	<2		
117	1748828	DDH-12-277	242.10	244.59	silicified biotite gneiss	<0.005	<2		
118	1748829	DDH-12-277	244.59	244.98	deformed qtz vein	<0.005	<2		
119	1748830	DDH-12-277	244.98	247.00	silicified mafic gneiss	<0.005	<2		
120	1748831	DDH-12-277	247.00	248.98	silicified mafic gneiss	<0.005	<2		
121	1748832	DDH-12-277	248.98	251.00	silicified mafic gneiss	<0.005	<2		
122	1748833	DDH-12-277	251.00	253.00	silicified mafic gneiss	<0.005	<2		
123	1748834	DDH-12-277	253.00	255.00	silicified mafic gneiss	<0.005	<2		
124	1748835	DDH-12-277			STANDARD CND-GS-5H	3.868	52		
125	1748836	DDH-12-277	253.00	257.00	silicified mafic gneiss	0.007	<2		
126	1748837	DDH-12-277	257.00	259.00	silicified mafic gneiss	<0.005	<2		
127	1748838	DDH-12-277	259.00	261.21	silicified mafic gneiss	<0.005	<2		
128	1748839	DDH-12-277	261.21	263.00	QFP	<0.005	<2		
129	1748840	DDH-12-277	263.00	265.00	QFP	<0.005	<2		
130	1748841	DDH-12-277	265.00	267.00	QFP	<0.005	<2		
131	1748842	DDH-12-277	267.00	269.00	QFP	<0.005	<2		
132	1748843	DDH-12-277	269.00	271.03	QFP	<0.005	<2		
133	1748844	DDH-12-277	271.03	272.81	silicified mafic gneiss	0.009	<2		
134	1748845	DDH-12-277	272.81	274.00	silicified mafic gneiss	0.022	<2		
135	1748846	DDH-12-277	274.00	275.09	silicified mafic gneiss	0.148	<2		
136	1748847	DDH-12-277	275.09	276.45	silicified mafic gneiss	0.051	<2		
137	1748848	DDH-12-277	276.45	278.47	silicified mafic gneiss	<0.005	<2		
138	1748849	DDH-12-277	293.50	295.19	Feld porphyry and str silicified mafic gneiss	<0.005	<2		
139	1748850	DDH-12-277	295.19	297.03	clay altered mafic gneiss	0.015	<2		
140	1748851	DDH-12-277	297.03	297.40	sulphide rich qtz vein and breccia	>10.000	>300	28.9	408
141	1748852	DDH-12-277	297.40	297.75	clay altered mafic gneiss	>10.000	73	12	68
142	1748853	DDH-12-277	297.75	298.10	sulphide rich qtz vein	>10.000	84	27.4	76
143	1748854	DDH-12-277			BLANK	0.767	<2		
144	1748855	DDH-12-277			STANDARD CND-GS-10D	>10.000	<2	9.1	<50
145	1748856	DDH-12-277	298.10	298.70	clay altered mafic gneiss	0.132	9		
146	1748857	DDH-12-277	298.70	299.77	clay altered mafic gneiss	0.107	8		
147	1748858	DDH-12-277	299.77	301.78	tan clay + carb altered mafic gneiss	0.181	<2		
148	1748859	DDH-12-277	301.78	303.87	tan clay + carb altered mafic gneiss	0.064	<2		
149	1748860	DDH-12-277	303.87	305.00	unaltered QFP	<0.005	<2		
150	1748861	DDH-12-277	305.00	306.45	unaltered QFP	<0.005	<2		
151	1748862	DDH-12-277	318.07	320.00	FZ mafic gneiss	0.018	<2		
152	1748863	DDH-12-277	320.00	320.65	quartz vein with py	0.021	<2		
153	1748864	DDH-12-277	320.65	321.65	silicified mafic gneiss	<0.005	<2		
154	1748865	DDH-12-277	382.89	383.88	clay altered QFP	0.022	<2		
155	1748866	DDH-12-277	383.88	385.36	sulphide veinlet QFP	0.04	3		
156	1748867	DDH-12-277	385.36	386.79	sulphide veinlet QFP	0.12	8		
157	1748868	DDH-12-277	386.79	388.26	sulphide veinlet QFP	<0.005	3		
158	1748869	DDH-12-277	388.26	389.54	sulphide veinlet QFP	0.236	6		
159	1748870	DDH-12-277	389.54	390.87	Clay + carbonate altered beige, FP?	1.041	13		
160	1748871	DDH-12-277			BLANK	<0.005	<2		
161	1748872	DDH-12-277	390.87	392.37	sulphide veinlet QFP	0.017	<2		
162	1748873	DDH-12-277	392.37	393.90	sulphide veinlet QFP	<0.005	<2		
163	1748874	DDH-12-277	393.90	395.44	sulphide veinlet QFP	<0.005	2		
164	1748875	DDH-12-277			STANDARD CND-GS-P3C	0.25	<2		
165	1748876	DDH-12-277	395.44	397.14	sulphide veinlet QFP	<0.005	<2		
166	1748877	DDH-12-277	397.14	399.14	Clay altered QFP	<0.005	<2		

Property: **Charlotte**
Area: **Flex**
Client: **Ansell Capital Corp.**

Hole Id: **DDH-12-278**

Logged By: **Scott Dowler**
Date Logged: **July 9 - 14, 2012**



Collar Location:			
Actual:			
Datum:	NAD83, Zone 8	Azimuth:	073 °
Easting:	386876	Dip:	-55.4 °
Northing:	6881496	Length:	300.23 m
Elevation:	1255		
Proposed:			
Easting:	386876	Azimuth:	075 °
Northing:	6881496	Dip:	-55 °
Elevation:	1255	Length:	300 m

Survey Type:		Ranger Multi Shot	
Distance	Azi	Dip	Accept
38.10	073.0	-56.9	
47.24	073.0	-56.9	
102.11	073.4	-58.4	
147.83	071.9	-58.8	
202.69	071.1	-59.7	
248.41	071.9	-60.0	
294.13	070.6	-59.9	

Drilling Information:	
Contractor:	DJ Drilling
Core Diameter	HQ
Start Date:	8-Jul-2012
End Date:	13-Jul-2012
Casing In:	8-Jul-2012
Casing Capped	13-Jul-2012
Units:	Metric

Hole Objective:
To test the intersection of a possible southeast extension to the Huestis Zone.

Lithology Summary			
From	To	Lith	Comment
0.00	24.38	CAS	
24.38	84.43	MGn	
84.43	85.85	F	
85.85	118.42	MGn	
118.42	120.34	FZBX	
120.34	127.12	MGn	
127.12	159.44	FZ	
159.44	166.89	MGn	
166.89	172.94	QFP	
172.94	175.55	MGn	
175.55	184.46	FZBX	
184.46	185.82	VN	
185.82	186.88	MGn	
186.88	188.89	VN	
188.89	196.90	QFP	
196.90	206.02	MGn	
206.02	217.32	FZBX	
217.32	224.71	MGn	
224.71	235.11	FZBX	
235.11	238.02	QFP	
238.02	241.62	FZBX	
241.62	242.80	F	
242.80	300.23	FZBX	

DDH-12-278 was drilled to test a possible southeast extension of the Huestis Zone.
The hole was collared into blocky, limonite altered mafic gneiss and the lithology continued from 24.38-84.43m. Throughout this interval there are short but significant alteration changes and a few quartz veins. Towards the bottom of the interval there is a slight increase in patches of strong silicification. From 84.43-85.85m is a clay altered dike of granodiorite that cuts the mafic gneiss. Mafic gneiss continues from 85.85-118.42m and it is frequently clay altered. From 118.42-120.34m is the first occurrence of the fragmental fault breccia. It has undergone ductile deformation and has virtually no matrix. Following it is a 7m interval of mafic gneiss. Underlying the mafic gneiss between 127.12-159.44m is a large intense shear zone where the core has been pulverized into abundant rubble, gouge and gravel. This shear zone also comprises QFP, mafic gneiss and clastic breccia fragments. Below the shear zone is a mafic gneiss that has been moderately clay altered and has occasional patches of silicification overprint. Underlying the mafic gneiss is a 4m intrusion of clay altered QFP and another short interval of mafic gneiss with possible inter-fingering with the QFP. Between 175.55-184.46m is a large interval of fragmental fault breccia that has virtually no matrix and consists of silica overprinted, clay altered mafic gneiss. This interval leads directly into a brecciated and broken-up sulphide rich vein system from 184.46-185.52m and from 186.88-188.89m. In these intervals abundant pyrite, arsenopyrite, stibnite and sphalerite are seen banded, and disseminated, blebby and clustered within a dark grey quartz breccia, with silicified mafic gneiss clasts. This interval is interpreted to be part of the Main Vein. Following the Main Vein interval are clay altered QFP and clay altered mafic gneiss. Between 206.02-300.23m the unit is mostly a large fragmental fault breccia with occasional small zones of interfingering mafic gneiss and QFP. The fault breccia has variable, pervasive alteration including chlorite, clay altered and carbonate alteration and silicification overprints. Increasing towards the bottom of the hole a felsic matrix is observed within the fragmental fault breccia. There are very few prospective veins/ veinlets throughout. The hole ends in clay altered fragmental breccia at 300.23m. It has been interpreted that DDH-12-278 may be a distal representation of the Huestis zone and may also be offset by the fragmental fault brecciated zones

Charlotte Project
DDH-12-278 Detailed Log

Hole Id: DDH-12-278
Logged By: S. Dowler

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization								Alteration																		
From	To	From	To				CAS	Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
0.00	24.38			CAS	Overburden	Overburden/ Casing																											
24.38	84.43	24.38	24.78	MGn	Overburden	Rounded, weathered pebbles of mafic gneiss.																											
		24.78	28.88	MGn	Highly weathered outcrop	Very broken-up, rubbly mafic gneiss with abundant rusty brown orange limonite staining and purple-black MnO on cleavage and fracture planes.																3										fracture planes	
		28.88	35.75	MGn	Mafic Gneiss	Very blocky, medium grey, fg, well foliated, moderately hard gneiss consisting of amphibole, biotite, plag, qtz (minor), and chlorite. Weak to moderate, patchy, d green chlorite alteration of mafics throughout. Occasional small blebs of pistachio green epidote alteration (weak propylitic) proximal to veinlets. Cleavage and fracture planes have abundant orange-brown limonite staining and black MnO. Trace vfg disseminated py. Trace, foliation concordant, cm to sub-cm wide, milky white quartz veins. Lower contact is sharp at 70 deg to CA.	tr							disseminated	medium grey								2				2-3		1				patchy- chl sporadic blebs- epi fracture planes- lim
		29.59		MGn		Foliation at 60 deg to CA.																											
		33.10		MGn		Foliation at 75 deg to CA.																											
		35.75	37.35	FZ	fault	Very rubbly, broken-up core with abundant limonite staining and MnO on fracture planes. Very minor gouge on the up hole contact. Weak shear. Upper and lower contact at 70 deg to CA.																											
		37.35	42.77	MGn	Mafic Gneiss	Same as 28.88-35.75m. At 39.21m is a 5cm wide white, fractured, weakly vuggy quartz vein with limonite staining along its upper contact (oriented at 70 deg to CA). Gradational lower contact.	tr							disseminated	medium grey								2				2-3		1				patchy- chl sporadic blebs- epi fracture planes- lim
		40.00		MGn		Foliation at 65 deg to CA.																											
		42.77	43.93	MGn	silicification (mod)	L grey, hard, well foliated mafic gneiss. Mafics rarely visible. Trace fg disseminated py. Trace foliation parallel qtz veining. Moderate, pervasive, quartz flooding/ silicification of mafic gneiss. Limonite alteration on cleavage and fracture planes. Gradational contacts.	tr							disseminated	light grey	3							3										pervasive- sil fracture planes- lim
		43.93	45.11	MGn	Mafic Gneiss	Same as 28.88-35.75m.	tr							disseminated	medium grey								2				2-3		1				patchy- chl sporadic blebs- epi fracture planes- lim
		45.00		MGn		Foliation at 55 deg to CA.																											
		45.11	47.85	FZ	fault	Broken up rubbly core. Many fragments have pervasive rusty orange-brown limonite alteration. All fragments have limonite staining on cleavage and fracture planes. Occasionally, minor gouge on fracture planes. From 47.6 to 47.8m is abundant, angular, gravel-like, rubble and gouge. Weak shear. Sharp upper contact at 55 deg to CA.									medium grey and rusty orange brown								3										patchy, fracture planes
		47.85	49.54	MGn	Mafic Gneiss	Same as 28.88-35.75m.																											
		48.30		MGn		Foliation at 75 deg to CA.																											
		49.54	54.30	MGn	clay + lim alteration	Blocky, poker chip core that is grey brown, fg, well foliated rock with a medium hardness. Weak, pervasive clay and limonite alteration of feldspar and mafics. Limonite staining on all cleavage and fracture planes. 5-8% concordant, white-grey, fractured, limonite altered, sub cm to 3cm wide quartz veins throughout. Gradational upper contact.									grey brown								3-4								1	pervasive	
		51.00		MGn		Foliation at 70 deg to CA.																											
		54.30	55.12	MGn	silicification (mod) +Brecciation?	Grey and orange, tiger striped appearance. Minor crackle brecciation. Grey and white quartz has flooded the host rock giving it a jagged, striped appearance and wherever there hasn't been quartz flooding the host rock is pervasively altered to clay and rusty orange-brown limonite. 60% quartz, 40% mafic gneiss. No mineralization. Upper contact is sharp at 70 deg to CA.									grey and rusty orange brown								4								1	pervasive	
		55.12	56.48	MGn	clay + lim alteration	Same as 49.54-54.3m.																											
		56.00		MGn		Foliation at 70 deg to CA.																											
		56.48	56.76	VN	quartz vein	White and grey, vuggy, fractured quartz vein with limonite in the fractures. Trace fg disseminated py (some of which is oxidized. The upper and lower contact are bounded by 1-2cm thick, hard black bands of (MnO??). Upper and lower contact are sharp at 70 deg to CA.																											
		56.76	57.30	MGn	clay + lim alteration	Same as 49.54-54.3m.																											
		57.30	57.40	BX	quartz breccia	Medium grey breccia, consisting of silicified mafic gneiss clasts and white quartz matrix. Upper 2cm of the breccia is crackle brecciated host rock. Clasts 80%, matrix 20%. Clasts are sub-cm, angular and silicified host rock as well as grey quartz. The quartz matrix is white to light grey, hard and contains 2-3% fg disseminated py. Moderate, pervasive limonite alteration throughout. Upper and lower contact are at 60 deg to CA.	2-3							disseminated									3										pervasive
		57.40	57.70	MGn	clay + lim alteration	Same as 49.54-54.3m.																											
		57.70	57.80	BX	quartz breccia	D grey, quartz breccia consisting of sub rounded clasts of host rock. Some clasts are limonite altered gneiss, others are unaltered and there are a number of white quartz clasts. Clasts range in size from 5cm to mm width but most clasts are in the sub cm range. The matrix is d grey quartz containing fg disseminated py. 70% clasts, 30% matrix. Patchy, strong limonite alteration. Brecciation is strong. Contacts are sharp at 75 deg to CA.	tr							disseminated									4										patchy
		57.80	59.50	MGn	clay + lim alteration	Same as 49.54-54.3m.																											

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Hole Id:
Logged By:

Primary Intervals		Foliation	Shearing		Fractures		Veins					Brecciation					Upper Contact		Lower Contact		
From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
0.00	24.38																				
24.38	84.43																				
							60-75	tr	cm to sub cm	qtz										70	sharp
		60																			
		75																			
				1														70	sharp	70	sharp
							60-75	tr	cm to sub cm	qtz											gradational
		65																			
																			gradational		gradational
							60-75	tr	cm to sub cm	qtz											
		55																			
				1														55	sharp		
		75																			
						4	65-75	5-8	sub cm to 3cm	qtz									gradational		
		70																			
								60		qtz					qtz	60	1	70	sharp		
		70																			
							70	70	18cm	qtz	py							70	sharp	70	sharp
												silicified mafic gneiss	80	angular	quartz	20	3				
												mafic gneiss, qtz	70	sub rounded	quartz	30	4	75	sharp	75	sharp

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization								Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour		Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
		59.50	67.85	FZ	large shear zone	The fault consists of very rubbly core. There is abundant, angular gravel and occasional zones of consolidated clay and gouge. All fragments have been subject to strong, pervasive limonite alteration. Very poor recovery. Rare white quartz blebs. Fault contacts are unknown (likely striking the same direction as the creek. Shearing is moderate.																										
		67.85	68.84	MGn	clay + lim alteration	Blocky core that is grey brown, fg, well foliated rock with a medium hardness. Moderate, pervasive limonite alteration of feldspar and mafics. Limonite staining on all cleavage and fracture planes. Trace concordant, white-grey, fractured, distorted, limonite altered,1-3 cm wide quartz veins throughout. Sharp upper contact at 45 deg to CA. Gradational lower contact.									grey brown								3-4									patchy
		68.84	70.48	MGn	silicification (str)	Light grey, fg, v hard, weakly foliated gneiss consisting of abundant quartz, feldspar, biotite and amphibole. (granodiorite?) Trace fg py. Trace fg magnetite. Mafics are partially to completely altered to d green chlorite throughout--> weak pervasive chlorite alteration. Strong, silicification overprint. rusty, orange-brown limonite alteration proximal to late stage carbonate veinlets and fracture planes. Trace, mm scale white carbonate veining generally oriented at 125 deg to CA. Gradational contacts.	tr							disseminated	l grey	4							3				2					pervasive-sil, chl localized- lim
		69.00		MGn		Weak foliation at 70 deg to CA.																										
		70.48	72.63	MGn	clay + lim alteration	Blocky core that is orange-brown, fg, faintly foliated rock that is soft due to strong, pervasive limonite alteration of the entire rock. Trace concordant, white-grey, fractured, distorted, limonite altered, sub cm wide quartz veinlets throughout. Gradational lower contacts.									brown orange								4									pervasive
		72.63	73.35	MGn	silicification (str)	Same as 68.84-70.48m.																										
		73.35	76.57	FZ	shear	Very rubbly core with pervasive limonite alteration of fragments and abundant staining on cleavage and fracture planes. At 75.4m is white, bull quartz vein chunk oriented at 5 deg to CA and surrounding it are abundant white quartz fragments. Sharp lower contact at 65 deg to CA.																										
		76.57	77.98	MGn	clay + lim alteration (w)	Blocky, medium grey, fg, moderately well foliated mafic gneiss with a moderate hardness. V weak, pervasive white clay alteration of feldspar. Patchy, rusty orange-brown limonite alteration around mafics, fractures and cleavage planes. 1-2% sub cm to 3cm wide, foliation parallel, white quartz veins throughout. Contacts are rubbly and obscure.									medium grey								1-2							1-2	pervasive	
		76.70		MGn	foliation	Foliation at 65 deg to CA.																										
		77.98	78.88	MGn	Mafic Gneiss	White to light grey, fg, moderately hard, moderately pervasive clay altered gneiss. The texture has been completely destroyed. Fracture proximal limonite alteration. Trace, mm scale, white carbonate veining oriented at 160 deg to CA. Upper contact is obscure and rubbly. Lower contact is sharp at 60 deg to CA.									white to light grey								1-2							3	pervasive-clay fracture proximal- lim	
		78.88	84.43	MGn	clay + lim alteration (w)	Same as 76.57-77.98m. At 76.73m is foliation shaped like an 'S'. (INTERP: on NE-E limb of a fold) There are 2-5% white, fractured, sub-cm to 3cm wide quartz veins containing trace fg disseminated py. The wider veins are more concentrated near the down hole contact and are generally oriented at 60 deg to CA.																										
		79.90		MGn	foliation	Foliation at 65 deg to CA.																										
		83.00		MGn	foliation	Foliation at 60 deg to CA.																										
84.43	85.85			F	clay altered Granodiorite	White to light grey, fine to medium grained, relatively soft, equigranular, felsic intrusion. Mineralogy: 60% feldspar, 40% qtz, 10% mafics. The feldspar has undergone strong, pervasive alteration to soft white clay and the mafics are too fg to be discernable--> amphibole? Granodiorite? No veining. The upper contact is sharp at 60 deg to CA with a cm sized grey quartz vein and within the first two cm of the intrusion are a few, angular host rock fragments. The bottom contact is sharp at 65 deg to CA with a large qtz vein.									white to l grey															3-4	pervasive white clay	
85.85	118.42	85.85	86.13	MGn	quartz vein	Large, white, fractured quartz vein containing trace fg disseminated py. Fractures are infilled by rusty orange limonite staining and trace fg py. The contacts are sharp at 65 deg to CA.																										
		86.13	86.48	MGn	clay + lim alteration (w)	Same as 76.57-77.98m. Small two cm wide felsic dike.																										
		86.48	86.85	MGn	clay + lim alteration (mod)	Beige coloured, fg, v weakly foliated (relict) mafic gneiss. Moderate, pervasive, white clay alteration. Patchy limonite alteration, along fractures and proximal to veinlets. Trace mm wide, grey quartz veining consisting of abundant fg py and oriented at 60 deg to CA. This set of veinlets has a mm scale silicification envelope around them. Later stage, mm scale white carbonate veinlets, cross-cutting the quartz and oriented at 130 deg to CA. Gradational contacts over 1cm perpendicular to foliation.									beige								2-3						3	pervasive-clay patchy- lim		
		86.85	91.28	MGn	Mafic Gneiss	Medium grey, fg, well foliated mafic gneiss with a medium hardness. Mineralogy is too fg to distinguish. Some spots appear to have undergone ductile deformation. Weak, pervasive clay alteration throughout. Rusty orange-brown, limonite alteration of fractures and proximal to veinlets. 1-2% white, sub cm to 2cm wide, generally foliation parallel quartz veins. Some veins are distorted, bent, broken and blebby within the ductile deformation zones. Gradational upper contact. Sharp lower contact.									medium grey								2							2	pervasive-clay localized fractures/ veinlets- lim	
		89.00		MGn		Foliation at 65 deg to CA.																										
		91.28	93.10	BX	clastic breccia	Dark grey interval with no foliation. Ductile deformation is prevalent, likely due to a partially healed fault. Minor amounts of consolidated gouge. Strong, patchy, grey clay alteration of 'matrix' host rock. Patchy orange-brown, limonite alteration. White quartz veins give a marbled appearance, having been distorted, bent, broken and folded within a soft clay matrix. The clay matrix contains fg disseminated py. At 91.95m is a 1-3cm thick soft, green interval of? From 91.97 to 92.17m is patchy, strongly silicified, marbled-looking fault breccia containing a cluster of fg, needle-like, metallic silver-grey crystals of ASP within grey quartz. From 92.4-92.8m is a zone of weak crackle breccia. Gradational lower contact where the rock becomes competent and foliation is visible. Minor amount of vugs.	tr	tr						disseminated, clusters	d grey	3								2						4	pervasive-clay patchy- lim, sil	

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
							75	tr	1--3cm	qtz								45	sharp		gradational
							125	tr	mm scale	carb									gradational		gradational
		70																			
								tr	sub cm	qtz									gradational		gradational
							5	tr	1-2cm	qtz										65	sharp
							65	1-2	0.3-0.5cm	qtz											
		65																			
							160	tr	mm	carb											
		65																			
		60																			
84.43	85.85																	60	sharp	65	sharp
85.85	118.42						60	100	28cm									65	sharp	65	sharp
							60, 130	tr	mm	quartz and carb	py in qtz vein								gradational		gradational
							60-65	1-2	cm scale	quartz									gradational		sharp
		65																			
							distorted	10	variable	quartz	py	quartz	10-30	angular to sub rounded	clay	70-90	3-4				gradational

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
		93.10	94.56	MGn	Mafic Gneiss	Same as 86.85m to 91.28m. Trace mm wide white qtz veins, oriented at 130 deg to CA.																									
		93.60		MGn		Foliation at 50 deg to CA.																									
		94.56	96.07	FZ	weak shear	Abundant blocky, rubbly core and minor gouge on cleavage and fracture planes. Gouge on both the upper and lower contact. Moderate, patchy, rusty orange-yellow-brown limonite alteration of fracture planes. The upper contact is sharp at 55 deg to CA and the lower contact is sharp at 105 deg to CA.														3										patchy	
		96.07	99.57	MGn	Mafic Gneiss	Same as 86.85m to 91.28m. Trace sub cm wide, white quartz veins containing tr fg disseminated py and oriented at 140 deg to CA. Trace fg disseminated py throughout. Localized sections of beige coloured clay alteration.	tr						disseminated																		
		96.50		MGn	foliation	Foliation at 55 deg to CA.																									
		99.57	100.60	BX	clast dominated breccia	D grey to black interval with highly variable foliation. Mafic gneiss clasts have been deformed ductilely. Moderately to strongly silicified, deformed, mafic gneiss fragments as well as sub-angular, 1-3cm sized, white quartz fragments within a dark grey, hard quartz matrix. 80-90% clasts, 10-20% matrix. Within the matrix is 3-5% fg disseminated py. There are zones within this interval that are in tact mafic gneiss of a similar description to the previous unit. INTERP: margin of the fault breccia. minor vugs. Minor, rusty orange-brown, limonite alteration on fractures and in vugs. Upper contact is at 70 deg to CA. Lower contact is sharp with a fault but the orientation is unknown.	3-5						disseminated	d grey to black	3-4					1											pervasive-sil patchy- lim
		100.60	102.29	FZ	shear zone	Characterized by few blocks and abundant consolidated grey gouge and clay. Some gouge and clay forms core shaped tubes, other gouge and clay is paste-like. Intense shearing. Blocky fragments consist of silicified fault breccia. Upper contact is rubbly. Lower contact is sharp at 65 deg to CA.																									
		102.29	102.82	BX	clastic breccia	Blocky and rubbly, d grey to black breccia interval consisting of 50% clasts and 50% matrix. The matrix is made up of d grey to black quartz containing fg disseminated py and moderate, 0.3-0.6mm sized band of vfg py (total 10-12%). The clasts are generally sub-cm, angular and have been transported. The clasts consist of sub angular, silicified mafic gneiss, white quartz and grey quartz. Trace white quartz veins deposited syn-deformation, giving them a broken, boudinaged appearance. strong pervasive silicification. Kind of arbitrary faulted contacts, generally determined based on the presence of gouge and abundant rubble as opposed to blocky core.	10-12						disseminated, bands	d grey to black	4																pervasive
		102.82	104.02	FZ	shear zone	Blocky, rubbly core consisting of fragments of silicified fault breccia, fragments of clay altered fault breccia and mafic gneiss. Weak shearing. Trace fg disseminated py. Rubbly upper contact. Lower contact is sharp at 115 deg to CA.	tr						disseminated																		
		104.02	105.68	MGn	clay altered (w)	Medium grey with a beige tinge, fg, well foliated, mafic gneiss with a medium hardness. Weak, pervasive, beige clay alteration. Trace fg disseminated py. 1-2% white, mm scale quartz veining containing abundant fg py and oriented parallel to foliation. A secondary set of completely py replaced veining is oriented at 165 deg to CA. At 104.55m is a 2cm wide white quartz filled breccia of the surrounding host rock. clasts are angular. From 104.75-105m is a silicified zone where foliation is faint and smokey grey quartz veins are present. The lower contact is sharp at 60 deg to CA. Total of 3-5% veining.	tr						disseminated, veinlets	medium grey	2														1-2	pervasive-clay sporadic- sil	
		104.10		MGn		Foliation at 50 deg to CA.																									
		105.68	106.69	FZ	weak shear	Blocky, rubbly core with minor gouge.																									
		106.69	107.23	BX	clastic breccia	D grey to black breccia consisting of 70% clasts and 30% matrix. The matrix consists of d grey quartz containing 3-5% fg disseminated py and few 0.2-0.4mm wide bands of py (total 5-8% py). The clasts are made up of silicified, clay altered gneiss, white quartz and grey quartz. All the clasts are sub-rounded and generally sub-cm wide. Few clasts are 2-6cm wide. strong pervasive silicification of the interval. No veining. brecciation was moderate to strong. minor amount of vugs. Sharp upper contact at 155 deg to CA. Sharp lower contact at 60 deg to CA. INTERP: presence of white quartz suggests a multi-phase breccia.	5-8						disseminated, banded	d grey to black	4																pervasive
		107.23	112.07	MGn	clay alteration (w)	Medium grey and tan coloured, fg, well foliated mafic gneiss with a moderate hardness. Pervasive, weak tan coloured clay alteration of felsic material. Trace fg disseminated py. 3-5% quartz veining throughout. Veining occurs in large white, 9cm wide veins that have trace fg py in fractures as well as in white, mm scale, randomly oriented veinlets. The upper 2m of this section is a very weak crackle breccia with all its randomly oriented white quartz veinlets. From 109.53-109.79m are two 9cm wide white quartz veins containing py. At 109.85m is a 2cm wide grey clay seam and at 110.10m is another 2cm wide grey clay seam. The upper contact is sharp at 60 deg to CA. The lower contact is sharp at 70 deg to CA.	tr						disseminated	medium grey and tan colored															1	pervasive	
		109.00		MGn		Foliation at 75 deg to CA.																									
		112.00		MGn		Foliation at 70 deg to CA.																									
		112.07	113.21	FZ	shear	Very rubbly core with abundant gouge on cleavage and fracture planes. Some clumps of gouge throughout. Weak shear. Gouge on the sharp upper contact at 65 deg to CA. Rubbly lower contact.																									
		113.21	114.18	MGn	clay alteration (w)	Medium grey and tan coloured, fg, well foliated mafic gneiss with a moderate hardness. Pervasive, weak tan coloured clay alteration of felsic material. Trace fg disseminated. One 3cm wide white quartz vein containing a clustery band of fg py in the core.	tr						disseminated	medium gray and tan colored															1	pervasive	
		114.18	114.30	VN	quartz vein	Milky white quartz vein with a clustery, band of fg py mid-vein (2-3% total). Sharp upper and lower contacts at 75 deg to CA.	2-3						band, cluster																		
		114.30	118.42	MGn	clay alteration (w)	Medium grey and tan coloured, fg, well foliated mafic gneiss with a moderate hardness. Pervasive, weak tan coloured clay alteration of felsic material. Trace fg disseminated. 1-2% white, sub cm to 3cm wide, quartz veining oriented parallel to foliation. From 116.34-116.44m is a fine to med gr felsic dike. Sharp upper contact at 75 deg to CA. Sharp lower contact at 20 deg to CA.	tr						disseminated	medium grey and tan															1	pervasive	
		115.00		MGn		Foliation at 70 deg to CA.																									

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
							130	tr	sub cm												
		50																			
				1														55	sharp, gouge	105	sharp, gouge
							140	tr	sub cm	quartz	PY										
		55																			
												mafic gneiss, white qtz	80-90	rounded, subrounded	d grey quartz	10-20	3-4	70	sharp		
				5																65	sharp
								tr	sub cm	qtz		quartz, mafic gneiss	50	sub-angular	d grey quartz	50	3-4				
								3-5	sub cm to cm's	qtz	py									60	sharp
		50																			
												mafic gneiss, qtz	70	sub- rounded	grey qtz	30	3-4	155	sharp	60	sharp
								3-5	mm scale and 9cm	white qtz	py							60	sharp	65	sharp
		75																			
		70																			
			65	2														65	sharp		
							75	1-2	one at 3cm	qtz	py									75	sharp
							75	100	12	white qtz	py							75	sharp	75	sharp
							70	1-2	sub cm	qtz								75	shar[	20	sharp
		70																			

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
118.42	120.34			FZBX	fragmental fault breccia	Medium to dark grey, fragmental breccia consisting of >90% clasts and <10% matrix. moderate, pervasive silicification of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 8cm wide. They are made up of clay altered mafic gneiss, silicified mafic gneiss and bright green, clay altered gneiss, as well as, white quartz. The matrix is composed of grey quartz containing fg disseminated py. There is also some greeny-yellow clay within the matrix. minor vugs. rare late stage, carbonate along micro fractures. From 119.18 to 119.39m is a micro fault that is very rubbly, broken-up and contains abundant gouge. Sharp upper contact at 20 deg to CA and sharp lower contact at 120 deg to CA. INTERP: multi-phase brecciation that has seen some clasts transported great distances and others transported very short distances. Evidence for this is from the variability in clast rounding and broken up vein material. Ductile deformation.	tr							disseminated	medium to dark grey	3															pervasive
120.34	127.12			MGn	clay alteration (w)	Medium grey and tan coloured, fg, well foliated mafic gneiss with a moderate hardness. Pervasive, weak tan coloured clay alteration of felsic material. 2-3% fg disseminated py. 1-2% white, sub cm wide, randomly oriented quartz veinlets. V weak crackle breccia. Rare, broken-up, foliation parallel, sub cm wide, smokey grey quartz veins. Patchy, bright green, moderately soft clay (?) alteration within interval.	2-3							disseminated	medium grey and tan														1	pervasive	
		120.50		MGn	foliation	Foliation at 70 deg to CA.																									
		122.43	123.08	FZ	moderate shear	Abundant rubble and paste-like, consolidated gouge and grey clay throughout. Moderate shear. Sharp upper contact at 80 deg. Sharp lower contact at 90 deg.																									
		123.08	123.44	MGn	clay alteration (w)	Same as 120.34 to 122.43m.																									
		123.44	125.44	FZ	weak shear	Light grey, blocky, rubbly clay altered core containing trace fg py. Minor consolidated clay and gouge. Sharp upper contact at 90 deg to CA.																									
		125.44	127.12	MGn	clay alteration (mod)	Blocky core with clay on fracture planes. Light grey to beige coloured, weakly to moderately foliated, fg gneiss with a medium hardness. Moderate pervasive, beige clay alteration. Patchy, moderate silicification overprint. 3-5% fg, brass coloured, blebby py throughout. Multiple generations of veining totalling 3-5%. abundant, mm scale, grey quartz veins that are partially to completely py filled. Trace CA parallel, white quartz veinlets containing tr fg py. Some zones (@ 126.5m) that have a weak crackle breccia texture. The upper contact is at 90 deg to CA. The lower contact is sharp at 65 deg with a minor clay seem preceding the major fault zone.	3-5							blebby, disseminated	I grey to beige	2-3													3	pervasive-clay patchy- sil	
127.12	159.44			FZ	Major fault Zone	A very large zone of extremely pulverized rubble and gravel, as well as, paste-like gouge, and rock that has been pervasively clay altered. Recovery is very poor throughout. Shearing in this fault is intense.																									
		127.12	129.41	MGn	clay alteration (mod)	Extremely rubbly core with the same composition as 125.44-127.12m.																									
		129.41	130.97	FZBX	fragmental fault breccia	Extremely rubbly core with the same composition as 118.43-120.34m.																									
		130.97	134.25	Clay	clay seam	White to light grey, extremely soft, paste-like, consolidated clay and gouge containing 2-3% fg disseminated py throughout. Intense, pervasive clay alteration. Sub rounded, medium grey, clay altered sub cm to 4cm wide, mafic gneiss clasts are scattered within the paste-like gouge.	2-3							disseminated	white to I grey														5	pervasive	
		134.25	134.90	MGn	clay alteration	Same as 127.12-129.41m.																									
		134.90	137.19	QFP	limonite and clay altered	Toffee brown, moderately hard, porphyritic rock that is highly fractured in numerous direction and is broken-up and rubbly. 40-50% phenos, 50-60% matrix. Phenos consist mostly of 1-5mm wide, euhedral to subhedral, white, clay altered feldspar and few grey, fractured quartz eyes. weak, pervasive clay alteration of feldspar phenos. one set of mm scale, grey quartz veins that are partially to completely filled with py (orientation unknown due to rubbly nature of core). Another set of white quartz-carb veinlets (orientation unknown due to rubbly nature of core). Trace fg disseminated py throughout. Pervasive, rusty orange brown limonite in all fractures and on all broken surfaces.	tr							disseminated	toffee brown							3								1	pervasive
		137.19	137.44	Clay	clay seam	Rusty orange-brown, extremely soft, paste-like, consolidated clay and gouge containing sub-cm sized, angular, limonite altered QFP fragments. The 1cm margins of the clay are white to I grey clay. Everywhere else within the seam has been pervasively altered by limonite. Sharp contacts at 125 (35?) deg to CA.									rusty orange-brown															pervasive	
		137.44	148.92	QFP	limonite and clay altered	Same as 134.9 to 137.19m.																									
		148.92	153.62	MGn	Mafic Gneiss and Breccia	Abundant light grey and dark grey gravel. The gravel sized, angular fragments contain 3-5% fg disseminated py within what appears to be a clastic breccia unit similar to 118.43-120.34m. There are also abundant gravel sized angular fragments of clay altered, light grey, mafic gneiss.	3-5							disseminated																	
		153.62	157.67	QFP	limonite and clay altered	Same as 134.9 to 137.19m. The rubble is very rounded and has been re-drilled a number of times. It also immediately follows a footage block and doesn't make much sense in this order, therefore I believe that some rubble has fallen back down in the hole and been brought up by the drill.																									
		157.67	159.44	MGn	clay altered (mod)	Same as the following unit, just abundant rubble and blocky core.																									

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
118.42	120.34											mafic gneiss, green clay altered mafic gneiss, quartz	>90	sub-angular to rounded	grey quartz	<10	4	20	sharp	120	sharp
120.34	127.12																				
		70																			
			80-90	3														80	sharp	90	sharp
																		90	sharp	90	sharp
			90	3														90	sharp		rubbly
							65, 0	3-5	mm scale	qtz	PY									65	sharp
127.12	159.44																	65	sharp		
									mm scale	qtz	py										
																		125	sharp	125	sharp

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization								Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
159.44	166.89	159.44	164.67	MGn	clay altered (mod)	Off white to light grey coloured, fg, moderately well foliated gneiss that is moderately soft. Strong, pervasive white clay alteration of interval. Mm sized, discontinuous grey quartz bands with white clay altered feldspar. All mafics have been altered to clays. In some spots the foliated texture has been completely destroyed. Occasional, soft, turquoise splotches. rare specs/ splotches of red hematite staining? 2-3% total veining consisting of multiple stages. cm to sub cm wide, foliation parallel, grey quartz veins containing trace fg disseminated py. Another set of grey quartz veinlets containing clusters of fg py oriented at 150 deg to CA. Another set of veinlets that don't seem to have any set orientation, but contain trace fg, blue-grey, metallic stibnite along the salvages. The last stage of veining was mm scale, white carbonate oriented at 90 deg to CA. 5-8% fg, blebby and disseminated py throughout. The upper 2m of the interval is very blocky. From 162.56 to 162.91m is a zone of d grey to black mafic material containing abundant fg, disseminated py. Lower contact is gradational at 95 deg to CA.	5-8						tr	blebby, disseminated	off white to light grey															3-4	pervasive
		161.50		MGn		Foliation at 70 deg to CA.																									
		164.67	164.97	MGn	silicification (str)	Same as 159.44-164.67m. Strong, pervasive silicification overprint. Gradational contacts.								light grey	4															pervasive	
		165.90		MGn		Foliation at 75 deg to CA.																									
		164.97	166.89	MGn	clay altered (mod)	Same as 159.44-164.67m.																									
166.89	172.94	166.89	168.85	QFP	clay altered (mod)	Toffee brown coloured, porphyritic rock with a medium hardness. 50-60% phenos, 40-50% matrix. Phenos are 2-7mm wide, euhedral to subhedral and are equal portion feldspar and quartz. The feldspar phenos are white and completely altered to clay (in some a reaction rim can be seen). The quartz phenos are grey-opaque, and fractured. The matrix is aphanitic and contains trace fg disseminated py. Trace mm scale, grey qtz veinlets oriented at 135 and 50 deg to CA. Within these veinlets is trace fg stb in the salvages. Later stage trace white, mm wide, carbonate veinlets. As you approach the down hole contact the frequency of the phenos drops and the quartz content decreases. Sharp upper contact with brecciated, clay altered mafic gneiss oriented at 90 deg to CA. Sharp lower contact at 50 deg to CA.	tr						tr	toffee brown																2	pervasive
		168.85	169.08	Clay	beige clay	Extremely soft, beige coloured clay containing trace fg py and few grey quartz clasts.																									
		169.08	169.36	QFP	clay altered (mod)	Same as 167.88-168.85m. Patchy pink-red potassic alteration.																									
		169.36	172.94	FZ	fault	Blocky, rubbly QFP and abundant consolidated gouge and clay. Moderate shear.																									
172.94	175.55	172.94	173.84	MGn	clay altered (mod)	Same as 159.44-164.67m. Clusters of py as well as blebs and disseminated.																									
		173.84	174.77	MGn	propylitic alteration	Dark grey, fg, moderately well foliated, moderately hard mafic gneiss. Clusters of pistachio green epidote. Patchy, d green, soft chlorite alteration. 5-8%, fg, blebby py throughout. Few scattered specs of red brown (scratch red brown) hematite. Trace foliation parallel, milky white quartz veins containing trace, fg, clusters of brassy py. Gradational lower contact.	5-8						blebby	dark grey											2-3		2-3			patchy, sporadic	
		174.77	175.55	MGn	clay altered (mod)	Same as 159.44-164.67m.																									
		175.00		MGn	foliation	Foliation at 75 deg to CA.																									
175.55	184.46			FZBX	fragmental fault breccia	Light grey, fragmental breccia consisting of >90% clasts and approx 10% matrix. The clasts are sub-angular to rounded and vary in size from sub cm to greater than the diameter of the core. They are made up of clay altered mafic gneiss, grey quartz and white quartz. The foliation of all the clasts are going in every direction and the foliation also clearly shows that the clasts have undergone plastic deformation. The matrix is composed of mostly white quartz, but also some grey quartz containing fg disseminated py. Minor vugs. Rare late stage, carbonate along micro fractures. 2-3% fg disseminated and clustery py within both clasts and matrix. Trace late stage, sub cm wide, grey quartz veins containing vfg, blue-grey, metallic stibnite in vein salvages and generally oriented at 120-140 deg to CA. The upper 20cm of the interval is a clast dominated breccia with grey quartz and abundant fg py (disseminated and banded) as the matrix.)--> likely a later event that found a plane of weakness at the contact. From 175.77-176.14m is a very strongly clay altered interval, bordering on being called a clay seam that has a large number of clasts. Approaching the down hole contact (the bottom 1m) the rock has an increasingly stronger silicification overprint and becomes more of a crackle	2-3			tr			disseminated, matrix bound, veinlets (stb)	light grey	4															3-4	pervasive-clay proximal to bottom contact- sil
184.46	185.82			VN	Sulphide rich breccia/ vein	Upper contact is sharp at 50 deg to CA with strongly silicified mafic gneiss. Dark grey breccia consisting of 20% silicified Mafic Gneiss, 35% sulphide mineralization, 30% vein material (mostly quartz and minor carbonate) and 15% clasts. From 184.46-184.51m is a strong crackle breccia of the silicification overprinted gneiss with grey quartz veining containing fg disseminated, brassy, py and fg, disseminated, needle-like, shiny metallic silver ASP. From 184.51-184.64m is predominantly grey and d grey quartz containing abundant sub cm sized, sub-rounded, host rock clasts and quartz clasts. There are minor amounts of vugs in this zone and rare, mm thick veinlets of white carbonate. Also making up the matrix of the d grey quartz is fg, brassy py, fg red-brown sph, fg, needle-like ASP and vfg red hematite in veinlets as well as part of the vein matrix. From 184.64-184.7 is a small zone of almost 100% sulphide containing large clustery bands of vfg-massive, silver-grey asp, abundant, small clusters of brassy py and blebs + clusters of sph. From 184.7-184.74m is a clastic breccia containing silicified gneiss clasts within a light grey, amorphous quartz matrix that contains fg disseminated py. From 184.74-184.9 is a zone of mostly silicified host rock (weak crackle	10	15		8		2	disseminated, banded, clusters, blebs, veinlets	d grey	5																pervasive
185.82	186.88			MGn	clay altered (s) mafic gneiss	Very rubbly, off white to light grey, strong pervasively clay altered mafic gneiss. The foliation texture has been completely destroyed. Minor consolidated gouge on some fracture planes--> possible fault? 5-8% fg, disseminated and blebby py throughout. The lower 30cm appears to be Mafic gneiss that is 70-80% replaced by vfg, clustery, d brown-brassy py. Trace mm scale quartz and carb veining visible on some rubble chunks.	5-8						disseminated, blebby	off white to light grey															4	pervasive	

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
159.44	166.89						variable	2-3	mm scale	qtz and carb	py, stb									90	gradational
		70																			
		75																			
166.89	172.94						135, 50	tr	mm scale	qtz and carb	py, stb							90	sharp	50	sharp
				3																	
172.94	175.55						foliation parallel	tr	sub-cm	qtz	py										gradational
175.55	184.46						blebby, distorted	tr	sub-cm	quartz	py, stb	clay altered mafic gneiss, quartz	>90	highly variable	quartz	<10	3-5	95	sharp	45	sharp
184.46	185.82											mafic gneiss, quartz	15	sub rounded	quartz, carb, sulphide	30	4-5	50	sharp		rubbly
185.82	186.88					4		tr	mm scale	quartz and carb											

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
186.88	188.89			VN	Sulphide rich breccia/ vein	Blocky, rubbly incompetent core consisting of fragments of sulphide rich silicified fault breccia. The first block of core (16cm long) is a clastic breccia with a grey quartz matrix containing fg brassy, clusters of py, fg red brown sphal and fg, needle-like crystals of asp. Clasts are sub-rounded, and sub-cm sized. The next major block consists of clay altered, CA parallel, sub-cm wide, weak crackle brecciated vein containing fg py, fg, sphalerite and vfg blue-grey, metallic stb from 187.76-188.54m is very rubbly, d grey sulphide breccia fragments containing a large amount of sulphide mineralization. Clusters of fg, brassy, py, fg blebs of red-brown SP, fg clusters of bladed, metallic, blue-grey Stibnite, vfg clusters of metallic silver-grey asp. In this zone there is 80% sulphide and 20% vein material. From 188.54-188.89m is mostly brecciated host rock and vein material with minor sulphide. The total amount of sulphide in the entire interval is 50%. It's difficult to determine the amount of brecciation in the interval because the rock is very fragmented. Recovery is questionable--> some fragments have been rounded, and re-drilled a number of times.	20-25	10-15		5-10		1-2	disseminated, banded, clusters, blebs, veinlets	d grey	4														4	pervasive
188.89	196.90	188.89	191.41	QFP	clay alteration (w)	Light grey to toffee brown, moderately hard, porphyritic rock. 60-70% phenos, 30-40% matrix. Phenos vary in size from 1-6mm in size and are euhedral to subhedral. They consist of grey-opaque, fractured quartz 'eyes' and white, clay altered feldspar. The matrix is aphanitic and contains 1-2% fg, disseminated and blebby py. Weak, pervasive clay alteration of feldspar phenos. weak rusty orange-brown limonite alteration of fracture planes. Sporadic, rare pinkish red-brown, potassic alteration? 3-5% sub cm white and grey quartz veins throughout (multiple generations), the sub cm sized grey and white veinlets contain fg py, rare fg sph and abundant vfg blue-grey stibnite in many of the salvages. They are generally randomly oriented but a common orientation may be at 150 deg to CA. The upper contact is sharp at 135 deg to CA. The lower contact is sharp at 90 deg to CA.	1-2			tr		tr	disseminated/ blebby, veinlets	light grey to toffee brown							1		1						2	pervasive-clay sporadic blebs- ksp fracture planes- lim
		191.41	191.60	VN	sulphide rich breccia/ vein fragments	A few fragments that are rounded and have been re-drilled a number of times. There are no contacts here that match up. Fragments consist of dark grey quartz breccia and contain abundant sulphide mineralization: py, asp, stb, sph. INTERP: The rubble had fallen down the hole and was re-drilled and brought up one run later or part of the rubble from the previous vein zone was dropped and put back in a box at random--> OUT OF PLACE.																								
		191.60	193.71	QFP	clay alteration (w)	Same as 188.89-191.41m.	1-2			tr		tr	disseminated/ blebby, veinlets	light grey to toffee brown							1		1					2	pervasive-clay sporadic blebs- ksp	
		193.71	194.65	FZ	shear zone	Blocky, rubbly core with minor gouge on cleavage and fracture planes. The first 30cm of the unit has undergone strong, pervasive clay alteration. Weak, rusty orange-brown limonite alteration on fracture planes. Moderate shear zone.								light grey						1								3-4	patchy- clay fracture planes- lim	
		194.65	196.90	QFP	clay alteration (w)	Same as 188.89-191.41m. Obscure, rubbly, lower contact.	1-2			tr		tr	disseminated/ blebby, veinlets	light grey to toffee brown							1		1					2	pervasive-clay sporadic blebs- ksp fracture planes- lim	
196.90	206.02	196.90	198.06	MGn	clay alteration (mod)	Blocky, light grey, fg, v weakly foliated (texture completely destroyed in spots) gneiss with a medium hardness. Moderate, pervasive, white clay alteration. Weak limonitic alteration of fracture planes. 1-2% fg disseminated and blebby py. Trace veining. One series of veins is mm scale, grey quartz-carb that is partially to completely replaced by fr gr py and oriented at 105 deg to CA. Another set of veins is mm scale, white carbonate oriented at 40 deg to CA. Sharp lower contact at 90 deg to CA.	1-2						disseminated, blebby	light grey														3-4	pervasive	
		198.06	198.81	MGn	clay alteration (str)	Blocky, rubbly, light grey rock with no texture that has undergone strong, pervasive white clay alteration, causing incompetent, v soft rock. There are blebs of white quartz throughout containing fg py. Trace fg disseminated py. Sharp upper contact at 90 deg to CA. Sharp lower contact at 70 deg to CA.	tr						disseminated	l grey														5	pervasive	
		198.81	203.70	MGn	clay alteration (mod)	Light grey, fg, foliated gneiss with a medium hardness. In the upper meter of the interval the foliation texture is completely destroyed. Moderate, pervasive, white clay alteration of feldspar. Mm scale, grey quartz bands (continuous and discontinuous) cause the foliation to be obvious. Weak limonitic alteration of fracture planes. Occasional, patchy, pale green to yellow, soft sericite (?) alteration. 1-2% fg disseminated and blebby py. 2-3% veining. One series of veins is 1-2cm wide, grey quartz that contains fg py. Another set of veins is sub cm scale, white carbonate oriented at 40-60 deg to CA and containing fg py (rarely fg sphal). Another set of veinlets is mm scale grey quartz containing vfg, blue-grey stb in the salvages (oriented at 70-80 deg to CA). Sharp lower contact at 90 deg to CA.	1-2			tr		tr	disseminated, veinlets	l grey					1									3	pervasive-clay patchy- ser	
		201.80		MGn		Foliation at 45 deg to CA.																								
		203.60		MGn		Foliation at 55 deg to CA.																								
		203.70	206.02	FZ	shear zone	Blocky, rubbly, ground-up, l grey clay altered gneiss. Some spots contain abundant gravel. Moderate to strong pervasive clay alteration. Occasional pale green to yellow, soft zones--> sericite? Trace fg py throughout. Abundant fragments of grey quartz vein. Moderate shear zone. Sharp upper contact at 70 deg to CA.	tr						disseminated	l grey					1									3-4	pervasive-clay patchy- ser	

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
186.88	188.89																				
188.89	196.90						150	3-5	sub cm	quartz	py, stb, sp							135	sharp	90	sharp
							150	3-5	sub cm	quartz	py, stb, sp										
				3																	
							150	3-5	sub cm	quartz	py, stb, sp										
196.90	206.02						105, 40	tr	mm scale	quartz, carb	py									90	sharp
							blebs, distorted	tr		quartz	py							90	sharp	70	sharp
							variable	2-3	mm scale to cm scale	quartz and carb	py, sp, stb							70	sharp	90	sharp
		45																			
		55																			
				3														70	sharp		

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization								Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
206.02	217.32	206.02	208.74	FZBX	fragmental fault breccia	Light grey, fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. There is also some greeny-yellow clay (?) sericite(?) within the clasts. Distorted, blebby grey, quartz veins of variable thickness throughout, likely emplaced syn-deformation. Trace, late stage, white carbonate veinlets, sometimes containing trace fg py and sphal. Gradational lower contact. INTERP: multi-phase brecciation that has seen clasts welded together at high pressure. NOT a hydrothermal breccia.	tr							veinlets	l grey					1											3-4	pervasive-clay patchy- ser
		208.74	211.06	FZBX	fragmental fault breccia	D green, fragmental breccia of a similar description to the previous interval except the gneiss clasts are not clay altered. Moderated to strong, pervasive alteration of mafics to chlorite. Weak sporadic, propylitic alteration (splotchy pistachio green epidote). Clasts of QFP have been noted in this interval. Trace fg blebby py. minor blebs of blood red hematite associated proximal to quartz veining. Quartz veining is blebby and sporadic (present in minor amounts throughout). Contacts are gradational.	tr							blebby	d green										3-4						pervasive	
		211.06	211.26	FZ	fault	Extremely rubbly core. Minor fault.																										
		211.26	212.06	FZBX	fragmental fault breccia	Same as 206.02-208.74m.																										
		212.06	212.19	FZ	fault	Extremely rubbly core. Minor fault.																										
		212.19	214.75	FZBX	fragmental fault breccia	Same as 206.02-208.74m. Trace clusters of fg py. Trace clusters of d green chlorite.	tr							clusters												1					clusters	
		214.75	217.32	FZ	shear zone	Zones of both blocky and extremely rubbly core. Minor gouge on few fracture planes. Most blocks of core are of the fragmental fault breccia, but a few were of a grey quartz matrix, clastic breccia.																										
217.32	224.71	217.32	218.56	MGn	silicification (m-s)	Medium grey-blue, fg, hard, weakly foliated gneiss consisting of amphibole, plag and quartz. Trace fg, disseminated magnetite. Trace fg disseminated py. Trace white quartz-carb veining throughout that is generally 1mm wide, but there is one vein that is 1cm wide and contains fg py along margins and in the vein core. Orientation is typically between 40-70 deg to CA. Strong, silicification overprint. There is a 0.2-1cm wide alteration envelope around the quartz-carb veins/ veinlets. There are also occasional blebs of pistachio green epidote both within the veins and within the host rock. Rubbly bottom contact but it appears that it is a gradational change. INTERP: gradational contacts eliminated possibility of this being some sort of mafic intrusive?	tr							disseminated	medium blue-grey	4											1				pervasive-sil sporadic blebs- epi	
		218.15		MGn		Foliation at 65 deg to CA.																										
		218.56	219.31	FZ	fault	Blocky, rubbly core. Contacts are obscure and rubbly.																										
		219.31	220.52	MGn	clay alteration and weak crackle breccia	Beige coloured, fg, moderately well foliated gneiss with a medium hardness (scratches w/ a nail). Moderate pervasive, beige clay alteration. 10-15% quartz and quartz-carb veining throughout. Many blebby, discontinuous (1-6cm wide), white quartz veins containing trace fg py. In the middle of the interval is a weak crackle breccia of white quartz veinlets. Few d grey quartz veins (mm to 1cm wide), oriented at 135 deg to CA, containing vfg disseminated py and other sulphides? Gradational contacts.									beige														3	pervasive		
		220.20		MGn		Foliation at 50 deg to CA.																										
		220.52	221.60	MGn	carbonate, chlorite, hematite, alteration	D green, fg, hard weakly foliated mafic gneiss. Moderate to strong, pervasive d green chlorite alteration, sporadic, blebby propylitic alteration (pistachio green epidote). Strong, pervasive carbonate alteration. Blotchy, red, hematite alteration proximal (20cm) to the upper contact. 2-3% fg disseminated py. Trace mm scale carbonate veining. Gradational upper contact. Sharp lower contact at 120 deg to CA.	2-3							disseminated	d green				3-4				2			4		1		pervasive-sil, chl sporadic- epi priximal- hem		
		221.60	224.71	FZ	shear zone	Rubbly, extremely pulverized core and fault gouge that has a grey-green tinge to it. Many zones of consolidated gouge throughout. Strong, pervasive, d green chlorite alteration of fragments and gouge.									grey green										4					pervasive		
224.71	235.11	224.71	226.00	FZBX	fragmental fault breccia	Light grey, fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. There is also some greeny-yellow clay (?) sericite(?) within the clasts. Distorted, blebby grey, quartz veins of variable thickness throughout, likely emplaced syn-deformation. Trace, late stage, white carbonate veinlets, sometimes containing trace fg py and sphal. Gradational lower contact. INTERP: multi-phase brecciation that has seen clasts welded together at high pressure. NOT a hydrothermal breccia.	tr							veinlets	l grey				1												3-4	pervasive-clay patchy- ser
		226.00	226.15	BX	carbonate breccia	Clast dominated, carbonate breccia. 60-70% clasts, 30-40% matrix. Clasts vary from sub-cm to 3cm side, are angular to sub-angular, mafic gneiss. The mafic gneiss clasts are clay altered, silicified, and contain quartz veining. The matrix is white, moderately soft and consists entirely of carbonate (v strong reaction with acid). Sharp contacts at 140 deg to CA with brecciated host rock. Trace fg disseminated py. INTERP: the clasts have been transported a relatively short distance (angular). INTERP: One brecciation event because there is only one form of matrix and the contact are torn up by it.	tr							disseminate																		

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To		to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description				
206.02	217.32			1			blebs	tr	variable	quartz	py	clay altered gneiss, quartz	100	rounded to subangular	quartz	tr	3-4				gradational
				1			blebby	tr	variable	quartz	py	clay altered gneiss, quartz	100	rounded to subangular	quartz	tr	3-4		gradational		gradational
217.32	224.71						40-70	tr	mm scale	quartz- carb											gradational
		65																			
							variable	10-15	variable	quartz and carb	py, other sulphide								gradational		gradational
		50						tr	mm sclae	carb									gradational	120	sharp
224.71	235.11			1			blebs	tr	variable	quartz	py	clay altered gneiss, quartz	100	rounded to subangular	quartz	tr	3-4		sharp, rubbly	40	sharp
												mafic gneiss	60-70	angular to sub-angular	carbonate	30-40	3	40	sharp	40	sharp

