Samatosum 1991
823713

DRILL HOLE RECORD

PROJECT NAME :	SAM
HOLE NUMBER :	RG 394
LOCATION :	SE of pit
PROJECT NUMBER :	240
CLAIM NUMBER :	
PLOTTING COORDS — GRID :	SAM
NORTH :	N
EAST :	W
ELEV :	m
COLLAR BRNG — GRID :	180° 00' 00"
ASTRONOMIC :	225° 00' 00"
COLLAR DIP :	-75° 00' 00"
CONTRACTOR :	FRONTIER
CORE STORAGE :	SAMEX CAMP
CASING :	LIH
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ
PURPOSE/COMMENTS :	9300 W section, hole P-15.

DATE STARTED (M/D/Y):	5/21/91
DATE COMPLETED (M/D/Y):	5/28/91
DATE LOGGED (M/D/Y):	5/22/91
UNITS (F/M) :	m
ALTERNATE COORDS — GRID :	est.
NORTH :	6+00 N
EAST :	93+00 W
ELEV :	1475.00 m
COLLAR SURVEY (Y/N) :	N
RQD LOG (Y/N) :	N
PULSE EM SURVEY (Y/N):	N
LOGGED BY :	A. HILL
START DEPTH:	0.0
FINAL DEPTH:	387.4

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
90.5	A	—	-75	OK	
104.8	A	—	-74	OK	
187.7	A	—	—	—	poor etch
230.4	A	—	—	—	poor etch
271.2	A	—	-71	OK	
321.5	A	—	-69	OK	
355.5	A	—	-68	OK	
386.2	A	—	-66	OK	

HOLE NO. RG 394

LOGGED BY A. HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 9.7	<Csg.>			Overburden/casing, left in hole.				
9.7 to 167.5	<MAF VOLC>	green and white	fine to med.	Typical chloritic and calcareous Sam Mafics. Moderately broken core down to 35.0, with 10% white carb/qtz veining. 9.7–24.0: lapilli tuff 24.0–53.0: fine to med. grained flows 53.0–155.5: mafic lapilli tuff. A few crosscutting dol-qtz veins begin at 59.5, at angle Major brittle fault from 67.0 to 101.2	40°	+24.0–32.0+ <brittle flt> with vuggy carb veins. +67.0–101.2+ <major br. flt.> Minor bright green talc and moderate carb'n, assoc. with faulting.	No visible sx. except: +59.5–59.9+ <qdv, 3% cpy, 3% gn> and +67.1–69.3+ <qdv, flt, 1% gn, tr cpy> +81.4–82.4+ <qdv, tr gn>	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				During the faulted interval core ranges from gouge to moderately broken, but only weakly carb'd.			105.3-105.4: thin dol vein with 5% py and trace gn, sp.	
				Foliation at 107.0:	80°			
				118.0-120.3: friable fault breccia, very green. Below this the degree of Fe-dol alteration increases until mafic rock type is indistinguishable. Continues increasing to contact, with strong stretching fabric at ...	75°	+125.0-167.5+ <strong dol. altn> with assoc. py and talc, and brown sericite.	125.0-167.5: 2-5% py as dissem. and f.f. assoc. with carb flooding.	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
167.5 to 168.8	<QTZ SER/ ARG>	Yellow and black		Contact is knife sharp and marked by a 5cm broken qtz-ser veinlet. Interval is strongly fragmented but well healed, faint contorted relict bedding between argillaceous and yellow sericitic portions (1:5). Probably correlative with "serts" and "trans frags" of previous loggers. Strong stretching fabric at	75°	Intense yellow to pale green sericite with white qtz fragments and segregations. Silicified and not carb'd.	Wispy fracture filling pyrite (2-3%)	
				White crystalline qtz now in "balls" and lenses				

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
168.8 to 181.0	<GREY SER/PY/ARG>	Grey + black	v. fine	Conformable, knife sharp contact with "snowy mut" (grey sericite schist) with a nodular carbonate overprint. A few slivers of argillite present, ranging from a few mm to a few cm. At 170.6 argillite is finely laminated with syngenetic (?) looking pyrite, although highly contorted and cut by hazy qtz-carb veinlets.		Strong grey "muddy" sericite, pyrite, carbonate alteration.	15-25% v.f.g. py disseminated throughout.	
				Schistosity @ 171.5	70°	+173.1-178.0 f <flt @ 40> with gouge, breccia, and a swing in fabric to 40 degrees at 177.0. Probably all variable fault breccia to lower contact.	Minor coarser pyrite and trace sphalerite assoc. with veinlets of carb-qtz.	
				A 30 cm slug of white qtz-carb vein, barren, within gouge @ 173.5. Good debris flow (?) textures @ 177.5 m.			+168.8-181.0 f <15% py>	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
181.0 to 182.2	<MASSIVE PY>			Sharp contact with massive, milled-up pyrite in a siliceous matrix. Texture is cataclastic, with a few cm scale qtz patches rimmed by gn, sp, cp and a few grains of tet(?).		possible silicification which seems to add base metal sulphides to an older pyrite body.	+181.0-182.2+ <60% py, 3% sp, tr gn, cp, tt>	Resembles core from recent u/G drilling of gold zone.
182.2 to 192.0	<FLT/PY/QTZ/SER/ARG>	Grey		Mostly friable interval of grey sericitic, siliceous, pyritic schist. Short 5-10cm seams of massive pyrite may be fault blocks of above interval. Relict fragmental textures present. (ie: brecciated breccia)		Quartz injection pre and possibly syn-faulting. Minor arg survives, intense grey sericitization, mostly as clasts.	+182.0-192.0+ <20% py, 3% sp, tr tt?> Coarser pyrite assoc. with qtz veinlets and minor base metals. A few suspected grains of tetrahedrite.	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
192.0 to 194.0	<SIL ZONE>	white + grey		Very hard, intensely silicified zone. White stockwork cuts grey siliceous material, with argillaceous and pyritic stylolites. Probably a silicified argillite.		Intense sil.	Pyrite (5%) in stylolites. A few coarse grains of brown sphalerite and galena assoc. with qtz. veinlets.	
194.0 to 206.8	<SER/DOL/PY/MAFICS?>	brown, grey, and green.		Upper contact marked by change from sil. to carb. alteration, appearance of brown sericite, and traces of fuchsite. Faulting continues, but mostly parallel to foliation... Strong fabric, locally friable. Minor argillaceous component present.	65°	Intense ferrodol'n, with brown sericite (after chlorite?), and minor weak fuchsite development. Pyrite also an alteration product.	+194.0-206.8+ <15% py, tr. sp> disseminated throughout.	Is this a "mutized" mafic volcaniclastic? Resembles "MUT" above in this hole, but is browner.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
206.8 to 208.4	<SIL/PY ZONE>			Another intensely silicified zone, but this time with considerably more sulphides. Quartz is pervasive, light to dark grey, and finely crystalline.		Intense sil of probable argillaceous sediments.	+206.8-208.4+ <10% py, 2% sp, tr cp, tt?> Pyrite is medium to coarse grained and concentrated in bands, roughly parallel to foliation. Sphalerite concentrated along veinlet margins.	
208.4 to 220.2	<GREY SER SCHIST>	Grey		Rather monotonous interval of dense grey sericite, with 15% white qtz wisps along foliation at Competant with very little broken core. Relict coarse wacke texture visible in places. Lower contact a fault.	60°	Intense grey sericite, moderate silicification +220.1-220.2+ <gouge>	Very fine grained pyrite dissem. throughout. +208.4-220.2+ <15% py> Also +213.8-214.3+ <QDV, tr sp, gn, tt> as coarse grains in milky vein	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
220.2 to 224.5	<RIBBON CHERT>	grey	aphanitic	Very finely laminated light grey chert, highly contorted, with disharmonic, chaotic folding throughout. Layers are separated by all or one of black argillite, pyrite, or grey sericite.		Minor grey sericite septae. Virtually no evidence of qtz veining.	5% pyrite as septae between chert layers.	Corrugated look, with rough core surface.
224.5 to 235.7	<SIL ARG/ CHT>	black + white		Very black argillite with grey ribbon chert, laminations contorted. Qtz veining is white and barren with black stylolites. Ratios arg : cht : qv are 2 : 5 : 1. Strong fabric avg.	65°	Silicification is moderate in arg. Minor dol also in veins.	2% py as thin bands and fracture fillings.	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
235.7 to 241.8	<DOL MAF VCLASTICS?> "Dolomitized Mafic Volconiclastics?"	Buff and grey		Upper contact broken, into interval of buff sericitic rock with grey dolomitic lenses. Rock has banded appearance, with no relict textures. Lower contact is conformable and sharp.	70°	Strong carbonatization, brown ser, grey Fe-dol, trace fuchsite.	2% dissem py	
241.8 to 362.9	<ARG/CHT/TUFF BX>	Black, grey, and pale green respectively		Long sequence of laminated to thinly bedded argillite, with lesser chert, and thin beds of pale green tuff(?). Fabric is strong and varies from foliation to spaced cleavage +/- 10 degrees	65	Silicification is moderate in arg, dol is pervasive in tuff. White qdv's common and mostly deformed, and barren, both crosscutting and conformable.	Only trace to 1% pyrite as dissem. assoc. with veining.	Highly contorted, tectonically brecciated, and strained. Fault intensity is centered around 239.4-261.3 <ductile thrust?> and weakens downhole.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Proportion of dol. mafics increases from 10% to 40% at 325.5, and looks like a volconiclastic wacke. Gradational lower contact.		{268.7 – 269.3} <flt. gou.>		
362.9 to 387.4	<ALT MAFICS>	Green, white, and grey		Consistently textured green mafics with pervasive carbonate. However, no brown sericite is developed. Widely spaced qtz-carb veining is typical of unaltered Sam mafics. Internal volcanic textures destroyed. Weak foliation... ** END OF HOLE **	60°	Evenly spotted texture with porphyroblastic carbonate (Fe-dol) giving rock a "pseudogabbroic" appearance. Chlorite is abundant also.	trace diss. pg only.	"Middle mafics": At 386.9 the lithology changes to lapilli tuff from a probable massive flow.

