

MINT PROPERTY

Grid East	Grid North	Easting	Northing	Elev.	Depth (m)
		505509	6852537	1682	462.38

ZONE: _____

SECTION: _____

HOLE: DDH-M12-02

CLAIM: YC99706

Contractor: Platinum Drilling

Drill: 1 _____

Core size: NQ2 Reduced at: _____ (m)

Casing depth: 9.10 (m) in / out

Drilling dates: JUNE 28 - JULY 5 2012

Geology logged by: NICK BUECKERT

SURVEY							
Depth (m)	Azimuth	Dip	Method	Depth (m)	Azimuth	Dip	Method
0	270*	-70	ranger	275	280.1	-71.9	ranger
35	276.2	-71.1	ranger	335	281.2	-72.1	ranger
125	277.2	-71.4	ranger	395	282.3	-72.2	ranger
215	278	-71.8	ranger	465	282.3	-72.2	ranger

TARGET: _____

[illegible]

SAMPLES	
Numbers:	M677001-M677239
Total:	239
Batch:	7
Date Sent:	July-August 2012
Certificate:	

COMMENTS	
EOH @ 462.38m	

Geology Log

Hole: DDH-M12-02

Logger: Nick Bueckert

Date: July 2012

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION	
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other			
																	Type	Intensity		Type			Conc. (%)
0.00	9.10	9.10																					Casing depth; core recovery at 8.81m drill depth
8.81	32.05					V1	MG	MD	GN	PO	1.00									0.50	DI		PROPYLITIC ALTERED VOLCANIC 1 (andesite) (V1) - Plagioclase andesite - Green to dark green medium- to coarse-grained plagioclase-hbl-mafics+/-chl-bearing, qtz-absent intermediate volcanic. Plagioclase typically crowded and may be absent in increasing propylitic alteration. Absence of plagioclase is associated with increase mafics. In interval, plagioclase is most abundant, mafics are altered or replaced by pyrite in stronger alteration zones. Plag and mafics are coarse-grained.
			8.81	13.50		V1										2.00							Fractured surfaces oxidized, core fractured > rubblely
																							PROPYLITIC ALTERED VOLCANIC 1 (andesite) (V1) - Plagioclase andesite - Green to dark green medium- to coarse-grained plagioclase-hbl-mafics+/-chl-bearing, qtz-absent intermediate volcanic. Plagioclase typically crowded and may be absent in increasing propylitic alteration. Absence of plagioclase is associated with increase mafics). In interval, plagioclase is most abundant, mafics are altered or replaced by pyrite in stronger alteration zones. Plag and mafics are coarse-grained.
			13.50	31.95		V1		md	gn	po	1.00									1.00	di		CONTACT - sharp. 20 cm zone of weak propylitic alteration between propylitic altered Volcanic 1 and sericitized clast-supported felsic breccia
			31.95	32.05		V1	FG													0.50	DI		VOLCANIC 1 (andesite) - clast-supported breccia (CBX) - Clast supported breccia is dominant within unit with minor zones of crackle and matrix-supported breccia. Clasts (1-7cm) are angular, silicified(?), fragments of Volcanic 1 and are generally not mineralized. Blebby pyrite <30%
32.05	116.94					V1		LT	GY	BX					1.00		SER	3.00	2.00	DI			
																				30.00	BL		
																							VOLCANIC 1 (andesite) - clast-supported breccia - Bleached white and light grey brecciated Volcanic 1. 3 -10% blebby py close to contact. Metre-scale zones of weak propylitic altered Volcanic 1 throughout. Sheeted py mineralized fractures throughout. Last 40 cm of interval is bleached Volcanic 1 and transition to a crackle breccia.
			32.05	33.35		V1		LT	GY	BX								SER	3.00	1.00	FX		
									WH											10.00	BL		
			33.55	35.51		V1		LT	GY	BX								SER	2.00	2.00	BL		BRECCIA - Lt green and white weakly propylitic Volcanic 1 with cm-scale crackle breccia zones with py mineralization. Downhole is flow-like cobble breccia
									WH									PRO	1.00	1.00	FX		
			35.51	36.98		V1		MD	GN	PO										1.00	BL		VOLCANIC 1 (andesite) - with minor zones (2 cm) of matrix-supported breccia. Local zones of py mineralization (blebs)
			36.98	37.71		V1		LT	GY	BX								SER	2.00	3.00	DI		VOLCANIC 1 (andesite) - CLAST AND MATRIX-SUPPORTED BRECCIA. Clast-supported breccia transition to matrix-supported breccia 1/2 way through interval. Matrix hosts pyrite mineralization as blebs; mineralization decreases down interval
									WH														
			37.71	38.50		V1		MD	GN	PO								PRO	2.00				VOLCANIC 1 (andesite) - Light, med, dark green. Chlorite replaced by pyrite
									DK	GN													
			38.50	39.79		V1		LT	GY	BX								SER	2.00	1.00	BL		VOLCANIC 1 (andesite)- clast-supported breccia - typical. Ankerite? present (light pink mineral, fizzes) (2 % local) in matrix
									WH														
			39.79	40.38		V1		MD	GN	PO													VOLCANIC 1 (andesite) - type case
																							VOLCANIC 1 (andesite)- clast-supported breccia - Well defined breccia. Subangular to angular sericitized VOLCANIC 1 (andesite) (2-10 cm clasts). Trace blebby py. Greenish tinge to core.
			40.38	41.30		V1		LT	GY	BX								SER	2.00	1.00	BL		
									WH														
			41.30	44.06		V1		MD	GN	PO								PRO	1.00				VOLCANIC 1 (andesite) - type case - chl-present, no py
																							VOLCANIC 1 (andesite)- clast-supported breccia - Subtle and well defined brecciation, local zones of blebby py in matrix. Py mineralization increases in vuggy zones (cm-scale vug zones). Ankerite infill occasional. Minor zones of weak propylitic altered volcanics (3 x 5-10 cm intervals) occur throughout interval.
			44.06	48.41		V1		LT	GY	BX								SER	2.00	2.00	FX		

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION		
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other				
																	Type	Intensity		Type			Conc. (%)	
									WH											8.00	BL			
			48.41	49.06		V1		LT	GY	PO								PRO	1.00	0.50	FX			VOLCANIC 1 (andesite) - Decrease in plagioclase abundance and grain size. Trace disseminated py on fractures
			49.06	54.43		V1		LT	GY	BX								SER	3.00	3.00	DI			VOLCANIC 1 (andesite) - clast-supported breccia - Increase in sericitic alteration (to moderate). Core vuggy +/- rubble. Brecciation consistently well-defined clast supported. Coarse-grained pyrite on most fracture surfaces. Minor zones of "unbrecciated" Volcanic 1 (weakly sericitized).
								LT	GN											6.00	DI			
			54.43	54.62		GO		LT	GY	GO								SER	4.00	6.00	DI			VOLCANIC 1 (andesite) - gougey clast-supported breccia- Gougey CBX w/ distinct zone of fine-grained py mineralization (6 %).
			54.62	55.07		V1	FG	LT	GN	AN								PRO	2.00					VOLCANIC 1 (andesite) - Aphanitic Volcanic 1 w/ increase in chl +py and decrease in plagioclase phenocrysts.
			55.07	56.05		V1		LT	GY	BX								SER	3.00	2.00	DI			VOLCANIC 1- clast-supported breccia - Core rubblely to competent. 20 cm clast supported breccia; rest of interval is crackle breccia. Coarse-grained pyrite in matrix
								LT	GN											5.00	FX			
			56.05	57.00		V1		MD	GN	AM								PRO	2.00					VOLCANIC 1 (andesite) - Amygdaloidal w/ chlorite replacement (1 cm avg amygds). Decrease in plagioclase porphyritic texture
			57.00	78.70		V1		LT	GY	BX								SER	3.00	2.00	DI			VOLCANIC 1- clast-supported breccia - Very large zone of dominantly CBX (85%) w/ minor zones (10-25 cm) of weak propylitic altered V1 (15%). Py mineralization is consistently 1-2% disseminated throughout. Py mineralization increase in zones of rubblely moderate-strong sericite alteration. Occasional py mineralization vugs w/ ankerite throughout. Breccia contacts are sharp and show increase in py mineralization
								LT	GN											10.00	BL			Coarse-grained disseminated py common along fractures. Clasts are weak-moderate propylitic + weak sericite altered Volcanic 1.
			78.70	81.34		V1	FG	MD	GN	AM								PRO	3.00	2.00	DI			VOLCANIC 1 (andesite) - POTASSIC ALTERATION - Lt green aphanitic + dark grey porphyritic, magnetic; mafics gained, plag phenos lost, qtz absent, chlorite-bearing (altered mafics), mafic porphyry. Sericite present.
								DK	GN	PO								POT	3.00					
																		SER	1.00					
			81.34	84.75		V1		LT	GY	BX					2.00			SER	2.00	2.00	DI			VOLCANIC 1 (andesite) - clast-supported breccia - Clast-supported and crackle breccia. 1-3% diss py throughout matrix, coarse-grained on fractures. 7% blebby py occurs in 2 cm zones of strong sericite alteration. Qtz present in coarse-grained Volcanic 1. 25 cm zone of silicification
								LT	GN									PRO	1.00	7.00	DI			
			84.75	87.86		V1		MD	GN	PO								PRO	2.00	1.00	DI			VOLCANIC 1 (andesite) - Type case - One 10 cm and 23 cm zone of brecciation. Py mineralization between clasts. Bottom breccia has 2 cm white gouge zone. Chl is replaced by coarse-grained py in V1.
										BX								SER	1.00	3.00	DI			
			87.86	90.24		V1		LT	GY	BX								SER	2.00	2.00	DI			VOLCANIC 1 (andesite) - clast-supported breccia - Sericitized, brecciated Volcanic 1, diss py throughout. Zones of stronger sericitization host stronger py mineralization (<7%). Core highly fractured, softish.
								DK	GY									SER	3.00	7.00	BL			
								LT	GN															
			90.24	93.86		V1		MD	GN	BX								PRO	3.00	2.00	DI			VOLCANIC 1 (andesite) - clast-supported breccia -"Washout breccia" - Matrix-supported breccia. Clasts are whiteish green, subrounded, coarse-grained chl-bearing, 1 cm - 6cm. Matrix is greyish green, plag-chl-phyr. Subtle distinction between clasts and matrix. Diss py (fine-grained) throughout with strong pyrite on fracture surfaces. Strong fluid flow? Occasional qtz-carb veinlet; no mineralization. Matrix is fine-grained w/ 2-10 mm clasts.
																		SER	2.00					
			93.86	105.76		V1		LT	GY	BX								SER	3.00	3.00	DI			VOLCANIC 1- (andesite) - clast-supported breccia - type case - Core softish, highly fractured. Increase in py mineralization. Diss py to coarse-grained to blebby and in occasional veinlets. Occasional zones of "washout" breccia. Soft zones have largest increase in py mineralization.

