

## GK PROPERTY

ZONE:	Grid East	Grid North	Easting	Northing	Elev.	Depth (m)
			356945	6421640		535.53

SECTION:

SURVEY							
Depth (m)	Azimuth	Dip	Method	Depth (m)	Azimuth	Dip	Method
collar	152	-50.0	compass				

TARGET:

SUMMARY				
From (m)	To (m)	Interval	Unit	Comments
0.00	11.00	11.00	CAS	
11.00	17.00	6.00	POR: Fd	strongly weathered feldspar porphyry
17.00	36.00	19.00	POR: Fd	weathered porphyritic unit
36.00	47.72	11.72	POR: Fd	
47.72	50.90	3.18	POR: Ae-Fd	mostly cave/re-drilled fragments
50.90	53.95	3.05	POR: Ae	
53.95	63.67	9.72	POR: Fd	
63.67	65.99	2.31	POR: Fd	
65.99	77.35	11.37	POR: Fd	
77.35	83.00	5.65	MNZ	
83.00	102.92	19.92	POR: Fd	
102.92	104.18	1.26	POR: Fd	
104.18	139.56	35.38	POR: Ae-Fd	
139.56	142.91	3.35	POR: Fd	
142.91	154.53	11.62	FLT	strongly oxidized fault in feldspar porphyry
154.53	157.58	3.05	AND	
157.58	181.68	24.10	POR: Fd	
181.68	212.32	30.64	POR: Fd	
212.32	220.85	8.53	FLT	moderately brecciated with calcareous matrix
220.85	262.33	41.48	POR: Fd	possible volcanoclastics at 224.16-230.5m
262.33	277.97	15.64	POR: Fd	
277.97	281.19	3.22	POR: Ae-Fd	
281.19	303.89	22.70	POR: Ae-Fd	
303.89	319.57	15.68	POR: Fd	
319.57	337.97	18.40	POR: Fd	
337.97	343.20	5.23	AND	shear
343.20	347.51	4.31	AND	
347.51	357.10	9.59	POR: Fd	
357.10	367.39	10.29	POR: Ae	
367.39	407.56	40.17	POR: Ae-Fd	
407.56	429.36	21.80	POR: Ae	possible fault at 412.74-415.91m
429.36	433.55	4.19	POR: Ae-Fd	
433.55	459.42	25.87	POR: Ae-Fd	coarse grained porphyry unit
459.42	461.66	2.24	POR: Fd	porphyritic dyke
461.66	466.28	4.62	AND	
466.28	472.10	5.82	POR: Ae-Fd	
472.10	487.42	15.32	AND	
487.42	498.07	10.65	AND	mixed interval of fine grained and porphyritic andesite
498.07	504.93	6.86	POR: Fd	
504.93	509.08	4.15	POR: Ae-Fd	
509.08	535.53	26.45	POR: Fd	
			EOH	

HOLE: GK-10-01

CLAIM: 509147

Contractor: Bodnar

Drill:

Core size: HQ (90.53) / NQ2 (535.53/EOH)

Casing depth: 11.10 (m) in / out

Drilling dates: July 9 - 24, 2010

Geology logged by: C. Chung

SAMPLES	
Numbers: J997603 - J997799, J980300 - J980325	
Total: 223	
Batch: 1, 2, 3, 3, 4, 5, 6, 7 (7 samples only)	
Date Sent: B1 (08-17), B2 (08-19), B3-4 (08-23), B5 (08-26), B6-7 (08-27)	
Certificate: B1: WH10114707, B2: WH10115482, B3: WH10115575	
B4: WH10115574, B5: WH10120404, B6: WH10121193, B7: WH10121192	

COMMENTS
GK-10-01 was almost entirely cored in a porphyritic andesite. Varying phenocryst composition determined the naming of a particular unit. The most common end member is the "feldspar porphyry" which is made up of approx 25-30% fine (<0.1cm) plagioclase feldspars. The other end member is the "augite porphyry" which consists of up to 3% euhedral to subhedral augite phenocrysts (up to 1cm across). Fine grained andesites also occur throughout the hole. Several minor intrusive units cross-cut this hole, such as monzonite dykes and various small lenses of possible volcanoclastics.
The matrix is generally weak to moderately chlorite ± serpentine altered with epidote also commonly noted.
Mineralization in this hole is generally low. Sulphides mainly occur as finely disseminated pyrite scattered throughout the matrix with minor concentration carried as small blebs in veining structures. Pyrite, chalcopyrite, pyrrhotite and magnetite present in trace amounts.
-One zone of interesting mineralization is at approx 164-175m. Malachite and limonite is noted on fracture surfaces while pyrite and chalcopyrite is noted to occur in localized patches.
Two large fault zones are noted in GK-10-01 while minor (<5m) fault zones are noted throughout. Fracturing is common and generally occurs with two preferred orientation sets; one at 25-30° while the other is at 50-60°.