Charlotte Project
DDH-12-278 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization								Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour		Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		226.15	235.11	FZBX	silicified (mod) fragmental fault breccia	Fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of mostly chlorite altered and unaltered mafic gneiss, but also muscovite altered mafic gneiss, pinkish-beige clay altered mafic gneiss and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. There is also some pistachio green epidote usually associated with quartz. Very rare, distorted, blebby grey, quartz veins of variable thickness throughout, likely emplaced syn-deformation (matrix?). Strong, pervasive silicification overprint. Trace, late stage, white carbonate veinlets, sometimes containing trace fg py and sometimes hematite. Sharp upper contact at 40 deg to CA. Sharp irregular lower contact at 160 deg to CA. Trace fg disseminated py in random clasts. INTERP: multi-phase brecciation that has seen clasts welded together at high pressure. NOT a hydrothermal breccia.	tr							disseminated	highly variable: d green and pinkish beige	4												4		1				pervasive-sil most clasts-chl in quartz blebs- epi
235.11	238.02	235.11	237.37	QFP	fragments within QFP (unaltered)	Grey-brown, hard, porphyritic rock. 50- 70% phenos, 30-50% matrix. The matrix is grey-brown and aphanitic. The phenos are 1-5mm wide, euhedral to subhedral and consist of plagioclase feldspar, potassium feldspar, quartz and amphibole (hbl?). The plag phenos are milky white, hard and rectangular euhedral, k-spar are pinkish, tabular, quartz is grey-opaque and hexagonal and the amphibole are elongate, bladed and black. There is trace fg disseminated py throughout and sometimes py within the mafics (py alteration). Moderate, silicification overprint. Trace, mm scale, white carb oriented at 150 deg and 60 deg to CA (commonly). There are a number of 1-5cm wide, black, fg, sub-rounded, mafic xenoliths (Diorite??) throughout the interval. At 235.8m is a bit of the fragmental breccia--> interfingered contact? Sharp, irregular upper contact at 160 deg to CA. Gradational lower contact.	tr							disseminated	grey-brown	3																	pervasive	
		237.37	238.02	QFP	sericite altered	Same as previous. Moderate, pervasive, pale apple green coloured sericite alteration. Mid-interval is a 6cm wide quartz-carb veinlet containing py, ASP and oriented at 90 deg to CA. The vein has a pink to white coloured, carbonate core and grey and white quartz on the margins. The lower margin has abundant, weakly brecciated host rock. Fg py is disseminated throughout the quartz and concentrated along the clast margins. Fg, silver-grey, metallic, needle-like asp is disseminated throughout the quartz portion of the vein. Minor sub-cm wide, white-grey, qtz-carbonate veins oriented at 145 deg to CA. Gradational upper contact. Sharp, irregular lower contact oriented at 110 deg to CA.	tr							disseminated	pale apple-green				3													pervasive		
238.02	241.62			FZBX	fragmental fault breccia	Same as 226.15-235.11m.																												
241.62	242.80			F	Felsic Dike	White to light grey, med grained, v hard, equigranular rock composed of feldspar and quartz. Strong to intense, pervasive silicification overprint that has destroyed the texture in spots. At 242.2m is one large, 6cm wide, white quartz vein at 90 deg to CA and containing a large cluster of fg, brassy py. Trace mm wide white quartz veinlets oriented at 20-25 deg to CA. Sharp upper contact at 120 deg to CA. Sharp lower contact oriented at 85 deg to CA.									white to light grey	4-5																pervasive		
242.80	300.23	242.80	248.82	FZBX	silicified (mod) fragmental fault breccia	Same as 226.15-235.11m. An increase in marbled looking white quartz containing blotches of brown biotite (phlogopite) alteration--> magnesium alteration. An increase in blotches of red hematite and specular hematite. An increase in propylitic alteration (epidote). The previously mentioned pinkish-beige fragments may have undergone potassic alteration--> clasts of felsic dike? Gradational lower contact.																2						2						
		248.82	252.07	FZBX	clay altered + silicified (mod) fragmental fault breccia	Light grey to beige, fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. Trace fg disseminated py. Trace, blotchy, bright red-orange hematite staining throughout. Strong, silicification overprint. Trace, late stage, sub-cm, white carbonate veinlets, generally void of py mineralization and generally oriented at 0 deg to CA. Gradational upper contact. Sharp lower contact with a fault at 95 deg to CA. INTERP: multi-phase brecciation that has seen clasts welded together at high pressure. NOT a hydrothermal breccia.	tr							disseminated	light grey to beige	4								2				2				4	pervasive-clay, sil (overprint) blotchy-hem, chl	
		252.07	252.49	FZ	fault	Abundant blocky, rubbly core and minor gouge on cleavage and fracture planes. Upper contact sharp at 90 deg, but unsure if this is the orientation of the fault. Rubbly lower contact.																												
		252.49	255.42	FZBX	clay altered + silicified (mod) fragmental fault breccia	Light grey to beige, fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. Trace fg disseminated py. Trace, blotchy, bright red-orange hematite staining throughout. Strong, silicification overprint. Trace, late stage, sub-cm, white carbonate veinlets, generally void of py mineralization and generally oriented at 0 deg to CA. Gradational upper contact. Sharp lower contact with a fault at 95 deg to CA. INTERP: multi-phase brecciation that has seen clasts welded together at high pressure. NOT a hydrothermal breccia.	tr							disseminated	light grey to beige	4								2				2				4	pervasive-clay, sil (overprint) blotchy-hem, chl	
		255.42	258.87	FZBX	silicified (mod) fragmental fault breccia	Same as 226.15-235.11m. An increase in marbled looking white quartz but no phlogopite this time. Blotches of red hematite and specular hematite. Blotches of propylitic alteration (epidote). The clasts are larger and more deformed in this interval. At 255.5m is a section of intense ductile deformation of the foliation forming tight M-shaped folds. From 258.04-258.47m is a section of almost entirely white quartz that appears to be coiled on itself in tight isoclinal folds and occurred at the same time as deformation (INTERP). total of 15% veining. Lower contact is sharp at 40 deg to CA.									d green	4							2					2			pervasive-chl blotchy- epi, hem			

Charlotte Project
DDH-12-278 Detailed Log

Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
								tr	mm scale	carb	py, hem	mafic gneiss	100	rounded to subangular	quartz/ none	tr	3-4	40	sharp	160	sharp, irregular
235.11	238.02						150, 60	tr	1mm	carb								160	sharp, irregualr		gradational
							30, 145	1-2	6cm	qtz-carb	py, asp	sericited altered QFP	10	angular	qtz carb	90	1		gradational	110	sharp, irregular
238.02	241.62																				
241.62	242.80						90, 20-25	2-3	6cm, mm scale	qtz	py							120	sharp	85	sharp
242.80	300.23	botches																85	sharp		gradational
							0	tr	sub-cm	carbonate									gradational	95	sharp
							0	tr	sub-cm	carbonate									rubbly		gradational
							isoclinal folds	15		white qtz	py								gradational	40	sharp

Charlotte Project
DDH-12-278 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		258.87	260.08	FZ	fault	The upper 50cm of the interval is blocky, rubbly core, but after that is abundant rubble and gouge, suggesting a moderately intense shear zone. Fragments are of the previous interval. Both the upper and lower contact are somewhat obscure, but the upper contact has been measured at 40 deg to CA and the lower contact has been measured at 30 deg to CA.																											
		260.08	261.26	FZBX	silicified (mod), clay altered fragmental fault breccia	Same as 252.49-255.42m. Sharp upper contact at 30 deg to CA. Sharp lower contact at 40 deg to CA.																											
		261.26	263.04	FZ	fault	Blocky, rubbly core with very little gouge. Contacts are obscure, but the upper contact has been measured at 40 deg to CA.																											
		263.04	264.23	FZBX	silicified (mod), clay altered fragmental fault breccia	Same as 252.49-255.42m. There appears to be 'felsic dike' material as a possible matrix that is entirely surrounding clasts (see 363.1m in photos). Previous to this a matrix was all, but non existent.																											
		264.23	265.39	FZ	fault	Rubbly core and abundant gouge near the upper contact. Many fragments have undergone strong, pervasive clay alteration. Moderate shear. The upper contact is sharp at 30 deg to CA and has a polished fracture plane with slickensides. The lower contact is rubbly and obscure.																											
		265.39	266.39	FZBX	silicified (mod), clay altered fragmental fault breccia	Same as 252.49-255.42m. Few pale yellow to green altered fragments (sericite) seen for the first time since 224.71m. Abundant red-orange hematite blebs throughout.																											
		266.39	266.93	FZ	fault	Highly fractured up, but still semi-competent core that was once a crackle breccia? Abundant gouge and rubble proximal to the upper contact. Moderate shear. The upper contact is sharp at 65 deg to CA. The lower contact is sharp but orientation is unknown because the contact has been rounded by the drill bit.																											
		266.93	268.72	FZBX	silicified (mod), clay altered fragmental fault breccia	Same as 252.49-255.42m. Weak crackle breccia of the upper 70cm.																											
		268.72	269.31	FZ	fault	Blocky, rubbly core. Upper contact is sharp at 40 deg to CA and has minor gouge on the fracture plane, rubbly lower contact.																											
		269.31	270.39	FZBX	silicified (mod), clay altered fragmental fault breccia	Same as 252.49-255.42m.																											
		270.39	272.54	FZBX	silicified (str), carbonate altered fragmental fault breccia	Fragmental breccia consisting of >95% clasts and <5% matrix. Moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of mostly chlorite altered and unaltered mafic gneiss, but also muscovite altered mafic gneiss and white + grey quartz. There is one clast with sharp contacts that is of 'felsic dike' or QFP composition. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. There is also some pistachio green epidote usually associated with quartz. Very rare, distorted, blebby grey, quartz veins of variable thickness throughout, likely emplaced syn-deformation (matrix?). Strong pervasive carbonate alteration, strong, pervasive silicification overprint. Trace, late stage, white carbonate veinlets. Sharp upper contact at 115 deg to CA. Sharp lower contact at 110 deg to CA. Trace fg disseminated and blebby py in random clasts.	tr						disseminated, blebby	medium grey to d green	4				4								3						pervasive
		272.54	280.64	FZBX	silicified (str), clay altered, carbonate altered fragmental fault breccia	Light grey to beige, fragmental breccia consisting of 90% clasts and 10% matrix. Moderate, pervasive clay alteration of breccia. moderate, pervasive, carbonate alteration. The clasts are sub-angular to rounded and vary in size from sub cm to >10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is in rare locations and is med to coarse grained, with a bit of a wormy appearance. The matrix is composed of feldspar and quartz (see 275.4m and 277.6m) It appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. Trace fg disseminated py. Strong, silicification overprint. From approximately 273.8-277.6m is trace randomly oriented, qtz-carb veinlets containing blue grey, v soft molybdenite, red hematite and possible vfg stibnite? Trace, late stage, sub-cm, white carbonate veinlets, generally void of py mineralization and generally oriented at 20-40 deg to CA. The upper 20cm of the litho are plastically deformed quartz inter-foliated with sericite altered rock and show a M-fold. Chlorite alteration picks up down hole. The upper sharp upper contact at 110 deg to CA. sharp lower contact with a fault at 40 deg to CA. INTERP: multi-phase brecciation that has	tr						disseminated	light grey to beige	4				3							2				3		pervasive	
		280.64	280.82	FZ	fault	Blocky, rubbly ground up core with abundant fault gouge.																											
		280.82	289.93	FZBX	clay altered (w), fragmental fault breccia	Light grey, fragmental breccia consisting of >95% clasts and <5% matrix. moderate, pervasive clay alteration of breccia. The clasts are sub-angular to rounded and vary in size from sub cm to 10cm wide. They are made up of clay altered mafic gneiss, and white + grey quartz. The matrix is basically non-existent and it appears that the clasts have been welded together at high pressure. Foliation is multi-directional and suggests plastic deformation. There is also some greeny-yellow clay (?) sericite(?) within the clasts. Abundant distorted, blebby grey, quartz veins of variable thickness throughout, likely emplaced syn-deformation (total 10%). 2-3% fg blebby and disseminated py. Trace, late stage, white carbonate veinlets, sometimes containing trace fg py. Sharp upper contact. Gradational lower contact.	2-3						blebby, disseminated	light grey				1											3		pervasive-clay sporadic-ser		

Charlotte Project
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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins					Brecciation						Upper Contact		Lower Contact	
From	To						to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
				3														40	sharp,obscure	30	sharp, obscure
																		30	sharp	40	sharp
																		40	sharp		
				3														30	sharp		
				3														65	sharp		
																		40	sharp		
							blebby	tr	variable	qtz		chlorite altered mafic gneiss	>90	rounded to sub-angular		<5	3-4	115	sharp	110	sharp
							20-40	tr	mm scale, sub-cm	carb	py, moly, hem	altered mafic gneiss	90	rounded to sub-angular	qtz+feld intrusive?	10	3-4	110	sharp	40	sharp
							blebs	10	variable	quartz	py										

Charlotte Project
DDH-12-278 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		289.93	293.75	FZBX	silicified (str), carbonate altered fragmental fault breccia	Same as 270.39-272.54m. 2-3% fg, disseminated and blebby py. From 289.93-290.88m the chlorite altered breccia has undergone strong, pervasive clay alteration--> possible micro-shears as well. This strongly clay altered interval is book-ended by a tan coloured, soft, feldspar phyric, dike that is strongly carbonaceous. Sharp upper contact at 95 deg to CA. Gradational lower contact.	2-3							disseminated, blebby	d green						4							4				3	pervasive-chl, carb localized-clay
		293.75	296.10	FZBX	clay altered (w), fragmental fault breccia	Same as 280.82-289.93m.																											
		296.10	298.87	FZ	fault	Blocky, rubbly core with abundant ground-up gouge and gravel-like core. Moderate to strong shear.																											
		298.87	300.23	FZBX	clay altered (w), fragmental fault breccia	Same as 280.82-289.93m.																											
					EOH	EOH!																											

Charlotte Project
DDH-12-278 Detailed Log

Primary Intervals		Foliation to CA	Shearing		Fractures		Veins					Brecciation						Upper Contact		Lower Contact	
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
								tr	mm scale	quartz- carb								95	sharp		gradational
				3-4																	

**Charlotte Project
DDH-12-278 Down Hole Surveys**

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	TMP	GVR	MTF	DLG	Date/Time	Comment
35	10.67	57.6	79.6	-55.4	18412	59.7	0.996	NA	302.8	64.9	-298.49	14/07/2012 6:18	Erroneous
65	19.81	300.6	322.6	-56.0	96022	75.6	0.995	NA	205.3	51.5	-277.96	14/07/2012 6:16	Erroneous
95	28.96	46.8	68.8	-56.5	59720	76.3	0.995	NA	96.0	252.7	-11.7	14/07/2012 6:14	Erroneous
125	38.10	51.0	73.0	-56.9	57078	76.5	0.997	NA	350.5	146.4	-0.84	14/07/2012 6:12	
155	47.24	51.3	73.3	-56.9	57082	76.6	0.995	NA	100.8	257.1	-3.01	14/07/2012 6:10	
185	56.39	50.4	72.4	-57.3	57063	76.7	0.996	NA	314.5	110.8	-1.45	14/07/2012 6:08	
215	65.53	49.9	71.9	-57.5	57034	76.5	0.997	NA	267.7	63.5	-3.48	14/07/2012 6:07	
245	74.68	51.1	73.1	-57.7	57104	76.6	0.996	NA	66.7	222.3	-0.85	14/07/2012 6:05	
275	83.82	51.2	73.2	-57.9	57102	76.5	0.995	NA	132.1	287.3	-3.75	14/07/2012 6:03	
305	92.96	49.9	71.9	-58.2	57035	76.6	0.997	NA	278.1	73.3	-4.11	14/07/2012 6:02	
335	102.11	51.4	73.4	-58.4	57121	76.6	0.995	NA	109.7	264.5	-3.53	14/07/2012 6:00	
365	111.25	50.1	72.1	-58.6	57053	76.5	0.997	NA	270.9	65.7	-2.47	14/07/2012 5:57	
395	120.40	51.0	73.0	-58.6	57111	76.6	0.998	NA	28.1	183.0	-0.45	14/07/2012 5:56	
425	129.54	51.0	73.0	-58.7	57111	76.6	0.998	NA	16.3	171.0	-0.9	14/07/2012 5:54	
455	138.68	51.0	73.0	-58.5	57178	76.7	0.997	NA	51.6	206.7	-3.29	14/07/2012 5:52	
485	147.83	49.9	71.9	-58.8	57071	76.5	0.997	NA	249.8	44.4	-1.31	14/07/2012 5:50	
515	156.97	50.4	72.4	-58.8	57113	76.7	0.998	NA	35.3	190.2	-0.69	14/07/2012 5:48	
545	166.12	50.2	72.2	-58.8	57077	76.7	0.997	NA	327.2	122.1	-0.97	14/07/2012 5:46	
575	175.26	50.1	72.1	-59.1	57116	76.6	0.997	NA	57.6	212.1	-1.83	14/07/2012 5:44	
605	184.40	50.4	72.4	-59.6	57032	76.7	0.996	NA	107.3	261.5	-3.98	14/07/2012 5:42	
635	193.55	49.0	71.0	-59.5	57081	76.4	0.996	NA	169.6	323.3	-0.61	14/07/2012 5:40	
665	202.69	49.1	71.1	-59.7	57078	76.6	0.996	NA	94.6	248.7	-1.03	14/07/2012 5:38	
695	211.84	48.9	70.9	-59.9	56948	76.4	0.996	NA	163.2	316.5	-1.05	14/07/2012 5:36	
725	220.98	49.3	71.3	-59.9	56949	76.5	0.996	NA	147.6	301.2	-2.67	14/07/2012 5:34	
755	230.12	50.2	72.2	-60.1	57085	76.7	0.996	NA	132.3	286.0	-2.12	14/07/2012 5:32	
785	239.27	49.4	71.4	-60.1	56985	76.6	0.997	NA	59.5	213.2	-1.42	14/07/2012 5:30	
815	248.41	49.9	71.9	-60.0	57009	76.6	0.996	NA	131.2	284.8	-1.83	14/07/2012 5:28	
845	257.56	49.3	71.3	-59.9	57023	76.5	0.996	NA	161.4	315.0	-2.29	14/07/2012 5:27	
875	266.70	48.5	70.5	-59.8	56949	76.7	0.996	NA	227.8	21.9	-0.49	14/07/2012 5:25	
905	275.84	48.6	70.6	-59.8	57046	76.7	0.997	NA	24.2	178.5	-0.97	14/07/2012 5:23	
935	284.99	48.3	70.3	-59.8	56996	76.7	0.998	NA	320.0	114.3	-0.89	14/07/2012 5:21	
965	294.13	48.6	70.6	-59.9	56988	76.6	0.997	NA	315.5	109.5	0	14/07/2012 5:19	

Charlotte Project
DDH-12-278 Sample Intervals

Sample Dispatch

Property: CHARLOTTE Date: July 9, 2012

No.	Sample #	Drill Hole	From	To	Type	Au (g/t) G6	Ag (g/t) 7AR	Ag (g/t) G6GR
1	1748878	DDH-12-278			BLANK	<0.005	<2	
2	1748879	DDH-12-278	89.32	91.28	mafic gneiss	0.014	<2	
3	1748880	DDH-12-278	91.28	91.95	fault breccia	0.144	3	
4	1748881	DDH-12-278	91.95	92.27	fault breccia w/ ASP	2.643	6	
5	1748882	DDH-12-278	92.27	93.10	fault breccia	0.143	<2	
6	1748883	DDH-12-278	93.10	94.56	mafic gneiss	0.414	4	
7	1748884	DDH-12-278	94.56	96.50	mafic gneiss	0.544	119	
8	1748885	DDH-12-278	96.50	98.50	mafic gneiss	0.158	3	
9	1748886	DDH-12-278	98.50	100.60	mafic gneiss	0.055	<2	
10	1748887	DDH-12-278	100.60	102.29	FZ breccia	0.296	2	
11	1748888	DDH-12-278	102.29	103.30	FZ breccia	0.052	<2	
12	1748889	DDH-12-278	103.30	104.02	FZ breccia	2.167	8	
13	1748890	DDH-12-278	104.02	105.68	clay altered mafic gneiss	0.088	5	
14	1748891	DDH-12-278	105.68	107.23	FZ breccia	0.148	3	
15	1748892	DDH-12-278	107.23	109.49	clay altered mafic gneiss	0.013	<2	
16	1748893	DDH-12-278	115.21	117.04	clay altered mafic gneiss	<0.005	<2	
17	1748894	DDH-12-278	117.04	118.41	clay altered mafic gneiss	0.011	<2	
18	1748895	DDH-12-278			STANDARD CND-GS-5H	4.101	52	
19	1748896	DDH-12-278	118.41	120.43	fragmental breccia	0.013	2	
20	1748897	DDH-12-278	120.43	121.96	clay altered mafic gneiss	0.062	4	
21	1748898	DDH-12-278	121.96	124.00	FZ Mafic Gneiss	0.051	2	
22	1748899	DDH-12-278	124.00	126.01	FZ Mafic Gneiss	0.044	<2	
23	1748900	DDH-12-278	126.01	127.78	clay altered mafic gneiss	0.093	<2	
24	1748901	DDH-12-278			BLANK	<0.005	<2	
25	1748902	DDH-12-278	127.78	129.46	FZ Mafic Gneiss	0.034	<2	
26	1748903	DDH-12-278	129.46	130.77	FZ Breccia	0.121	6	
27	1748904	DDH-12-278	130.77	132.54	clay seam	0.062	<2	
28	1748905	DDH-12-278	132.54	134.99	clay seam	0.111	<2	
29	1748906	DDH-12-278	159.44	161.12	clay altered mafic gneiss	<0.005	<2	
30	1748907	DDH-12-278	161.12	162.95	clay altered mafic gneiss	<0.005	<2	
31	1748908	DDH-12-278	162.95	163.41	clay altered mafic gneiss	0.01	<2	
32	1748909	DDH-12-278	163.41	164.94	clay altered mafic gneiss	<0.005	<2	
33	1748910	DDH-12-278	164.94	165.91	clay altered mafic gneiss	0.012	<2	
34	1748911	DDH-12-278	165.91	166.89	clay altered mafic gneiss	0.043	<2	
35	1748912	DDH-12-278	166.89	168.85	clay altered QFP	0.005	<2	
36	1748913	DDH-12-278	168.85	172.86	FZ QFP	0.005	<2	
37	1748914	DDH-12-278	172.86	174.53	clay altered mafic gneiss	0.006	<2	
38	1748915	DDH-12-278			STANDARD CND-GS-10D	9.399	3	
39	1748916	DDH-12-278	174.53	176.19	clay altered mafic gneiss	0.086	<2	
40	1748917	DDH-12-278	176.19	178.00	fault breccia	0.054	<2	
41	1748918	DDH-12-278	178.00	180.00	fault breccia	0.073	<2	
42	1748919	DDH-12-278	180.00	182.00	fault breccia	0.055	<2	
43	1748920	DDH-12-278	182.00	183.85	fault breccia	0.258	2	
44	1748921	DDH-12-278	183.85	184.46	fault breccia	0.689	3	
45	1748922	DDH-12-278	184.46	184.90	sulphide rich breccia	5.279	11	
46	1748923	DDH-12-278	184.46	184.90	DUPLICATE OF 1748922	3.162	10	
47	1748924	DDH-12-278			BLANK	0.009	<2	
48	1748925	DDH-12-278	184.90	185.32	sulphide rich breccia	3.822	27	
49	1748926	DDH-12-278			BLANK	0.008	<2	
50	1748927	DDH-12-278	185.32	185.82	sulphide rich breccia	9.827	93	
51	1748928	DDH-12-278			BLANK	0.012	<2	
52	1748929	DDH-12-278	185.82	186.88	clay altered mafic gneiss	1.521	5	
53	1748930	DDH-12-278	186.88	187.76	sulphide rich breccia	3.647	6	
54	1748931	DDH-12-278	187.76	188.54	rubbly sulphide rich breccia	4.774	>300	293
55	1748932	DDH-12-278			BLANK	0.011	<2	
56	1748933	DDH-12-278	188.54	188.89	sulphide rich breccia	0.176	2	
57	1748934	DDH-12-278	188.89	190.00	clay altered QFP	0.369	3	
58	1748935	DDH-12-278			STANDARD CND-GS-P3C	0.277	<2	
59	1748936	DDH-12-278	190.00	191.41	clay altered QFP	0.208	<2	
60	1748937	DDH-12-278	191.41	191.60	sulphide rich rubble (appears to be out of place)	5.808	125	
61	1748938	DDH-12-278			BLANK	0.009	<2	
62	1748939	DDH-12-278	191.60	193.70	clay altered QFP	0.116	<2	
63	1748940	DDH-12-278	193.70	195.00	clay altered QFP	0.361	4	
64	1748941	DDH-12-278	195.00	197.00	clay altered QFP	0.13	<2	
65	1748942	DDH-12-278	197.00	199.00	clay altered mafic gneiss	0.094	<2	
66	1748943	DDH-12-278	199.00	201.00	clay altered mafic gneiss	0.086	<2	
67	1748944	DDH-12-278	201.00	203.00	clay altered mafic gneiss	0.034	<2	
68	1748945	DDH-12-278	203.00	205.00	FZ Mafic Gneiss	0.013	<2	
69	1748946	DDH-12-278	217.77	219.64	silicified gneiss	0.007	<2	
70	1748947	DDH-12-278	219.64	220.00	beige clay altered gneiss with sulphide veinlets?	0.008	<2	
71	1748948	DDH-12-278	220.00	220.73	chlorite altered gneiss ***	0.009	<2	
72	1748949	DDH-12-278	235.61	237.73	QFP	0.009	<2	
73	1748950	DDH-12-278	237.73	238.02	sericite altered QFP w/ sulphide	1.152	17	
74	1748951	DDH-12-278			BLANK	0.008	<2	
75	1748952	DDH-12-278	238.02	241.75	fragmental fault breccia	0.011	<2	
76	1748953	DDH-12-278	272.04	273.91	clay, carb, sil fragmental fault breccia	0.011	<2	
77	1748954	DDH-12-278	273.91	275.84	clay, carb, sil fragmental fault breccia	0.007	<2	
78	1748955	DDH-12-278	275.84	277.72	clay, carb, sil fragmental fault breccia	0.008	<2	

***box dropped after logging- shoulder sample meterage was changed to account for this

Property: Charlotte
Area: Flex
Client: Ansell Capital Corp.

Hole Id: DDH-12-279

Logged By: Nicola Struyk
Date Logged: August 12 - 16, 2012



Collar Location:			
Actual:			
Datum:	<u>NAD83, Zone 8</u>	Azimuth:	<u>094.1 °</u>
Easting:	<u>386876</u>	Dip:	<u>-70.7 °</u>
Northing:	<u>6881496</u>	Length:	<u>273.71 m</u>
Elevation:	<u>1255</u>		
Proposed:			
Easting:	<u>386876</u>	Azimuth:	<u>095 °</u>
Northing:	<u>6881496</u>	Dip:	<u>-71 °</u>
Elevation:	<u>1255</u>	Length:	<u>300 m</u>

Drilling Information:	
Contractor:	<u>DJ Drilling</u>
Core Diameter:	<u>HQ</u>
Start Date:	<u>10-Aug-2012</u>
End Date:	<u>15-Aug-2012</u>
Casing In:	<u>Yes</u>
Casing Capped:	<u>Yes</u>
Units:	<u>Metric</u>

Hole Objective:
To test the possible southeast extension to the intersection in 278.

Hole Summary:

DDH-12-279 was collared from the same pad as DDH-12-279, but angled to the SE under Flex Creek. The hole intersected similar lithologies as in 278. The hole collared in a strongly weathered grey variably siliceous well foliated Mafic Gneiss to 56.59 m. Foliation is between 65-80 degrees to core axis (deg tca). The gneiss has variable alteration with short intersections that were had weak crackle breccia texture and were moderately contorted in patches. Minor epidote and biotite were seen in the gneiss and gradually decreased down unit as clay and silica alteration increases. As clay and silicification increases below 56.59m, the gneiss was named felsic gneiss to represent the change in alteration. Felsic gneiss represents both intrusive and volcanoclastic lithologies and is representative of alteration and deformation rather than parent lithologies. Narrow QFP dykes crosscut unit throughout and increase downunit with the intrusion of strongly clay altered granodiorite down hole. Limonite is strong and pervasive in the upper 40.00m of the hole and gradually becomes restricted to fractures downunit and disappears by 104.44m. Strong brecciation appears at 83.77m as short intervals of cataclastic matrix supported breccia intervals and increases significantly below the fault at 112m to a large fragmental clast supported breccia by the end of hole. Disseminated and clotty pyrite appears in 2-3% throughout the breccia. The first major fault zone, and also the Hanging Wall Vein, appears at 104.44 to 105.95m and consist of weakly sulphide rich gouge, and then again between 107-112 m. Mafic minerals are not seen below 112m until 255.09m. The alteration below 112m is variable moderately argillic and white clay with patches of silicification in both the granodiorite and fragmental breccia. The Main Vein was intersected between 162.97-183.6m as a series sulphide quartz vein breccias with variable amounts of carbonate rather than a large massive sulphide vein seen in the northern and middle pods. The Footwall Vein was intersected in a narrow vein breccia between 242.77-243.23m @ 0-20 deg tca. This vein also has stringers of black sulphide-quartz veins on either side. The hole terminates in the fragmental breccia with minor pyrite and hematite at 273.71m.

Mineralization: Mineralization in the mafic gneiss is generally limited to disseminated pyrite with minor hairline pyrite stringers crosscutting unit at 20 or 70 deg tca. At 40.44 m a 1cm pyrite + arsenopyrite vein was intersected at 40 deg tca. Mineralization below fault at 107-112 increases to an average of 1-3% in both disseminations, clotts and veins. Arsenopyrite needles are seen in narrow veins sporatically throughout. The unique thing about this hole is that the black sulphide stringers and veins were narrower than seen in the northern part of the hole, but appear to be more widely distributed throughout the fragmental breccia. Overall there are two series of sulphide veins, one at 10-30 and another at 60-80 deg tca.

The comparison between 278 and 279: the Gd intersected higher in the hole in 279 (69 rather than 84) is a much larger interval and is less altered overall. The unit in 278 is entirely clay altered where as in 279 there are patches that are fresher and more silica rich. The mafic gneisses here are finer than in the northern part of the deposit. It appears that the intervals with increase in contorted quartz veins also have a corresponding vuggy nature that is more susceptible to limonite staining. The intervals also have an obvious increase in siliceous alteration. Breccia veins with carbonate appear to be the good ones. fragmental breccia in this hole is more mineralized than that logged in 278. Closer to source? mineralization centre? The sulphide veins in this hole are significantly more narrow than seen in other parts of the deposit. They do not contain as much sulphide, sulphides appear to be limited to pyrite, arsenopyrite and cpy. Only trace sphalerite was seen. This hole indicates a possible transition from the vein environment to porphyry environment. The large quantity of disseminated pyrite with black sulphides that rim is perplexing and could easily be the pyrite halo associated with porphyry environments. White anastomosing and broken quartz veins are seen in patches throughout the hole, but concentrated within the gneiss. The veins are related to the increase in silicification over the interval in which they appear.

Survey Type: Ranger Multi Shot			
Distance	Azi	Dip	Accept
32.93	094.1	-70.7	
51.22	093.4	-70.9	
106.10	094.7	-71.5	
151.83	091.5	-72.6	
197.56	090.7	-73.4	
252.44	090.3	-73.3	
270.73	087.6	-73.5	

Lithology Summary			
From	To	Lith	Comment
0.00	24.08	CAS/OB	Casing/overburden
24.08	68.91	MGn	Biotite+/-chlorite+/-pyrite Mafic Gneiss
68.91	74.00	Gd	Altered fine grained granodiorite
74.00	80.40	MGn	Sericite rich Mafic Gneiss
80.40	81.57	Gd	Altered fine grained granodiorite
81.57	104.44	MGn	Mafic Gneiss
104.44	105.95	FZ	Sulphide rich Fault Zone
105.95	107.75	FGn	Felsic Gneiss
107.75	112.16	FZ	Fault Zone
112.16	133.89	MGn	Altered Mafic to Felsic Gneiss
133.89	134.68	Gd	Clay altered granodiorite
134.68	136.40	FGn	Felsic Gneiss
136.40	143.33	Gd-xz	Brecciated and faulted granodiorite
143.33	148.20	QFP	Quartz feldspar porphyry
148.20	170.57	FGn	Brecciated Felsic Gneiss intercalated with Granodiorite
170.57	159.11	FGn-xz	Sulphide rich brecciated and faulted Felsic Gneiss
159.11	159.91	FGn-xz	Sulphide rich brecciated and faulted Felsic Gneiss
159.91	162.33	FZBX	Faulted sulphide-rich Breccia
162.33	162.97	SXBX	Sulphide breccia vein
162.97	163.43	SXBX	Sulphide breccia vein
163.43	170.57	FZ	Fault Zone
170.57	174.32	FZ	Fault Zone
174.32	175.65	Gd	Clay altered granodiorite
175.65	177.72	FGn-zx	Brecciated and Faulted Felsic Gneiss
177.72	178.22	BX	Sulphide Breccia
178.22	179.67	Gd-x	Brecciated clay altered granodiorite
179.67	180.38	FGn	Felsic Gneiss
180.38	183.60	FGn-Sx	Sulphide brecciated Felsic Gneiss
183.60	186.72	FGn-x	Brecciated Felsic Gneiss
186.72	193.46	BX	Fragmental Breccia
193.46	195.39	QFP-z	Altered Feldspar porphyry
195.39	218.41	BX	Fragmental Breccia
218.41	222.24	QFP	Quartz Feldspar Porphyry
222.24	224.82	FZ	Fault Zone
224.82	225.70	SXBX	Sulphide Breccia
225.70	232.05	BX	Fragmental Breccia
232.05	232.91	SXBX	Sulphide Breccia
232.91	242.77	BX	Fragmental Breccia
242.77	243.23	SXBX	Sulphide Breccia
243.23	273.71	BX	Fragmental Breccia

Charlotte Project
DDH-12-279 Detailed Log

Hole Id: DDH-12-279
Logged By: N. Struyk

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
0.00	15.55			CAS	Casing	Casing																									
15.55	24.08			OB	Overburden	Overburden: rubble with varying lithologies. Pebbles are from 1 -10cm long and are rounded to subrounded. Lithologies vary from a pale QFP, MGn, Muscovite schist and foliated diorite. Interval has poor recovery.																									
24.08	36.70			MGn	Mafic Gneiss	This unit consists of well foliated mafic gneiss with small QFP dykes cross cutting parallel to foliation and variable alteration. The gneiss consists of biotite and chlorite with quartz, plagioclase and epidote. Alteration is dominated by weathering in the upper 31.12m, and gradually decreases down hole. From 30m down unit, the alteration is dominated by silica. Small hairline fractures are seen throughout the unit and range from 0-80 deg to ca. Foliation is predominantly at 70-80 deg tca. White broken quartz veins are seen 2/metre parallel to foliation, occasionally anastomosing and are not mineralized. The veins have moderately to strong limonitic staining with trace pyrite and are 0.5-1cm wide. Minor faults are seen cross cutting both the quartz veins and foliation @ 20 deg tca. Mn-oxide dentritic patterns along fractures. Epidote can be seen throughout the core, but is concentrated below 30m. Occasional carbonate vein cross cuts unit. Below 31.12m,1-3cm vugs start to appear with clear epidote crystals growing inside. In the more siliceous zones, quartz bands are more common parallel to core axis.	1-2	0	0	0	0	0	disseminated	orangy green	2	0	0	1	0	0	0	2	0	0	0	2	0	1	0	0	pervasive, fracture controlled
	24.02	31.12				Strong weathering.								orangy green	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	fracture controlled	
	24.08	24.46		Di	Foliated diorite	Siliceous dark grey to green diorite with disseminated pyrite.																									
	24.46	25.06		FZ	Fault Zone	Poor recovery. Lots of rubble and gouge. No core angles could be taken.																									
	26.00					Foliation @ 70 deg tca.																									
	26.92	27.04		QFP	Quartz feldspar porphyry	pPale brown to orange, strongly Fe-stained QFP. Phenos 1-2mm.																									
	28.45	28.65		FZ	Fault Zone	Rubble and gouge, no core angles could be taken.																									
	31.12	34.00		MGn	Mafic Gneiss	Increase in silica alteration.								light grey	3	0	0														
	32.92					Appearance of carbonate. Veins @ 40 deg tca.																									
	33.70	36.70				Moderate broken and blocky core.																									
	34.00	36.70		MGn	biotite-sericite mafic Gneiss	Decrease in silica alteration, increase in limonite and sericite wisps.								orangy grey	1	0	0	2	0	0	0	3	0	0	0	0	0	2	0	0	Pervassice, fracture controlled
36.70	38.97			MGn-x	Brecciated Mafic Gneiss	As above except strongly silicified with 2-3% blebby pyrite 0.5% pyrite stringers. Diamond shaped tany-pinky brown titanites found in strongly silicified patches.	3	0	0	0	0	0	clotty/blebby	orangy grey	4	0	0	2	0	0	0	3	0	0	0	0	0	0	0	1	vein and fracture controlled
	37.41	37.51				Brecciated quartz feldspar vein/intrusion @ 65 deg tca. Moderately iron stained with 1-2% blebby pyrite.																									
38.97	39.27			MGn-z	Faulted biotite mafic gneiss	Faulted and rubbly MGn. Only weakly broken and faulted. Fractures @ 65 deg tca. Minor gouge.	tr	0	0	0	0	0	disseminated	orangy brown	1	0	0	1	0	0	0	3	0	0	0	0	0	0	0	2	fracture controlled
39.27	56.59			MGn	biotite-sericite mafic Gneiss	As between 24-36.7 except: less weathered, stronger silica + sericite+/-ep+/-chl alteration. Hairline pyrite stringers crosscut at irregular angles but are mostly at 20-30 deg tca. The edges of the stringers are weathering to FeOx and are variably vuggy. Epidote is visible in clear bands as well as in patches. The quartz bands have a lensoid shape suggesting possible boudins? 1-2% disseminated pyrite, parallel to foliation @ 65-70 deg tca. The lower contact is faulted with a less silica altered and more granular MGn. The lower 40cm is contorted, has increased limonitic stained and vuggy quartz + limonite veins.	1-2	tr	0	0	0	0	disseminated, vein hosted	greeny-grey																	
	40.44			SXVN		0.5cm arsenopyrite + pyrite vein @ 40 deg tca.																									
	41.79	41.99		QFP		Porphyry quartz porphyry @ 80 deg tca. It contains 1% finely disseminated pyrite and other black sulphides.																									
	44.09	45.50		MGn		Granular looking MGn with weak silica alteration. Hairline quartz + sericite bands parallel to foliation. Moderate limonitic staining along fractures. Trace pyrite. No other visible sulphides. Hairline sericite or quartz stringers cross cut unit @ 10-20 deg tca.	tr	0	0	0	0	0	disseminated	pale grey	1	1	0	1	0	0	0	3	0	0	0	0	0	0	0	1	
	44.00					Foliation @ 70 deg tca.																									
	45.50	49.44		MGn		Increase in silica alteration with chlorite and epidote blebs. Foliation @ 80 deg tca. Trace pyrite. Occasional clots of black sulphides. Trace calcite. Intervals of increased contortion and broken quartz veins.	tr	0	0	0	0	tr	disseminated, clotty	pale greeny grey	4	0	0	3	1	0	0	1	0	0	0	2	0	2	0	0	pervasive, patchy
	44.44	52.83		MGn		Granular looking MGn with weak silica alteration as 44.09-45.5. <1cm white broken quartz veins parallel to foliation.																									
	48.80	49.14				Broken core.																									
	51.20	51.58				Blocky and broken core.																									
	52.83	53.42				Limonitic, weakly pyritic quartz vein. Pyrite occurs in blebs up to 1cm.																									
	53.42	55.25				Siliceous dark grey MGn. Fol @ 85-90 deg tca.																									
	55.25	55.78				Limonitic granular MGn. Fol @ 80 deg tca. Weakly broken quartz veins are parallel tca or ptigmatic.																									
	55.78	56.59				Limonitic granular MGn with 20% broken quartz veins with sericite whips throughout. Quartz veins are moderately contorted and parallel to foliation at 70 deg tca and are weakly broken. Pyrite blebs throughout (2%). Vugs in quartz veins are ankerite and weakly calcareous.																									

Charlotte Project
DDH-12-279 Detailed Log

Hole Id:
Logged By:

Primary Intervals		Foliation to CA	Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact	
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA
0.00	15.55																			
15.55	24.08																			
24.08	36.70	70-80			70-80	3												65	sharp	
							40	<1	1cm											
36.70	38.97	65									MGn	95	A	silica/limo nite	5	1	65	sharp	65	sharp
38.97	39.27				65	4											65	sharp		broken
39.27	56.59	65-70																broken	-	gougey
							40		0.5	py, apy										
		80																		
		85-90																		
		80																		

Charlotte Project
DDH-12-279 Detailed Log

Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																		
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
56.59	57.40	56.59	57.40	FZBX	Fault Breccia	Fault zone breccia. Strongly Limonitic with quartz clasts <1cm and ground up black matrix (sulphides?). Upper contact is fault gouge and rubble over 10cm, lower contact is sharp and serrated at roughly 90deg tca. Large vugs throughout up to 1cm wide and 3 cm long. Trace sulphides. Flow appears to be between 40-70 deg tca.	tr	0	0	0	0	tr	disseminated	orangy black	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	pervassive	
57.40	61.83			MGn	Granular Mafic Gneiss	Granular MGn as seen between 55.78-56.59. Strongly limonitic, relic dark grey siliceous bands. Occasional vuggy qtz vein parallel to ca. @ 70 tca. Vugs caused by leached out pyrite? Hairline fractures @ irregular angles.	0	0	0	0	0	0		orangy grey	1	3	0	1	0	0	0	4	tr	0	0	0	0	0	0	3	fracture controlled, pervassive	
61.83	62.79			FZBX	Fault Breccia	Fault breccia, similar to 56.59-56.90. Strongly limonitic, weakly pyrite. Black sulphides within matrix but cannot identify them, not magnetic. Lower 10cm is extremely gougey. Angles range from 70 to 90. Middle 30 cm is more clast supported with clasts up to several cm consisting of grey MGn and mostly limonitic matrix. Broken up white quartz veins. Gradual colour change from orange to yellow with increase in sericite wisps.	tr	0	0	0	0	tr	disseminated	orangy-blacky grey	1	2	0	1	0	0	0	4	0	0	0	0	0	0	0	2	fracture controlled	
62.79	68.91			MGn		Mafic gneiss transitioning in and out of siliceous and more granular/bleached/limonitic alteration assemblages. Locally the unit is moderately contorted and deformed. Local increase in quartz veins that are moderately to strongly contorted, broken and deformed. Intervals with increase in silica have an increase in pyrite. Pyrite is seen throughout in both fine to medium grained disseminations as well as thin lenses parallel to foliation. Overall, foliation is at 60-70 deg tca. Sericite wisps seem to have altered to limonite locally. There are intervals where the foliation changes over 10cm which is interpreted to be a series of altered pillow basalts where the package has been altered to gneiss and the rinds are clearly visible as foliation planes. Upper contact is faulted, lower contact sharp 50 deg tca with a 1cm consolidated fault gouge along the same plane.	1	0	0	0	0	tr	disseminated, clotty	pale orangy-grey	2	0	0	1	1	0	0	3	0	0	0	0	0	0	0	2	fracture controlled, pervassive	
	62.79	63.30		FGn		Felsic Gneiss: orthogneiss. Pale orangey-yellow weakly porphyritic. Thin 1-2mm quartz lenses within a gneissic porphyry. Hairline pyrite and hematite veins cross cut at irregular angles. Foliation at 60-70 deg tca.	1	0	0	0	0	0	fracture controlled	pale orangy-grey	1	0	0	2	0	0	0	3	1	0	0	0	0	0	0	2	fracture controlled	
	63.20	64.00		FZ		Rubble zone with broken core.																										
	64.00	64.30		MGn		Increase in silica alteration and deformed contorted quartz veins, medium to dark grey, 2-3% pyrite disseminated and in clots.																										
	64.30	65.03		FGn		As 62.79-63.3 except with a brecciated lower boundary 80 deg tca.																										
	65.03	68.91		MGn		Granular mafic gneiss as above. Increase in calcite and hematite at 65.4m.																										
	65.89	66.34				Increase of contorted and deformed quartz veins to 50%. Pyrite lenses to 1cm within quartz veins. No other sulphides noted.																										
	66.34	68.91				Increase in contortion and deformation throughout. Muscovite is noted along foliation planes locally. Calcite along fracture surfaces and in veins. Moderately blocky.																										
68.91	74.00			Gd	Altered fine grained granodiorite	Medium grained clay altered granodiorite (same as 84.43-85.85 in 278). The unit is variably altered ranging from a dark grey siliceous to white clay altered. Pyrite is seen 3-5% in disseminated form, thin lenses and in hairline stringers at 20-50 deg tca. Pyrite stringers are variably weathered creating a patchy limonitic staining throughout the unit. Mafics (amphibole?) are corroded and are hard to discern. Minor sericite and chlorite? in proximity to mafics. Trace pale pinky tan titanite and green epidote finely disseminated throughout. Apparently foliation 55-70 d tca. Upper contact is sharp at 50 deg tca with a 1cm fault gouge along plane. Upper contact also has 1metre of interfingered MGn and Gd. Lower contact is over 20cm and is exhibited by an increase in limonite and contorted quartz veins.	3	0	0	0	0	0	disseminated, clotty	l to dk grey and white	3	2	0	1	0	0	0	2	0	0	0	0	0	0	0	3	pervassive	
74.00	80.40			MGn	Sericite rich Mafic Gneiss	Well foliated, weakly brecciated medium to dark grey mafic gneiss. Foliations are mm scale and are at 70-80 deg to ca. Sericite is seen in wisps and generally run parallel to core axis, some fractures. Short intervals with very contorted and broken white quartz veins up to 2cm at irregular angles. Hairline fractures crosscut the unit at shallow angles and are infilled in limonite. Limonite decreases down hole. Core is fairly competent except for a few minor intervals of rubble and fault gouge. Increase in this quartz veins parallel to foliation down core, weakly fractured. 1-2% pyrite throughout although it increases where limonite decreases. Weakly calcareous. Calcite increases down unit and appears in fractures with limonite or muscovite bands. Decrease in limonite corresponds with appearance of several QFP dykes ranging from 10cm to 30cm. Silica alteration increases below these dykes to the lower QFP unit.	2	0	0	0	0	0	disseminated, clotty	l to dk grey	3	0	0	3	2	0	0	3	0	0	0	0	0	0	0	0	1	pervasive, fracture controlled
	75.24	75.50				Broken core with minor fault gouge along fracture surfaces.																										
	75.66	75.80				Very broken and rubbly core.																										
	76.50	76.66				Very broken and rubbly core.																										
	77.27	77.37		Gd		Thin clay altered granodiorite dyke.																										
	77.81	80.77				Increase in silica alteration, trace cpy.	2	0	0	0	tr	0	disseminated, clotty	med to dk grey	4	0	0	3	2	0	0	1	0	0	0	0	0	0	0	1	pervassive	
	78.91	79.06				Broken and rubbly zone.																										
	80.00					Foliation @ 80 deg tca.																										
	80.25	80.36				Broken and rubbly zone, minor fault gouge.																										
80.40	81.57			Gd	Altered fine grained granodiorite	Fine to medium grained granodiorite that has been overprinted with texturally destructive silica alteration. Individual phenos are hard to discern. 15-20% mafics, could be amphibole. Finely disseminated pyrite throughout. Upper and lower contact halos are limonitic and gradational. Upper contact is @ 80 deg tca and gradational over 40 cm, lower at 50 deg tca and gradational over 20cm.	2	0	0	0	0	0	disseminated, thin lenses	l to med grey	5	1	0	2	0	0	0	2	0	0	0	0	0	0	0	2	Fracture controlled	
	80.36	80.77				Contact halo for Gd interval is very silicified with disseminated pyrite throughout and moderately limonitic.	3	0	0	0	0	0	disseminated	med to dk grey	4	0	0	3	1	0	0	1	0	0	0	1	0	0	0	0	pervassive	
	81.37	81.57				Lower contact halo for Gd: limonitic, light grey to white.																										
81.57	88.05			MGn	Mafic Gneiss	Light to medium grey moderately to well foliated, moderately contorted mafic gneiss. Foliations @ 75-80 deg tca. Moderately to strongly siliceous with pale yellow -brown sericite whips (with muscovite in high quartz vein area) parallel to foliation but concentrated along vein margins. Local patches of secondary? biotite and chlorite. The unit has broken and contorted quartz veins ranging from 0.5 to 3cm scattered throughout but localized between 83.77 and 85.03m. Overall weakly brecciated. Pyrite is seen in fine disseminations, hairline stringers at roughly 65 deg tca and as in thin lenses parallel to foliation. Locally pyrite is upwards of 5%; overall 2-3 %. Rare hairline calcite vein at irregular angles. Many fractures are coated with limonite. An altered granodiorite dyke cross cuts unit between 82.98 and 83.28m at 55 and 70 deg tca for upper and lower contacts respectively. Upper contact gradational over 20cm at 50 deg tca. Lower contact @ 85 deg tca and faulted.	2-3	0	0	0	0	0	disseminated, thin lenses, stringers	light to dark grey	4	0	0	2	1	0	0	2	0	0	0	0	1	0	0	0	1	pervasive, fracture controlled

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact		
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
56.59	57.40	40-70																-	gougey	70	sharp
57.40	61.83	70																70	sharp		
61.83	62.79	70-90										MGn	50-90	A-SR	Limonic and sulphide fluids	10-50	4	65	sharp	-	faulted
62.79	68.91	60-70			50-80		60-80	1	<1cm		qtz+/-pyrite+/- calcite							-	faulted	50	sharp
		60-70																			
68.91	74.00	55-70					50, 20	<1	0.5cm		py, limonite							50	sharp	70	gradational with increase in quartz veins and deformation
74.00	80.40	70-80			70-80	1	20, 40	<1	hairline- 2mm		limonite, pyrite+qtz							70	gradational with increase in quartz veins and deformation	80	serrated nd gradational over 40 cm
80.40	81.57	50																80	serrated nd gradational over 40 cm	50	gradational over 20 cm
81.57	88.05	75-80																50	gradational over 20 cm	85	faulted

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style	
		82.98	83.28	Gd		Pale grey to white quartz flooded intrusive (was granodiorite?). The unit has very few remnant phenos. Upper contact @ 55 deg tca, lower contact @ 70 deg tca. Pyrite is finely disseminated with a rare D pyrite vein (2mm pyrite with a 3- 5mm envelope on either side) cross cutting @ 60 deg tca.																											
		83.77	85.03	MGn-x		Interval with increase (to 10%) quartz veining. Veins are contorted, broken and deformed.																											
		86.00				Fol @ 65 deg tca.																											
		87.88	88.05			Lower 22cm is strongly silicified.																											
		85.84	87.78			Increase in sericite wisps.																											
88.05	88.90			BX	Quartz-pyrite matrix supported Breccia	Strongly altered matrix supported breccia. Quartz clasts are rounded to subrounded and are hosted in a mix of black silica? and pyrite. Pyrite is seen disseminated throughout and in lenses and stringers parallel to ignimbration. Pale minty green fuchsite (scordorite) and sericite parallel ignimbration at 65-80 deg tca. small vugs throughout. Upper 40cm is broken and weakly faulted. Lower contact is faulted. Minor limonite along fractures.	5	tr	0	tr	0	0		stringers, lenses, disseminated	black, yellow, green	4	0	1	3	0	0	0	1	0	0	0	0	0	0	0	0	1	fracture controlled
88.90	104.44			MGn	Well foliated mafic gneiss	Medium to light grey moderately to well foliated mafic gneiss. Patchy sericite and silica alteration throughout. Broken white quartz veins crosscut unit roughly parallel to foliation. Sericite wisps parallel to foliation. Where abundant, sericite turns core a pale yellow. Locally quartz veining increases and are very contorted, deformed and broken. Pyrite is finely disseminated throughout. Hairline pyrite stringers crosscut unit at 20 and 80 deg tca. Limonite is limited to fractures at 20, 50 and 80 deg tca. Rare 1+cm white to orange (limonite) quartz-carb vein at 20-30 contains 20% vugs. Weakly calcareous. Hairline fractures with pyrite @ 30 deg tca. Fractured veins have increase in pyrite.	1-2	0	0	0	0	0		disseminated, stringers	l to dk grey	3	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	2	pervasive, fracture controlled
		90.60				Foliation @ 70 deg tca.																											
		91.40				2cm granodiorite vein.																											
		91.50				Minor brecciation over 10cm.																											
		92.00				Foliation @ 45 deg tca.																											
		93.80	92.26			Pyrite D veins (thin pyrite centre with wide silica envelope) up to 1cm crosscut unit at 20-30 deg tca.																											
		94.79	95.68			Strong brecciation features and textures in MGn. Patchy vugs. Moderately to strongly silicified. Strongly to moderately fractured with limonite staining. Pyrite is found 1-2% in disseminated and along fractures at irregular angles.																											
		97.23	97.38			Increase in qtz veins, very contorted.																											
		97.52	99.97			5%vugs with strong limonite staining 1-4cm long. Contain well defined calcite/siderite? crystals. Highly siliceous, increase in contorted quartz veins.																											
		99.07	99.25			Qtz vein with very argillic granodiorite with upper contact @ 90, LC @ 65 deg tca.																											
		101.39	102.44			Increase in brecciated textures and contortion. Increase in quartz veins, also contorted.																											
		102.60				Hairline fractures in detritic patterns.																											
		103.08	103.36			Increase in quartz veins.																											
104.44	105.95			FZ	Sulphide rich Fault Zone	70% gouge and ground up core, 30% relict core with remnant MGn textures: hairline fractures and pyrite in detritic pattern. In intervals where there is competent core, matrix is qtz with ground up pyrite and pale yellow sericite wisps crosscutting at irregular angles. Lower 40cm has increased pyrite, 8-10%, other wards 1-2% disseminated pyrite in patches. Lower contact @ 50 deg tca.	2	0	0	0	0	1		groundup, fractures, disseminated	light to dark grey	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	pervasive, fracture controlled	
105.95	107.75			FGn	Felsic Gneiss	Moderately to well foliated MGn. Moderately to strongly silica alteration. Minor sericite wisps parallel to foliation. Trace pyrite disseminated throughout. Rare large quartz vein where pyrite and an unidentifiable sulphides are disseminated throughout and locally concentrated along boundaries, increases pyrite content locally to 3-4%. Foliation @ 70 deg tca. Upper contact is brecciated over 15cm. Core is increasingly broken approaching the lower faulted contact.	1	0	0	0	0	0		disseminated, stringers	l to dk grey	3	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	pervasive	
107.75	112.16			FZ	Fault Zone	Very broken and gougey interval with remnant MGn present throughout. Foliation @ 60-70 deg tca. MGn when seen is as seen 88.9-104.44. Moderately siliceous with patchy sericite wisps. Large (5cm) broken and contorted white quartz veins are seen in the remnant pieces. The veins have wide halos with pale yellow sericite wisps.	2	0	0	0	0	1		disseminated, stringers, fracture controlled	l to dk grey	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	pervasive, fracture controlled	
		107.75	108.15			100% gouge and ground up core.																											
		109.32	109.38			Qtz vein with 4% pyrite and brown-yellow sericite wisps throughout. Pale minty pink sericite? is seen in small blebs as well.																											
		109.51	111.59			90% gouge and broken core.																											
		111.73	112.16			90% gouge and broken core.																											
112.16	116.59			MGn	Clay Altered Mafic Gneiss	Strongly clay altered mafic gneiss. Pale grey to white, moderately to well foliated. Strong silica and sericite alteration near upper contact with fault, decreases down unit. Pyrite is patchy, locally up to 5%, overall 1%, seen disseminated. Sericite is seen in pale yellow brown wisps parallel to foliation @ 70 deg tca. Vugs are seen along fractures and are narrow and up to 2cm long. Calcite appears at 113.5m and increases slightly as silica decreases and the core lightens in colour.	1	0	0	0	0	0		disseminated	white to dark grey	3	1	0	2	1	0	0	0	0	0	0	0	0	0	0	3	pervasive, fracture controlled	
		112.89	113.04			Broken core.																											
		114.37	114.50			Clay altered QFP dyke with large alteration envelope that is blitzing everything making contacts hard to define.																											
		114.70	115.37	FZ		Very gougey and broken core.																											
		115.65	115.75	QFP		White clay altered QFP intruding at 70 deg tca. Finely disseminated pyrite throughout. Pinky red garnets <1%. Large alteration envelope.																											
116.59	125.11			FGn	Clay Altered Felsic Gneiss	Strongly clay altered and gneissic quartz feldspar porphyry. Relict 1-2mm phenos are seen throughout the unit, clay is completely replaced feldspars. Small blebs of pyrite are disseminated throughout the unit 5-7%. Locally pyrite reaches 30%. Minor black unidentifiable black sulphides, but could be ground up pyrite. There are two series of veins, one at 20-30 and the other at 50-65 deg tca. The veins are most qtz pyrite and are planar. Foliation @ 70 deg tca. Alteration transitions in and out of silica and clay altered. This unit does not appear to be present in 278.Broken white quartz veins are seen in minor quantities and are parallel to core axis. Lower contact faulted at 40 deg tca. Upper contact is sharp @ 75 deg tca. Trace titanite.	4	0	0	0	0	tr		disseminated, stringes	light grey to white to pale yellowy green	3	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4	pervasive
		117.03	117.35			Broken and fractured core.																											
		118.88	120.10			Increase in pyrite to 15% over all.	10	0	0	0	0	tr		disseminated, stringers																			
		120.09	120.10	FZ		Faulted zone with lots of gouge and clay alteration.																											