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION	
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other			
																	Type	Intensity		Type			Conc. (%)
									WH											30.00	BL		
								LT	GN											6.00	FX		
			105.76	111.90		V1		MD	GY	BX								OXI	3.00	1.00	DI		VOLCANIC 1 (andesite) - clast-supported breccia - 50% Clast-supported breccia and 50% washout breccia alternating. 20-30 cm zones of each. Zone is oxidized. Py mineralization decrease. Occasional mineralized matrix. ?As? In with py? ~108 m.
								LT	GN												As	5.00	
																				20.00	BL		
			111.90	113.00		V1		MD	GY	PO								PRO	2.00				VOLCANIC 1 (andesite) - classic case - except not as green - more greyish. Strong py replacement of chl. Not oxidized
								LT	GN														
			113.00	116.94		V1		LT	GN	BX								SER	1.00	2.00	VT		VOLCANIC 1 (andesite) - clast-supported breccia - oxidized CBX and "washout" breccias. CBX 70%, "washout" 30%. Matrix mainly oxidized (vs clasts). Py veinlets occur frequently ~ sheeted
								LT	GY									PRO	1.00				
116.94	132.92					MBX		LT	GY	BX								SER	<1				VOLCANIC 1 (andesite) - matrix-supported breccia - Lt grey matrix, greyish purple + greenish clasts, felsic matrix-supported breccia. Clasts - weak propylitic altered Volcanic 1 and Volcanic 2 (felsite). Matrix - microcrystalline with coarse breccia. Fine-grained mafics disseminated throughout. Trace sericite on fractures +/- pyrite. ?qtz-present? Clasts are 0.5-3cm avg < 6cm, subrounded and rounded. Unit not mineralized. Metre-scale zones of volcanics and felsic dikes occur in interval.
			116.94	117.18		DK		LT	GN	PO													INTERMEDIATE PORPHYRY DIKE (I.P.D.) - 25 cm wide. Lt greyish green coarse- to very coarse-grained plagioclase-phryic porphyry dike. Matrix v.f.g., trace f.g. mafics. Upper contact is oxidized - nature unknown, lower contact is fine-grained - chilled or flow banded.
								MD	GY														
			117.18	117.90		MBX		MD	GN	BX								PRO	1.00			X	VOLCANIC 1 (andesite) - matrix-supported breccia ('flow brecciated' volcanics) - Lt + md green flow banded transition to flow brecciated volcanics. Matrix supported. Clasts 0.6-4cm subrounded, rounded, "elongated" fragments of propylitic altered (weak) volcanic 1 and felsite. Matrix is medium green, fine-grained, coarse-clastic, variable light green and soft, intermediate chl-bearing. Flow direction observable (see structure log)
								LT	GN	FL													
			117.90	121.66		MBX		LT	GY	BX								SER	1.00				VOLCANIC 1 (andesite) - matrix-supported breccia - typical case - some 10cm zones of flow banding with 8-11cm clasts below. Increase in fluid movement.
			121.66	121.96		DK	DIO	LT	GN	PO													INTERMEDIATE PORPHYRY DIKE - same as 116.94 - 117.18m - see contact log
								MD	GY														
			121.96	122.50		MBX		LT	GN	BX								SER	1.00	1.00	DI		VOLCANIC 1 (andesite) - matrix-supported breccia - type case - except greener, fine-grained py and sericite throughout - see contact log (contact with volcanic 1)
								MD	GN														
			122.50	123.64		V1		LT	GN	PO								PRO	0.00				VOLCANIC 1 (andesite) - type case - plag grains "washout", grain size decrease (2mm), Decrease in mafics, no epidote, no visible chlorite = unaltered? Probably
			123.64	125.67		MBX		LT	GY	BX										1.00	ST		VOLCANIC 1- matrix-supported breccia - type case - occasional mineralized stringers ?py? No preferred orientation also some at start of interval 40 degree sheeted
			125.67	128.33		V1		LT	GN	AN								PRO	2.00				VOLCANIC 1 (andesite) - propylitic altered - plagioclase phenos barely distinguishable. Mafics increase and altered to chlorite. Overall more felsic-looking than other V1 (matrix that is). Qtz present. See contact log.
			128.33	129.20		V1		LT	GY	FL								SER	2.00	1.00	DI		VOLCANIC 1 - sericitic altered - chl phenocrysts very soft; plag very soft. 0.5cm-1cm flow bands for 55cm beneath contact
			129.20	132.91		MBX		MD	GY	BX								SER	1.00	1.00	DI		VOLCANIC 1 (andesite) - matrix-supported breccia - type case - softish translucent mineral present - bleached plag or chl? Occasional < 6cm clast of dark grey plag+chl bearing rock?? Oxidized fractures
								LT	GY														

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION						MINERALS			Photo	DETAILED DESCRIPTION				
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite			Other			
																	Type	Intensity				Type	Conc. (%)		
132.91	135.68					V1		DK	GN	BX PO FL								PRO	3.00				X	VOLCANIC 1 (andesite) - dog's breakfast - flow banded at upper contact w/ aggregates of purple mineral rimmed w/ qtz. Felsic fine-grained transition to green irregular flow bands into typical V1 but w/ breccia (lrg V1 clasts). Toward bottom of interval is a porphyritic flow (4cm @ 35 TCA) and cobble breccia (matrix supported) Clasts all a version of V1 (variable propylitic + sercitic alteration) Interval is propylitic altered; chl replaced by py occasional.	
135.68	152.04					V1		LT	GY	BX VU								SER	2.00	1.00	DI				VOLCANIC 1 (andesite)- clast-supported breccia - Dominantly CBX w/ 20% crackle breccia, 20% propylitic altered V1, 20% potassic alteration zone. CBX is more fractured and rubbley than minor intervals. Frequent vugs
			135.68	135.79		DY	DIO	MD	GY	PO								SER	3.00	7.00	BL				INTERMEDIATE PORPHYRY DIKE - plagioclase-phyr, very coarse-grained phenocrysts; py mineralization occurs/ starts downhole from lower contact
			135.79	138.00		V1		LT	GY	BX								SER	2.00	2.00	DI				VOLCANIC 1 (andesite) - clast-supported breccia - as described above. Coarse-grained pyrite on most fractures
			138.00	139.98		V1		LT	GY	BX						1.00		SER	3.00	7.00	BL				VOLCANIC 1 (andesite) - clast-supported breccia - type case - weak pervasive oxidation
			139.98	141.76		V1		LT	GY	BX								PRO	1.00	1.00	FX				VOLCANIC 1 (andesite)- clast-supported breccia - crackle breccia. Py mineralized in fractures. Occasional vugs with weak py mineralization. 30cm zone of weak propylitic altered Volcanic 1. Plag phenocrysts medium-grained.
			141.76	148.30		V1		LT	GY	BX								SER	3.00						VOLCANIC 1 (andesite)- clast-supported breccia (CBX>V1>SILICIFIED CBX) - Zone of dominantly CBX - type case - rubblely; weak propylitic altered V1 (30cm zones), and minor silicified CBX toward bottom of interval
						V1	MG	MD	GN	MA								PRO	1.00	1.00	DI				
						V1		LT	GY	BX					2.00										
			148.30	149.04		V1		DK	GN	AM								POT	3.00						VOLCANIC 1 (andesite) - POTASSIC overprinted, amygdaloidal fine-grained V1; epidote in amygdaloids, chlorite throughout, MAGNETIC. Potassic overprint of sercitic. Fine-grained pyrite and sercitic present especially along fractures.
																		PRO	3.00						
																		SER	2.00	1.00	DI				
			149.04	151.67		V1		LT	GY	BX LT GN BX						1.00	SER	1.00	2.00	FX					VOLCANIC 1 (andesite)- clast-supported breccia - Brecciated V1 - Py mineralized in classic CBX - clasts look like medium-grained "felsite"= bleached white rock, mineralogy not recognizable, fine-grained pyrite throughout. Zones of subtle breccias are greenish w/ f.g. nonmagnetic mafics overprinting clasts and matrix. Increase in py mineralization toward bottom of interval also oxidation on fractures
			151.67	152.04		FT		MD	OR							5.00				3.00	FX				FAULT (?) - pervasive oxidation, coarse-grained pyrite on fractures
152.04	299.73					V1		MG DK	GN GN	MA MA								PRO POT	4.00 4.00	<1	DI				VOLCANIC 1 (andesite) - Strong propylitic alteration. Plagioclase phenocrysts absent. Coarse-grained chlorite-phyr with occasional replacement by pyrite. Epidote present as rims around chlorite. Sheeted carbonate stringers infrequent. Zones of potassic overprinting where core is dark green to black and strongly magnetic
			152.04	154.09		V1	FG	DK	GN BK	AN								POT	4.00						VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Dark green and black strongly magnetic potassic alteration overprinting propylitic alteration (minor chlorite grains present)
			154.09	154.53		V1	MG	MD	GN	AN								PRO	2.00						VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - weakly altered if at all. No obvious chlorite grains. Quartz present rimmed by milky white ?plagioclase or K-spar?
			154.53	157.63		V1	FG	DK	GN	AN								POT	4.00						VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - type case - infrequent sheeted calcite stringers

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION		
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other				
																	Type	Intensity		Type			Conc. (%)	
								BK																
			157.63	163.05		V1		MD	GN	PO								PRO	4.00	1.00	DI			VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Strong - Plagioclase phenocrysts absent; coarse-grained chlorite creates porphyritic texture. Epidote associated with chlorite; occasional pyrite replacement of chlorite. Epidote rims mafic mineral (not hematite, maybe silicate mineral) in fractures, around elongate mineral aggregates and amygdales. Infrequent sheeted calcite stringers
			163.05	163.68		V1		DK	GN	AN								POT	4.00					VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - type case. Overprinting propylitic alteration; chlorite present
			163.68	168.31		V1		MD	GN	PO								POT	4.00	1.00	DI			VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Plagioclase phenocrysts absent; coarse-grained chlorite-phyric; epidote rims chlorite; disseminated pyrite throughout
			168.31	171.89		V1	CG	LT	GN	PO								PRO	3.00	1.00	DI			VOLCANIC 1 (PROPYLITIC ALTERED) - Very coarse-grained chlorite "clusters" in very fine-grained matrix (cannot pick out matrix mineralogy). Cross-cutting pyrite stringers are infrequent
																				2.00	ST			
			171.89	176.27		V1		MD	GN	AN								PRO	3.00	0.50	DI			VOLCANIC 1 (PROPYLITIC ALTERED) - Medium-grained plagioclase phenocrysts present; Medium- to coarse-grained chlorite present; disseminated pyrite throughout and strongest on fractures
			176.27	176.74		V1		MD	GY	BX								SER	2.00	3.00	VT			VOLCANIC 1 (BRECCIATED, SERECITE ALTERED). Core highly fractured, gougey surfaces. Pyrite veinlets present
																		PRO	2.00	1.00	DI			
			176.74	180.19		V1		MD	GN	AN								PRO	4.00	1.00	DI			VOLCANIC 1 (PROPYLITIC ALTERED) - Plagioclased phenocrysts absent; chlorite-phyric with epidote replacement on rim; fine-grained disseminated pyrite throughout
			180.19	185.01		V1		LT	GY	AN					3.00			PRO	2?	2.00	VT			VOLCANIC 1 (andesite) - Variably silicified - Qtz-carb+/-py stringers; stockwork throughout; core texture "washed out"; medium-grained chlorite present. Matrix is very fine-grained. Core is oxidized and gougey in stringer zones; Rock type FUBAR. Core strongly sericitized. Fractures oxidized
																		SER	4.00	2.00	DI			
			185.01	188.40		V1		LT	GY	AN					1.00			SER	1.00	1.00	DI			VOLCANIC 1 (andesite) - (SERECITIZED + PROPYLITIC ALTERED) - Weak sercite alteration overprinting weak propylitic alteration. Faint chlorite present. Mineralogy "washout"; weak silicification? Fractures oxidized.
								LT	GN									PRO	1.00					
			188.40	190.70		V1			BK	AN								POT	5.00	2.00	ST			VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Medium-grained black altered minerals. 1cm qtz grains/clasts present. Infrequent chlorite-pyrite stringers and coarse clots. A 3 cm wide stringer zigzags along core axis for 20 cm. Mineralogy difficult to discern - probably propylitic altered Volcanic 1
								DK	GN									PRO	2.00					
			190.70	191.12		V1		MD	GY	AN					2.00			SER	1.00	1.00	DI			VOLCANIC 1 (andesite) - (SILICIFIED + SERECITE ALTERED) - Medium-grained chlorite +/- epidote present; pyrite on core fractures
			191.12	191.84		MBX		LT	BG	BX					2.00					2.00	CP	3.00		VOLCANIC 1 (andesite) - siliciclastic breccia - Clasts - beige and grey silicified volcanics(?) And quartz (subangular, 0.7-4cm). One clast (~4cm) hosts pyrite and chalcocite(?). Matrix - yellowish green, brecciated rock with green mineral and coarse-grained quartz. Chalcopyrite present in stringer at top of breccia
			191.84	195.70		V1			BK	AN								POT	4.00					
								DK	GN									PRO	3.00	2.00	DI			VOLCANIC 1 (POTASSIC ALTERED) - Magnetic. Chlorite+/- replaced by pyrite; epidote present - typical case
			195.70	196.95		V1		LT	GY	PO								PRO	3.00	2.00	DI			VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED + BRECCIA) - Brecciated and ?variably silicified? With propylitic matrix (Plagioclase Porphyry?) Coarse-grained chlorite-phyric and epidote present throughout. Disseminated pyrite concentrated in propylitic altered Volcanic 1 clasts. Less brecciated down interval, also looks more felsic
										BX										3.00	DI			