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
45226	59.5	59.9			0.4																		
45227	67.1	68.7			1.6																		
45228	68.7	69.3			0.6																		
45229	81.4	82.4			1.0																		
45230	60.8	61.9			1.1																		
45231	166.0	167.5			1.5																		
45232	167.5	168.8			1.3																		
45233	168.8	170.6			1.8																		
45234	170.6	172.1			1.5																		
45235	172.1	173.1			1.0																		
45236	173.1	174.0			0.9																		
45237	174.0	175.5			1.5																		
45238	175.5	177.0			1.5																		
45239	177.0	178.5			1.5																		
45240	178.5	180.0			1.5																		
45241	180.0	181.0			1.0																		
45242	181.0	182.2			1.2	1.163	2.37	3.99	54.9	.56													
45243	182.2	183.2			1.0																		
45244	183.2	184.7			1.5																		
45245	184.7	186.2			1.5																		

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
45246	186.2	187.7			1.5																		
45247	187.7	189.2			1.5																		
45248	189.2	190.7			1.5																		
45249	190.7	192.0			1.3																		
45250	192.0	193.0			1.0																		
45251	193.0	194.0			1.0																		
45252	194.0	195.5			1.5																		
45253	195.5	197.0			1.5																		
45254	197.0	198.5			1.5																		
45255	198.5	200.0			1.5																		
45256	200.0	201.5			1.5																		
45257	201.5	203.0			1.5																		
45258	203.0	204.4			1.4																		
45259	204.4	205.5			1.1																		
45260	205.5	206.8			1.3																		
45262	206.8	208.4			1.6																		
45263	208.4	209.4			1.0																		
45264	209.4	210.9			1.5																		
45265	210.9	212.4			1.5																		
45266	212.4	213.8			1.5																		

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
45 267	213.0	214.3			0.5																		
45 268	214.3	215.8			1.5																		
45 269	215.8	217.3			1.5																		
45 270	217.0	218.8			1.5																		
45 271	218.8	220.2			1.4																		
45 272	220.2	221.7			1.5																		

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ~~PPM Ag~~	Ba ~~PPB Au~~	Sb ppm	Ag ppm	Au ppb
45226	59.5	59.9			0.4	.213	.80	.15	4.2	.03						2129	8024	1542	1		1	4.2	26
45227	67.1	68.7			1.6											1517	1696	1143	1		3	3.9	34
45228	68.7	69.3			0.6											45	114	148	34		1	1.6	19
45229	81.4	82.4			1.0											34	129	373	1		1	2.7	20
45230	60.8	61.9			1.1											1145	563	250	1		1	2.3	18
45231	166.0	167.5			1.5											63	106	9	206		1	1.7	10
45232	167.5	168.8			1.3											21	65	18	62		1	0.6	2
45233	168.8	170.6			1.8											84	93	68	47		1	2.1	22
45234	170.6	172.1			1.5											86	157	95	10		1	2.7	16
45235	172.1	173.1			1.0											93	218	81	45		5	2.4	25
45236	173.1	174.0			0.9											53	236	360	57		2	2.1	87
45237	174.0	175.5			1.5											39	60	166	59		1	1.7	75
45238	175.5	177.0			1.5											65	238	335	131		3	3.2	142
45239	177.0	178.5			1.5	.015	.47	.39	11.8	.13					"	147	4721	3966	278		29	11.8	132
45240	178.5	180.0			1.5	.007	.16	.18	4.7	.10					"	73	1596	1822	282		8	4.7	100
45241	180.0	181.0			1.0	.011	.05	.07	2.5	.10					"	107	488	652	236		13	2.5	103
45242	181.0	182.2			1.2	1.163	2.37	3.99	58.9	.56									3140	—	2820		
45243	182.2	183.2			1.0	.178	.38	.82	16.6	.27					"	1776	3803	8245	920		365	16.6	270
45244	183.2	184.7			1.5	.089	1.39	.64	10.2	.21					"	894	13889	6438	700		124	10.2	212
45245	184.7	186.2			1.5	.040	1.41	.33	6.5	.31					"	404	14105	3362	728		50	6.5	309

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM ~~Ag~~ As	PPB ~~Au~~ Ba	Sb	Hg	Au
45246	186.2	187.7			1.5	.173	2.43	1.52	21.7	.26					*	1731	24298	15237	742		92	21.7	264
45247	187.7	189.2			1.5	.058	.82	.78	14.1	.06					*	580	8205	7879	509		65	14.1	61
45248	189.2	190.7			1.5											227	410	224	228		35	3.8	76
45249	190.7	192.0			1.3											83	220	242	246		7	2.5	76
45250	192.0	193.0			1.0											61	735	403	127		6	1.9	29
45251	193.0	194.0			1.0											24	67	82	238		3	1.6	38
45252	194.0	195.5			1.5											44	136	63	326		1	2.4	37
45253	195.5	197.0			1.5											83	294	456	865		5	3.7	292
45254	197.0	198.5			1.5											137	484	468	549		1	2.9	108
45255	198.5	200.0			1.5											60	209	318	420		1	2.1	29
45256	200.0	201.5			1.5											77	1507	438	426		1	2.3	68
45257	201.5	203.0			1.5											95	94	198	408		6	2.0	19
45258	203.0	204.4			1.4											96	207	316	659		1	1.7	92
45259	204.4	205.5			1.1											499	1765	1636	411		6	4.4	90
45261	205.5	206.8			1.3											102	1476	1805	1300		4	6.1	119
45262	206.8	208.4			1.6	.257	2.18	1.09	15.3	.38					*	2573	21889	10989	1068		270	15.3	382
45263	208.4	209.4			1.0											49	123	178	140		5	6.1	130
45264	209.4	210.9			1.5											39	121	132	104		4	2.9	84
45265	210.9	212.4			1.5											30	27	66	83		2	2.6	72
45266	212.4	213.8			1.5											184	722	582	110		5	4.7	55.

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM ~~Ag~~ As	PPB ~~Au~~ Ba	Sb	Hg	Au
45 267	213.0	214.3			0.5											65	172	3171	18		16	8.0	18
45 268	214.3	215.8			1.5											25	35	175	29		3	8.8	37
45 269	215.8	217.3			1.5											26	1775	2592	23		6	11.4	69
45 270	217.0	218.8			1.5											24	72	207	14		1	7.8	83
45 271	218.8	220.2			1.4											33	63	126	62		3	2.4	76
45 272	220.2	221.7			1.5											35	55	35	64		4	3.6	244

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DRILL HOLE RECORD

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 5/28/91
HOLE NUMBER : RG 395	DATE COMPLETED (M/D/Y): 6/08/91
LOCATION : SE of pit	DATE LOGGED (M/D/Y): " "
PROJECT NUMBER : 240	UNITS (F/M) : m
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : SAM est.
	NORTH :		NORTH : 9+50 N
	EAST :		EAST : 95+55 W
	ELEV :		ELEV : 1452.00

COLLAR BRNG			
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : N	
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N	
	COLLAR DIP : -89° 00' 00"	PULSE EM SURVEY (Y/N) : not yet	

CONTRACTOR : FRONTIER	LOGGED BY : A. HILL
CORE STORAGE : SAMEK CAMP	START DEPTH : 0.0
CASING : W/H.	FINAL DEPTH : 614.7
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : Proposed hole P-18, test Sam horizon 150m upstrike RG 376.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
75.2	A	—	-87	ok	
124.0	A	—	-86	ok	
178.9	A	—	-83	ok	
228.6	A	—	-80	ok	
270.4	A	—	-76	ok	
303.9	M	211	-75½	ok	SPERRY-SUN
316.1	A	—	-89	—	Stumper?
346.6	A	—	-74	ok	
386.2	A	—	-72	ok	
465.4	A	—	-70	ok	
495.9	A	—	-70	ok	
533.7	A	—	-70	ok	
553.8	M	209	-70	ok	SPERRY-SUN
556.9	A	—	-69	ok	

HOLE NO. RG 395

LOGGED BY HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 15.6	<csg>			Casing through overburden				
15.8 to 327.9	<MAF VOLC>	Dark to light green		Core is badly broken from 15.8-24.6 <flt bx> and bleached out from 26.7-32.0 <carb flt>. Otherwise a dark green chloritic greenstone, cut by 10-15% irregular qtz-calcite veinlets. Moderate foliation at First lapilli seen at 122 meters, but still mostly massive volcanics.	50°	Pervasive calcareous and chloritic except around faults as noted, where ferrodolomitization and minor diss. py present, along with trace fuchsite and talc. Patchy weak Fe-dol locally throughout 65.0-90.0 meters.	2-3% diss py except for a fairly rich dol (± qtz) vein 54.5-54.7 <3% gn, 2% sp, py, cp> with spectacular pegmatitic "spider web" textures.	