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact	
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA
88.05	88.90	65-80	65-80	5							quartz, feldspar, MGn	50	R-SA	sulphdies, quartz, sericite	50	5	85	faulted		faulted
88.90	104.44	45-70	45-70	3													-	faulted	-	faulted
104.44	105.95																			
104.44	105.95																			
105.95	107.75	70																		
105.95	107.75	70															50	faulted	-	faulted
107.75	112.16	60-70																		

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																			
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn	Style
		120.83	121.09			Fuchsite? (Chrome). Bright minty green colouration to core over this interval. Could be an increase in chrome, as seen in other holes. Has a faint wispy pattern similar to sericite, follows the same foliation planes.																											
		121.50	121.60	FZ		Rubble and fault gouge. Broken core.																											
		122.32	124.32	FZ		Broken and fractured core. 10% gouge.																											
		122.70				Foliation @ 70 deg tca.																											
		124.69	125.11			Increase in pyrite to 30% over all.																											
		124.89	125.11			Increase in gouge and poorly consolidated rock.																											
125.11	130.20			MGn-z	Faulted Mafic Gneiss	Medium to Dark grey moderately to well foliated mafic gneiss. Foliations @ 70 deg tca. Strongly to moderately siliceous with minor yellow-brown pale green sericite wisps parallel to foliation. Short intervals of pale brown to yellowy-white scattered throughout. The entire unit moderately to strongly faulted, with fault gouge intervals. Pyrite is finely to coarsely disseminated throughout.	2	0	0	0	0	0	disseminated, stringers	l to dk grey	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	pervasive	
		125.11	126.34			Moderately to strongly faulted, 80% gouge and broken core.																											
		127.28				Bright minty green 2cm fuchsite rich vein @ 60 deg tca.																											
		127.28	127.94			Very broken and gougey interval.																											
		129.10	130.20			Faulted zone with lots of gouge and clay alteration.																											
130.20	131.65			FGn-z	Faulted Felsic Gneiss	As between 116.59 to 125.11:except weakly faulted and weakly foliated. Phenos 1-2mm, plag has been completely replaced by clay. Foliation is hard to discern ?40 deg tca. 3-5% diss pyrite, 1% pyrite in stringers @ 50 and 20 deg tca. Local patches of pinky brown hydrothermal biotite? No quartz as above.	3	0	0	0	0	0	disseminated, stringers	white to pale brown	3	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	3	pervasive	
131.65	133.89			MGn	Well foliated Mafic Gneiss	Medium well foliated MGn as above. Moderately contorted and deformed. Moderately silicified, increase in silification below clay altered FP at 132.33-132.73m. Local patches of pale green soft clay parallel to foliation @ 70 deg tca (increase in chrome in system). Pinky calcite veins @ 10 deg tca. Trace specularite? No quartz veins.	2	0	0	0	0	1	disseminated, stringers	medium to light grey	4	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	3		
		132.33	132.73	Gd		Altered granodiorite dyke.																											
133.89	134.68			Gd	Clay altered granodiorite	Clay altered granodiorite with 3-5% medium disseminated pyrite. White to pale brown. Pale brown from secondary biotite alteration. Pyrite stringers crosscut @ 50 deg tca. Pyrite seen both euhedral and anhedral indication two stages of mineralization. Occasional minty green sericite bleb. Phenos, when seen are less than 1mm. Foliation is virtually non existent. Upper and lower contacts are wavy. Contorted quartz veins are only present at contacts.	2	0	0	0	0	0	disseminated, stringers	white to pale brown	2	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	3	patchy	
134.68	136.40			FGn	Felsic Gneiss	Felsic gneiss as above. Fol @ 80 deg tca.									white to pale brown and yellow																		
136.40	136.86			FZ	Fault Zone	Fault zone with gouge and broken core. Moderately consolidated gouge. 40-55 deg tca.									White to grey																		
136.86	143.33			Gd-xz	Brecciated and faulted granodiorite	Bleached, clay altered moderately brecciated and faulted granodiorite. Locally weak foliation @ 50-80 deg tca. Pyrite is coarsely disseminated throughout unit 3-4%, occasional pyrite vein and larger bleb. Specular hematite is seen in small blebs next to pyrite veins. Black unidentifiable sulphides are also present next to pyrite . Alteration is white to pale brown has a secondary biotite appearance i.e.) porphyry. Moderate white clay alteration with patches of brown biotite. Small bands of greeny and yellow colouration, could be a different polymorph of sericite. Trace titanite.	3	0	0	0	0	1	disseminated, stringers, clots	white to pale brown, yellow and pale green																			
		138.50	139.19	Di	Diorite Dyke	Mafic diorite dyke cross cutting unit with 5cm faulted contacts on either side. Middle of unit appears to be more chilled than the outside where more mafics are present. UC @ 70 deg tca.																											
		139.60	140.06			Increase in pyrite to 8%. Large 10cm broken quartz vein.																											
		140.55				Appearance of pinky white calcite veins @ 20-40 deg tca.																											
		140.90				Increase in silicification down hole to QFP. Unit is hard, phenos are more discernable. Unit is still patchy brown, pale pink and green to end of unit. Trace cpy.	3	0	0	0	tr	tr	disseminated, stringers, clots																				

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins			Brecciation						Upper Contact		Lower Contact		
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA
125.11	130.20	70															40	sharp and faulted	-	serrated
130.20	131.65	40					20, 50		hairline		pyrite						-	serrated	50	faulted
131.65	133.89	70					10, 80		hairline		calcite, pyrite						50	faulted	-	wavy
133.89	134.68	-					50		hairline		pyrite						-	wavy	-	wavy
134.68	136.40																			
136.40	136.86																			
136.86	143.33																-	wavy	50	wavy

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Mnzn Style	Alteration															
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Rock Colour		Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
143.33	148.20			QFP	Quartz feldspar porphyry	Brown to grey quartz feldspar porphyry. Plagioclase phenos are weakly altered to clay, are 2-3mm and are corroded from the silica flooding. There is a second series of phenos that are <0.5mm. Larger phenos are rectangular to spheroidal and have corroded boundaries. The change in alteration assemblages is causing the colour changes. Finely disseminated 1-2% pyrite throughout with the rare hairline pyrite stringers at 40 deg tca. Locally, pyrite increases to 3% over short intervals.	2	0	0	0	0	0	disseminated	grey to brown	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	patchy
		145.80	145.86	FZ		Fault gouge. No clear angle.																								
		147.70	148.20	BX		Sulphide Breccia with carbonate matrix. Clasts are generally less than 0.5cm, rarely larger and are comprised of quartz. Matrix is ground up sulphides. Disseminated pyrite throughout.																								
148.20	153.74			FGn	Felsic Gneiss	Clay altered mafic gneiss with small clay altered granodiorite dykes crosscutting. The unit pale yellow to grey to white. Unit is variably sericitic and siliceous depending on the presence of quartz veins. Overall the unit is weakly to moderately argillic and is defined by the presence of white throughout. Foliation is at 40-50 deg tca, Finely diss pyrite 1-2%. Large white contorted quartz veins with 5% pyrite blebs and thin lenses are present to 150.15m. Overall the unit is weakly to moderately brecciated.	2	0	0	0	0	0	disseminated	grey to pale yellow	3-4	0	0	3	0	0	0	0	0	0	0	0	0	0	3	patchy
		148.82	150.15			Moderately broken rock with minor gouge along fractures.																								
		151.23	152.10	FGn																										
		152.10	152.80	Gd																										
		152.80	153.74	FGn																										
153.74	155.68			Gd	Clay altered granodiorite	Clay altered granodiorite as above. The upper contact is a 7cm contorted and broken pyrite rich quartz vein.																								
		154.11	154.64			Increase in pyrite to 10% as well as the appearance of Chlorite and increase in silica alteration. Trace black sulphides. Very hard.	10	0	0	0	0	1	disseminated	greeny grey	4	0	0	1	0	0	0	0	0	0	1	0	0	0	0	patchy, pervasive
		154.60				1cm sulphide-carbonate breccia vein @ 30 deg tca.																								
155.68	159.11			FGn-x	Brecciated Felsic Gneiss	Moderately contorted and brecciated FGn (Altered Mafic Gneiss), FGn as above. Foliation @ 50 deg tca. Patchy disseminated pyrite, up to 3%, overall 1%. Trace chalcopyrite. Small intervals of altered granodiorite cross cutting. Lower contact is @ 55 deg tca, but at 40 deg to the foliation.	1	0	0	0	tr	tr	disseminated	grey to yellow	3	0	0	2	0	0	0	0	0	0	1	0	0	0	3	patchy, pervasive
		157.01	159.11			Increase in brecciation with minor black quartz (+sulphide) veins. Brecciated within this interval is a less altered piece of green propylitically altered mafic gneiss.																								
159.11	159.91			FGn-xz	Sulphide rich brecciated and faulted Felsic Gneiss	Weakly to moderately brecciated felsic gneiss with black sulphide rich quartz. Upper contact is at 55 deg to ca, and at 50 deg to the foliation in the FGn. Weakly calcareous. Pyrite is seen almost exclusively in the fractures and veins with a black sooty chalcosite? Black sulphide. Trace cpy. Strongly siliceous. Pale yellow-brown sericite wisps can be seen throughout the gneiss.	2	0	0	0	tr	tr	fracture controlled	yellow to dark grey	4	0	0	3	1	0	0	0	0	0	0	0	0	0	2	fracture controlled
159.91	162.33			FZBX	Faulted sulphide-rich Breccia	Brecciated and faulted FGn with black sulphide breccias throughout. Pyrite, trace sooty sulphide, arsenopyrite are seen in the breccias. Overall 2-4% sulphides, 1% disseminated in the gneissic clasts. The clasts are MGn and FGn and the matrix is the black sulphide rich quartz. Clasts range from 0.5cm to 5cm. Blocks of the gneiss are rotated. Unit is moderately siliceous, sericite wisps are seen throughout but are patchy.	3	tr	0	0	tr	tr	disseminated, fracture controlled	yellow to dark grey	3	0	0	2	1	0	0	0	0	0	0	0	0	0	3	fracture controlled, patchy
		159.91	160.43	Gn-xz		Granular MGn is hosting the sulphide breccias. Breccias @ 50 deg tca, fol @ 10deg tca.																								
		160.43	160.78	BX		Increase in brecciation with black sulphide rich quartz matrix.																								
		160.78	161.81	Gd-x		Very contorted and deformed granodiorite with minor? FGn, Strongly altered. Less sulphides than above. Minor titanite.																								
		161.81	162.33	FZ		Strongly consolidated fault gouge. Unit still holds remnant brecciation textures as seen above.																								
162.33	162.97			FGn	Felsic Gneiss	Well foliated felsic gneiss. Fol @ 40 deg tca. Thin pyrite+ black sulphides parallel foliation. Lower brecciation intensity. Weakly calcareous.	1	0	0	0	tr	tr	disseminated	yellow to light grey	3	0	0	2	2	0	0	0	0	0	0	0	0	0	2	fracture controlled, patchy
162.97	163.43			SXBX	Sulphide breccia vein	Sulphide breccia vein. Upper contact @ 55 deg tca, lower contact @ 80 deg tca. Coarsely disseminated and blebby arsenopyrite, galena and trace chalcopyrite are seen throughout interval. Matrix is carbonate+quartz.	5	0.5	0.5	0.5	tr	tr	blebby, vein hosted	black to grey	4	0	0	0	2	0	0	0	0	0	0	0	0	0	2	Pervasive
163.43	164.23			FGn	Felsic Gneiss	Poorly mineralized, strongly altered Felsic gneiss. Foliation texture is mostly obscured and when seen it is at irregular angles due to deformation. Minor titanite.	1	0	0	0	0	0	blebby	pale yellow to grey																
164.23	164.67			Gd-zx	Faulted and Brecciated Granodiorite	Brecciated and faulted clay altered granodiorite. Pyrite rich. Weakly foliated. Lower contact is faulted and has a smeared appearance @ 20 deg tca.																								
164.67	167.17			FZBX	Faulted Breccia	Moderately consolidated fault gouge and breccia. Remanent foliation @ 30 deg tca in FGn. Disseminated pyrite and sooty sulphides 2-3%, trace chalcopyrite in quartz clasts. Locally up to 8% pyrite.	3	0	0	0	tr	tr	disseminated, fracture controlled	light to medium grey	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3	Pervasive
		164.67	165.73			Clear clasts of FGn in fault.																								
		166.42	166.76			Pyrite increases to 10-12%.	10-12	0	0	0	tr	tr	clotty, fracture controlled																	
167.17	168.58			FGn-x	Brecciated Felsic Gneiss	Strongly brecciated, weakly faulted felsic gneiss.																								
168.58	169.45			FGn-z	Faulted Felsic Gneiss	Faulted FGn with moderate brecciation. 30% fault gouge throughout. FGn clasts are rotated: can not get foliation orientation. Trace diss pyrite, trace carbonate. Rare quartz vein parallel to foliation in the FGn clasts. Upper contact is serrated and irregular, moderated brecciated and faulted. Lower contact is sharp @ 30 deg tca, along a fault contact.	tr	0	0	0	0	0	disseminated	light to medium grey	2	0	0	2	1	0	0	0	0	0	0	0	0	0	3	Pervasive, fracture controlled
169.45	170.08			FZ	Fault Zone	Faulted and brecciated felsic gneiss. Increase in pyrite from above 1-2% disseminated throughout in patches.	1-2	0	0	0	0	0	disseminated, patchy	light to medium grey	2	0	0	2	1	0	0	0	0	0	0	0	0	0	2	pervasive
		169.70	169.75			Bright minty green fuchsite parallel to foliation @ 40 deg tca.																								

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact		
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
143.33	148.20						40	tr	hairline	pyrite								50	wavy	80	sharp
												qtz	40	A-Sr	qtz, sulph, carbonate	60	5				
148.20	153.74	40-50															2	80	sharp	-	wavy
153.74	155.68																	-	wavy	50	Sharp
155.68	159.11	50															3	50	Sharp	55	Sharp
159.11	159.91	-										FGn, quartz	80	A-SA	quartz, pyrite, sulphides, minor carbonate	20	4	55	Sharp	70	serrated
159.91	162.33											FGn, MGn, quartz	70-80	A-SA	quartz, pyrite, sulphides, minor carbonate	20-30	4	70	sharp, crosscutting FGn foliation	40	Sharp
																				40	Sharp
162.33	162.97	40										FGn					1	40	sharp	40	sharp
162.97	163.43	30-80										Sx, quartz	60	A-SR	sulphides, carbonate , quartz	40	5	40	sharp	30	sharp, crosscutting FGn foliation
163.43	164.23																	30	sharp, crosscutting FGn foliation	-	broken
164.23	164.67																	-	broken	20	faulted, smeared apperance.
164.67	167.17											FGn, quartz	60-80	SR	20-40	gouge, quartz, sulphides	5	20	faulted, smeared apperance.	-	broken
167.17	168.58																	-	broken	-	serrated
168.58	169.45	-										FGn	80	SA-SR	20	gouge, clay	3	-	serrated	30	sharp along fault contact
169.45	170.08																	30	sharp along fault contact	-	faulted, broken

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																		
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
170.08	170.57			FGn-zx	Brecciated and Faulted Felsic Gneiss	Moderately faulted and weakly FGn. FGn is as above, except with increase in broken pieces, deformation and carbonate in fractures. Relatively soft due to faulting and brecciation.	1-2	0	0	0	0	tr	disseminated	light to medium grey to pale yellow	2	0	0	3	1	0	0	0	0	0	0	0	0	0	0	2	Pervasive, fracture controlled	
170.57	174.32			FZ	Fault Zone	Very broken and gougey rock. Intervals of clear FGn. Disseminated pyrite and black sooty sulphides. Black sooty sulphides also seen in quartz clasts - don't smell like sulphur so not sphalerite, and hard (related to the fact that its in quartz). Minor carbonate.	1-2	0	0	0	0	tr	disseminated, fracture controlled	light to medium grey	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	Pervasive, fracture controlled	
174.32	175.65			Gd	Clay altered granodiorite	Clay altered granodiorite as above. Phenos are hard to discern, when seen they are <1mm. Pyrite 1% disseminated, occasional pyrite stringer near lower contact. Sooty rims to pyrite also appear near lower contact. Trace sphalerite, carbonate. Upper contact is faulted with gouge, lower contact is sharp @ 50 deg tca.	1	0	0	tr	0	0	disseminated	white to light grey	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	pervasive	
175.65	176.97			FGn-zx	Brecciated and Faulted Felsic Gneiss	Strongly faulted and brecciated felsic gneiss. 30% fault gouge, moderately to strongly consolidated. Fragmental breccia appearance. In FGn clasts, strong clay alteration with minor minty green sericite. Occasional broken quartz vein.	1	0	0	0	0	0	disseminated	white to light grey	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	Pervasive, fracture controlled	
176.97	177.72			FGn	Weakly brecciated Clay altered mafic gneiss	Strongly clay altered felsic gneiss. This unit is more clay altered than seen in other intervals. Dark green bands (sericite) near upper contact. Foliation @ 65 deg tca. Finely disseminated pyrite and coarsely clotty pyrite that occurs with dark grey quartz. Thin quartz bands throughout.	1	0	0	0	0	0	disseminated, clotty	light grey to pale yellow	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	Pervasive, fracture controlled	
177.72	178.22			BXSX	Sulphide Breccia	Medium to dark grey sulphide breccia with blebs of sphalerite and galena, disseminated cpy and arsenopyrite. Vein @ 40 deg tca. White to pink carbonate within vein.	3	0.5	0.5	0.5	tr	tr	disseminated, clotty	light to dark grey	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	fracture controlled, patchy	
178.22	179.67			Gd-x	Brecciated clay altered granodiorite	Brecciated clay pale brownish yellow-green altered granodiorite. Patchy clotty pyrite with occasional rim of black sooty sulphides. Broken quartz veins. Breccia matrix is carbonaceous. Brecciation decreases down hole. Trace titanite. Lower contact with FGn is sharp @ 55 deg tca and contains an increase in quartz veining. Weak foliation @ 20-30 deg tca.	2	0	0	0	0	tr	disseminated, clotty	pale brown-green-yellow	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	fracture controlled, pervasive	
179.67	180.38			FGn	Felsic Gneiss	Well foliated moderately brecciated felsic gneiss. Fol @ 65-80 deg tca. Pale greenish-pink-brown. Occasional broken quartz vein (1cm) parallel to foliation. Lower contact @ 45 deg tca. Pyrite is seen in disseminated and clotty form localized in bands. Carbonate in hairline veins and fractures.	1	0	0	0	0	tr	disseminated, clotty	pale yellow-brown	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	fracture controlled, pervasive	
180.38	183.60			FGn-Sx	Sulphide brecciated felsic gneiss	Strongly brecciated and moderately faulted felsic gneiss intruded by several 1-3cm sulphide rich breccias. Strongly silicified. Lower contact @ 35 deg tca. Breccia consists of 95-100% clasts and 5% matrix.	2	tr	tr	tr	tr	tr	disseminated	grey	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	fracture controlled, pervasive	
	180.90	180.98	SXBX			Sulphide breccia @ 40 deg tca.																										
	181.07	181.09	SXBX			Sulphide breccia @ 50 deg tca.																										
	181.43					Fol @ 60 deg tca.																										
	181.80	181.92	FZ			Gougey fault zone.																										
	182.42	182.50	SXBX			Sulphide breccia at irregular angles.																										
	182.64	182.65	SXBX			Sulphide breccia @ 50 deg tca.																										
	182.85	182.89	SXBX			Sulphide breccia @ 30 deg tca.																										
	183.36	183.47	SXBX			3 sulphide quartz breccia @ 50-70 deg tca.																										
183.60	186.72			FGn-x	Brecciated Felsic Gneiss	Brecciated and deformed felsic gneiss with small intervals of sulphide breccia cross cutting at irregular angles. Increase in brecciation down unit. Pale greyish brown to medium brown down unit. Pyrite is patchy in clots/blebby. Locally up to 4%, overall 1-2%. Minor carbonate along fractures. Foliation is irregular due to brecciation.	1-2	0	0	0	0	tr	disseminated, clotty	grey to pale brown	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	2	pervasive, fracture controlled	
	183.86	184.44	FGn-z			Faulted Gneiss, weak carbonate along fractures. Angular sulphide rich quartz clasts are entrained over this interval.																										
	184.44	185.17				Increase in silica alteration.								medium to dark grey-brown	4																	
	184.71		BXSX			3cm sulphide breccia @ 50 deg tca. With pyrite and trace cpy.																										
	185.17	185.77				Broken and slightly gougey zone.																										
186.72	193.46			BX	Fragmental Breccia	Fragmental Breccia. Grey to pale brown fragmental breccia consisting of 95% clast and 5% . Clasts are generally FGn of variable alteration. Areas between clasts are filled with pyrite and dark grey quartz, locally about 5-8% of unit, overall 2%. Clasts are angular to subrounded and vary in size and are variably rotated. Breccia is clast supported.	2	0	0	0	0	0	disseminated, clotty	grey to pale brown	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	fracture controlled	
	188.51	188.56				Contorted quartz vein with pyrite and minor carbonate.																										
	189.01	189.11				Quartz veins with dark black sulphides, pyrite and trace carbonate @ 55-70 deg tca.																										
	190.20	190.25				Quartz vein with dark black sulphides and pyrite and trace carbonate @ 40 deg tca.																										
	190.65	190.72				Breccia with quartz, ground up quartz, pyrite and ground up black sulphides @ 50 deg tca.																										
	191.31	191.85	FZ			Fault zone with gouge and broken core. Moderately consolidated gouge. 40-55 deg tca.																										
	193.33					2cm quartz + black sulphide vein @ 80 deg tca.																										
193.46	195.39			QFP-z	Altered Feldspar porphyry	More of a FP, but correlates with the brown QFP seen in 278. Deep Orangy-brown feldspar porphyry. Feldspar phenos are altered to clay and are 2-4mm, second series <1mm. 30% phenos. 5-8% disseminated pyrite throughout. Moderately, locally strongly faulted throughout unit. Moderately to strongly siliceous, decreasing down unit. Upper contact faulted, lower contact sharp @ 60 deg tca. Occasional black quartz-sulphide vein crosscutting unit at irregular angles. Carbonate present, fracture filling.	5	0	0	0	0	0	disseminated	orangy brown	4	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	pervasive	
195.39	203.97			BX	Fragmental felsic gneiss breccia	Fragmental Breccia. Grey to pale brown fragmental breccia consisting of 95% clast and 5% matrix. As between 193.46-195.39 m. Clasts are generally FGn of variable clay +/- sericite+/- quartz +/- brown hydrothermal biotite alteration. Areas between clasts are filled with pyrite and dark grey quartz, locally about 5-8% of unit, overall 2%. Clear quartz + pyrite +dark sulphide veins crosscut unit at irregular angles. Fractures of breccia contain minor amounts of carbonate. Trace titanite in Gd.	2	0	0	0	tr	tr	clots, vein hosted	pale yellow-grey	3	0	0	2	1	0	0	0	0	1	0	0	0	0	0	3	patchy, fracture controlled	
	195.39	195.79				Gougey fault zone. Mostly consolidated.																										
	198.65	200.96				Interval with increase in sulphide rich veins. Lots of pyrite blebs, minor arseno and trace cpy. Minor amounts of soft silvery-black lenticular metallic sulphide (seems like polybasite but wrong association? bournonite, stibnite? Ag-As sulphide).																										
	203.58	203.97				Moderately broken rock with clay, minor gouge along fracture surfaces.																										

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Primary Intervals		Foliation to CA	Shearing to CA Intensity		Fractures to CA Intensity		Veins				Brecciation						Upper Contact		Lower Contact		
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA	Description
170.08	170.57	-										FGn	90	SA	10	gouge, clay, carbonate	2	-	faulted, broken	70	faulted
170.57	174.32																	70	faulted	-	faulted
174.32	175.65																	-	faulted	50	sharp
175.65	176.97											FGn, quartz	80	SA-SR	80	clay, gouge	3	50	sharp	10-40	wavy
176.97	177.72	65			60	1			qtz									10-40	wavy	40	wavy
177.72	178.22	40	40									Sulphides	30	SA-SR	70	quartz, carbonate , sulphides	4	40	wavy	-	wavy
178.22	179.67	20-30	20-30									Gd	80-95	SA-SR	5-15	carbonate , clay	3	-	wavy	55	Sharp
179.67	180.38	65-80					irregular		qtz, carb, pyrite									55	Sharp	45	sharp
180.38	183.60			3								sulphides, quartz, carbonate ,	95-100	SA-SR	0-5	carbonate , sulphides, quartz	4	45	sharp	35	sharp
183.60	186.72	-										FGn	99	SA	1	carbonate , sulphides, fault gouge	3	35	sharp	-	contorted, wavy
186.72	193.46	-	-									MGn, FGn,	95-100	A-SR	qtz, carbonate , pyrite, sulphides	5	4	-	contorted, wavy	-	Faulted
193.46	195.39	-																-	Faulted	60	sharp
195.39	203.97	-					10-20	1	<2cm	qtz	py, cpy, black- silvery sulphides	FGn, Gd	95-100	A-SA	qtz, carbonate , pyrite, sulphides	5	4	60	sharp	-	faulted

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay	Altn Style
203.97	209.64			BX-FGn/Gd-x	Fragmental felsic gneiss and granodiorite breccia	As above except with increase in clasts of white clay altered granodiorite . Strongly siliceous. Qtz-sulphide veins are more contorted and deformed and do not have a preferential orientation. Qtz-sulphides appear to be fracture filling as matrix within the breccia. Minor carbonate veins @ 30-40 deg tca.	2	0.5	0	0	tr	tr	blebs, clots	pale yellow-grey	4	0	0	2	1	0	0	0	0	1	0	0	0	0	0	3	patchy, fracture controlled
		203.97	204.60	Gd		Granodiorite fragments: trace titanite. Black sooty sulphides in veins, trace silvery sulphides, in addition to pyrite and arsenopyrite in quartz veins.																									
		204.93				1cm poorly consolidated fault gouge and breccia @ 10 deg tca.																									
		205.50	206.22			Moderately broken rock with clay, minor gouge along fracture surfaces.																									
209.64	210.78			Gd-z	Faulted clay altered granodiorite	Fine grained bleached very clay altered granodiorite with finely disseminated 1% pyrite, moderately faulted and broken, trace reddish moderately hard mineral near upper contact. Lower 20cm of unit contain an increase in sulphide (pyrite+apy+/-cpy) in blebs and fractures.	1	tr	0	0	tr	tr	disseminated	white	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4	pervasive
210.78	218.41			BX	Fragmental Breccia	Fragmental Breccia as above, except presence of mafic intervals. Less sulphides, only pyrite within quartz veins. Strongly siliceous, slight green colouration. Trace carbonate along fractures. Interp: The mafic intervals are non-altered portions of the felsic gneiss, similar to what is seen in the northern part of the deposit. It seems that there are several episodes of faulting as expected: one evidenced by the lower contact as it is fused with silica and competent. The upper contact is faulted, broken and contains gouge. How far this block came from is unknown but proves that the alteration gradient can be seen from high to none, then faulted putting the non altered and strongly altered blocks next to each other, then another epidote of alteration silicifying the contact, then an episode of faulting, again putting the non altered block next to an altered block.	1-2	0	0	0	0	0	disseminated	pale greeny grey	4	0	0	2	1	0	0	0	0	1	0	0	0	0	0	2	pervasive
		211.36	212.16	MGn		Faulted mafic gneiss block. Not altered. Black to dark green. Soft. Upper contact is faulted @ 50 deg tca with 5cm of gouge. Lower contact is shallow @ 20 deg tca and is moderately silicified throughout. Weakly pyritic.																									
		213.62	214.40			Moderately broken rock with minor clay along fracture surfaces.																									
		215.06	215.29			Moderately broken rock with minor clay along fracture surfaces.																									
218.41	221.10			QFP	Quartz Feldspar Porphyry	Variably altered, moderately broken feldspar porphyry with clay altered feldspar phenos <1-3mm. Colour varies from medium brown to pale greeny brown. Phenos have a corroded appearance and appears that later fluids were texturally destructive. Hairline fractures with pyrite + quartz at 30-50 deg tca. Moderately to strongly siliceous. There are minor amounts of rip up clasts within the unit.	1	0	0	0	0	0	clotty	medium brown to pale greeny brown	4	0	0	0	1	0	0	0	0	1	0	0	0	0	1	pervasive,patchy	
		219.46	219.98			Moderately broken and fractured core.																									
		220.28	220.64			Moderately broken and fractured core.																									
221.10	222.24			QFP-z	Faulted Quartz Feldspar Porphyry	Faulted QFP. QFP as above.	1	0	0	0	0	0	clotty	medium brown to pale greeny brown	4	0	0	0	1	0	0	0	0	1	0	0	0	0	1	pervasive,patchy	
		221.89	222.24			Strongly faulted interval with dark black sulphide qtz veins.																									

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Primary Intervals		Foliation to CA	Shearing		Fractures		Veins				Brecciation						Upper Contact		Lower Contact	
From	To		to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	to CA	Description	to CA
203.97	209.64	-							qtz	py, cpy, black-silvery sulphides	FGn, Gd	90-100	A-SA	qtz, carbonate, pyrite, sulphides	0-10	4	-	faulted	70	sharp, slightly wavy
209.64	210.78																70	sharp, slightly wavy	60	sharp, slightly wavy
210.78	218.41										FGn,MGn	95-100	A-SA	qtz, carbonate, +/- pyrite	0-5	4	60	sharp, slightly wavy	50	slightly wavy
218.41	221.10																50	slightly wavy	-	faulted
221.10	222.24																-	faulted	-	faulted

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Primary Intervals		Secondary Intervals		Lith Code	Lithology	Description	Mineralization							Alteration																	
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn	Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
222.24	223.77			FZ	Fault Zone	Ground up and moderately consolidated fragmental breccia and QFP. No preferential angles or foliation. Disseminated and lensoid pyrite can still be seen throughout.	1	0	0	0	0	0	disseminated																		
223.77	224.82			BX-FZ	Faulted Fragmental Breccia	Faulted fragmental breccia. Breccia as seen above. Strongly siliceous. Weakly to moderately carbonaceous.	1-2	0	0	0	0	0	clotty, lensoid	pale brown-green-yellow	4	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3	pervasive,patchy
224.82	225.70			SXBX	Sulphide Breccia	Dark grey to black sulphide vein crosscutting the fragmental breccia @ 20 deg tca.	3-5	tr	0	tr	tr	tr	clotty, lensoid	dark grey to black	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	3	pervasive,patchy
225.70	232.05			BX	Fragmental Breccia	Fragmental breccia as above. Strongly siliceous. Occasional dark sulphide vein cross cutting unit at irregular angles. Large blebs of pyrite +/- cpy up to 1cm in patches throughout the unit.	2-3	0	0	0	tr	0	clotty, lensoid	pale brown-green-yellow	4	0	0	2	2	0	0	0	0	1	0	0	0	0	0	3	pervasive,patchy
	226.70	227.35		SXBX	Sulphide Breccia	Contorted quartz vein with dark grey sulphides followed by a dark grey to black quartz sulphide fragmental brecciated vein @ 30 deg tca.																									
	227.99	228.90				Weakly faulted zone.																									
	231.04	231.37				Increase in pyrite.																									
232.05	232.91			SXBX	Sulphide Breccia	Narrow grey quartz+ sulphide + carbonate vein crosscutting fragmental breccia @ 20 deg tca. Pyrite and arsenopyrite are readily visible. Trace cpy. Small clasts of fuchsite altered gneiss.	1	0.5	0	0	tr	0	Clotty	grey	4	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3	Pervasive
232.91	242.77			BX	Fragmental Breccia	Fragmental breccia as above. Strongly siliceous. Occasional dark grey brecciated sulphide (py+arsenopyrite+blk sulph) vein cross cutting unit at irregular angles. Large blebs of pyrite +/- cpy up to 1cm in patches and disseminated throughout the unit. Occasional subrounded clast of bright minty green fuchsite that is entrained within the breccia. Locally, there are "sub" breccias: brecciated breccia. The clasts are very small 2-3cm and have a quartz rich matrix.	1-2	tr	0	0	tr	tr	Clotty	light brown to grey	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3	Pervasive
	239.47	240.18				Rock is pale green over this interval (faded fuchsite, chlorite?).																									
	240.91	241.69				Rock is pale dark green over this interval (faded chlorite?).																									
	241.69	242.77				Rock is pale orangy brown: increase in hydrothermal biotite?																									
	242.12	242.77				Increase in narrow dark grey sulphide breccia veins.	1-2	tr	0	0	0	tr	clotty, vein hosted																		
	242.54	242.66				Weakly broken core.																									
242.77	243.23			SXBX	Sulphide Breccia	Dark grey to black sulphide vein crosscutting the fragmental breccia @ 0-20 deg tca. Margins of the vein are wavy and weakly contorted. Clasts along boundaries are pale medium green chloritic clasts with carbonate along fractures. 1 fracture has a slight greasy feel.	5	tr	0	0	tr	tr	disseminated, vein hosted	dark grey to black	4	0	0	2	2	0	0	0	0	0	0	1	0	0	0	2	vein and fracture controlled
243.23	244.38			FZ	Fault Zone	Fault zone, moderately broken core with minor gouge and clay along fracture surfaces. Clasts of fragmental breccia can be seen. No preferential orientation.																									
244.38	273.71			BX	Fragmental Breccia	Fragmental Breccia as above with the following exceptions: unit is becoming more clast supported down unit. Alteration varies considerably compared to other intervals of BX. Alteration in clasts varies from sericite-quartz as seen above to brown hydrothermal biotite and chlorite near bottom of hole. Unit is moderately mineralized to 265 where disseminated mineralization decreases rapidly and is limited to veins. Qtz-sulph veins between 244.38m and 250.00m are generally 20-30 deg tca. Increase in more exotic (fuchsite) altered clasts, chlorite altered clasts, altered QFP) clasts. Titanite is visible in trace amounts in Gd clasts.	1-2	tr	0	0	tr	tr	disseminated, vein hosted	pale brown-green-yellow	4	0	0	2	1	0	0	0	0	1	0	0	0	0	0	2	fracture controlled, pervasive
	245.15	245.31		FZ		Faulted interval with gouge and ground up core @ 40 deg tca.																									
	246.23	247.22		FZ		Faulted interval with gouge and minor ground up core. No preferential orientation.																									
	250.45	251.27				Large block FGn with foliation @ 30 deg tca and pyrite veins @ 80 deg tca. Maybe a large rotated block and not be in place.																									
	251.75					2cm angular clasts of orangy-green porphyry entrained in a carbonate vein.																									
	253.60	254.00				Brown biotite-silica-kspar? alteration.																									
	255.09					First appearance of propylitic alteration since fault at 104.44: trace hematite. Biotite going to chlorite around boundary of quartz clasts with pyrite. Increase in brown and green tinge to core down unit.																									
	257.32					3cm zone with black sericite? Ground up pyrite rich fluid have brecciated a granodiorite clast @ 60 deg tca. Has a wispy/horse tail appearance with <0.5cm Gd clasts entrained.																									
	258.24					5cm band of pyrite+ quartz+sericite+ black ground up sulphides have crosscut unit @ 30-40 deg tca.																									
	259.79	261.33				Chlorite wash to core give it a dark green colouration, pyrite is the only sulphide, limited to veins. Red hematite specs seen throughout. Both upper and lower contacts are sharp. UC wavy, LC @ 50 deg tca.								dark green																	
	261.95					5cm band of brecciated pyrite+ quartz+black ground up sulphides have crosscut unit @ 50 deg tca. Quartz clasts are entrained within breccia.																									
	264.61					3cm gougey graphitic vein @ 50 deg tca.																									
	264.65	265.66				Hard pale brown to reddish brown to pink alteration of clasts.																									
	266.69	267.58				Soft mafic, chlorite rich interval. Upper contact @ 30 deg tca and is gradation with an increase in chlorite alteration. Weakly faulted wavy lower contact @ 90 deg tca.																									
	273.71					EOH																									

Charlotte Project
DDH-12-279 Detailed Log

[illegible]

**Charlotte Project
DDH-12-279 Down Hole Surveys**

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	GVR	MTF	DLG	Date/Time	Comment
48	14.63	151.4	173.4	-69.8	45535	85.2	0.996	321.9	136.3	-44.99	16/08/2012 11:44	Erroneous
78	23.77	165.8	187.8	-70.6	49130	47.1	0.994	148.8	317.9	-289.93	16/08/2012 11:42	Erroneous
108	32.92	72.1	94.1	-70.7	57844	76.9	0.995	39.2	179.1	-1.66	16/08/2012 11:40	
138	42.06	71.6	93.6	-70.8	57869	76.9	0.996	27.7	167.3	-0.55	16/08/2012 11:38	
168	51.21	71.4	93.4	-70.9	57862	76.9	0.995	53.1	192.4	-5.16	16/08/2012 11:36	
198	60.35	69.8	91.8	-71.1	57833	76.6	0.994	162.6	300.3	-5.94	16/08/2012 11:33	Erroneous
228	69.49	71.7	93.7	-71.4	57866	76.9	0.995	53.6	192.1	-4.83	16/08/2012 11:31	
258	78.64	70.1	92.1	-71.2	57755	76.9	0.995	280.4	59	-7.13	16/08/2012 11:29	
288	87.78	72.4	94.4	-71.3	57840	76.9	0.995	30.7	169.5	-1.11	16/08/2012 11:27	
318	96.93	72.7	94.7	-71.5	57864	76.7	0.995	82	220.1	-0.15	16/08/2012 11:25	
348	106.07	72.7	94.7	-71.5	57813	77	0.996	355.6	134.3	-6.83	16/08/2012 11:23	
378	115.21	70.6	92.6	-71.8	57741	76.8	0.995	252.8	29.7	-6.17	16/08/2012 11:21	Erroneous
408	124.36	72.5	94.5	-72	57799	77	0.995	330.4	108.2	-2.23	16/08/2012 11:19	Erroneous
438	133.50	71.9	93.9	-72.2	57810	76.9	0.996	354.3	131.3	-2.2	16/08/2012 11:18	
468	142.65	72.4	94.4	-72.6	57837	76.9	0.997	25.6	161.7	-9.31	16/08/2012 11:14	
498	151.79	69.5	91.5	-72.6	57767	76.7	0.995	230.1	4.9	-0.8	16/08/2012 11:12	
528	160.93	69.7	91.7	-72.5	57760	76.8	0.996	258.8	34.1	-3.32	16/08/2012 11:10	
558	170.08	70.6	92.6	-73	57829	77.1	0.997	343.2	118.9	-6.01	16/08/2012 11:08	
588	179.22	68.7	90.7	-72.9	57896	76.7	0.996	270.3	44.2	-4.76	16/08/2012 11:06	
618	188.37	70.2	92.2	-73.2	57889	76.7	0.996	95.6	229.3	-2.27	16/08/2012 11:04	
648	197.51	69.5	91.5	-73.4	57898	76.7	0.996	117.2	250.2	-3.7	16/08/2012 11:02	
678	206.65	68.4	90.4	-73.5	57796	76.8	0.997	260.2	32.9	-1.56	16/08/2012 11:00	
708	215.80	67.9	89.9	-73.3	57784	76.8	0.997	244.1	16.9	-4.4	16/08/2012 10:58	
738	224.94	69.3	91.3	-73.4	57878	76.7	0.997	106.9	239.8	-7.54	16/08/2012 10:57	
768	234.09	66.9	88.9	-73.2	57794	76.6	0.997	209.3	341.5	-2.88	16/08/2012 10:54	
798	243.23	67.8	89.8	-73.1	58024	76.5	0.997	253.6	26.1	-1.63	16/08/2012 10:52	
828	252.37	68.3	90.3	-73.3	57814	76.9	0.998	350	123.7	-7.51	16/08/2012 10:51	
858	261.52	65.9	87.9	-73.4	57616	76.5	0.997	209.1	340.3	-1.06	16/08/2012 10:48	
888	270.66	65.6	87.6	-73.5	57831	76.6	0.998	210.9	342.1	0	16/08/2012 10:45	

Charlotte Project
DDH-12-279 Sample Intervals

Sample Dispatch

Property: CHARLOTTE **Date:** August 14, 2012

No.	Sample #	Drill Hole	From	To	Width	Type	Au (g/t) G6	Ag (g/t) 7AR
1	1750001	DDH-12-279				BLANK	<0.005	<2
2	1750002	DDH-12-279	39.67	40.23	0.56		0.006	<2
3	1750003	DDH-12-279	40.23	40.74	0.51		1.201	<2
4	1750004	DDH-12-279	40.74	41.78	1.04		0.395	<2
5	1750005	DDH-12-279	55.78	56.59	0.81		0.007	<2
6	1750006	DDH-12-279	56.59	57.40	0.81		0.107	<2
7	1750007	DDH-12-279	57.40	58.48	1.08		0.025	<2
8	1750008	DDH-12-279	76.81	77.81	1.00		0.011	<2
9	1750009	DDH-12-279			0.00	STANDARD GS-P3D	0.237	<2
10	1750010	DDH-12-279	77.81	78.91	1.10		0.007	<2
11	1750011	DDH-12-279	78.91	80.40	1.49		0.007	<2
12	1750012	DDH-12-279	78.91	80.40	1.49	1/4 CORE OF 1750011	0.009	<2
13	1750013	DDH-12-279	80.40	81.57	1.17		0.007	<2
14	1750014	DDH-12-279	86.93	88.05	1.12		0.007	<2
15	1750015	DDH-12-279			0.00	BLANK	0.008	<2
16	1750016	DDH-12-279	88.05	88.90	0.85		0.220	<2
17	1750017	DDH-12-279	88.90	89.90	1.00		0.047	4.0
18	1750018	DDH-12-279	103.38	104.44	1.06		<0.005	<2
19	1750019	DDH-12-279	104.44	105.20	0.76		0.106	<2
20	1750020	DDH-12-279	105.20	105.95	0.75		0.021	<2
21	1750021	DDH-12-279	105.95	106.80	0.85		0.008	<2
22	1750022	DDH-12-279			0.00	BLANK	<0.005	<2
23	1750023	DDH-12-279	106.80	107.75	0.95		0.018	<2
24	1750024	DDH-12-279	107.75	108.75	1.00		0.021	<2
25	1750025	DDH-12-279	108.75	109.51	0.76		0.009	<2
26	1750026	DDH-12-279	109.51	111.00	1.49		0.006	<2
27	1750027	DDH-12-279	111.00	112.16	1.16		0.063	<2
28	1750028	DDH-12-279	112.16	113.20	1.04		<0.005	<2
29	1750029	DDH-12-279			0.00	STANDARD GS-5H	3.453	52.0
30	1750030	DDH-12-279	113.20	114.37	1.17		0.006	<2
31	1750031	DDH-12-279	114.37	114.70	0.33		<0.005	<2
32	1750032	DDH-12-279	114.70	115.37	0.67		0.006	<2
33	1750033	DDH-12-279	115.37	116.59	1.22		0.006	<2
34	1750034	DDH-12-279	116.59	117.35	0.76		0.012	2.0
35	1750035	DDH-12-279	117.35	118.88	1.53		0.006	<2
36	1750036	DDH-12-279	118.88	120.09	1.21		0.009	3.0
37	1750037	DDH-12-279	120.09	120.83	0.74		0.006	2.0
38	1750038	DDH-12-279	120.83	121.09	0.26		0.006	<2
39	1750039	DDH-12-279	120.83	121.09	0.26	DUPLICATE OF 1750038 (1/4 core)	0.010	<2
40	1750040	DDH-12-279	121.09	122.32	1.23		0.011	<2
41	1750041	DDH-12-279	122.32	124.32	2.00		<0.005	<2
42	1750042	DDH-12-279	124.32	124.69	0.37		0.024	<2
43	1750043	DDH-12-279	124.69	125.11	0.42		0.009	2.0
44	1750044	DDH-12-279	125.11	126.34	1.23		<0.005	<2
45	1750045	DDH-12-279	126.34	127.28	0.94		0.012	<2
46	1750046	DDH-12-279	127.28	129.10	1.82		0.018	<2
47	1750047	DDH-12-279	129.10	130.20	1.10		0.030	<2
48	1750048	DDH-12-279	130.20	130.90	0.70		0.025	<2
49	1750049	DDH-12-279	130.90	131.65	0.75		0.032	<2
50	1750050	DDH-12-279			0.00	BLANK	0.008	<2
51	1750051	DDH-12-279	131.65	132.70	1.05		0.166	3.0
52	1750052	DDH-12-279	132.70	133.89	1.19		0.069	11.0
53	1750053	DDH-12-279	133.89	134.68	0.79		0.025	<2
54	1750054	DDH-12-279	134.68	135.50	0.82		0.009	<2
55	1750055	DDH-12-279	135.50	136.40	0.90		0.040	<2
56	1750056	DDH-12-279	136.40	136.86	0.46		0.034	3.0
57	1750057	DDH-12-279	136.86	137.70	0.84		<0.005	<2
58	1750058	DDH-12-279	137.70	138.50	0.80		<0.005	<2
59	1750059	DDH-12-279			0.00	STANDARD CND-GS-P3C	0.307	<2
60	1750060	DDH-12-279	139.19	140.06	0.87		0.021	<2
61	1750061	DDH-12-279	140.06	141.50	1.44		0.046	<2
62	1750062	DDH-12-279	141.50	143.33	1.83		0.007	<2

Charlotte Project
DDH-12-279 Sample Intervals

No.	Sample #	Drill Hole	From	To	Width	Type	Au (g/t) G6	Ag (g/t) 7AR
63	1750063	DDH-12-279	143.33	144.30	0.97		0.010	<2
64	1750064	DDH-12-279	146.70	147.70	1.00		0.010	<2
65	1750065	DDH-12-279			0.00	BLANK	0.008	<2
66	1750066	DDH-12-279	147.70	148.20	0.50		0.055	<2
67	1750067	DDH-12-279	148.20	149.20	1.00		0.014	<2
68	1750068	DDH-12-279	149.20	150.15	0.95		0.007	<2
69	1750069	DDH-12-279	150.15	151.23	1.08		0.014	<2
70	1750070	DDH-12-279			0.00	STANDARD CND-GS-5H	3.481	53.0
71	1750071	DDH-12-279	151.23	152.10	0.87		0.019	<2
72	1750072	DDH-12-279	152.10	152.80	0.70		0.015	<2
73	1750073	DDH-12-279	152.80	153.74	0.94		0.007	<2
74	1750074	DDH-12-279	153.74	154.11	0.37		0.011	<2
75	1750075	DDH-12-279	154.11	154.64	0.53		0.021	2.0
76	1750076	DDH-12-279	154.64	155.68	1.04		<0.005	<2
77	1750077	DDH-12-279	155.68	157.01	1.33		<0.005	<2
78	1750078	DDH-12-279	157.01	158.10	1.09		0.010	<2
79	1750079	DDH-12-279	158.10	159.11	1.01		0.058	<2
80	1750080	DDH-12-279	159.11	159.91	0.80		<0.005	<2
81	1750081	DDH-12-279	159.11	159.91	0.80	DUPLICATE OF 1750080 (1/4 core)	<0.005	<2
82	1750082	DDH-12-279	159.91	160.43	0.52		0.019	<2
83	1750083	DDH-12-279	160.43	160.78	0.35		0.022	<2
84	1750084	DDH-12-279	160.78	161.81	1.03		0.007	<2
85	1750085	DDH-12-279	161.81	162.33	0.52		0.018	<2
86	1750086	DDH-12-279	162.33	162.97	0.64		0.010	<2
87	1750087	DDH-12-279	162.97	163.43	0.46		1.976	132.0
88	1750088	DDH-12-279			0.00	STANDARD CND GS-10D	9.464	3.0
89	1750089	DDH-12-279	163.43	164.00	0.57		0.021	<2
90	1750090	DDH-12-279	164.00	164.67	0.67		0.027	<2
91	1750091	DDH-12-279	164.67	165.73	1.06		0.083	4.0
92	1750092	DDH-12-279	165.73	166.42	0.69		0.261	7.0
93	1750093	DDH-12-279	166.42	166.76	0.34		0.172	4.0
94	1750094	DDH-12-279	166.76	167.17	0.41		0.261	<2
95	1750095	DDH-12-279	167.17	167.17	0.00	BLANK	<0.005	<2
96	1750096	DDH-12-279	167.17	168.58	1.41		<0.005	<2
97	1750097	DDH-12-279	168.58	169.45	0.87		0.006	<2
98	1750098	DDH-12-279	169.45	170.08	0.63		0.020	<2
99	1750099	DDH-12-279	170.08	170.57	0.49		0.009	<2
100	1750100	DDH-12-279	170.08	170.57	0.49	DUPLICATE OF 1750099 (1/4 core)	0.008	<2
101	1750101	DDH-12-279	170.57	172.70	2.13		0.009	<2
102	1750102	DDH-12-279	172.70	173.58	0.88		0.026	<2
103	1750103	DDH-12-279	173.58	174.32	0.74		0.010	<2
104	1750104	DDH-12-279	174.32	175.65	1.33		0.006	<2
105	1750105	DDH-12-279	175.65	176.97	1.32		0.008	<2
106	1750106	DDH-12-279	176.97	177.72	0.75		0.057	5.0
107	1750107	DDH-12-279	177.72	178.22	0.50		0.777	7.0
108	1750108	DDH-12-279			0.00	STANDARD CND-GS-10D	9.305	2.0
109	1750109	DDH-12-279	178.22	179.67	1.45		0.161	5.0
110	1750110	DDH-12-279	179.67	180.38	0.71		0.012	<2
111	1750111	DDH-12-279	180.38	180.90	0.52		0.009	<2
112	1750112	DDH-12-279	180.90	181.13	0.23		0.048	<2
113	1750113	DDH-12-279			0.00	BLANK	<0.005	<2
114	1750114	DDH-12-279	181.13	182.20	1.07		0.089	<2
115	1750115	DDH-12-279	182.20	182.80	0.60		<0.005	<2
116	1750116	DDH-12-279	182.80	183.60	0.80		0.007	<2
117	1750117	DDH-12-279	183.60	184.40	0.80		0.049	<2
118	1750118	DDH-12-279	184.40	185.50	1.10		0.047	2.0
119	1750119	DDH-12-279	185.50	186.72	1.22		0.018	3.0
120	1750120	DDH-12-279	186.72	188.20	1.48		0.005	<2
121	1750121	DDH-12-279	188.20	189.11	0.91		0.009	3.0
122	1750122	DDH-12-279	189.11	190.20	1.09		0.027	3.0
123	1750123	DDH-12-279	189.11	190.20	1.09	DUPLICATE OF 1750122 (1/4 core)	0.032	3.0
124	1750124	DDH-12-279	190.20	190.72	0.52		0.035	<2
125	1750125	DDH-12-279	190.72	191.85	1.13		0.006	<2
126	1750126	DDH-12-279	191.85	193.46	1.61		0.007	<2
127	1750127	DDH-12-279	193.46	194.46	1.00		0.013	3.0
128	1750128	DDH-12-279	194.46	195.39	0.93		0.008	<2

Charlotte Project
DDH-12-279 Sample Intervals

No.	Sample #	Drill Hole	From	To	Width	Type	Au (g/t) G6	Ag (g/t) 7AR
129	1750129	DDH-12-279	195.39	197.00	1.61		0.155	7.0
130	1750130	DDH-12-279	197.00	198.65	1.65		0.076	4.0
131	1750131	DDH-12-279	198.65	199.80	1.15		0.266	3.0
132	1750132	DDH-12-279	199.80	200.96	1.16		0.576	<2
133	1750133	DDH-12-279	200.96	200.96	0.00	STANDARD CDN-GS-5H	3.876	52.0
134	1750134	DDH-12-279	200.96	202.46	1.50		0.293	<2
135	1750135	DDH-12-279	202.46	203.97	1.51		0.217	8.0
136	1750136	DDH-12-279	203.97	204.60	0.63		0.511	3.0
137	1750137	DDH-12-279	204.60	205.50	0.90		0.623	4.0
138	1750138	DDH-12-279	205.50	206.22	0.72		0.434	3.0
139	1750139	DDH-12-279	206.22	207.40	1.18		0.570	5.0
140	1750140	DDH-12-279	207.40	208.60	1.20		0.105	2.0
141	1750141	DDH-12-279	208.60	209.64	1.04		0.045	<2
142	1750142	DDH-12-279	209.64	210.78	1.14		<0.005	<2
143	1750143	DDH-12-279	210.78	211.36	0.58		0.011	<2
144	1750144	DDH-12-279			0.00	BLANK	<0.005	<2
145	1750145	DDH-12-279	220.59	221.00	0.41		0.017	<2
146	1750146	DDH-12-279	221.00	221.89	0.89		0.025	<2
147	1750147	DDH-12-279	221.89	222.24	0.35		0.076	3.0
148	1750148	DDH-12-279	222.24	223.77	1.53		0.026	<2
149	1750149	DDH-12-279	223.77	224.82	1.05		0.130	<2
150	1750150	DDH-12-279	224.82	225.70	0.88		0.172	2.0
151	1750151	DDH-12-279	225.70	226.70	1.00		0.321	4.0
152	1750152	DDH-12-279	226.70	227.35	0.65		1.010	8.0
153	1750153	DDH-12-279	227.35	228.40	1.05		0.045	3.0
154	1750154	DDH-12-279	228.40	229.70	1.30		0.174	4.0
155	1750155	DDH-12-279	228.40	229.70	1.30	DUPLICATE OF 1750154 (1/4 core)	0.064	2.0
156	1750156	DDH-12-279	229.70	231.04	1.34		0.095	<2
157	1750157	DDH-12-279	231.04	232.05	1.01		0.033	4.0
158	1750158	DDH-12-279	232.05	232.91	0.86		0.379	5.0
159	1750159	DDH-12-279			0.00	BLANK	<0.005	<2
160	1750160	DDH-12-279	232.91	234.30	1.39		0.087	<2
161	1750161	DDH-12-279	234.30	235.80	1.50		0.053	<2
162	1750162	DDH-12-279	235.80	237.30	1.50		0.014	<2
163	1750163	DDH-12-279	237.30	238.60	1.30		0.009	<2
164	1750164	DDH-12-279	238.60	240.18	1.58		0.015	<2
165	1750165	DDH-12-279	240.18	241.69	1.51		0.012	<2
166	1750166	DDH-12-279	241.69	242.77	1.08		0.038	<2
167	1750167	DDH-12-279	242.77	243.23	0.46		0.012	<2
168	1750168	DDH-12-279	243.23	243.23	0.00	BLANK	0.005	<2
169	1750169	DDH-12-279	243.23	244.38	1.15		0.008	<2
170	1750170	DDH-12-279	244.38	245.31	0.93		0.029	<2
171	1750171	DDH-12-279			0.00	STANDARD CDN-GS-10D	9.556	<2
172	1750172	DDH-12-279	245.31	246.23	0.92		0.039	<2
173	1750173	DDH-12-279	246.23	247.22	0.99		0.029	<2
174	1750174	DDH-12-279	247.22	249.00	1.78		0.012	<2
175	1750175	DDH-12-279	249.00	250.45	1.45		0.044	<2
176	1750176	DDH-12-279	250.45	251.27	0.82		0.039	<2
177	1750177	DDH-12-279	251.27	252.80	1.53		0.051	<2
178	1750178	DDH-12-279	252.80	254.00	1.20		0.020	<2
179	1750179	DDH-12-279	254.00	255.09	1.09		0.007	<2
180	1750180	DDH-12-279	255.09	256.60	1.51		0.010	<2
181	1750181	DDH-12-279	256.60	258.00	1.40		0.009	<2
182	1750182	DDH-12-279	256.60	258.00	1.40	DUPLICATE OF 1750182 (1/4 core)	0.008	<2
183	1750183	DDH-12-279	258.00	259.79	1.79		0.009	<2
184	1750184	DDH-12-279	259.79	261.33	1.54		<0.005	<2
185	1750185	DDH-12-279	261.33	262.68	1.35		0.171	7.0
186	1750186	DDH-12-279	262.68	264.65	1.97		0.036	<2
187	1750187	DDH-12-279	264.65	265.66	1.01		0.047	2.0
188	1750188	DDH-12-279	265.66	267.58	1.92		0.011	<2
189	1750189	DDH-12-279	267.58	268.56	0.98		0.067	<2
190	1750190	DDH-12-279	268.56	270.14	1.58		0.027	<2
191	1750191	DDH-12-279	270.14	271.38	1.24		0.015	<2
192	1750192	DDH-12-279			0.00	STANDARD CDN-GS-P3C	0.277	<2
193	1750193	DDH-12-279	271.38	272.55	1.17		<0.005	<2
194	1750194	DDH-12-279	272.55	273.71	1.16		0.011	<2

Property: **Charlotte**
Area: **Flex**
Client: **Ansell Capital Corp.**

Hole Id: **DDH-12-280**

Logged By: **Nicola Struyk**
Date Logged: **August 17- 21, 2012**



COAST
MOUNTAIN
GEOLOGICAL LTD.

Collar Location:					
Actual:					
Datum:		NAD83, Zone 8			
Easting:		386627	mE	Azimuth:	076 °
Northing:		6881836	mN	Dip:	-71.1 °
Elevation:		1,325	m	Length:	248.41 m
Proposed:					
Easting:		386632	mE	Azimuth:	077 °
Northing:		6881832	mN	Dip:	-71 °
Elevation:		1333	m	Length:	275 m

Drilling Information:	
Contractor:	DJ Drilling
Core Diameter: HQ	
Start Date:	15-Aug-2012
End Date:	21-Aug-2012
Casing In:	No
Casing Capped	No
Units:	Metric

Hole Objective:
-Test a 25 m southward stepout from DDH-12-276

Hole Summary:

DDH-12-280 collared into strongly weather moderately magnetic mafic gneiss. The gneiss grades in and out of felsic to mafic gneiss with intercalatated granodiorite or QFP dykes to 55m Foliations are generally between 50 and 70 degrees to core axis, occasionally at 30 degrees to core axis (deg tca). Trace disseminated pyrite was seen throughout the unit with some relict hairline fractures. Several fault zones crosscut the unit. Between 55.15 and 95.73m, the hole intersected repetitive sequence of dry-granular looking salt and pepper coloured moderately well foliated mafic gneiss with a well foliated green siliceous weakly pyritic moderately magnetic sericite mafic gneiss. Pale dark red garnets appear in the mafic gneiss at 75m along with biotite. The unit is strongly weathered and moderately broken to 72.01 m where limonite coatings along fractures gradually decreases down hole. The foliation is fairly consistant, except around 112m where it appears to run parallel to core axis for 50cm. The repetitive sequence of gneiss continues until 121 where the gneiss is only quartz sericite biotite gneiss. The rock gradually becomes more fractured, faulted and altered below 121m with the possibly correlated increase in dykes and intrusions. A major fault between 143.92 and 144.87m contains minor sulphides and is the upper contact of the Hanging Wall Vein which was intersected between 144.87 and 146.56m. The zone contains several 20-40cm massive sulphide veins with sulphide breccias in between. The veins are composed of clasts of pyrite, sphalerite, bournonite (or some other Ag-As sulfosalt) and minor chalcopyrite and arsenopyrite. Below the HW intersection, is a very faulted sequence of QFP with zone of unidentifiable rock interfingered with siliceous garnet biotite-chlorite mafic gneiss with 1-2% pyrite to 169.22 m. Between 169.22 and 181.88m is a sequence of moderately brecciated and faulted, unmineralized mafic gneiss. A bleached felsic gneiss and the intersection of the Main Vein zone appears after a 5m fault. The Main Vein zone is similar to the Hanging Wall Vein, except the veins and the alteration halo is significantly larger, 1.0 and 27.12 metres respectively and there is more Ag-As sulfosalt present throughout. A strongly altered, brecciated and faulted QFP appers at 196.24 until 209.7m. The QFP has pyrite+/-sphalerite+/-chalcopyrite+/-bournonite stringers, which gradually decrease until end of the fault at 209.70m. From 209.7 to 248.41m (EOH) is a large unit of phenocrysts rich QFP. The unit is strongly siliceous with clay altered phenocrysts. The Footwall Vein intersection at 237.78m comprised of a 56cm intersection of pyrite rich quartz veins @ 50 deg tca. The unit becomes increasingly fresh looking down hole until EOH @ 248.41m.