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION			
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other					
																	Type	Intensity		Type			Conc. (%)		
			196.95	197.21		V1		LT	GY	BX					3.00			PRO	2.00	2.00	DI			VOLCANIC 1 (andesite) - (SILICIFIED BRECCIA) - Mineralization elevated at beginning of interval (py). Intermediate Porphyry Dike (IPD) present (~8 cm). Chlorite-phyruc zone followed by silicified breccia with IPD again.	
			197.21	197.28		IPD		LT	GY	PO															
			197.28	198.02		V1		LT	GY	BX					3.00					2.00	DI				VOLCANIC 1 (andesite) - SILICIFIED BRECCIA - Mineralization elevated at beginning of interval (py). Intermediate Porphyry Dike (IPD) present (~8 cm). Chlorite-phyruc zone followed by silicified breccia with IPD again.
			198.02	205.25		V1		DK	GN	AN								POT	3.00	2.00	ST				VOLCANIC 1 (POTASSIC + PROPYLLITIC ALTERED) - type case - infrequent py-chl stringers + calcite stringers. Chl+epi+py amygdaloids present; chlorite-phyruc in dark green zones
									BK	AM										1.00	DI				
			205.25	205.47		V1		LT	GN									PRO	2.00	6.00	VN				QTZ-PY VEIN at alteration contact (see secondary structure log)
																									VOLCANIC 1(?) (andesite) - (PROPYLITIC ALTERED) - type case without plagioclase phenocrysts; chl-epi-py aggregates present. 2 sheeted qtz-carb-py veins present. Infrequent py stringers. Plagioclase phenocrysts reappear with chlorite-altered mafics. Matrix starting to look pretty felsic - CHANGING INTO INTRUSIVE?
			205.47	216.75		V1		LT	GN	AN								PRO	4.00	1.00	DI				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - type case - qtz present (coarse-grained)
			216.75	217.18		V1			BK	AN								POT	3.00						VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Plagioclase phenocrysts and chlorite present - minor pyrite mineralization zones 0.5-2 cm wide
			217.18	219.64		V1		LT	GN	AN								PRO	3.00	1.00	DI				Blebbpy pyrite in white alteration zone - not a real vein
			219.64	219.65					WH	VN										40.00	VN				
			219.65	224.33		V1		LT	GN	AN								PRO	3.00	1.00	DI				VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Plagioclase phenocrysts and chlorite present - minor pyrite mineralization zones 0.5-2 cm wide
			224.33	224.42		V1				BX					2.00					4.00	BL				VOLCANIC 1 (andesite) - (SILICIFIED BRECCIA) - Silicified breccia with cp + py in matrix. Clast supported; breccia silicified or sericitic altered
																				CP	5.00				
			224.42	228.29		V1		LT	GN	AN								PRO	3.00	1.00	DI				VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Plagioclase phenocrysts and chlorite present - minor pyrite mineralization zones 0.5-2 cm wide
			228.29	229.03		v1			BK	AN								POT	4.00						VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - type case - chl+epi+py aggregates; very coarse-grained qtz grains and clasts. 'Flow swirls.'
			229.03	230.43		V1		LT	GN	AN								PRO	3.00	1.00	DI				VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - like last propylitic interval - plagioclase phenocrysts increasing in grain size
			230.43	239.36		V1			BK	FL								POT	2.00						VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - very "swirly" propylitic altered Volcanic 1; Minor brecciation (subtle-looking) of Volcanic 1. Magnetism decreases in interval. Core mostly black. Carbonate stringers common
								DK	GN	BX															
			239.36	246.00		V1		LT	GN	FL					1.00			PRO	2.00						VOLCANIC 1 - (andesite) - (SILICA FLOODED + PROPYLITIC ALTERED) - Chl-qtz-plag recognizable
			242.02	242.16		V1		LT	GY	VN										10.00	VT				PY VEINLETS - Zone of py-qtz veinlets. One is soft and gougey (upper), one is discontinuous (lower)
			242.16	242.82		V1	IGE	MD	GY	BX					4.00					1.00	ST				VOLCANIC 1 (andesite) - SILICIFIED BRECCIA - Clasts are milky white with medium-grained py+/-chl matrix is silica. Py stringers
																									VOLCANIC 1 (andesite) - (POTASSIC ALTERED + BRECCIA) - Green with black swirls and subangular clasts, variably magnetic. Chl+/-py+/-epi aggregates present. Plagioclase looks as if recrystallized as "mats" with greenish tinge? Increasingly medium-grained plagioclase-phyruc toward bottom of interval
			242.82	249.02		V1			BK	AN								POT	3.00						
								DK	GN	BX															
			249.02	250.43		V1		MD	GY	BX					2.00										VOLCANIC 1 (andesite) - (SILICIFIED BRECCIA) - Grey + greenish matrix-supported breccia. Clasts aphanitic with fine-grained mafics. Matrix - grey crystalline qtz and crystalline quartz clasts 0.7-1cm. Breccia looks silica-flooded
			250.43	253.94		V1		LT	GN	AN					2.00			PRO	2.00						VOLCANIC 1 (andesite) - (SILICIFIED) - Plagioclase phenocrysts semi-recrystallized into grey matrix; medium- to coarse-grained chlorite+/-py present
								LT	GY																

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION	
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other			
																	Type	Intensity		Type			Conc. (%)
			253.94	254.34		V1		LT	GY	BX								SER	3.00	2.00	DI		VOLCANIC 1 (andesite) - clast-supported breccia - type case - pyrite with black sooty mineral (crushed py or chalcocite?) in matrix. Clasts type case
									WH											6.00	BX		
			254.34	254.88		V1		MD	GN	AN								PRO	2.00	2.00	ST		VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Plagioclase phenocrysts semi-recrystallized as matrix. Medium-grained chlorite present. Fine-grained py and sercite throughout. Py stringers infrequent
																		SER	1.00	2.00	DI		
			254.88	255.33		V1		LT	GY	AN								SER	3.00		Cc		VOLCANIC 1 (andesite) - (SERECITE ALTERED) - Increase in pyrite with black sooty mineral (Cc?); Core crumblyish
			255.33	257.50		V1		BK		AN								POT	4.00				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Medium-grained chlorite distinguishable
			257.50	260.34		V1		MD	GY	PO								PRO	1.00	1.00	DI		VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Weak alteration. Grey colour, plagioclase phenocrysts present (crowded). Hornblende altered to chlorite present. Discontinuous pyrite stringers throughout
																				1.00	FX		
			260.34	261.49		V1		MD	GY	PO								PRO	1.00	20.00	VT		VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Increase in pyrite mineralization. Three zones of py stringers and vug infill. General increase in qtz-py+/-carb stringers
			261.49	269.22		V1		MD	GY	PO								PRO	2.00				VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - same as 257.50-260.34m
								LT	GN														
			269.22	272.82		V1		LT	GN	PO								PRO	1.00				VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Contact between flows? Medium-grained plagioclase increasing to coarse-grained and crowded downhole; very abundant (50%)
								MD	GY														
			272.82	276.55		V1			BK	PO								POT	3.00				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Magnetic; chlorite distinguishable; plagioclase variably distinguishable; matrix crystalline. Sheeted qtz-carb+/-py stringers present - offset by other qtz-carb-py stringer (1.5cm offset)
								MD	GN									PRO	2.00	1.00	DI		
			276.55	277.91		V1		LT	GY	PO								SER	2.00	3.00	ST		VOLCANIC 1 (andesite) - (SERECITE ALTERED) Frequent py and qtz-carb+/-py veinlets with offset by 1 cm qtz-py vein.
																		PRO	2.00	1.00	DI		
			277.91	281.32		V1			BK	BX								POT	3.00				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Magnetic; faint cobble breccia texture; variably plag-phyric
								DK	BN	PO								PRO	3.00	2.00	DI		
			281.32	285.50		V1		LT	GN	PO					1?			PRO	2.00	1.00	DI		VOLCANIC 1 (andesite) - (PROPYLITIC ALTERED) - Weak alteration, crystalline matrix with plag phenocrysts (medium-grained) semi-recrystallized into matrix. Crystalline black matrix
			285.50	286.59		V1			BK	PO								POT	2.00				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Non-magnetic, matrix-supported breccia clasts of milky white Volcanic 1. Matrix crystalline black
								MD	GN	BX													
			286.59	286.76		V1		LT	GY	PO					3.00					25.00	BL		VOLCANIC 1 (andesite) - (SILICIFIED WITH SEMI-MASSIVE PY) - Silica flooded zone at contact between potassic and Volcanic 1. Crystalline rock with medium-grained disseminated py and semi-massive py 'infill'.
			286.76	287.92		V1		LT	GN	PO								PRO	2.00	1.00	DI		VOLCANIC 1 (andesite) - Hornblende altered to chlorite, plag phenocrysts present, crystalline matrix more greyish than green.
			287.92	289.20		V1			BK	BX								POT	4.00				VOLCANIC 1 (andesite) - (POTASSIC ALTERED) - Type case with green colour overprint. Large clast in ?porphyry dike? at lower contact. Xenolith in dike or altered clast from volcanics? YOUNGING EVIDENCE
								MD	GN														
			289.20	294.17		IPD		MD	GY	PO													INTERMEDIATE PORPHYRY DIKE - Plag porphyry dike. Chlorite-altered mafics present