## GEOLOGY LOG

HOLE: GK-10-01

INTERVAL			SUB-INTERVAL			LITHOLOGY			ALTERATION				STRUCTURE			MINERALS						Photo	DETAILED DESCRIPTION				
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Unit	Modifier	Modifier 2	Chlorite	Serpentine	Oxidation	Other	Type	Altitude (ft)	Altitude (m)	Density (frequency/m)	Pyrite	Chalcopyrite	Pyrrhotite	Other	Intensity			Type	Intensity		
0.00	11.10	11.10				CAS																			Casing/Overburden; No recovery.		
11.10	17.00	5.90				POR	BN	Fd			x		FX	<45					Li	f		Cc?	t			Strongly weathered Feldspar Porphyry; Strongly oxidized unit, appears to be feldspar porphyry with approx 5% weathered augite phenocrysts. Crowded porphyritic textures noted faintly throughout the matrix. Moderate-strong fracturing with weak carbonate infill. Dominantly low-moderate angles (<45°) TCA. Core rock is weak and blocky with rubble and ground sections. Limonite noted on fracture surfaces, possible chalcocite.	
17.00	36.00	19.00				POR	BN-GY	Fd	m		s		FX	<45					Li	f		Cc	tw			Weathered Feldspar Porphyry. Similar to above at 11.10-17.00m but with decreasing oxidation moving downhole. Porphyritic textures are much more visible with millimetre-scaled plagioclase and mafic phenocrysts. Moderate chlorite altered matrix. Core rock is blocky but slightly more competent than above unit. Carbonate stringers often infill fractures and show strong oxidation. Limonite and trace-weak chalcocite on fractures.	
			22.02	23.76	1.74		BN-BF				l		GO?										Cb	x		Strongly oxidized and bleached interval. Core rock is very weak and has weak gouge-like appearance. Upper contact is at approx 65° TCA. Strong carbonate. Cave material and rubble with very poor recovery.	
36.00	47.72	11.72				POR	DK-GN	Fd	f		t		FX	30-45	6										x	Feldspar Porphyry; Medium-dark grey-green feldspar porphyry. Approx 25-35% pale green plagioclase phenocrysts (generally <0.1cm) with approx 3% mafic phenocrysts, up to 1cm across (augite or hornblende) in a fairly chloritized aphanitic matrix.	
													VT	10	1											Fairly hard, somewhat competent core rock. Approx 70% of interval is comprised of blocky and sub angular to sub rounded rubble fragments. Moderate fracturing with quartz-carbonate stringer infill.	
			40.50	44.17	3.67						t								Li	w						Low veining density (other than quartz-carbonate fracture infill). One dark green veinlet noted with diffused bleached envelopes. Weak limonite noted on fracture surfaces.	
																			Li	w		Cb	w			Interval of strongly fractured/blocky core rock. Fracture surfaces coated with weakly oxidized carbonate and limonite.	
47.72	50.90	3.18				POR	DK-GN	Ae-Fd	f		t		VT	25	3											Augite-Feldspar Porphyry; similar to 36.00-47.72m but with increasing mafic phenocrysts that appear to be augite (up to approx 5%). Blocky core rock with some cave material (sub rounded/redrill fragments). Low-moderate veining density noted in more competent zones. Wispy white quartz-carbonate veinlets present. Trace fine pyrite noted, generally associated with veinlets.	
50.90	53.95	3.05				POR	DK-GY	Ae	w				FX	65	8										x	Augite-Feldspar Porphyry; Dark grey augite porphyry. Weakly chloritized aphanitic matrix with approx 15-25% faint plagioclase phenocrysts (<0.1cm) and approx 10% subhedral mafics (likely augite; up to 1.5cm across). Fairly competent core rock with moderate fracturing. Narrow white quartz ± carbonate veinlets present in veining set. Trace fine pyrite with rare pyrrhotite/magnetite(?).	
													VT	50	12		t	t					Mg?	t			
53.95	63.67	9.72				POR	DK-GN	Fd	f	tw	t	He	FX	50-60	9											Feldspar ± Augite Porphyry; Similar to 36.00-47.72m with approx 5% subhedral mafics (augite or hornblende). Weak-moderate chlorite alteration washes; porphyritic texture is nearly destroyed in stronger altered zones. Weak epidote and serpentine also noted, generally associated with veining structures. Fairly competent core rock but moderate-strongly fractured, often infilled by weakly oxidized quartz-carbonate stringers.	
													VT	40-60	6	t										Moderate veining density, mostly comprised of narrow white/cream quartz-carbonate veinlets. Several dark green veinlets also noted. Rare-trace amounts of discontinuous sulphide stringer are present, associated with darker coloured structures. Weakly diffused envelopes often present. Bledbby sulphides present (up to 1cm across). Pyrite and chalcopyrite seen carried as blebs in veining structures. Hematite often seen rimming chalcopyrite. Possible pyrrhotite/magnetite. Small black specks seen on many fracture surfaces - chalcocite(?).	
			55.08	57.00	1.92		GY-GN						GO	60												Possible fault and associated alteration zone. Blocky core with interval of crushed rock/granular gouge. Matrix is weakly bleached with light grey-green colouring (possible serpentine alteration?).	
			55.17	55.20	0.03	FLT?																					
63.67	65.98	2.31				POR	GY-BN	Fd			tw		FLT?													Possible Fault hosted in Feldspar Porphyry; Interval of blocky and rubbled core rock with approx 50% sand and grit, possible fault structure or crushed core. No measureable orientation noted. More competent zones have appearance similar to unit above.	
65.98	77.35	11.37				POR	DK-GY	Fd	t		tw	He	FX	60	5											Feldspar Porphyry; Dark green-grey aphanitic matrix with 15-25% pale cream green subhedral plagioclase phenocrysts (<0.1cm) and up to 2% angular to sub angular mafic phenocrysts (up to 1cm). The matrix is very weakly chloritized with trace-weak oxidation on fracture surfaces. Hematite present in rare amounts. Hard and fairly competent but blocky core rock. Two fracture sets noted; most commonly at approx 60° TCA while few but slightly larger structures are at <30° TCA.	
												Ep	FX	<30	3												
			73.16	73.80	0.64	FLT?					f	Ep	VT?	55										Cb	ms		Narrow wispy white quartz ± carbonate stringers are present, often having very weak epidote(?) envelopes. Rare-trace sulphides, generally forming discontinuous stringers and local finely disseminated grains. Interval of crushed carbonate-rich rock. Appears to possibly be a fault structure along an existing vein(?).
77.35	83.00	5.65				MNZ	GY-GN		tw		t	Ep	DY													Monzonite Dyke; Speckled medium grey-green intrusive interval, appears to be a weakly propylitic altered monzonite or diorite dyke. Equigranular k-spar and feldspar phenocrysts noted. Contact zones are moderately diffused and broken. Orientation appears to be at 50-70° TCA. Fairly competent core with increased fracturing near contact zones. Weakly oxidized carbonate present on surfaces. No significant sulphide mineralization noted.	
													FX	30-50	8									Cb	tw		
83.00	102.92	19.92				POR	DK-GN	Fd	f		tw	Ep	FX	30-60													Feldspar Porphyry; Dark green, slightly mottled matrix with approx 10-25% pale green subhedral plagioclase phenocrysts. Weak-fair chlorite altered with washes of stronger alteration where porphyritic textures are nearly destroyed. Strongly fractured and blocky core, approx 30% of the interval comprised of sub rounded rubble. Fracture surfaces often coated in oxidized carbonate.
													VT	40-50	3												Low-moderate veining where core is more competent. Likely to be carbonate fracture fill and are often wispy in texture.
																	t	t		Mg	t		Cc?	t		Trace mineralization with pyrite and chalcopyrite occurring as discontinuous stringers and locally as fine disseminated specks. Magnetite also present in trace amounts. Possible chalcocite noted on fracture surfaces.	