Survey Type:		Ranger Multi Shot	
Distance	Azi	Dip	Accept
16.76	076.0	-71.1	
44.20	74.80	-71.6	
99.06	75.90	-72.4	
153.92	75.50	-72.8	
199.64	76.90	-72.2	
245.36	76.50	-73.2	

Lithology Summary			
From	To	Lith	Comment
0.00	15.56	CAS/OB	Casing/Overburden
15.56	20.42	MGn	Weathered Mafic Gneiss
20.42	26.82	FZ	Fault Zone
26.82	33.13	MGn-x	Cataclastic Felsic-Mafic Gneiss
33.13	36.03	FZ	Fault Zone
36.03	40.01	FGn	Clay altered Felsic Gneiss
40.01	50.38	QFP	Altered QFP
50.38	55.15	FGn	Weathered Felsic Gneiss
55.15	70.00	MGn	Mafic Gneiss
70.00	72.01	FZ	Faulted gneiss and porphyry
72.01	93.53	MGn	Garnet Mafic Gneiss
93.53	95.73	FZ	Fault Zone
95.73	113.60	MGn	Mafic Garnet Biotite Gneiss
113.60	114.39	FZ	Faulted and ground up mafic gneiss
114.39	121.96	MGn	Biotite-Sericite-Garnet Mafic Gneiss
121.96	122.30	FZ	Fault Zone
122.30	124.43	FP	Feldspar Porphyry
124.43	143.33	MS	Chlorite-biotite garnet mafic schist
143.33	143.92	MGn-z	Faulted Mafic Gneiss
143.92	144.87	FZ	Fault Zone
144.87	146.56	SXBX-z	Faulted sulphide breccia veins
146.56	148.17	FZ	Fault Zone
148.17	150.31	QFP-z	Faulted Quartz Feldspar Porphyry
150.31	152.65	FZ	Extremely faulted mafic gneiss
152.65	163.70	MGn	Siliceous chlorite magnetite biotite gneiss
163.70	165.47	FZ	Fault Zone
165.47	169.22	MGn-z	Faulted Biotite Sericite Mafic Gneiss
169.22	169.81	FZ	Fault Zone
169.81	171.97	FGn	Felsic Gneiss
171.97	175.25	QFP	Quartz Feldspar Porphyry
175.25	180.02	FZ	faulted mafic and felsic gneiss
180.02	181.88	MGn-z	Faulted Mafic Gneiss
181.88	186.84	FGn	Faulted Felsic Gneiss
186.84	192.94	BX	Breccia with sulphide quartz veins.
192.94	194.44	FZ	Gougey fault zone
194.44	194.96	SXVN	Massive sulphide vein.
194.96	196.24	FZ	Sulphide rich fault zone
196.24	197.53	QFP-zx	Faulted and brecciated Quartz Feldspar Porphyry
197.53	204.00	QFP	Quartz Feldspar Porphyry
204.00	209.70	FZ-QFP	Very faulted QFP
209.70	248.41	QFP	Moderately fractured and broken QFP

Charlotte Project
DDH-12-280 Detailed Log

Hole Id: DDH-12-280
Logged By: N. Struyk

Primary Intervals		Secondary		Lith Code	Description	Mineralization							Alteration																			
From	To	From	To			Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	White Clay	Altn Style		
0.00	15.24			CAS	Casing																											
15.24	15.56			OB	Broken rounded pebbles.																											
15.56	20.42			MGn	Light orange strongly altered mafic gneiss. Primary textures are mostly obliterated. Felsics are altered to clays and sericite. Millimetre wide quartz whips roughly parallel to foliation, foliation @ 35-50 deg tca. Trace py occurring as diss and in qtz stringers. Strongly weathered with a strong limonitic overprint. Sooty dark brown-black manganese staining along fractures, with an oily appearance, dentritic pattern seen along fractures. Fractures surfaces are moderately carbonaceous. Pockets where sulphides used to be, less than 1mm. Quartz stringers throughout, typically parallel to foliation. Interval is highly fractured with intervals of rubble and minor fault gouge. Lower contact is faulted, broken and wavy at roughly 45 deg tca. Minor reddish hematite blebs disseminated throughout.	tr	0	0	0	0	0	disseminated	light orange	2	0	0	3	2	0	0	4	1	0	0	0	0	0	0	0	3	fracture controlled, pervasive and restricted to phenocrysts	
20.42	26.82			FZ	Light orange-beige rubbly and gougey fault zone. Gouge contains subangular to sub rounded 1mm to 2.5 cm clasts of quartz and altered MGn. Most of the gouge is consolidated. Gouge contains trace fine grained pyrite disseminated throughout. Competent pieces of core are the same as the previous interval. Overall 80% gouge. Lower contact is faulted.	tr	0	0	0	0	0	disseminated	light orange-beige	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	Pervasive fault controlled		
26.82	33.13			MGn-x	This unit a cataclastic altered mafic/felsic gneiss. Pale orange-brown with sericite and clay altered intervals that has obliterated most primary textures. Strong limonitic overprint throughout and along fractures. Moderate to strong manganese staining along fracture surfaces in a dentritic pattern. Weak patchy magnetism. Trace specular hematite and pyrite disseminated pyrite throughout. Quartz stringers typically parallel to foliation. Due to weathering, the unit has pockets where material has been weathered away. Unit is moderately fractured and broken, with small intervals with minor gouge. Weakly brecciated. Foliation, when seen, is at 40-50 deg. Lower contact is faulted.	tr	0	0	0	0	0	disseminated	pale orange-brown	3	0	0	2	0	0	0	4	1	0	1	0	0	0	0	0	2	Pervasive, fault controlled	
		27.72	28.45		More mafic material present giving the unit a darker orange-brown colouration. Upper contact with main unit is sharp @ 20 deg tca.																											
		28.70			2.5 cm quartz vein @ 20 deg tca.																											
33.13	36.03			FZ	This unit is pale orangy brown fault zone with intervals of competent QFP within. Fault gouge is found on fracture surfaces and is scattered throughout, gouge not competent. Weakly carbonaceous. Greasy dark brown black staining along fracture surfaces as above. Strong limonitic overprint. Upper and lower contacts are faulted. No preferential foliation. Relict quartz sulphide stringers that are oriented at 50 deg tca.	tr	0	0	0	0	tr	disseminated, stringers	pale orange-brown	1	0	0	1	2	0	0	4	0	0	0	0	0	0	0	0	Pervasive, fault controlled		
36.03	40.01			FGn	Light orange-brown altered felsic gneiss. Sections where rock has been altered to sericite and clay. Strong manganese alteration along fracture surfaces, only moderately dentritic. Strongly limonite altered clay and felsics with only remnant quartz that is not limonitic. Wispy quartz parallel to foliation @ 30-50 deg tca. Weak patchy magnetism. Pockets where sulphides used to be are 1-3mm. Varying amounts of silicification, which increases with depth. Interval is strongly fractured with no preferential orientation. Minor sections with faulted rock and gouge. Apparent gradational lower contact due to alteration and faulting.	0	0	0	0	0	0	-	light orange brown	3	0	0	2	0	0	0	4	0	0	1	0	0	0	0	0	pervasive, fractured controlled		
		36.59	37.49	FZ	Fault zone with rubbly core with fault gouge along fracture surfaces. Minor amounts of competent pieces of FGn.																											
40.01	50.38			QFP	Orange-brown moderately to strongly altered QFP. Interval varies between a weakly to moderately foliated strongly altered QFP with minor relict textures to a strongly foliated QFP. Feldspars are subhedral to anhedral and are strongly altered to clay. Phenos range from 1-4mm in size. Interstitial sericite. Thin wavy broken stringers/interstitial quartz parallel to foliation. Some quartz veins have silica envelopes 1-2cm wide. Foliation are from 40-50 deg tca. Strong limonitic overprint. Fracture surfaces have strong to intense manganese alteration with good dentritic pattern. Trace pyrite occurring throughout as disseminations and in blebs. Planar quartz veins 1-2mm crosscutting QFP @ 130-155 deg tca, with a second set parallel to foliation, weakly broken. Silicification varies over interval from weak to strong. Interval hosts minor fault zones. Moderately fractured @ 135, 40-50 deg tca. Lower contact is sharp @ 130 deg tca.	tr	0	0	0	0	0	disseminated, blebs	orange-brown	3	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	patchy, pervasive
		40.01	42.67		Increase in siliceous texturally destructive alteration.								5																			
		42.67	43.07	FZ	Fault zone with competent fault gouge and rubbly core. Gouge hosts angular to subangular clast of wall rock and quartz ranging in size from 1-15mm. Lower contact @ 40 deg tca.																											
		44.71	44.92	FZ	Fault Zone with rubbly core and fault gouge. Manganese staining along fracture surfaces.																											
		47.03	47.51		Increase in fractured quartz veins giving the unit a brecciated appearance. Quartz veins do not have siliceous envelope.																											
		49.95	49.99		Fault gouge.																											
50.38	55.15			FGn	Orangy-brown strongly altered felsic gneiss with primary textures completely obliterated. Clay alteration of felsics. Interstitial sericite. Strong to intense limonitic alteration. Wavy quartz (interstitial) parallel to foliation @ 35-65 deg tca. Quartz stringers (1mm up to 1cm) parallel to foliation. Pyrite is found disseminations and in stringers up to 0.5%. Interval hosts intervals of rubble and minor fault gouge and is moderately fractured at 50-70 deg tca. Lower contact is defined by a sharp change in alteration @ 65 deg tca.	0.5	0	0	0	0	0	disseminated, stringers	orange-brown	3	0	0	3	0	0	0	3	0	0	0	0	0	0	0	2			
		53.44	54.13	FZ	Rubbly core with minor fault gouge along fracture surfaces.																											
55.15	69.41			MGn	Greeny grey to pale grey well foliated mafic gneiss. The unit is variably altered with strongly silicified zones with chlorite, hematite and pyrite intercalated with non-siliceous limonitic dry/granular looking salt and pepper looking gneiss with trace pyrite. Foliation is constant @ 50-55 deg tca. Limonitic veins and relict pyrite veins are crosscutting unit @ 20-30 and @ 130 deg tca. Unit is moderately fractured, namely along foliation planes or 30 deg tca. Dry granular gneiss is more fractured than siliceous intervals. Siliceous intervals are moderately magnetic and contain 1% specular hematite, 10-15% mafics (chlorite, trace biotite) and 2-3% disseminated and clotty pyrite. 1-2% planar, weakly fractured quartz veins (1-2cm) are parallel to foliation. Trace sericite. Granular gneiss are moderately limonitic along fractures and relict pyrite stringers, contain trace pyrite and is weakly magnetic. Sericite is seen partially altered to limonite and clay, locally has a micaceous appearance. Contacts between gneiss composition is parallel to foliation unless other wards stated below. Lower contact is sharp @ 60 deg tca with the faulted mafic dyke.	1	0	0	0	0	0	dissemianted, stringers	greeny grey, pale grey	4	0	0	1	0	0	0	3	2	0	3	3	0	0	0	0	0	patchy, fracture controlled	
		55.15	58.87		Interpretation: the granular gneiss appears to be almost sand-like in texture and the siliceous intervals are intrusives. The Granular dry salt and pepper gneiss.																											
		55.66	57.30		Moderately to very broken core. Minor rubble zones. Lower contact @ 55 deg tca.																											
		57.30	58.13		Increase in pyrite to 1-3%.	2																										
		58.13	58.40	FZ	Faulted and rubble core with fault gouge along fracture surfaces. Lower contact @ 60 deg tca.																											
		58.87	60.74	Gd	Siliceous granodioritic looking gneiss. 2-4% locally with a 0.5cm pyrite +/- arsenopyrite? in a vein @ 55 deg tca.																											

Charlotte Project
DDH-12-280 Detailed Log

Hole Id: DDH-12-280
Logged By: N. Struyk

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	to CA	Description	to CA	Description
0.00	15.24																
15.24	15.56																
15.56	20.42			35-50			-	4	35-50	<1	hairline	qtz	-	-		45	faulted, broken, wavy
20.42	26.82			-										45	faulted, broken, wavy	-	faulted
26.82	33.13			40-50										-	Faulted	-	faulted
		27.72	28.45														
		28.70															
33.13	36.03			-					50	<1	hairline	qtz	sulphides	-	Faulted	-	faulted
36.03	40.01			35-50										-	Faulted	-	apparent gradational contact based on alteration and faulting
		36.59	37.49														
40.01	50.38			40-50			40-50, 135		40-50, 130-155	<1	1-3mm	qtz		-	apparent gradational contact based on alteration and faulting	130 (50)	Sharp
		40.01	42.67														
		42.67	43.07		40	5											
		44.71	44.92														
		47.03	47.51														
		49.95	49.99														
50.38	55.15			35-65			50-70							130 (50)	Sharp	65	sharp
		53.44	54.13														
55.15	69.41			50-55			50-55, 20-30	2	50-55	1-2	1-2cm	qtz		65	sharp	60	sharp
		55.15	58.87														
		55.66	57.30		55											55	
		57.30	58.13														
		58.13	58.40		60											60	
		58.87	60.74						55	<1	0.5cm	qtz	pyrite, arsenopyrite			60-70	sharp,faulted

Charlotte Project
DDH-12-280 Detailed Log

Primary Intervals		Secondary		Lith Code	Description	Mineralization							Alteration																	
From	To	From	To			Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	White Clay	Altn Style
		60.74	62.75		Granular dry salt and pepper gneiss. Pyrite clots are larger than above and patchy. Has more of an igneous texture than above.	1																								
		62.10	62.33		Very gougey interval, poorly consolidated gouge.																									
		62.75	68.00		Siliceous propylitic gneiss.																									
		64.91	65.50		Increase in quartz veining to 40% with up to 3-4% pyrite. Veining appears to be at 55 deg tca.	3-5																								
		68.00	68.90		Granular gneiss.																									
		68.90	69.41		Siliceous propylitic gneiss. Trace epidote.																					1				
69.41	70.00			MGn	Dark green to black mafic gneiss, moderately magnetic with 10cm fault gouge upper and lower contacts. Dark yellow-green sericite whips.	0	0	0	0	0	0		dark green to black	2	0	0	3	0	0	0	1	0	0	2	2	0	0	0	0	pervasive
70.00	72.01			FZ	Dark orangy brown soft moderately faulted strongly altered mafic gneiss overlying a gneissic cataclastic/porphyry. The fault and limonite has obliterated most original textures and cause moderate fracturing to 71.33m where the lithology of the rock changes from gneiss to porphyritic and silica increases to lower contact. Upper contact is faulted and lower contact is wavy between 70-90 deg tca. Pyrite is seen in blebs up to 1%. Trace cpy and arsenopyrite seen in the porphyry.	1	tr	0	0	tr	0	disseminated	orange-brown	3	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	fracture controlled, planes of weakness
		70.00	71.33	Gn	Faulted gneiss as described above.																									
		70.85	71.33		Increase in quartz veining to 60%. Veins @ irregular angles.																									
		71.33	72.01	FP	Porphyry as described above.																									
72.01	93.53			MGn	Intercalated granular salt and pepper mafic gneiss with siliceous propylitic mafic gneiss as above. With the following exceptions: Red garnets appear in both gneiss starting at 75.0 in trace amounts. Garnets are 2-3mm, occasionally larger. Overall unit is less limonitic than above. Foliation @ 60 deg tca. Siliceous intervals are more texturally destructive. Limonitic/granular intervals are more fractured with broken intervals. Siliceous interval has minor titanite.	1-2	0	0	0	0	0	disseminated, stringers	pale greeny grey to orangy grey	3	0	0	3	0	0	0	2	0	0	3	2	0	1	0	0	fracture controlled, patchy
		72.01	72.66		Siliceous propylitic gneiss.																									
		72.66	74.97		Granular salt and pepper gneiss. Lower contact is defined by dark green-brown alteration envelope @ 40 deg tca.																									
		74.26	74.60		Fractured and broken interval.																									
		74.97	75.87		Siliceous propylitic gneiss. Dark red garnets appear in blebs with irregular shape. Generally 2-3mm in size. Increase in yellow sericite whips.																									
		75.87	78.30		Granular salt and pepper gneiss. Increase in planar quartz veins @ 70 deg tca. Range in size from 2-5mm. Vein at upper contact is 2cm @ 65 deg tca.																									
		77.04	77.23		Fractured and broken interval.																									
		78.30	79.00		Siliceous propylitic gneiss. Trace muscovite. Lower contact @ 50 deg tca.																									
		79.00	80.89		Granular salt and pepper gneiss. Foliation @ 70 deg tca. Sericite whips are present parallel to foliation, interstitially. Increase in quartz veins to 2-3%, veins are contorted deformed, range in size from 0.5cm to 3cm and range in angle from 40-70 deg tca.																									
		80.89	84.59		Siliceous propylitic gneiss with minor amounts of garnet disseminated throughout. Garnets are <1mm to 6mm in size but concentrated in more granular gneissic appearing zones (5-10cm) intercalated in this interval between 81.95-82.63. Trace pyrite.	tr																								
		81.95	82.63		Increase in dark red garnets disseminated in patches. Garnets range in size from <1mm-4mm. Anhedral shape.																									
		84.59	87.20		Granular gneiss.																									
		87.20	93.53		Siliceous propylitic gneiss.																									
		87.55	87.98		Weakly faulted interval.																									
		87.98	87.51		Increase in garnets to 5%.																									
		91.00			Foliation @ 45-50 deg tca.																									
		92.01	92.72		Mafic Dyke. Extremely aphanitic dark green to black, weakly magnetic with pale green chlorite along fractures, disseminated and lensoid pyrite in 1-2%.	1-2																								
93.53	95.73			FZ	Very broken and fractured interval. Upper contact contains minor gouge. Upper contact consists of 35 cm of moderately consolidated gouge. The unit consists of 95% broken rock and 5% gouge, concentrated in the upper 50cm of the fault. Competent clasts are clearing broken piece of the siliceous mafic gneiss seen above and below, with minor amounts of the granular gneiss. Large quartz vein with soft green andesite? fragments entrained.	1	0	0	0	0	0	vein hosted	orange-brown	3	0	0	2	0	0	0	3	0	0	2	2	0	0	0	0	fracture controlled, pervasive
95.73	113.60			MGn	Moderately to texturally destructive siliceous mafic garnet schist to gneiss. Unit is similar to above except there are fewer intervals of the granular salt and pepper gneiss and more siliceous gneiss. The siliceous gneiss has biotite increase with a decrease in chlorite down unit. Garnets are seen throughout in patches. Garnets are up to 1cm, but generally less than 0.5cm and dark red, occasionally reddish brown. Overall garnets comprise <1% of unit. The unit is fairly competent and weakly fractured. Foliation @ 40-50 deg tca. Interp: The appearance of biotite rather than chlorite would indicate less propylitic alteration and the approach of more epithermal style alteration.	tr-1	0	0	0	0	0	disseminated	pale greeny grey	4	0	0	2	0	0	0	1	1	0	3	1	0	0	0	0	patchy
		95.73	97.25		Siliceous weakly propylitic gneiss.																									
		95.88	95.98		Mafic dyke @ 50 deg tca.																									
		97.25	98.32		Pale orange to white porphyritic intrusion with minor entrained siliceous mafic gneiss clasts. Very siliceous. Alteration is texturally destructive. 1-2% disseminated pyrite.																									
		98.32	99.08		Gradual decrease in pale white siliceous with patchy limonitic alteration.																									
		99.08	100.23		Siliceous grey mafic biotite gneiss.																									
		99.46			Increase in garnets in unit to 1-2%.																									
		100.23	101.59		Appearance of a very pale greeny grey unit with white to pale green sericite, some of which has altered to clay. Fractures are limonitic and have a 1-2cm alteration envelope. Fractures @ 10-30 deg tca.											3														
		101.59	103.20		Granular salt and pepper gneiss. Fractures @ 40-50 deg tca.																									
		103.20	103.94		Siliceous biotite gneiss. Lower contact @ 30 deg tca.																									
		103.96	104.00		Moderately consolidated fault gouge @ 30-50 deg tca.																									
		103.94	108.24		Granular salt and pepper gneiss/schist. Entrained strongly chloritic altered clasts of some unknown rock. Massive dark green chloritic clay with thin limonitic halo @ 104.9-105.1m.																									
		106.94	107.06		Altered granodiorite intruding @ 60 deg tca with pyrite rich quartz veins at 0, and 60 deg tca.	2																								
		108.24	111.69		Siliceous weakly propylitic gneiss. Pyrite increases to 2% locally, 1% overall.	1																								
		108.78	109.49		Texturally destructive silica alteration.								pale greeny grey	5		3														
		110.46			5cm of gouge @ 50 deg tca.																									
		111.69	113.60		Granular gneiss with increase in silica and pyrite.	1								3																
		112.47	112.70		Foliation goes from 30 to 0 back to 40 deg tca.																									
113.60	114.39			FZ	Moderately to strongly ground up mafic gneiss. Fault is dry, ground up core has a sandy appearance rather than wet clay and gouge. No preferential orientation to fault or upper contact, lower contact @ 50 deg tca.								dark to medium green				3													

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Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	to CA	Description	to CA	Description
		~~60.74~~	~~62.75~~														
		62.10	62.33														
		62.75	68.00														
		64.91	65.50						55	40		qtz	pyrite				
		68.00	68.90														
		68.90	69.41														
69.41	70.00			70										60-70	sharp,faulted	40	faulted
70.00	72.01													40	faulted	70-90	wavy
		70.00	71.33														
		70.85	71.33														
		71.33	72.01														
72.01	93.53			60										70-90	wavy	70	faulted
		72.01	72.66														
		72.66	74.97													40	sharp
		74.26	74.60														
		74.97	75.87														
		75.87	78.30	70					65-70	5	1-25mm	qtz					
		77.04	77.23														
		78.30	79.00													50	sharp
		79.00	80.89	70					40-70	1-4	0.5-3	qtz		50	sharp		
		80.89	84.59														
		81.95	82.63														
		84.59	87.20														
		87.20	93.53														
		87.55	87.98														
		87.98	87.51														
		91.00															
		92.01	92.72														
93.53	95.73			-										70	faulted	-	faulted
95.73	113.60			40-50										-	faulted	-	faulted
		95.73	97.25														
		95.88	95.98														
		97.25	98.32														
		98.32	99.08														
		99.08	100.23														
		99.46															
		100.23	101.59				10-30	1									
		101.59	103.20				40-50	3									
		103.20	103.94													30	sharp
		103.96	104.00														
		103.94	108.24														
		106.94	107.06														
		108.24	111.69														
		108.78	109.49														
		110.46															
		111.69	113.60														
		112.47	112.70	30-0-40													
113.60	114.39					5								-	faulted	50	weakly faulted

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Primary Intervals		Secondary		Lith Code	Description	Mineralization							Alteration																		
From	To	From	To			Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	White Clay	Altn Style	
114.39	121.96			MGn	Variably altered well foliated mafic gneiss. Colour ranges from dark green-grey intervals to pale green-grey in siliceous intervals. Gneiss is comprise of biotite with sericite, along foliation plane. Overall moderately siliceous. Trace pale to dark red garnets up to 3mm disseminated in unit. Foliation @ 50 deg tca. Trace pyrite finely disseminated. Unit is fairly competent and only weakly to moderately fractured. Weakly contorted quartz veins appear <1% of unit parallel to foliation. Up to 1cm. Rare pyrite stringer.	tr	0	0	0	0	0	disseminated	dark to pale green-grey	3	0	0	2	0	0	0	1	1	0	3	2	0	0	0	0	0	patchy, fractured controlled
		115.71	116.49		Increase in silica and yellow sericite approaching the dyke between 116.49-117.4m.																										
		116.49	117.40		Pale orange to white weakly porphyritic siliceous intrusion. Phenos are 1-2mm and are moderately obliterated by alteration. Rare pyrite stringer.																										
		118.94			1cm wavy pyrite+ quartz vein @ 20 deg tca.																										
		119.34			Foliation @ 40 deg tca.																										
		120.50	120.80	FZ	Strongly limonitic gougey fault. Upper contact@ 40-45 deg tca. Lower is faulted.																										
		120.80	120.90	Gd	Porphyritic granodiorite. Phenos are 4-5mm.																										
		121.00	121.20	Gd	Porphyritic granodiorite. Phenos are 4-5mm. Lower contact @ 20 deg tca.																										
		121.70	121.96		Granular salt and pepper gneiss as seen above. Weakly fractured approaching the fault below.																										
121.96	122.30			FZ	Fault zone with very broken core consisting of both granular salt and pepper mafic gneiss and porphyry.																										
122.30	124.43			FP	Very siliceous orangey-grey to medium grey porphyry. Alteration has destroyed much of the original textures, but remnant phenos are 1-3mm with corroded boundaries. Limonitic wash throughout and decreases down unit from upper fault to 123.87m. Occasional dark grey to white quartz vein with sulphides at irregular angles, hard black-purple sulphide in quartz vein @ 124.35m. Upper contact faulted at 50 deg tca and lower contact is broken. Overall 1% pyrite in disseminations in porphyry and veins as well as thin stringers. Weakly carbonaceous.	1	0	0	0	0	tr	disseminiated, stringers	orangey-grey to medium grey	4	0	0	1	1	0	0	3	0	0	0	0	0	0	0	0	fault controlled, pervasive	
124.43	143.33			MS	Variably siliceous chlorite-biotite-garnet mafic schist. Weakly foliated, weakly to moderately magnetic and carbonaceous. Biotite has altered to chlorite and both end members are seen throughout. Pyrite is seen in disseminations and occasionally in thin lenses, overall 1% pyrite. The unit has blue-grey green appearance. White quartz veins crosscut unit at 20-90 deg to ca and are weakly mineralized with pyrite. Garnets are anhedral dark red phenos 2-4mm, overall 1%. Lower contact is faulted.	1	0	0	0	0	0	disseminations	Blue-green-grey	4	0	0	2	1	0	0	0	0	0	2	3-4	0	0	0	0	patchy	
		125.90	126.82		Pale greeny grey interval with strong carbonate and sericite alteration, weak silica alteration. Shearing @ 20 deg tca. Increase in pyrite to 2%.	2	0	0	0	0	0	disseminiated, clotts	pale greeny grey	2																	
		126.49	132.12		**Boxes 39 and 40 were dropped at the drill.																										
		128.19	128.60		Increase invariably contorted quartz veins @ 40 deg tca. 0.5-3cm.																										
		130.17	132.70		Increase in quartz veins to 10% of unit @ 20 deg tca.																										
		132.22	132.63	QFP	Very siliceous white feldspar porphyry. Upper and lower contacts @ 50 deg tca.									5																	
		135.94	138.00		Increase in disseminated and clotty pyrite, 4% locally, 2% overall.	2																									
		136.78	137.90		Increase in quartz veining to 10%.																										
		138.06	138.21		Moderately broken core.																										
		138.21	140.55		This interval has more of a deformed, contorted, cataclastic(?) appearance. Non siliceous, strongly chloritic and sericitic. Fracture surfaces have a greasy feel. Short intervals throughout with ground up and weakly faulted core. Dark to medium green.								Dark to medium green	0			4	2						4							
		140.55	141.31		Moderately broken and fractured core.																										
		140.60			Foliation @ 60 deg tca.																										
143.33	143.92			MGn-z	Moderately to strongly faulted MGn as described above. Lower contact @ 55 deg tca. Weakly calcareous, concentrated along fractures.	1	0	0	0	0	0	disseminated	dark to medium green	0	0	0	3	1	0	0	0	0	0	0	3	1	0	0	0	fracture controlled	
143.92	144.87			FZ	Extremely broken and faulted interval with 50% gouge and 50% white to pale grey clasts of remnant granodiorite and sulphide breccia veins. Lower contact is defined by the present of massive sulphide breccia vein. 3-5% disseminated and clotty pyrite, trace black purply sulphides along fractures (covelite? bournonite?), chalcopyrite and galena. Weakly calcareous. No preferential orientation for fault, shearing or foliation.	3	0	tr	0	tr	tr	disseminiated, fracture controlled, clotty	medium grey to white	2	3	0	0	2	0	0	0	0	0	0	0	0	0	0	4	fracture controlled, patchy	
144.87	146.56			SXBX-z	Extremely faulted sulphide breccia vein. Vein consists of white to dark grey quartz with pyrite, galena, sphalerite entrained with in. Ground up trace black unidentifiable sulphides are seen throughout. Trace chalcopyrite. Perfect cubic galena crystals are seen along fracture surfaces. The entire is very gougey and soft. Very few remnant. The unit consists of two massive sulphide intervals with broken quartz, vein and sulphide material in between. Trace carbonate.	5	tr	1	2	tr	1	massive, clasts, disseminiated, fracture controlled	black to grey	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	fracture controlled, patchy	
		144.87	145.13	FZ	Faulted and gougey sulphide vein as described above.																										
		145.13	145.40	VN	Breccia sulphide vein as described above. Very faulted.																										
		145.40	145.86	FZ	Faulted and gougey sulphide vein as described above.																										
		145.86	146.27	VN	Breccia sulphide vein as described above. Very faulted.																										
		146.27	146.56	FZ	Faulted and gougey sulphide vein as described above.																										
146.56	148.17			FZ	Extremely faulted and ground up mafic gneiss? 10% gouge the rest is green sandy material that looks like remnants of mafic gneiss. No preferred orientation. 10% clasts of mafic gneiss: strongly sericitic and carbonaceous, moderately chloritic. No discernible sulphides.	0	0	0	0	0	0	-	dark green	0	0	0	3	3	0	0	0	0	0	0	2	0	0	0	0	fracture controlled	
148.17	148.77			QFP	Extremely siliceous feldspar porphyry. Almost all textures have been obliterated and replaced by silica alteration such that it looks like a large quartz vein rather than a porphyry. Locally porphyry textures can be seen, but are siliceous rather than clay. Minor titanite. Trace pyrite in lenses. Sericite alteration along fractures. Both contacts are wavy and faulted. Fractures are extremely carbonaceous. Very trace sericite can be seen.	1	0	0	0	0	0	disseminated	White	5	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	pervasive, texturally destructive	
148.77	149.27			FZ	Extremely faulted dark green chlorite-biotite mafic gneiss. There are few clasts larger than 5cm. Biotite, chlorite and finely disseminated pyrite can be seen through out. Upper contact is faulted and lower contact is faulted @ 50 deg tca.	0	0	0	0	0	0	disseminiated	dark green to black	0	0	0	1	0	0	0	0	0	0	0	3	2	0	0	0	fault controlled	
149.27	150.31			QFP	As above, except slightly less silica alteration. Relict phenos can be seen 2-3mm. Upper and lower 20cm are darker grey where as the centre is very pale grey in colour. Minor biotite/chlorite, pyrite and sericite can be seen along fractures. Fractures are coated with carbonate.	tr	0	0	0	0	0	disseminiated	Pale to medium grey	5	0	0	1	2	0	0	0	0	0	0	2	0	0	0	0	fracture controlled, pervasive	
150.31	152.65			FZ	Extremely broken and faulted interval with 80% gouge and sand of chlorite-biotite mafic gneiss origin. Relic medium grey rounded clasts of siliceous biotite garnet mafic gneiss with quartz veins with minor black sulphides. No discernible orientation to fault.	tr	0	0	0	0	0	disseminiated	dark green	1	0	0	3	3	0	0	0	0	0	0	3	0	0	0	0	pervasive	
152.65	153.50			MGn	Dark green chloritic biotite mafic gneiss. Moderately siliceous with moderate sericite and weak carbonate along fracture surfaces. Moderately contorted and deformed: no consistent angle for foliation. Weak carbonate along fracture surfaces. Both contacts are faulted.	tr	0	0	0	0	0	disseminiated																			
		153.20	153.35		Very ground up core.																										
153.50	154.06			FZ	Extremely faulted and ground up mafic gneiss as seen 150.31-152.65m.	tr	0	0	0	0	0	disseminiated	dark green	0	0	0	2	2	0	0	0	0	0	0	3	0	0	0	0	pervasive	

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Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	to CA	Description	to CA	Description
				50													
114.39	121.96								50	<1	<1cm	qtz		50	weakly faulted	30	faulted
		115.71	116.49														
		116.49	117.40														
		118.94							20		1	pyrite+qtz					
		119.34		40													
		120.50	120.80											40-45	faulted	-	faulted
		120.80	120.90														
		121.00	121.20														
		121.70	121.96														
121.96	122.30													30	faulted	-	broken
122.30	124.43													-	faulted	-	broken
124.43	143.33								20-80		1-3	qtz		-	broken	-	faulted
		125.90	126.82														
		126.49	132.12														
		128.19	128.60						40	40	0.5-3cm	qtz					
		130.17	132.70														
		132.22	132.63											50	sharp	50	sharp
		135.94	138.00														
		136.78	137.90							10							
		138.06	138.21														
		138.21	140.55														
		140.55	141.31														
		140.60		60													
143.33	143.92													-	faulted	55	sharp, faulted
143.92	144.87													55	sharp, faulted	-	faulted
144.87	146.56													-	faulted	-	faulted
		144.87	145.13														
		145.13	145.40														
		145.40	145.86														
		145.86	146.27														
		146.27	146.56														
146.56	148.17													-	faulted	-	faulted
148.17	148.77			-	-	-	-	-	-	-	-	-	-	-	faulted, wavy	-	faulted, wavy
148.77	149.27													-	faulted, wavy	50	faulted
149.27	150.31													50	faulted	-	faulted
150.31	152.65			-										-	faulted	-	faulted
152.65	153.50																
		153.20	153.35														
153.50	154.06													-	faulted	-	faulted

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Primary Intervals		Secondary		Lith Code	Description	Mineralization							Alteration																		
From	To	From	To			Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	White Clay	Altn Style	
154.06	155.85			MGn	Dark green chloritic biotite sericite mafic gneiss. Same as 152.65-153.5m except with yellow sericite along fractures.	tr	0	0	0	0	0	disseminiated	dark green	1	0	0	3	1	0	0	0	0	0	0	3	0	0	0	0	pervasive, fractured controlled	
		155.30	155.85		Increase in silica alteration giving the unit a pale green colour. Quartz veins with trace dark grey to black sulphides.	1	0	0	0	0	tr	disseminated																			
155.85	157.17			FZ	Very ground up core with minor gouge. Moderately calcareous. No preferential orientation. Remnant quartz veins crosscut at irregular angles to core axis.	1	0	0	0	0	tr	disseminated	grey to dark green	1	0	0	3	3	0	0	0	0	0	0	3	0	0	0	0	pervasive, fractured controlled	
		155.85	156.41		Apparently lithology is the siliceous mafic gneiss between 155.3-155.85m.																										
		156.41	157.17		Apparent lithology is dark green mafic gneiss described below.																										
157.17	163.70			MGn	Strongly siliceous dark green to black mafic gneiss. Much more aphanitic than the mafic gneiss seen above and foliations are hard to discern, but when seen it is @ 30 deg tca. Moderately magnetic. Chlorite, magnetite and quartz can be discerned. <1% quartz veinlets crosscut core @ 30-60 deg tca. Unit has 1% fine to medium disseminations. Moderately carbonate along fracture surfaces. Unit is moderately fractured with numerous intervals that are ground up and gougey.	1	0	0	0	0	0	disseminiated	dark green to black	4	0	0	3	3	0	0	0	0	0	2	3	0	0	0	0	pervasive. Fracture controlled.	
		158.04	158.16		Ground up core and gouge.																										
		158.28	158.38		Very broken core with gouge along fractures.																										
		158.92	158.98		Broken core with gouge along fracture surfaces.																										
		159.60	160.67	FZ	Very broken core with gouge along fractures.																										
		160.80	160.89		Moderately contorted quartz veins at 80 deg tca. with moderate carbonate along fracture surfaces. 1% tan titanite.																										
		161.50			Foliation @ 20 deg tca.																										
		162.75	163.70		Foliation @ 0 deg tca. Parallel to ca. Unit has a deformed and contorted appearance due to foliation @ 0 deg tca.																										
163.70	165.47			FZ	Extremely gougey and faulted unit. 95% gouge and ground up rock, 5% relict MGn clasts. Unit has a medium to dark green colour due to the mafic gneiss. Moderately calcareous. Upper contact @ 30 deg tca. Lower contact is faulted and broken. Weakly magnetic.	0	0	0	0	0	0	-	Dark green	0	0	0	2	3	0	0	0	0	0	2	3	0	0	0	0	pervasive	
165.47	169.22			MGn-z	Faulted medium to dark green biotite sericite gneiss. Moderately carbonaceous, weakly magnetic. Trace 2-3mm red anhedral garnets. Locally biotite is going to chlorite. Patchy strong silicification, other wards weakly to moderate. Trace disseminated pyrite, increasing gradually down unit. Both contacts are broken and faulted. Foliation @ 60 deg tca.	0.5	0	0	0	0	0	disseminated	Medium to dark green	3	0	0	3	3	0	0	0	0	0	2	3	0	0	0	0	patchy	
		166.10	166.62		Strong clay alteration around sulphide vein @ 166.27m. Very soft pale green. Increase in argillic and sericite. Easily broken.																										
		166.27		VN	4cm sulphide vein @ 50 deg tca. Vein is contorted and deformed ranging in width from 1 to 5cm across the length of the interval. The vein consists of large blebs of sphalerite and pyrite with arsenopyrite, galena and trace chalcopyrite hosted in a quartz vein with additional black sulphides.	5	1	1	2	1	1	blebby, vein hosted																			
		167.12	168.00	FZ	Moderately faulted and gougey interval.																										
		168.15	169.22		Increase in pyrite to 4-5%. Bright green sericite along foliations.	4-5																									
169.22	169.81			FZ	Ground up core and gouge. Mostly mafic gneiss as described above. Upper contact faulted, lower contact faulted and gougey. No visible sulphides.	0	0	0	0	0	0																				
169.81	171.97			FGn	Very clay altered gneiss. Unit ranges from pale grey to white and is variably soft. Relict textures are clearly visible. Foliations are moderately contorted, but generally @ 55 deg tca. Trace disseminated pyrite and hairline fractures coated with black sulphides. Non magnetic, non calcareous. Upper contact is faulted and lower contact is wavy with the QFP. No orientations available on either contact.	tr	0	0	0	0	tr	disseminated, fracture coated	white to pale grey	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	pervasive, patchy	
171.97	175.25			QFP	Brown-grey strongly silicified quartz feldspar porphyry. There are two series of phenos , a larger series that are up to 1cm and are angular to subangular and weakly altered to clay and comprise 2-3% of unit. The second series comprise 20% of unit and are 1-3mm and are moderately altered to clay. No visible sulphides. Moderately chilled upper and lower contacts. Lower contact is defined where the rock starts fracturing and fractures are coated with gouge due to the lower fault.	0	0	0	0	0	0		medium to pale brown	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	partial to complete phenocryst	
		172.90			2cm brecciated QFP with quartz matrix, angular clasts. @ 30 deg tca.																										
175.25	180.02			FZ	Extremely faulted and ground up unit. 90% gouge and broken core, 10% relict clasts of chlorite-biotite mafic gneiss, felsic gneiss and clay altered granodiorite. No preferred orientation. Contacts defined by competent core. Carbonate is not present at the top of the unit, but increases to moderate by the end of unit.	0	0	0	0	0	0		Green to pale grey	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	2	pervasive, fault controlled	
180.02	181.88			MGn-z	Moderately faulted dark green chlorite-biotite mafic gneiss. Fracture surfaces are moderately greasy. Gneiss is as described above.																										
181.88	184.33			FGn	White to pale grey fine grained felsic gneiss. Strong quartz-sericite-pyrite alteration throughout. Foliation is parallel to ca giving the unit a granodioritic appearance. Strongly pyritic up to 10% locally, overall 5%. Most pyrite is in fine to medium sized disseminations as well as fracture filling. Unit is moderately contorted due to the foliation running parallel to core axis. Moderately contorted quartz veins, up to 1cm, crosscut unit @ 30 deg tca. Quartz veins contain disseminated pyrite. Trace black sulphides along fractures and in veins. Unit is weakly faulted and increases gradually down unit. Upper contact is sharp @ 30 deg tca and is defined by the appearance of competent core. Lower contact is gradational as gouge and faulting increases and is defined by the presence of gouge hosting broken clasts.	5	0	0	0	0	tr	disseminated, fracture coated	pale grey to white	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	3	pervasive
184.33	186.84			FGn-z	Moderately faulted felsic gneiss. Gneiss as described above except with an increase in gouge and fractured rock. Lower contact is gradational and is defined by clear and consistent breccia textures. Small (<5cm) rounded weakly mafic clasts entrained within fault. Clasts are subrounded, unit has a rounded crackle appearance. 5-7% pyrite in disseminations and clots. Trace cpy. Foliation @ 0 deg tca. Gouge is moderately to well consolidated. weakly carbonaceous along fractures.	5-7	0	0	0	tr	0	disseminated, fracture coated	pale grey to white	4	0	0	3	2	0	0	0	0	0	0	0	0	0	0	3	pervasive	
186.84	192.94			BX	Very brecciated and weakly to moderately faulted sulphide-quartz veins, and felsic gneiss. The breccia is generally matrix supported with broken quartz veins crosscutting with large blebs and phenos of pyrite with minor arsenopyrite, sphalerite, stibnite/bournonite/pyrargyrite? (bluey-silvery black with reddish to grey streak. Could be several of the silver-sulfosalts), black silvery sulphides and cpy. Moderately to strongly silicified and clay altered. About 20% of the pyrite are euhedral. Larger blebs of pyrite are fractured. Cpy is seen coating the pyrite, sphalerite is in angular to subrounded blebs, occasionally fractured and arsenopyrite is seen in thin needles. All sulphides are hosted in black to white quartz veins disseminated throughout either together or by themselves. Trace Galena and possibly realgar? Moderately vuggy. Moderately fractured.	4	1	tr	1	0.5	tr	disseminated, vein hosted, blebs, euhedral crystals	white to dark grey	4	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4	pervasive, fractured controlled	
		189.12	189.48	FZ	Fault gouge @ 30 deg tca.																										
		189.48	189.78	FGn-z	Clear felsic gneiss clasts, some have a granodioritic appearance. Less sulphides over this interval. Mostly 3-5% pyrite. Fracture hosted red sphalerite, pyrite and minor arsenopyrite and other black-silver sulphides. Clasts are well foliated but very broken.	3	0.5	0	0.5	tr	tr	disseminated, fracture coated																			
		189.78	190.18	SXBX-z	Faulted sulphide rich breccia. Extremely broken. Mostly rubble.	3	0.5	0.5	2	tr	tr	blebs, fracture hosted																			

Charlotte Project
DDH-12-280 Detailed Log

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	to CA	Description	to CA	Description
154.06	155.85													-	faulted	-	faulted
		155.30	155.85														
155.85	157.17													-	faulted	-	faulted
		155.85	156.41														
		156.41	157.17														
157.17	163.70			30-60			30-80	4						-	faulted	-	faulted
		158.04	158.16														
		158.28	158.38														
		158.92	158.98														
		159.60	160.67														
		160.80	160.89														
		161.50															
		162.75	163.70														
163.70	165.47													30	broken, faulted	-	faulted
165.47	169.22			60										-	faulted	-	faulted
		166.10	166.62														
		166.27							50			qtz	sphalerite, py, apy, cpy, ga				
		167.12	168.00														
		168.15	169.22														
169.22	169.81													-	faulted	-	faulted
169.81	171.97			55										-	faulted	-	wavy
171.97	175.25													-	wavy	-	broken
		172.90															
175.25	180.02													-	broken	-	broken
180.02	181.88													-	broken	30	Sharp
181.88	184.33			0-10					30	1-2	1cm	qtz	pyrite	30	sharp	-	gradual
184.33	186.84			0-10										-	gradual	-	gradual
186.84	192.94													-	gradual	-	faulted
		189.12	189.48											30		-	broken
		189.48	189.78														
		189.78	190.18														

Charlotte Project
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Primary Intervals		Secondary		Lith Code	Description	Mineralization							Alteration																		
From	To	From	To			Py%	Asp%	Gn%	Sp%	Cp%	FSx%	Mnzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	White Clay	Altn Style	
		190.18	190.58	FGn	FGn as described above.																										
		190.58	190.83	SXBX-z	Faulted sulphide rich breccia. Moderately broken. Possibly pyrrargyrite? Steel-metallic blue, looks like moly but a bit harder. Mostly rubble.																										
		190.83	191.56	FGn-x	Brecciated felsic gneiss with sulphides fracture coating and coarsely disseminated.																										
		191.56	192.19	Gd-xz	Brecciated and faulted apparent granodiorite. Original textures are hard to discern. Sulphides are crosscutting unit in white to dark grey quartz veins. Mostly pyrite seen (5%) with minor sphalerite. Moderately gougey.																										
		192.19	192.94	SXBX-z	Faulted quartz sulphide breccia within felsic gneiss. Very broken.																										
192.94	194.44			FZ	95% consolidated greeny grey fault gouge. Rare relict quartz-sericite-pyrite altered granodiorite clast. Upper and lower contacts are faulted.	1	0	0	0	0	0	dissminated	greeny grey	2	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	fault controlled	
194.44	194.96			SXVN	90% sulphide vein. Pyrite, sphalerite, galena, chalcopyrite, arsenopyrite, stibnite, pyrrargyrite/bournonite? (A steel-blue grey moderately hard sulphide) are all intergrown with 10-15% quartz. Clasts are cracked. Upper and lower contacts are faulted. Lower 20cm has two types of veins: pyrite rimming sphalerite and pyrrargyrite and another vein where sphalerite and arsenopyrite are rimming a massive pyrite+cpy+pyrrgyrite. Veins are 1-2cm. Brass, black and blue-purple colouration.	20-30	10	tr	10	5	30	clasts, fragments	black-blue-brass	3																	
194.96	196.24			FZ	80% gougey fault zone with clear dark grey quartz(10%) and sulphide clasts (10%) as described above. Upper and lower contacts are both faulted and gougey. Lower contact is defined by a change in colour.	3	tr	0	tr	tr	tr	disseminated, fracture coated	green-grey	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	limited to clasts	
196.24	197.53			QFP-zx	Brecciated and gougey QFP. Pale yellow to green colouration. 50% clasts that are variably altered to clay with a few clasts with euhedral and anhedral pyrite blebs within. 50% of the clasts are remnant dark grey quartz clasts with sulphide, mostly pyrite with trace arsenopyrite and chalcopyrite. 50% gouge, yellow sericite and clay. Yellow sericite gradually decreases down unit. Clasts are subrounded to angular and range in size from <1cm to 5cm.	1	tr	0	0	tr	0	disseminated, fracture coated	yellow-greeny-grey	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	fracture controlled	
197.53	204.00			QFP	Medium grey to pale yellow grey quartz feldspar porphyry. Unit is extremely hard and has a glassy appearance. Phenos are 2-5mm, occasionally up to 1cm and are pale minty green to white. Matrix is quartz and pyrite. Pyrite is found 2-3% in matrix, and in grey quartz and quartz clasts throughout. Phenos are altered to clay. Purply-black sulphides are fg and entrained within the clay-phenos where as the pyrite is disseminated throughout. 1-2% thin dark grey sulphide rich quartz veins cross cut unit at 50-60 deg tca. Trace realgar? Veins contain purply-black sulphides, pyrite and sphalerite. Overall 2-3% pyrite. Moderately broken throughout with small intervals of gouge. Upper contact is wavy and is defined by the appearance of gouge, lower contact is defined by the appearance of gouge and broken rock.	2	0	0	0.5	0	0.5	vein hosted, phenocryst hosted, disseminated	medium grey to pale yellow grey	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	phenocrysts
		197.53	198.27		Matrix has a reddish hue (Kspar?). Minor gouge and faulting.																										
		200.92	201.54	FZ	Extremely broken core. Rubbly.																										
204.00	209.70			FZ-QFP	Strongly faulted pale green QFP. Phenos are white and green clay altered. QFP is as above except with less qtz sulphide stringers and sulphides overall. 80% ground up core and gouge.	1	0	0	0	0	0	stringers	medium grey to pale yellow grey	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	phenocrysts	
		205.62	206.40		Mafic Gneiss clasts entrained within the fault.																										
209.70	225.92			QFP-z	Altered broken and fractured QFP. Pale green to white QFP. Moderately to strongly siliceous with weak to moderate sericite and clay alteration. Clay alteration is concentrated in the feldspar phenos which are altered to either pale minty green or white. About 1% are pink Kspar. Phenos are 1-5mm and comprise 3-5% of unit. Weakly carbonaceous throughout matrix and phenos starting at 215.49m. Minor pyrite disseminated in groundmass and phenos, decrease down unit. Pyrite is also seen in rare pyrite + silica vein with trace cpy. Unit is extremely blocky and rubbly. Small intervals of gouge throughout. Lower contact is defined by a change in alteration to dark brown-green and very glassy QFP coming through in bands @ 50-60 deg tca. The contact is gradational over 4m.	0.5	0	0	0	0	0	disseminated, stringers	pale green to white	4	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	phenocrysts, pervasive	
		212.45			Patches of propylitic alteration appear with biotite, magnetite, chlorite and minor pyrite. Intervals increase down unit.																	1									
		212.92	213.45	QFP	Competent core.																										
		214.62	215.49		Several thin dark grey quartz+ pyrite veins. Up to 1cm, moderately contorted.																										
		215.49			Weak carbonaceous to end of unit.																										
		217.01	217.95	QFP	Competent core.												2														
		217.95	218.40	FZ	Gougey and faulted interval. 20% gouge, weakly consolidated, coating fracture surfaces.																										
		220.22	221.06		Several thin dark grey quartz+ pyrite veins. Up to 1cm, moderately contorted.	1																									
		222.80	222.87	FZ	100% gouge and broken rock.																										
		223.98	224.10		100% gouge and broken rock.																										
225.92	248.41			QFP	Dark brown to greyey brown glassy strongly siliceous QFP. Quartz and Feldspar phenos are 2-7mm and comprise 30-50% of unit and are clustered in patches ranging from 20-60%. Phenos are a variety of colours ranging from clear, red, pinkish, white and green. The pale green phenos are clay altered and are softer. Hairline fractures are filled with carbonate @ 30-60 deg tca and have a pale yellow- green halo up to 0.5cm on either side. Rare clast? of brighter green fine grained phenos rich entrained within QFP that has a black halo occasionally scattered throughout.	tr	0	0	0	0	0	disseminated	greyey brown to dark grey	4	0	0	2	1	0	0	0	0	0	0	1	0	0	0	1	phenocrysts alteration, fracture controlled.	
		228.04	228.40		Weakly faulted, minor gouge with a pale green wash consisting of mostly sericite and minor carbonate.																										
		230.07	231.45	QFP-z	Moderately faulted interval, minor gouge, moderately broken core. Pale green wash with sericite throughout. Feldspars have been altered similarly to the groundmass. Only remnant quartz phenos are non altered. 0.5% disseminated pyrite.	0.5																									
		233.40	233.63		Fine grained moderately magnetic black dyke crosscutting @ 40-50 deg tca. Entrained small <5cm clasts of QFP.																										
		233.63	236.15	FZ	Extremely faulted and broken interval. Pale green with sericite alteration. Upper contact with dyke @ 40-50 deg tca and has a 5cm fault breccia, lower contact is faulted .											4															
		236.74	236.90	FZ	Extremely faulted and broken interval. Pale green. 20% gouge. Upper contact @ 60 deg tca. Minor consolidated fault breccia.																										
		237.78	238.33		Several 1-2 cm pyrite rich quartz veins @ 55-60 deg tca. Planar, no other sulphides. Pyrite consists of 10% of vein in blebs.	2																									
		238.33	239.40		Weakly bleached interval. Pale green. Still hard.										2																
		239.40	242.82		Dark black weakly magnetic dyke with stringers down to 242.82. weakly anastamosing. No sulphides.																										
		241.55	243.02		Moderately broken interval. Minor gouge along fracture surfaces.																										
		244.00	244.60		Moderately broken core.																										
		246.70	247.65		Weakly bleached interval. Pale green. Moderately broken. Minor increase in carbonate.										3		3														
248.41					EOH																										

Charlotte Project
DDH-12-280 Detailed Log

Primary Intervals		Secondary		Foliation	Shearing		Fractures		Veins					Upper Contact		Lower Contact	
From	To	From	To	to CA	to CA	Intensity	to CA	Intensity	to CA	% Vn	Width	Type	Minerals	to CA	Description	to CA	Description
		190.18	190.58														
		190.58	190.83														
		190.83	191.56														
		191.56	192.19														
		192.19	192.94														
192.94	194.44													-	faulted	-	faulted
194.44	194.96													-	faulted	-	faulted
194.96	196.24													-	faulted	-	faulted
196.24	197.53													-	faulted	-	wavy
197.53	204.00			-					50-60	1-2	<1cm	qtz	pyrite, sphalerite, black sulphide	-	wavy	-	broken
		197.53	198.27														
		200.92	201.54														
204.00	209.70													-	broken	-	broken
		205.62	206.40														
209.70	225.92													-	broken	50-60	gradational over 4 metres
		212.45															
		212.92	213.45														
		214.62	215.49														
		215.49															
		217.01	217.95														
		217.95	218.40														
		220.22	221.06														
		222.80	222.87														
		223.98	224.10														
225.92	248.41						30-60	1						50-60	gradational over 4 metres		
		228.04	228.40														
		230.07	231.45														
		233.40	233.63														
		233.63	236.15														
		236.74	236.90											60	faulted	-	faulted
		237.78	238.33						55-60	20	1-2cm	qtz	pyrite				
		238.33	239.40														
		239.40	242.82														
		241.55	243.02														
		244.00	244.60														
		246.70	247.65														
248.41																	

Charlotte Project
DDH-12-280 Down Hole Surveys

Depth (ft)	Depth (m)	Azimuth	Azimuth (Corrected)	Inclination	MGI	MDI	GVI	TMP (C)	GVR	MTF	DLG	Date/Time
25	7.62	77.7	99.7	-70.6	49363	73	0.994	6.4	38.9	171.3	-22.42	22/08/2012 9:28
55	16.76	54.0	76.0	-71.1	58352	76.9	0.995	6.4	351.5	127.6	-0.43	22/08/2012 9:26
85	25.91	54.4	76.4	-71.1	58003	76.4	0.993	6.4	170.5	304.7	-2.08	22/08/2012 9:24
115	35.05	52.2	74.2	-71.4	57919	76.9	0.995	6.4	323.8	99	-0.62	22/08/2012 9:22
145	44.20	52.8	74.8	-71.6	57831	77	0.994	6.5	61.8	196.5	-0.29	22/08/2012 9:20
175	53.34	52.6	74.6	-71.8	57840	76.4	0.991	6.6	211.6	343.6	-0.9	22/08/2012 9:17
205	62.48	51.7	73.7	-72.1	57801	76.9	0.993	6.8	272.5	45.4	-0.38	22/08/2012 9:14
235	71.63	52.0	74.0	-72.3	57887	76.7	0.994	6.9	255.3	26.6	-2.14	22/08/2012 9:11
265	80.77	49.7	71.7	-72.5	57949	76.9	0.995	7.1	13.6	145.2	-4.38	22/08/2012 9:09
295	89.92	54.3	76.3	-72.5	56689	75.5	0.994	7.3	144.5	271.2	-0.35	22/08/2012 9:07
325	99.06	53.9	75.9	-72.4	57818	76.8	0.995	7.4	86.5	218.3	-0.14	22/08/2012 9:04
355	108.20	54.1	76.1	-72.5	57818	76.8	0.995	7.5	86.4	218.4	-1.55	22/08/2012 9:04
385	117.35	52.5	74.5	-72.5	57738	76.9	0.995	7.6	280.1	52.1	-1.87	22/08/2012 9:01
415	126.49	54.4	76.4	-72.4	57768	76.7	0.994	7.9	122.4	254.1	-0.12	22/08/2012 8:59
445	135.64	54.4	76.4	-72.3	58004	76.6	0.994	8	201.5	333.1	-0.87	22/08/2012 8:56
475	144.78	55.3	77.3	-72.4	57933	77.1	0.994	8.4	145.2	278.4	-1.75	22/08/2012 8:49
505	153.92	53.5	75.5	-72.8	57981	76.7	0.996	8.5	258.6	29	-1.06	22/08/2012 8:46
535	163.07	54.5	76.5	-72.3	57977	77	0.996	8.6	55	188	-1.71	22/08/2012 8:44
565	172.21	56.2	78.2	-72.5	58131	76.6	0.995	8.6	144.7	275.9	-1.58	22/08/2012 8:41
595	181.36	54.6	76.6	-72.8	57966	76.8	0.996	8.6	346.5	117.6	-0.67	22/08/2012 8:39
625	190.50	53.9	75.9	-72.7	57956	76.8	0.996	8.6	5.4	136.7	-1.06	22/08/2012 8:37
655	199.64	54.9	76.9	-72.2	58007	76.3	0.996	8.6	153.6	284.6	-1.77	22/08/2012 8:34
685	208.79	53.2	75.2	-73.0	57844	76.7	0.996	8.6	315	84.7	-0.36	22/08/2012 8:32
715	217.93	52.9	74.9	-73.0	57955	76.8	0.996	8.5	20.2	150.4	-0.47	22/08/2012 8:29
745	227.08	52.5	74.5	-72.7	57677	76.5	0.996	8.4	40.2	169.8	-2.15	22/08/2012 8:26
775	236.22	54.8	76.8	-72.9	57792	76.3	0.995	8.1	261	30	-0.44	22/08/2012 8:24
805	245.36	54.5	76.5	-73.2	57644	76.5	0.994	7.8	120.2	248.8	0	22/08/2012 8:21

Charlotte Project
DDH-12-280 Sample Intervals

Sample Dispatch

Property: CHARLOTTE Date: August 16, 2012

No.	Sample #	Drill Hole	From	To	Width	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
1	1750195	DDH-12-280				BLANK	<0.005	<2		
2	1750196	DDH-12-280	57.30	58.13	0.83		0.586	<2		
3	1750197	DDH-12-280	58.13	58.87	0.74		0.008	<2		
4	1750198	DDH-12-280	58.87	59.96	1.09		0.214	<2		
5	1750199	DDH-12-280	59.96	60.74	0.78		<0.005	<2		
6	1750200	DDH-12-280	60.74	61.75	1.01		0.008	<2		
7	1750201	DDH-12-280	69.41	70.00	0.59		<0.005	3		
8	1750202	DDH-12-280	70.00	71.33	1.33		0.010	<2		
9	1750203	DDH-12-280	71.33	72.01	0.68		<0.005	<2		
10	1750204	DDH-12-280	72.01	72.66	0.65		0.008	<2		
11	1750205	DDH-12-280	72.01	72.66	0.65	DUPLICATE OF 1750204 (1/4 core)	0.006	<2		
12	1750206	DDH-12-280	92.72	93.53	0.81		0.066	<2		
13	1750207	DDH-12-280	93.53	94.63	1.10		0.012	<2		
14	1750208	DDH-12-280	94.63	95.73	1.10		0.019	<2		
15	1750209	DDH-12-280	95.73	97.25	1.52		0.006	<2		
16	1750210	DDH-12-280	97.25	98.32	1.07		0.015	<2		
17	1750211	DDH-12-280	98.32	99.08	0.76		0.012	<2		
18	1750212	DDH-12-280	99.08	106.90	7.82		<0.005	<2		
19	1750213	DDH-12-280	106.90	107.58	0.68		0.014	<2		
20	1750214	DDH-12-280	107.58	108.24	0.66		0.010	<2		
21	1750215	DDH-12-280	0.00	0.00	0.00	STANDARD CDN GS-P3C	0.270	<2		
22	1750216	DDH-12-280	108.24	109.49	1.25		0.007	<2		
23	1750217	DDH-12-280	109.49	110.50	1.01		0.009	<2		
24	1750218	DDH-12-280	110.50	111.61	1.11		<0.005	<2		
25	1750219	DDH-12-280	111.61	112.37	0.76		<0.005	<2		
26	1750220	DDH-12-280	112.37	113.60	1.23		<0.005	<2		
27	1750221	DDH-12-280	113.60	114.39	0.79		0.011	<2		
28	1750222	DDH-12-280	114.39	115.71	1.32		0.012	<2		
29	1750223	DDH-12-280	115.71	116.49	0.78		0.009	<2		
30	1750224	DDH-12-280	116.49	117.40	0.91		0.011	<2		
31	1750225	DDH-12-280			0.00	BLANK	0.007	<2		
32	1750226	DDH-12-280	117.40	118.51	1.11		0.009	<2		
33	1750227	DDH-12-280	118.51	119.34	0.83		0.012	<2		
34	1750228	DDH-12-280	119.34	120.32	0.98		0.006	<2		
35	1750229	DDH-12-280	120.32	121.96	1.64		<0.005	<2		
36	1750230	DDH-12-280	121.96	122.30	0.34		<0.005	<2		
37	1750231	DDH-12-280	122.30	123.44	1.14		<0.005	<2		
38	1750232	DDH-12-280	123.44	124.43	0.99		<0.005	<2		
39	1750233	DDH-12-280	124.43	125.90	1.47		<0.005	<2		
40	1750234	DDH-12-280	125.90	126.82	0.92		<0.005	<2		
41	1750235	DDH-12-280			0.00	STANDARD CDN GS-5H	4.131	51		
42	1750236	DDH-12-280	126.82	128.19	1.37		0.011	<2		
43	1750237	DDH-12-280	128.19	130.17	1.98		0.010	<2		
44	1750238	DDH-12-280	130.17	131.20	1.03		0.012	<2		
45	1750239	DDH-12-280	131.20	132.22	1.02		<0.005	<2		
46	1750240	DDH-12-280	132.22	133.55	1.33		<0.005	<2		
47	1750241	DDH-12-280	133.55	135.00	1.45		0.008	<2		
48	1750242	DDH-12-280	135.00	135.94	0.94		0.006	<2		
49	1750243	DDH-12-280	135.94	136.78	0.84		<0.005	<2		
50	1750244	DDH-12-280	136.78	137.90	1.12		<0.005	<2		
51	1750245	DDH-12-280	136.78	137.90	1.12	DUPLICATE OF 1750244 (1/4 core)	0.005	<2		
52	1750246	DDH-12-280	137.90	139.00	1.10		0.008	<2		
53	1750247	DDH-12-280	139.00	140.55	1.55		<0.005	<2		
54	1750248	DDH-12-280	140.55	141.50	0.95		<0.005	<2		
55	1750249	DDH-12-280	141.50	142.40	0.90		<0.005	<2		
56	1750250	DDH-12-280	142.40	143.33	0.93		<0.005	<2		
57	1750251	DDH-12-280	143.33	143.92	0.59		0.007	<2		
58	1750252	DDH-12-280	143.92	144.87	0.95		0.758	35		
59	1750253	DDH-12-280	144.87	145.13	0.26		>10.000	>300	44.5	910
60	1750254	DDH-12-280	145.13	145.40	0.27		>10.000	>300	73.3	1527
61	1750255	DDH-12-280			0.00	BLANK	0.113	3		
62	1750256	DDH-12-280	145.40	145.86	0.46		>10.000	153	11.2	139
63	1750257	DDH-12-280	145.86	146.27	0.41		>10.000	>300	86.8	911
64	1750258	DDH-12-280			0.00	BLANK	0.085	<2		
65	1750259	DDH-12-280	146.27	146.56	0.29		1.021	24		
66	1750260	DDH-12-280			0.00	BLANK	0.011	<2		
67	1750261	DDH-12-280	0.00		0.00	BLANK	0.005	<2		
68	1750262	DDH-12-280	146.56	147.60	1.04		0.142	<2		
69	1750263	DDH-12-280			0.00	STANDARD CDN GS-10D	8.338	<2		
70	1750264	DDH-12-280	147.60	148.17	0.57		0.011	<2		
71	1750265	DDH-12-280	148.17	148.77	0.60		0.015	<2		
72	1750266	DDH-12-280	148.77	149.27	0.50		0.012	<2		
73	1750267	DDH-12-280	149.27	150.31	1.04		0.007	<2		
74	1750268	DDH-12-280	150.31	151.30	0.99		0.036	3		
75	1750269	DDH-12-280	152.65	153.50	0.85		0.009	<2		
76	1750270	DDH-12-280	153.50	154.06	0.56		0.013	<2		
77	1750271	DDH-12-280	154.06	155.30	1.24		0.006	<2		
78	1750272	DDH-12-280	155.30	155.85	0.55		<0.005	<2		
79	1750273	DDH-12-280	155.30	155.85	0.55	DUPLICATE OF 1750272 (1/4 core)	<0.005	<2		
80	1750274	DDH-12-280	155.85	156.41	0.56		0.005	<2		
81	1750275	DDH-12-280	156.41	157.17	0.76		0.008	<2		
82	1750276	DDH-12-280	157.17	158.99	1.82		<0.005	<2		
83	1750277	DDH-12-280	165.47	166.10	0.63		<0.005	<2		
84	1750278	DDH-12-280	166.10	166.62	0.52		>10.000	63	14.2	60
85	1750279	DDH-12-280	166.62	167.58	0.96		0.010	<2		
86	1750280	DDH-12-280	167.58	168.00	0.42		0.437	<2		
87	1750281	DDH-12-280	168.00	169.22	1.22		<0.005	<2		
88	1750282	DDH-12-280	169.22	169.81	0.59		0.006	<2		
89	1750283	DDH-12-280			0.00	STANDARD CDN-GS-P3C	0.272	<2		
90	1750284	DDH-12-280	169.81	170.81	1.00		<0.005	<2		
91	1750285	DDH-12-280	170.81	171.97	1.16		<0.005	<2		