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION		
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other				
																	Type	Intensity		Type			Conc. (%)	
			294.17	299.73		V1		LT	GY	BX					3.00		SER	2.00					VOLCANIC 1 (andesite) - (VARIABLY SILICIFIED) - Bleached white and grey variably silicified Volcanic 1 crackle breccia with milky white very fine-grained matrix. Medium to coarse-grained chlorite present, everything else crystalline. Transition into plag phenocryst crowded (medium-grained) Volcanic 1 with py stringers subparallel to core axis. NEW INTERVAL?	
									WH															
299.73	334.37					V1		MD	GN	PO								PRO	1.00	1.00	DI			VOLCANIC 1 (andesite) - (WEAKLY PROPYLITIC + POTASSIC ALTERED) - Plag phenocrysts throughout - very distinct. Metre scale zones of weak propylitic or potassic alteration. Potassic alteration magnetic - phenocrysts present. Increase in qtz-py stringers - stockwork (see secondary structure log)
								BK										POT	1.00	2.00	ST			
								MD	GY															
			299.73	304.67		V1		MD	GN	PO								PRO	1.00	1.00	DI			VOLCANIC 1 (andesite) - (WEAKLY PROPYLITIC + POTASSIC ALTERED) - Plag phenocrysts throughout - very distinct. Metre scale zones of weak propylitic or potassic alteration. Potassic alteration magnetic - phenocrysts present.
								BK										POT	1.00	2.00	ST			
								MD	GY															
			304.67	304.87		V1		MD	GY	BX										20.00	BX			PY MINERALIZED BRECCIA - Narrow brecciated vein with py in fine-grained matrix (1cm) at 20 TCA
			304.87	334.37		V1		MD	GN	PO								PRO	1.00	1.00	DI			VOLCANIC 1 (WEAKLY PROPYLITIC + POTASSIC ALTERED) - Plag phenocrysts throughout - very distinct. Metre scale zones of weak propylitic or potassic alteration. Potassic alteration magnetic - phenocrysts present.
								BK										POT	1.00	2.00	ST			
								MD	GY															
334.37	345.47					PP	CG		WH	PO								SER	1.00	1.00	DY	x		PLAGIOCLASE PORPHYRY - White and light grey qtz-bearing plag crowded diorite. Fine-grained mafics altered to py. Interval sericite altered. Frequent stockwork stringers.
								LT	GY											2.00	ST			
			345.47	354.24		PP		MD	GY	PO								POT	2.00					PLAGIOCLASE PORPHYRY (VARIABLY POTASSIC + SERICITIC ALTERED) - Interval of metre scale potassic and very weak sericite altered Plagioclase Porphyry. Strength of magnetism from weak to strong in potassic altered. Plag phenocrysts (medium-grained) in crystalline matrix present throughout alteration types throughout interval.
								BK										SER	1.00	0.50	DI			
			354.24	355.01		PP		MD	GY						3.00									PLAGIOCLASE PORPHYRY (SILICIFIED) - Type case, phenocrysts faint, chlorite replaced by py present
			355.01	357.12		PP			BK	AN								POT	4.00					PLAGIOCLASE PORPHYRY (POTASSIC ALTERED) - Crystalline black matrix with greenish phenocrysts (chlorite?)
			357.12	358.07		PP		MD	GY	PO								PRO	1.00	0.50	DI			PLAGIOCLASE PORPHYRY - Minor breccia zone, abundant qtz-carb-py veinlets along core axis - see secondary structure log
								BK										SER	1.00	10.00	VT			
			358.07	359.33		PP			BK	PO								POT	1.00					PLAGIOCLASE PORPHYRY (POTASSIC ALTERED) - Plag phenocrysts and black crystalline matrix
			359.33	361.94		PP		MD	GY	BX								POT	4.00					PLAGIOCLASE PORPHYRY (COBBLE BRECCIA + PY VEIN) - Top - 30cm of silicified cobble breccia (clasts fine-grained and black). Qtz +/- carb + py 0 degrees TCA, no selvage. Core fractured along vein
								BK		PO								POT	1.00	15.00	VN			
			361.94	363.87		PP			BK	PO								POT	4.00					PLAGIOCLASE PORPHYRY (POTASSIC ALTERED) - Very coarse-grained plag(?) phenocrysts in crystalline non-magnetic matrix. Stringers common
363.87	397.61					PP		LT	GN	PO								POT	2.00					PLAGIOCLASE PORPHYRY (VARIABLE POTASSIC + SERICITE ALTERED) - Plag phenocrysts distinct. Matrix colour varies with alteration. Stringers common. Occasional py veinlets (~8mm) +/- qtz +/- carb. See secondary structure log
								BK										SER	1.00					
			363.87	376.17		PP		LT	GN	PO								POT	2.00					PLAGIOCLASE PORPHYRY (VARIABLE POTASSIC + SERICITE ALTERED) - Plag phenocrysts distinct. Matrix colour varies with alteration.

Geology Log

GENERAL INTERVAL			DETAILED INTERVAL			LITHOLOGY					ALTERATION							MINERALS			Photo	DETAILED DESCRIPTION		
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Rock Type	Grain Size	Shade	Colour	Texture	Propylitic	Argillic	Phyllic	Potassic	Silic	Limonitic	Other		Pyrite	Other				
																	Type	Intensity		Type			Conc. (%)	
			376.17	376.27					BK									SER	1.00					Py vein, see secondary structure log
			376.27	378.69		PP		LT	GN BK	PO								POT SER	2.00 1.00					PLAGIOCLASE PORPHYRY (VARIABLE POTASSIC + SERICITE ALTERED) - Plag phenocrysts distinct. Matrix colour varies with alteration.
			378.69	379.20																				Gougey py veinlet, see secondary structure log
			386.38	386.82																				Carb - py vein, see secondary structure log
			392.03	393.04																				Py stringer, see secondary structure log
			393.04	396.61		PP		LT	GN BK	PO								POT SER	2.00 1.00					PLAGIOCLASE PORPHYRY (VARIABLE POTASSIC + SERICITE ALTERED) - Plag phenocrysts distinct. Matrix colour varies with alteration.
396.61	419.30					PP		LT	GY									SER	3.00					PLAGIOCLASE PORPHYRY (SERICITE ALTERED) - Light grey and white sericitic PP. Bleached variably. Increase in fracture zones mineralized with py. Subtle crackle breccias common. Py mineralized fractures, veinlets and stringers common.
			396.61	400.79		PP		LT	GY	PO								SER	3.00					PLAGIOCLASE PORPHYRY (SERICITE ALTERED) - Light grey and white sericitic PP. Bleached variably. Increase in fracture zones mineralized with py. Subtle crackle breccias common. Py mineralized fractures, veinlets and stringers common.
			400.79	404.55		PP		LT	GY WH	BX								SER	3.00	2.00	FX			PLAGIOCLASE PORPHYRY (CRACKLE BRECCIA) - Subtle crackle breccia with pyrite mineralized fractures. Clasts and matrix same composition, clasts 2-6cm slightly more felsic. One 30cm zone of sheeted py fractures (see secondary structure log)
			404.55	407.31		PP		LT	GY	PO								SER	1.00					PLAGIOCLASE PORPHYRY (WEAK SERICITE ALTERED) - local black potassic altered matrix.
			407.31	412.25		PP		LT	GY BK	BX								POT SER	3.00 2.00					COBBLE BRECCIA - Black fine-grained matrix and PP clasts. Rounded zone 20cm, zone of crack breccia, back into cobble breccia (matrix-supported). Py stringers and veinlets common. Zones of PP type case
			412.25	419.30		PP			WH LT	PO								SER	4.00	2.00	DI			BLEACHED PLAGIOCLASE PORPHYRY - White plagioclase with crystalline grey matrix All mafics replaced by py. Py stringers common
419.30	422.27					DD	MG		BK	MA														DIABASE DYKE - Black, medium-grained diabase dyke with calcite stringers and infill. Strongly magnetic.
422.27	462.38					PP			WH LT	PO AN								SER SER	4.00 5.00	2.00	DI cc		2.00	BLEACHED PLAGIOCLASE PORPHYRY - Type case. Infrequent py mineralized breccia zones and py stringers with chalcocite(?). Intense sericite alteration, white with fine-grained py. Qtz variably present
																				15.00	BL			
																				30.00	VT			
																				40.00	BX			
			422.27	424.80		PP			WH LT	AN GY								SER	5.00	1.00	DI			BLEACHED PLAGIOCLASE PORPHYRY - Mafics all fine-grained py, background semi-recrystallized plag phenocrysts in grey and white crystalline matrix.
			424.80	426.51		PP		LT	GY	PO								SER	2.00	1.00	DI 4.00	BL		PLAGIOCLASE PORPHYRY (WEAK SERICITE ALTERED) - Minor py blebs - type case
			426.51	436.71		PP			WH LT	AN GY								SER	5.00	2.00	DI 30.00	VT		BLEACHED PLAGIOCLASE PORPHYRY - Type case, infrequent py veinlets and veins - gougey core rubbly with gougey fractures, more competent at bottom of interval.
																				cc		5.00		
			436.71	445.15		PP	MG	LT	GY WH	PO								SER SER	2.00 5.00	2.00	DI 40.00	DI BX		PLAGIOCLASE PORPHYRY (VARIABLELY SERICITE ALTERED) Py + chalcocite(?) present as disseminations in gougey zones and in veinlets with white bleaching, also in brecciated vein. Core highly fractured.

Geology Log

[illegible]

n = none, t = <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

Contact Log

Hole: DDH-M12-02 Logger Name: Nick Bueckert

Date: July 2012

Depth (m)	DESCRIPTION
32.05	Sharp contact between propylitic altered volcanic 1 and sericite-altered felsic breccia; 31.95-32.05m -> 20cm zone of weak propylitic alteration with fine-grained disseminated pyrite; Contact 90 degrees to core axis
32.05 - 116.94	Very large interval of clast-supported breccia (CBX) w/ minor propylitic altered volcanic 1 zones (metre-scale). Contacts between CBX and Volcanic 1 are sharp, 90 degrees TCA. Occasional 10 cm zones of sericite alteration/ bleaching overprint propylitic altered Volcanic 1 at breccia contact (also sericite altered)
116.94, 117.18	Intermediate Porphyry Dike (IPD) - Upper contact - too oxidized to pinpoint - contact w/ matrix-supported breccia. Lower contact - 50 degrees to core axis with fine-grained chilled or flow-banded margin of similar composition. Below this margin (3cm thick) is a ~80cm zone of flow breccia
121.66	VOLCANIC 1 (matrix-supported breccia) - INTERMEDIATE PORPHYRY DIKE - 60 degrees TCA (upper) Lower contact - core is missing
122.50	VOLCANIC 1 (matrix-supported breccia) - VOLCANIC 1 (andesite) - 25 degrees TCA - could breccia in top of flow?
128.33	VOLCANIC 1 (andesite) (PRO altered) - VOLCANIC 1 (andesite) (SER altered) - 30 TCA - contact is faint - propylitic altered VOLCANIC 1 (andesite) is fine-grained and more felsic toward contact. Sericitic altered VOLCANIC 1 (andesite) is chlorite-phyric (chl very soft)
132.91	VOLCANIC 1 (matrix-supported breccia) - VOLCANIC 1 (andesite) - 25 to core axis - flow banded - contact faintly visible but distinct
135.68, 135.79	VOLCANIC 1 (matrix-supported breccia) - INTERMEDIATE PORPHYRY DIKE - VOLCANIC 1 (clast-supported breccia) - Upper and lower contacts recognized by lithology change. Py mineralization begins at lower contact
148.30, 149.04	VOLCANIC 1 (clast-supported breccia) - VOLCANIC 1 (andesite) (POT-PRO-SER) - 90 to core axis - contact faintly visible - colour change from light grey to dark green is gradational
	POT/PRO/SER VOLCANIC 1 (andesite) - VOLCANIC 1 (clast-supported breccia) - 90 degrees to core axis - contact "washed out" but colours reversed
151.67, 152.04	VOLCANIC 1 (clast-supported breccia) - FAULT - VOLCANIC 1 (andesite) (PRO-POT) - 40 degrees to core axis - contact sharp, pervasive oxidation but competent core in fault
157.63	VOLCANIC 1 (andesite)(POT) - VOLCANIC 1 (andesite)(PRO) - 35 degrees to core axis - contact indistinct - messy colour change
176.27, 176.74	VOLCANIC 1 (andesite)(PRO) - VOLCANIC 1 (breccia) - VOLCANIC 1 (andesite) (PRO) - 20 degrees to core axis - Zone of clast supported, sericite altered breccia, core is broken in zone of competent wallrock. Py veinlets present
191.12	VOLCANIC 1 (andesite) (POT) - QTZ BRECCIA - 45 degrees to core axis - orientation based on stringer with chalcopyrite, bottom contact not present
196.95, 198.02	VOLCANIC 1 (andesite) (POT) - SILICIC BRECCIA W/ INTERMEDIATE PORPHYRY DIKE - 90 degrees to core axis - sharp contact with gradual colour change
246.82, 246.08	VOLCANIC 1 (andesite) (PRO) - SILICIC BRECCIA - VOLCANIC 1 (andesite) (POT) - 85 degrees to core axis - sharp boundary, distinct colour change from dark green to grey