HOLE NO RG395

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Relatively fresh and green, with dark spots, and white veinlets and segregations through to 307.5m.		Carbonatization, centered around lapilli, starts gradationally at 319.0m and increases intensity along with fabric until contact.	Minor diss. py only except for a mineralized dol vein from	
				From {237.6-240.0} <qdv, flt bx> and		{319.0-327.9} <dol alt>	{322.8-323.1} <2% sp, gn; qdv>	
				{262.4-264.2} <qdv, flt bx> break the monotony.				
				Lower contact is sharp and conformable at angle of...	65°			
				Competant core.				

HOLE NO RG395

PAGE 3

ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
327.9 to 361.4	<SIL ARG/ TUFF TECT> "Silicified argillite and tuff tectonite"	black and pale green		Apparently a part of the mafic pile (or very well annealed) is a competant, black argillaceous unit, with grey silty and cherty clasts and deformed laminations. Very strong foliation at Parallel qtz veinlets (10%) and axial cleavage to small scale folds. Clast are angular or boudin shaped. Lower contact is interbanded (bedded?) and marks last argillite seen.	55°	Silicification related to veinlets, with minor pale green to yellow sericite development in tuff layers which comprise 10-30% of unit increasing downhole.	Trace diss. py only except for mineralized qtz-dol veinlets: {329.1-329.3}<qdv> with 10% sp in a m.g. pyritic mass, 3% gn, tr cp. Also at 344.6-344.8 and 347.1-347.7 and 353.1-354.1. These veinlets are 1 to 10cm thick and although often parallel, are deformed. Most were sampled.	

HOLE NO RG395

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
361.4 to 395.3	<DOL MAFICS>	Grey and mustard yellow		Grey dolomite in medium to coarse grained patches separated by sericite (15%) and lesser talc or fuchsite. Irregular fabric swings from 30-70 degrees. (Does this mean that alt. is post penetrative deformation?) Lower contact is also interbanded and gradational and marks reappearance of black argillaceous component.		Very intense ferrodolomitization and mustard yellow to buff sericitization. Becomes darker buff and dark grey downhole	3-4% diss. pyrite only until 390m when sulphide rich qtz-carb veins become common {390.7 - 395.3} <7% py, 2% sp, tr gn, cp>	

HOLE NO Rh 395

PAGE 5

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
395.3 to 411.3	<ARG/SILT TUFF TECT> "Argillite/ Siltstone + Tuff? Tectonite"	Black, yellow, grey, green.		Mixed lithology tectonic breccia, with a strong stretching fabric at . . . Possible "heterolithic fragmental" from f395.3 – 397.0f <het frag?> Mainly an argillaceous matrix, with siliceous clasts, although there are short intervals of yellow sericite or fuchsite. Overall a very "ratty" irregular texture, very disturbed. Minor gouge and friable breccia throughout but most intense at bottom contact.	55°	Patchy silicification associated with 1-10cm qtz veinlets and also patchy yellow or green sericite apparently host rock dependant. f410.6 – 411.3f <fuch. flt. gou.>	3% py as wispy disseminations and in cataclysed siliceous patches and veinlets. Trace sphalerite assoc. with py. Very rare cp at 397.4.	

HOLE NO RG 395

PAGE 6

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
411.3 to 445.6	<SIL ARG/ CHT?	Black, white, and grey		Very hard and silicified interval, cut by white milky qtz. veins up to 10cm, and by grey qtz stockwork, crosscutting and deformed. Clotty fine to coarse grained pyrite and sphalerite are disseminated and fracture filling, as well as in veins. Internal textures destroyed, with only minor contorted laminations remaining. Fabric ranges from forty to ninety degrees to core axis.		Pervasive, vein controlled silicification. Some siltstone now is cherty, perhaps some primary chert. Black, graphitic "stylolites" common throughout. {416.2-416.5} <fuch.> {434.8-436.8} <cht?> {443.4-444.6} <15% py, 5% sp, 2% gn in qvs> Minor fault breccia over last 5m.	Patchy veinlet related sulphides. {411.3-445.6} <7% py, 2% sp, tr gtc> Sphalerite is generally brown, med. to coarse grained and within veins with trace galena. Pyrite is more widespread in veins and in wallrock dissem. and patches.	Continuously sampled for ICP/Geochem analysis.

HOLE NO RG 395

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
445.6 to 501.0	<MIXED SEDS/ TUFF? TECT> "tectonite"	Black, grey, + green.		Top contact friable fault breccia for 60 cm with silicified and dolomitized fragments containing dissem. pyrite (10%). Lithologically mixed and altered, apparently laminated argillite/siltstone (±cht?) with thicker 0.1-1.0 m scale interbeds of heavily carbonatized and fuchsitic tuff? or volcaniclastic wacke. The laminated portions are contorted, disrupted, and silicified. Spaced cleavage at 458 m Fragmental, tectonic bx locally.	60°	silicification predominates, with dol'n host rock dependant. eg: +451.0-451.9 f <fuch.> Sericite (yellow + brown) in patches appears around 454 m within mafics, and minor grey sericite around 458 m in argillaceous portions. Gradationally (ca. 477 m) downhole the rock becomes more even textured and dark grey; probably a coarse wacke with	Coarse, catadysed, pyrite grains in siliceous seams and veins, with minor sphalerite and traces of galena. +445.6-501.0 f <6% py, 1% sp, tr gn, cp> Particular samples of interest include: 446.2-446.7: 3% cpy 463.3-469.4: 10% py, 3% sp	

HOLE NO RG395.

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ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Unit becomes thickly bedded coarse wacke(?) downhole, with only patchy argillaceous material. At 490m the black argillite is cut by fractures, now deformed and filled in with qtz-carb, which display strongly pyritized wallrock alteration envelopes. (see specimen) Gradational lower contact.		minor argillaceous component, now pervasively ferrodolomitized. Very little grey sericite developed, just enough to give broken surfaces a sheen.	From 477 down the richer base-metal bearing deformed veinlets are less common and wider spaced (2-3m apart) and only 1-2cm thick. Very fine grained pyrite disseminations increase inversely. 499-501m: 15% v.f.g. py.	Very reactive unit, possible due to porosity, and primary carbonate component(?) The alteration 'corona' looks like "MUT". This specimen given to J. Clarke for petrography.

HOLE NO RG395

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
501.0 to 516.0	<DOL MAF?>	brown to grey		Gradational contact expressed mainly by the increase in buff to brown sericite present. Still a highly altered, dense dolomitic rock with irregular fabric. Possible fold nose at 503 m, broad and open.		Pervasive, strong ferrodolomitization with accompanying brown sericite and pyrite. Also cut by uncommon, irregular white qtz-dol vnlts.	5-10% diss. py throughout.	
516.0 to 519.0	<FAULT>	brown and white		Hosted by a strong talc-sericite schist which way to flt. gou. + breccia from 516.5 - 517.4. Milky Silicification from 517.4 to 519 m, Angles varied, but much subparallel to c/a.		Strong dolomitization cut by milky white quartz veining (20%). Associated sericite and talc common.	Only 5% py as v.f.g. disseminations in wallrock.	

HOLE NO RG 395

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
519.0 to 563.4	<MAF LAP TUFF>	pale green to buff and olive.		Easily recognizable lapilli textures, although rock quite bleached. Rock has no foliation, and lapilli are not flattened but are lighter colour than matrix. Chlorite common in matrix. Deformed 1cm qtz-carb veinlets comprise about 10% of interval. Lower contact sharp with fault gouge.		Weak Fe-dol, centered about lapilli. From 521.0 – 521.8 f <qdv> which is white and barren.	2-3% diss. py only. One speck of galena at 520m in siliceous patch.	Typical "Sam Mafics" occuring where "Middle Mafics" usually appear.