n = none, tw = 1-3%, w = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, t = 15-20% (write % for &gt;20%)

## GEOLOGY LOG

INTERVAL			SUB-INTERVAL			LITHOLOGY			ALTERATION				STRUCTURE				MINERALS						Photo	DETAILED DESCRIPTION			
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Unit	Modifier	Modifier 2	Chlorite	Serpentine	Oxidation	Other	Type	Altitude (ft)	Altitude (ft)	Density (frequency/cm)	Pyrite	Chalcocite	Pyrrhotite	Other	Other	Other					
			90.30	91.78	1.48	MNZ								DY	65					Mg	t				Monzonite dyke with associated contact zones, similar to 77.35-83.00m. Contact zones are fractured and blocky. Minor veining noted, often associated with pink envelopes (hematite or ksp <sup>+</sup> ?). Trace magnetite throughout.		
			93.00	96.23	3.23	FLT?					f				55										Interval of blocky broken rubble core rock with fine-coarse granular gouge material in patchy zones (up to approx 10cm wide). Weak-fairly oxidized, strongly calcareous fracture fill. Localized patches show fragments of white carbonate veinlets.		
			99.51	99.58	0.07	VEN	LT-GY				w				50		tw								Vuggy quartz-carbonate vein. Pyrite noted associated with oxidized veinlets in the envelopes.		
102.92	104.18	1.26				POR	GY-BN	Fd	tw		w	Ep	tw	VT	55	5	tw	t		Mg	w				Oxidized Feldspar Porphyry: Similar to 93.00-96.73m. Possible zone of a fault reactivated structure(?). Moderate-strongly oxidized veinlets noted, generally associated with sulphides. Broken, blocky core rock. Interval ends in an approx 15cm wide quartz-carbonate vein. This interval is followed by a zone of cave, approx 30cm wide.		
104.18	139.56	35.38				POR	DK-GN	Ae-Fd	w		tw	Ep	tw	FX	30-45	10									Augite-Feldspar Porphyry: Dark green-grey, weakly porphyritic rock. Localized patches with approx 10-15% pale green subhedral plagioclase phenocrysts and approx 3% sub angular mafic phenocrysts (up to 1cm), likely to be augite. Matrix is weakly chlorite and epidote altered with epidote generally associated with veinlets structures. Moderately fractured core rock with approx 35% of interval as blocky core or angular to sub angular rubble. Trace amounts of fine granular gouge/sand present on some fracture surfaces while most are coated in carbonate.		
														VT	20	4									Low-moderate veining; generally narrow wispy carbonate fracture fill. Quartz veinlets also present. Veinlets often associated with weak epidote envelopes. Two preferred orientation noted.		
														VT	50	6											
			106.61	108.19	1.58		GY-GN		f			Ep	f	VN	45	2	t	t		Mg	t					Trace-weak sulphide occurrence. Disseminated pyrite blebs (<0.5cm) noted in more porphyritic zones while magnetite is present in more altered patches. Decreasing pyrite moving downhole. Trace chalcocite also seen.	
			110.00	111.32	1.32		GN-BF				w			SH?	40		tw			Mg	tw					Interval with three or more quartz-carbonate veining zones with epidote flooding. Slight increase in sulphides, noted in veinlets.	
			118.05	119.00	0.95	FLT?			f			Ep	w												Slight increase in oxidation. Zone may have undergone weak shearing(?).		
			123.88	125.00	1.12	FLT?								GO											Weak core rock with sub angular fragments. Possible fault(?). One hematite stained carbonate veinlet noted.		
			128.17	131.00	2.83	FLT?				t	w			VN	65		w	t								Rubble core with medium granular gouge. Moderate carbonate content. Trace malachite noted. Possible faulted veining zone(?) - no measurable orientation.	
			136.92	139.56	2.64									XN?			tw	t	w							Blocky, rubble core rock with zones of silica flooding/veining present. One large vein noted (approx 20cm wide) with pyrite and trace chalcocite. Small zone of granular gouge (approx 5cm) appears immediately uphole from vein.	
																										Several large light grey patches present with weakly diffused boundaries; possible xenoliths.	
139.56	142.91	3.35				POR	MD-GY	Fd	tw		t	Ep	t	FX	60	7										Feldspar Porphyry: Medium grey, very weakly chlorite altered feldspar porphyry. Exhibits crowded porphyritic textures with occasional zones that have been strongly altered with nearly destroyed textures. Moderate-strongly fractured with two sets (higher angled orientation is more common).	
														FX	30	3											
														VT	60	8											Moderate veining, often cross-cutting fractures. Narrow and white in appearance and comprises dominantly of quartz-carbonate.
														VT	30	5											