Contact Log

Depth (m)	DESCRIPTION
269.22	VOLCANIC 1 (andesite)-VOLCANIC 1 (andesite) - 20 degrees to core axis - coarse-grained VOLCANIC 1 (andesite) distinct contact with medium-grained VOLCANIC 1 (andesite)
285.50	VOLCANIC 1 (andesite) - VOLCANIC 1 (andesite) (POT) - 90 degrees to core axis
286.59	VOLCANIC 1 (andesite) (POT) - VOLCANIC 1 (andesite) (SILICIC) - 25 degrees to core axis - colour change sharp - black to grey
286.76	VOLCANIC 1 (andesite) (SILICIC) - VOLCANIC 1 (andesite) - 60 TCA contact sharp but "washout"
287.92	VOLCANIC 1 (andesite) - VOLCANIC 1 (andesite) (POT) - 55 TCA - contact flowlike, grain size maintained (medium to coarse-grained)
289.63	VOLCANIC 1 (andesite) (POT) - DK - 20 TCA - contact zig zags ~15 cm each zig. Potassic altered xenolith
294.17	DK - VOLCANIC 1 (andesite) (SILIC) - 40 TCA
334.37	VOLCANIC 1 (andesite) - PLAGIOCLASE PORPHYRY (SER) - 90 TCA - sharp contact and colour change, grey to white, addition of qtz
345.47	PLAGIOCLASE PORPHYRY (SER) - PLAGIOCLASE PORPHYRY (POT) - 90 TCA - Sharp contact, gradational colour change, qtz out, decrease in grain size
396.61	PLAGIOCLASE PORPHYRY - PLAGIOCLASE PORPHYRY - 25 TCA - contact is subtle, grey shade from dark to light
407.98	PLAGIOCLASE PORPHYRY - PLAGIOCLASE PORPHYRY BRECCIA - 25 TCA - contact is subtle, grey shade from dark to light, increase in sericite alteration
409.96	PLAGIOCLASE PORPHYRY BRECCIA - PLAGIOCLASE PORPHYRY - 20 TCA - contact is subtle, grey shade from light to dark
419.30	PLAGIOCLASE PORPHYRY - DIABASE DIKE (DD) - cobble breccia zone 25 cm long where colour transition is white-grey-black
422.27	DD - PLAGIOCLASE PORPHYRY (bleached) - core is rubblely, no visible contact
424.80	PLAGIOCLASE PORPHYRY (bleached) - PLAGIOCLASE PORPHYRY (unaltered) - 40 TCA - from white to grey, from fine-grained to coarse-grained
426.51	PLAGIOCLASE PORPHYRY (unaltered) - PLAGIOCLASE PORPHYRY (bleached) - 35 TCA - from grey to white, from coarse-grained to fine-grained
445.15	PLAGIOCLASE PORPHYRY (bleached) - PLAGIOCLASE PORPHYRY (coarse-grained) - 30 TCA - pyrite veinlets at contact. Grain size increases from medium-grained to coarse-grained

Secondary Structure Log

Hole: DDH-M12-02

Logger Name: Nick Bueckert

Date: July 2012

2° Structure Type	From (m)	To (m)	Attitude (TCA)	Attitude (TRFE)	Count	MINERALS		DESCRIPTION	Photo
						Type	Conc. (%)		
FX	32.05	33.35	40		20	py	3	Fracture (Fx) - Py mineralized sheeted fractures (3% of whole core)	
VT	92.51	92.63	20		1			qtz-carb veinlet in breccia (subtle or "washed out"), weak propylitic alteration	
VT	115.84	116.15	20		5	py	10	Py veinlets (vts) approximately sheeted, cross-cutting breccia in zone of moderate oxidation	
BX	117.18	117.90	70					Flow breccia (see log) upper is 50 degrees to core axis (TCA), transition to 70 TCA. Orientations taken from clast orientations TCA	x
			50						
	123.64	125.67	40		9	py	1	Mineralized stringers ?py? Too fine-grained to identify minerals, also some stringers with no preferred orientation - meandering along core axis	
FT	151.67	152.04	40					Fault, contacts 40 TCA	
ST	154.23	157.63	40		11			Calcite stringers - sheeted, 30-40 TCA	
VN	158.73		22		1	py	3	Calcite vein 0.8 - 1 cm thick w/ 3% py	
VN	168.90		55		1			2 cm thick very fine-grained qtz vein with milky centre and grey envelope	
ST	168.64	171.89	35		6	py	2	Py stringers	
VT	176.27	176.74	20		1	py	4	Py veinlet along fracture orientation	
VT	181.19	185.01	30		5			Stockwork qtz-carb+/-py veinlets. Dominant 50 degree orientation TCA. One vein-veinlet runs midline TCA, gougey, disseminated pyrite in vein, varying width	
			50		10	py	3		
			0		1	py	2		
VT	191.19		55		1			Veinlet at top of qtz-breccia interval	
ST	198.02	205.88	30		2	py		Py stringers minor with calcite stringers	
VN	205.25	205.47	20		1			Qtz-py vein 2.5 cm thick with pyrite stringers. Fractures occur parallel to vein. no strong alteration envelope - Qtz "envelope" is pinkish, quasi-flow banding uphole from vein	
ST			20		7				
VN	210.51		50		1	py	3	Qtz vein 1 cm with pyrite midline or pyrite vein with white qtz selvage (?)	
VN	210.85		50		1	py	3		
ST	230.43	239.36	45		25			Carbonate stringers	
VT	260.34	261.49	50		7	py	20	Qtz-py+/-carb vts approximately sheeted - one cross-cutting qtz veinlet	
ST	272.82	276.55	15		3	py	1	Qtz-carb+/-py stringers cut by higher angle veinlet	
			50		1	py	1		
ST	276.55	277.91	40		10	py	1	Qtz-py stringers offset by carbonate stringers 0 TCA. Offset 1cm	
			0		1				
ST	294.17	297.78	10		4	py	1	Sheeted qtz-carb-py veinlets	
VT	312.60	313.00	15		3	py	2	Sheeted qtz-py veinlets with feldspathic selvages	x
VN	312.02		88		1	py	10	Banded qtz-carb-py vein 1cm thick	

Secondary Structure Log

[illegible]

Sample Log

Hole: DDH-M12-02

Date:

Jul-12

From (m)	To (m)	Interval (m)	Recovery (m)	Recovery (%)	Sample Number	Batch	Au (g/t)	Ag (g/t)	As (ppm)	Comments
8.81	11.00	2.19	2.19	100	M677001	1				
11.00	13.50	2.50	1.57	62.8	M677002	1				core highly fractured; poor recovery
13.50	16.50	3.00	3.00	100	M677003	1				
16.50	19.00	2.50	2.36	94.4	M677004	1				
19.00	21.70	2.70	2.61	96.7	M677005	1				
					M677006	1				DUPLICATE
21.70	24.77	3.07	2.61	85	M677007	1				
24.77	27.87	3.10	2.61	84.2	M677008	1				
27.87	29.90	2.03	2.00	98.5	M677009	1				
					M677010	1				BLANK
29.90	32.07	2.17	1.96	90.3	M677011	1				
32.07	33.37	1.30	1.30	100	M677012	1				
33.37	35.51	2.14	2.14	100	M677013	1				
35.51	36.53	1.02	1.00	98	M677014	1				
					M677015	1				STANDARD ML-2
36.53	38.10	1.57	1.30	82.8	M677016	1				
38.10	40.10	2.00	2.00	100	M677017	1				
40.10	41.30	1.20	1.20	100	M677018	1				
41.30	44.06	2.76	2.67	96.7	M677019	1				
44.06	45.95	1.89	1.76	93.1	M677020	1				
					M677021	1				STANDARD ML-4
45.95	48.41	2.46	2.46	100	M677022	1				
48.41	50.23	1.82	1.69	92.9	M677023	1				
50.23	52.41	2.18	1.90	87.2	M677024	1				
52.41	54.62	2.21	2.01	91	M677025	1				
54.62	56.05	1.43	1.17	81.8	M677026	1				
					M677027	1				BLANK
56.05	57.00	0.95	0.95	100	M677028	1				unmineralized rock between mineralized intervals
57.00	59.78	2.78	2.50	89.9	M677029	1				
59.78	63.10	3.32	3.00	90.4	M677030	1				
63.10	65.71	2.61	2.28	87.4	M677031	1				
					M677032	1				COARSE REJECT DUPLICATE
65.71	69.06	3.35	3.00	89.6	M677033	1				
69.06	72.24	3.18	2.71	85.2	M677034	1				
72.24	75.28	3.04	2.46	80.9	M677035	1				
75.28	76.75	1.47	1.47	100	M677036	1				
76.75	78.70	1.95	1.95	100	M677037	2				
78.70	81.34	2.64	1.75	66.3	M677038	2				
81.34	83.57	2.23	1.80	80.7	M677039	2				
83.57	85.07	1.50	1.50	100	M677040	2				
85.07	87.84	2.77	2.68	96.8	M677041	2				
87.84	90.24	2.40	2.31	96.3	M677042	2				
					M677043	2				BLANK

Sample Log

From (m)	To (m)	Interval (m)	Recovery (m)	Recovery (%)	Sample Number	Batch	Au (g/t)	Ag (g/t)	As (ppm)	Comments
90.24	92.12	1.88	1.56	83	M677044	2				
92.12	93.88	1.76	1.70	96.6	M677045	2				
93.88	95.47	1.59	1.50	94.3	M677046	2				
95.47	96.96	1.49	1.49	100	M677047	2				
96.96	99.66	2.70	2.34	86.7	M677048	2				
					M677049	2				STANDARD ML-4
99.66	101.53	1.87	1.80	96.3	M677050	2				
101.53	103.76	2.23	1.80	80.7	M677051	2				
103.76	107.10	3.34	2.80	83.8	M677052	2				poor recovery - rubblely core
107.10	109.88	2.78	2.32	83.5	M677053	2				
109.88	113.20	3.32	2.87	86.4	M677054	2				
113.20	115.00	1.80	1.40	77.8	M677055	2				
					M677056	2				STANDARD ML-2
115.00	116.94	1.94	1.94	100	M677057	2				
116.94	119.94	3.00	3.00	100	M677058	2				
119.94	122.94	3.00	3.00	100	M677059	2				
122.94	125.56	2.62	2.62	100	M677060	2				
125.56	127.10	1.54	1.54	100	M677061	2				
					M677062	2				1/4 DUPLICATE
127.10	130.15	3.05	3.05	100	M677063	2				
130.15	133.20	3.05	3.05	100	M677064	2				
133.20	136.24	3.04	3.00	98.7	M677065	2				
136.24	139.30	3.06	2.70	88.2	M677066	2				
					M677067	2				BLANK
139.30	142.35	3.05	2.47	81	M677068	2				
142.35	145.38	3.03	2.43	80.2	M677069	2				
145.38	148.30	2.92	2.67	91.4	M677070	2				
					M677071	2				COARSE REJECT DUPLICATE
148.30	150.58	2.28	2.15	94.3	M677072	2				
150.58	152.04	1.46	1.40	95.9	M677073	3				15 cm fault oxidized
152.04	154.53	2.49	2.46	98.8	M677074	3				
154.53	157.58	3.05	2.98	97.7	M677075	3				
157.58	160.63	3.05	2.99	98	M677076	3				
160.63	163.68	3.05	2.90	95.1	M677077	3				
					M677078	3				STANDARD ML-2
163.68	166.72	3.04	2.87	94.4	M677079	3				
166.72	169.77	3.05	2.85	93.4	M677080	3				
169.77	172.82	3.05	2.79	91.5	M677081	3				
172.82	175.87	3.05	2.80	91.8	M677082	3				
175.87	176.87	1.00	1.00	100	M677083	3				
					M677084	3				BLANK
176.87	180.19	3.32	3.05	91.9	M677085	3				
180.19	182.00	1.81	1.48	81.8	M677086	3				
182.00	183.90	1.90	1.70	89.5	M677087	3				
183.90	186.25	2.35	2.27	96.6	M677088	3				
					M677089	3				COARSE REJECT DUPLICATE
186.25	188.48	2.23	2.23	100	M677090	3				
188.48	190.71	2.23	2.23	100	M677091	3				
190.71	191.85	1.14	1.10	96.5	M677092	3				Cp present