HOLE NO RG 395.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
563.4 to 614.7 E.O.H.	<SIL ARG/ TUFF?>	black and white.		Friable fault gouge and breccia at top of interval, with black argillite and qtz vein fragments. /563.4-565.2/ <flt.> Unit is comprised of about 20% white xaline qtz veins, highly deformed along with finely laminated argillite/siltstone. Most common cleavage direction: with bedding at all orientations. From /586.0-602.5/ <fold nose?> where broad open folds with bedding along axis and common q.v.'s. ** END OF HOLE **	55°	Intense vein related silicification becomes pervasive in places. The rock has a pale greenish tinge in siltier portions and around veining esp. at 593-598 and from 608.2-612.0, perhaps due to minor tuffaceous component. Very minor buff sericite also in the green portions.	Only a few coarse euhedra of pyrite in qtz-dol veining around 594-595m.	In places resembles HW seds, but more likely correlatable with the "SIL ARG/TUFF TECTONITE" near the top of the hole.

HOLE NO RG395

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45260	54.5	54.7			0.2	.113	1.34	.65	9.7	.07					x	1131	13397	6453	67	22	20	9.7	65
45273	322.8	323.1			0.3	.059	.91	.35	4.0	.02					x	591	9131	3457	1	63	11	4.0	16
45274	329.1	329.3			0.2	.079	11.45	2.10	12.9	.10					x	785	114544	20958	485	33	54	12.9	97
45275	344.6	344.8			0.2	.029	.74	.14	2.0	.01					x	293	7425	1425	177	77	4	2.0	2
45276	344.8	345.8			1.0											31	448	228	30	86	1	0.9	1
45277	345.8	347.1			1.3											51	206	110	16	81	1	0.8	3
45278	347.1	347.7			0.6	.052	1.64	.29	3.6	.04					x	515	16380	2915	136	55	10	3.6	40
45279	353.1	354.1			1.0	.068	1.96	.87	13.7	.06					x	680	19578	8738	345	38	222	13.7	57
45280	357.5	358.7			1.2	.029	.61	.44	6.4	.06					x	287	6118	4439	229	54	105	6.4	56
45281	360.9	361.4			0.5	.035	.66	.57	4.5	.05					x	346	6649	5674	221	70	23	4.5	53
45282	361.4	369.9			0.5											33	255	200	132	287	1	0.9	8
45283	390.7	392.3			1.6											270	2076	690	621	169	20	2.4	42
45284	392.3	393.8			1.5											261	900	851	377	146	10	2.1	37
45285	393.8	395.3			1.5	.044	.38	.18	4.5	.06					x	439	3840	1831	795	140	31	4.5	55
45286	395.3	396.8			1.5	.039	.27	.15	3.6	.05					x	392	2669	1512	278	147	39	3.6	54
45287	396.8	397.6			0.8	.111	.87	.16	4.7	.04					x	1105	8727	1647	274	167	28	4.7	39
45288	411.3	412.8			1.5											43	423	305	226	283	8	0.9	27
45289	412.8	414.3			1.5											61	995	875	351	122	28	2.9	43
45290	415.7	417.3			1.5											49	2293	1017	145	165	13	2.4	31
45291	417.3	418.8			1.5											131	107	129	196	151	11	0.5	26

HOLE NO Rg 395

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45292	417.3	418.8			1.5											29	81	139	205	163	10	0.9	25
45293	418.8	420.3			1.5											30	79	164	303	92	12	0.9	37
45294	420.3	421.8			1.5											44	207	276	315	59	14	1.1	46
45295	421.8	423.3			1.5											50	671	435	401	91	28	1.7	72
45296	423.3	424.8			1.5											138	1433	612	632	116	25	2.1	89
45297	424.8	426.3			1.5											27	57	111	177	134	10	0.8	38
45298	426.3	427.8			1.5	.006	.08	.21	3.9	.06					*	58	810	2093	365	134	44	3.9	57
45299	427.8	429.3			1.5	.034	.10	.22	4.4	.08					*	337	1047	2214	594	113	41	4.4	78
45300	429.3	430.8			1.5	.128	1.03	.50	9.6	.14					*	1275	10321	5016	759	70	45	9.6	138
45301	430.8	432.3			1.5											18	55	83	120	111	1	0.1	59
45302	432.3	433.8			1.5											18	137	76	154	107	1	0.1	74
45303	433.8	435.3			1.5											16	37	86	222	73	2	0.3	63
45304	435.3	436.8			1.5											70	1184	136	360	76	5	0.5	80
45305	436.8	438.3			1.5											47	211	116	346	62	43	0.9	102
45306	438.3	439.8			1.5											15	138	74	152	62	2	0.1	103
45307	439.8	441.3			1.5											20	64	101	331	93	2	0.1	76
45308	441.3	442.4			1.1	.004	.10	.01	0.4	.14					*	37	97	140	436	55	13	0.4	140
45 309	442.4	443.4			1.0	.004	.28	.02	1.1	.12					*	44	2799	185	290	89	10	1.1	122
45 310	443.4	444.6			1.2	.157	2.16	.40	31.5	.34					*	1565	21580	4035	1862	26	150	31.5	337
45 311	444.6	445.6			1.0											56	1537	215	354	83	5	0.3	19

HOLE NO KG 395

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45312	446.2	446.7			0.5	.083	.66	.48	7.8	.10					x	833	6632	4793	643	27	23	7.8	96
45313	446.7	448.0			1.3											35	176	214	389	67	1	0.1	44
45314	448.0	449.5			1.5											31	117	330	1579	46	1	1.1	26
45315	449.5	451.0			1.5											31	126	94	391	29	1	0.1	37
45316	451.0	451.9			0.9											40	70	105	948	38	1	1.1	28
45317	451.9	453.4			1.5											62	102	190	793	63	1	0.8	82
45318	453.4	454.3			1.1	.069	.79	.71	8.1	.09					x	693	7858	7089	664	63	26	8.1	85
45319	454.3	455.8			1.5											43	165	282	288	89	4	0.1	46
45320	455.8	457.3			1.5											28	113	112	143	121	1	0.2	31
45321	457.3	458.8			1.5											10	80	74	103	113	1	0.2	29
45322	458.8	460.3			1.5											19	165	141	233	112	1	0.3	42
45323	460.3	461.8			1.5	.016	.13	.16	2.7						+	164	1308	1571	263	89	5	2.7	27
45324	461.8	463.3			1.5	.015	.20	.30	3.6						+	148	1967	3059	376	37	12	3.6	60
45325	463.3	464.8			1.5	.061	.38	.50	9.7						+	614	3787	4968	340	73	39	9.7	68
45326	464.8	466.3			1.5	.009	.09	.17	2.9						+	86	871	1706	313	66	5	2.9	80
45327	466.3	467.8			1.5	.017	.04	.12	2.7						+	167	402	1234	383	68	10	2.7	121
45328	467.8	469.4			1.6	.056	.92	.37	9.3						+	555	9240	3727	505	53	41	9.3	184
45329	478.3	479.3			1.0	.067	1.41	1.40	19.5						+	667	14183	14006	877	29	104	19.5	163
45330	479.3	480.0			0.7	.067	.27	.41	7.1						+	678	2748	4097	2984	48	75	7.1	141
45331	480.0	481.5			1.5	.126	.90	1.57	16.3						+	1260	9025	15728	1441	65	206	16.3	192

HOLE NO Rg 395

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45332	481.5	483.0			1.5	.023	.72	.16	1.5	.12					+	227	7210	1624	623	45	26	1.5	115
45333	483.0	484.5			1.5											61	529	459	462	67	7	0.2	68
45334	445.6	446.2			0.6											55	732	1141	788	58	6	0.5	86
45335	491.7	493.2			1.5	.077	.33	.19	4.1	.07					+	768	3289	1909	510	56	28	4.1	65
45336	493.2	494.7			1.5	.234	.40	.43	10.6	.07					+	2343	4043	4290	543	92	31	10.6	69
45337	494.7	496.2			1.5	.077	.31	.30	11.1	.04					+	765	3127	2957	344	110	24	11.1	38
45338	496.2	496.9			0.7											38	98	214	232	97	3	1.6	27
45339	496.9	497.8			0.9	.114	.57	.38	9.1	.07					+	1138	5749	3824	637	43	54	9.1	71
45340	497.8	499.3			1.5	.027	.11	.05	1.5	.05					+	267	1075	530	526	87	25	1.5	48
45341	499.3	501.0			1.7	.046	.66	.15	3.0	.07					+	461	6576	1465	507	51	43	3.0	72
45342	509.6	511.1			1.5											48	376	231	401	71	7	0.1	64
45343	511.1	512.6			1.5											67	81	226	390	40	10	0.8	79
45344	512.6	514.1			1.5	.012	.28	.19	3.1	.31					+	118	2780	1862	594	29	26	3.1	310
45345	514.1	515.5			1.4											101	1018	823	407	63	11	1.4	143
45346	515.5	516.5			1.0											119	930	1386	153	57	7	1.5	75
45347	593.0	595.3			2.3											32	221	100	38	80	1	0.9	2

HOLE NO PG 395

~~make copy~~ → data entry.