			142.51	142.91	0.40									SH?	50		t	t	tw								Trace sulphides; minor pyrrhotite noted carried in veinlets while pyrite occurs locally as fine disseminated grains. Rare chalcocite. Possible small coherent shear zone. Core rock is weak and appears to be weakly brecciated.
142.91	154.53	11.62				FLT	BN-GY				s	He	f	SS	20											Strongly oxidized Fault in Feldspar Porphyry: Brown and medium grey matrix, appears to be moderately sheared and strongly oxidized, weakly brecciated rock. Reddish brown phenocrysts(?). Sickenelides noted. Strong irregular fracturing with many wispy, discontinuous carbonate veinlet fragments, oriented along a shear fabric.	
														SH?	30												
														FX			tw										
																				Li	w	Cc?	w				Trace-weak fine pyrite locally. Dark grey-black metallic mineral, possible chalcocite(?). Weak-fair limonite.
154.53	157.58	3.05				AND	GY-GN		w		tw			FX	50	8	tw										Andesite; Medium grey-green massive andesite. Fairly weak rock with moderate fracturing, infilled by oxidized carbonate stringers. Trace-weak amounts of sulphides, pyrite dominant. Contact zones are broken - no orientation measured.
157.58	181.68	24.10				POR	GY-GN	Fd	tw		t	Ep	t	FX	60												Feldspar Porphyry: Similar to 83.00-102.92m, but with slightly more competent core rock. Strongly fractured with approx 20% blocky and sub angular rubble. Most fracture surfaces are coated with weakly oxidized carbonate. Approx 15%-25% plagioclase phenocrysts make up the porphyritic texture. Moderate veining; abundant carbonate fracture fill noted, occasionally offset or discontinuous. Hematite staining noted in some veinlets while most are weakly oxidized.
														VT	30-50	15											Weak sulphides with localized patches of stronger mineralization. Pyrite and chalcocite carried in veinlets, generally at approx 40° TCA. Trace-weak malachite seen on some fractures. Trace fine disseminated sulphides also present.
			164.42	166.26	1.84									VT	40	2	tw	tw									Increased fracturing with slightly stronger epidote and weak-fair oxidation. Weakly blocky core. Increased malachite in fractures. Pyrite going to limonite also noted (red-brown phenocrysts, up to 0.3cm across).
			169.98	172.06	2.08						w	Ep	tw	VN	50	2	w	tw		Li	tw	Mc	w				Two quartz-carbonate veins present (up to 15cm wide) with fair epidote envelopes. Disseminated pyrite, possible chalcocite(?).
			172.82	173.56	0.74						ms	He	tw	VN	40		w	m		Mg	f	Mc	w				Blocky interval of moderate-strongly oxidized rock bearing semi-massive sulphides, occurring in weak bands.
			178.12	178.20	0.08									GO	65												Minor zones of possible veining with altered envelopes, occasionally with gouge.
			181.20	181.29	0.09									VT	65												Minor zones of possible veining with altered envelopes, occasionally with gouge.
181.68	212.32	30.64				POR	GY-GN	Fd	tw		t			FX	40-50	10											Feldspar Porphyry: Similar to 157.58-181.68. Approx 10-20% small pale green, subhedral plagioclase phenocrysts (<0.1cm) giving porphyritic textures, faint at top of interval, increasing downhole. Moderately fractured, weakly oxidized carbonate often coating surfaces. Approx 20% of the interval is blocky, rubble core rock, often associated with minor brecciated zones (sub angular fragments with weakly calcareous matrix) (up to approx 10cm wide).
			190.00	192.73	2.73	FLT?					w	Ep	tw	FX	35-50	8		tw	t		Mg	t					Low-moderate veining, generally narrow and irregular fracture fill.
			198.21	199.04	0.83									VT	40												Trace-weak sulphides, occurring as stringers and only locally as disseminated blebs. Pyrite, chalcocite, and magnetite noted.
			199.21	212.32	13.11						tw	Ep	t	VT	35-50	3											Rubble and sub angular fragments, slight increase in oxidized carbonate on fracture surfaces. Possible fault zone(?).
			205.23	205.61	0.38									VT	50												Carbonate veinlet with trace epidote envelopes. Weakly brecciated textures.
			211.58	212.32	0.74																						Below 199.21m core rock is fairly competent and show a decrease in narrow carbonate stringers.
																											Minor brecciated zone with preferred orientation. Green-brown, non-calcareous matrix infill.
																											Rubble, sub-rounded, some redrilled fragments, possible cave material.

n = none, l = &lt;1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, (write % for &gt;20%)