Sample Log

From (m)	To (m)	Interval (m)	Recovery (m)	Recovery (%)	Sample Number	Batch	Au (g/t)	Ag (g/t)	As (ppm)	Comments
191.85	194.16	2.31	2.40	104	M677093	3				
					M677094	3				1/4 DUPLICATE
194.16	196.95	2.79	2.68	96.1	M677095	3				
196.95	198.09	1.14	1.14	100	M677096	3				
198.09	200.25	2.16	1.96	90.7	M677097	3				
					M677098	3				STANDARD ML-2
200.25	203.30	3.05	2.90	95.1	M677099	3				
203.30	204.68	1.38	1.35	97.8	M677100	3				
204.68	205.88	1.20	1.20	100	M677101	3				
205.88	207.88	2.00	2.00	100	M677102	3				
207.88	210.10	2.22	2.22	100	M677103	3				
210.10	211.10	1.00	1.00	100	M677104	3				2 py veinlets
211.10	212.45	1.35	1.35	100	M677105	3				
					M677106	3				BLANK
212.45	215.50	3.05	2.55	83.6	M677107	3				
215.50	218.55	3.05	2.90	95.1	M677108	3				
218.55	221.58	3.03	2.90	95.7	M677109	4				
221.58	223.62	2.04	1.89	92.6	M677110	4				Cp in breccia
223.62	224.63	1.01	1.01	100	M677111	4				
224.63	227.68	3.05	2.10	68.9	M677112	4				Poor recovery
227.68	230.73	3.05	2.80	91.8	M677113	4				
					M677114	4				COARSE REJECT DUPLICATE
230.73	233.78	3.05	2.93	96.1	M677115	4				
233.78	236.83	3.05	3.00	98.4	M677116	4				
236.83	239.88	3.05	2.90	95.1	M677117	4				
239.88	241.94	2.06	2.06	100	M677118	4				
					M677119	4				STANDARD ML-2
241.94	242.94	1.00	1.00	100	M677120	4				

Geotechnical Log

Hole: DDH-M12-02 Tech Name: Liz Bueckert

Date: July 7thth 2012

From (m)	To (m)	Interval (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Joint Sets				DESCRIPTION
								Freq (/m)	Attitude (tca)	Shape	Roughness	
8.81	11.28	2.47	2.35	95	0.64	27	3s	0.14	65	1	2	
11.28	14.32	3.04	2.80	92	0.82	29	3s	0.17	55	1	2	a lot of rubble
14.32	17.37	3.05	2.77	91	1.72	62	3s	0.19	60	1	1	
17.37	20.42	3.05	3.01	98	1.93	33	3s	0.25	55	1	1	
20.42	23.47	3.05	2.70	88	1.51	55	2s	0.15	60	1	1	
23.47	26.51	3.04	2.76	90	1.77	64	2s	0.23	55	1	1	
26.51	29.56	3.05	2.84	93	1.59	56	3s	0.18	55	1	1	
29.56	32.61	3.05	2.88	94	1.95	67	2s	0.23	65	2	1	
32.61	35.66	3.05	2.94	96	2.21	75	2s	0.18	55	2	1	
35.66	38.71	3.05	2.94	96	0.84	28	2s	0.23	75	1	1	
38.71	41.76	3.05	3.01	98	1.64	54	2s	0.19	75	2	1	
41.76	44.81	3.05	2.90	95	1.13	38	2s	0.12	65	1	1	
44.81	47.85	3.04	2.91	95	1.44	49	2s	0.14	65	2	2	1-2
47.85	50.90	3.05	2.85	93	0.76	26	2s	0.12	70	2	1	
50.90	53.95	3.05	2.65	86	0.60	22	2s	0.11	75	3	1	1-3
53.95	57.00	3.05	2.70	90	1.01	37	2s	0.15	65	2	1	very variable in attitude of joint break
57.00	60.04	3.04	2.84	93	1.25	44	2s	0.13	70	2	1	
60.04	63.10	3.06	2.94	96	0.44	14	2s	0.09	n/a	1	2	Many irregular breaks - hard to find an average attitude
63.10	66.14	3.04	2.76	90	0.45	16	2s	0.17	60	1	1	
66.14	69.19	3.05	2.22	72	0.87	39	2s	0.11	65	2	2	
69.19	72.24	3.05	2.43	79	0.59	24	2s	0.10	75	2	2	
72.24	75.28	3.04	3.00	98.7	0.55	18.33	3s	0.12	70	2	1	
75.28	78.33	3.05	2.61		0.52	19.92	3s	0.11	70	2	1	
78.33	81.38	3.05	2.61	92.1	0.25	9.579	3s	0.12	70	2	2	
81.38	84.43	3.05	2.81	86.9	0.54	19.22	3s	0.13	60	1	2	
84.43	87.48	3.05	2.65	95.7	0.80	30.19	3s	0.10	60	1	1	
87.48	90.52	3.04	2.92	93.4	1.33	45.55	3s	0.14	60	2	1	
90.52	93.57	3.05	2.84	95.1	1.32	46.48	3s	0.14	60	3	2	2-3
93.57	96.62	3.05	2.90	94.4	0.67	23.1	3s	0.14	70	2	2	

Geotechnical Log

96.62	99.66	3.04	2.88	90.8	1.41	48.96	3s	0.17	60	1-2	2	2
99.66	102.72	3.06	2.76	83.7	0.85	30.8	3s	0.16	60	1-2	2	2
102.72	105.76	3.04	2.56	81.2	0.54	21.09	3s	0.15	65	2	2	
105.76	108.81	3.05	2.47	93.4	0.40	16.19	3s	0.17	60	3	2	1 and 3
108.81	111.90	3.09	2.85	77.3	0.45	15.79	3s	0.16	65	1	2	
111.90	115.00	3.10	2.39	85.5	0.61	25.52	3s	0.19	55	1	2	
115.00	118.00	3.00	2.65	99.3	1.73	65.28	3s	0.27	60	2	2	
118.00	121.00	3.00	2.98	99	2.30	77.18	3s	0.30	60	1	1	
121.00	124.05	3.05	2.97	98.4	2.53	85.19	3s	0.38	55	1	1	
124.05	127.10	3.05	3.00	98.4	2.32	77.33	3s	0.27	60	1	2	
127.10	130.15	3.04	2.91	95.7	2.88	98.97	3s	0.43	60	1	2	
133.20	136.24	3.04	3.04	100	2.33	76.64	3S	0.28	60	1	2	
136.24	139.30	3.06	2.55	83.3	0.52	20.39	3s	0.19	60	2	1	1-2
139.30	142.34	3.04	2.45	80.6	0.89	36.33	3s	0.17	50	1	2	
142.34	145.38	3.04	2.09	68.8	0.51	24.4	3s	0.21	65	1	2	
145.38	148.44	3.06	2.85	93.1	2.16	75.79	3s	0.20	65	3	1	2-3
148.44	151.49	3.05	2.76	90.5	1.68	60.87	3s	0.16	65	1	1	
151.49	154.53	3.04	2.84	93.4	2.46	86.62	3s	0.23	60	1	1	
154.53	157.58	3.05	2.71	88.9	1.74	64.21	3s	0.25	60	1	1	
157.58	160.63	3.05	2.74	89.8	1.74	63.5	3s	0.43	55	1	1	
160.63	163.38	2.75	2.82	103	2.05	72.7	3s	0.30	60	1	1	
163.68	166.70	3.02	2.98	98.7	1.23	41.28	3s	0.17	60	3	1	1 and 3
166.70	169.77	3.07	2.86	93.2	0.98	34.27	3s	0.20	60	1	1	
169.77	172.82	3.05	2.80	91.8	1.05	37.5	3s	0.25	60	2	1	
172.82	175.87	3.05	2.82	92.5	1.45	51.42	3s	0.19	65	3	1	1 and 3
175.87	178.90	3.04	2.87	94.4	0.45	15.68	3s	0.21	65	1	1	
178.90	182.00	3.00	2.70	90	0.76	28.15	3s	0.16	30	3	1	1 and 3
182.00	185.01	3.01	2.77	92	0.34	12.27	3s	0.16	60	1	1	
185.01	188.06	3.05	2.90	95.1	1.38	47.59	3s	0.19	60	1	1	
188.06	191.12	3.05	2.90	95.1	1.73	59.66	3s	0.25	55	1	1	
191.12	194.16	3.05	3.02	99	1.66	54.97	3s	0.19	60	1	1	
194.16	197.21	3.05	2.98	97.7	2.55	85.57	3s	0.30	60	1	1	
197.21	200.25	3.05	2.93	96.1	2.06	70.31	3s	0.40	60	1	1	
200.25	203.30	3.05	2.74	89.8	1.40	51.09	3s	0.27	70	1	1	
203.30	206.35	3.05	2.84	93.1	2.50	88.03	3s	0.38	65	1	1	
206.35	209.40	3.05	2.92	95.7	2.44	83.56	3s	0.38	65	1	1	
209.40	212.45	3.05	2.74	89.8	2.39	87.23	3s	0.27	65	1	1	
212.45	215.50	3.05	2.77	90.8	1.04	37.55	3s	0.33	65	1	1	
215.50	218.53	3.05	2.94	96.4	1.86	63.27	3s	0.25	65	1	1	
218.53	221.58	3.05	2.65	86.9	1.62	61.13	3s	0.26	65	1	1	