DRILL HOLE RECORD

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 06/08/91
HOLE NUMBER : RG 396	DATE COMPLETED (M/D/Y): 09/22/91
LOCATION : SE PIT	DATE LOGGED (M/D/Y): 06/22/91
PROJECT NUMBER : 240	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : Sam est.
	NORTH :		NORTH : 9+25 N
	EAST :		EAST : 94+00 W
	ELEV :		ELEV :

COLLAR BRNG			
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : N	
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N	
	COLLAR DIP : -88° 00' 00"	PULSE EM SURVEY (Y/N) : N	

CONTRACTOR : FRONTIER	LOGGED BY : A. HILL
CORE STORAGE : SAMEK CAMP	START DEPTH : 0.0
CASING : LIH	FINAL DEPTH : 647.7
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : (P-16) To follow-up 150m downdip of RG 376.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
60.0	A	—	-89	OK	
117.5	A	—		—	lost tube
159.4	A	—	-89	—	bad etch
171.5	A	—	-86	—	"
204.5	A	—	-82	—	"
281.9	A	—	-84½	—	"
332.8	A	—	-76	OK	
334.4	M	218	-73½	OK	Sperry-Sun
360.5	A	—	-74	—	redundant
385.0	A	—	-72	OK	
434.9	A	—	-70½	OK	
473.7	M	215	-70	OK	Sperry-Sun
477.6	A	—	-70	OK	
506.4	A	—	-70	OK	
578.2	A	—	-68½	OK	
611.7	M	218	-66½	OK	Sperry-Sun
633.0	A	—	-66½	OK	

HOLE NO. RG 396

LOGGED BY HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 12.2	<CSG.> "Casing"							
12.2 to 73.0	<MAF/ FLT ZONE> "mafic volcanics in a fault zone"	green, pale green and white		Hole collared in an intense fault zone with brittle breccia, friable clay rich gouge and lesser chlorite schist at 40°. A notably long pale green clay zone was cored nicely from 32.6 to 38.8 m. Stains blue. Core becomes more competant but still broken from 49.5-73.0m		Dark green chlorite has survived for the most part except for 38.8-43.0m where yellow, brown and green sericite is developed in fault breccia.	Tr. diss py only. Around 73.5m there is minor maroon hematite staining of the mafics with assoc. fault bx and silicification.	The casing will be pushed forward to prevent the hole whipping out. Also, this fault forms a prominent topographic low, and may be part of the TWIN MTN. SHEAR?

HOLE NO RG 396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
73.0 to 357.9	<MAF VOLC>	Green and white		Chloritic, calcareous mafic volcanics, with only a few relict lapillis, and common qtz-calcite segregations and deformed veinlets. Moderate foliation: 50° Minor short stretches of fault breccia throughout up to 270m. From 270-330.3 the mafics are fresh, chloritic, with a few ghosted lapilli and 15% qtz-calcite veinlets.		Weak to moderate Fe-dol around faulted areas. f81.4-89.0f <flt> f95.1-101.8f <flt> which display friable breccia. f169.5-172.7f <flt. bx.+clay> [illegible]	Tr. diss. py only except for a couple of dol veins at: f99.1-102.7f <5%py, 2%sp, gn, qdv's> f105.6-106.8f <qdv> Typical mafic hosted "Scarlet" veins. Also, 2cm galena rich veinlets at 118.2m and 212.7m f137.5-140.0f <qdv> with only minor py.	Casing pushed ahead to 57.9m because of hole whipping out in bad ground.

HOLE NO RG396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				From {330.3 - 334.0} <flt. bx> that is friable, clay healed, but cores well.		Below 334m the mafics become progressively more bleached. Brown sericite appears at 353.4 and appears centered around {355.8 - 356.2} <intense br. flt.>	Disseminated and wispy py assoc. with yellow-brown sericite ranges from 2-5% from 334-357.9	
357.9 to 379.0	<Dol/sic MAFICS>	Brown, green, grey		Gradational contact with harder, almost glassy core, and intensely altered mafics. Brown sericitic and chloritic patches remain, but most of unit is comprised of grey Fe-dol cut by hazy bordered white qtz veinlets.		Very intense, pervasive Fe-dol, with lesser vein controlled silicification. Brown sericite and lesser chlorite is subordinate	7-15% diss py except for qtz veins and flooded areas which contain coarse py and trace sp, gn, cp, and possibly a few grains of tetrahedrite.	Ghosted lapilli visible at 362.5m

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				The internal textures are all but destroyed by "nodular" and lense-like patches of silica and carbonate.			+357.9-379.0+ <7-15% py assoc. w/ sil.>	
379.0 to 383.3	<SIL ARG +/- TUFF?>	Black, grey and brown.		Fairly sharp and conformable looking contact, although well silicified. Unit begins with 10cm of cherty fragmental in a black matrix (tectonic?) which grades into a highly disturbed and silicified "mixed bag" of brecciated argillite, brown sericitic tuff?, and grey sericite.		Patchy silicification with lesser brown and grey sericite developed locally. White qtz stringers common, deformed and brecciated. +380.6-383.3+ <shear zone at 67 deg> has gouge and grey sericite schist.	Thin seams and veinlets of pyrite, cataclysed, and fracture filling. Average about 5%.	

HOLE NO RG 396

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
383.3 to 410.1	<SIL ZONE/ ±ARG>	Light grey to black.	Aphanitic	Faulted upper contact with glassy, silicified "pseudochert". Faint relict laminated texture is present in broad open folds at low angle to core axis. Possibly some primary ribbon chert, but methinks its a silicified argillite. Black argillite appears at 393.4, along with thicker black stylolitic qtz veins (up to 10cm) At {396.3-410.1} <flt. bx, qv's> appears, both silica healed and friable, with white quartz comprising 30%. Very angular, brittle breccia.		Intense pervasive silicification with hazy white qtz stockwork stringers, cross-cutting laminations at all angles. Minor carbonate visible in veins also, but very subordinate. From 396.3 to end of unit white, vuggy, stylolitic, barren q.v's up to 0.4m are common, and badly broken.	3% py and tr.sp assoc. with veinlets only up to 388m. From there the sulphides increase in veins and veinlets: {388.2-409.4} <5% py, 2% sp, tr.gn, cp> Mineralization is scattered widely (0.5-10cm) in relatively rich veins separated by otherwise barren grey to black "cherts".	Possibly a component of primary ribbon chert, or at least cherty argillite. A few grains of black, amorphous material in the qtz veinlets may be tetrahedrite. Check the assays.

HOLE NO RG 396

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
410.1 to 425.9	<GREY SER/ DOL DEB FLOW> "Grey sericitic and dolomitized fragmental debris flow sediments"			Gouged contact with grey sericitic sedimentary fragmental "debris flow"(?). Fragments of black argillite, grey siltstone and chert, and rarely brown sericitic are stretched out at to about 5:1. Crude, poorly sorted bedding expressed by clast size. From 416.3-416.1 a good bed of "grit" or lithic wacke exists, with angular shards averaging 5mm. Bedding is gradational and parallels foliation. The remainder of the unit has 1cm - 5cm angular clasts in an altered matrix.	65°	Pervasive grey sericite is weak to moderate in the matrix and selected clasts. Very fine grained pyritization is patchy in the matrix and has preferentially replaced some clasts also. Nodular carbonate also common in matrix (stains blue). Silic-ification notably is absent, as is veining, except for a few rare qtz-dol stringers.	-{410.1-425.9}-<7-15% py> as a finely disseminated alteration product.	Uncertain whether this lithology is part of the HW sed "turbidites" or the Sam Seds. Sampling was done selectively across interval.

HOLE NO RG396.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
425.9 to 428.9	<BLACK ARG>		Aphanitic	Sharp, sedimentary, conformable contact at: only slightly irregular with very finely planar laminated black argillite and carbonaceous silt-stone. Bedding is mildly warped at 70-90 degrees and virtually no veinlets present. {427.8-427.9} <tops uphole> indicated by fairly good flames supported by others throughout interval.	70°	As fresh as it gets. Minor graphite on the occaisional fracture. A piece of this interval was given to J. Clarke for petrographic analysis of provenance.	Very finely disseminated, isolated pyrite euhedra, Certainly diagenetic. Very black, sulphurous, reducing environment. Also a few paper thin pyrite laminations.	Hangingwall sediments? Is this a piece of evidence that the "Sam Sediments" are really just proximal turbidites belonging to the HW sed package? Or was basin-wide HW sed deposition overwhelmed locally by debris flow Sam Seds?
428.9 to 451.6	<SIL/GREY SER ARG WCK>	Grey to black		Conformable contact with coarser lithic wacke beds, interbedded with argillite. Similiar to other side of the argillite, with distinctive grit bed from 432.6 to 439.9.		Intense pervasive silicification of lithic wacke beds and fracture controlled in argillites. A bimodal sed package.	Vein controlled, widespread mineralization with mostly pyrite and minor base metal sulphides. Notably: {431.4-431.5} <10% py, 3% cp, sp, gn w/q.v.> and {437.6-438.1} <30% py, 3% sp>	

HOLE NO RG396.