Charlotte Project
DDH-12-280 Sample Intervals

No.	Sample #	Drill Hole	From	To	Width	Type	Au (g/t) G6	Ag (g/t) 7AR	Au (g/t) G6Gr	Ag (g/t) G6GR
92	1750286	DDH-12-280	171.97	172.90	0.93		<0.005	<2		
93	1750287	DDH-12-280	172.90	173.90	1.00		<0.005	<2		
94	1750288	DDH-12-280	173.90	174.90	1.00		<0.005	<2		
95	1750289	DDH-12-280	174.90	181.88	6.98		<0.005	<2		
96	1750290	DDH-12-280	181.88	183.53	1.65		0.495	4		
97	1750291	DDH-12-280	183.53	184.33	0.80		0.282	2		
98	1750292	DDH-12-280	184.33	185.50	1.17		0.330	<2		
99	1750293	DDH-12-280	185.50	186.84	1.34		0.386	2		
100	1750294	DDH-12-280	185.50	186.84	1.34	DUPLICATE OF 1750293 (1/4 core)	0.367	3		
101	1750295	DDH-12-280	186.84	188.06	1.22		0.353	3		
102	1750296	DDH-12-280	188.06	189.12	1.06		0.606	5		
103	1750297	DDH-12-280	189.12	189.78	0.66		0.728	22		
104	1750298	DDH-12-280			0.00	BLANK	0.010	65		
105	1750299	DDH-12-280	189.78	190.18	0.40		0.925	65		
106	1750300	DDH-12-280	190.18	190.58	0.40		1.093	20		
107	1750301	DDH-12-280	190.58	190.83	0.25		1.572	272		
108	1750302	DDH-12-280			0.00	BLANK	0.006	<2		
109	1750303	DDH-12-280			0.00	STANDARD GS-10D	9.382	2		
110	1750304	DDH-12-280	190.83	191.56	0.73		7.197	171		
111	1750305	DDH-12-280			0.00	BLANK	0.017	<2		
112	1750306	DDH-12-280	191.56	192.19	0.63		0.431	15		
113	1750307	DDH-12-280	192.19	192.94	0.75		0.387	14		
114	1750308	DDH-12-280	192.94	194.44	1.50		0.493	9		
115	1750309	DDH-12-280	194.44	194.96	0.52		>10.000	>300	24.1	1591
116	1750310	DDH-12-280			0.00	BLANK	0.012	<2		
117	1750311	DDH-12-280	194.96	195.53	0.57		>10.000	>300	27.3	1297
118	1750312	DDH-12-280			0.00	BLANK	0.020	3		
119	1750313	DDH-12-280	195.53	196.20	0.67		>10.000	>300	26.2	1091
120	1750314	DDH-12-280			0.00	BLANK	<0.005	<2		
121	1750315	DDH-12-280			0.00	BLANK	0.011	2		
122	1750316	DDH-12-280	196.20	197.53	1.33		0.250	3		
123	1750317	DDH-12-280	196.20	197.53	1.33	DUPLICATE OF 1750317 (1/4 core)	0.262	5		
124	1750318	DDH-12-280	197.53	198.27	0.74		0.130	5		
125	1750319	DDH-12-280	198.27	199.95	1.68		0.220	4		
126	1750320	DDH-12-280			0.00	BLANK	<0.005	<2		
127	1750321	DDH-12-280	199.95	200.92	0.97		0.327	8		
128	1750322	DDH-12-280	200.92	201.54	0.62		0.545	51		
129	1750323	DDH-12-280	201.54	202.69	1.15		1.272	32		
130	1750324	DDH-12-280	202.69	204.00	1.31		0.194	11		
131	1750325	DDH-12-280	204.00	205.62	1.62		0.584	5		
132	1750326	DDH-12-280			0.00	STANDARD GS-5H	3.716	54		
133	1750327	DDH-12-280	205.62	206.40	0.78		<0.005	<2		
134	1750328	DDH-12-280	206.40	209.70	3.30		<0.005	<2		
135	1750329	DDH-12-280	209.70	210.87	1.17		0.012	<2		
136	1750330	DDH-12-280	213.10	213.90	0.80		<0.005	<2		
137	1750331	DDH-12-280	213.90	215.54	1.64		<0.005	<2		
138	1750332	DDH-12-280	215.54	216.55	1.01		<0.005	<2		
139	1750333	DDH-12-280	219.14	220.22	1.08		0.006	<2		
140	1750334	DDH-12-280	220.22	221.06	0.84		<0.005	<2		
141	1750335	DDH-12-280	221.06	222.80	1.74		<0.005	<2		
142	1750336	DDH-12-280	221.06	222.80	1.74	DUPLICATE OF 1750335 (1/4 core)	<0.005	<2		
143	1750337	DDH-12-280	230.07	230.45	0.38		<0.005	<2		
144	1750338	DDH-12-280	230.45	231.45	1.00		0.005	<2		
145	1750339	DDH-12-280	231.45	233.32	1.87		<0.005	<2		
146	1750340	DDH-12-280	233.32	234.82	1.50		<0.005	<2		
147	1750341	DDH-12-280	234.82	236.15	1.33		<0.005	<2		
148	1750342	DDH-12-280	236.15	237.78	1.63		<0.005	<2		
149	1750343	DDH-12-280	237.78	238.33	0.55		<0.005	<2		
150	1750344	DDH-12-280			0.00	BLANK	<0.005	<2		
151	1750345	DDH-12-280	238.33	239.70	1.37		<0.005	<2		
152	1750346	DDH-12-280	239.70	241.55	1.85		<0.005	<2		
153	1750347	DDH-12-280	241.55	242.75	1.20		<0.005	<2		
154	1750348	DDH-12-280	242.75	244.00	1.25		<0.005	<2		
155	1750349	DDH-12-280			0.00	STANDARD GS-P3C	0.336	<2		

APPENDIX 4

Assay Certificates: Drilling



1020 Cordova St. East Vancouver BC V6A 4A3 Canada

Acme Analytical Laboratories (Vancouver) Ltd.

www.acmelab.com

Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Submitted By: Nicola Struyk

Receiving Lab: Canada-Whitehorse

Received: June 28, 2012

Report Date: July 09, 2012

Page: 1 of 5

CERTIFICATE OF ANALYSIS

WHI12000182.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-03
P.O. Number
Number of Samples: 100

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	95	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	100	Lead collection fire assay fusion - ICP-ES finish + 7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC: Email Distribution List -Proj Charlotte
Jay Page



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Project: Charlotte Project

Report Date: July 09, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000182.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	gm/t	gm/t
MDL	0.01	0.005	2
1748501	Rock	1.00	<0.005
1748502	Drill Core	5.99	0.021
1748503	Drill Core	6.85	<0.005
1748504	Drill Core	3.13	<0.005
1748505	Drill Core	3.29	<0.005
1748506	Drill Core	2.74	<0.005
1748507	Drill Core	3.06	<0.005
1748508	Drill Core	5.83	<0.005
1748509	Drill Core	5.08	<0.005
1748510	Drill Core	5.38	<0.005
1748511	Drill Core	5.33	<0.005
1748512	Drill Core	5.13	<0.005
1748513	Drill Core	5.84	<0.005
1748514	Drill Core	5.61	<0.005
1748515	Drill Core	1.94	<0.005
1748516	Rock Pulp	0.12	0.259
1748517	Drill Core	6.49	<0.005
1748518	Drill Core	4.68	<0.005
1748519	Drill Core	3.50	<0.005
1748520	Drill Core	2.96	<0.005
1748521	Drill Core	2.04	<0.005
1748522	Drill Core	2.53	<0.005
1748523	Drill Core	3.63	<0.005
1748524	Drill Core	7.69	<0.005
1748525	Drill Core	3.75	0.040
1748526	Drill Core	1.78	0.329
1748527	Drill Core	2.86	<0.005
1748528	Drill Core	3.77	<0.005
1748529	Drill Core	2.99	<0.005
1748530	Drill Core	4.44	<0.005



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620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Project: Charlotte Project

Report Date: July 09, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000182.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	gm/t	gm/t
MDL	0.01	0.005	2
1748531	Drill Core	6.86	<0.005
1748532	Drill Core	3.23	<0.005
1748533	Drill Core	3.53	<0.005
1748534	Drill Core	5.40	<0.005
1748535	Drill Core	1.71	0.006
1748536	Rock Pulp	0.12	3.964
1748537	Drill Core	4.12	<0.005
1748538	Drill Core	6.70	<0.005
1748539	Drill Core	4.27	<0.005
1748540	Drill Core	3.35	<0.005
1748541	Drill Core	5.40	<0.005
1748542	Drill Core	2.83	<0.005
1748543	Drill Core	3.05	0.010
1748544	Drill Core	4.08	<0.005
1748545	Drill Core	2.30	<0.005
1748546	Rock	1.35	<0.005
1748547	Drill Core	3.76	<0.005
1748548	Drill Core	4.30	<0.005
1748549	Drill Core	2.46	<0.005
1748550	Drill Core	2.84	<0.005
1748551	Drill Core	3.93	<0.005
1748552	Drill Core	4.38	<0.005
1748553	Drill Core	3.56	0.018
1748554	Drill Core	4.65	<0.005
1748555	Rock Pulp	0.12	9.989
1748556	Drill Core	3.84	0.008
1748557	Drill Core	6.23	<0.005
1748558	Drill Core	3.62	<0.005
1748559	Drill Core	3.71	<0.005
1748560	Drill Core	4.03	<0.005



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Client: **Coast Mountain Geological**

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Vancouver BC V6B 4N9 Canada

Project: Charlotte Project

Report Date: July 09, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000182.1

	Method Analyte Unit MDL	WGHT	G6	7AR
		Wgt	Au	Ag
		kg	gm/t	gm/t
		0.01	0.005	2
1748561	Drill Core	2.39	<0.005	<2
1748562	Drill Core	1.85	<0.005	<2
1748563	Drill Core	3.47	<0.005	<2
1748564	Drill Core	3.61	<0.005	<2
1748565	Drill Core	4.58	0.012	<2
1748566	Drill Core	2.36	<0.005	<2
1748567	Drill Core	3.50	<0.005	<2
1748568	Drill Core	4.59	<0.005	<2
1748569	Drill Core	8.51	<0.005	<2
1748570	Drill Core	5.87	<0.005	<2
1748571	Drill Core	7.04	<0.005	<2
1748572	Drill Core	7.67	<0.005	<2
1748573	Drill Core	4.47	<0.005	<2
1748574	Drill Core	6.68	0.011	<2
1748575	Drill Core	7.79	<0.005	<2
1748576	Rock Pulp	0.12	0.268	<2
1748577	Drill Core	6.90	0.005	<2
1748578	Drill Core	6.33	<0.005	<2
1748579	Drill Core	4.26	<0.005	<2
1748580	Drill Core	6.09	<0.005	<2
1748581	Rock	1.50	<0.005	<2
1748582	Drill Core	5.41	<0.005	<2
1748583	Drill Core	6.77	0.005	<2
1748584	Drill Core	7.59	0.065	<2
1748585	Drill Core	3.85	0.925	13
1748586	Drill Core	3.50	0.101	<2
1748587	Drill Core	8.43	<0.005	<2
1748588	Drill Core	4.77	<0.005	<2
1748589	Drill Core	2.80	0.010	<2
1748590	Drill Core	3.81	0.733	<2



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PO Box 11604
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Project: Charlotte Project
Report Date: July 09, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000182.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	gm/t	gm/t
	MDL	0.01	0.005	2
1748591	Drill Core	3.71	0.167	<2
1748592	Drill Core	7.79	0.020	<2
1748593	Drill Core	5.49	<0.005	<2
1748594	Drill Core	6.56	<0.005	<2
1748595	Drill Core	5.68	<0.005	<2
1748596	Rock Pulp	0.11	3.954	51
1748597	Drill Core	7.69	0.029	<2
1748598	Drill Core	4.96	0.077	4
1748599	Drill Core	4.68	0.010	<2
1748600	Drill Core	6.02	<0.005	<2



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Project: Charlotte Project

Report Date: July 09, 2012

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QUALITY CONTROL REPORT

WHI12000182.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	gm/t	gm/t
MDL	0.01	0.005	2
Pulp Duplicates			
REP G1-WHI	QC	<0.005	
1748519	Drill Core	3.50	<0.005
REP 1748519	QC		<2
1748533	Drill Core	3.53	<0.005
REP 1748533	QC		<0.005
1748554	Drill Core	4.65	<0.005
REP 1748554	QC		<2
1748567	Drill Core	3.50	<0.005
REP 1748567	QC		<0.005
1748589	Drill Core	2.80	0.010
REP 1748589	QC		<2
Core Reject Duplicates			
1748523	Drill Core	3.63	<0.005
DUP 1748523	QC		<0.005
1748558	Drill Core	3.62	<0.005
DUP 1748558	QC		<0.005
1748593	Drill Core	5.49	<0.005
DUP 1748593	QC		<0.005
Reference Materials			
STD CDN-ME-14A	Standard		42
STD CDN-ME-9A	Standard		3
STD CDN-ME-9A	Standard		3
STD CDN-ME-14A	Standard		44
STD CDN-ME-9A	Standard		3
STD CDN-ME-14A	Standard		44
STD OXG99	Standard	0.926	
STD OXG99	Standard	0.903	
STD OXG99	Standard	0.942	



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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000182.1

		WGHT	G6	7AR
		Wgt	Au	Ag
		kg	gm/t	gm/t
		0.01	0.005	2
STD OXK94	Standard		3.578	
STD OXK94	Standard		3.630	
STD OXK94	Standard		3.745	
STD OXG99 Expected			0.932	
STD OXK94 Expected			3.562	
STD CDN-ME-14A Expected				42
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank			<2
BLK	Blank			<2
BLK	Blank			<2
Prep Wash				
G1-WHI	Prep Blank			<2
G1-WHI	Prep Blank		<0.005	<2
G1-WHI	Prep Blank		<0.005	



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PO Box 11604
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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: June 28, 2012

Report Date: July 13, 2012

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CERTIFICATE OF ANALYSIS

WHI12000183.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-04
P.O. Number
Number of Samples: 31

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	30	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	31	Lead collection fire assay fusion - ICP-ES finish + 7AR Ag	30	Completed	VAN
G6Gr	2	Lead collection fire assay 30G fusion - Grav finish	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. "*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: Charlotte Project

Report Date: July 13, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000183.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Au
Unit	kg	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	0.9
1748601	Rock	1.43	<0.005	<2
1748602	Drill Core	6.27	<0.005	<2
1748603	Drill Core	2.78	<0.005	<2
1748604	Drill Core	3.65	0.046	<2
1748605	Drill Core	4.06	<0.005	<2
1748606	Drill Core	6.51	<0.005	<2
1748607	Drill Core	5.30	<0.005	<2
1748608	Drill Core	7.41	<0.005	<2
1748609	Drill Core	4.32	<0.005	<2
1748610	Drill Core	3.25	<0.005	<2
1748611	Drill Core	4.14	<0.005	<2
1748612	Drill Core	2.02	0.020	<2
1748613	Drill Core	2.98	0.092	<2
1748614	Drill Core	1.29	0.092	<2
1748615	Rock Pulp	0.12	>10	<2 9.7
1748616	Drill Core	3.21	0.057	<2
1748617	Drill Core	2.72	>10	217 12.2
1748618	Rock	1.46	<0.005	<2
1748619	Drill Core	5.34	0.068	<2
1748620	Drill Core	1.88	<0.005	<2
1748621	Drill Core	2.09	<0.005	<2
1748622	Drill Core	2.93	<0.005	<2
1748623	Drill Core	6.49	<0.005	<2
1748624	Drill Core	6.93	<0.005	<2
1748625	Drill Core	5.20	<0.005	<2
1748626	Drill Core	3.22	<0.005	<2
1748627	Drill Core	1.93	0.063	<2
1748628	Drill Core	6.14	<0.005	<2
1748629	Drill Core	7.34	<0.005	<2
1748630	Drill Core	2.66	0.018	<2



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Project: Charlotte Project

Report Date: July 13, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000183.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Au
Unit	kg	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	0.9
1748631	Drill Core	3.97	<0.005	<2



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Project: Charlotte Project

Report Date: July 13, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000183.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Au
Unit	kg	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	0.9
Pulp Duplicates				
1748607	Drill Core	5.30	<0.005	<2
REP 1748607	QC			<2
1748608	Drill Core	7.41	<0.005	<2
REP 1748608	QC		<0.005	
Core Reject Duplicates				
1748627	Drill Core	1.93	0.063	<2
DUP 1748627	QC		0.077	<2
Reference Materials				
STD AGPROOF	Standard			<0.9
STD CDN-ME-14A	Standard		44	
STD CDN-ME-9A	Standard		5	
STD OXG99	Standard	0.901		
STD OXG99	Standard	0.928		
STD OXK94	Standard	3.508		
STD OXK94	Standard	3.613		
STD SP49	Standard			17.8
STD OXK94 Expected		3.562		
STD OXG99 Expected		0.932		
STD CDN-ME-14A Expected			42	
STD SP49 Expected				18.34
STD AGPROOF Expected				0
BLK	Blank	<0.005		
BLK	Blank	<0.005		
BLK	Blank	<0.005		
BLK	Blank	<0.005		
BLK	Blank		<2	
BLK	Blank			<0.9
BLK	Blank			<0.9



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Project: Charlotte Project

Report Date: July 13, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000183.1

		WGHT	G6	7AR	G6Gr
		Wgt	Au	Ag	Au
		kg	gm/t	gm/t	gm/t
		0.01	0.005	2	0.9
Prep Wash					
G1-WHI	Prep Blank		<0.005	<2	
G1-WHI	Prep Blank		<0.005	<2	



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: July 03, 2012

Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000212.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-05
P.O. Number
Number of Samples: 80

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	76	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	80	Lead collection fire assay fusion - ICP-ES finish + 7AR Ag	30	Completed	VAN
G6Gr	3	Lead collection fire assay 30G fusion - Grav finish	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. "*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: Charlotte Project

Report Date: July 24, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000212.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	gm/t	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1748632	Rock	1.58	<0.005	<2	
1748633	Drill Core	6.56	<0.005	<2	
1748634	Drill Core	3.92	<0.005	<2	
1748635	Rock Pulp	0.12	0.264	<2	
1748636	Drill Core	6.32	<0.005	<2	
1748637	Drill Core	6.29	<0.005	<2	
1748638	Drill Core	5.89	<0.005	<2	
1748639	Drill Core	6.67	<0.005	<2	
1748640	Drill Core	7.42	<0.005	<2	
1748641	Drill Core	5.06	<0.005	<2	
1748642	Drill Core	6.69	<0.005	<2	
1748643	Drill Core	7.10	<0.005	<2	
1748644	Drill Core	8.04	<0.005	<2	
1748645	Drill Core	6.13	<0.005	<2	
1748646	Drill Core	7.01	<0.005	<2	
1748647	Drill Core	4.08	<0.005	<2	
1748648	Drill Core	7.27	0.008	<2	
1748649	Drill Core	7.54	0.010	<2	
1748650	Drill Core	6.52	<0.005	<2	
1748651	Drill Core	7.56	0.005	<2	
1748652	Drill Core	5.67	<0.005	<2	
1748653	Drill Core	2.40	0.056	<2	
1748654	Drill Core	3.04	0.226	<2	
1748655	Rock Pulp	0.13	3.981	52	
1748656	Drill Core	3.45	0.394	<2	
1748657	Drill Core	2.58	1.158	54	
1748658	Drill Core	1.00	0.337	6	
1748659	Drill Core	1.50	>10	>300	280
1748660	Drill Core	1.70	0.006	<2	15.9
1748661	Drill Core	4.11	0.521	4	



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Project: Charlotte Project
Report Date: July 24, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000212.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	gm/t	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1748662	Drill Core	4.84	0.044	<2	
1748663	Drill Core	7.91	<0.005	<2	
1748664	Drill Core	5.81	<0.005	<2	
1748665	Drill Core	6.82	<0.005	<2	
1748666	Drill Core	6.83	<0.005	<2	
1748667	Drill Core	7.23	0.017	<2	
1748668	Drill Core	7.75	0.080	<2	
1748669	Drill Core	4.91	0.185	8	
1748670	Drill Core	4.54	0.135	<2	
1748671	Drill Core	3.92	0.298	3	
1748672	Drill Core	4.24	0.306	12	
1748673	Drill Core	0.77	1.658	69	
1748674	Rock Pulp	0.12	9.902	<2	
1748675	Drill Core	3.27	>10	>300	1028
1748676	Rock	1.03	0.015	9	
1748677	Rock	1.04	0.006	<2	
1748678	Drill Core	3.86	0.817	34	
1748679	Drill Core	3.89	0.502	7	
1748680	Drill Core	5.28	0.023	<2	
1748681	Drill Core	4.63	0.108	<2	
1748682	Drill Core	4.60	0.637	7	
1748683	Drill Core	3.43	<0.005	<2	
1748684	Drill Core	3.31	0.071	<2	
1748685	Drill Core	2.63	<0.005	<2	
1748686	Drill Core	0.80	0.472	14	
1748687	Drill Core	1.06	>10	>300	1069
1748688	Drill Core	1.02	0.009	9	
1748689	Drill Core	1.18	0.217	4	
1748690	Drill Core	5.63	0.012	<2	
1748691	Drill Core	5.94	<0.005	<2	



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Project: Charlotte Project

Report Date: July 24, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000212.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	gm/t	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1748692	Drill Core	3.85	0.020	<2	
1748693	Drill Core	5.98	0.009	<2	
1748694	Drill Core	4.52	0.006	<2	
1748695	Rock Pulp	0.12	0.223	<2	
1748696	Drill Core	5.26	<0.005	<2	
1748697	Drill Core	6.54	<0.005	<2	
1748698	Drill Core	1.79	0.065	2	
1748699	Drill Core	7.32	<0.005	<2	
1748700	Drill Core	8.40	<0.005	<2	
1748701	Rock	1.23	<0.005	<2	
1748702	Drill Core	2.74	0.189	<2	
1748703	Drill Core	5.02	0.019	<2	
1748704	Drill Core	8.32	<0.005	<2	
1748705	Drill Core	6.98	<0.005	<2	
1748706	Drill Core	6.88	<0.005	<2	
1748707	Drill Core	5.77	0.009	<2	
1748708	Drill Core	7.61	0.048	2	
1748709	Drill Core	5.80	0.018	<2	
1748710	Drill Core	1.71	1.659	49	
1748711	Drill Core	7.96	<0.005	<2	



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Project: Charlotte Project

Report Date: July 24, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000212.1

Method		WGHT	G6	7AR	G6Gr	G6Gr
Analyte		Wgt	Au	Ag	Ag	Au
Unit		kg	gm/t	gm/t	gm/t	gm/t
MDL		0.01	0.005	2	50	0.9
Pulp Duplicates						
1748632	Rock	1.58	<0.005	<2		
REP 1748632	QC		<0.005			
1748642	Drill Core	6.69	<0.005	<2		
REP 1748642	QC			<2		
1748653	Drill Core	2.40	0.056	<2		
REP 1748653	QC		0.058			
1748677	Rock	1.04	0.006	<2		
REP 1748677	QC			<2		
1748687	Drill Core	1.06	>10	>300	1069	60.7
REP 1748687	QC		>10		1081	41.6
1748711	Drill Core	7.96	<0.005	<2		
REP 1748711	QC			<2		
Core Reject Duplicates						
1748659	Drill Core	1.50	>10	>300	280	15.9
DUP 1748659	QC		>10	294	275	17.4
1748694	Drill Core	4.52	0.006	<2		
DUP 1748694	QC		0.008	2		
Reference Materials						
STD AGPROOF	Standard				96	<0.9
STD CDN-ME-14A	Standard			43		
STD CDN-ME-9A	Standard			3		
STD CDN-ME-9A	Standard			3		
STD CDN-ME-14A	Standard			44		
STD CDN-ME-9A	Standard			4		
STD CDN-ME-14A	Standard			44		
STD OXG99	Standard		0.931			
STD OXG99	Standard		0.848			
STD OXG99	Standard		0.933			



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PO Box 11604

Vancouver BC V6B 4N9 Canada

Project: Charlotte Project

Report Date: July 24, 2012

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QUALITY CONTROL REPORT

WHI12000212.1

		WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	gm/t	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
STD OXG99	Standard		0.923			
STD OXK94	Standard		3.692			
STD OXK94	Standard		3.588			
STD OXK94	Standard		3.574			
STD OXK94	Standard		3.352			
STD SP49	Standard				54	18.4
STD SP49	Standard				58	18.0
STD CDN-ME-14A Expected				42		
STD OXG99 Expected			0.932			
STD OXK94 Expected			3.562			
STD SP49 Expected					60.2	18.34
STD AGPROOF Expected					94	0
BLK	Blank			<2		
BLK	Blank			<2		
BLK	Blank				<50	<0.9
BLK	Blank				<50	<0.9
BLK	Blank			<2		
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank				<50	<0.9
BLK	Blank				<50	<0.9
Prep Wash						



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QUALITY CONTROL REPORT

WHI12000212.1

		WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	gm/t	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
G1-WHI	Prep Blank		<0.005	<2		
G1-WHI	Prep Blank		<0.005	<2		



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: July 10, 2012

Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000289.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-06
P.O. Number
Number of Samples: 100

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	95	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	100	Lead collection fire assay fusion - ICP-ES finish + 7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
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CC:



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Project: Charlotte Project

Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000289.1

	Method Analyte Unit MDL	WGHT	G6	7AR
		Wgt	Au	Ag
		kg	gm/t	gm/t
		0.01	0.005	2
1748712	Rock	0.61	<0.005	<2
1748713	Drill Core	5.39	<0.005	<2
1748714	Drill Core	6.57	<0.005	<2
1748715	Rock Pulp	0.12	3.658	53
1748716	Drill Core	3.14	<0.005	<2
1748717	Drill Core	2.99	<0.005	<2
1748718	Drill Core	1.47	<0.005	<2
1748719	Drill Core	1.18	<0.005	5
1748720	Drill Core	1.99	<0.005	<2
1748721	Drill Core	5.93	<0.005	<2
1748722	Drill Core	3.27	<0.005	<2
1748723	Drill Core	6.54	0.022	<2
1748724	Drill Core	3.73	0.033	<2
1748725	Drill Core	4.81	0.034	<2
1748726	Drill Core	4.97	<0.005	<2
1748727	Drill Core	5.51	<0.005	<2
1748728	Drill Core	5.95	0.071	<2
1748729	Drill Core	2.69	0.014	<2
1748730	Drill Core	4.16	<0.005	<2
1748731	Drill Core	3.20	0.008	<2
1748732	Drill Core	2.86	0.008	<2
1748733	Drill Core	6.36	<0.005	<2
1748734	Drill Core	6.08	0.011	<2
1748735	Rock Pulp	0.12	9.514	<2
1748736	Drill Core	6.06	0.008	<2
1748737	Drill Core	3.65	0.010	<2
1748738	Drill Core	2.47	0.102	2
1748739	Drill Core	4.71	0.008	<2
1748740	Drill Core	4.12	<0.005	<2
1748741	Drill Core	5.26	0.015	<2



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Project: Charlotte Project
Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000289.1

	Method Analyte Unit MDL	WGHT	G6	7AR
		Wgt	Au	Ag
		kg	gm/t	gm/t
		0.01	0.005	2
1748742	Drill Core	5.37	0.008	<2
1748743	Drill Core	4.81	<0.005	<2
1748744	Drill Core	3.76	<0.005	<2
1748745	Drill Core	6.04	<0.005	<2
1748746	Drill Core	7.69	<0.005	<2
1748747	Drill Core	5.70	<0.005	<2
1748748	Drill Core	4.82	<0.005	<2
1748749	Drill Core	4.03	<0.005	<2
1748750	Drill Core	6.10	<0.005	<2
1748751	Drill Core	4.88	<0.005	<2
1748752	Drill Core	5.89	<0.005	<2
1748753	Drill Core	5.80	<0.005	<2
1748754	Drill Core	4.75	<0.005	<2
1748755	Rock Pulp	0.12	0.269	<2
1748756	Drill Core	7.21	<0.005	<2
1748757	Drill Core	6.71	<0.005	<2
1748758	Drill Core	6.21	<0.005	<2
1748759	Drill Core	2.12	<0.005	<2
1748760	Drill Core	2.93	<0.005	<2
1748761	Drill Core	1.78	<0.005	<2
1748762	Drill Core	3.55	<0.005	<2
1748763	Drill Core	2.61	<0.005	<2
1748764	Drill Core	6.64	<0.005	<2
1748765	Drill Core	7.20	<0.005	<2
1748766	Drill Core	7.49	<0.005	<2
1748767	Drill Core	6.10	<0.005	<2
1748768	Drill Core	5.34	<0.005	<2
1748769	Drill Core	5.75	<0.005	<2
1748770	Drill Core	9.32	<0.005	<2
1748771	Drill Core	9.03	<0.005	<2



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Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000289.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	gm/t	gm/t
	MDL	0.01	0.005	2
1748772	Drill Core	7.89	<0.005	<2
1748773	Drill Core	6.47	<0.005	<2
1748774	Drill Core	6.39	0.006	<2
1748775	Rock Pulp	0.12	4.132	52
1748776	Drill Core	4.05	0.010	<2
1748777	Drill Core	6.80	0.008	<2
1748778	Drill Core	7.58	<0.005	<2
1748779	Drill Core	4.49	<0.005	<2
1748780	Drill Core	3.44	<0.005	<2
1748781	Drill Core	3.04	<0.005	<2
1748782	Drill Core	2.48	<0.005	<2
1748783	Drill Core	3.54	<0.005	<2
1748784	Drill Core	5.13	<0.005	<2
1748785	Drill Core	6.60	<0.005	<2
1748786	Drill Core	5.84	<0.005	<2
1748787	Drill Core	3.27	<0.005	<2
1748788	Drill Core	1.85	<0.005	<2
1748789	Drill Core	4.66	0.013	<2
1748790	Drill Core	8.63	<0.005	<2
1748791	Drill Core	3.96	<0.005	<2
1748792	Drill Core	4.92	<0.005	<2
1748793	Drill Core	4.01	<0.005	<2
1748794	Drill Core	3.22	0.168	17
1748795	Rock Pulp	0.12	9.589	<2
1748796	Drill Core	1.76	0.874	132
1748797	Rock	0.71	<0.005	<2
1748798	Drill Core	3.18	0.117	16
1748799	Drill Core	2.57	0.107	7
1748800	Drill Core	1.55	0.070	10
1748801	Drill Core	1.16	0.172	5



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Project: Charlotte Project
Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000289.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	gm/t	gm/t
	MDL	0.01	0.005	2
1748802	Rock	0.72	<0.005	<2
1748803	Drill Core	5.53	0.044	3
1748804	Drill Core	6.27	0.049	<2
1748805	Drill Core	5.40	0.005	<2
1748806	Drill Core	4.97	<0.005	<2
1748807	Drill Core	1.40	0.032	5
1748808	Rock	0.71	<0.005	<2
1748809	Drill Core	5.45	0.011	3
1748810	Drill Core	3.26	0.020	<2
1748811	Drill Core	3.42	0.007	<2



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Project: Charlotte Project

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QUALITY CONTROL REPORT

WHI12000289.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	gm/t	gm/t
	MDL	0.01	0.005	2
Pulp Duplicates				
1748715	Rock Pulp	0.12	3.658	53
REP 1748715	QC			53
1748723	Drill Core	6.54	0.022	<2
REP 1748723	QC		0.030	
1748750	Drill Core	6.10	<0.005	<2
REP 1748750	QC			<2
1748757	Drill Core	6.71	<0.005	<2
REP 1748757	QC		<0.005	
1748785	Drill Core	6.60	<0.005	<2
REP 1748785	QC			<2
1748791	Drill Core	3.96	<0.005	<2
REP 1748791	QC		<0.005	
Core Reject Duplicates				
1748717	Drill Core	2.99	<0.005	<2
DUP 1748717	QC		<0.005	<2
1748752	Drill Core	5.89	<0.005	<2
DUP 1748752	QC		<0.005	<2
1748787	Drill Core	3.27	<0.005	<2
DUP 1748787	QC		<0.005	<2
Reference Materials				
STD CDN-ME-9A	Standard			3
STD CDN-ME-14A	Standard			44
STD CDN-ME-9A	Standard			2
STD CDN-ME-14A	Standard			45
STD CDN-ME-9A	Standard			5
STD CDN-ME-14A	Standard			47
STD OXG99	Standard		0.965	
STD OXG99	Standard		0.952	



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Project: Charlotte Project

Report Date: July 24, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000289.1

		WGHT	G6	7AR
		Wgt	Au	Ag
		kg	gm/t	gm/t
		0.01	0.005	2
STD OXG99	Standard		0.938	
STD OXG99	Standard		0.924	
STD OXG99	Standard		0.935	
STD OXK94	Standard		3.712	
STD OXK94	Standard		3.551	
STD OXK94	Standard		3.518	
STD OXK94	Standard		3.715	
STD OXK94	Standard		3.604	
STD CDN-ME-14A Expected				42
STD OXK94 Expected			3.562	
STD OXG99 Expected			0.932	
BLK	Blank			<2
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank			<2
BLK	Blank			<2
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
Prep Wash				
G1-WHI	Prep Blank		<0.005	<2
G1-WHI	Prep Blank		<0.005	<2



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Receiving Lab: Canada-Whitehorse

Received: July 10, 2012

Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000290.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-07
P.O. Number
Number of Samples: 66

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
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CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	66	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	66	Lead collection fire assay fusion - ICP-ES finish + 7AR Ag	30	Completed	VAN
G6Gr	4	Lead collection fire assay 30G fusion - Grav finish	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. "*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: Charlotte Project

Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000290.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	gm/t	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1748812	Drill Core	4.33	0.013	<2	
1748813	Drill Core	4.15	0.013	<2	
1748814	Drill Core	3.39	0.066	5	
1748815	Rock Pulp	0.12	0.266	<2	
1748816	Drill Core	4.53	0.040	<2	
1748817	Drill Core	6.39	0.055	2	
1748818	Drill Core	5.83	0.068	<2	
1748819	Drill Core	4.93	0.079	<2	
1748820	Drill Core	7.81	<0.005	<2	
1748821	Drill Core	8.33	<0.005	<2	
1748822	Drill Core	6.16	0.007	<2	
1748823	Drill Core	6.47	<0.005	<2	
1748824	Drill Core	3.15	<0.005	<2	
1748825	Drill Core	7.19	<0.005	<2	
1748826	Drill Core	6.86	<0.005	<2	
1748827	Drill Core	6.91	<0.005	<2	
1748828	Drill Core	8.65	<0.005	<2	
1748829	Drill Core	1.26	<0.005	<2	
1748830	Drill Core	6.68	<0.005	<2	
1748831	Drill Core	7.17	<0.005	<2	
1748832	Drill Core	7.36	<0.005	<2	
1748833	Drill Core	7.05	<0.005	<2	
1748834	Drill Core	6.77	<0.005	<2	
1748835	Rock Pulp	0.12	3.868	52	
1748836	Drill Core	7.83	0.007	<2	
1748837	Drill Core	7.48	<0.005	<2	
1748838	Drill Core	7.31	<0.005	<2	
1748839	Drill Core	7.40	<0.005	<2	
1748840	Drill Core	6.79	<0.005	<2	
1748841	Drill Core	7.09	<0.005	<2	



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Project: Charlotte Project
Report Date: July 24, 2012

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CERTIFICATE OF ANALYSIS

WHI12000290.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	gm/t	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1748842	Drill Core	6.83	<0.005	<2	
1748843	Drill Core	7.66	<0.005	<2	
1748844	Drill Core	6.61	0.009	<2	
1748845	Drill Core	4.76	0.022	<2	
1748846	Drill Core	4.22	0.148	<2	
1748847	Drill Core	5.39	0.051	<2	
1748848	Drill Core	7.06	<0.005	<2	
1748849	Drill Core	5.63	<0.005	<2	
1748850	Drill Core	6.00	0.015	<2	
1748851	Drill Core	1.48	>10	>300	408 28.9
1748852	Drill Core	1.65	>10	73	68 12.0
1748853	Drill Core	1.48	>10	84	76 27.4
1748854	Rock	0.75	0.767	<2	
1748855	Rock Pulp	0.12	>10	<2	<50 9.1
1748856	Drill Core	2.42	0.132	9	
1748857	Drill Core	4.03	0.107	8	
1748858	Drill Core	7.35	0.181	<2	
1748859	Drill Core	7.58	0.064	<2	
1748860	Drill Core	3.15	<0.005	<2	
1748861	Drill Core	5.03	<0.005	<2	
1748862	Drill Core	5.52	0.018	<2	
1748863	Drill Core	2.30	0.021	<2	
1748864	Drill Core	3.76	<0.005	<2	
1748865	Drill Core	3.90	0.022	<2	
1748866	Drill Core	5.18	0.040	3	
1748867	Drill Core	4.99	0.120	8	
1748868	Drill Core	5.21	<0.005	3	
1748869	Drill Core	4.47	0.236	6	
1748870	Drill Core	5.01	1.041	13	
1748871	Rock	1.07	<0.005	<2	



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Project: Charlotte Project

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CERTIFICATE OF ANALYSIS

WHI12000290.1

	Method Analyte Unit MDL	WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	gm/t	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
1748872	Drill Core	4.89	0.017	<2		
1748873	Drill Core	5.69	<0.005	<2		
1748874	Drill Core	5.24	<0.005	2		
1748875	Rock Pulp	0.12	0.250	<2		
1748876	Drill Core	6.57	<0.005	<2		
1748877	Drill Core	7.23	<0.005	<2		



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Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.

PO Box 11604

Vancouver BC V6B 4N9 Canada

Project: Charlotte Project

Report Date: July 24, 2012

Page: 1 of 2

Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000290.1

	Method Analyte Unit MDL	WGHT	G6	7AR	G6Gr	G6Gr	
		Wgt	Au	Ag	Ag	Au	
		kg	gm/t	gm/t	gm/t	gm/t	
		0.01	0.005	2	50	0.9	
Pulp Duplicates							
1748832	Drill Core	7.36	<0.005	<2			
REP 1748832	QC	<0.005					
1748844	Drill Core	6.61	0.009	<2			
REP 1748844	QC	<2					
1748866	Drill Core	5.18	0.040	3			
REP 1748866	QC	0.039					
1748870	Drill Core	5.01	1.041	13			
REP 1748870	QC	13					
Core Reject Duplicates							
1748818	Drill Core	5.83	0.068	<2			
DUP 1748818	QC	0.037		<2			
1748853	Drill Core	1.48	>10	84	76	27.4	
DUP 1748853	QC	>10		78	75	26.9	
Reference Materials							
STD AGPROOF	Standard					96	<0.9
STD AGPROOF	Standard					96	<0.9
STD CDN-ME-9A	Standard	4					
STD CDN-ME-14A	Standard	45					
STD CDN-ME-14A	Standard	45					
STD CDN-ME-9A	Standard	3					
STD OXG99	Standard	0.902					
STD OXG99	Standard	0.911					
STD OXK94	Standard	3.467					
STD OXK94	Standard	3.661					
STD OXK94	Standard	3.352					
STD SP49	Standard					<50	17.5
STD CDN-ME-14A Expected		42					
STD OXG99 Expected		0.932					



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Project: Charlotte Project

Report Date: July 24, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000290.1

		WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	gm/t	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
STD OXK94 Expected		3.562				
STD SP49 Expected		60.2				18.34
STD AGPROOF Expected		94				0
BLK	Blank	<2				
BLK	Blank	<2				
BLK	Blank	<0.005				
BLK	Blank	<0.005				
BLK	Blank	<0.005				
BLK	Blank	<0.005				
BLK	Blank	<0.005				
BLK	Blank	<0.005				
BLK	Blank	<50				<0.9
BLK	Blank	<50				<0.9
BLK	Blank	<50				<0.9
Prep Wash						
G1-WHI	Prep Blank	<0.005		<2		
G1-WHI	Prep Blank	<0.005		<2		



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: July 16, 2012

Report Date: August 01, 2012

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CERTIFICATE OF ANALYSIS

WHI12000353.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-08
P.O. Number
Number of Samples: 78

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	75	Crush split and pulverize 250g drill core to 200 mesh			WHI
G603	78	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN
G6Gr	1	Lead collection fire assay 30G fusion - Grav finish	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Client: **Coast Mountain Geological**

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Project: Charlotte Project

Report Date: August 01, 2012

Page: 2 of 4

Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000353.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Ag
Unit	kg	ppm	gm/t	gm/t
MDL	0.01	0.005	2	50
1748878	Rock	1.72	<0.005	<2
1748879	Drill Core	6.67	0.014	<2
1748880	Drill Core	2.21	0.144	3
1748881	Drill Core	1.25	2.643	6
1748882	Drill Core	2.85	0.143	<2
1748883	Drill Core	5.25	0.414	4
1748884	Drill Core	4.23	0.544	119
1748885	Drill Core	9.35	0.158	3
1748886	Drill Core	6.56	0.055	<2
1748887	Drill Core	3.80	0.296	2
1748888	Drill Core	2.70	0.052	<2
1748889	Drill Core	2.24	2.167	8
1748890	Drill Core	6.49	0.088	5
1748891	Drill Core	3.65	0.148	3
1748892	Drill Core	7.39	0.013	<2
1748893	Drill Core	6.99	<0.005	<2
1748894	Drill Core	4.16	0.011	<2
1748895	Rock Pulp	0.13	4.101	52
1748896	Drill Core	7.22	0.013	2
1748897	Drill Core	6.09	0.062	4
1748898	Drill Core	6.55	0.051	2
1748899	Drill Core	5.86	0.044	<2
1748900	Drill Core	5.62	0.093	<2
1748901	Rock	1.50	<0.005	<2
1748902	Drill Core	3.73	0.034	<2
1748903	Drill Core	4.25	0.121	6
1748904	Drill Core	4.96	0.062	<2
1748905	Drill Core	6.57	0.111	<2
1748906	Drill Core	5.65	<0.005	<2
1748907	Drill Core	6.95	<0.005	<2



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Project: Charlotte Project

Report Date: August 01, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000353.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Ag
Unit	kg	ppm	gm/t	gm/t
MDL	0.01	0.005	2	50
1748908	Drill Core	1.86	0.010	<2
1748909	Drill Core	5.87	<0.005	<2
1748910	Drill Core	3.67	0.012	<2
1748911	Drill Core	3.86	0.043	<2
1748912	Drill Core	8.36	0.005	<2
1748913	Drill Core	7.31	0.005	<2
1748914	Drill Core	6.03	0.006	<2
1748915	Rock Pulp	0.12	9.399	3
1748916	Drill Core	6.84	0.086	<2
1748917	Drill Core	6.49	0.054	<2
1748918	Drill Core	6.11	0.073	<2
1748919	Drill Core	7.91	0.055	<2
1748920	Drill Core	6.23	0.258	2
1748921	Drill Core	2.15	0.689	3
1748922	Drill Core	1.89	5.279	11
1748923	Drill Core	0.82	3.162	10
1748924	Rock	1.50	0.009	<2
1748925	Drill Core	1.80	3.822	27
1748926	Rock	1.49	0.008	<2
1748927	Drill Core	1.44	9.827	93
1748928	Rock	1.34	0.012	<2
1748929	Drill Core	2.88	1.521	5
1748930	Drill Core	1.77	3.647	6
1748931	Drill Core	2.44	4.774	>300 293
1748932	Rock	1.33	0.011	<2
1748933	Drill Core	1.80	0.176	2
1748934	Drill Core	3.52	0.369	3
1748935	Rock Pulp	0.11	0.277	<2
1748936	Drill Core	4.03	0.208	<2
1748937	Drill Core	0.53	5.808	125



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Project: Charlotte Project

Report Date: August 01, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000353.1

	Method	WGHT	G6	7AR	G6Gr
	Analyte	Wgt	Au	Ag	Ag
	Unit	kg	ppm	gm/t	gm/t
	MDL	0.01	0.005	2	50
1748938	Rock	1.69	0.009	<2	
1748939	Drill Core	6.45	0.116	<2	
1748940	Drill Core	3.73	0.361	4	
1748941	Drill Core	7.32	0.130	<2	
1748942	Drill Core	5.71	0.094	<2	
1748943	Drill Core	7.80	0.086	<2	
1748944	Drill Core	7.48	0.034	<2	
1748945	Drill Core	7.48	0.013	<2	
1748946	Drill Core	6.83	0.007	<2	
1748947	Drill Core	1.90	0.008	<2	
1748948	Drill Core	2.41	0.009	<2	
1748949	Drill Core	7.74	0.009	<2	
1748950	Drill Core	1.59	1.152	17	
1748951	Rock	1.82	0.008	<2	
1748952	Drill Core	7.01	0.011	<2	
1748953	Drill Core	7.53	0.011	<2	
1748954	Drill Core	7.02	0.007	<2	
1748955	Drill Core	8.61	0.008	<2	



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Project: Charlotte Project

Report Date: August 01, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000353.1

Method	WGHT	G6	7AR	G6Gr
Analyte	Wgt	Au	Ag	Ag
Unit	kg	ppm	gm/t	gm/t
MDL	0.01	0.005	2	50
Pulp Duplicates				
1748881	Drill Core	1.25	2.643	6
REP 1748881	QC			5
1748898	Drill Core	6.55	0.051	2
REP 1748898	QC		0.057	
1748916	Drill Core	6.84	0.086	<2
REP 1748916	QC		<2	
REP 1748931	QC			296
1748932	Rock	1.33	0.011	<2
REP 1748932	QC		0.013	
1748948	Drill Core	2.41	0.009	<2
REP 1748948	QC		<2	
Core Reject Duplicates				
1748896	Drill Core	7.22	0.013	2
DUP 1748896	QC		0.011	<2
1748931	Drill Core	2.44	4.774	>300 293
DUP 1748931	QC		4.634	>300 289
Reference Materials				
STD CDN-ME-14A	Standard		44	
STD CDN-ME-9A	Standard		3	
STD CDN-ME-14A	Standard		45	
STD CDN-ME-9A	Standard		3	
STD CDN-ME-9A	Standard		6	
STD CDN-ME-14A	Standard		45	
STD OXG99	Standard	0.972		
STD OXG99	Standard	0.968		
STD OXG99	Standard	0.949		
STD OXG99	Standard	0.942		
STD OXK94	Standard	3.693		



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Project: Charlotte Project

Report Date: August 01, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000353.1

		WGHT	G6	7AR	G6Gr
		Wgt	Au	Ag	Ag
		kg	ppm	gm/t	gm/t
		0.01	0.005	2	50
STD OXK94	Standard	3.782			
STD OXK94	Standard	3.798			
STD OXK94	Standard	3.667			
STD SP49	Standard				58
STD CDN-ME-14A Expected		42			
STD OXK94 Expected		3.562			
STD OXG99 Expected		0.932			
STD SP49 Expected					60.2
BLK	Blank	0.005			
BLK	Blank	0.006			
BLK	Blank	0.007			
BLK	Blank	0.009			
BLK	Blank	<0.005			
BLK	Blank	0.009			
BLK	Blank	<2			
BLK	Blank	<2			
BLK	Blank	<2			
BLK	Blank	<0.005			
BLK	Blank	<0.005			
BLK	Blank				<50
Prep Wash					
G1-WHI	Prep Blank	<0.005			<2
G1-WHI	Prep Blank	<0.005			<2



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Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
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Vancouver BC V6B 4N9 Canada

Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: August 17, 2012

Report Date: August 31, 2012

Page: 1 of 4

CERTIFICATE OF ANALYSIS

WHI12000700.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-09
P.O. Number
Number of Samples: 62

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	59	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	62	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC:



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Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
PO Box 11604
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Project: Charlotte Project

Report Date: August 31, 2012

Page: 2 of 4

Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000700.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	ppm	gm/t
MDL	0.01	0.005	2
1750001	Rock	0.61	<0.005
1750002	Drill Core	2.82	0.006
1750003	Drill Core	2.20	1.201
1750004	Drill Core	3.59	0.395
1750005	Drill Core	2.60	0.007
1750006	Drill Core	2.20	0.107
1750007	Drill Core	2.19	0.025
1750008	Drill Core	3.86	0.011
1750009	Rock Pulp	0.12	0.237
1750010	Drill Core	4.76	0.007
1750011	Drill Core	3.11	0.007
1750012	Drill Core	1.43	0.009
1750013	Drill Core	5.78	0.007
1750014	Drill Core	4.91	0.007
1750015	Rock	0.60	0.008
1750016	Drill Core	2.78	0.220
1750017	Drill Core	3.13	0.047
1750018	Drill Core	4.69	<0.005
1750019	Drill Core	2.12	0.106
1750020	Drill Core	2.51	0.021
1750021	Drill Core	3.72	0.008
1750022	Rock	0.51	<0.005
1750023	Drill Core	3.71	0.018
1750024	Drill Core	2.10	0.021
1750025	Drill Core	2.82	0.009
1750026	Drill Core	1.93	0.006
1750027	Drill Core	2.02	0.063
1750028	Drill Core	3.79	<0.005
1750029	Rock Pulp	0.12	3.453
1750030	Drill Core	4.37	0.006



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Project: Charlotte Project

Report Date: August 31, 2012

Page: 3 of 4

Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000700.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750031	Drill Core	1.32	<0.005	<2
1750032	Drill Core	1.66	0.006	<2
1750033	Drill Core	4.29	0.006	<2
1750034	Drill Core	2.93	0.012	2
1750035	Drill Core	3.75	0.006	<2
1750036	Drill Core	4.60	0.009	3
1750037	Drill Core	2.58	0.006	2
1750038	Drill Core	1.02	0.006	<2
1750039	Drill Core	0.51	0.010	<2
1750040	Drill Core	4.53	0.011	<2
1750041	Drill Core	2.23	<0.005	<2
1750042	Drill Core	1.38	0.024	<2
1750043	Drill Core	1.90	0.009	2
1750044	Drill Core	1.98	<0.005	<2
1750045	Drill Core	3.64	0.012	<2
1750046	Drill Core	4.22	0.018	<2
1750047	Drill Core	3.38	0.030	<2
1750048	Drill Core	2.35	0.025	<2
1750049	Drill Core	2.59	0.032	<2
1750050	Rock	0.72	0.008	<2
1750051	Drill Core	4.70	0.166	3
1750052	Drill Core	3.87	0.069	11
1750053	Drill Core	2.76	0.025	<2
1750054	Drill Core	3.22	0.009	<2
1750055	Drill Core	3.78	0.040	<2
1750056	Drill Core	0.92	0.034	3
1750057	Drill Core	3.37	<0.005	<2
1750058	Drill Core	2.90	<0.005	<2
1750059	Rock Pulp	0.12	0.307	<2
1750060	Drill Core	3.92	0.021	<2



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Project: Charlotte Project

Report Date: August 31, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000700.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	ppm	gm/t
MDL	0.01	0.005	2
1750061	Drill Core	5.33	0.046
1750062	Drill Core	7.71	0.007



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Project: Charlotte Project

Report Date: August 31, 2012

Page: 1 of 2

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QUALITY CONTROL REPORT

WHI12000700.1

	Method Analyte Unit MDL	WGHT Wgt kg 0.01	G6 Au ppm 0.005	7AR Ag gm/t 2
Pulp Duplicates				
1750030	Drill Core	4.37	0.006	<2
REP 1750030	QC	<2		
1750035	Drill Core	3.75	0.006	<2
REP 1750035	QC	<0.005		
1750042	Drill Core	1.38	0.024	<2
REP 1750042	QC	0.018		
1750050	Rock	0.72	0.008	<2
REP 1750050	QC	<2		
Core Reject Duplicates				
1750005	Drill Core	2.60	0.007	<2
DUP 1750005	QC	0.007		
1750040	Drill Core	4.53	0.011	<2
DUP 1750040	QC	0.015		
Reference Materials				
STD CDN-ME-14A	Standard	47		
STD CDN-ME-9A	Standard	5		
STD CDN-ME-14A	Standard	45		
STD CDN-ME-9A	Standard	3		
STD OXG99	Standard	0.943		
STD OXG99	Standard	0.936		
STD OXG99	Standard	0.992		
STD OXG99	Standard	0.928		
STD OXK94	Standard	3.499		
STD OXK94	Standard	3.543		
STD OXK94	Standard	3.767		
STD OXK94	Standard	3.455		
STD CDN-ME-14A Expected		42		
STD OXK94 Expected		3.562		



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Project: Charlotte Project

Report Date: August 31, 2012

Page: 2 of 2

Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000700.1

		WGHT	G6	7AR
		Wgt	Au	Ag
		kg	ppm	gm/t
		0.01	0.005	2
STD OXG99 Expected		0.932		
BLK	Blank	<2		
BLK	Blank	<2		
BLK	Blank	<0.005		
BLK	Blank	<0.005		
BLK	Blank	0.005		
BLK	Blank	<0.005		
BLK	Blank	<0.005		
BLK	Blank	<0.005		
Prep Wash				
G1-WHI	Prep Blank	0.006 <2		
G1-WHI	Prep Blank	<0.005 <2		



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: August 20, 2012

Report Date: August 31, 2012

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CERTIFICATE OF ANALYSIS

WHI12000723.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-12
P.O. Number
Number of Samples: 25

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	24	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	25	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
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Project: Charlotte Project

Report Date: August 31, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000723.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	ppm	gm/t
MDL	0.01	0.005	2
1750195	Rock	1.05	<0.005
1750196	Drill Core	2.96	0.586
1750197	Drill Core	1.99	0.008
1750198	Drill Core	4.52	0.214
1750199	Drill Core	2.69	<0.005
1750200	Drill Core	3.86	0.008
1750201	Drill Core	2.03	<0.005
1750202	Drill Core	4.52	0.010
1750203	Drill Core	2.45	<0.005
1750204	Drill Core	2.87	0.008
1750205	Drill Core	1.25	0.006
1750206	Drill Core	3.42	0.066
1750207	Drill Core	3.08	0.012
1750208	Drill Core	3.33	0.019
1750209	Drill Core	5.98	0.006
1750210	Drill Core	2.98	0.015
1750211	Drill Core	3.90	0.012
1750212	Drill Core	3.65	<0.005
1750213	Drill Core	3.26	0.014
1750214	Drill Core	1.98	0.010
1750215	Rock Pulp	0.13	0.270
1750216	Drill Core	5.06	0.007
1750217	Drill Core	4.25	0.009
1750218	Drill Core	3.37	<0.005
1750219	Drill Core	3.01	<0.005



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Project: Charlotte Project

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Page: 1 of 1

Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000723.1

Method		WGHT	G6	7AR
Analyte		Wgt	Au	Ag
Unit		kg	ppm	gm/t
MDL		0.01	0.005	2
Pulp Duplicates				
1750196	Drill Core	2.96	0.586	<2
REP 1750196	QC		0.586	
1750203	Drill Core	2.45	<0.005	<2
REP 1750203	QC			<2
Core Reject Duplicates				
1750216	Drill Core	5.06	0.007	<2
DUP 1750216	QC		<0.005	<2
Reference Materials				
STD CDN-ME-14A	Standard			46
STD CDN-ME-9A	Standard			4
STD OXG99	Standard		0.992	
STD OXG99	Standard		1.023	
STD OXG99	Standard		0.988	
STD OXK94	Standard		3.767	
STD OXK94	Standard		3.738	
STD CDN-ME-14A Expected				42
STD OXK94 Expected			3.562	
STD OXG99 Expected			0.932	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank			<2
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
Prep Wash				
G1-WHI	Prep Blank		<0.005	<2
G1-WHI	Prep Blank		<0.005	<2



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: August 21, 2012

Report Date: August 31, 2012

Page: 1 of 5

CERTIFICATE OF ANALYSIS

WHI12000724.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-10
P.O. Number
Number of Samples: 101

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	97	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	101	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
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Project: Charlotte Project

Report Date: August 31, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000724.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750063	Drill Core	4.04	0.010	<2
1750064	Drill Core	3.61	0.010	<2
1750065	Rock	0.80	0.008	<2
1750066	Drill Core	2.19	0.055	<2
1750067	Drill Core	4.14	0.014	<2
1750068	Drill Core	3.16	0.007	<2
1750069	Drill Core	4.46	0.014	<2
1750070	Drill Core	3.05	0.019	<2
1750071	Rock Pulp	0.14	3.481	53
1750072	Drill Core	3.12	0.015	<2
1750073	Drill Core	3.69	0.007	<2
1750074	Drill Core	1.82	0.011	<2
1750075	Drill Core	2.22	0.021	2
1750076	Drill Core	3.60	<0.005	<2
1750077	Drill Core	5.29	<0.005	<2
1750078	Drill Core	4.18	0.010	<2
1750079	Drill Core	4.81	0.058	<2
1750080	Drill Core	2.97	<0.005	<2
1750081	Drill Core	1.18	<0.005	<2
1750082	Drill Core	2.30	0.019	<2
1750083	Drill Core	1.43	0.022	<2
1750084	Drill Core	3.50	0.007	<2
1750085	Drill Core	1.91	0.018	<2
1750086	Drill Core	2.80	0.010	<2
1750087	Drill Core	2.26	1.976	132
1750088	Rock Pulp	0.12	9.464	3
1750089	Drill Core	2.85	0.021	<2
1750090	Drill Core	1.17	0.027	<2
1750091	Drill Core	4.23	0.083	4
1750092	Drill Core	2.98	0.261	7



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Project: Charlotte Project

Report Date: August 31, 2012

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CERTIFICATE OF ANALYSIS

WHI12000724.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750093	Drill Core	1.16	0.172	4
1750094	Drill Core	1.14	0.261	<2
1750095	Rock	0.98	<0.005	<2
1750096	Drill Core	4.06	<0.005	<2
1750097	Drill Core	3.50	0.006	<2
1750098	Drill Core	2.30	0.020	<2
1750099	Drill Core	1.81	0.009	<2
1750100	Drill Core	1.11	0.008	<2
1750101	Drill Core	1.73	0.009	<2
1750102	Drill Core	3.30	0.026	<2
1750103	Drill Core	2.86	0.010	<2
1750104	Drill Core	4.13	0.006	<2
1750105	Drill Core	4.04	0.008	<2
1750106	Drill Core	2.57	0.057	5
1750107	Drill Core	2.18	0.777	7
1750108	Rock Pulp	0.14	9.305	2
1750109	Drill Core	5.04	0.161	5
1750110	Drill Core	2.67	0.012	<2
1750111	Drill Core	1.99	0.009	<2
1750112	Drill Core	1.33	0.048	<2
1750113	Rock	1.05	<0.005	<2
1750114	Drill Core	4.14	0.089	<2
1750115	Drill Core	2.16	<0.005	<2
1750116	Drill Core	3.21	0.007	<2
1750117	Drill Core	3.31	0.049	<2
1750118	Drill Core	4.39	0.047	2
1750119	Drill Core	5.27	0.018	3
1750120	Drill Core	4.28	0.005	<2
1750121	Drill Core	3.03	0.009	3
1750122	Drill Core	5.07	0.027	3