## GEOLOGY LOG

INTERVAL			SUB-INTERVAL			LITHOLOGY			ALTERATION				STRUCTURE			MINERALS						Photo	DETAILED DESCRIPTION				
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Unit	Modifier	Modifier 2	Chlorite	Serpentine	Oxidation	Other		Type	Attitude (tra)	Attitude (lta)	Density (frequency/m)	Pyrite	Chalcopyrite	Pyrrhotite	Other			Type	Intensity		
												Type	Intensity								Type					Intensity	
212.32	220.85	8.53				FLT	GY		tw		w	cly	x		GO											Fault, hosted in Feldspar Porphyry; Broken, rubble core rock with patches of brecciation, granular gouge and shears. Moderately brecciated with weakly calcareous matrix.	
					217.29										SH	60											
															VT	40-60		8	w				Mc	t			Moderate-high veining; mainly quartz-carbonate fracture fills. These tend to be narrow, wispy, and occasionally offset. Weak sulphide content, dominantly fine disseminated pyrite with pyritic shears. Rare malachite noted on fractures. Below 217.29m, there is a decrease in shearing and gouge. Brittle fracture zone associated with faulting(?).
220.85	262.33	41.48				POR	MD-GY	Fd	tw		t				FX	35-40	2										Feldspar Porphyry; Medium-dark green porphyritic rock. Weakly chloritized matrix with approx 10-30% visible plagioclase phenocrysts (<0.5cm). Competent core rock with minor fracturing. Two preferred orientation sets noted.
															FX	55-60	5										
															VT	10-20	2										
															VT	40-60	8										
																			tw	t	t	Mg	t				Trace-weak sulphides. Dominantly fine disseminated pyrite and possible rare chalcopyrite. Trace magnetite and pyrrhotite also noted throughout the matrix. Some pyrite and chalcopyrite also appears to be carried as small blebs in veinlets. Mixed interval of porphyritic andesite and tuff(?). Slight change in colour along with patches that no longer has a porphyritic texture, but instead appears somewhat equigranular. Faint contacts generally at approx 30-45°TCA. Trace sulphides, pyrite dominant. Increased chlorite alteration with weak serpentine(?). Fine grained, green-grey with yellow colouring. Likely altered zones to several veining structures within the interval. Increased hairline fractures infill by oxidized carbonate. Red-brown veinlet at 234.23-234.29m. Patch of parallel veinlets at 234.85-234.95m.
			224.16	230.50	6.34	VCL?	GY												t								
			233.59	236.49	2.90		GN-GY		w	tw	w		He?	x	FX												
															VT	60											
															VT	30	6							Cb	ms		
			239.88	241.30	1.42		BN-OR				tw				DY	70											
			249.02	250.73	1.71		DK-GY						Sil	t					w								
			250.73	251.59	0.86		BN-OR				tw																
			251.59	252.50	0.91		DK-GY						Sil	t	FLT?	55			w								
262.33	277.97	15.64				POR	GY-GN	Fd	w	t	w	Ep	tw		FX	50-60											Feldspar Porphyry; Medium grey-green feldspar porphyry. Moderate-strongly fractured with blocky core and angular fragments. Weak clay/gouge on some fracture surfaces.
															ST	50-60											Strong veining, dominantly calcareous stringers infilling fractures, often narrow and irregular and weak-moderately oxidized with epidote envelopes. Possible serpentine altered.
			265.66	268.03	2.37										SH?	60			tw	t		Mg	t				Weak sulphides, pyrite dominant. Generally occurring in localized bands. Trace chalcopyrite and magnetite. Increased wispy irregular stringers, possible healed fault/shear zone. Slight increase in pyrite content.
																		w									
277.97	281.19	3.22				POR	DK-GY	Ae-Fd	tw						FX	25-30	2										Augite Feldspar Porphyry; Similar to 220.85-262.33m, but with subhedral mafic phenocrysts making up approx 3% of the aphanitic matrix. Low-moderate fracturing. Two orientation sets noted.
															FX	50-65	5										
															VT	50-60			t	t							Low-moderate veining. Quartz ± carbonate veinlets (<1.5cm wide), often with weak epidote envelopes. Trace pyrite, occurring locally as disseminated grains. Possible chalcopyrite.
281.19	303.89	22.70				POR	DK-GY	Ae-Fd	t						FX	25-35	1										Augite Feldspar Porphyry; Similar to 220.85-262.33m, with increasing mafic moving downhole (up to 5%). Xenoliths (up to approx 15cm across) noted generally having distinct contacts.
															FX	50-60	4										
															XN												
															VT	5-20	2										Low veining; quartz ± carbonate veinlets (<1.5cm wide).
			291.52	292.42	0.90	VCL?									BD	40			tw	t							Trace-weak sulphides. Pyrite (and possible chalcopyrite) generally occur locally as disseminated grains or forms discontinuous stringers. Xenoliths tend to have a slightly increased sulphide content.
			295.72	296.54	0.82		GY-GN		tw	t	tw	Ep	w	tw	VT	30-40	5										Banded/bedded interval; volcaniclastics?
			300.55	301.94	1.39		GY-GN		tw				Ep	tw	VT	20-30	4										Two slightly more altered zones, likely associated with localized increase in stringers and patches of weak brecciation.
303.89	319.57	15.68				POR	MD-GY	Fd	t						FX	40-50	10										Feldspar Porphyry; Similar to 220.85-262.33m. Strong porphyritic textures noted throughout this interval. Blocky fractured core rock with angular fragments. Moderate amounts of narrow wispy calcareous fracture fill. Weak sulphides, noted as disseminated grains as well as narrow stringers. Pyrite and chalcopyrite present. Fault(?) with associated altered envelope. Gouge at 312.42-312.55m, partially comprised of calcareous vein material. Brecciated zone with calcareous matrix. Weak-moderately oxidized with wispy bands of white-cream carbonate.
			312.00	313.03	1.03	FLT?	LT-GN		w	tw	tw	Ep	tw		GO	40			tw	t							
			317.74	318.91							w				VT	30-50											
319.57	337.97	18.40				POR	DK-GY	Fd	t						FX	40-50	4										Feldspar Porphyry; Similar to 220.85-262.23m. Slightly blocky core rock with moderate fracturing. Patchy porphyritic texture. Low veining; generally narrow white quartz-carbonate stringers, occasionally hematite stained. Trace sulphides as local disseminated grains and narrow discontinuous stringers. Pyrite and chalcopyrite, rare pyrrhotite.
															VT	40-50	3			tw	t	t					
337.97	343.20	5.23				AND	MD-GN		f	w					FX	50											Shear in Andesite; Shear with associated altered zones. Matrix show moderate-strongly narrow fracturing with weak shear fabric(?). Weak breccia textures noted. Sheared(?) vein has sub-angular fragments with light grey clay/gouge.
			340.64	341.07	0.43		LT-GY								SH	30								Cb	ms		
															GO				w	tw							Weak-fair sulphides with pyrite and trace chalcopyrite. Dominantly occurring as clots along fractures.
343.20	347.51	4.31				AND	MD-GY		t						FX	35	4										Andesite; Fine grained to aphanitic andesite with minor patches that show very faint porphyritic textures. Weakly chlorite and epidote altered. Moderate fracturing with two preferred orientation sets.
															FX	60	2										
															VT	50	2										Low veining with quartz-carbonate veinlets (<1cm wide). Weak sulphides: pyrite and rare chalcopyrite noted locally on fractures.