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				From 439.9 to 453.0 the interval is mostly silicified argillaceous tectonite, with probable soft sed deformation also. Minor debris flow het. frag visible through alteration locally. Last 20 cm of interval is friable and fuchsitic		{452.8-453.0}<fuchsitic> {451.6-453.0}<flt. bx.>	{451.0-451.6}<10% py, het frag>	
451.6 to 464.2	<GREY SER/DOL V'CLASTICS?>	Grey.		Faulted contact with dull grey, faintly banded, strongly altered interval. Minor brown sericite in fault breccia up to 452.8m. From there downhole is grey sericite/dolomite/pyrite rock, with no relict textures. Foliation and composit-ional banding at:	55°	Complete grey sericitization, ferrodolomitization and pyritization, gives rock a pale "dusty" grey appearance. Notably there is a lack of veining.	{451.6-464.2}<10% py>	

HOLE NO RG396

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
464.2 to 520.1	<SIL MIXED SEDS>	Black, grey, and white		Sharp contact marks a return to silicified and veined mixed sedimentary pile. From 464.2 - 470.5 it resembles heterolithic fragmental mixed with argillaceous slump breccia. From 470.5 - 474.5 again a distinctive, pervasively silicified lithic wacke, cut by stockwork veinlets, some of which contain pyrite and base metal min. From 474.5 - 514.5 is argillite slump breccia with lite grey "pseudo-chert" bands, highly contorted. Possibly a cherty argillite comp-onent.		Pervasive and vein controlled silicification and flooding throughout interval. Overall about 15-20% thin, white, deformed qtz veinlets. +514.0 - 515.9 + <fil. bx>	+464.2 - 470.1 + <5% py, tr. bm in q.v's> Vein sulphides widely spaced, mostly pyritic. No tetrahedrite observed. Best samples: 470.0-470.5: 10% py, 5% sp in qtz veinlet along c/a. 476.4-477.5: 10% py, 2% sp in sil flooded het frag? 484.3-485.3: ditto 486.8-488: stylolitic quartz veining 489.5-490.8: 20% py in densely min q.v's 495.9-496.8: ditto	More sampling warranted only if significant assays in Au or Ag returned from this interval.

HOLE NO RG 396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
520.1 to 526.4	<DOL MAFICS>	Brown and grey		A sharp contact with distinctly altered unit logged as "dol seds" during the 266 zone drill program. Interval comprised of buff to brown sericite and dark grey dolomite patches and segregations. Weak fabric. Both upper and lower contacts appear conformable.		Very strong carbonatization (brown sericite and grey Fe-dol.) Minor chlorite has survived in brown sericitic patches	3% diss py only	
526.4 to 531.4	<SIL ARG/ FLT BX>	White, black.		Mostly broken white qtz-carb veining with minor pyrite. From 526.4-527.4 is black argillite tectonite. From about 527.8, fuchsitic wallrock frags in veining.		Silicification and fault brecciation. Fuchsite common from 527.8 to end of interval	5% pyrite diss. in veining.	Fairly major brittle ductile fault.

HOLE NO RG396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
531.4 to 535.0	<DOL MAFICS>	brown and grey		As described before, brown sericite and dolomite rock. Stronger fabric at 35-55 degrees to core axis.		Carbonatization facies.	3% diss py, and tr. sp in flt bx near top of interval.	
535.0 to 572.0	<SER SILT/ ARG>	Yellow and black.		Fault contact with distinctive "yellow and black" banded sediments. +535.0-538.0+<FLT BX> white quartz veins 5-20cm thick are widely spaced throughout. Breakdown: 535.0-547.4: mixed black and yellow, highly contorted. 547.4-562.5: yellow-green sericitic siltstone?		Argillaceous bands show vein controlled silicification at weak to moderate levels. Silty and volc-aniclastic bands show pale yellow-green sericite (pervasive) ± chlorite. and contain patchy carbonatization.	3-5% wispy dissem. py.	Possible tuffaceous or volcaniclastic component to yellow sericitic bands.

HOLE NO RG 396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				562.5-572.0: black and pale green to yellow mixed at 0.1-1.0m scale. Fabric is warped but averages:	60°			
572.0 to 586.8	<CHT/CHTY ARG>	Black and grey		Gradational sedimentary contact with laminated chert and cherty argillite. Best ribbon chert is from 579.6-581.7. Entire interval is highly contorted. Veining is stylolitic, white quartz from {577.1-578.7} <qv, 5% py, tr. gn, cp>		Minor silicification only.	Seamy pyrite assoc. with qtz veinlets is overall minor. Trace gn. at 577.2m in margin of vein, along with a couple of cpy flecks.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
586.8 to 591.4	<SER SILT/ ARG>	Yellow and black		Conformable interval of pale yellow-green siltstone (?) and thinly interbedded black argillite.		Selective sericitization of non-argillaceous beds.	wispy py 3%	
591.4 to 614.9.	<SIL ARG ± TUFF>	black, white and green		Conformable contact with pale grey to black argillite cut by common qtz-dol veinlets, at all orientations and deformed. Also, a subordinate pale green tuff? forms some laminations. (about 5%)		Silicification and dolomitization, veinlet controlled. Approx. 25% of interval is veinlets. Qtz-carb ratio is about 7:3	tr. diss. py only.	

HOLE NO RG 396

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
614.9 to 647.7 E.O.H.	<ALT MAFICS>			Gradational contact with pale greenish grey tuffs(?) increasing proportionately relative to argillaceous component. From 624.2-626.0 a dark green chlorite is developed, almost From 639.8-647.7 ghosted lapilli are present, along with spotty porphyroblastic overgrowths of carbonate +639.8-647.7/<lap. tuff> * END OF HOLE *		Pervasive ferro-dolomitization but notably with only minor brown sericite development. Possible primary carbonate component.	tr. py only.	Apparently these mafics are getting less altered downhole.

HOLE NO RG396

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45348	100.1	101.1			1.0	.073	2.39	1.24	10.2	.01					*	729	23920	12393	34	20	24	10.2	12
45349	101.1	102.0			1.1											58	454	127	54	32	1	0.8	1
45350	102.0	102.7			0.7	.048	.72	.54	5.0	.04					*	477	7238	5440	94	36	11	5.0	38
45351	105.6	106.8			1.2	.007	.14	.10	2.0	.01					*	68	1389	1016	43	30	5	2.0	3
45352	357.9	359.1			1.2											40	216	297	714	138	25	1.0	42
45353	359.1	360.3			1.2											47	220	422	188	65	4	1.5	6
45354	360.3	361.8			1.5	.086	.19	.07	3.2	.01					*	860	1909	657	228	70	22	3.2	2
45355	361.8	363.3			1.5	.091	.15	.14	15.2	.02					*	905	1561	1406	186	63	100	15.2	18
45356	363.3	364.4			1.1	.018	.06	.10	2.0	.06					*	178	630	1008	515	135	17	2.0	57
45357	364.4	365.5			1.1	.272	.67	.64	54.4	.30	*				*	2722	6694	6438	1545	48	1086	54.4	304
45358	365.5	366.4			1.1	.019	.07	.07	3.7	.13						185	682	748	2323	138	92	3.7	130
45359	366.4	367.9			1.5	.016	.23	.11	2.9	.06					*	160	2273	1097	926	118	65	2.9	56
45360	367.9	369.4			1.5											175	444	687	654	143	67	2.4	15
45361	369.4	370.9			1.5	.031	.27	.17	3.4	.04					*	306	2690	1708	537	107	117	3.4	36
45362	370.9	372.3			1.4	.010	.10	.03	1.2	.04					*	99	1021	333	743	131	36	1.2	37
45363	372.3	373.8			1.5											119	261	165	722	122	46	2.2	2
45364	373.8	375.3			1.5	.019	.01	.02	5.1	.06					*	191	146	182	1463	93	105	5.1	61
45365	375.3	376.5			1.2	.025	.07	.07	2.2	.02						246	730	680	710	173	31	2.2	21
45366	376.5	376.7			0.2	.131	.24	.16	23.9	.07					*	1311	2379	1614	1066	84	525	23.9	72
45367	376.7	377.5			0.8											143	290	213	329	92	11	1.3	2