Geotechnical Log

221.58	224.63	3.05	2.78	91.1	1.50	53.96	3s	0.27	60	1	2	
224.63	227.68	3.05	2.60	85.2	0.74	28.46	3s	0.50	70	1	2	
227.68	230.73	3.05	2.76	90.5	1.90	68.84	3s	0.23	65	1	2	
230.73	233.78	3.05	2.73	89.5	2.14	78.39	3s	0.27	70	2	1	
233.78	236.83	3.05	2.95	96.7	2.10	71.19	3s	0.25	60	1	1	
236.83	239.88	3.05	2.91	95.4	1.83	62.89	3s	0.27	70	1	1	
239.88	242.94	3.05	2.89	94.8	2.57	88.93	3s	0.30	70	1	1	
242.94	246.00	3.05	2.94	96.4	1.13	38.44	3s	0.25	65	1	1	
246.00	249.02	3.05	2.72	89.2	1.46	53.68	3s	0.43	65	2	1	1-2
249.02	252.07	3.05	2.97	97.4	1.36	45.79	3s	0.25	65	1	2	
252.07	255.11	3.05	2.52	82.6	0.62	24.6	3s	0.21	60	1	2	
255.11	258.16	3.05	2.35	77	0.53	22.55	3s	0.19	60	1	2	
258.16	261.21	3.05	2.72	89.2	1.48	54.41	3s	0.38	55	1	1	
261.21	264.26	3.05	2.93	96.1	2.06	70.31	3s	0.61	50	1	1	
264.26	267.30	3.04	2.49	81.9	0.82	32.93	3s	0.25	60	1	1	
267.30	270.35	3.05	2.77	90.8	1.45	52.35	3s	0.20	60	1	1	
270.35	273.40	3.05	2.88	94.4	2.10	72.92	3s	0.30	65	3	1	1 and 3
273.40	276.45	3.05	2.93	96.1	2.20	75.09	3s	0.30	65	1	1	
276.45	279.49	3.04	2.90	95.4	2.35	81.03	3s	0.27	55	1	1	
279.49	282.54	3.05	2.83	92.8	2.00	70.67	3s	0.30	70	1	1	
282.54	285.59	3.05	2.92	95.7	2.14	73.29	3s	0.23	65	1	2	
285.59	288.63	3.04	2.60	85.5	0.90	34.62	3s	0.25	65	2	1	1 and 2
288.63	291.68	3.05	2.78	91.1	2.06	74.1	3s	0.27	60	1	1	
291.68	294.73	3.05	2.83	92.8	2.11	74.56	3s	0.25	60	1	1	
294.73	297.78	3.05	2.80	91.8	2.27	81.07	3s	0.27	55	1	1	
297.78	300.83	3.05	2.82	92.5	2.50	88.65	3s	0.33	55	1	1	
300.83	303.88	3.05	2.90	95.1	2.10	72.41	3s	0.38	55	3	1	1 and 3
303.88	306.93	3.05	2.90	95.1	2.15	74.14	3s	0.38	60	1	1	
306.93	309.93	3.00	2.99	99.7	2.62	87.63	3s	0.30	45	1	1	
309.98	313.03	3.05	2.86	93.8	2.12	74.13	3s	0.27	50	1	1	
313.03	316.07	3.04	2.99	98.4	2.60	86.96	3s	0.25	50	1	1	
316.07	319.12	3.05	2.87	94.1	2.55	88.85	3s	0.20	55	1	1	
319.12	322.17	3.05	3.00	98.4	1.02	34	3s	0.20	55	1	1	
322.17	325.22	3.05	2.81	92.1	1.42	50.53	3s	0.38	50	1	1	
325.22	328.77	3.55	2.90	81.7	2.80	96.55	3s	0.20	55	3	1	1 and 3
328.77	331.32	2.55	2.80	110	2.10	75	3s	0.30	55	1	1	
331.32	334.37	3.05	2.80	91.8	1.98	70.71	3s	0.27	55	1	1	
334.37	337.41	3.04	2.82	92.8	1.44	51.06	3s	0.23	60	1	1	
337.41	340.46	3.05	2.84	93.1	2.00	70.42	3s	0.25	55	1	1	
340.46	343.51	3.05	2.90	95.1	1.95	67.24	3s	0.25	55	1	1	

Geotechnical Log

343.51	346.56	3.05	2.92	95.7	2.21	75.68	3s	0.30	55	1	1	
346.56	349.56	3.00	2.87	95.7	2.18	75.96	3s	0.23	55	1	1	actual recovery: 3.05 m. meter marker in wrong location i
349.61	352.66	3.05	2.73	89.5	1.43	52.38	3s	0.38	55	1	1	actual recovery: 3.05 m. meter marker in wrong location i
352.66	355.70	3.04	2.90	95.4	2.18	75.17	3s	0.38	55	1	1	
355.70	358.70	3.00	3.00	100	2.85	95	3s	0.33	65	1	1	
358.75	361.81	3.06	3.00	98	2.25	75	3s	0.30	65	1	1	
361.81	364.81	3.00	3.02	101	2.62	86.75	3s	0.76	60	1	1	
364.85	367.89	3.04	2.76	90.8	2.69	97.46	3s	0.43	60	1	1	
367.89	370.94	3.05	3.00	98.4	2.65	88.33	3s	0.43	60	1	1	
370.94	373.99	3.05	2.60	85.2	1.95	75	3s	0.24	50	1	1	
373.99	377.04	3.05	2.58	84.6	1.96	75.97	3s	0.50	50	1	1	
380.09	383.13	3.04	2.95	97	2.01	68.14	3s	0.25	50	1	1	
383.13	386.18	3.05	3.01	98.7	1.75	58.14	3s	0.22	50	1	1	
386.18	389.23	3.05	2.96	97	2.34	79.05	3s	0.25	50	1	1	
389.23	392.27	3.04	3.01	99	2.60	86.38	3s	0.38	55	1	1	
392.27	395.32	3.05	2.87	94.1	2.15	74.91	3s	0.30	50	1	1	
395.32	398.37	3.05	2.97	97.4	2.32	78.11	3s	0.23	60	1	2	
398.37	401.42	3.05	2.64	86.6	2.38	90.15	3s	0.30	50	2	2	
401.42	404.47	3.05	3.00	98.4	2.12	70.67	3s	0.33	60	1	2	
404.47	407.51	3.04	3.05	100	2.35	77.05	3s	0.25	55	3	2	2-3
407.51	410.56	3.05	3.01	98.7	2.05	68.11	3s	0.22	55	2	2	
410.56	413.61	3.05	2.91	95.4	2.22	76.29	3s	0.20	55	1	1	
413.61	416.66	3.05	2.99	98	1.37	45.82	3s	0.19	55	1		
416.66	419.70	3.04	2.82	92.8	1.42	50.35	3s	0.16	55	2	1	
419.70	422.75	3.05	2.79	91.5	2.30	82.44	3s	0.38	60	1	2	
422.75	425.80	3.05	2.78	91.1	0.98	35.25	3s	0.25	55	1	1	
425.80	428.85	3.05	2.67	87.5	1.50	56.18	3s	0.21	55	3	2	1 and 3
428.85	431.90	3.05	3.00	98.4	0.96	32	3s	0.20	50	1	1	
431.90	434.95	3.05	2.80	91.8	1.15	41.07	3s	0.23	55	1	1	
434.95	438.00	3.05	2.80	91.8	1.21	43.21	3s	0.19	55	2	2	
438.00	441.04	3.04	2.95	97	1.29	43.73	3s	0.17	60	1	2	
441.04	444.09	3.05	2.65	86.9	1.07	40.38	3s	0.16	50	1	2	
444.09	447.14	3.05	2.97	97.4	1.00	33.67	3s	0.19	60	2	2	
447.14	450.18	3.04	2.85	93.7	1.51	52.98	3s	0.14	60	2	1	1-2
450.18	453.23	3.05	2.63	86.2	1.85	70.34	3s	0.23	55	1	1	
453.23	456.28	3.05	2.68	87.9	1.43	53.36	3s	0.23	55	1	1	
456.28	459.33 E	3.05	2.75	90.2	1.12	40.73	3s	0.25	65	2	2	1-2

Magnetic Susceptibility Log

Hole: DDH-M12-02 Date: July 2012

Depth (m)	Magnetic Susceptibility	DESCRIPTION
24.73	0.612	
25.73	0.393	
26.73	0.427	
27.73	0.263	
28.73	0.612	
29.73	4.081	
30.73	0.161	
31.73	0.180	
32.73	0.152	
33.73	0.270	
34.73	0.304	
35.73	0.369	
36.73	0.244	
37.73	0.320	
38.73	0.316	
39.73	0.409	
40.73	0.756	
41.73	0.487	
42.73	0.586	
43.73	0.266	
44.73	0.281	
45.73	0.357	
46.73	0.446	
47.73	0.320	
48.73	0.488	
49.73	0.290	
50.73	0.243	
51.73	0.295	
52.73	0.387	
53.73	0.564	
54.73	0.635	
55.73	0.569	
56.73	0.444	
57.73	0.369	
58.73	0.828	
59.73	0.300	
60.73	0.431	
61.73	0.512	
62.73	0.454	
63.73	0.648	
64.73	0.177	
65.73	0.184	
66.73	0.342	
67.73	0.241	
68.73	0.703	
69.73	0.764	
70.73	0.591	
71.73	0.413	
72.73	0.324	
73.73	0.370	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
74.73	0.281	
75.73	0.266	
76.73	0.269	
77.73	0.257	
78.73	1.112	
79.73	0.488	
80.73	0.449	
81.73	0.703	
82.73	0.157	
83.73	0.455	
84.73	0.450	
85.73	0.210	
86.73	0.317	
87.00	0.153	
88.00	0.194	
89.00	0.416	
90.00	0.476	
91.00	0.199	
92.00	0.232	
93.00	0.135	
94.00	0.540	
95.00	0.307	
96.00	0.423	
97.00	0.681	
98.00	0.748	
99.00	0.279	
100.00	0.265	
101.00	0.275	
102.00	0.204	
103.00	0.265	
104.00	0.402	
105.00	0.285	
106.00	0.192	
107.00	0.158	
108.00	0.498	
109.00	0.267	
110.00	0.166	
111.00	0.232	
112.00	0.169	
113.00	0.261	
114.00	0.268	
115.00	0.237	
116.00	0.350	
117.00	0.422	
118.00	0.543	
119.00	0.430	
120.00	0.321	
121.00	0.506	
122.00	0.171	
123.00	0.474	
124.00	0.157	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
125.00	0.259	
126.00	0.179	
127.00	0.066	
128.00	0.159	
129.00	0.741	
130.00	0.447	
131.00	0.441	
132.00	0.138	
133.00	0.234	
134.00	0.080	
135.00	0.301	
136.00	0.670	
137.00	0.294	
138.00	0.046	
139.00	0.809	
140.00	0.129	
141.00	0.140	
142.00	0.171	
143.00	0.389	
144.00	0.277	
145.00	0.425	
146.00	0.423	
147.00	0.632	
148.00	8.922	
149.00	0.230	
150.00	0.149	
151.00	0.365	
152.00	23.190	
153.00	0.406	
154.00	6.588	
155.00	0.722	
156.00	14.420	
157.00	4.305	
158.00	1.382	
159.00	1.155	
160.00	0.930	
161.00	0.350	
162.00	0.541	
163.00	4.835	
164.00	0.973	
165.00	0.813	
166.00	0.693	
167.00	0.428	
168.00	4.439	
169.00	0.368	
170.00	0.652	
171.00	1.012	
172.00	0.607	
173.00	1.012	
174.00	0.614	
175.00	0.707	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
176.00	0.461	
177.00	0.359	
178.00	0.622	
179.00	0.794	
180.00	0.321	
181.00	0.220	
182.00	0.161	
183.00	0.224	
184.00	0.620	
185.00	0.564	
186.00	0.251	
187.00	0.199	
188.00	0.279	
189.00	27.860	
190.00	5.235	
191.00	0.153	
192.00	1.862	
193.00	2.329	
194.00	5.214	
195.00	6.516	
196.00	0.783	
197.00	0.228	
198.00	13.230	
199.00	7.960	
200.00	32.090	
201.00	2.459	
202.00	0.505	
203.00	2.829	
204.00	0.447	
205.00	0.257	
206.00	1.865	
207.00	1.958	
208.00	1.201	
209.00	1.804	
210.00	1.136	
211.00	4.025	
212.00	0.210	
213.00	0.192	
214.00	0.178	
215.00	0.424	
216.00	0.357	
217.00	0.193	
218.00	0.170	
219.00	0.121	
220.00	0.240	
221.00	0.384	
222.00	0.163	
223.00	0.518	
224.00	0.133	
225.00	0.125	
226.00	0.595	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
227.00	0.256	
228.00	6.571	
229.00	6.768	
230.00	0.435	
231.00	3.043	
232.00	7.633	
233.00	8.129	
234.00	15.000	
235.00	8.513	
236.00	18.430	
237.00	1.076	
238.00	0.895	
239.00	0.233	
240.00	0.379	
241.00	0.043	
242.00	0.480	
243.00	0.480	
244.00	0.156	
245.00	0.153	
246.00	1.694	
247.00	2.351	
248.00	1.937	
249.00	0.557	
250.00	0.111	
251.00	0.119	
252.00	0.039	
253.00	0.117	
254.00	0.747	
255.00	0.386	
256.00	2.400	
257.00	0.381	
258.00	0.335	
259.00	0.377	
260.00	0.354	
261.00	0.166	
262.00	0.471	
263.00	0.232	
264.00	0.029	
265.00	0.792	
266.00	0.230	
267.00	1.051	
268.00	0.633	
269.00	0.405	
270.00	0.360	
271.00	0.119	
272.00	0.156	
273.00	13.030	
274.00	4.166	
275.00	4.475	
276.00	0.235	
277.00	0.104	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
278.00	0.111	
279.00	0.182	
280.00	0.125	
281.00	0.284	
282.00	0.349	
283.00	0.367	
284.00	0.370	
285.00	0.723	
286.00	0.112	
287.00	0.184	
288.00	0.305	
289.00	0.332	
290.00	0.349	
291.00	0.043	
292.00	0.138	
293.00	0.321	
294.00	0.029	
295.00	0.047	
296.00	0.142	
297.00	0.175	
298.00	0.222	
299.00	0.190	
300.00	0.110	
301.00	0.222	
302.00	0.387	
303.00	4.723	
304.00	0.460	
305.00	0.586	
306.00	0.167	
307.00	0.739	
308.00	0.223	
309.00	0.180	
310.00	5.896	
311.00	0.126	
312.00	0.135	
313.00	0.112	
314.00	0.362	
315.00	0.129	
316.00	0.232	
317.00	0.474	
318.00	0.140	
319.00	0.181	
320.00	0.225	
321.00	0.239	
322.00	0.572	
323.00	0.838	
324.00	0.183	
325.00	0.246	
326.00	0.261	
327.00	0.121	
328.00	0.092	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
329.00	0.165	
330.00	0.449	
331.00	0.224	
332.00	0.480	
333.00	0.127	
334.00	0.356	
335.00	0.047	
336.00	0.057	
337.00	0.041	
338.00	0.098	
339.00	0.106	
340.00	0.145	
341.00	0.142	
342.00	0.151	
343.00	0.022	
344.00	0.181	
345.00	5.326	
346.00	0.218	
347.00	0.568	
348.00	0.487	
349.00	0.331	
350.00	0.289	
351.00	0.503	
352.00	0.414	
353.00	1.093	
354.00	0.503	
355.00	10.510	
356.00	5.060	
357.00	9.409	
358.00	0.879	
359.00	0.317	
360.00	0.291	
361.00	0.172	
362.00	0.109	
363.00	0.362	
364.00	0.347	
365.00	8.893	
366.00	10.580	
367.00	0.345	
368.00	0.154	
369.00	0.432	
370.00	2.423	
371.00	0.406	
372.00	0.309	
373.00	1.564	
374.00	1.041	
375.00	0.422	
376.00	0.393	
377.00	0.547	
378.00	0.170	
379.00	0.502	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
380.00	0.181	
381.00	0.251	
382.00	0.352	
383.00	0.270	
384.00	0.187	
385.00	0.123	
386.00	0.133	
387.00	0.633	
388.00	0.660	
389.00	0.505	
390.00	0.613	
391.00	0.128	
392.00	0.185	
393.00	0.466	
394.00	0.205	
395.00	0.198	
396.00	0.206	
397.00	0.785	
398.00	0.245	
399.00	0.235	
400.00	0.241	
401.00	0.281	
402.00	0.129	
403.00	0.808	
404.00	0.059	
405.00	0.364	
406.00	0.354	
407.00	0.109	
408.00	0.380	
409.00	0.318	
410.00	0.132	
411.00	0.279	
412.00	0.089	
413.00	0.300	
414.00	0.186	
415.00	0.152	
416.00	0.056	
417.00	0.071	
418.00	0.050	
419.00	0.120	
420.00	7.646	
421.00	9.507	
422.00	13.900	
423.00	0.744	
424.00	0.047	
425.00	0.152	
426.00	0.348	
427.00	0.032	
428.00	0.406	
429.00	0.115	
430.00	0.114	