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Page: 4 of 5

Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000724.1

	Method Analyte Unit MDL	WGHT	G6	7AR
		Wgt	Au	Ag
		kg	ppm	gm/t
		0.01	0.005	2
1750123	Drill Core	2.27	0.032	3
1750124	Drill Core	2.14	0.035	<2
1750125	Drill Core	3.81	0.006	<2
1750126	Drill Core	5.22	0.007	<2
1750127	Drill Core	4.08	0.013	3
1750128	Drill Core	2.80	0.008	<2
1750129	Drill Core	4.95	0.155	7
1750130	Drill Core	7.36	0.076	4
1750131	Drill Core	4.39	0.266	3
1750132	Drill Core	4.39	0.576	<2
1750133	Rock Pulp	0.15	3.876	52
1750134	Drill Core	6.21	0.293	<2
1750135	Drill Core	5.49	0.217	8
1750136	Drill Core	2.35	0.511	3
1750137	Drill Core	3.56	0.623	4
1750138	Drill Core	2.03	0.434	3
1750139	Drill Core	3.69	0.570	5
1750140	Drill Core	4.79	0.105	2
1750141	Drill Core	4.11	0.045	<2
1750142	Drill Core	3.84	<0.005	<2
1750143	Drill Core	2.61	0.011	<2
1750144	Rock	1.11	<0.005	<2
1750145	Drill Core	1.99	0.017	<2
1750146	Drill Core	1.58	0.025	<2
1750147	Drill Core	1.07	0.076	3
1750148	Drill Core	5.47	0.026	<2
1750149	Drill Core	2.92	0.130	<2
1750150	Drill Core	3.26	0.172	2
1750151	Drill Core	4.13	0.321	4
1750152	Drill Core	2.62	1.010	8



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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000724.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750153	Drill Core	3.70	0.045	3
1750154	Drill Core	4.29	0.174	4
1750155	Drill Core	2.27	0.064	2
1750156	Drill Core	5.58	0.095	<2
1750157	Drill Core	4.25	0.033	4
1750158	Drill Core	3.55	0.379	5
1750159	Rock	0.76	<0.005	<2
1750160	Drill Core	5.98	0.087	<2
1750161	Drill Core	5.80	0.053	<2
1750162	Drill Core	6.21	0.014	<2
1750163	Drill Core	5.49	0.009	<2



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Project: Charlotte Project

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000724.1

	Method Analyte Unit MDL	WGHT Wgt kg 0.01	G6 Au ppm 0.005	7AR Ag gm/t 2
Pulp Duplicates				
1750086	Drill Core	2.80	0.010	<2
REP 1750086	QC			<2
REP 1750094	QC		0.252	
1750121	Drill Core	3.03	0.009	3
REP 1750121	QC			3
1750128	Drill Core	2.80	0.008	<2
REP 1750128	QC		0.008	
1750156	Drill Core	5.58	0.095	<2
REP 1750156	QC			<2
1750162	Drill Core	6.21	0.014	<2
REP 1750162	QC		0.017	
Core Reject Duplicates				
1750094	Drill Core	1.14	0.261	<2
DUP 1750094	QC		0.247	<2
1750129	Drill Core	4.95	0.155	7
DUP 1750129	QC		0.161	7
Reference Materials				
STD CDN-ME-14A	Standard			45
STD CDN-ME-9A	Standard			5
STD CDN-ME-9A	Standard			5
STD CDN-ME-14A	Standard			48
STD CDN-ME-9A	Standard			5
STD CDN-ME-14A	Standard			47
STD OXG99	Standard		0.921	
STD OXG99	Standard		0.923	
STD OXG99	Standard		0.936	
STD OXG99	Standard		0.950	
STD OXG99	Standard		0.928	



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Project: Charlotte Project

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000724.1

		WGHT	G6	7AR
		Wgt	Au	Ag
		kg	ppm	gm/t
		0.01	0.005	2
STD OXK94	Standard		3.584	
STD OXK94	Standard		3.276	
STD OXK94	Standard		3.334	
STD OXK94	Standard		3.270	
STD OXK94	Standard		3.455	
STD CDN-ME-14A Expected				42
STD OXK94 Expected			3.562	
STD OXG99 Expected			0.932	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
BLK	Blank		0.005	
BLK	Blank		0.009	
BLK	Blank		0.005	
BLK	Blank			<2
BLK	Blank			<2
BLK	Blank			<2
BLK	Blank		<0.005	
Prep Wash				
G1-WHI	Prep Blank		<0.005	<2
G1-WHI	Prep Blank		<0.005	<2



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Receiving Lab: Canada-Whitehorse

Received: August 21, 2012

Report Date: August 30, 2012

Page: 1 of 3

CERTIFICATE OF ANALYSIS

WHI12000725.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-11
P.O. Number
Number of Samples: 31

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	29	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	31	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

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Project: Charlotte Project

Report Date: August 30, 2012

Page: 2 of 3

Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000725.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750164	Drill Core	6.15	0.015	<2
1750165	Drill Core	6.52	0.012	<2
1750166	Drill Core	4.27	0.038	<2
1750167	Drill Core	1.82	0.012	<2
1750168	Rock	0.63	0.005	<2
1750169	Drill Core	3.58	0.008	<2
1750170	Drill Core	3.30	0.029	<2
1750171	Rock Pulp	0.14	9.556	<2
1750172	Drill Core	3.18	0.039	<2
1750173	Drill Core	2.89	0.029	<2
1750174	Drill Core	6.53	0.012	<2
1750175	Drill Core	5.11	0.044	<2
1750176	Drill Core	2.85	0.039	<2
1750177	Drill Core	5.65	0.051	<2
1750178	Drill Core	5.64	0.020	<2
1750179	Drill Core	3.52	0.007	<2
1750180	Drill Core	5.34	0.010	<2
1750181	Drill Core	1.91	0.009	<2
1750182	Drill Core	2.42	0.008	<2
1750183	Drill Core	6.39	0.009	<2
1750184	Drill Core	5.97	<0.005	<2
1750185	Drill Core	4.74	0.171	7
1750186	Drill Core	7.01	0.036	<2
1750187	Drill Core	7.33	0.047	2
1750188	Drill Core	3.13	0.011	<2
1750189	Drill Core	3.90	0.067	<2
1750190	Drill Core	5.42	0.027	<2
1750191	Drill Core	4.44	0.015	<2
1750192	Rock Pulp	0.14	0.277	<2
1750193	Drill Core	4.55	<0.005	<2



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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000725.1

	Method	WGHT	G6	7AR
	Analyte	Wgt	Au	Ag
	Unit	kg	ppm	gm/t
	MDL	0.01	0.005	2
1750194	Drill Core	4.31	0.011	<2



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Project: Charlotte Project

Report Date: August 30, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000725.1

	Method	WGHT	G6	7AR
Analyte		Wgt	Au	Ag
Unit		kg	ppm	gm/t
MDL		0.01	0.005	2
REP 1750185	QC		0.171	
Core Reject Duplicates				
1750185	Drill Core	4.74	0.171	7
DUP 1750185	QC		0.167	6
Reference Materials				
STD CDN-ME-14A	Standard			44
STD CDN-ME-9A	Standard			3
STD OXG99	Standard		0.905	
STD OXG99	Standard		1.023	
STD OXK94	Standard		3.638	
STD CDN-ME-14A Expected				42
STD OXK94 Expected			3.562	
STD OXG99 Expected			0.932	
BLK	Blank			<2
BLK	Blank		0.007	
BLK	Blank		<0.005	
BLK	Blank		<0.005	
Prep Wash				
G1-WHI	Prep Blank		<0.005	<2
G1-WHI	Prep Blank		0.010	<2



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Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: August 23, 2012

Report Date: September 07, 2012

Page: 1 of 5

CERTIFICATE OF ANALYSIS

WHI12000770.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-13
P.O. Number
Number of Samples: 100

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	96	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	100	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN
G6Gr	8	Lead collection fire assay 30G fusion - Grav finish	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: Charlotte Project

Report Date: September 07, 2012

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Part: 1 of 1

CERTIFICATE OF ANALYSIS

WHI12000770.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	ppm	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1750220	Drill Core	4.81	<0.005	<2	
1750221	Drill Core	2.24	0.011	<2	
1750222	Drill Core	5.49	0.012	<2	
1750223	Drill Core	2.71	0.009	<2	
1750224	Drill Core	2.24	0.011	<2	
1750225	Rock	0.67	0.007	<2	
1750226	Drill Core	4.96	0.009	<2	
1750227	Drill Core	3.20	0.012	<2	
1750228	Drill Core	3.85	0.006	<2	
1750229	Drill Core	6.58	<0.005	<2	
1750230	Drill Core	1.60	<0.005	<2	
1750231	Drill Core	3.79	<0.005	<2	
1750232	Drill Core	3.91	<0.005	<2	
1750233	Drill Core	5.50	<0.005	<2	
1750234	Drill Core	3.94	<0.005	<2	
1750235	Rock Pulp	0.13	4.131	51	
1750236	Drill Core	5.79	0.011	<2	
1750237	Drill Core	7.79	0.010	<2	
1750238	Drill Core	6.64	0.012	<2	
1750239	Drill Core	4.04	<0.005	<2	
1750240	Drill Core	5.81	<0.005	<2	
1750241	Drill Core	4.71	0.008	<2	
1750242	Drill Core	3.79	0.006	<2	
1750243	Drill Core	4.06	<0.005	<2	
1750244	Drill Core	2.82	<0.005	<2	
1750245	Drill Core	1.49	0.005	<2	
1750246	Drill Core	4.15	0.008	<2	
1750247	Drill Core	4.62	<0.005	<2	
1750248	Drill Core	3.33	<0.005	<2	
1750249	Drill Core	3.91	<0.005	<2	



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CERTIFICATE OF ANALYSIS

WHI12000770.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	ppm	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1750250	Drill Core	2.66	<0.005	<2	
1750251	Drill Core	1.80	0.007	<2	
1750252	Drill Core	3.59	0.758	35	
1750253	Drill Core	1.08	>10	>300	910 44.5
1750254	Drill Core	1.20	>10	>300	1527 73.3
1750255	Rock	0.47	0.113	3	
1750256	Drill Core	3.14	>10	153	139 11.2
1750257	Drill Core	1.59	>10	>300	911 86.8
1750258	Rock	0.52	0.085	<2	
1750259	Drill Core	0.86	1.021	24	
1750260	Rock	0.43	0.011	<2	
1750261	Rock	0.39	0.005	<2	
1750262	Drill Core	2.62	0.142	<2	
1750263	Rock Pulp	0.12	8.338	<2	
1750264	Drill Core	1.69	0.011	<2	
1750265	Drill Core	2.20	0.015	<2	
1750266	Drill Core	1.49	0.012	<2	
1750267	Drill Core	4.44	0.007	<2	
1750268	Drill Core	2.03	0.036	3	
1750269	Drill Core	3.84	0.009	<2	
1750270	Drill Core	1.22	0.013	<2	
1750271	Drill Core	5.36	0.006	<2	
1750272	Drill Core	2.56	<0.005	<2	
1750273	Drill Core	1.06	<0.005	<2	
1750274	Drill Core	2.13	0.005	<2	
1750275	Drill Core	2.63	0.008	<2	
1750276	Drill Core	7.61	<0.005	<2	
1750277	Drill Core	2.82	<0.005	<2	
1750278	Drill Core	2.00	>10	63	60 14.2
1750279	Drill Core	2.91	0.010	<2	



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CERTIFICATE OF ANALYSIS

WHI12000770.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	ppm	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
1750280	Drill Core	1.25	0.437	<2	
1750281	Drill Core	3.82	<0.005	<2	
1750282	Drill Core	2.14	0.006	<2	
1750283	Rock Pulp	0.12	0.272	<2	
1750284	Drill Core	3.69	<0.005	<2	
1750285	Drill Core	3.51	<0.005	<2	
1750286	Drill Core	3.53	<0.005	<2	
1750287	Drill Core	4.02	<0.005	<2	
1750288	Drill Core	3.56	<0.005	<2	
1750289	Drill Core	2.55	<0.005	<2	
1750290	Drill Core	6.11	0.495	4	
1750291	Drill Core	3.00	0.282	2	
1750292	Drill Core	4.55	0.330	<2	
1750293	Drill Core	5.15	0.386	2	
1750294	Drill Core	1.91	0.367	3	
1750295	Drill Core	3.98	0.353	3	
1750296	Drill Core	3.94	0.606	5	
1750297	Drill Core	2.79	0.728	22	
1750298	Rock	0.73	0.010	65	
1750299	Drill Core	1.45	0.925	65	
1750300	Drill Core	1.16	1.093	20	
1750301	Drill Core	1.47	1.572	272	
1750302	Rock	1.01	0.006	<2	
1750303	Rock Pulp	0.13	9.382	2	
1750304	Drill Core	3.17	7.197	171	
1750305	Rock	0.86	0.017	<2	
1750306	Drill Core	2.41	0.431	15	
1750307	Drill Core	1.88	0.387	14	
1750308	Drill Core	5.70	0.493	9	
1750309	Drill Core	2.42	>10	>300	1591 24.1



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CERTIFICATE OF ANALYSIS

WHI12000770.1

	Method	WGHT	G6	7AR	G6Gr	G6Gr
	Analyte	Wgt	Au	Ag	Ag	Au
	Unit	kg	ppm	gm/t	gm/t	gm/t
	MDL	0.01	0.005	2	50	0.9
1750310	Rock	0.78	0.012	<2		
1750311	Drill Core	2.37	>10	>300	1297	27.3
1750312	Rock	0.90	0.020	3		
1750313	Drill Core	2.31	>10	>300	1091	26.2
1750314	Rock	0.86	<0.005	<2		
1750315	Rock	0.80	0.011	2		
1750316	Drill Core	5.28	0.250	3		
1750317	Drill Core	2.07	0.262	5		
1750318	Drill Core	3.32	0.130	5		
1750319	Drill Core	3.95	0.220	4		

QUALITY CONTROL REPORT

WHI12000770.1

Method	WGHT	G6	7AR	G6Gr	G6Gr
Analyte	Wgt	Au	Ag	Ag	Au
Unit	kg	ppm	gm/t	gm/t	gm/t
MDL	0.01	0.005	2	50	0.9
Pulp Duplicates					
1750245	Drill Core	1.49	0.005	<2	
REP 1750245	QC		<2		
1750249	Drill Core	3.91	<0.005	<2	
REP 1750249	QC		<0.005		
1750260	Rock	0.43	0.011	<2	
REP 1750260	QC		0.012		
1750275	Drill Core	2.63	0.008	<2	
REP 1750275	QC		<2		
1750315	Rock	0.80	0.011	2	
REP 1750315	QC		<2		
1750318	Drill Core	3.32	0.130	5	
REP 1750318	QC		0.150		
Core Reject Duplicates					
1750242	Drill Core	3.79	0.006	<2	
DUP 1750242	QC		<0.005	<2	
1750277	Drill Core	2.82	<0.005	<2	
DUP 1750277	QC		<0.005	<2	
1750312	Rock	0.90	0.020	3	
DUP 1750312	QC		0.009	<2	
Reference Materials					
STD AGPROOF	Standard			97	<0.9
STD CDN-ME-9A	Standard		3		
STD CDN-ME-14A	Standard		43		
STD CDN-ME-14A	Standard		44		
STD CDN-ME-9A	Standard		3		
STD CDN-ME-9A	Standard		5		
STD CDN-ME-14A	Standard		47		
STD CDN-ME-9A	Standard		4		



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Project: Charlotte Project

Report Date: September 07, 2012

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Part: 1 of 1

QUALITY CONTROL REPORT

WHI12000770.1

		WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	ppm	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
STD CDN-ME-14A	Standard			45		
STD OXG99	Standard		0.905			
STD OXG99	Standard		0.919			
STD OXG99	Standard		0.901			
STD OXG99	Standard		0.956			
STD OXG99	Standard		0.975			
STD OXK94	Standard		3.462			
STD OXK94	Standard		3.471			
STD OXK94	Standard		3.422			
STD OXK94	Standard		3.552			
STD OXK94	Standard		3.675			
STD SP49	Standard				57	18.1
STD SP49	Standard				61	18.4
STD AGPROOF Expected					94	0
STD CDN-ME-14A Expected				42		
STD OXG99 Expected			0.932			
STD OXK94 Expected			3.562			
STD SP49 Expected					60.2	18.34
BLK	Blank		<0.005			
BLK	Blank		0.006			
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank			<2		
BLK	Blank				<50	<0.9
BLK	Blank				<50	<0.9
BLK	Blank		<0.005			
BLK	Blank		0.006			
BLK	Blank		<0.005			
BLK	Blank		<0.005			



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QUALITY CONTROL REPORT

WHI12000770.1

		WGHT	G6	7AR	G6Gr	G6Gr
		Wgt	Au	Ag	Ag	Au
		kg	ppm	gm/t	gm/t	gm/t
		0.01	0.005	2	50	0.9
BLK	Blank			<2		
BLK	Blank			<2		
BLK	Blank			<2		
BLK	Blank		<0.005			
BLK	Blank		<0.005			
BLK	Blank				<50	<0.9
BLK	Blank				<50	<0.9
Prep Wash						
G1-WHI	Prep Blank		0.007	<2		
G1-WHI	Prep Blank		0.008	<2		



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: August 23, 2012

Report Date: August 31, 2012

Page: 1 of 2

CERTIFICATE OF ANALYSIS

WHI12000771.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-14
P.O. Number
Number of Samples: 30

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	28	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G603	30	lead collection fire-assay fusion -AAS finish +7AR Ag	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
DISP-RJT Dispose of Reject After 90 days

ADDITIONAL COMMENTS

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CERTIFICATE OF ANALYSIS

WHI12000771.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	ppm	gm/t
MDL	0.01	0.005	2
1750320	Rock	0.82	<0.005
1750321	Drill Core	3.09	0.327
1750322	Drill Core	2.74	0.545
1750323	Drill Core	4.29	1.272
1750324	Drill Core	5.23	0.194
1750325	Drill Core	4.30	0.584
1750326	Rock Pulp	0.12	3.716
1750327	Drill Core	2.30	<0.005
1750328	Drill Core	5.41	<0.005
1750329	Drill Core	3.73	0.012
1750330	Drill Core	2.39	<0.005
1750331	Drill Core	2.25	<0.005
1750332	Drill Core	2.16	<0.005
1750333	Drill Core	3.01	0.006
1750334	Drill Core	2.11	<0.005
1750335	Drill Core	4.49	<0.005
1750336	Drill Core	2.53	<0.005
1750337	Drill Core	1.57	<0.005
1750338	Drill Core	2.86	0.005
1750339	Drill Core	6.90	<0.005
1750340	Drill Core	5.75	<0.005
1750341	Drill Core	4.72	<0.005
1750342	Drill Core	6.62	<0.005
1750343	Drill Core	2.15	<0.005
1750344	Rock	1.01	<0.005
1750345	Drill Core	5.96	<0.005
1750346	Drill Core	6.45	<0.005
1750347	Drill Core	4.57	<0.005
1750348	Drill Core	4.99	<0.005
1750349	Rock Pulp	0.20	0.336



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QUALITY CONTROL REPORT

WHI12000771.1

Method	WGHT	G6	7AR
Analyte	Wgt	Au	Ag
Unit	kg	ppm	gm/t
MDL	0.01	0.005	2
Pulp Duplicates			
1750330	Drill Core	2.39	<0.005
REP 1750330	QC	<0.005	
1750349	Rock Pulp	0.20	0.336
REP 1750349	QC		<2
Core Reject Duplicates			
1750321	Drill Core	3.09	0.327
DUP 1750321	QC	0.664	7
Reference Materials			
STD CDN-ME-9A	Standard		3
STD CDN-ME-14A	Standard		46
STD OXG99	Standard	0.947	
STD OXG99	Standard	0.951	
STD OXK94	Standard	3.303	
STD OXK94	Standard	3.598	
STD CDN-ME-14A Expected			42
STD OXK94 Expected		3.562	
STD OXG99 Expected		0.932	
BLK	Blank	<0.005	
BLK	Blank	<0.005	
BLK	Blank		<2
BLK	Blank	<0.005	
BLK	Blank	<0.005	
Prep Wash			
G1-WHI	Prep Blank	<0.005	<2
G1-WHI	Prep Blank	<0.005	<2

APPENDIX 5

Trench Logs

Trench Name ECE-TR12-01
Location Eliza Creek Extension



Total Length (m) 182.40
Date(s) Mapped June 9-12th, 2012
Loggers Scott Dowler, Rita Dubman
Number of Samples 75
Mapping Direction West to East
Face Mapped North

Summary Description

The first 90m of trench ECE-TR12-01 is characterized by variably altered andesite being crosscut by later stage, unaltered andesite dikes. The unaltered andesite dikes range from 1-5m in width, contain a maximum of 1% pyrite and are generally bounded by faults on at least one contact. The altered andesite recorded in intervals 0-25.8m, 35.7-40.5m, 47.3-54.8m and 68.5-77.6m have varying degrees of alteration (sil?, alb?) from moderate to very strong. Mineralization is generally silvery, blebby and disseminated pyrite and varies from 1-5%. There appears to be some arsenopyrite disseminated in the areas of pyrite mineralization, although not distinct. The fault/shear zone lithologies are characterized by broken-up, pulverized rock and gravel, as well as clays that are generally rusty orange colored with the rare patch of light green colouration. From 54.8-57.7m is a shear hosted, intensely altered Quartz-Feldspar Porphyry containing 5-7% sulfide mineralization (mostly py, tr asp, tr cpy). A 50m long mid-trench section is characterized by overburden containing some zones of clay and a strongly altered andesite from 115.2-116.8m. The apparent lithologies (Andesite-west, Granodiorite- east) in the large section of overburden are both strongly altered, leading to the interpretation that this overburden is actually overlying large shear zone where fluid has concentrated. Following the overburden at 140.5m is a medium grained Amphibole-Pyroxene-Actinolite Granodiorite in which the trench terminates at 182.4m. Proximal to the overburden section the feldspar is completely altered to clay and mafics are altered to fine grained, glomerocrysts of actinolite. Some sections of granodiorite have seen the mafics undergo weak propylitic alteration, but generally the unit becomes less altered away from the shear zone. ECE-TR12-01 mostly contains competent outcrop except for the one large section mid-trench.

Summary of Lithology

From	To	Lithology	Comments
0	25.8	Andesite	
25.8	32.1	Andesite Dike	
32.1	35.7	Fault Zone	
35.7	40.5	Porphyritic Andesite	
40.5	41.5	Fault Zone	
41.5	47.3	Porphyritic Andesite	
47.3	54.8	Variably Altered Andesite	
54.8	57.7	Quartz Feldspar Porphyry	
57.7	59.2	Andesite dike	
59.2	62.3	Altered Andesite	
62.3	63.2	Andesite dike	
63.2	64.1	Fault Zone	
64.1	68.5	Andesite dike	
68.5	77.6	Altered Andesite	
77.6	80.3	Fault Zone	
80.3	90.6	Weakly Porphyritic Andesite	
90.6	92.4	Fault Zone	
92.4	115.2	Overburden	
115.2	116.8	Altered Andesite	
116.8	140.5	Overburden	
140.5	182.4	Hornblende-Pyroxene-Actinolite Granodiorite	

Logged By: Scott Dowler and Rita Dubman
Trench: ECE-TR12-01
Mapping Direction: W to E
Face mapped (NSEW): N

Primary		Secondary		Lith Code	Lithology	Description	Mineralization						Alteration																
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	Mnlzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
0.00	25.80	0.00	3.50	AND	Andesite	Very fine grained, massive, light grey host rock. It contains 1-2% fine grained (1mm) silvery pyrite blebs. There is trace chalcopyrite. The weathered surface is orange-red and there is some purple on the fractures (FeO, MnO staining). [Note both albitization and silicification columns have been filled out due to the unknown nature of the alteration]	1-2	-	-	-	tr	fine grained, silvery, pyrite blebs	light grey	3-4	-	-	-	-	-	-	-	-	-	-	-	-	3-4	-	variable
		3.5	10.6			This is a zone of moderate alteration and mineralogy and alteration are as follows in the table.	1-2	-	-	-	-	fine grained, disseminated pyrite	light grey	3	-	-	-	-	-	-	-	-	-	-	-	-	3	-	variable
		10.60	15.00			Strongly altered zone. Veinlet at 12.9m.	-	-	-	-	-	-	light grey	4	-	-	-	-	-	-	-	-	-	-	-	-	4	-	pervasive
		15.00	17.00			Moderately altered zone. At 16.9m is a 1cm wide veinlet surrounded by a 10-20cm wide alteration envelope.	-	-	-	-	-	-	light grey	3	-	-	-	-	-	-	-	-	-	-	-	-	3	-	pervasive
		17.00	25.80			Strongly altered zone.	-	-	-	-	-	-	light grey	4	-	-	-	-	-	-	-	-	-	-	-	-	4	-	pervasive
		17.00	18.50			A shear zone that tapers out at the East contact. It contains minor yellow clay alteration.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		20.70				Micro-fault with minor gouge.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		22.20				Quartz vein with oxidized phenos or oxidized sulphide? Porphyry veinlet? The width is 1cm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		23.20				There are two parallel, clay altered feldspar veinlets in close proximity to each other. Both are 1cm wide.	-	-	-	-	-	-	orannge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	pervasive	
25.80	32.10			AND-d	Andesite Dike	There is a fault with gouge at the upper contact and the orientation is unknown. The upper fault is highly weathered. At 29.3m is more fissile, unaltered andesite contorted in a half-circle over 30cm's (PHOTO: 6100005). The fresh andesite has a massive texture, is aphanitic, dark grey and contains 1% disseminated py and occasional py blebs. Other characteristics are conchoidal fracture and rare, weak magnetism	1	-	-	-	-	blebs + disseminated	dark grey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unaltered	
32.10	35.70			FZ	Fault Zone	The fault zone is 1-2m wide. There's a gradational contact with fresh Andesite on the West side going from large, blocky rubble on the fault margin to more gouge and sediment in the middle of the fault. The sediments are very oxidized and possibly clay altered. There is no veining in this zone. Clasts within the fault vary from clay altered porphyry to silicified andesite and unaltered andesite. Porphyry clasts have a white, soft matrix (feld altered to clays?) and 1-2mm sized, grey-black phenos (1-3%). The lower contact is sharper, still with abundant blocky rocks and its orientation is not obvious (230/34). INTERPRETATION: Fault bounded fresh andesite dike intruded later than strongly altered andesite on either side.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35.70	40.50			AND	Porphyritic Andesite	Massive, plag-phyric, very light grey, silicified, conchoidal fracture. Phenos are white (feld alt clay?) and 1-2mm. Fine grained disseminated py and Asp?? + oxidized sulphides. FeO + MnO staining on cleavage/fracture surfaces. Rock is blocky but compared to other units seen so far it is competent	2-3	tr	-	-	-	disseminated, f. Grained	very light grey	5	-	-	-	-	-	-	-	-	-	-	-	-	5	-	pervasive
		37.90				A 10cm wide fault zone with abundant oxidized gouge and 1-5cm wide angular clasts. Fault cuts a 1cm wide veinlet of clay altered rock giving potential movement direction due to a 2cm offset and a bent veinlet. (PHOTO: 6100006). INTERP: Post-veinlet normal faulting (micro-scale).	-	-	-	-	-	-	orange	-	-	-	-	-	-	-	-	-	-	-	-	-	-	oxidized fault gouge	
		37.40	40.80			A small veinlet oriented in similar direction to trench. Actual thickness is 0.01m. This plane also likely hosted shearing. First and last 0.5m of zone has most competent vein material, whereas mid-vein is rubble/clays/shear. Vein is buff-orange, soft --> clay altered. Rare 2mm wide greyish green clay altered phenos. Vuggy along top contact with strongly altered basalt. PHOTO: 101-0020	-	-	-	-	-	-	orange and green	-	-	-	-	-	-	-	-	-	-	-	-	-	-	pervasive clay alteration (type N/A)	
40.50	41.50			FZ	Fault Zone	Rubbly fault zone with gouge and blocky clasts. Also 1cm wide veinlet (same as prev.) Fault orientation appears to be same as vein orientation.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
41.50	47.30			AND	Porphyritic Andesite	Massive, plag-phyric, very light grey, silicified, conchoidal fracture. Phenos are white (feld alt clay?) and 1-2mm. Fine grained disseminated py and asp?? + oxidized sulphides. FeO + MnO staining on cleavage/fracture surfaces. Rock is blocky but compared to other units seen so far it is competent	2-3	tr	-	-	-	disseminated, f. Grained	very light grey	5	-	-	-	-	-	-	-	-	-	-	-	-	5	-	pervasive
		42.20				2cm wide vertical porphyry vein.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		42.60				Two 1cm wide clay altered veinlets cutting the host rock. Both veins pinch out before reaching the surface.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		44.20	45.90			Clay altered vein material. Yellow-tan matrix and very soft. Remnant 1mm sized, black phenos?? (1-2%). Oxidized, orange, vuggy --> oxidized sulphides. Orientation is unclear, possibly dipping to the North. Very blocky.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		44.30	44.80			Bright yellow clay-like soil proximal to veinlet. Host rock is very altered and still weakly porphyritic.	-	-	-	-	-	-	yellow	-	-	-	-	-	-	-	-	-	-	-	-	-	yellow clay		
		45.20				Tiny veinlet.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		46.60	47.30			Clay altered vein and rusty orange-yellow clay soils. Highly altered andesite within 30cm of vein.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
47.30	54.80			AND	Variably Altered Andesite	Similar to previous AND. very hard. Weak to strong alteration (sil? Alb?). Possibly just alteration envelopes around trench parallel veins.	-	-	-	-	-	-	dark to light grey	3-4	-	-	-	-	-	-	-	-	-	-	-	-	3-4	-	
		47.80	48.30			Unaltered dike of andesite. Dark grey, mafic. No sulphides.	-	-	-	-	-	none	dark grey	-	-	-	-	-	-	-	-	-	-	-	-	-	none		
		50.30	50.50			20 cm wide clay altered shear zone. Orangey-red sediment. In contact with highly altered andesite.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		51.90	52.30			Same as previous. Additionally on E side of vein/shear the andesite is unaltered, however over this interval the andesite is mostly strongly altered.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		53.50	-			Small 1cm wide clay altered veinlet.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
54.80	57.70			QFP	Quartz Feldspar Porphyry	Vein is off-white to light grey and very fine grained, massive, weakly porphyritic (feldspar phenos 10-20%). Conchoidal fracture, very hard. It contains abundant fg disseminated py (5-7%) and trace cp + asp. It has highly oxidized fracture planes. Orientation is unclear. INTERP: qtz-feld porphyry vein??	5-7	tr	-	-	tr	disseminated, f. Grained	off-white	5	-	-	-	-	-	-	-	-	-	-	-	-	5	pervasive	
		57.10	57.70			Large zone of blocky, broken-up core with abundant sediment. Very incompetent rock. Quartz veining is broken-up clasts of highly silicified andesite within. East contact with unaltered andesite.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		55.50				highly oxidized qtz vein boulder same as prev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
57.70	59.20			AND-d	Andesite dike	Massive, aphanitic, hard, dark grey volcanic rock with conchoidal fracture. The outcrop is very broken up rubbly. (INTERP: due to proximity of fault zone). East contact with moderately altered plag phyric andesite. No sulphides present.	-	-	-	-	-	none	dark grey	-	-	-	-	-	-	-	-	-	-	-	-	-	none		
59.20	62.30			AND	Altered Andesite	Medium grey, very hard andesite containing 1mm sized subhedral to euhedral plag phenos (30%). Moderately silicified. 1-3% blebby and fg disseminated py. Very broken up , rubbly rock at beginning of litho --> fault? One clay altered vein.	1-3	-	-	-	-	disseminated, f. Grained	medium grey	3	-	-	-	-	-	-	-	-	-	-	-	-	3	pervasive	
		60.20	60.30			Highly silicified host rock within 10cm of altered orange buff clays.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
62.30	63.20			AND-d	Andesite dike	Massive, aphanitic, hard, dark grey volcanic rock with conchoidal fracture. The outcrop is very broken up rubbly. No sulphides present.	-	-	-	-	-	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	none		

Charlotte Project
Trench Description
ECE-12-01

Primary		Secondary		Lith Code	Lithology	Description	Mineralization						Alteration															
From	To	From	To				Py%	Asp%	Gn%	Sp%	Cp%	Mnlzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb
63.20	64.10			FZ	Fault Zone	Shear zone with fault gouge, broken rocks and clays light orange and some green.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		63.20				Orange and green clay in vein.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64.10	68.50			AND-d	Andesite dike	Same as previous. Moderately silicified with 1-2% py in alt envelopes around veinlets. Vein is orange clay altered rock. Easy contact is gradational.	tr	-	-	-	-	disseminated, f. Grained	dark grey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	none
		64.70	65.50			Veinlet.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		66.10				Same as previous.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		68.40	69.00			Two parallel off-white to buff coloured veinlets. Moderately soft and no fizz.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
68.50	77.60			AND	Altered Andesite	Alteration is strong. Rock colour is light grey and it is very hard with conchoidal fractures and a massive texture. Mineralization is fine to med grained py and asp? Found in small clusters and mm sized stringers. Also vfg py disseminated throughout. INTERP: increased veinlet concentration causing a large zone of strongly silicified andesite	1-2	1-2	-	-	-	small clusters, stringers, disseminated	light grey	4	-	-	-	-	-	-	-	-	-	-	-	4	-	pervasive
		69.00				S-shaped clay altered veinlet. Fold measurement taken: 32 -->360. PHOTO: 101-0043.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		72.80				Two parallel 1cm wide veinlets.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		73.90				Clay altered veinlet.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		76.10				Stringer.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
77.60	80.30			FZ	Fault Zone	Fault zone and clay vein. Abundant, blocky, rubbly outcrop and sediment intermixed with clay altered vein material. Upper and lower contact are irregular and overburden makes fault trend ambiguous. Minor light orange clay near upper contact with highly altered Fost rock.	-	-	-	-	-	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		78.30				Green clay.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		79.80	80.30			Green clay.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
80.30	90.60			AND	Weakly Porphyritic Andesite	Very strongly altered, very hard. Rock is light grey to white with a slight green tinge to it. Vfg. Conchoidal fracture. Rock appears to be predominantly quartz. Mineralization: f-m gr PY blebs (~5%). The upper contact is with a fault and the lower contact is with a vein. 2-3% veining over the interval. *rock has a faint phenos texture	5	-	-	-	-	blebs	l. grey to white	5	-	-	-	-	-	-	-	-	-	-	-	5	-	pervasive
		81.30				Light yellow orange clay altered veinlet. 2 1cm veinlets within 30cm of each other.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		82.20				Light yellow orange clay altered veinlet.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		84.00				Light yellow orange clay altered veinlet. 2 1cm veinlets within 30cm of each other.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		84.50	87.30			Light yellow orange clay altered veinlet with some buff coloured clay in spots and striking parallel to trench; 20cm thick at west end, 10cm thick at East end and approx 1cm thick mid vein. PHOTO: 101-0045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		90.20				Light yellow orange clay altered veinlet before fault.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
90.60	92.40			FZ	Fault Zone	Gouge, crumbly, broken-up rock grading into a large section of overburden. Abundant light orange clay material at west end.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
92.40	115.20			OB	Overburden	At this point the trench shallows.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		104.30	115.20			B' soil horizon is very orangey-beige (rusty). Similar alteration colour as veinlets seen in trench (still no o/c). INTERP: highly altered sed's of mineralized nature.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
115.20	116.80			AND	Altered Andesite	This outcrop is seen on the South rib of the trench and is very broken up and crumbly. Alteration here is intense sil? Alb?. Rock is light grey, massive, very hard with conchoidal fractures. There is no evidence of phenos. Approximately 1% blebby, silvery py throughout. Very oxidized on fracture planes. Contact orientations unknown.	1	-	-	-	-	blebby	light grey	5	-	-	-	-	-	-	-	-	-	-	-	5	-	pervasive
116.80	140.50			OB	Overburden	The vast majority of overburden (>90%) is highly oxidized rusty orange and some is a much lighter tan to white colour (~5% of OB). INTERP: lg fault zone; evidence: oxidized altered sed's at same depth as o/c was in the first 80m of trench suggesting intense fluids and shearing and intensely altered andesite surrounded by two OB lithos.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
140.50	182.40			Gd	Hornblende-Pyroxene-Actinolite Granodiorite	Varying alteration for the length of the litho. Medium grained, felsic, in-equigranular texture. White to grey coloured. Crystals are generally subhedral; few euhedral. Mafic mineral percentage varies from 5-20% and mineralogy is mostly amphibole, but a few Hbl present. General mineralogy: qtz 50%, plag 40%, kspar 6%, mafic 4%. Mineralization varies from 0 to 3% depending on degree of alteration. Trace veining.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		140.50	152.50			Moderately altered with a gradational boundary to the east centered at ~152.5m. Feldspar is partially altered to a yellow clay, pyroxenes are altered to actinolite (black, elongate and radiating; appearing in contact with feld grains; moderately hard). The rock here is very broken up and rubbly and in proximity to rusty soil. INTERP: edge of a fault/ mineralized zone.	-	-	-	-	-	none	yellow tinge	-	-	-	-	-	-	-	-	-	-	-	-	3	patchy	
		152.50	182.40			There is weak to no alteration in spots and some spots of epidote alteration. Within this unit there are localized sections that are coarser grained (crystals 5-6mm). In these areas py is visible but still mostly amphibole. Light olive green crystals of epidote. Trace fine to medium grained disseminated py (1-3%).	1-3	-	-	-	-	disseminated	white to grey	-	-	-	-	-	-	-	-	-	-	-	2	-	-	speckled
		157.80	160.50			A trench parallel vein. Upper and lower end of vein pinch out. 1cm wide vein mostly and 3cm at its widest point. Vein is a light rusty orange clay rock. GD in contact with the rock has undergone no discernible alteration (INTERP: due to small vein size, not enough heat).	-	-	-	-	-	-	orangey	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive	

Logged By: Scott Dowler and Rit
Trench: ECE-TR12-01
Mapping Direction: W to E
Face mapped (NSEW): N

Primary		Secondary		Lith Code	Shearing		Fracture		Veining					Brecciation							Upper Contact (S/W)		Lower Contact (N/E)	
From	To	From	To		Intensity	Orientation	Intensity	Orientation	% Vn	Width (m)	Type	Minerals	Orientation	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	Orientation	Strike/Dip	Description	Strike/Dip	Description
0.00	25.80	0.00	3.50	AND	-	-	-	-	tr	-	-	-	-	-	-	-	-	-	-	-	-	beginning of trench	-	faulted contact with unknown orientation
		3.5	10.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	gradational	-	gradational
		10.60	15.00		-	-	-	-	tr	0.01	clay altered rock	clays	232/56	-	-	-	-	-	-	-	-	gradational	-	gradational
		15.00	17.00		-	-	-	-	tr	0.01	clay altered rock	clays	188/58	-	-	-	-	-	-	-	-	-	-	-
		17.00	25.80		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		17.00	18.50		3	238/46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		20.70			3	261/54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		22.20			-	-	-	-	100	0.01	porphyry? Quartz?	quartz, oxidized sulfide	unknown	-	-	-	-	-	-	-	-	-	-	-
		23.20			-	-	-	-	-	0.01	clay altered rock	clays, feldspar?	210/66	-	-	-	-	-	-	-	-	-	-	-
25.80	32.10			AND-d	-	unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unknown	fault	-	-
32.10	35.70			FZ	4	230/34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230/34	lower contact is not obvious and therefore this measurement has a low confidence rating	
35.70	40.50			AND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209/70	fault	
		37.90			3	304/86	-	-	-	0.01	clay altered rock	-	unknown	-	-	-	-	-	-	-	-	-	-	-
		37.40	40.80		2	250/40	-	-	tr	0.01	clay altered porphyritic rock	clays	250/40	-	-	-	-	-	-	-	-	-	-	-
40.50	41.50			FZ	-	209/70	-	-	tr	0.01	clay altered porphyritic rock	clays	209/70	-	-	-	-	-	-	-	-	-	-	-
41.50	47.30			AND	-	-	-	-	1-2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		42.20			-	-	-	-	-	0.02	clay altered porphyritic rock	clays	226/56	-	-	-	-	-	-	-	-	-	-	-
		42.60			-	-	-	-	-	0.01	clay altered veinlets	clays	226/56	-	-	-	-	-	-	-	-	-	-	-
		44.20	45.90		-	-	-	-	-	0.01	clay altered veinlets	clays	285/39 (1)	-	-	-	-	-	-	-	-	-	-	-
		44.30	44.80		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		45.20			-	-	-	-	-	0.01	clay altered veinlets	clays	018/75 (3)	-	-	-	-	-	-	-	-	-	-	-
		46.60	47.30		-	-	-	-	-	0.1	clay altered veinlets	clays	221/76	-	-	-	-	-	-	-	-	-	-	-
47.30	54.80			AND	-	-	-	-	tr				-	-	-	-	-	-	-	-	-	-	-	-
		47.80	48.30		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		50.30	50.50		3	055/90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		51.90	52.30		4	228/66	-	-	-	0.01	clay sediment	clays	228/66	-	-	-	-	-	-	-	-	-	-	-
		53.50	-		-	-	-	-	-	0.01	clay altered veinlet	clays	313/70	-	-	-	-	-	-	-	-	-	-	-
54.80	57.70			QFP	-	-	-	-	10	unknown	qtz, feld porphyry	py, asp, cp	unknown	-	-	-	-	-	-	-	-	-	-	-
		57.10	57.70		-	unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		55.50			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57.70	59.20			AND-d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59.20	62.30			AND	3	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		60.20	60.30		-	-	-	-	tr	0.1	clay altered veinlets	clays	218/80	-	-	-	-	-	-	-	-	-	-	-
62.30	63.20			AND-d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	331/32 (3)	-	-	-

Charlotte Project
Trench Description
ECE-12-01

Primary		Secondary		Lith Code	Shearing		Fracture		Veining					Brecciation							Upper Contact (S/W)		Lower Contact (N/E)	
From	To	From	To		Intensity	Orientation	Intensity	Orientation	% Vn	Width (m)	Type	Minerals	Orientation	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	Orientation	Strike/Dip	Description	Strike/Dip	Description
63.20	64.10			FZ	4	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		63.20			-	-	-	-	-	0.1	clay altered veinlets	clays	331/32	-	-	-	-	-	-	-	-	-	-	
64.10	68.50			AND-d	-	-	3	294/44	1-2	-	clay altered veinlets	clays	-	-	-	-	-	-	-	-	-	-	gradational	
		64.70	65.50		-	-	-	-	tr	0.01	clay altered veinlets	clays	213/49 (4)	-	-	-	-	-	-	-	-	-	-	
		66.10			-	-	-	-	-	0.01	clay altered veinlets	clays	155/69 (4)	-	-	-	-	-	-	-	-	-	-	
		68.40	69.00		-	-	-	-	-	0.01	clay altered veinlets	clays	218/56 (5)	-	-	-	-	-	-	-	-	-	-	
68.50	77.60			AND	-	-	-	-	1-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		69.00			-	-	-	-	-	0.01	clay altered veinlets	clays	360/90 (4)	-	-	-	-	-	-	-	-	-	-	
		72.80			-	-	-	-	-	0.01	clay altered veinlets	clays	231/66 (3)	-	-	-	-	-	-	-	-	-	-	
		73.90			-	-	-	-	-	0.04	clay altered veinlets	clays	210/52 (4)	-	-	-	-	-	-	-	-	-	-	
		76.10			-	-	-	-	-	0.01	clay altered veinlets	clays	170/90 (4)	-	-	-	-	-	-	-	-	-	-	
77.60	80.30			FZ	4	unknown	-	-	1	unknown	clay altered veinlets	clays	unknown	-	-	-	-	-	-	-	-	irregular	irregular	
		78.30			-	-	-	-	-	-	clay altered veinlets	clays	unknown	-	-	-	-	-	-	-	-	-	-	
		79.80	80.30		-	-	-	-	-	-	clay altered veinlets	clays	unknown	-	-	-	-	-	-	-	-	-	-	
80.30	90.60			AND	-	-	-	-	2-3	-	-	-	-	-	-	-	-	-	-	unknown	with a fault	212/47	with vein	
		81.30			-	-	-	-	-	0.02	clay altered veinlets	clays	233/60 (5)	-	-	-	-	-	-	-	-	-	-	
		82.20			-	-	-	-	-	-	clay altered veinlets	clays	unknown	-	-	-	-	-	-	-	-	-	-	
		84.00			-	-	-	-	-	2 @ 0.01	clay altered veinlets	clays	212/68 (4) 326/90 (3)	-	-	-	-	-	-	-	-	-	-	
		84.50	87.30		-	-	-	-	-	0.01-0.2	clay altered veinlets	clays	090/80 (3)	-	-	-	-	-	-	-	-	-	-	
		90.20			-	-	-	-	-	0.1	clay altered veinlets	clays	212/47 (4)	-	-	-	-	-	-	-	-	-	-	
90.60	92.40			FZ	4	212/47 (4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
92.40	115.20			OB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		104.30	115.20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
115.20	116.80			AND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unknown	irregular	unknown	irregular	
116.80	140.50			OB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
140.50	182.40			Gd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		140.50	152.50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		152.50	182.40		-	-	3	267/64	tr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		157.80	160.50		-	-	-	-	-	0.01	clay altered vein	clay	263/52	-	-	-	-	-	-	-	-	-	-	

**Charlotte Project
Trench Survey
ECE-12-01**

<u>Station</u>	<u>Easting</u>	<u>Northing</u>	<u>Elevation (m)</u>	<u>Azimuth</u>	<u>Inclination</u>	<u>Length (m)</u>	<u>From (m)</u>	<u>To (m)</u>
A	384980	6885888	1351	089	12	12.9	0.0	12.9
B	384991	6885885	1351	084	8	19.5	12.9	32.4
C	385011	6885886	1350	089	10	23.1	32.4	55.5
D	385034	6885889	1356	092	10	12.7	55.5	68.2
E	385032	6885889	1366	091	9	23.8	68.2	92.0
F	385070	6885894	1362	091	12	8.5	92.0	100.5
G	385078	6885892	1365	088	7	26.5	100.5	127.0
H	385106	6885895	1370	088	5	27.7	127.0	154.7
I	385131	6885894	1373	090	-9	27.7	154.7	182.4
J	385161	6885894	1368					

Charlotte Project
Trench Samples
ECE-12-01

Trench: ECE-TR12-01
Date: June 10 2012

Sample#	SampleID	From	To	Width	QAOC Sample Type	Lithology	Wght (kg)	Au_PPM	Mo_PPM	Cu_PPM	Pb_PPM	Zn_PPM	Ag_PPM	Ni_PPM	Co_PPM	Mn_PPM	Fe_%	As_PPM	Au_PPB	Th_PPM
1	1751001	0.00	3.00	3.00		Andesite	1.94	0.031	1.9	86.4	9.9	28	0.2	1.8	3.9	86	3.31	5.5	18.2	3.9
2	1751002	3.00	6.00	3.00		Andesite	2.52	0.037	1.7	107	6.6	26	0.3	2.3	4.9	86	3.73	6.5	31.5	3.1
3	1751003	6.00	9.00	3.00		Andesite	4.63	0.048	1	99.5	7.2	26	0.3	2.2	6.5	105	3.52	4.6	34.3	3.1
4	1751004	9.00	12.00	3.00		Andesite	4.22	0.047	1.5	121.3	7.3	26	0.4	1.6	4.3	74	3.33	6.9	45.3	3.3
5	1751005	9.00	12.00	3.00	duplicate		3	0.058	0.9	131.9	7.3	25	0.4	1.5	5.2	78	3.28	5.7	61.2	3.3
6	1751006	12.00	15.00	3.00		Andesite	3.88	0.067	1	178.7	7.5	23	0.4	3	3.2	70	3.84	6.2	65.3	3.4
7	1751007	15.00	17.00	2.00		Andesite	2.39	0.035	0.9	118.7	6	27	0.3	4.5	3.8	127	4.01	4.4	37.7	2.3
8	1751008	17.00	20.00	3.00		Andesite	5.17	0.028	0.7	162.1	7.7	29	0.6	5.5	1.9	107	4.61	5.4	30.9	3
9	1751009	20.00	23.00	3.00		Andesite	3.66	0.045	1.9	122.9	5.6	86	0.5	2	1.9	69	4.44	4.9	44.6	2.9
10	1751010	23.00	25.80	2.80		Andesite	3.38	0.017	0.7	71.4	3.5	23	0.2	2.2	5.5	140	3.1	6	12.3	2.6
11	1751011	25.80	27.90	2.10		Andesite	3.03	0.032	1	100.9	4.5	23	0.3	2.9	6.3	160	3.39	4.5	19.7	2.6
12	1751012	27.90	30.00	2.10		Andesite	2.07	0.033	1.1	103.2	4.9	27	0.3	2.8	5.2	167	3.3	3.9	52.4	2.9
13	1751013	30.00	32.10	2.10		Andesite	3.45	0.037	0.6	218.3	4.5	25	0.5	2.8	7.8	147	3.41	3.6	36.9	2.9
14	1751014	32.10	33.80	1.70		Fault Zone- clay + gravel + rock frag	3.48	0.041	2.3	133.4	6.1	20	0.3	3.5	4.4	111	4.52	8.9	29.5	5.6
15	1751015	33.80	35.60	1.80		Fault Zone- clay + gravel + rock frag	3.19	0.012	2.3	70.5	5.5	17	0.1	4.2	2	60	2.47	4.6	12.4	10.6
16	1751016	35.60	37.40	1.80		Andesite	2.25	0.017	3.6	88.5	6.9	19	0.2	5.9	2.2	53	3.06	4.6	13.9	11.6
17	1751017	37.40	39.00	1.60		Andesite	2.01	0.021	1.7	93.2	7.9	29	0.2	10.6	2.4	93	2.82	5.1	20.8	11
18	1751018	39.00	40.30	1.30		Andesite	2.13	0.026	5.9	106.7	6	24	0.2	6.6	1.8	83	3.49	10.2	16.2	10.8
19	1751019	40.30	41.50	1.20		Fault Zone- clay + gravel + rock frag	1.39	0.035	5.9	177.8	11.7	26	0.4	8	2	70	4.02	14.3	39	11.2
20	1751020	41.50	42.60	1.10		Andesite	2.18	0.047	4.5	120.4	10.7	29	0.4	7.8	2.1	101	3.02	10.9	37.1	10
21	1751021	42.60	43.70	1.10		Andesite	1.86	0.023	9	80.3	7	24	0.2	8.7	2.8	83	2.7	7	20.4	9
22	1751022	43.70	44.80	1.10		Andesite	2.3	0.039	6.6	98.6	6.6	25	0.3	7.2	2.8	83	2.25	7	24.4	9.8
23	1751023	44.80	45.80	1.00		Andesite	1.56	0.026	21.3	135.9	8.7	26	0.3	8.5	2.4	70	2.75	5.5	23.6	13.2
24	1751024	45.80	46.80	1.00		Andesite	1.83	0.042	10.3	132.6	9.3	23	0.5	4.4	1.9	70	2.26	6.6	20.5	13
25	1751025				blank		0.56	<0.005	0.1	1.8	1.2	12	<0.1	2	0.8	207	0.44	<0.5	<0.5	0.1
26	1751026	46.80	48.10	1.30		Andesite	1.86	0.066	23.7	207.3	14	23	0.9	3.4	2.3	69	3.73	12.8	68.5	6.2
27	1751027	48.10	49.80	1.70		Andesite	2.77	0.061	1.4	228.4	8	23	0.7	3.5	3.1	102	3.66	12.9	56.8	3.2
28	1751028	49.80	50.90	1.10		Andesite	2.18	0.099	27.9	203	6	24	0.7	2.8	5.6	91	4.21	13.9	89.6	2.8
29	1751029	50.90	52.10	1.20		Andesite	2.2	0.086	43.6	268.5	9.2	24	1.3	3.2	3	103	4.55	8.6	115	3.9
30	1751030	52.10	53.40	1.30		Andesite	3.28	0.06	9	145.9	8.4	23	0.5	2.9	2.5	91	3.27	8.7	59.8	3.3
31	1751031	53.40	54.40	1.00		Andesite	1.91	0.024	9.3	130	6.6	25	0.3	2.5	1.8	62	3.64	6.1	15.2	3.3
32	1751032	54.40	55.70	1.30	QFp	Fault Zone- clay + gravel + rock frag	2.13	0.031	7.9	98.2	4.9	19	0.3	1.7	4.9	36	2.87	8.1	22.4	3.4
33	1751033	55.70	57.10	1.40	QFp	Fault Zone- clay + gravel + rock frag	2.16	0.048	2.7	112.2	4.6	15	0.3	2.3	4.3	60	4.47	17.3	27.1	3.4
34	1751034	57.10	59.20	2.10	QFp	Andesite	5.69	0.028	1	95.9	3.9	31	0.2	3.9	8.8	174	3.91	6.9	18.9	2.8
35	1751035	59.20	62.20	3.00		Andesite	6.72	0.043	4.8	172.9	8.7	27	0.6	2.7	5	125	4.1	10.6	31.6	3.1
36	1751036	62.20	63.20	1.00		Andesite	3.93	0.015	1	74.2	4.6	33	0.2	2.3	4.5	222	4.39	11.1	12.7	3
37	1751037	63.20	64.20	1.00		Fault Zone- clay + gravel + rock frag	1.45	0.067	2.8	174	7	35	0.5	5.4	3.9	138	4.48	18.5	90.1	3.1
38	1751038	64.20	66.50	2.30		Andesite	4.44	0.071	0.9	173.1	6.8	25	0.7	2.2	5.8	115	4.07	12	60.5	2.5
39	1751039	66.50	68.50	2.00		Andesite	4.2	0.04	0.3	121	4.5	27	0.3	1	4.5	91	3.35	5.8	33.3	3
40	1751040	68.50	70.50	2.00		Andesite	1.74	0.051	0.7	166.1	9	26	0.5	1.8	3.6	71	4	18.2	120.1	3.5
41	1751041	70.50	72.50	2.00		Andesite	2.39	0.256	0.9	407.7	40.8	33	2	2.8	3.4	81	3.22	13.6	289.3	3.3
42	1751042	72.50	74.50	2.00		Andesite	2.5	0.113	0.4	264.4	9	27	0.7	4.5	6.7	91	4.76	18.7	112.2	3.8
43	1751043	74.50	76.50	2.00		Andesite	3.07	0.076	0.5	110.2	10	29	0.5	3.4	3.9	76	3.92	15	88	3.7
44	1751044	76.50	77.60	1.10		Andesite	2.06	0.09	0.4	137.4	9.9	34	0.5	5.2	7	93	5.07	8.2	112.3	3.3
45	1751045	76.50	77.60	1.10	duplicate		2.6	0.185	0.6	130.3	7.3	36	0.5	4.5	6.6	101	4.25	7.7	180.7	3.3
46	1751046	77.60	79.00	1.40		Fault Zone- clay + gravel + rock frag	3.05	0.08	0.4	127.1	6.4	40	0.4	4.8	8.2	207	3.75	7.5	106.3	3.3

Charlotte Project
Trench Samples
ECE-12-01

Trench: ECE-TR12-01
Date: June 10 2012

Sample#	SampleID	From	To	Width	QAOC Sample Type	Lithology	Wght (kg)	Au_PPM	Mo_PPM	Cu_PPM	Pb_PPM	Zn_PPM	Ag_PPM	Ni_PPM	Co_PPM	Mn_PPM	Fe_%	As_PPM	Au_PPB	Th_PPM
47	1751047	79.00	80.30	1.30		Fault Zone- clay + gravel + rock frag	2.52	0.063	51.7	148.1	5.9	31	0.5	4.6	11.3	161	4.21	8.8	62.5	3
48	1751048	80.30	81.90	1.60		Andesite	3.09	0.079	0.7	206.6	5.9	28	0.6	2.8	3.8	87	4.66	11.5	71.8	3.2
49	1751049	81.90	83.30	1.40		Andesite	2.05	0.053	0.3	146	5.3	29	0.4	3.8	4.3	128	3.54	10.9	53.7	3.1
50	1751050	83.30	84.60	1.30		Andesite	2.55	0.072	1.4	176.4	12.6	26	0.8	2.9	4	71	4.85	11.2	122.2	3.5
51	1751051	84.60	86.10	1.50		Andesite	2.36	0.049	1.4	161.6	11.1	25	1	2.8	3.1	80	3.81	13.8	48.7	2.8
52	1751052	86.10	87.60	1.50		Andesite	1.71	0.072	2.7	218.2	11.1	25	0.8	3	2.1	68	5.7	22.5	58.3	3.6
53	1751053	87.60	89.20	1.60		Andesite	2.75	0.068	1.9	98.7	5.1	26	0.3	4.2	7.6	69	4.06	23.4	73.3	3.1
54	1751054	89.20	90.60	1.40		Andesite	3.72	0.096	1.7	228.3	8.3	29	0.7	4.6	7.1	93	3.98	16.8	96.2	2.9
55	1751055	90.60	91.40	0.80		Fault Zone- clay + gravel + rock frag	2.34	0.154	1.3	257.5	8.9	22	0.9	3.7	4.6	85	3.78	31.2	100.4	3.1
56	1751056	91.40	92.40	1.00		Fault Zone- clay + gravel + rock frag	2.99	0.085	2.7	267.3	8.4	22	0.6	4.2	5	66	4.16	85.1	152.2	3.4
57	1751057	115.20	116.80	1.60		Andesite	3.46	0.035	1.7	79.7	6.3	14	0.3	0.8	1.3	37	4.04	40.7	37.7	3.6
58	1751058	140.50	142.30	1.80		Granodiorite	2.68	0.034	2.3	69.5	9.4	23	0.3	7.7	2.1	73	3.87	22.8	116	9.3
59	1751059	142.30	144.50	2.20		Granodiorite	2.12	0.064	0.6	61.9	13.5	35	0.3	3.1	3.6	84	2.39	23.7	52.9	12.2
60	1751060	144.50	146.50	2.00		Granodiorite	2.94	0.028	0.5	95.6	13.8	38	0.3	2.7	2.2	85	2.73	23.4	34.9	11.5
61	1751061	146.50	148.50	2.00		Granodiorite	3.72	0.024	0.5	48	12.7	31	0.2	3.7	3.1	64	2.08	12.7	25.6	10.9
62	1751062	148.50	150.50	2.00		Granodiorite	2.81	0.014	0.5	49	11	27	0.2	2.5	2.3	73	2.36	10.7	17.4	10.6
63	1751063	150.50	152.00	1.50		Granodiorite	2.86	0.02	1.4	80.8	16.7	28	0.3	1.7	1.2	71	2.03	17.5	11	13.2
64	1751064	152.00	154.30	2.30		Granodiorite	2.67	0.032	1.2	115.8	21.1	31	0.5	1.4	1.6	78	2.42	9.7	26.4	10.9
65	1751065				blank		0.4	<0.005	<0.1	1.8	0.9	10	<0.1	0.8	0.8	193	0.4	0.8	<0.5	0.1
66	1751066	154.30	157.00	2.70		Granodiorite	4.97	0.039	0.2	140.5	22.3	34	0.9	1.6	2	80	2.39	8	90.6	12.2
67	1751067	157.00	160.00	3.00		Granodiorite	2.51	0.092	0.8	200.5	22.3	31	1.3	1.3	1.4	79	2.49	12.6	99.6	13.4
68	1751068	160.00	163.00	3.00		Granodiorite	2.26	0.072	0.6	168.8	22.1	37	0.6	2.5	4.6	112	2.58	6.8	97.8	12.1
69	1751069	163.00	166.00	3.00		Granodiorite	3.73	0.062	0.8	129.7	13.9	34	0.5	3.1	3	115	2.24	7.7	39.8	14.6
70	1751070	166.00	169.00	3.00		Granodiorite	2.55	0.031	0.4	86.2	14.1	28	0.3	2.6	2.4	103	2.36	6.5	38	14.6
71	1751071	169.00	172.00	3.00		Granodiorite	2.54	0.031	1.1	69.5	12.6	32	0.3	3.1	2.9	118	2.44	5.8	112.7	12.4
72	1751072	172.00	175.00	3.00		Granodiorite	3.56	0.019	1.3	64.1	12.6	26	0.2	2.7	2.4	107	2.25	7.9	17.6	13.3
73	1751073	175.00	178.00	3.00		Granodiorite	3.89	0.02	0.9	29.8	12.8	28	0.1	3.2	3.2	100	2.25	7.5	18.1	13.6
74	1751074	178.00	180.00	2.00		Granodiorite	2.8	0.046	1.3	20.6	13.7	25	0.1	3	2.3	92	2.01	11.7	49.1	12.8
75	1751075	180.00	182.40	2.40		Granodiorite	2.79	0.023	1.1	21.8	14.2	25	0.2	3.4	3.7	103	2.38	9	19.1	11.5