## GEOLOGY LOG

INTERVAL			SUB-INTERVAL			LITHOLOGY			ALTERATION			STRUCTURE			MINERALS					DETAILED DESCRIPTION								
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Unit	Modifier	Modifier 2	Chlorite	Serpentine	Oxidation	Type	Intensity	Type	Altitude (tca)	Altitude (ft)	Density (frequency/m)	Pyrite	Chalcopyrite	Pyrrhotite	Type	Intensity	Type	Intensity	Photo			
347.51	357.10	9.59				POR	DK-GY	Fd	t			Ep	t		FX	60	7									Feldspar Porphyry; Similar to units uphole. Patchy porphyritic textures and aphanitic matrix. Moderate fracturing. Low veining; multi-staged(?) quartz-carbonate veinlets. Low sulphides; trace disseminated pyrite with rare chalcopyrite stringers. Possible lense of fine volcanoclastics. Slight increase in sulphide stringers.		
			355.40	357.10	1.70	VCL?									ST	40	2	t	t	tw							Augite Porphyry; Dark green porphyritic rock with approx 25% light green plagioclase phenocrysts and approx 3% mafic phenocrysts (<1cm). Phenocrysts are generally subhedral in shape. Patchy porphyritic zones may be xenoliths entrained in aphanitic andesite. Moderate-strong fracturing with very minor intervals of shattered core. Localized strong carbonate fracture infill. Trace sulphides with local disseminated pyrite and rare chalcopyrite. Two intervals with increased veining, showing weak shearing textures with minor gouge. Slightly increase in sulphide content.	
357.10	367.39	10.29				POR	DK-GN	Ae	tw			Ep	t		FX	35	6										Augite-Feldspar Porphyry; Medium-dark grey porphyritic unit with up to approx 30% light green (<0.1cm) plagioclase phenocrysts with 3-5% (<1cm) mafic phenocrysts. Weakly chlorite altered matrix with subhedral phenocrysts. Minor fracturing with two preferred orientation sets. Localized patches that have approx 1% of white phenocrysts that are up to 1cm across; possible minor dyke units(?). White phenocrysts become fainter moving downhole.	
			357.10	357.47	0.37										SS?	45		t	t									
			360.58	360.84	0.26				t						SH?	30		tw	tw								Trace-weak sulphides content, increased in porphyritic zones. Dominantly fine disseminated pyrite with trace chalcopyrite. Fractured, blocky core rock with coarse phenocrysts. Possible alteration zone associated with a minor fault. Some patches of darker grey colouring, possible pyritic gouge.	
367.39	407.56	40.17				POR	MD-GN	Ae-Fd	tw			Ep	t		FX	25-30	2										Augite Porphyry; Similar to 367.39-407.56m, with continued decrease visibility of plagioclase phenocrysts. Mafic phenocrysts can be up to 1.5cm across, euhedral to subhedral in shape. Moderate-strong fracturing. Irregular network of fine hairline noted throughout. Carbonate tends to infill fractures, forming irregular and wispy veinlets. Fractures appear to be at random orientations while veinlets (larger fractures?) have two preferred orientation.	
															FX	40-50	4										Weak-moderate veining, dominantly narrow white quartz-carbonate veinlets. Some are weakly oxidized. Two preferred orientations. Trace-weak sulphides content, increased in porphyritic zones. Dominantly fine disseminated pyrite with trace chalcopyrite. Fractured, blocky core rock with coarse phenocrysts. Possible alteration zone associated with a minor fault. Some patches of darker grey colouring, possible pyritic gouge.	
			384.27	384.90	0.63						tw				VT	25	1	tw	t								Augite Porphyry; Similar to 367.39-407.56m, with continued decrease visibility of plagioclase phenocrysts. Mafic phenocrysts can be up to 1.5cm across, euhedral to subhedral in shape. Moderate-strong fracturing. Irregular network of fine hairline noted throughout. Carbonate tends to infill fractures, forming irregular and wispy veinlets. Fractures appear to be at random orientations while veinlets (larger fractures?) have two preferred orientation.	
			399.59	399.98	0.39	FLT?	LT-GN		w	w					GO	35								Cb	f		Augite Porphyry; Similar to 367.39-407.56m, with continued decrease visibility of plagioclase phenocrysts. Mafic phenocrysts can be up to 1.5cm across, euhedral to subhedral in shape. Moderate-strong fracturing. Irregular network of fine hairline noted throughout. Carbonate tends to infill fractures, forming irregular and wispy veinlets. Fractures appear to be at random orientations while veinlets (larger fractures?) have two preferred orientation.	