HOLE NO Rg 396

PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45368	377.5	378.1			0.6	.127	.20	.26	7.0	.01					↓	1267	2013	2590	491	78	32	7.0	8
45369	378.1	379.0			0.9											59	131	142	402	262	4	0.9	2
45370	379.0	380.5			1.5											33	87	298	235	251	8	1.3	1
45371	380.5	382.0			1.5											36	473	548	214	124	9	0.9	4
45372	382.0	383.3			1.3	.042	.67	.38	4.7	.04					↓	419	6723	3807	362	244	152	4.7	37
45373	383.3	384.8			1.5	.002	.07	.05	1.0	.01						20	651	527	126	98	11	1.0	3
45374	388.0	389.5			1.5	.008	.38	.20	4.4	.05					↓	78	3824	1951	705	98	38	4.4	45
45375	389.5	391.0			1.5	.014	.32	.17	2.8	.14					↓	142	3242	1706	433	104	33	2.8	140
45376	391.0	392.5			1.5	.037	.10	.15	5.3	.01					↓	367	1033	1451	156	49	111	5.3	1
45377	392.5	394.0			1.5	.042	.64	.21	4.3	.04					↓	421	6374	2065	177	83	48	4.3	42
45378	394.0	395.5			1.5	.039	.05	.09	4.9	.06					↓	389	512	892	377	114	102	4.9	63
45379	395.5	396.6			1.1	.019	.16	.18	5.4	.08					↓	190	1550	1763	438	97	73	5.4	81
45380	396.6	398.1			1.5	.003	.23	.04	0.5	.01					↓	25	2251	411	90	208	8	0.5	3
45381	398.1	399.6			1.5											47	113	611	124	158	14	1.1	8
45382	399.6	401.1			1.5											40	249	376	73	149	10	0.7	3
45383	401.1	402.6			1.5	.006	.15	.01	0.6	.01					↓	59	1513	82	129	137	10	0.6	2
45384	402.6	404.1			1.5	.039	.22	.09	3.6	.05					↓	385	2158	940	423	60	27	3.6	52
45385	404.1	405.6			1.5											40	140	83	89	89	8	0.2	12
45386	405.6	406.4			1.2											47	106	159	158	95	10	0.4	26
45387	406.4	406.8			0.4	.050	1.38	.91	14.6	.10					↓	498	13836	9130	3165	59	176	14.6	100

HOLE NO T96

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45388	406.8	408.3			1.5											39	279	191	89	166	9	0.5	3
45389	408.3	409.6			1.3											61	643	321	143	160	8	0.9	4
45390	409.6	410.1			0.5											159	483	455	199	196	15	1.8	32
45391	413.6	415.2			1.4											51	128	48	44	134	5	0.5	16
45392	416.4	417.0			0.6											50	71	33	30	186	6	0.6	1
45393	419.0	420.0			1.0											65	56	36	33	154	5	0.8	2
45396	428.9	429.9			1.0											43	28	36	65	141	2	0.6	2
45397	429.9	431.1			1.2	.116	.13	.26	19.4	.04					*	1157	1294	2562	296	131	201	19.4	40
45398	431.1	432.6			1.5	.213	.23	.12	4.6	.03					*	2128	2292	1183	191	125	13	4.6	34
45399	432.6	434.1			1.5											106	510	619	75	47	9	1.4	2
45400	434.1	435.6			1.5	.004	.15	.05	0.5	.01					*	42	1487	457	82	80	5	0.5	2
45401	435.6	436.6			1.0	.004	.13	.04	0.7	.01					*	38	1311	387	82	40	6	0.7	3
45402	436.6	437.6			1.0											45	180	87	49	50	11	0.4	2
45403	437.6	439.1			1.5	.019	.88	.30	2.7	.03					*	185	8819	2978	275	54	16	2.7	28
45404	439.1	439.9			0.8											51	91	58	86	93	5	0.1	8
45405	439.9	441.6			1.3											103	48	39	82	113	7	0.2	17
45406	441.6	444.0			2.4											57	66	77	90	255	6	0.3	20
45407	444.0	445.0			1.0	.023	.41	.10	2.5	.01					*	234	4071	1036	113	83	24	2.5	5
45408	445.0	446.5			1.5											23	34	271	92	94	4	0.4	6
45409	451.0	451.6			0.6											32	94	109	414	116	11	0.1	57

HOLE NO 396

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45410	451.6	453.0			1.4											15	29	74	279	86	7	0.4	22
45411	453.0	454.0			1.0	.004	.08	.13	3.0	.02					*	35	829	1280	333	98	5	3.0	15
45412	462.7	464.2			1.5											54	176	281	148	158	6	1.3	2
45413	464.2	465.7			1.5											42	225	357	186	82	7	1.1	7
45414	465.7	467.2			1.5											88	347	868	168	74	11	2.2	6
45415	467.2	468.7			1.5											138	598	831	244	78	8	1.7	21
45416	468.7	470.0			1.3	.031	.15	.14	2.3	.01					*	310	1515	1358	248	67	14	2.3	8
45417	470.0	470.5			0.5	.080	1.04	.81	10.4	.01					*	798	10442	8080	441	53	107	10.4	4
45418	470.5	471.5			1.0	.012	.16	.17	2.0	.04					*	118	1646	1701	223	44	15	2.0	42
45419	471.5	473.0			1.5											47	610	591	67	47	13	1.6	2
45420	473.0	474.5			1.5											61	640	718	82	29	7	1.1	1
45421	474.5	476.4			1.9	.045	.20	.10	6.7	.04					*	448	1954	952	261	76	74	6.7	35
45422	476.4	477.5			1.1	.073	.27	.13	6.1	.40					*	734	2724	1344	1495	107	58	6.1	400
45423	482.7	484.3			1.4	.009	.06	.03	2.4	.46					*	91	595	280	646	28	33	2.4	460
45424	484.3	485.3			1.0	.009	.10	.17	2.6	.28					*	94	1001	1669	1280	74	22	2.6	275
45425	485.3	486.8			1.5	.029	.16	.08	6.9	.10					*	285	1624	800	451	176	125	6.9	100
45426	486.8	488.0			1.5	.065	.04	.06	6.7	.10					*	649	354	564	610	26	124	6.7	97
45427	488.0	489.5			1.5	.027	.02	.16	5.8	.14					*	266	235	1632	879	40	105	5.8	140
45428	489.5	490.8			1.3	.011	.04	.02	2.9	.17					*	113	382	236	698	35	92	2.9	172
45429	495.9	496.8			1.0	.020	.06	.04	6.8	.25					*	195	576	421	407	21	117	6.8	250

HOLE NO 396

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45430	527.4	528.9			1.5											47	374	754	120	93	7	1.9	775
45431	528.9	530.5			1.4											24	206	235	123	120	5	1.5	160
45432	572.0	573.5			1.5	.13	.10	.18	4.0	.03					*	1316	953	1754	497	68	8	4.0	25
45433	573.5	575.0			1.5											57	66	56	103	99	2	0.4	2
45434	575.0	577.1			2.1											246	308	71	152	148	4	1.1	8
45435	577.1	577.3			0.2	.063	.31	.81	11.4	.06					*	631	3054	8147	964	57	27	11.4	59
45436	577.3	578.7			1.5											205	77	94	82	77	3	1.1	3
45437	578.7	579.6			0.9	.067	.17	.01	2.3	.01					*	672	1722	70	237	291	6	2.3	4
45438	579.6	581.1			1.5											31	45	29	62	190	2	0.4	2

HOLE NO 396

PAGE 5

LITHOGEOCHEMISTRY

Column:	1	2	3	4	5	6	7	8	9	12	13	16	17	18	19	20	22	23	24	25
SAMPLE NUMBER	From	To	Length	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	Fe_2O_3	MnO_2	TiO_2	Cu ppm	Zn ppm	Au ppb	Ba ppm	Ag ppm	Pb ppm	P_2O_5	S %	Total %	As ppm	Sb ppm
45394	425.0	426.5	2.5	38.90	19.76	7.64	6.30	.40	4.09	8.97	.14	1.33	36	47	5	294	1.3	27	.32	5.32	93.39	22	1
45395	428.0	428.9	0.9	60.87	15.18	1.52	2.00	.01	3.27	7.02	.03	1.65	37	30	5	254	0.7	39	.16	4.81	96.70	108	3