Charlotte Project
Trench Samples
ECE-12-01

CE-TR12-01
a 10 2012

SampleID	From	To	Sr_PPM	Cd_PPM	Sb_PPM	Bi_PPM	V_PPM	Ca_%	P_%	La_PPM	Cr_PPM	Mg_%	Ba_PPM	Ti_%	B_PPM	Al_%	Na_%	K_%	W_PPM	Hg_PPM	Sc_PPM	Tl_PPM	S_%	Ga_PPM	Se_PPM	Te_PPM
1751001	0.00	3.00	108	0.1	0.4	3.2	92	0.39	0.067	6	2	1.28	31	0.135	3	2.3	0.23	0.2	0.4	<0.01	6.3	0.4	0.75	10	1.1	0.5
1751002	3.00	6.00	117	0.1	0.3	3.1	119	0.59	0.06	6	7	1.34	30	0.158	2	2.78	0.314	0.27	0.3	0.01	8.9	0.6	0.85	11	1.1	0.4
1751003	6.00	9.00	106	0.3	0.3	2.6	126	0.59	0.065	6	5	1.15	31	0.202	3	2.46	0.281	0.28	0.3	<0.01	10	0.6	0.89	9	0.9	0.3
1751004	9.00	12.00	100	0.3	0.3	4.4	97	0.53	0.061	5	2	1.05	25	0.148	2	2.61	0.298	0.18	0.3	<0.01	6.7	0.3	0.91	10	1.1	0.9
1751005	9.00	12.00	90	0.3	0.2	4.1	99	0.64	0.065	5	2	1.06	22	0.146	2	2.5	0.304	0.17	0.3	<0.01	7.2	0.3	0.94	10	0.8	0.9
1751006	12.00	15.00	117	0.2	0.3	6.8	84	0.66	0.068	4	5	1.09	23	0.128	3	3.19	0.339	0.2	0.4	<0.01	6.5	0.4	0.63	11	1	1.2
1751007	15.00	17.00	155	0.2	0.3	3.7	146	1.17	0.064	5	19	1.3	24	0.2	1	3.85	0.463	0.31	0.2	<0.01	12.1	0.7	0.66	13	<0.5	0.7
1751008	17.00	20.00	143	0.4	0.4	8.2	123	0.74	0.058	5	16	1.31	26	0.224	1	3.58	0.37	0.24	0.2	<0.01	10.1	0.5	0.82	13	1.3	0.8
1751009	20.00	23.00	97	<0.1	4.6	9.8	91	0.34	0.058	5	7	1.18	33	0.135	<1	2.13	0.275	0.23	0.6	<0.01	6.5	0.4	0.81	11	0.9	0.7
1751010	23.00	25.80	115	<0.1	0.3	2.3	86	0.87	0.063	4	4	1.22	46	0.129	2	3.06	0.351	0.44	0.3	<0.01	6.4	1	0.48	9	0.6	0.3
1751011	25.80	27.90	160	0.2	0.2	10	101	1.35	0.076	6	3	1.32	94	0.139	2	3.99	0.464	0.76	0.2	<0.01	7.4	1.8	0.45	11	0.5	0.9
1751012	27.90	30.00	179	0.1	0.3	5.5	99	1.61	0.068	7	4	1.37	73	0.14	<1	4.44	0.585	0.71	0.2	<0.01	7.5	1.7	0.61	12	<0.5	0.8
1751013	30.00	32.10	199	0.2	0.2	9.4	98	1.7	0.066	7	3	1.58	157	0.134	<1	4.94	0.59	0.93	<0.1	<0.01	8	2.2	0.76	12	<0.5	0.5
1751014	32.10	33.80	167	<0.1	0.3	8.8	89	0.67	0.061	10	8	1.2	110	0.137	1	3.21	0.349	0.59	0.2	<0.01	7.3	1.3	0.72	11	1	0.4
1751015	33.80	35.60	99	<0.1	0.3	2	43	0.15	0.04	11	14	0.86	49	0.071	2	1.79	0.119	0.18	0.2	<0.01	4.1	0.4	0.42	6	<0.5	0.3
1751016	35.60	37.40	115	<0.1	0.2	3.7	47	0.14	0.044	12	23	0.96	47	0.052	<1	2.04	0.141	0.19	0.2	<0.01	4.6	0.4	0.44	7	<0.5	0.4
1751017	37.40	39.00	114	<0.1	0.3	3.9	65	0.24	0.048	14	45	1.27	43	0.093	<1	2.3	0.153	0.2	0.2	<0.01	6.5	0.5	0.46	8	<0.5	0.5
1751018	39.00	40.30	150	0.1	0.3	4.5	79	0.22	0.045	14	50	1.22	51	0.156	2	2.45	0.165	0.24	0.2	<0.01	7.2	0.5	0.59	9	0.5	0.6
1751019	40.30	41.50	199	<0.1	0.4	10.2	77	0.35	0.054	22	53	1.08	44	0.146	<1	2.95	0.138	0.2	0.1	<0.01	6.5	0.4	0.44	10	0.7	0.9
1751020	41.50	42.60	110	0.2	0.3	7.1	79	0.47	0.046	13	53	1.38	35	0.144	<1	2.89	0.186	0.21	0.2	<0.01	7.2	0.4	0.43	10	<0.5	1.3
1751021	42.60	43.70	93	0.2	0.2	3.4	69	0.38	0.04	8	45	1.12	24	0.115	<1	2.38	0.166	0.17	0.2	<0.01	6	0.4	0.41	9	<0.5	0.5
1751022	43.70	44.80	114	0.3	0.3	5.2	56	0.3	0.043	12	39	1.02	25	0.084	<1	2.16	0.126	0.17	0.2	<0.01	5.3	0.3	0.44	8	<0.5	1
1751023	44.80	45.80	128	0.2	0.1	7.9	50	0.16	0.046	12	41	1.21	32	0.009	<1	2.98	0.09	0.24	<0.1	<0.01	5.5	0.5	0.21	9	<0.5	1.5
1751024	45.80	46.80	102	<0.1	0.2	17.9	44	0.19	0.043	14	21	0.93	29	0.097	<1	2.22	0.096	0.17	0.4	<0.01	4.2	0.4	0.26	7	<0.5	2.1
1751025			41	<0.1	<0.1	<0.1	2	19.44	0.017	<1	1	13.11	18	0.002	<1	0.05	0.003	0.03	<0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2
1751026	46.80	48.10	171	0.1	0.2	48.5	74	0.29	0.068	10	8	0.93	50	0.083	<1	2.77	0.222	0.24	0.3	<0.01	6.2	0.4	0.61	9	0.8	4.4
1751027	48.10	49.80	203	0.2	0.3	27.3	104	0.57	0.063	6	7	1.17	38	0.15	<1	2.88	0.253	0.32	0.2	<0.01	8	0.8	0.62	10	<0.5	3
1751028	49.80	50.90	154	0.2	0.2	8.9	114	0.37	0.065	5	6	1.48	34	0.16	<1	2.53	0.197	0.34	0.4	<0.01	8.5	0.8	1.15	11	<0.5	2.5
1751029	50.90	52.10	135	0.2	0.3	45.3	108	0.4	0.063	5	7	1.82	34	0.149	<1	3	0.222	0.37	0.3	<0.01	8.4	0.9	0.91	14	0.6	4.8
1751030	52.10	53.40	117	0.3	0.3	16.5	108	0.45	0.053	7	7	1.6	29	0.166	<1	2.85	0.219	0.31	0.2	<0.01	8.6	0.7	0.6	11	<0.5	1.1
1751031	53.40	54.40	91	0.1	0.2	5.8	81	0.44	0.053	4	5	1.58	23	0.099	<1	2.9	0.239	0.21	0.3	<0.01	6.1	0.5	0.66	12	<0.5	0.8
1751032	54.40	55.70	87	0.2	0.5	5.8	16	0.56	0.077	3	1	0.71	21	0.028	<1	2.8	0.231	0.18	0.4	<0.01	1.5	0.3	0.88	7	<0.5	0.8
1751033	55.70	57.10	110	<0.1	0.2	6.2	60	0.2	0.068	4	4	1.03	29	0.102	<1	2.18	0.193	0.31	0.4	<0.01	4.9	0.6	1.12	8	<0.5	0.7
1751034	57.10	59.20	144	0.1	0.1	3	124	1.19	0.063	6	8	1.78	122	0.189	1	4.01	0.464	1.05	0.2	<0.01	10	2.7	0.76	12	<0.5	0.7
1751035	59.20	62.20	140	0.3	0.2	25.6	124	0.52	0.064	6	7	1.46	58	0.204	2	2.68	0.219	0.48	0.3	<0.01	9.6	1.3	0.97	11	0.8	2.4
1751036	62.20	63.20	236	0.2	0.2	1.8	127	1.18	0.08	8	2	1.18	82	0.2	<1	3.51	0.35	0.75	0.2	<0.01	9.4	2.1	0.18	11	<0.5	<0.2
1751037	63.20	64.20	156	0.1	0.3	10.4	122	0.46	0.084	8	10	1.3	42	0.271	<1	3.23	0.176	0.43	0.1	<0.01	10.8	1.1	0.61	10	<0.5	1.7
1751038	64.20	66.50	105	0.2	0.3	20.9	122	0.41	0.062	6	4	1.1	34	0.193	2	2.14	0.206	0.31	0.1	<0.01	9	0.8	1.14	9	1	2.9
1751039	66.50	68.50	85	<0.1	0.3	5	103	0.42	0.062	6	2	1.16	36	0.184	<1	2.33	0.232	0.27	0.2	<0.01	7.2	0.7	0.84	9	1	0.9
1751040	68.50	70.50	88	0.2	0.4	17.4	76	0.3	0.054	7	3	1.1	32	0.143	1	2.18	0.213	0.2	0.2	<0.01	5.7	0.5	1.26	9	0.7	1.6
1751041	70.50	72.50	65	0.2	0.4	150.3	74	0.3	0.051	6	7	1.19	19	0.155	1	1.95	0.171	0.16	0.3	<0.01	5.6	0.4	0.99	8	1	15.3
1751042	72.50	74.50	124	0.1	0.3	17.6	99	0.34	0.067	7	8	1.13	35	0.172	<1	2.31	0.257	0.21	0.2	<0.01	7.7	0.5	1.57	10	1.3	1.6
1751043	74.50	76.50	103	<0.1	0.4	11	72	0.16	0.055	7	7	0.98	37	0.117	<1	1.99	0.193	0.25	0.2	<0.01	5.9	0.6	0.74	8	1	1.3
1751044	76.50	77.60	113	<0.1	0.3	21.6	106	0.42	0.058	6	8	1.45	24	0.164	1	2.77	0.235	0.17	0.2	<0.01	8.1	0.4	2.19	12	1.5	3.8
1751045	76.50	77.60	84	<0.1	0.4	17.8	101	0.45	0.054	6	8	1.51	23	0.176	<1	2.64	0.229	0.19	0.2	<0.01	8	0.4	1.63	12	1.5	3.4
1751046	77.60	79.00	168	0.2	0.2	8.2	130	1.09	0.07	7	9	1.45	86	0.237	2	3.41	0.437	0.73	0.2	<0.01	9.7	2.1	0.58	11	0.7	0.7

Charlotte Project
Trench Samples
ECE-12-01

CE-TR12-01
a 10 2012

SampleID	From	To	Sr_PPM	Cd_PPM	Sb_PPM	Bi_PPM	V_PPM	Ca_%	P_%	La_PPM	Cr_PPM	Mg_%	Ba_PPM	Ti_%	B_PPM	Al_%	Na_%	K_%	W_PPM	Hg_PPM	Sc_PPM	Tl_PPM	S_%	Ga_PPM	Se_PPM	Te_PPM
1751047	79.00	80.30	125	0.2	0.3	8.9	121	0.73	0.062	7	8	1.45	44	0.215	1	2.75	0.314	0.41	0.2	<0.01	9.2	1.1	1.3	10	0.8	1.5
1751048	80.30	81.90	110	<0.1	0.2	16.5	119	0.25	0.067	7	8	1.58	26	0.158	2	2.5	0.245	0.31	0.1	0.01	9	0.7	1.27	12	1.5	2.3
1751049	81.90	83.30	159	0.1	0.3	7.8	115	0.81	0.054	6	9	1.75	37	0.204	<1	3.35	0.346	0.27	<0.1	<0.01	9.5	0.7	0.71	12	1.1	1.8
1751050	83.30	84.60	86	<0.1	0.5	33.1	83	0.16	0.046	6	6	1.66	28	0.122	1	2.6	0.221	0.22	0.3	<0.01	6.2	0.5	1.18	12	2	4.4
1751051	84.60	86.10	74	<0.1	0.3	36.1	101	0.3	0.05	6	8	1.45	25	0.152	1	2.34	0.196	0.2	0.2	<0.01	7.3	0.5	1.09	11	1.4	5.1
1751052	86.10	87.60	108	<0.1	0.6	25.5	91	0.13	0.07	7	7	1.52	33	0.09	2	2.73	0.246	0.24	0.5	<0.01	6.9	0.5	0.87	15	2.4	3.3
1751053	87.60	89.20	50	<0.1	0.6	8.5	93	0.34	0.05	6	7	1.44	43	0.102	1	2.56	0.217	0.23	0.5	<0.01	7.9	0.5	1.6	11	1.4	1.2
1751054	89.20	90.60	59	<0.1	0.9	27.4	100	0.61	0.061	7	9	1.44	30	0.131	<1	3.18	0.237	0.17	0.4	<0.01	9.2	0.4	1.36	13	1.6	2.6
1751055	90.60	91.40	60	0.1	1.6	28.9	96	0.45	0.058	6	9	0.97	33	0.088	2	2.92	0.15	0.18	0.3	<0.01	7.8	0.4	0.74	12	<0.5	2.6
1751056	91.40	92.40	75	0.1	2	35.2	75	0.26	0.078	9	8	0.81	65	0.019	1	2.95	0.11	0.24	0.2	0.01	7.7	0.5	0.65	9	0.5	3.1
1751057	115.20	116.80	104	<0.1	0.5	6.4	36	0.08	0.056	8	2	0.95	110	0.004	<1	1.77	0.21	0.24	0.1	<0.01	2.6	0.4	0.71	8	0.7	1.2
1751058	140.50	142.30	60	<0.1	0.7	4.5	49	0.29	0.067	10	55	1.58	58	0.072	<1	2.12	0.114	0.24	0.4	0.01	4.6	0.4	0.4	8	0.9	0.6
1751059	142.30	144.50	43	<0.1	0.8	4.3	34	0.19	0.043	14	7	0.77	58	0.009	<1	1.52	0.107	0.2	<0.1	<0.01	3.5	0.3	0.26	5	0.7	0.3
1751060	144.50	146.50	45	0.1	0.8	4	32	0.18	0.044	13	7	1.01	42	0.002	<1	1.72	0.105	0.17	<0.1	<0.01	3.1	0.3	0.22	6	0.7	<0.2
1751061	146.50	148.50	42	0.1	0.5	3.6	27	0.28	0.041	12	7	0.74	37	0.001	<1	1.72	0.104	0.15	<0.1	<0.01	2.5	0.2	0.17	6	<0.5	<0.2
1751062	148.50	150.50	49	<0.1	0.3	4.1	35	0.3	0.04	12	7	0.86	67	0.004	<1	1.74	0.137	0.21	<0.1	<0.01	3.3	0.3	0.24	7	1.3	<0.2
1751063	150.50	152.00	43	<0.1	0.5	13.8	33	0.21	0.031	12	8	0.77	43	0.031	<1	1.43	0.105	0.16	0.3	<0.01	3.5	0.3	0.15	5	<0.5	0.5
1751064	152.00	154.30	44	<0.1	0.5	15.4	35	0.19	0.038	10	7	0.89	52	0.041	<1	1.56	0.103	0.16	0.2	<0.01	3.4	0.2	0.23	6	<0.5	1
1751065			38	<0.1	<0.1	0.1	2	18.19	0.017	<1	1	12.12	15	0.002	<1	0.05	0.004	0.03	<0.1	<0.01	0.3	<0.1	<0.05	<1	<0.5	<0.2
1751066	154.30	157.00	43	<0.1	0.6	22.2	38	0.19	0.041	12	7	0.99	30	0.037	<1	1.71	0.097	0.16	0.3	<0.01	3.3	0.3	0.28	6	<0.5	1
1751067	157.00	160.00	69	<0.1	0.4	40.9	41	0.16	0.04	12	7	0.89	38	0.063	<1	1.63	0.107	0.15	0.3	<0.01	3.7	0.2	0.33	7	0.5	2.1
1751068	160.00	163.00	82	0.2	0.3	31.3	54	0.44	0.05	13	9	1.01	30	0.08	<1	2.07	0.153	0.15	0.3	<0.01	5.1	0.3	0.68	8	<0.5	3.7
1751069	163.00	166.00	89	0.2	0.4	12.4	54	0.61	0.04	13	10	0.98	44	0.116	2	2.5	0.183	0.14	0.3	<0.01	5.5	0.3	0.58	8	<0.5	2.9
1751070	166.00	169.00	94	0.2	0.5	19.5	50	0.5	0.048	14	9	0.96	49	0.115	<1	2.15	0.126	0.15	0.7	<0.01	5.3	0.3	0.46	8	<0.5	1.5
1751071	169.00	172.00	162	0.2	0.4	9.7	64	0.54	0.043	14	10	1.07	43	0.124	2	2.21	0.149	0.14	0.8	<0.01	5.8	0.3	0.49	8	1.1	0.7
1751072	172.00	175.00	110	0.1	0.5	7.9	47	0.42	0.042	14	9	0.9	52	0.088	<1	1.94	0.123	0.13	0.4	<0.01	5.1	0.3	0.26	7	0.8	0.5
1751073	175.00	178.00	171	0.2	0.4	3.1	51	0.53	0.04	11	10	0.94	48	0.083	<1	2.22	0.176	0.14	0.6	<0.01	4.9	0.3	0.47	7	0.7	0.4
1751074	178.00	180.00	127	0.1	0.5	2.9	42	0.39	0.033	12	9	0.88	52	0.065	<1	2.01	0.128	0.17	0.6	<0.01	4.7	0.4	0.26	7	<0.5	0.3
1751075	180.00	182.40	130	0.2	0.3	2.7	46	0.52	0.04	10	10	0.91	66	0.06	2	2.29	0.178	0.18	0.5	<0.01	4.6	0.4	0.5	7	1	0.2

Trench Name ECE-TR12-02
Location Eliza Creek Extension



Total Length (m) 177.00
Date(s) Mapped June 13-15, 2012
Loggers Scott Dowler, Rita Dubman
Number of Samples 36

Mapping Direction West to East
Face Mapped North

Summary Description

ECE-TR12-02 was partially dug in 2011 and prior to the western claims being dropped. In 2012 on the eastern part of the trench was deepened. As such logging was difficult between 0- 105.85m. Once onto Ansell property at 105.85m logging becomes more accurate. Over 90% of the outcrop in this trench is of medium grained, equigranular, sulfide-poor Amphibole-Pyroxene Granodiorite. Outcrops of granodiorite are separated by large 5-15m wide fault (shear) zones and sections of overburden. The shear zones are characterized by pulverized gravel sized fragments of granodiorite intermixed with prospective rusty orange, red-brown and tan-gold coloured clays. From 126.7-128.5m is a strongly altered outcropping of Quartz-Feldspar Porphyry where the feldspar and mafics have been completely altered to clay. Remnant vugs (sometimes cubic) suggest sulphide mineralization at one time. This suggests that the granodiorite pluton had been faulted and intensely sheared (abundance of fault zone, overburden) allowing for fluid intrusion (Qtz-Feld Porphyry) causing prospective clays in the fault zone and alteration of the granodiorite. ECE-TR12-02 is proximal to ECE-TR12-01 yet no andesite is found in the trench.

Summary of Lithology

From	To	Lithology	Comments
0.00	24.70	Overburden	
24.70	32.20	Amphibole-Pyroxene Granodiorite	
32.20	72.60	Overburden	
72.60	82.10	Amphibole-Pyroxene Granodiorite	
82.10	86.40	Fault Zone	rusty orange clay
86.40	91.20	Amphibole-Pyroxene Granodiorite	
91.20	98.50	Overburden	
98.50	108.20	Amphibole-Pyroxene Granodiorite	
108.20	122.50	Fault Zone	abundant clay
122.50	126.70	Altered Granodiorite	
126.70	128.50	Strongly Altered Quartz Feldspar Porphyry	highly weathered? Clay alteration
128.50	135.40	Fault Zone	rusty orange clay
135.40	139.50	Overburden	slumping
139.50	143.90	Fault Zone	rusty orange clay
143.90	159.90	Overburden	
159.90	163.90	Moderately altered Granodiorite	
163.90	166.00	Overburden	slumping
166.00	171.40	Amphibole-Pyroxene Granodiorite	
171.40	177.00	Overburden	

Charlotte Project
Trench Description
ECE-TR12-02

Logged By: Scott Dowler, Rita Dubman
Trench: ECE-TR12-02
Mapping Direction: West to East
Face mapped (NSEW): North

Primary		Secondary		Lith Code	Lithology	Description	Mineralization							Alteration																
From	To	From	To				Py %	Asp %	Gn %	Sp %	Cp %	FSx %	Mnlzn Style	Rock Colour	Si	Bch	Scor	Ser	Cal	Tour	Ank	Lim	Hem	Ksp	Mag	Chl	Talc	Epi	Alb	Clay
0.00	24.70	-	-	OB	Overburden	Trench is very shallow, caved in and not on our property. There is granodiorite float but no outcrop.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.70	32.20	-	-	GD	Amphibole-Pyroxene Granodiorite	Rock is unaltered and a salt and pepper colour (black and white). Medium grained, equigranular texture. Mineralogy: qtz 40, feld 20, mafics 40 (most of the mafics are amph but some pyx present). No sulphides.	-	-	-	-	-	-	-	-	salt and pepper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unaltered
32.20	72.60	-	-	OB	Overburden	The trench shallows to less than 0.5m at 45m. Abundant granodiorite float around but no outcrop.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72.60	82.10	-	-	GD	Amphibole-Pyroxene Granodiorite	Here the trench is less than a meter deep so it may only be subcrop that is logged. Rock is unaltered and a salt and pepper colour (black and white). Medium grained, equigranular texture. Mineralogy: qtz 40, feld 20, mafics 40 (most of the mafics are amph, but some pyx present). Trace localized zones of fg diss. py. Possible very low epidotization? light olive green specs in trace amounts, generally partially replacing mafics.	tr	-	-	-	-	-	-	disseminated	salt and pepper	-	-	-	-	-	-	-	-	-	-	-	1	-	-	sporadic
82.10	86.40	-	-	FZ	Fault Zone	Characterized by rubbly, gravel outcrop and clay. At the bottom contact is very ground up granodiorite clasts followed by a 20cm wide orange clay zone (here the trench is ~1.5m deep). East contact is same as west just thinner (~10cm wide) --> it is orange clay followed by a competent rock unit. The orientation of the fault is unknown.	-	-	-	-	-	-	-	-	orange + salt and pepper	-	-	-	-	-	-	-	-	-	-	-	-	orange intensity : 3	altered in bands;	
86.40	91.20	-	-	GD	Amphibole-Pyroxene Granodiorite	Rock is unaltered and a salt and pepper colour (black and white). Generally medium grained but some coarse grained amphibole. In general its an equigranular texture. Mineralogy: qtz 40, feld 20, mafics 40 (most of the mafics are amph, but some pyx present). No sulphides.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91.20	98.50	-	-	OB	Overburden	Trench shallows to <1m and there is abundant rusty orange to tan-gold coloured clay.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98.50	108.20	-	-	GD	Amphibole-Pyroxene Granodiorite	Rock is unaltered to weakly altered and a salt and pepper colour (black and white). Medium grained, equigranular texture. Mineralogy: qtz 40, feld 20, mafics 40 (most of the mafics are amph, but some pyx present). No sulphides. Note: rare coarse grained amph + pyx.	-	-	-	-	-	-	-	-	salt and pepper	-	-	-	-	-	-	-	-	-	-	-	-	0-1	v. Weak	
108.20	122.50	-	-	FZ	Fault Zone	Upper contact orientation is unknown but marked by very broken-up granodiorite to gravel sized angular clasts. The entire length of the unit is gravel intermixed with prospective looking clays and the clays vary from rusty orange to red-brown to tan-gold. Alteration is clay and it is strong to intense.	-	-	-	-	-	-	-	-	highly variable	-	-	-	-	-	-	-	-	-	-	-	-	3-4	pervasive	
-	-	109.20	-	-	-	Is a 0.5m wide zone of tan-gold clay and gravel.	-	-	-	-	-	-	-	-	tan-gold	-	-	-	-	-	-	-	-	-	-	-	-	-	3-4	pervasive
-	-	109.20	113.40	-	-	Rusty orange to red-brown clay.	-	-	-	-	-	-	-	-	rusty orange	-	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive
-	-	113.40	-	-	-	Tan-gold coloured clay.	-	-	-	-	-	-	-	-	tan-gold	-	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive
-	-	113.40	120.00	-	-	Rusty orange clay.	-	-	-	-	-	-	-	-	rusty orange	-	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive
-	-	118.00	-	-	-	Some angular rock fragments are found up to fist size. Mineralogy: 40% qtz, 30% white clay altered feldspar, 30% orange weathered pyx, amph. F-m gr. Strongly altered. --> qtz, feld porphyry fragments?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	120.00	122.50	-	-	Abundant tan-gold clay and gravel. Some large fragments of intensely altered rock but no outcrop. Mineralogy: qtz 60%, clay altered feld 35%, orange oxidized mafics? 5%. Feldspar alters to yellow, very soft sericitic clay.	-	-	-	-	-	-	-	-	buttermilk yellow to light grey	-	-	-	-	-	-	-	-	-	-	-	-	-	5	pervasive
122.50	126.70	-	-	GD	Altered Granodiorite	Strongly altered unit. Mineralogy: qtz 60%, clay altered feld 35%, orange oxidized mafics? 5%. Feldspar alters to yellow, very soft sericitic clay. Mafics still remnant within orange vuggy, oxidized specs. Very soft. Note: here, outcrop was only found on the south side of the trench.	-	-	-	-	-	-	-	-	buttermilk yellow to light grey	-	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive
126.70	128.50	-	-	QFP	Strongly Altered Quartz Feldspar Porphyry	Light grey with buttermilk yellow colour. Fine grained, moderate hardness on grey section (softer than quartz). Feldspar likely altered to yellow, soft clay. Orangey-rust is possible mafics (2-3%). No sulphides. Weakly porphyritic. Outcrop on the south side of the trench.	-	-	-	-	-	-	-	-	buttermilk yellow to light grey	-	-	-	-	-	-	-	-	-	-	-	-	-	4	pervasive
128.50	135.40	-	-	FZ	Fault Zone	Very rubbly, broken-up rock and gouge with abundant clay. Clay ranges from rusty orange to tan-gold. Rock fragments are moderately altered granodiorite with the mafics still intact.	-	-	-	-	-	-	-	-	rusty orange and tan-gold	-	-	-	-	-	-	-	-	-	-	-	-	-	3	patchy
135.40	139.50	-	-	OB	Overburden	llrge trench cave in. All sediments, no rock outcrop on south side either.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
139.50	143.90	-	-	FZ	Fault Zone	Very rubbly, broken-up rock and gouge with abundant clay. Clay is rusty orange. Rock fragments are weakly altered granodiorite with the mafics still in tact. Fragment size ranges from gravel to fist sized.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
143.90	159.90	-	-	OB	Overburden	Abundant rusty orange clay with no gravel (trench is approx 1.5m deep). Other zones of brown clay and orange sediments (here the trench shallows to 0.5m). INTERP: still within a fault zone.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	143.90	148.00	-	-	Rusty orange clay, no rocks at all.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
159.90	163.90	-	-	GD	Moderately altered Granodiorite	Feldspar altering weakly to clays, mafics partially altered. F-m grained, equigranular. Slightly oxidized. No sulphides. Mineralogy: qtz 40, feld 40, mafic 20. mafics consist mostly of amphiboles but a few pyx as well.	-	-	-	-	-	-	-	-	salt and pepper	-	-	-	-	-	-	-	-	-	-	-	-	-	2	incomplete
163.90	166.00	-	-	OB	Overburden	Sediment, shallow trench and a deep puddle.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
166.00	171.40	-	-	GD	Amphibole-Pyroxene Granodiorite	Unaltered granodiorite with trace fine grained pyrite. Medium grained, equigranular. S+P appearance.	tr	-	-	-	-	-	-	disseminated	salt and pepper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unaltered
171.40	177.00	-	-	OB	Overburden	Organics, dirt, nothing exciting.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Logged By: Scott Dov
Trench: ECE-TR12
Mapping Direction: West to E
Face mapped (NSEW): North

Primary		Secondary		Shearing		Fracture		Veining					Brecciation						Upper Contact (S/W)		Lower Contact (N/E)	
From	To	From	To	Intensity	Orientation	Intensity	Orientation	% Vn	Width	Type	Minerals	Orientation	Clasts	% Clasts	Rounding	Matrix	% Matrix	Intensity	Strike/Dip	Description	Strike/Dip	Description
0.00	24.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.70	32.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.20	72.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72.60	82.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
82.10	86.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unknown	gravel + clay	unkown	gravel + clay
86.40	91.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91.20	98.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98.50	108.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108.20	122.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	unknown	-	unknown	-
-	-	109.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	109.20	113.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	113.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	113.40	120.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	118.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	120.00	122.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
122.50	126.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
126.70	128.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
128.50	135.40	-	-	4	unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135.40	139.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
139.50	143.90	-	-	4	unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
143.90	159.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	143.90	148.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
159.90	163.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
163.90	166.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
166.00	171.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
171.40	177.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Charlotte Project
Trench Survey
ECE-TR12-02**

<u>Station</u>	<u>Easting</u>	<u>Northing</u>	<u>Elevation (m)</u>	<u>Azimuth</u>	<u>Inclination</u>	<u>Length (m)</u>	<u>From (m)</u>	<u>To (m)</u>
A	384943	6885783	1335	090	8	34.30	0.00	34.30
B	384974	6885782	1340	090	15	12.10	34.30	46.40
C	384989	6885781	1348	091	11	13.60	46.40	60.00
D	384999	6885780	1348	088	7	15.60	60.00	75.60
E	385014	6885781	1355	090	6	14.60	75.60	90.20
F	385029	6885780	1358	092	6	15.20	90.20	105.40
G	385046	6885779	1361	091	5	29.10	105.40	134.50
H	385076	6995778	1358	95	2	42.50	134.50	177.00
I	385116	6885769	1356				177.00	

Charlotte Project
Trench Samples
ECE-TR12-02

Trench: ECE-TR12-02
Date: June 15, 2012

Sample#	SampleID	From	To	Width	QAQC Sample Type	Lithology	Wgt_KG	Au_GM/T	Mo_PPM	Cu_PPM	Pb_PPM	Zn_PPM	Ag_PPM	Ni_PPM	Co_PPM	Mn_PPM	Fe_%	As_PPM	Au_PPB	Th_PPM
1	1751076	72.60	75.00	2.40		Amphibole-Pyroxene Granodiorite	4.22	0.006	0.7	69.2	9.4	34	0.2	4	3.3	146	2.49	5.7	5.3	11
2	1751077	75.00	78.00	3.00		Amphibole-Pyroxene Granodiorite	3.29	0.025	1.4	81.8	41.1	32	0.8	3.2	2.8	138	2.91	23.6	25.4	10.2
3	1751078	78.00	80.00	2.00		Amphibole-Pyroxene Granodiorite	3.76	0.013	0.5	56.2	7	28	0.1	4.3	2.9	170	2.56	4.2	5.4	10.1
4	1751079	80.00	82.10	2.10		Amphibole-Pyroxene Granodiorite	3.6	0.007	0.5	37.5	6.6	28	0.2	3.7	3.4	168	2.43	4.9	6.4	9.2
5	1751080	82.10	84.50	2.40		Fault Zone	2.11	0.014	0.4	61.2	8	29	0.4	4.4	4	163	2.43	6	13.7	9.1
6	1751081	84.50	86.40	1.90		Fault Zone	1.25	0.014	0.5	59.3	10.2	28	0.6	3	2.4	144	2.54	6.7	16.1	10.1
7	1751082	86.40	88.80	2.40		Amphibole-Pyroxene Granodiorite	3.19	0.017	0.5	56.9	10.7	32	0.6	3.5	4.5	169	2.5	15.9	14	10.5
8	1751083	88.80	91.20	2.40		Amphibole-Pyroxene Granodiorite	5.86	0.014	0.4	53.7	10	31	0.3	3.8	3.9	186	2.64	4.4	44.8	9.9
9	1751084	98.50	100.00	1.50		Amphibole-Pyroxene Granodiorite	1.81	0.008	0.5	53.7	10.2	33	0.2	3.9	2.7	173	2.43	4.7	27.6	10.2
10	1751085	100.00	102.00	2.00		Amphibole-Pyroxene Granodiorite	4.24	0.014	0.6	48.4	9.3	25	0.1	4.1	3.5	168	2.5	4.6	6.1	10
11	1751086	102.00	104.00	2.00		Amphibole-Pyroxene Granodiorite	3.31	0.007	0.6	45.1	9.7	32	0.1	3.8	5.3	182	2.45	3.5	7.6	10.1
12	1751087	104.00	106.00	2.00		Amphibole-Pyroxene Granodiorite	4.83	0.007	0.4	43.6	10.5	36	0.1	3.5	5.5	178	2.15	4.3	13.3	10.2
13	1751088	106.00	108.20	2.20		Amphibole-Pyroxene Granodiorite	3.48	0.027	0.5	50.1	18.2	42	0.2	2.8	2.1	149	2.41	5.2	14	10.2
14	1751089	108.20	110.00	1.80		Fault Zone	2.01	0.011	0.6	57.3	8.2	44	0.2	4.1	6.1	208	2.58	3.5	10.9	9.6
15	1751090	110.00	112.00	2.00		Fault Zone	1.65	0.005	0.5	41.1	9.6	36	0.1	4.5	11.2	224	2.77	3.1	3.8	11.3
16	1751091	112.00	114.00	2.00		Fault Zone	2.55	0.072	1.2	20.8	46.7	18	0.8	1.5	2.5	46	2.33	32.3	84.6	9.7
17	1751092	114.00	116.00	2.00		Fault Zone	1.76	0.014	1	22.5	12.2	21	0.2	2	2	60	1.43	7.1	12	6.3
18	1751093	116.00	118.00	2.00		Fault Zone	3.68	0.043	1.7	14.7	28.3	20	0.4	1.5	2.6	39	1.89	20.1	39.7	7.8
19	1751094	118.00	120.00	2.00		Fault Zone	2.82	0.021	1.4	21.7	14	20	0.2	1.4	2.1	38	2.29	5	16.8	7.7
20	1751095	120.00	122.50	2.50		Fault Zone	2.3	0.031	1.1	29.1	15.7	26	0.2	1.6	2.2	56	2.22	4.9	23.1	10
21	1751096	122.50	124.50	2.00		Altered Granodiorite	2.19	0.009	1.8	19.8	24	23	0.8	1.9	2.4	105	2.03	6.1	12.3	7.2
22	1751097	124.50	126.70	2.20		Altered Granodiorite	2.93	0.022	0.9	36.2	21.3	26	0.3	1.3	1.7	55	1.86	4.2	15.9	10.5
23	1751098	126.70	128.50	1.80		Strongly altered quartz feldspar porphyry	2.29	0.015	1.8	15	48.1	13	0.9	1.2	1.3	45	1.62	7.9	8.4	4.4
24	1751099	128.50	130.50	2.00		Fault Zone	2.89	0.018	1.2	18.8	30.8	16	0.8	1.2	1.8	64	2.23	5.6	14	7.8
25	1751100	130.50	132.50	2.00		Fault Zone	2.61	0.011	1.8	21	23.1	26	0.5	1.4	2.6	91	1.73	6.3	22.5	5.1
26	1751101	132.50	133.90	1.40		Fault Zone	1.71	0.011	1.2	41	14.4	46	0.3	2.3	3.1	77	2.61	4	9.9	10.9
27	1751102	133.90	135.40	1.50		Fault Zone	1.82	0.019	1	32.7	26.9	34	0.6	2.1	2.5	76	2.35	7.3	34.7	8.6
28	1751103	139.50	141.70	2.20		Fault Zone	2.19	0.033	0.9	44.9	22.7	42	0.2	2.8	3	78	2.21	4.7	34	11.6
29	1751104	141.70	143.90	2.20		Fault Zone	2.34	0.014	2.2	36.8	17.7	37	0.2	2.9	2.6	111	2.56	2.9	16	11.7
30	1751105	159.90	161.90	2.00		Moderately altered Granodiorite	1.85	0.013	1.4	42.8	15.9	42	0.1	2.7	3.4	119	2.78	2.4	15.2	11.7
31	1751106	161.90	163.90	2.00		Amphibole-Pyroxene Granodiorite	2.77	0.023	1.1	34.2	23.2	44	0.2	2.4	1.8	119	2.56	6.7	19.9	11.1
32	1751107	166.00	169.00	3.00		Amphibole-Pyroxene Granodiorite	3.53	0.018	0.8	57	16.1	38	0.4	3.1	2.4	109	2.7	5	16.9	9.9
33	1751108	169.00	171.40	2.40		Amphibole-Pyroxene Granodiorite	3.43	0.013	0.4	69.4	13.7	37	0.3	2.2	1.4	111	2.41	5.3	14.4	10.6
34	1751109	166.00	169.00	3.00	duplicate	Amphibole-Pyroxene Granodiorite	3.08	0.017	0.5	40.6	10.8	35	0.3	2.3	1.6	101	2.32	3.4	14.6	10.1
35	1751110	169.00	171.40	2.40	duplicate	Amphibole-Pyroxene Granodiorite	2.24	0.017	0.6	56.1	12.4	33	0.3	2.2	1.7	117	2.49	5.1	21.9	10.7
36	1751111				blank		0.29	<0.005	<0.1	1.3	11.3	6	<0.1	2.1	1.6	189	0.42	<0.5	<0.5	0.1

Charlotte Project
Trench Samples
ECE-TR12-02

TR12-02
5, 2012

SampleID	From	To	Sr_PPM	Cd_PPM	Sb_PPM	Bi_PPM	V_PPM	Ca_%	P_%	La_PPM	Cr_PPM	Mg_%	Ba_PPM	Ti_%	B_PPM	Al_%	Na_%	K_%	W_PPM	Hg_PPM	Sc_PPM	Tl_PPM	S_%	Ga_PPM	Se_PPM	Te_PPM
1751076	72.60	75.00	26	0.2	0.3	3.5	58	0.25	0.05	12	8	0.75	240	0.065	<1	1.41	0.074	0.27	0.1	<0.01	5.2	0.4	<0.05	5	<0.5	0.9
1751077	75.00	78.00	28	0.2	0.4	5.8	54	0.22	0.051	11	8	0.72	617	0.054	<1	1.2	0.049	0.23	0.2	<0.01	5	0.3	0.13	5	<0.5	0.7
1751078	78.00	80.00	31	0.1	0.3	2.2	73	0.38	0.052	14	9	0.83	179	0.141	<1	1.45	0.078	0.24	0.3	<0.01	4.9	0.4	<0.05	6	<0.5	<0.2
1751079	80.00	82.10	30	<0.1	0.2	2.2	69	0.38	0.052	12	8	0.78	219	0.143	<1	1.33	0.082	0.22	0.2	<0.01	4.5	0.3	<0.05	5	<0.5	0.3
1751080	82.10	84.50	37	0.1	0.4	7	65	0.36	0.051	13	10	0.9	407	0.114	<1	1.41	0.093	0.2	0.2	<0.01	4.8	0.3	0.1	6	<0.5	0.5
1751081	84.50	86.40	37	<0.1	0.4	9.2	63	0.28	0.049	11	9	0.8	757	0.096	<1	1.23	0.064	0.2	0.1	<0.01	5	0.3	0.12	6	<0.5	0.4
1751082	86.40	88.80	30	0.2	0.3	3.5	63	0.38	0.051	14	8	0.71	330	0.123	1	1.22	0.072	0.34	0.1	<0.01	4.3	0.4	0.08	5	<0.5	0.3
1751083	88.80	91.20	29	0.1	0.3	4.9	69	0.33	0.05	13	8	0.85	484	0.122	<1	1.29	0.072	0.28	0.2	<0.01	5	0.4	0.09	5	<0.5	0.7
1751084	98.50	100.00	32	0.1	0.4	3.3	62	0.38	0.049	13	8	0.84	173	0.127	<1	1.32	0.072	0.13	0.2	<0.01	4.3	0.2	0.06	6	<0.5	0.3
1751085	100.00	102.00	29	0.2	0.4	3.1	64	0.4	0.046	12	8	0.71	140	0.127	1	1.21	0.077	0.16	0.3	<0.01	3.9	0.2	0.1	5	<0.5	0.2
1751086	102.00	104.00	31	0.2	0.3	4.9	69	0.44	0.051	12	9	0.84	160	0.126	<1	1.34	0.092	0.18	0.4	<0.01	4.5	0.2	0.07	6	<0.5	0.4
1751087	104.00	106.00	34	0.2	0.4	3.7	58	0.29	0.04	13	8	0.77	327	0.104	1	1.24	0.079	0.24	0.2	<0.01	4.7	0.4	0.07	5	<0.5	0.7
1751088	106.00	108.20	35	0.1	0.5	3.5	61	0.26	0.048	14	9	0.84	396	0.078	1	1.33	0.075	0.18	0.2	<0.01	5.4	0.2	0.11	6	<0.5	0.5
1751089	108.20	110.00	26	<0.1	0.3	3.2	69	0.35	0.051	12	9	0.85	205	0.123	1	1.32	0.063	0.2	0.3	<0.01	5.3	0.3	<0.05	5	0.5	<0.2
1751090	110.00	112.00	29	0.1	0.3	1.8	64	0.36	0.05	15	8	0.68	252	0.12	<1	1.27	0.085	0.31	0.2	<0.01	4.5	0.4	<0.05	4	<0.5	<0.2
1751091	112.00	114.00	20	<0.1	0.9	4	9	0.05	0.036	15	3	0.05	370	<0.001	1	0.52	0.026	0.3	<0.1	<0.01	1.3	0.3	0.13	1	0.7	<0.2
1751092	114.00	116.00	15	0.1	0.7	2.8	16	0.09	0.021	16	3	0.18	156	0.009	2	0.66	0.016	0.29	0.1	<0.01	1.7	0.3	0.07	2	<0.5	0.3
1751093	116.00	118.00	32	0.1	0.6	3	7	0.05	0.029	18	2	0.06	874	0.001	1	0.54	0.021	0.29	<0.1	0.01	1.1	0.3	0.12	1	1	0.3
1751094	118.00	120.00	23	<0.1	0.4	3.1	10	0.05	0.032	16	3	0.08	615	0.002	1	0.6	0.029	0.3	<0.1	<0.01	1.1	0.3	0.1	1	0.7	0.3
1751095	120.00	122.50	36	0.1	0.6	3	19	0.08	0.039	17	4	0.21	207	0.003	<1	0.67	0.045	0.22	<0.1	<0.01	2	0.3	0.14	2	0.5	0.2
1751096	122.50	124.50	36	<0.1	0.4	3.3	19	0.08	0.037	18	4	0.23	708	0.009	2	0.82	0.027	0.41	0.1	<0.01	1.9	0.4	0.21	3	0.7	0.3
1751097	124.50	126.70	31	0.1	0.4	3.1	18	0.04	0.037	23	3	0.2	125	0.002	1	0.66	0.046	0.27	<0.1	<0.01	2.1	0.3	0.16	2	0.7	0.3
1751098	126.70	128.50	32	<0.1	3.2	5.5	11	0.04	0.036	16	3	0.14	506	0.006	<1	0.63	0.022	0.39	0.1	<0.01	1.7	0.3	0.29	2	1.3	0.4
1751099	128.50	130.50	33	<0.1	0.8	5.1	12	0.04	0.039	14	3	0.11	513	0.002	<1	0.56	0.026	0.32	<0.1	<0.01	1.4	0.2	0.22	2	1.2	0.4
1751100	130.50	132.50	43	<0.1	0.9	5.9	14	0.04	0.028	18	4	0.19	724	0.003	<1	0.7	0.032	0.34	<0.1	<0.01	1.7	0.3	0.18	2	1.2	0.5
1751101	132.50	133.90	51	0.2	0.5	11.1	30	0.09	0.049	14	5	0.35	616	0.004	<1	0.86	0.074	0.22	<0.1	<0.01	3.1	0.3	0.22	3	0.7	0.3
1751102	133.90	135.40	27	0.2	2.5	3.9	27	0.09	0.033	16	5	0.29	143	0.003	<1	0.96	0.052	0.31	<0.1	<0.01	3.1	0.4	0.23	3	0.6	0.3
1751103	139.50	141.70	18	0.3	0.9	3.7	31	0.09	0.042	12	5	0.35	107	0.003	<1	0.88	0.035	0.22	<0.1	<0.01	3.4	0.2	0.06	3	<0.5	0.3
1751104	141.70	143.90	33	0.2	0.5	4.8	40	0.12	0.042	15	7	0.53	131	0.004	<1	1.13	0.073	0.23	<0.1	0.01	3.8	0.3	0.14	4	<0.5	0.5
1751105	159.90	161.90	40	0.2	0.7	2.6	44	0.13	0.04	11	8	0.8	232	0.004	<1	1.35	0.08	0.19	<0.1	<0.01	4.9	0.3	0.19	6	<0.5	0.5
1751106	161.90	163.90	47	0.1	0.6	3.5	40	0.12	0.036	13	8	0.84	537	0.006	<1	1.43	0.098	0.21	0.1	<0.01	4.2	0.3	0.24	6	<0.5	0.5
1751107	166.00	169.00	39	<0.1	0.7	11.8	49	0.2	0.041	13	10	0.8	223	0.033	<1	1.47	0.09	0.14	<0.1	<0.01	5.2	0.2	0.14	7	<0.5	3.1
1751108	169.00	171.40	28	<0.1	1	11	47	0.17	0.033	15	8	0.81	146	0.025	1	1.33	0.069	0.17	<0.1	<0.01	4.8	0.3	0.08	7	<0.5	2.1
1751109	166.00	169.00	33	<0.1	0.7	5.2	40	0.12	0.034	10	7	0.8	153	0.009	<1	1.25	0.085	0.19	<0.1	<0.01	4.2	0.3	0.17	6	<0.5	0.8
1751110	169.00	171.40	33	<0.1	0.7	8.1	43	0.16	0.035	15	8	0.77	113	0.026	<1	1.23	0.092	0.19	<0.1	<0.01	4.4	0.3	0.16	6	0.6	1.7
1751111			40	<0.1	0.2	<0.1	<2	21.49	0.018	<1	1	11.53	16	0.002	<1	0.05	0.002	0.03	<0.1	<0.01	0.4	<0.1	<0.05	<1	<0.5	<0.2

APPENDIX 6

Assay Certificates: Trenches



1020 Cordova St. East Vancouver BC V6A 4A3 Canada

Acme Analytical Laboratories (Vancouver) Ltd.

www.acmelab.com

Client: **Coast Mountain Geological**

620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Submitted By: Nicola Struyk

Receiving Lab: Canada-Whitehorse

Received: June 15, 2012

Report Date: June 27, 2012

Page: 1 of 4

CERTIFICATE OF ANALYSIS

WHI12000103.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-01
P.O. Number
Number of Samples: 75

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
STOR-RJT Store After 90 days Invoice for Storage

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC: Peter Dadson
Gary Schellenberg
Jay Page

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	75	Crush, split and pulverize 250 g rock to 200 mesh			WHI
G601	75	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
1DX2	75	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
*** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Acme Analytical Laboratories (Vancouver) Ltd.

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Client: **Coast Mountain Geological**
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9 Canada

Project: Charlotte Project
Report Date: June 27, 2012

Page: 2 of 4

Part: 1 of 2

CERTIFICATE OF ANALYSIS

WHI12000103.1

	Method Analyte Unit MDL	WGHT	G6	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2
1751001	Rock	1.94	0.031	1.9	86.4	9.9	28	0.2	1.8	3.9	86	3.31	5.5	18.2	3.9	108	0.1	0.4	3.2	92
1751002	Rock	2.52	0.037	1.7	107.0	6.6	26	0.3	2.3	4.9	86	3.73	6.5	31.5	3.1	117	0.1	0.3	3.1	119
1751003	Rock	4.63	0.048	1.0	99.5	7.2	26	0.3	2.2	6.5	105	3.52	4.6	34.3	3.1	106	0.3	0.3	2.6	126
1751004	Rock	4.22	0.047	1.5	121.3	7.3	26	0.4	1.6	4.3	74	3.33	6.9	45.3	3.3	100	0.3	0.3	4.4	97
1751005	Rock	3.00	0.058	0.9	131.9	7.3	25	0.4	1.5	5.2	78	3.28	5.7	61.2	3.3	90	0.3	0.2	4.1	99
1751006	Rock	3.88	0.067	1.0	178.7	7.5	23	0.4	3.0	3.2	70	3.84	6.2	65.3	3.4	117	0.2	0.3	6.8	84
1751007	Rock	2.39	0.035	0.9	118.7	6.0	27	0.3	4.5	3.8	127	4.01	4.4	37.7	2.3	155	0.2	0.3	3.7	146
1751008	Rock	5.17	0.028	0.7	162.1	7.7	29	0.6	5.5	1.9	107	4.61	5.4	30.9	3.0	143	0.4	0.4	8.2	123
1751009	Rock	3.66	0.045	1.9	122.9	5.6	86	0.5	2.0	1.9	69	4.44	4.9	44.6	2.9	97	<0.1	4.6	9.8	91
1751010	Rock	3.38	0.017	0.7	71.4	3.5	23	0.2	2.2	5.5	140	3.10	6.0	12.3	2.6	115	<0.1	0.3	2.3	86
1751011	Rock	3.03	0.032	1.0	100.9	4.5	23	0.3	2.9	6.3	160	3.39	4.5	19.7	2.6	160	0.2	0.2	10.0	101
1751012	Rock	2.07	0.033	1.1	103.2	4.9	27	0.3	2.8	5.2	167	3.30	3.9	52.4	2.9	179	0.1	0.3	5.5	99
1751013	Rock	3.45	0.037	0.6	218.3	4.5	25	0.5	2.8	7.8	147	3.41	3.6	36.9	2.9	199	0.2	0.2	9.4	98
1751014	Rock	3.48	0.041	2.3	133.4	6.1	20	0.3	3.5	4.4	111	4.52	8.9	29.5	5.6	167	<0.1	0.3	8.8	89
1751015	Rock	3.19	0.012	2.3	70.5	5.5	17	0.1	4.2	2.0	60	2.47	4.6	12.4	10.6	99	<0.1	0.3	2.0	43
1751016	Rock	2.25	0.017	3.6	88.5	6.9	19	0.2	5.9	2.2	53	3.06	4.6	13.9	11.6	115	<0.1	0.2	3.7	47
1751017	Rock	2.01	0.021	1.7	93.2	7.9	29	0.2	10.6	2.4	93	2.82	5.1	20.8	11.0	114	<0.1	0.3	3.9	65
1751018	Rock	2.13	0.026	5.9	106.7	6.0	24	0.2	6.6	1.8	83	3.49	10.2	16.2	10.8	150	0.1	0.3	4.5	79
1751019	Rock	1.39	0.035	5.9	177.8	11.7	26	0.4	8.0	2.0	70	4.02	14.3	39.0	11.2	199	<0.1	0.4	10.2	77
1751020	Rock	2.18	0.047	4.5	120.4	10.7	29	0.4	7.8	2.1	101	3.02	10.9	37.1	10.0	110	0.2	0.3	7.1	79
1751021	Rock	1.86	0.023	9.0	80.3	7.0	24	0.2	8.7	2.8	83	2.70	7.0	20.4	9.0	93	0.2	0.2	3.4	69
1751022	Rock	2.30	0.039	6.6	98.6	6.6	25	0.3	7.2	2.8	83	2.25	7.0	24.4	9.8	114	0.3	0.3	5.2	56
1751023	Rock	1.56	0.026	21.3	135.9	8.7	26	0.3	8.5	2.4	70	2.75	5.5	23.6	13.2	128	0.2	0.1	7.9	50
1751024	Rock	1.83	0.042	10.3	132.6	9.3	23	0.5	4.4	1.9	70	2.26	6.6	20.5	13.0	102	<0.1	0.2	17.9	44
1751025	Rock	0.56	<0.005	0.1	1.8	1.2	12	<0.1	2.0	0.8	207	0.44	<0.5	<0.5	0.1	41	<0.1	<0.1	<0.1	2
1751026	Rock	1.86	0.066	23.7	207.3	14.0	23	0.9	3.4	2.3	69	3.73	12.8	68.5	6.2	171	0.1	0.2	48.5	74
1751027	Rock	2.77	0.061	1.4	228.4	8.0	23	0.7	3.5	3.1	102	3.66	12.9	56.8	3.2	203	0.2	0.3	27.3	104
1751028	Rock	2.18	0.099	27.9	203.0	6.0	24	0.7	2.8	5.6	91	4.21	13.9	89.6	2.8	154	0.2	0.2	8.9	114
1751029	Rock	2.20	0.086	43.6	268.5	9.2	24	1.3	3.2	3.0	103	4.55	8.6	115.0	3.9	135	0.2	0.3	45.3	108
1751030	Rock	3.28	0.060	9.0	145.9	8.4	23	0.5	2.9	2.5	91	3.27	8.7	59.8	3.3	117	0.3	0.3	16.5	108



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PO Box 11604
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Project: Charlotte Project
Report Date: June 27, 2012

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Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI12000103.1

	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		P % 0.001	La ppm 1	Cr ppm 1	Mg % 0.01	Ba ppm 1	Ti % 0.001	B ppm 1	Al % 0.01	Na % 0.001	K % 0.01	W ppm 0.1	Hg ppm 0.01	Sc ppm 0.1	Tl ppm 0.1	S % 0.05	Ga ppm 1	Se ppm 0.5	Te ppm 0.2
1751001	Rock	0.067	6	2	1.28	31	0.135	3	2.30	0.230	0.20	0.4	<0.01	6.3	0.4	0.75	10	1.1	0.5
1751002	Rock	0.060	6	7	1.34	30	0.158	2	2.78	0.314	0.27	0.3	0.01	8.9	0.6	0.85	11	1.1	0.4
1751003	Rock	0.065	6	5	1.15	31	0.202	3	2.46	0.281	0.28	0.3	<0.01	10.0	0.6	0.89	9	0.9	0.3
1751004	Rock	0.061	5	2	1.05	25	0.148	2	2.61	0.298	0.18	0.3	<0.01	6.7	0.3	0.91	10	1.1	0.9
1751005	Rock	0.065	5	2	1.06	22	0.146	2	2.50	0.304	0.17	0.3	<0.01	7.2	0.3	0.94	10	0.8	0.9
1751006	Rock	0.068	4	5	1.09	23	0.128	3	3.19	0.339	0.20	0.4	<0.01	6.5	0.4	0.63	11	1.0	1.2
1751007	Rock	0.064	5	19	1.30	24	0.200	1	3.85	0.463	0.31	0.2	<0.01	12.1	0.7	0.66	13	<0.5	0.7
1751008	Rock	0.058	5	16	1.31	26	0.224	1	3.58	0.370	0.24	0.2	<0.01	10.1	0.5	0.82	13	1.3	0.8
1751009	Rock	0.058	5	7	1.18	33	0.135	<1	2.13	0.275	0.23	0.6	<0.01	6.5	0.4	0.81	11	0.9	0.7
1751010	Rock	0.063	4	4	1.22	46	0.129	2	3.06	0.351	0.44	0.3	<0.01	6.4	1.0	0.48	9	0.6	0.3
1751011	Rock	0.076	6	3	1.32	94	0.139	2	3.99	0.464	0.76	0.2	<0.01	7.4	1.8	0.45	11	0.5	0.9
1751012	Rock	0.068	7	4	1.37	73	0.140	<1	4.44	0.585	0.71	0.2	<0.01	7.5	1.7	0.61	12	<0.5	0.8
1751013	Rock	0.066	7	3	1.58	157	0.134	<1	4.94	0.590	0.93	<0.1	<0.01	8.0	2.2	0.76	12	<0.5	0.5
1751014	Rock	0.061	10	8	1.20	110	0.137	1	3.21	0.349	0.59	0.2	<0.01	7.3	1.3	0.72	11	1.0	0.4
1751015	Rock	0.040	11	14	0.86	49	0.071	2	1.79	0.119	0.18	0.2	<0.01	4.1	0.4	0.42	6	<0.5	0.3
1751016	Rock	0.044	12	23	0.96	47	0.052	<1	2.04	0.141	0.19	0.2	<0.01	4.6	0.4	0.44	7	<0.5	0.4
1751017	Rock	0.048	14	45	1.27	43	0.093	<1	2.30	0.153	0.20	0.2	<0.01	6.5	0.5	0.46	8	<0.5	0.5
1751018	Rock	0.045	14	50	1.22	51	0.156	2	2.45	0.165	0.24	0.2	<0.01	7.2	0.5	0.59	9	0.5	0.6
1751019	Rock	0.054	22	53	1.08	44	0.146	<1	2.95	0.138	0.20	0.1	<0.01	6.5	0.4	0.44	10	0.7	0.9
1751020	Rock	0.046	13	53	1.38	35	0.144	<1	2.89	0.186	0.21	0.2	<0.01	7.2	0.4	0.43	10	<0.5	1.3
1751021	Rock	0.040	8	45	1.12	24	0.115	<1	2.38	0.166	0.17	0.2	<0.01	6.0	0.4	0.41	9	<0.5	0.5
1751022	Rock	0.043	12	39	1.02	25	0.084	<1	2.16	0.126	0.17	0.2	<0.01	5.3	0.3	0.44	8	<0.5	1.0
1751023	Rock	0.046	12	41	1.21	32	0.009	<1	2.98	0.090	0.24	<0.1	<0.01	5.5	0.5	0.21	9	<0.5	1.5
1751024	Rock	0.043	14	21	0.93	29	0.097	<1	2.22	0.096	0.17	0.4	<0.01	4.2	0.4	0.26	7	<0.5	2.1
1751025	Rock	0.017	<1	1	13.11	18	0.002	<1	0.05	0.003	0.03	<0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2
1751026	Rock	0.068	10	8	0.93	50	0.083	<1	2.77	0.222	0.24	0.3	<0.01	6.2	0.4	0.61	9	0.8	4.4
1751027	Rock	0.063	6	7	1.17	38	0.150	<1	2.88	0.253	0.32	0.2	<0.01	8.0	0.8	0.62	10	<0.5	3.0
1751028	Rock	0.065	5	6	1.48	34	0.160	<1	2.53	0.197	0.34	0.4	<0.01	8.5	0.8	1.15	11	<0.5	2.5
1751029	Rock	0.063	5	7	1.82	34	0.149	<1	3.00	0.222	0.37	0.3	<0.01	8.4	0.9	0.91	14	0.6	4.8
1751030	Rock	0.053	7	7	1.60	29	0.166	<1	2.85	0.219	0.31	0.2	<0.01	8.6	0.7	0.60	11	<0.5	1.1