407.56	429.36	21.80				POR	DK-GY	Ae	t			Ep	tw		FX												Weak sulphides, increasing slightly moving downhole. Dominantly pyrite with trace chalcopyrite. Generally clots (<0.5cm) forming discontinuous stringers. More common in zones of more intense fracturing. Small rubble zone at 408.5-408.72m (appears weak-moderately brecciated) with a slightly more epidote altered "envelope". Minor clay on fracture surfaces.	
			407.56	409.69	2.13							Ep	w		GO?			w	tw								Slightly more porphyritic interval with a minor shear at 414.82-414.88m, followed downhole by a minor brecciated zone. Increase pyrite blebs noted. Veinlet with minor shearing and altered envelopes.	
			412.74	415.91	3.17	FLT?									SH?	55											Augite-Feldspar Porphyry; Similar to 367.39-407.56m. Moderate-strong fracturing with approx 15% of interval shattered core with angular fragments. Little to no sulphides noted throughout the medium grained matrix.	
			427.41	428.10	0.69		LT-GN		w	w					VT	45											Augite-Feldspar Porphyry; Medium grey, weakly propylitic altered porphyritic rock. Zoned, medium-coarse grained phenocrysts with subhedral to anhedral pale green plagioclase (approx 0.2cm) and mafics up to 1cm across. Phenocrysts give unit a fragmented/clastic appearance as well. Occasional lenses of fine grained, aphanitic unit ("volcanic siltstone"?), makes up approx 5% of the interval. Contacts at 35-45° TCA; possible intrusive unit (dyke). Low-moderate fracturing, two orientation sets noted.	
429.36	433.55	4.19				POR	DK-GY	Ae-Fd							FX	40-60		t	t								Low veining density, dominantly narrow quartz stringers. Weak to no alteration envelopes. Trace disseminated sulphides, dominantly pyrite with rare chalcopyrite and magnetite. Rubble, redrilled core material; cave. Several minor lenses of fine, aphanitic unit with distinct lack of phenocrysts. Contacts are generally at 30-50° TCA.	
433.55	459.42	25.87				POR	MD-GY	Ae-Fd	t			Ep	t		FX	15-30	2										Porphyritic Dyke; Medium green, moderately propylitic altered dyke(?). Contacts are distinct with slight increase in mineralization than the rest of the interval. Cream coloured anhedral to subhedral phenocrysts (<0.5cm) are commonly epidote altered. Minor fracturing with surfaces often coated thinly with carbonate. Trace sulphides; pyrite, chalcopyrite and rare magnetite present.	
															FX	50-65	2											
			433.82	434.31	0.49										VT	35-50	1	t	t	Mg	t						Andesite; Similar to 343.70-347.51m. Fine grained, weakly propylitic altered andesite. Crosscut by several minor porphyritic dykes. Moderate fracturing. Low veining, generally quartz-carbonate. Two preferred orientations noted.	
			449.37	450.14	0.77																						Porphyritic dyke, similar to 459.42-461.66m. Minor interval of shattered core rock, possible zone of more intense fracturing(?).	
			452.56	452.95	0.39																							
			454.05	454.22	0.17																							
459.42	461.66	2.24				POR	MD-GN	Fd	w			Ep	m		DY	40		t	t	Mg	t						Augite-Feldspar Porphyry; Similar to 433.56-459.42m. Contacts at 60-65° TCA. Fairly competent core rock with minor fracturing. Minor quartz veinlets, generally narrow and wispy. One sulphide bearing carbonate veinlet noted.	
															FX	50-65	4											
461.66	466.28	4.62				AND	MD-GN								FX	65	7										Trace-weak sulphides. Fine disseminated pyrite with rare chalcopyrite. Local magnetite also present. Slight increase at lower contact zone. Lense of fine grained, weakly bedded unit ("volcanic siltstone"?). Fairly sharp contacts at similar orientation to beds.	
															VT	10	1											
			464.12	464.71	0.59	POR		Fd							VT	80	2											
			466.01	466.22	0.21										DY	55												
466.28	472.10	5.82				POR	MD-GY	Ae-Fd	t			Ep	t		FX	60	4								Cb	x		Augite-Feldspar Porphyry; Similar to 433.56-459.42m. Contacts at 60-65° TCA. Fairly competent core rock with minor fracturing. Minor quartz veinlets, generally narrow and wispy. One sulphide bearing carbonate veinlet noted.
															VT	40-60	2											
															VT	50	1	m										
			468.71	468.97	0.26	VCL?									BD	40		tw	t					Mg	t		Trace-weak sulphides. Fine disseminated pyrite with rare chalcopyrite. Local magnetite also present. Slight increase at lower contact zone. Lense of fine grained, weakly bedded unit ("volcanic siltstone"?). Fairly sharp contacts at similar orientation to beds.	

n = none, l = &lt;1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for &gt;20%)