Magnetic Susceptibility Log

Depth (m)	Magnetic Susceptibility	DESCRIPTION
431.00	0.497	
432.00	0.340	
433.00	0.159	
434.00	0.180	
435.00	0.065	
436.00	0.449	
437.00	0.173	
438.00	0.159	
439.00	0.050	
440.00	0.222	
441.00	0.130	
442.00	0.194	
443.00	0.112	
444.00	0.104	
445.00	0.229	
446.00	0.045	
447.00	0.058	
448.00	0.046	
449.00	0.414	
450.00	0.142	
451.00	0.037	
452.00	0.607	
453.00	0.066	
454.00	0.126	
455.00	0.086	
456.00	0.056	
457.00	0.110	
458.00	0.020	
459.00	0.143	
460.00	0.262	
461.00	0.113	
462.00	0.025	

Box Log

Hole:DDH-M12-02

Date: July 2012

Box #	From (m)	To (m)
1	8.81	13.50
2	13.50	19.00
3	19.00	24.00
4	24.00	29.00
5	29.00	35.66
6	35.66	41.02
7	41.02	46.81
8	46.81	51.80
9	51.80	57.00
10	57.00	62.17
11	62.17	67.40
12	67.40	72.72
13	72.72	77.81
14	77.81	83.25
15	83.25	88.15
16	88.15	93.45
17	93.45	98.68
18	98.68	103.76
19	103.76	109.00
20	109.00	114.06
21	114.06	119.33
22	119.33	124.72
23	124.72	130.48
24	130.48	136.14
25	136.14	141.76
26	141.76	146.40
27	146.40	152.04
28	152.04	157.58
29	157.58	163.05
30	163.05	168.31
31	168.31	173.43
32	173.43	178.90
33	178.90	184.12
34	184.12	189.40
35	189.40	194.50
36	194.50	200.25
37	200.25	205.88
38	205.88	211.23
39	211.23	216.29
40	216.29	221.58
41	221.58	226.93
42	226.93	232.21
43	232.21	237.55
44	237.55	243.27
45	243.27	248.78
46	248.78	254.89

Box Log

47	254.89	259.01
48	259.01	264.78
49	264.78	270.08
50	270.08	275.56
51	275.56	281.04
52	281.04	286.91
53	286.91	292.44
54	292.44	297.78
55	297.78	303.48
56	303.48	309.10
57	309.10	314.75
58	314.75	320.34
59	320.34	325.91
60	325.91	331.32
**61-1	331.32	336.89
**61-2	336.89	342.42
62	342.42	348.16
63	348.16	353.70
64	353.70	359.53
65	359.53	364.85
66	364.85	370.94
67	370.94	376.64
68	376.64	382.19
69	382.19	387.83
70	387.83	393.27
71	393.27	398.85
72	398.85	404.75
73	404.75	410.11
74	410.11	415.05
75	415.05	421.22
76	421.22	426.75
77	426.75	431.90
78	431.90	437.70
79	437.70	443.01
80	443.01	448.45
81	448.45	453.92
82	453.92	459.44
83	459.44	462.38-EOH

**Drillers labeled box both box 61 and 62 "bx 61" -

Drill#: 1**Batch: 1****Colour: Red****Date: July 15th**

Sample#	QA-QC Sample Type	Hole Number	Sample Wt. (kg)
M677001		DDH-M12-02	3.3
M677002		DDH-M12-02	3.2
M677003		DDH-M12-02	6.6
M677004		DDH-M12-02	5.2
M677005		DDH-M12-02	5.1
M677006	DUP	DDH-M12-02	2.3
M677007		DDH-M12-02	5.7
M677008		DDH-M12-02	5.1
M677009		DDH-M12-02	4.1
M677010	Blank	DDH-M12-02	7
M677011		DDH-M12-02	4.5
M677012		DDH-M12-02	2.8
M677013		DDH-M12-02	4.6
M677014	STD ML-2	DDH-M12-02	0.3
M677015		DDH-M12-02	2.3
M677016		DDH-M12-02	5.5
M677017		DDH-M12-02	4.4
M677018		DDH-M12-02	3
M677019		DDH-M12-02	5.3
M677020		DDH-M12-02	4.3
M677021	ML-4	DDH-M12-02	0.3
M677022		DDH-M12-02	5.1
M677023		DDH-M12-02	3.6
M677024		DDH-M12-02	3.1
M677025		DDH-M12-02	4.5
M677026		DDH-M12-02	2.8
M677027	Blank	DDH-M12-02	5.1
M677028		DDH-M12-02	2.3
M677029		DDH-M12-02	5.3
M677030		DDH-M12-02	6.1
M677031		DDH-M12-02	4.6
M677032	Coarse reject duplicate	DDH-M12-02	
M677033		DDH-M12-02	5.7
M677034		DDH-M12-02	4.5
M677035		DDH-M12-02	5.5
M677036		DDH-M12-02	3.3

Drill 1**Batch 2****colour: blue****July 16th 2012**

sample nur	QA-QC Sample type	hole number	sample wt. (kg)
M677037		DDH-M12-02	4.3
M677038		DDH-M12-02	3.8
M677039		DDH-M12-02	4.4
M677040		DDH-M12-02	3.2
M677041		DDH-M12-02	6
M677042		DDH-M12-02	4.2
M677043	blank	DDH-M12-02	3
M677044		DDH-M12-02	4.5
M677045		DDH-M12-02	4.4
M677046		DDH-M12-02	3
M677047		DDH-M12-02	4.2

M677048		DDH-M12-02	3.99
M677049	ML-4	DDH-M12-02	0.2
M677050		DDH-M12-02	4.2
M677051		DDH-M12-02	5
M677052		DDH-M12-02	7.3
M677053		DDH-M12-02	5
M677054		DDH-M12-02	6
M677055		DDH-M12-02	3.2
M677056	MI-2	DDH-M12-02	0.2
M677057		DDH-M12-02	4.5
M677058		DDH-M12-02	8
M677059		DDH-M12-02	8.3
M677060		DDH-M12-02	6.2
M677061		DDH-M12-02	4
M677062	Duplicate	DDH-M12-02	2.1
M677063		DDH-M12-02	8
M677064		DDH-M12-02	8
M677065		DDH-M12-02	7.8
M677066		DDH-M12-02	6.9
M677067	Blank	DDH-M12-02	5.5
M677068		DDH-M12-02	5.4
M677069		DDH-M12-02	5.8
M677070		DDH-M12-02	5.9
M677071	Coarse reject duplicate	DDH-M12-02	0
M677072		DDH-M12-02	5

Drill 1	Batch:3	Colour yellow	July 17th 2012
Sample num	QA-QC Sample Type	Hole Number	sample wt. (kg)
M677073		DDH-M12-02	3.6
M677074		DDH-M12-02	6.5
M677075		DDH-M12-02	7.9
M677076		DDH-M12-02	7.2
M677077		DDH-M12-02	7.3
M677078	ML-2	DDH-M12-02	0.2
M677079		DDH-M12-02	6.9
M677080		DDH-M12-02	7
M677081		DDH-M12-02	5.9
M677082		DDH-M12-02	8.2
M677083		DDH-M12-02	2.8
M677084	Blank	DDH-M12-02	9
M677085		DDH-M12-02	8.5
M677086		DDH-M12-02	4
M677087		DDH-M12-02	6.5
M677088		DDH-M12-02	5.5
M677089	Coarse reject duplicate	DDH-M12-02	0
M677090		DDH-M12-02	5.4
M677091		DDH-M12-02	6.2
M677092		DDH-M12-02	2.5
M677093		DDH-M12-02	5.9
M677094	Duplicate	DDH-M12-02	3.1
M677095		DDH-M12-02	6.7
M677096		DDH-M12-02	3.3
M677097		DDH-M12-02	5.3
M677098	ML-2	DDH-M12-02	0.2

M677099		DDH-M12-02	7.8
M677100		DDH-M12-02	4
M677101		DDH-M12-02	2.9
M677102		DDH-M12-02	5.3
M677103		DDH-M12-02	5.8
M677104		DDH-M12-02	3
M677105		DDH-M12-02	3.8
M677106	Blank	DDH-M12-02	5.6
M677107		DDH-M12-02	7
M677108		DDH-M12-02	8.5