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Project: Charlotte Project

Report Date: June 27, 2012

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	WGHT	G6	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
1751031	Rock	1.91	0.024	9.3	130.0	6.6	25	0.3	2.5	1.8	62	3.64	6.1	15.2	3.3	91	0.1	0.2	5.8	81	0.44
1751032	Rock	2.13	0.031	7.9	98.2	4.9	19	0.3	1.7	4.9	36	2.87	8.1	22.4	3.4	87	0.2	0.5	5.8	16	0.56
1751033	Rock	2.16	0.048	2.7	112.2	4.6	15	0.3	2.3	4.3	60	4.47	17.3	27.1	3.4	110	<0.1	0.2	6.2	60	0.20
1751034	Rock	5.69	0.028	1.0	95.9	3.9	31	0.2	3.9	8.8	174	3.91	6.9	18.9	2.8	144	0.1	0.1	3.0	124	1.19
1751035	Rock	6.72	0.043	4.8	172.9	8.7	27	0.6	2.7	5.0	125	4.10	10.6	31.6	3.1	140	0.3	0.2	25.6	124	0.52
1751036	Rock	3.93	0.015	1.0	74.2	4.6	33	0.2	2.3	4.5	222	4.39	11.1	12.7	3.0	236	0.2	0.2	1.8	127	1.18
1751037	Rock	1.45	0.067	2.8	174.0	7.0	35	0.5	5.4	3.9	138	4.48	18.5	90.1	3.1	156	0.1	0.3	10.4	122	0.46
1751038	Rock	4.44	0.071	0.9	173.1	6.8	25	0.7	2.2	5.8	115	4.07	12.0	60.5	2.5	105	0.2	0.3	20.9	122	0.41
1751039	Rock	4.20	0.040	0.3	121.0	4.5	27	0.3	1.0	4.5	91	3.35	5.8	33.3	3.0	85	<0.1	0.3	5.0	103	0.42
1751040	Rock	1.74	0.051	0.7	166.1	9.0	26	0.5	1.8	3.6	71	4.00	18.2	120.1	3.5	88	0.2	0.4	17.4	76	0.30
1751041	Rock	2.39	0.256	0.9	407.7	40.8	33	2.0	2.8	3.4	81	3.22	13.6	289.3	3.3	65	0.2	0.4	150.3	74	0.30
1751042	Rock	2.50	0.113	0.4	264.4	9.0	27	0.7	4.5	6.7	91	4.76	18.7	112.2	3.8	124	0.1	0.3	17.6	99	0.34
1751043	Rock	3.07	0.076	0.5	110.2	10.0	29	0.5	3.4	3.9	76	3.92	15.0	88.0	3.7	103	<0.1	0.4	11.0	72	0.16
1751044	Rock	2.06	0.090	0.4	137.4	9.9	34	0.5	5.2	7.0	93	5.07	8.2	112.3	3.3	113	<0.1	0.3	21.6	106	0.42
1751045	Rock	2.60	0.185	0.6	130.3	7.3	36	0.5	4.5	6.6	101	4.25	7.7	180.7	3.3	84	<0.1	0.4	17.8	101	0.45
1751046	Rock	3.05	0.080	0.4	127.1	6.4	40	0.4	4.8	8.2	207	3.75	7.5	106.3	3.3	168	0.2	0.2	8.2	130	1.09
1751047	Rock	2.52	0.063	51.7	148.1	5.9	31	0.5	4.6	11.3	161	4.21	8.8	62.5	3.0	125	0.2	0.3	8.9	121	0.73
1751048	Rock	3.09	0.079	0.7	206.6	5.9	28	0.6	2.8	3.8	87	4.66	11.5	71.8	3.2	110	<0.1	0.2	16.5	119	0.25
1751049	Rock	2.05	0.053	0.3	146.0	5.3	29	0.4	3.8	4.3	128	3.54	10.9	53.7	3.1	159	0.1	0.3	7.8	115	0.81
1751050	Rock	2.55	0.072	1.4	176.4	12.6	26	0.8	2.9	4.0	71	4.85	11.2	122.2	3.5	86	<0.1	0.5	33.1	83	0.16
1751051	Rock	2.36	0.049	1.4	161.6	11.1	25	1.0	2.8	3.1	80	3.81	13.8	48.7	2.8	74	<0.1	0.3	36.1	101	0.30
1751052	Rock	1.71	0.072	2.7	218.2	11.1	25	0.8	3.0	2.1	68	5.70	22.5	58.3	3.6	108	<0.1	0.6	25.5	91	0.13
1751053	Rock	2.75	0.068	1.9	98.7	5.1	26	0.3	4.2	7.6	69	4.06	23.4	73.3	3.1	50	<0.1	0.6	8.5	93	0.34
1751054	Rock	3.72	0.096	1.7	228.3	8.3	29	0.7	4.6	7.1	93	3.98	16.8	96.2	2.9	59	<0.1	0.9	27.4	100	0.61
1751055	Rock	2.34	0.154	1.3	257.5	8.9	22	0.9	3.7	4.6	85	3.78	31.2	100.4	3.1	60	0.1	1.6	28.9	96	0.45
1751056	Rock	2.99	0.085	2.7	267.3	8.4	22	0.6	4.2	5.0	66	4.16	85.1	152.2	3.4	75	0.1	2.0	35.2	75	0.26
1751057	Rock	3.46	0.035	1.7	79.7	6.3	14	0.3	0.8	1.3	37	4.04	40.7	37.7	3.6	104	<0.1	0.5	6.4	36	0.08
1751058	Rock	2.68	0.034	2.3	69.5	9.4	23	0.3	7.7	2.1	73	3.87	22.8	116.0	9.3	60	<0.1	0.7	4.5	49	0.29
1751059	Rock	2.12	0.064	0.6	61.9	13.5	35	0.3	3.1	3.6	84	2.39	23.7	52.9	12.2	43	<0.1	0.8	4.3	34	0.19
1751060	Rock	2.94	0.028	0.5	95.6	13.8	38	0.3	2.7	2.2	85	2.73	23.4	34.9	11.5	45	0.1	0.8	4.0	32	0.18



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Project: Charlotte Project

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1751031	Rock	0.053	4	5	1.58	23	0.099	<1	2.90	0.239	0.21	0.3	<0.01	6.1	0.5	0.66	12	<0.5	0.8
1751032	Rock	0.077	3	1	0.71	21	0.028	<1	2.80	0.231	0.18	0.4	<0.01	1.5	0.3	0.88	7	<0.5	0.8
1751033	Rock	0.068	4	4	1.03	29	0.102	<1	2.18	0.193	0.31	0.4	<0.01	4.9	0.6	1.12	8	<0.5	0.7
1751034	Rock	0.063	6	8	1.78	122	0.189	1	4.01	0.464	1.05	0.2	<0.01	10.0	2.7	0.76	12	<0.5	0.7
1751035	Rock	0.064	6	7	1.46	58	0.204	2	2.68	0.219	0.48	0.3	<0.01	9.6	1.3	0.97	11	0.8	2.4
1751036	Rock	0.080	8	2	1.18	82	0.200	<1	3.51	0.350	0.75	0.2	<0.01	9.4	2.1	0.18	11	<0.5	<0.2
1751037	Rock	0.084	8	10	1.30	42	0.271	<1	3.23	0.176	0.43	0.1	<0.01	10.8	1.1	0.61	10	<0.5	1.7
1751038	Rock	0.062	6	4	1.10	34	0.193	2	2.14	0.206	0.31	0.1	<0.01	9.0	0.8	1.14	9	1.0	2.9
1751039	Rock	0.062	6	2	1.16	36	0.184	<1	2.33	0.232	0.27	0.2	<0.01	7.2	0.7	0.84	9	1.0	0.9
1751040	Rock	0.054	7	3	1.10	32	0.143	1	2.18	0.213	0.20	0.2	<0.01	5.7	0.5	1.26	9	0.7	1.6
1751041	Rock	0.051	6	7	1.19	19	0.155	1	1.95	0.171	0.16	0.3	<0.01	5.6	0.4	0.99	8	1.0	15.3
1751042	Rock	0.067	7	8	1.13	35	0.172	<1	2.31	0.257	0.21	0.2	<0.01	7.7	0.5	1.57	10	1.3	1.6
1751043	Rock	0.055	7	7	0.98	37	0.117	<1	1.99	0.193	0.25	0.2	<0.01	5.9	0.6	0.74	8	1.0	1.3
1751044	Rock	0.058	6	8	1.45	24	0.164	1	2.77	0.235	0.17	0.2	<0.01	8.1	0.4	2.19	12	1.5	3.8
1751045	Rock	0.054	6	8	1.51	23	0.176	<1	2.64	0.229	0.19	0.2	<0.01	8.0	0.4	1.63	12	1.5	3.4
1751046	Rock	0.070	7	9	1.45	86	0.237	2	3.41	0.437	0.73	0.2	<0.01	9.7	2.1	0.58	11	0.7	0.7
1751047	Rock	0.062	7	8	1.45	44	0.215	1	2.75	0.314	0.41	0.2	<0.01	9.2	1.1	1.30	10	0.8	1.5
1751048	Rock	0.067	7	8	1.58	26	0.158	2	2.50	0.245	0.31	0.1	0.01	9.0	0.7	1.27	12	1.5	2.3
1751049	Rock	0.054	6	9	1.75	37	0.204	<1	3.35	0.346	0.27	<0.1	<0.01	9.5	0.7	0.71	12	1.1	1.8
1751050	Rock	0.046	6	6	1.66	28	0.122	1	2.60	0.221	0.22	0.3	<0.01	6.2	0.5	1.18	12	2.0	4.4
1751051	Rock	0.050	6	8	1.45	25	0.152	1	2.34	0.196	0.20	0.2	<0.01	7.3	0.5	1.09	11	1.4	5.1
1751052	Rock	0.070	7	7	1.52	33	0.090	2	2.73	0.246	0.24	0.5	<0.01	6.9	0.5	0.87	15	2.4	3.3
1751053	Rock	0.050	6	7	1.44	43	0.102	1	2.56	0.217	0.23	0.5	<0.01	7.9	0.5	1.60	11	1.4	1.2
1751054	Rock	0.061	7	9	1.44	30	0.131	<1	3.18	0.237	0.17	0.4	<0.01	9.2	0.4	1.36	13	1.6	2.6
1751055	Rock	0.058	6	9	0.97	33	0.088	2	2.92	0.150	0.18	0.3	<0.01	7.8	0.4	0.74	12	<0.5	2.6
1751056	Rock	0.078	9	8	0.81	65	0.019	1	2.95	0.110	0.24	0.2	0.01	7.7	0.5	0.65	9	0.5	3.1
1751057	Rock	0.056	8	2	0.95	110	0.004	<1	1.77	0.210	0.24	0.1	<0.01	2.6	0.4	0.71	8	0.7	1.2
1751058	Rock	0.067	10	55	1.58	58	0.072	<1	2.12	0.114	0.24	0.4	0.01	4.6	0.4	0.40	8	0.9	0.6
1751059	Rock	0.043	14	7	0.77	58	0.009	<1	1.52	0.107	0.20	<0.1	<0.01	3.5	0.3	0.26	5	0.7	0.3
1751060	Rock	0.044	13	7	1.01	42	0.002	<1	1.72	0.105	0.17	<0.1	<0.01	3.1	0.3	0.22	6	0.7	<0.2



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	Method Analyte Unit MDL	WGHT	G6	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
1751061	Rock	3.72	0.024	0.5	48.0	12.7	31	0.2	3.7	3.1	64	2.08	12.7	25.6	10.9	42	0.1	0.5	3.6	27	0.28
1751062	Rock	2.81	0.014	0.5	49.0	11.0	27	0.2	2.5	2.3	73	2.36	10.7	17.4	10.6	49	<0.1	0.3	4.1	35	0.30
1751063	Rock	2.86	0.020	1.4	80.8	16.7	28	0.3	1.7	1.2	71	2.03	17.5	11.0	13.2	43	<0.1	0.5	13.8	33	0.21
1751064	Rock	2.67	0.032	1.2	115.8	21.1	31	0.5	1.4	1.6	78	2.42	9.7	26.4	10.9	44	<0.1	0.5	15.4	35	0.19
1751065	Rock	0.40	<0.005	<0.1	1.8	0.9	10	<0.1	0.8	0.8	193	0.40	0.8	<0.5	0.1	38	<0.1	<0.1	0.1	2	18.19
1751066	Rock	4.97	0.039	0.2	140.5	22.3	34	0.9	1.6	2.0	80	2.39	8.0	90.6	12.2	43	<0.1	0.6	22.2	38	0.19
1751067	Rock	2.51	0.092	0.8	200.5	22.3	31	1.3	1.3	1.4	79	2.49	12.6	99.6	13.4	69	<0.1	0.4	40.9	41	0.16
1751068	Rock	2.26	0.072	0.6	168.8	22.1	37	0.6	2.5	4.6	112	2.58	6.8	97.8	12.1	82	0.2	0.3	31.3	54	0.44
1751069	Rock	3.73	0.062	0.8	129.7	13.9	34	0.5	3.1	3.0	115	2.24	7.7	39.8	14.6	89	0.2	0.4	12.4	54	0.61
1751070	Rock	2.55	0.031	0.4	86.2	14.1	28	0.3	2.6	2.4	103	2.36	6.5	38.0	14.6	94	0.2	0.5	19.5	50	0.50
1751071	Rock	2.54	0.031	1.1	69.5	12.6	32	0.3	3.1	2.9	118	2.44	5.8	112.7	12.4	162	0.2	0.4	9.7	64	0.54
1751072	Rock	3.56	0.019	1.3	64.1	12.6	26	0.2	2.7	2.4	107	2.25	7.9	17.6	13.3	110	0.1	0.5	7.9	47	0.42
1751073	Rock	3.89	0.020	0.9	29.8	12.8	28	0.1	3.2	3.2	100	2.25	7.5	18.1	13.6	171	0.2	0.4	3.1	51	0.53
1751074	Rock	2.80	0.046	1.3	20.6	13.7	25	0.1	3.0	2.3	92	2.01	11.7	49.1	12.8	127	0.1	0.5	2.9	42	0.39
1751075	Rock	2.79	0.023	1.1	21.8	14.2	25	0.2	3.4	3.7	103	2.38	9.0	19.1	11.5	130	0.2	0.3	2.7	46	0.52



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CERTIFICATE OF ANALYSIS

WHI12000103.1

	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1751061	Rock	0.041	12	7	0.74	37	0.001	<1	1.72	0.104	0.15	<0.1	<0.01	2.5	0.2	0.17	6	<0.5	<0.2
1751062	Rock	0.040	12	7	0.86	67	0.004	<1	1.74	0.137	0.21	<0.1	<0.01	3.3	0.3	0.24	7	1.3	<0.2
1751063	Rock	0.031	12	8	0.77	43	0.031	<1	1.43	0.105	0.16	0.3	<0.01	3.5	0.3	0.15	5	<0.5	0.5
1751064	Rock	0.038	10	7	0.89	52	0.041	<1	1.56	0.103	0.16	0.2	<0.01	3.4	0.2	0.23	6	<0.5	1.0
1751065	Rock	0.017	<1	1	12.12	15	0.002	<1	0.05	0.004	0.03	<0.1	<0.01	0.3	<0.1	<0.05	<1	<0.5	<0.2
1751066	Rock	0.041	12	7	0.99	30	0.037	<1	1.71	0.097	0.16	0.3	<0.01	3.3	0.3	0.28	6	<0.5	1.0
1751067	Rock	0.040	12	7	0.89	38	0.063	<1	1.63	0.107	0.15	0.3	<0.01	3.7	0.2	0.33	7	0.5	2.1
1751068	Rock	0.050	13	9	1.01	30	0.080	<1	2.07	0.153	0.15	0.3	<0.01	5.1	0.3	0.68	8	<0.5	3.7
1751069	Rock	0.040	13	10	0.98	44	0.116	2	2.50	0.183	0.14	0.3	<0.01	5.5	0.3	0.58	8	<0.5	2.9
1751070	Rock	0.048	14	9	0.96	49	0.115	<1	2.15	0.126	0.15	0.7	<0.01	5.3	0.3	0.46	8	<0.5	1.5
1751071	Rock	0.043	14	10	1.07	43	0.124	2	2.21	0.149	0.14	0.8	<0.01	5.8	0.3	0.49	8	1.1	0.7
1751072	Rock	0.042	14	9	0.90	52	0.088	<1	1.94	0.123	0.13	0.4	<0.01	5.1	0.3	0.26	7	0.8	0.5
1751073	Rock	0.040	11	10	0.94	48	0.083	<1	2.22	0.176	0.14	0.6	<0.01	4.9	0.3	0.47	7	0.7	0.4
1751074	Rock	0.033	12	9	0.88	52	0.065	<1	2.01	0.128	0.17	0.6	<0.01	4.7	0.4	0.26	7	<0.5	0.3
1751075	Rock	0.040	10	10	0.91	66	0.060	2	2.29	0.178	0.18	0.5	<0.01	4.6	0.4	0.50	7	1.0	0.2



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QUALITY CONTROL REPORT

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	Method Analyte Unit MDL	WGHT	G6	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
1751025	Rock	0.56	<0.005	0.1	1.8	1.2	12	<0.1	2.0	0.8	207	0.44	<0.5	<0.5	0.1	41	<0.1	<0.1	<0.1	2	19.44
1751060	Rock	2.94	0.028	0.5	95.6	13.8	38	0.3	2.7	2.2	85	2.73	23.4	34.9	11.5	45	0.1	0.8	4.0	32	0.18
Pulp Duplicates																					
1751005	Rock	3.00	0.058	0.9	131.9	7.3	25	0.4	1.5	5.2	78	3.28	5.7	61.2	3.3	90	0.3	0.2	4.1	99	0.64
REP 1751005	QC		0.051																		
1751008	Rock	5.17	0.028	0.7	162.1	7.7	29	0.6	5.5	1.9	107	4.61	5.4	30.9	3.0	143	0.4	0.4	8.2	123	0.74
REP 1751008	QC			0.9	166.0	7.6	30	0.6	5.1	1.9	111	4.59	4.9	25.3	3.0	142	0.4	0.4	8.3	121	0.73
1751031	Rock	1.91	0.024	9.3	130.0	6.6	25	0.3	2.5	1.8	62	3.64	6.1	15.2	3.3	91	0.1	0.2	5.8	81	0.44
REP 1751031	QC			9.8	127.4	6.5	25	0.3	2.8	2.0	59	3.61	6.1	13.1	3.2	93	0.1	0.2	6.0	79	0.44
1751039	Rock	4.20	0.040	0.3	121.0	4.5	27	0.3	1.0	4.5	91	3.35	5.8	33.3	3.0	85	<0.1	0.3	5.0	103	0.42
REP 1751039	QC		0.037																		
1751043	Rock	3.07	0.076	0.5	110.2	10.0	29	0.5	3.4	3.9	76	3.92	15.0	88.0	3.7	103	<0.1	0.4	11.0	72	0.16
REP 1751043	QC			0.4	108.0	9.7	30	0.5	3.2	3.8	74	3.89	14.7	91.2	3.6	103	0.1	0.3	10.9	72	0.18
1751066	Rock	4.97	0.039	0.2	140.5	22.3	34	0.9	1.6	2.0	80	2.39	8.0	90.6	12.2	43	<0.1	0.6	22.2	38	0.19
REP 1751066	QC			0.3	145.4	23.7	37	1.0	1.9	2.1	85	2.45	7.9	52.9	12.8	44	<0.1	0.7	23.4	38	0.18
1751072	Rock	3.56	0.019	1.3	64.1	12.6	26	0.2	2.7	2.4	107	2.25	7.9	17.6	13.3	110	0.1	0.5	7.9	47	0.42
REP 1751072	QC		0.023																		
1751075	Rock	2.79	0.023	1.1	21.8	14.2	25	0.2	3.4	3.7	103	2.38	9.0	19.1	11.5	130	0.2	0.3	2.7	46	0.52
REP 1751075	QC			1.4	22.5	14.7	24	0.1	3.6	3.2	103	2.34	10.0	24.6	11.3	129	0.3	0.4	2.8	44	0.53
Core Reject Duplicates																					
1751026	Rock	1.86	0.066	23.7	207.3	14.0	23	0.9	3.4	2.3	69	3.73	12.8	68.5	6.2	171	0.1	0.2	48.5	74	0.29
DUP 1751026	QC		0.078	27.6	210.9	14.8	33	1.0	3.4	2.5	65	3.78	13.6	56.9	6.5	174	0.2	0.9	47.1	73	0.28
1751061	Rock	3.72	0.024	0.5	48.0	12.7	31	0.2	3.7	3.1	64	2.08	12.7	25.6	10.9	42	0.1	0.5	3.6	27	0.28
DUP 1751061	QC		0.019	0.4	49.6	13.1	31	0.2	3.4	3.1	70	2.15	12.3	19.5	10.7	43	<0.1	0.4	3.7	29	0.29
Reference Materials																					
STD DS9	Standard			14.2	106.7	127.1	313	1.9	42.7	7.6	606	2.44	26.3	132.0	6.7	75	2.4	5.7	7.0	42	0.78
STD DS9	Standard			14.3	111.7	134.1	310	2.0	39.4	7.8	586	2.40	27.1	123.9	7.1	75	2.3	6.6	7.9	43	0.75
STD DS9	Standard			12.8	106.6	129.8	318	1.8	38.0	7.4	579	2.35	26.4	123.6	7.4	82	2.6	6.9	7.7	40	0.76
STD OXG99	Standard		0.901																		



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QUALITY CONTROL REPORT

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	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1751025	Rock	0.017	<1	1	13.11	18	0.002	<1	0.05	0.003	0.03	<0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2
1751060	Rock	0.044	13	7	1.01	42	0.002	<1	1.72	0.105	0.17	<0.1	<0.01	3.1	0.3	0.22	6	0.7	<0.2
Pulp Duplicates																			
1751005	Rock	0.065	5	2	1.06	22	0.146	2	2.50	0.304	0.17	0.3	<0.01	7.2	0.3	0.94	10	0.8	0.9
REP 1751005	QC																		
1751008	Rock	0.058	5	16	1.31	26	0.224	1	3.58	0.370	0.24	0.2	<0.01	10.1	0.5	0.82	13	1.3	0.8
REP 1751008	QC	0.066	5	15	1.31	26	0.203	2	3.68	0.376	0.23	0.2	<0.01	10.0	0.5	0.82	12	0.5	0.8
1751031	Rock	0.053	4	5	1.58	23	0.099	<1	2.90	0.239	0.21	0.3	<0.01	6.1	0.5	0.66	12	<0.5	0.8
REP 1751031	QC	0.056	4	5	1.50	24	0.099	<1	2.80	0.231	0.21	0.3	<0.01	6.0	0.5	0.66	11	0.6	1.0
1751039	Rock	0.062	6	2	1.16	36	0.184	<1	2.33	0.232	0.27	0.2	<0.01	7.2	0.7	0.84	9	1.0	0.9
REP 1751039	QC																		
1751043	Rock	0.055	7	7	0.98	37	0.117	<1	1.99	0.193	0.25	0.2	<0.01	5.9	0.6	0.74	8	1.0	1.3
REP 1751043	QC	0.054	7	7	0.98	37	0.115	2	1.99	0.193	0.25	0.2	<0.01	5.2	0.6	0.74	8	1.2	1.3
1751066	Rock	0.041	12	7	0.99	30	0.037	<1	1.71	0.097	0.16	0.3	<0.01	3.3	0.3	0.28	6	<0.5	1.0
REP 1751066	QC	0.041	12	7	1.06	32	0.039	<1	1.77	0.100	0.17	0.2	<0.01	3.6	0.3	0.27	6	<0.5	0.8
1751072	Rock	0.042	14	9	0.90	52	0.088	<1	1.94	0.123	0.13	0.4	<0.01	5.1	0.3	0.26	7	0.8	0.5
REP 1751072	QC																		
1751075	Rock	0.040	10	10	0.91	66	0.060	2	2.29	0.178	0.18	0.5	<0.01	4.6	0.4	0.50	7	1.0	0.2
REP 1751075	QC	0.036	10	10	0.91	67	0.060	<1	2.31	0.178	0.18	0.5	<0.01	4.6	0.4	0.50	7	1.2	<0.2
Core Reject Duplicates																			
1751026	Rock	0.068	10	8	0.93	50	0.083	<1	2.77	0.222	0.24	0.3	<0.01	6.2	0.4	0.61	9	0.8	4.4
DUP 1751026	QC	0.073	11	8	1.04	55	0.092	<1	2.68	0.226	0.24	0.4	<0.01	6.1	0.5	0.64	9	0.7	4.5
1751061	Rock	0.041	12	7	0.74	37	0.001	<1	1.72	0.104	0.15	<0.1	<0.01	2.5	0.2	0.17	6	<0.5	<0.2
DUP 1751061	QC	0.044	12	7	0.77	42	0.001	<1	1.88	0.112	0.18	<0.1	<0.01	2.9	0.3	0.16	6	<0.5	<0.2
Reference Materials																			
STD DS9	Standard	0.079	15	126	0.64	314	0.119	3	1.01	0.092	0.41	3.3	0.21	2.3	5.6	0.17	5	5.9	5.2
STD DS9	Standard	0.083	14	125	0.63	315	0.116	3	0.99	0.093	0.42	3.1	0.22	2.5	5.6	0.17	5	5.5	5.3
STD DS9	Standard	0.085	15	121	0.63	306	0.124	2	0.99	0.086	0.40	3.2	0.21	2.8	5.4	0.16	5	6.0	5.2
STD OXG99	Standard																		

QUALITY CONTROL REPORT

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		WGHT	G6	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.005	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
STD OXG99	Standard	0.948																			
STD OXG99	Standard	0.966																			
STD OXG99	Standard	0.947																			
STD OXK94	Standard	3.588																			
STD OXK94	Standard	3.782																			
STD OXK94	Standard	3.535																			
STD OXK94	Standard	3.518																			
STD OXK94	Standard	3.652																			
STD DS9 Expected		12.84 108 126 317 1.83 40.3 7.6 575 2.33 25.5 118 6.38 69.6 2.4 4.94 6.32 40 0.7201																			
STD OXG99 Expected		0.932																			
STD OXK94 Expected		3.562																			
BLK	Blank	<0.005																			
BLK	Blank	0.009																			
BLK	Blank	<0.1 0.1 <0.1 <1 <0.1 <0.1 <0.1 <1 <0.01 <0.5 <0.5 <0.1 <1 <0.1 <0.1 0.2 <2 <0.01																			
BLK	Blank	<0.005																			
BLK	Blank	<0.005																			
BLK	Blank	0.008																			
BLK	Blank	<0.005																			
BLK	Blank	<0.1 0.1 <0.1 <1 <0.1 <0.1 <0.1 <1 <0.01 <0.5 <0.5 <0.1 <1 <0.1 <0.1 <0.1 <2 <0.01																			
BLK	Blank	<0.1 <0.1 <0.1 <1 <0.1 <0.1 <0.1 <1 <0.01 <0.5 <0.5 <0.1 <1 <0.1 <0.1 <0.1 <2 <0.01																			
BLK	Blank	0.010																			
BLK	Blank	<0.005																			
BLK	Blank	<0.005																			
Prep Wash																					
G1-WHI	Prep Blank	0.007 0.1 9.7 4.5 44 <0.1 2.7 3.7 545 1.84 2.1 1.4 5.2 68 <0.1 0.1 0.1 36 0.46																			
G1-WHI	Prep Blank	0.006 0.1 8.2 5.2 51 <0.1 2.7 4.0 572 1.90 1.4 <0.5 5.7 65 <0.1 0.3 <0.1 38 0.49																			



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		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
STD OXG99	Standard																	
STD OXG99	Standard																	
STD OXG99	Standard																	
STD OXK94	Standard																	
STD OXK94	Standard																	
STD OXK94	Standard																	
STD OXK94	Standard																	
STD OXK94	Standard																	
STD DS9 Expected		0.0819	13.3	121	0.6165	295	0.1108		0.9577	0.0853	0.395	2.89	0.2	2.5	5.3	0.1615	4.59	5.2
STD OXG99 Expected																		
STD OXK94 Expected																		
BLK	Blank																	
BLK	Blank																	
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5
BLK	Blank																	
BLK	Blank																	
BLK	Blank																	
BLK	Blank																	
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	0.1	<0.1	<0.05	<1	<0.5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5
BLK	Blank																	
BLK	Blank																	
BLK	Blank																	
Prep Wash																		
G1-WHI	Prep Blank	0.071	10	4	0.48	164	0.104	2	0.92	0.105	0.50	0.1	0.01	2.1	0.3	<0.05	5	<0.5
G1-WHI	Prep Blank	0.076	13	6	0.51	180	0.129	2	0.90	0.098	0.51	<0.1	<0.01	2.3	0.3	<0.05	5	<0.5



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Submitted By: Email Distribution List -Proj Charlotte

Receiving Lab: Canada-Whitehorse

Received: June 22, 2012

Report Date: July 09, 2012

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CERTIFICATE OF ANALYSIS

WHI12000164.1

CLIENT JOB INFORMATION

Project: Charlotte Project
Shipment ID: Char12-02
P.O. Number
Number of Samples: 36

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
STOR-RJT Store After 90 days Invoice for Storage

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Coast Mountain Geological
620 - 650 W. Georgia St.
PO Box 11604
Vancouver BC V6B 4N9
Canada

CC: Peter Dadson
Gary Schellenberg
Jay Page

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	36	Crush, split and pulverize 250 g rock to 200 mesh			WHI
1DX2	36	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
G601	36	Fire Assay fusion Au by ICP-ES	30	Completed	VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. ** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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CERTIFICATE OF ANALYSIS

WHI12000164.1

	Method Analyte Unit MDL	WGHT	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
1751076	Rock	4.22	0.7	69.2	9.4	34	0.2	4.0	3.3	146	2.49	5.7	5.3	11.0	26	0.2	0.3	3.5	58	0.25	0.050
1751077	Rock	3.29	1.4	81.8	41.1	32	0.8	3.2	2.8	138	2.91	23.6	25.4	10.2	28	0.2	0.4	5.8	54	0.22	0.051
1751078	Rock	3.76	0.5	56.2	7.0	28	0.1	4.3	2.9	170	2.56	4.2	5.4	10.1	31	0.1	0.3	2.2	73	0.38	0.052
1751079	Rock	3.60	0.5	37.5	6.6	28	0.2	3.7	3.4	168	2.43	4.9	6.4	9.2	30	<0.1	0.2	2.2	69	0.38	0.052
1751080	Rock	2.11	0.4	61.2	8.0	29	0.4	4.4	4.0	163	2.43	6.0	13.7	9.1	37	0.1	0.4	7.0	65	0.36	0.051
1751081	Rock	1.25	0.5	59.3	10.2	28	0.6	3.0	2.4	144	2.54	6.7	16.1	10.1	37	<0.1	0.4	9.2	63	0.28	0.049
1751082	Rock	3.19	0.5	56.9	10.7	32	0.6	3.5	4.5	169	2.50	15.9	14.0	10.5	30	0.2	0.3	3.5	63	0.38	0.051
1751083	Rock	5.86	0.4	53.7	10.0	31	0.3	3.8	3.9	186	2.64	4.4	44.8	9.9	29	0.1	0.3	4.9	69	0.33	0.050
1751084	Rock	1.81	0.5	53.7	10.2	33	0.2	3.9	2.7	173	2.43	4.7	27.6	10.2	32	0.1	0.4	3.3	62	0.38	0.049
1751085	Rock	4.24	0.6	48.4	9.3	25	0.1	4.1	3.5	168	2.50	4.6	6.1	10.0	29	0.2	0.4	3.1	64	0.40	0.046
1751086	Rock	3.31	0.6	45.1	9.7	32	0.1	3.8	5.3	182	2.45	3.5	7.6	10.1	31	0.2	0.3	4.9	69	0.44	0.051
1751087	Rock	4.83	0.4	43.6	10.5	36	0.1	3.5	5.5	178	2.15	4.3	13.3	10.2	34	0.2	0.4	3.7	58	0.29	0.040
1751088	Rock	3.48	0.5	50.1	18.2	42	0.2	2.8	2.1	149	2.41	5.2	14.0	10.2	35	0.1	0.5	3.5	61	0.26	0.048
1751089	Rock	2.01	0.6	57.3	8.2	44	0.2	4.1	6.1	208	2.58	3.5	10.9	9.6	26	<0.1	0.3	3.2	69	0.35	0.051
1751090	Rock	1.65	0.5	41.1	9.6	36	0.1	4.5	11.2	224	2.77	3.1	3.8	11.3	29	0.1	0.3	1.8	64	0.36	0.050
1751091	Rock	2.55	1.2	20.8	46.7	18	0.8	1.5	2.5	46	2.33	32.3	84.6	9.7	20	<0.1	0.9	4.0	9	0.05	0.036
1751092	Rock	1.76	1.0	22.5	12.2	21	0.2	2.0	2.0	60	1.43	7.1	12.0	6.3	15	0.1	0.7	2.8	16	0.09	0.021
1751093	Rock	3.68	1.7	14.7	28.3	20	0.4	1.5	2.6	39	1.89	20.1	39.7	7.8	32	0.1	0.6	3.0	7	0.05	0.029
1751094	Rock	2.82	1.4	21.7	14.0	20	0.2	1.4	2.1	38	2.29	5.0	16.8	7.7	23	<0.1	0.4	3.1	10	0.05	0.032
1751095	Rock	2.30	1.1	29.1	15.7	26	0.2	1.6	2.2	56	2.22	4.9	23.1	10.0	36	0.1	0.6	3.0	19	0.08	0.039
1751096	Rock	2.19	1.8	19.8	24.0	23	0.8	1.9	2.4	105	2.03	6.1	12.3	7.2	36	<0.1	0.4	3.3	19	0.08	0.037
1751097	Rock	2.93	0.9	36.2	21.3	26	0.3	1.3	1.7	55	1.86	4.2	15.9	10.5	31	0.1	0.4	3.1	18	0.04	0.037
1751098	Rock	2.29	1.8	15.0	48.1	13	0.9	1.2	1.3	45	1.62	7.9	8.4	4.4	32	<0.1	3.2	5.5	11	0.04	0.036
1751099	Rock	2.89	1.2	18.8	30.8	16	0.8	1.2	1.8	64	2.23	5.6	14.0	7.8	33	<0.1	0.8	5.1	12	0.04	0.039
1751100	Rock	2.61	1.8	21.0	23.1	26	0.5	1.4	2.6	91	1.73	6.3	22.5	5.1	43	<0.1	0.9	5.9	14	0.04	0.028
1751101	Rock	1.71	1.2	41.0	14.4	46	0.3	2.3	3.1	77	2.61	4.0	9.9	10.9	51	0.2	0.5	11.1	30	0.09	0.049
1751102	Rock	1.82	1.0	32.7	26.9	34	0.6	2.1	2.5	76	2.35	7.3	34.7	8.6	27	0.2	2.5	3.9	27	0.09	0.033
1751103	Rock	2.19	0.9	44.9	22.7	42	0.2	2.8	3.0	78	2.21	4.7	34.0	11.6	18	0.3	0.9	3.7	31	0.09	0.042
1751104	Rock	2.34	2.2	36.8	17.7	37	0.2	2.9	2.6	111	2.56	2.9	16.0	11.7	33	0.2	0.5	4.8	40	0.12	0.042
1751105	Rock	1.85	1.4	42.8	15.9	42	0.1	2.7	3.4	119	2.78	2.4	15.2	11.7	40	0.2	0.7	2.6	44	0.13	0.040



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Project: Charlotte Project

Report Date: July 09, 2012

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	G6
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t	
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	
1751076	Rock	12	8	0.75	240	0.065	<1	1.41	0.074	0.27	0.1	<0.01	5.2	0.4	<0.05	5	<0.5	0.9	0.006	
1751077	Rock	11	8	0.72	617	0.054	<1	1.20	0.049	0.23	0.2	<0.01	5.0	0.3	0.13	5	<0.5	0.7	0.025	
1751078	Rock	14	9	0.83	179	0.141	<1	1.45	0.078	0.24	0.3	<0.01	4.9	0.4	<0.05	6	<0.5	<0.2	0.013	
1751079	Rock	12	8	0.78	219	0.143	<1	1.33	0.082	0.22	0.2	<0.01	4.5	0.3	<0.05	5	<0.5	0.3	0.007	
1751080	Rock	13	10	0.90	407	0.114	<1	1.41	0.093	0.20	0.2	<0.01	4.8	0.3	0.10	6	<0.5	0.5	0.014	
1751081	Rock	11	9	0.80	757	0.096	<1	1.23	0.064	0.20	0.1	<0.01	5.0	0.3	0.12	6	<0.5	0.4	0.014	
1751082	Rock	14	8	0.71	330	0.123	1	1.22	0.072	0.34	0.1	<0.01	4.3	0.4	0.08	5	<0.5	0.3	0.017	
1751083	Rock	13	8	0.85	484	0.122	<1	1.29	0.072	0.28	0.2	<0.01	5.0	0.4	0.09	5	<0.5	0.7	0.014	
1751084	Rock	13	8	0.84	173	0.127	<1	1.32	0.072	0.13	0.2	<0.01	4.3	0.2	0.06	6	<0.5	0.3	0.008	
1751085	Rock	12	8	0.71	140	0.127	1	1.21	0.077	0.16	0.3	<0.01	3.9	0.2	0.10	5	<0.5	0.2	0.014	
1751086	Rock	12	9	0.84	160	0.126	<1	1.34	0.092	0.18	0.4	<0.01	4.5	0.2	0.07	6	<0.5	0.4	0.007	
1751087	Rock	13	8	0.77	327	0.104	1	1.24	0.079	0.24	0.2	<0.01	4.7	0.4	0.07	5	<0.5	0.7	0.007	
1751088	Rock	14	9	0.84	396	0.078	1	1.33	0.075	0.18	0.2	<0.01	5.4	0.2	0.11	6	<0.5	0.5	0.027	
1751089	Rock	12	9	0.85	205	0.123	1	1.32	0.063	0.20	0.3	<0.01	5.3	0.3	<0.05	5	0.5	<0.2	0.011	
1751090	Rock	15	8	0.68	252	0.120	<1	1.27	0.085	0.31	0.2	<0.01	4.5	0.4	<0.05	4	<0.5	<0.2	0.005	
1751091	Rock	15	3	0.05	370	<0.001	1	0.52	0.026	0.30	<0.1	<0.01	1.3	0.3	0.13	1	0.7	<0.2	0.072	
1751092	Rock	16	3	0.18	156	0.009	2	0.66	0.016	0.29	0.1	<0.01	1.7	0.3	0.07	2	<0.5	0.3	0.014	
1751093	Rock	18	2	0.06	874	0.001	1	0.54	0.021	0.29	<0.1	0.01	1.1	0.3	0.12	1	1.0	0.3	0.043	
1751094	Rock	16	3	0.08	615	0.002	1	0.60	0.029	0.30	<0.1	<0.01	1.1	0.3	0.10	1	0.7	0.3	0.021	
1751095	Rock	17	4	0.21	207	0.003	<1	0.67	0.045	0.22	<0.1	<0.01	2.0	0.3	0.14	2	0.5	0.2	0.031	
1751096	Rock	18	4	0.23	708	0.009	2	0.82	0.027	0.41	0.1	<0.01	1.9	0.4	0.21	3	0.7	0.3	0.009	
1751097	Rock	23	3	0.20	125	0.002	1	0.66	0.046	0.27	<0.1	<0.01	2.1	0.3	0.16	2	0.7	0.3	0.022	
1751098	Rock	16	3	0.14	506	0.006	<1	0.63	0.022	0.39	0.1	<0.01	1.7	0.3	0.29	2	1.3	0.4	0.015	
1751099	Rock	14	3	0.11	513	0.002	<1	0.56	0.026	0.32	<0.1	<0.01	1.4	0.2	0.22	2	1.2	0.4	0.018	
1751100	Rock	18	4	0.19	724	0.003	<1	0.70	0.032	0.34	<0.1	<0.01	1.7	0.3	0.18	2	1.2	0.5	0.011	
1751101	Rock	14	5	0.35	616	0.004	<1	0.86	0.074	0.22	<0.1	<0.01	3.1	0.3	0.22	3	0.7	0.3	0.011	
1751102	Rock	16	5	0.29	143	0.003	<1	0.96	0.052	0.31	<0.1	<0.01	3.1	0.4	0.23	3	0.6	0.3	0.019	
1751103	Rock	12	5	0.35	107	0.003	<1	0.88	0.035	0.22	<0.1	<0.01	3.4	0.2	0.06	3	<0.5	0.3	0.033	
1751104	Rock	15	7	0.53	131	0.004	<1	1.13	0.073	0.23	<0.1	0.01	3.8	0.3	0.14	4	<0.5	0.5	0.014	
1751105	Rock	11	8	0.80	232	0.004	<1	1.35	0.080	0.19	<0.1	<0.01	4.9	0.3	0.19	6	<0.5	0.5	0.013	



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Project: Charlotte Project
Report Date: July 09, 2012

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	WGHT	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
1751106	Rock	2.77	1.1	34.2	23.2	44	0.2	2.4	1.8	119	2.56	6.7	19.9	11.1	47	0.1	0.6	3.5	40	0.12	0.036
1751107	Rock	3.53	0.8	57.0	16.1	38	0.4	3.1	2.4	109	2.70	5.0	16.9	9.9	39	<0.1	0.7	11.8	49	0.20	0.041
1751108	Rock	3.43	0.4	69.4	13.7	37	0.3	2.2	1.4	111	2.41	5.3	14.4	10.6	28	<0.1	1.0	11.0	47	0.17	0.033
1751109	Rock	3.08	0.5	40.6	10.8	35	0.3	2.3	1.6	101	2.32	3.4	14.6	10.1	33	<0.1	0.7	5.2	40	0.12	0.034
1751110	Rock	2.24	0.6	56.1	12.4	33	0.3	2.2	1.7	117	2.49	5.1	21.9	10.7	33	<0.1	0.7	8.1	43	0.16	0.035
1751111	Rock	0.29	<0.1	1.3	11.3	6	<0.1	2.1	1.6	189	0.42	<0.5	<0.5	0.1	40	<0.1	0.2	<0.1	<2	21.49	0.018



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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	G6
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
1751106	Rock	13	8	0.84	537	0.006	<1	1.43	0.098	0.21	0.1	<0.01	4.2	0.3	0.24	6	<0.5	0.5	0.023
1751107	Rock	13	10	0.80	223	0.033	<1	1.47	0.090	0.14	<0.1	<0.01	5.2	0.2	0.14	7	<0.5	3.1	0.018
1751108	Rock	15	8	0.81	146	0.025	1	1.33	0.069	0.17	<0.1	<0.01	4.8	0.3	0.08	7	<0.5	2.1	0.013
1751109	Rock	10	7	0.80	153	0.009	<1	1.25	0.085	0.19	<0.1	<0.01	4.2	0.3	0.17	6	<0.5	0.8	0.017
1751110	Rock	15	8	0.77	113	0.026	<1	1.23	0.092	0.19	<0.1	<0.01	4.4	0.3	0.16	6	0.6	1.7	0.017
1751111	Rock	<1	1	11.53	16	0.002	<1	0.05	0.002	0.03	<0.1	<0.01	0.4	<0.1	<0.05	<1	<0.5	<0.2	<0.005



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QUALITY CONTROL REPORT

WHI12000164.1

	Method Analyte Unit MDL	WGHT	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
Pulp Duplicates																					
1751089	Rock	2.01	0.6	57.3	8.2	44	0.2	4.1	6.1	208	2.58	3.5	10.9	9.6	26	<0.1	0.3	3.2	69	0.35	0.051
REP 1751089	QC		0.7	59.6	8.5	45	0.2	4.5	6.4	203	2.64	3.2	7.3	9.5	27	0.2	0.3	3.0	70	0.37	0.053
1751100	Rock	2.61	1.8	21.0	23.1	26	0.5	1.4	2.6	91	1.73	6.3	22.5	5.1	43	<0.1	0.9	5.9	14	0.04	0.028
REP 1751100	QC																				
1751111	Rock	0.29	<0.1	1.3	11.3	6	<0.1	2.1	1.6	189	0.42	<0.5	<0.5	0.1	40	<0.1	0.2	<0.1	<2	21.49	0.018
REP 1751111	QC		<0.1	1.6	20.6	6	<0.1	<0.1	1.5	195	0.43	<0.5	<0.5	<0.1	40	<0.1	0.4	<0.1	<2	21.53	0.018
Core Reject Duplicates																					
1751096	Rock	2.19	1.8	19.8	24.0	23	0.8	1.9	2.4	105	2.03	6.1	12.3	7.2	36	<0.1	0.4	3.3	19	0.08	0.037
DUP 1751096	QC		1.9	20.6	23.0	24	0.8	1.7	2.5	108	2.02	6.6	8.8	7.4	37	<0.1	0.5	3.3	18	0.07	0.034
Reference Materials																					
STD DS9	Standard		12.9	103.8	113.5	287	1.8	39.5	7.2	585	2.26	24.4	113.2	5.6	68	2.0	5.2	5.9	39	0.70	0.079
STD DS9	Standard		13.2	106.2	116.6	298	1.8	40.0	7.3	570	2.39	23.8	112.6	6.0	66	2.0	5.7	5.7	38	0.69	0.079
STD OXG99	Standard																				
STD OXG99	Standard																				
STD OXK94	Standard																				
STD OXK94	Standard																				
STD OXK94 Expected																					
STD OXG99 Expected																					
STD DS9 Expected			12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
Prep Wash																					
G1-WHI	Prep Blank		0.2	2.9	2.7	44	<0.1	2.9	4.2	529	1.90	<0.5	<0.5	5.6	54	<0.1	<0.1	0.1	38	0.47	0.087
G1-WHI	Prep Blank		0.2	2.4	2.7	43	<0.1	2.5	4.0	532	1.87	<0.5	0.9	5.1	61	<0.1	<0.1	<0.1	37	0.49	0.075



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Project: Charlotte Project

Report Date: July 09, 2012

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QUALITY CONTROL REPORT

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	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	66
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
	MDL	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
Pulp Duplicates																			
1751089	Rock	12	9	0.85	205	0.123	1	1.32	0.063	0.20	0.3	<0.01	5.3	0.3	<0.05	5	0.5	<0.2	0.011
REP 1751089	QC	13	9	0.87	217	0.130	<1	1.35	0.065	0.20	0.3	<0.01	5.4	0.3	<0.05	5	<0.5	<0.2	
1751100	Rock	18	4	0.19	724	0.003	<1	0.70	0.032	0.34	<0.1	<0.01	1.7	0.3	0.18	2	1.2	0.5	0.011
REP 1751100	QC	0.015																	
1751111	Rock	<1	1	11.53	16	0.002	<1	0.05	0.002	0.03	<0.1	<0.01	0.4	<0.1	<0.05	<1	<0.5	<0.2	<0.005
REP 1751111	QC	<1	<1	11.90	16	0.002	<1	0.05	0.002	0.06	<0.1	<0.01	0.4	<0.1	<0.05	<1	<0.5	<0.2	
Core Reject Duplicates																			
1751096	Rock	18	4	0.23	708	0.009	2	0.82	0.027	0.41	0.1	<0.01	1.9	0.4	0.21	3	0.7	0.3	0.009
DUP 1751096	QC	17	4	0.21	666	0.008	<1	0.72	0.024	0.37	<0.1	<0.01	1.7	0.4	0.21	2	0.8	0.3	0.007
Reference Materials																			
STD DS9	Standard	12	113	0.60	289	0.105	2	0.91	0.077	0.39	2.7	0.19	2.1	5.1	0.17	4	5.5	4.5	
STD DS9	Standard	13	119	0.63	285	0.108	3	0.98	0.086	0.41	3.0	0.20	2.5	5.4	0.16	5	5.4	4.9	
STD OXG99	Standard	0.904																	
STD OXG99	Standard	0.966																	
STD OXK94	Standard	3.399																	
STD OXK94	Standard	3.728																	
STD OXK94 Expected		3.562																	
STD OXG99 Expected		0.932																	
STD DS9 Expected		13.3	121	0.6165	295	0.1108		0.9577	0.0853	0.395	2.89	0.2	2.5	5.3	0.1615	4.59	5.2	5.02	
BLK	Blank	<0.005																	
BLK	Blank	<0.005																	
BLK	Blank	<0.005																	
BLK	Blank	<0.005																	
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2	
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2	
Prep Wash																			
G1-WHI	Prep Blank	12	5	0.51	184	0.122	<1	0.88	0.083	0.50	<0.1	<0.01	2.2	0.4	<0.05	5	<0.5	<0.2	<0.005
G1-WHI	Prep Blank	12	5	0.49	154	0.110	<1	0.87	0.076	0.48	0.1	<0.01	2.4	0.3	<0.05	4	<0.5	<0.2	<0.005

APPENDIX 7

Acme Laboratory Technical Sheets

METHOD SPECIFICATIONS

GENERAL SAMPLE PREPARATION METHODS

Receiving: Samples arrive via courier, post or by client drop-off; shipment inspected for completeness.

Sorting and Inspection: Samples sorted and inspected for quality of use (quantity and condition). Pulp samples inspected for homogeneity and fineness.

SOILS

SS80, S230, SSXX Drying and Sieving: Wet or damp soil samples are dried at 60°C (Air dried or 40°C if specified by the client). Soil and sediment sieved to -80 mesh (SS80) or -230 mesh (S230), unless client specifies otherwise (SSXX). Sieves cleaned by brush and compressed air between samples.

SP100, SCP100 Pulverizing: Soils are pulverized to -100 mesh ASTM with an option of using a mild-steel pulverizer (SP100) or a ceramic pulverizer (SCP100), per 100g.

ROCKS AND DRILL CORE

R200-250, R200-500, R200-1000: Rock and Drill Core crushed to 80% passing 10 mesh (2 mm), homogenized, riffle split (250g, 500g, or 1000g subsample) and pulverized to 85% passing 200 mesh (75 microns). Crusher and pulverizer are cleaned by brush and compressed air between routine samples. Granite/Quartz wash scours equipment after high-grade samples, between changes in rock colour and at end of each file. Granite/Quartz is crushed and pulverized as first sample in sequence and carried through to analysis.

P200, PSCB: Samples requiring pulverizing only are dried at 60°C and pulverized to 85% passing 200 mesh (75 microns), using a mild-steel pulverizer (P200), per 250g or a ceramic pulverizer (PSCB), per 100g.

M150, M200s: Rock and Drill Core are crushed, pulverized and sieved, save +150 and -150 mesh fractions (M150) or +200 and -200 mesh fractions (M200) for metallic Au or Cu analysis. Typically 500g samples are sieved.

HPUL: Rock and Drill Core are pulverized by using a mortar and pestle.

VEGETATION

PM1: Plant material is dried then milled to 1mm

VA475: Up to 0.1 kg of wet vegetation is ashed by heating to 475°C.

WWSH: Plant samples are washed with Type-1 water then dried at 60°C prior to analysis, per 100g.

METHOD SPECIFICATIONS

GROUP 1D AND 1F – GEOCHEMICAL AQUA REGIA DIGESTION

Package Codes: 1D01 to 1D03, 1DX1 to 1DX3, 1F01 to 1F07
Sample Digestion: HNO₃-HCl acid digestion
Instrumentation Method: ICP-ES (1D), ICP-MS (1DX, 1F)
Applicability: Sediment, Soil, Non-mineralized Rock and Drill Core

Method Description:

Prepared sample is digested with a modified Aqua Regia solution of equal parts concentrated HCl, HNO₃ and DI H₂O for one hour in a heating block of hot water bath. Sample is made up to volume with dilute HCl. Sample splits of 0.5g, 15g or 30g can be analyzed.

For 1F07, Lead isotopes (Pb₂₀₄, Pb₂₀₆, Pb₂₀₇, Pb₂₀₈) are suitable for geochemical exploration of U and other commodities where gross differences in natural to radiogenic Pb ratios, is a benefit. Isotope values can be reported in both concentrations and intensities. Sample splits of 0.25g, 0.5g, 15g or 30g can be analyzed.

Element	Group 1D Detection	Group 1DX Detection	Group 1F Detection	Upper Limit
Ag	0.3 ppm	0.1 ppm	2 ppb	100 ppm
Al*	0.01%	0.01%	0.01%	10%
As	2 ppm	0.5 ppm	0.1 ppm	10000 ppm
Au	2 ppm	0.5 ppb	0.2 ppb	100 ppm
B*^	20 ppm	20 ppm	20 ppm	2000 ppm
Ba*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Bi	3 ppm	0.1 ppm	0.02 ppm	2000 ppm
Ca*	0.01%	0.01%	0.01%	40%
Cd	0.5 ppm	0.1 ppm	0.01 ppm	2000 ppm
Co	1 ppm	0.1 ppm	0.1 ppm	2000 ppm
Cr*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Cu	1 ppm	0.1 ppm	0.01 ppm	10000 ppm
Fe*	0.01%	0.01%	0.01%	40%
Ga*	-	1 ppm	0.1 ppm	1000 ppm
Hg	1 ppm	0.01 ppm	5 ppb	50 ppm
K*	0.01%	0.01%	0.01%	10%
La*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Mg*	0.01%	0.01%	0.01%	30%
Mn*	2 ppm	1 ppm	1 ppm	10000 ppm
Mo	1 ppm	0.1 ppm	0.01 ppm	2000 ppm

Element	Group 1D Detection	Group 1DX Detection	Group 1F Detection	Upper Limit
Na*	0.01%	0.001%	0.001%	5%
Ni	1 ppm	0.1 ppm	0.1 ppm	10000 ppm
P*	0.001%	0.001%	0.001%	5%
Pb	3 ppm	0.1 ppm	0.01 ppm	10000 ppm
S	0.05%	0.05%	0.02%	10%
Sb	3 ppm	0.1 ppm	0.02 ppm	2000 ppm
Sc	-	0.1 ppm	0.1 ppm	100 ppm
Se	-	0.5 ppm	0.1 ppm	100 ppm
Sr*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Te	-	0.2 ppm	0.02 ppm	1000 ppm
Th*	2 ppm	0.1 ppm	0.1 ppm	2000 ppm
Ti*	0.01%	0.001%	0.001%	5%
Tl	5 ppm	0.1 ppm	0.02 ppm	1000 ppm
U*	8 ppm	0.1 ppm	0.05 ppm	2000 ppm
V*	1 ppm	2 ppm	2 ppm	10000 ppm
W*	2 ppm	0.1 ppm	0.05 ppm	100 ppm
Zn	1 ppm	1 ppm	0.1 ppm	10000 ppm
Be*	-	-	0.1 ppm	1000 ppm
Ce*	-	-	0.1 ppm	2000 ppm
Cs*	-	-	0.02 ppm	2000 ppm
Ge*	-	-	0.1 ppm	100 ppm
Hf*	-	-	0.02 ppm	1000 ppm
In	-	-	0.02 ppm	1000 ppm
Li*	-	-	0.1 ppm	2000 ppm
Nb*	-	-	0.02 ppm	2000 ppm
Rb*	-	-	0.1 ppm	2000 ppm
Re	-	-	1 ppb	1000 ppb
Sn*	-	-	0.1 ppm	100 ppm
Ta*	-	-	0.05 ppm	2000 ppm
Y*	-	-	0.01 ppm	2000 ppm
Zr*	-	-	0.1 ppm	2000 ppm
Pt*	-	-	2 ppb	100 ppm
Pd*	-	-	10 ppb	100 ppm
Pb ₂₀₄	-	-	0.01 ppm	10000 ppm
Pb ₂₀₆	-	-	0.01 ppm	10000 ppm
Pb ₂₀₇	-	-	0.01 ppm	10000 ppm
Pb ₂₀₈	-	-	0.01 ppm	10000 ppm

* Solubility of some elements will be limited by mineral species present.

^Detection limit = 1 ppm for 15g / 30g analysis.

Limitations:

Au solubility can be limited by refractory and graphitic samples.

METHOD SPECIFICATIONS

GROUP 3B AND G6 – PRECIOUS METALS BY FIRE ASSAY FUSION

Package Codes: 3B01 to 3B04, G601 to G614
Sample Digestion: Lead-collection fire assay fusion
Instrumentation Method: ICP-ES (3B, G6), ICP-MS (3B-MS), AA (3B, G6), Gravimetric (G6)
Applicability: Rock, Drill Core

Method Description:

Prepared sample is custom-blended with fire-assay fluxes, PbO litharge and a Ag inquart. Firing the charge at 1050 °C liberates Ag ± Au ± PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950 °C to render a Ag ± Au ± PGEs dore bead. The bead is digested for ICP analysis or weighed and parted in ACS grade HNO₃ to dissolve Ag leaving a Au sponge. Au is weighed for Gravimetric determination; ACS grade HCl is added dissolving the Au ± PGE sponge for Instrument determination.

Element	3B Detection	3B Upper Limit	3B-MS Detection	3B-MS Upper Limit
Au	2 ppb	10000 ppb	1 ppb	10000 ppb
Pt	3 ppb	10000 ppb	0.1 ppb	10000 ppb
Pd	2 ppb	10000 ppb	0.5 ppb	10000 ppb

Element	G6 (Inst) Detection	G6 (Inst) Upper Limit	G6 (Grav) Detection	G6 (Grav) Upper Limit
Ag	--	--	50 g/t	1 ton
Au	0.005 g/t	10 g/t	0.9 g/t	1 ton
Pt	0.01 g/t	100 g/t	--	--
Pd	0.01 g/t	100 g/t	--	--

Note:

*Sulphide-rich samples require a 15g or smaller sample for proper fusion.

METHOD SPECIFICATIONS

GROUP 7TD AND 7TX – ASSAY FOUR-ACID DIGESTION

Package Codes: 7TD1, 7TD2, 7TD3, 7TX1
Sample Digestion: HF-HNO₃-HClO₄ acid digestion
Instrumentation Method: ICP-ES (7TD, 7TX), ICP-MS (7TX)
Applicability: Rock and Drill Core

Method Description:

Prepared sample is digested to complete dryness with an acid solution of (2:2:1:1) H₂O-HF-HClO₄-HNO₃. 50% HCl is added to the residue and heated using a mixing hot block. After cooling the solutions are made up to volume with dilute HCl in class A volumetric flasks. Sample splits of 0.5g or 0.1g can be analyzed. Very high-grade samples are reweighed at lower weight to accommodate analysis up to 100% upper limit.

Element	Group 7TD Detection	Group 7TX Detection
Ag	2 g/t	0.5 ppm
Al*	0.01%	0.01%
As	0.02%	5 ppm
Ba*	-	5 ppm
Be	-	5 ppm
Bi	0.01%	0.5 ppm
Ca*	0.01%	0.01%
Cd	0.001%	0.5 ppm
Ce	-	5 ppm
Co	0.001%	1 ppm
Cr*	0.001%	1 ppm
Cu	0.001%	0.5 ppm
Fe*	0.01%	0.01%
Hf*	-	0.5 ppm
K	0.01%	0.01%
La	-	0.5 ppm
Li	-	0.5 ppm
Mg	0.01%	0.01%
Mn*	0.01%	5 ppm
Mo	0.001%	0.5 ppm
Na	0.01%	0.01%
Nb*	-	0.5 ppm
Ni	0.001%	0.5 ppm
P	0.01%	0.01%
Pb	0.02%	0.5 ppm

Element	Group 7TD Detection	Group 7TX Detection
Rb	-	0.5 ppm
S*	0.05%	0.05%
Sb	0.01%	0.5 ppm
Sc	-	1 ppm
Sn*	-	0.5 ppm
Sr	0.01%	5 ppm
Ta*	-	0.5 ppm
Th	-	0.5 ppm
Ti*	-	0.001%
U	-	0.5 ppm
V	-	10 ppm
W*	0.01%	0.5 ppm
Y	-	0.5 ppm
Zn	0.01%	5 ppm
Zr*	-	0.5 ppm

Limitations:

*This digestion is only partial for some Cr and Ba minerals and some oxides of Al, Fe, Hf, Mn, Nb, S, Sn, Ta, Ti, W and Zr if refractory minerals are present.

†Volatilization may occur during fuming resulting in some loss of As and Sb.