## GEOLOGY LOG

INTERVAL			SUB-INTERVAL			LITHOLOGY			ALTERATION					STRUCTURE				MINERALS							Photo	DETAILED DESCRIPTION	
From (m)	To (m)	Interval (m)	From (m)	To (m)	Interval (m)	Unit	Modifier	Modifier 2	Chlorite	Serpentine	Oxidation	Other		Type	Attitude (tca)	Attitude (tfa)	Density (frequency/m)	Pyrite	Chalcopyrite	Pyrrhotite	Other		Other				
												Type	Intensity								Type	Intensity	Type	Intensity			
472.10	487.42	15.32				AND	MD-GY		t					BN	40-45											Andesite; Medium grey, fine grained, weakly bedded andesite. Matrix appears to be locally banded/bedded, with occasional lenses of volcanoclastic(?) rock. Contacts between zones tend to be sharp with narrow contact alteration zones (<1cm wide).	
														C	40												Low-moderate numbers of large fracturing structures with preferred orientation. Numerous narrow, irregular fractures without preferred orientation (crackled texture). Fracture surfaces tend to be clean with no infilling material.
														FX	60		4			t	t				Mg	t	Trace-weak mineralization, dominantly pyrite with rare chalcopyrite. Noted as blebs on fracture surfaces.
														FX	30			tw									Broken, blocky core with a small zone that appears to have been sheared(?) fabric. Weakly brecciated with slight increase in pyrite.
			472.18	473.30	1.12		LT-GN		tw				Ep	tw	SH?	30											Increased irregular hairline fractures, some offsetting bedding/bands. Biotite alteration(?).
			477.67	479.96	2.29		DK-BN						Bl	t	FX												Weakly brecciated interval with weak fabric. Slightly coarser grained than main unit ("volcanic siltstone"?).
			483.81	484.51	0.70									C	40												
														FL?	45												
487.42	498.07	10.65				AND	MD-GY							C	30-45												Fine grained and Porphyritic Andesite; mixed interval of fine grained andesite (similar to 472.1-487.42m) and feldspar porphyry (similar to 367.39-407.56m). Contacts are sharp at moderate angles TCA. Minor fracturing, cross-cutting bedding orientations.
														FX	45-60		5										Low veining density; occasional quartz-carbonate stringers
														VT	35		1										Trace-weak sulphides, dominantly pyrite with trace chalcopyrite. Possible rare magnetite. Mineralization generally occurs on fracture surfaces as small and thin blebs.
			487.42	490.42	3.00													tw	t								Porphyritic intervals.
			492.25	493.55	1.30																						
			494.13	496.39	2.26																						
			490.42	492.25	1.83																						
			493.55	494.13	0.58																						
			496.39	498.07	1.68																						
498.07	504.93	6.86				POR	MD-GY	Fd	tw				Ep	tw	FX	40-50		8									Feldspar Porphyry; Medium-dark grey, strongly porphyritic unit with 25-30% subhedral, weakly zoned plagioclase phenocrysts. Small lithic fragments(?) also present, often rounded and dark grey in colour with distinct contacts. Contacts with unit uphole at approx 60° TCA. Moderate fracturing, increasing significantly at approx 501m.
														VT					t								Moderate veining, often irregular and fragments of quartz-carbonate veinlets. In the strongly fractured zones, wispy veinlets noted.
			501.23	504.93	3.70		MD-GN		w				He	t	FX												Increase fracturing, may be probable dyke unit. Very faint "contact" noted at approx 30° TCA. Increased associated veinlets. Fracture surfaces commonly coated with carbonate. Trace hematite noted locally throughout.
504.93	509.08	4.15				POR	MD-GN	Ae-Fd	w				Ep	f	DY?												Augite-Feldspar Porphyry; Light-medium green, moderate-strongly altered porphyritic unit. Porphyritic textures nearly destroyed in localized zones. Appears to be strongly fractured but healed by quartz-carbonate veinlets. These veinlets are wispy, irregular and often offset and fragmented.
														FX													
														VT													
			506.82	507.95	1.13														tw								Trace-weak sulphides, pyrite dominant. Slight increase in more brecciated zones.
														GO	50				tw								More intensely sheared interval with approx 5% gouge material. Weak-moderately pyritic gouge in a weak-moderately brecciated matrix. Moderate-strongly calcareous.
509.08	535.53	26.45				POR	MD-GY	Fd	tw					FX	35-50		5										Feldspar Porphyry; Medium-dark grey, weakly porphyritic unit. Faint white diffused subhedral phenocrysts (<0.5cm). Low-moderate fracturing throughout with local zones of shattered core rock.
														VT	15		2										Moderate veining, often infilling fractures. Two preferred orientations noted.
														VT	40-60		3										Trace-weak sulphides, dominantly pyrite with trace chalcopyrite. Noted on fracture surfaces or carried in veinlets or locally as fine-medium disseminated grains.
			524.32	525.41	1.09								Ep	w	DY	35			tw	t							Porphyritic dyke; slightly stronger epidote alteration than the main unit. Upper contact is in a shattered zone while the lower contact is very weakly diffused. Cross-cut by one narrow white low angle stringer (sub parallel TCA).
			528.59	528.88	0.29				w				Ep	w	DY	35											Porphyritic dyke, similar to 524.32-525.41m. Slight increase in sulphides around the contacts, mostly as disseminated blebs.
			530.53	532.49	1.96									DY?	50												Possible dyke with weak brecciated zones near the contacts. Appears to be weakly sheared(?) with a very weak fabric. Narrow fractures commonly seen in localized zones, generally with increased quartz-carbonate stringers.
			532.49	535.53	3.04									SH?													Interval of blocky core, fractures follow main preferred orientation at 40-60° TCA. The hole terminates in a minor zone of rubble.
																											EOH at 535.53m.