Hole No. 396 Entered by R.M. Logged by A.H.11 Page No. 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45348	100.1	101.1			1.0	.073	2.39	1.24	10.2	.01					*	729	23920	12393	34	20	24	10.2	12
45349	101.1	102.0			1.1											58	454	127	54	32	1	0.8	1
45350	102.0	102.7			0.7	.048	.72	.54	5.0	.04					*	477	7238	5440	94	36	11	5.0	38
45351	105.6	106.8			1.2	.007	.14	.10	2.0	.01					*	68	1389	1016	43	30	5	2.0	3
45352	357.9	359.1			1.2											40	216	297	714	138	25	1.0	42
45353	359.1	360.3			1.2											47	220	422	188	65	4	1.5	6
45354	360.3	361.8			1.5	.086	.19	.07	3.2	.01					*	860	1909	657	228	70	22	3.2	2
45355	361.8	363.3			1.5	.091	.15	.14	15.2	.02					*	905	1561	1406	186	63	100	15.2	18
45356	363.3	364.4			1.1	.018	.06	.10	2.0	.06					*	178	630	1008	515	135	17	2.0	57
45357	364.4	365.5			1.1	.272	.67	.64	54.4	.30	*				*	2722	6694	6438	1545	48	1086	54.4	304
45358	365.5	366.4			1.1	.019	.07	.07	3.7	.13						185	682	748	2323	138	92	3.7	130
45359	366.4	367.9			1.5	.016	.23	.11	2.9	.06					*	160	2273	1097	926	118	65	2.9	56
45360	367.9	369.4			1.5											175	444	687	654	143	67	2.4	15
45361	369.4	370.9			1.5	.031	.27	.17	3.4	.04					*	306	2690	1708	537	107	117	3.4	36
45362	370.9	372.3			1.4	.010	.10	.03	1.2	.04					*	99	1021	333	743	131	36	1.2	37
45363	372.3	373.8			1.5											119	261	165	722	122	46	2.2	2
45364	373.8	375.3			1.5	.019	.01	.02	5.1	.06					*	191	146	182	1463	93	105	5.1	61
45365	375.3	376.5			1.2	.025	.07	.07	2.2	.02						246	730	680	710	173	31	2.2	21
45366	376.5	376.7			0.2	.131	.24	.16	23.9	.07					*	1311	2379	1614	1066	84	525	23.9	72
45367	376.7	377.5			0.8											143	290	213	329	92	11	1.3	2

HOLE NO Rg 396

PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45368	377.5	378.1			0.6	.127	.20	.26	7.0	.01					*	1267	2013	2590	491	78	32	7.0	8
45369	378.1	379.0			0.9											59	131	142	402	262	4	0.9	2
45370	379.0	380.5			1.5											33	87	298	235	251	8	1.3	1
45371	380.5	382.0			1.5											36	473	548	214	124	9	0.9	4
45372	382.0	383.3			1.3	.042	.67	.38	4.7	.04					*	419	6723	3807	362	244	152	4.7	37
45373	383.3	384.8			1.5	.002	.07	.05	1.0	.01						20	651	527	126	98	11	1.0	3
45374	388.0	389.5			1.5	.008	.38	.20	4.4	.05					*	78	3824	1951	705	98	38	4.4	45
45375	389.5	391.0			1.5	.014	.32	.17	2.8	.14					*	142	3242	1706	433	104	33	2.8	140
45376	391.0	392.5			1.5	.037	.10	.15	5.3	.01					*	367	1033	1451	156	49	111	5.3	1
45377	392.5	394.0			1.5	.042	.64	.21	4.3	.04					*	421	6374	2065	177	83	48	4.3	42
45378	394.0	395.5			1.5	.039	.05	.09	4.9	.06					*	389	512	892	377	114	102	4.9	63
45379	395.5	396.6			1.1	.019	.16	.18	5.4	.08					*	190	1550	1763	438	97	73	5.4	81
45380	396.6	398.1			1.5	.003	.23	.04	0.5	.01					*	25	2251	411	90	208	8	0.5	3
45381	398.1	399.6			1.5											47	113	611	124	158	14	1.1	8
45382	399.6	401.1			1.5											40	249	376	73	149	10	0.7	3
45383	401.1	402.6			1.5	.006	.15	.01	0.6	.01					*	59	1513	82	129	137	10	0.6	2
45384	402.6	404.1			1.5	.039	.22	.09	3.6	.05					*	385	2158	940	423	60	27	3.6	52
45385	404.1	405.6			1.5											40	140	83	89	89	8	0.2	12
45386	405.6	406.4			1.2											47	106	159	158	95	10	0.4	26
45387	406.4	406.8			0.4	.050	1.38	.91	14.6	.10					*	498	13836	9130	3165	59	176	14.6	100

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45388	406.2	408.3			1.5											39	279	191	89	166	9	0.5	3
45389	408.3	409.6			1.3											61	643	321	143	160	8	0.9	4
45390	409.6	410.1			0.5											159	483	455	199	196	15	1.8	32
45391	413.6	415.2			1.4											51	128	48	44	134	5	0.5	16
45392	416.4	417.0			0.6											50	71	33	30	186	6	0.6	1
45392	419.0	420.0			1.0											65	56	36	33	154	5	0.8	2
45396	428.9	429.9			1.0											43	28	36	65	141	2	0.6	2
45397	429.9	431.1			1.2	.116	.13	.26	19.4	.04					*	1157	1294	2562	296	131	201	19.4	40
45398	431.1	432.6			1.5	.213	.23	.12	4.6	.03					*	2128	2292	1183	191	125	13	4.6	34
45399	432.6	434.1			1.5											106	510	619	75	47	9	1.4	2
45400	434.1	435.6			1.5	.004	.15	.05	0.5	.01					*	42	1487	457	82	80	5	0.5	2
45401	435.6	436.6			1.0	.004	.13	.04	0.7	.01					*	38	1311	387	82	40	6	0.7	3
45402	436.6	437.6			1.0											45	180	87	49	50	11	0.4	2
45403	437.6	439.1			1.5	.019	.88	.30	2.7	.03					*	185	8819	2978	275	54	16	2.7	28
45404	439.1	439.9			0.8											51	91	58	86	93	5	0.1	8
45405	439.9	441.6			1.3											103	48	39	82	113	7	0.2	17
45406	441.6	444.0			2.4											57	66	77	90	255	6	0.3	20
45407	444.0	445.0			1.0	.023	.41	.10	2.5	.01					*	234	4071	1036	113	83	24	2.5	5
45408	445.0	446.5			1.5											23	34	271	92	94	4	0.4	6
45409	451.0	451.6			0.6											32	94	109	414	116	11	0.1	57

HOLE NO 396

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45410	451.6	453.0			1.4											15	29	74	279	86	7	0.4	22
45411	453.0	454.0			1.0	.004	.08	.13	3.0	.02					*	35	829	1280	333	98	5	3.0	15
45412	462.7	464.2			1.5											54	176	281	148	158	6	1.3	2
45413	464.2	465.7			1.5											42	225	357	186	82	7	1.1	7
45414	465.7	467.2			1.5											88	347	868	168	74	11	2.2	6
45415	467.2	468.7			1.5											138	598	831	244	78	8	1.7	21
45416	468.7	470.0			1.3	.031	.15	.14	2.3	.01					*	310	1515	1358	248	67	14	2.3	8.
45417	470.0	470.5			0.5	.080	1.04	.81	10.4	.01					*	798	10442	8080	441	53	107	10.4	4.
45418	470.5	471.5			1.0	.012	.16	.17	2.0	.04					*	118	1646	1701	223	44	15	2.0	42.
45419	471.5	473.0			1.5											47	610	591	67	47	13	1.6	2
45420	473.0	474.5			1.5											61	640	718	82	29	7	1.1	1
45421	474.5	476.4			1.9	.045	.20	.10	6.7	.04					*	448	1954	952	261	76	74	6.7	35
45422	476.4	477.5			1.1	.073	.27	.13	6.1	.40					*	734	2724	1344	1495	107	58	6.1	400
45423	482.7	484.3			1.4	.009	.06	.03	2.4	.46					*	91	595	280	646	28	33	2.4	460
45424	484.3	485.3			1.0	.009	.10	.17	2.6	.28					*	94	1001	1669	1280	74	22	2.6	275
45425	485.3	486.8			1.5	.029	.16	.08	6.9	.10					*	285	1624	800	451	176	125	6.9	100
45426	486.8	488.0			1.5	.065	.04	.06	6.7	.10					*	649	354	564	610	26	124	6.7	97
45427	488.0	489.5			1.5	.027	.02	.16	5.8	.14					*	266	235	1632	879	40	105	5.8	140
45428	489.5	490.8			1.3	.011	.04	.02	2.9	.17					*	113	382	236	698	35	92	2.9	172
45429	495.9	496.8			1.0	.020	.06	.04	6.8	.25					*	195	576	421	407	21	117	6.8	250

HOLE NO 396

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
45430	527.4	528.9			1.5											47	374	754	120	93	7	1.9	775
45431	528.9	530.5			1.4											24	206	235	123	120	5	1.5	160
45432	572.0	573.5			1.5	.13	.10	.18	4.0	.03					*	1316	953	1754	497	68	8	4.0	25
45433	573.5	575.0			1.5											57	66	56	103	99	2	0.4	2
45434	575.0	577.1			2.1											246	308	71	152	148	4	1.1	8
45435	577.1	577.3			0.2	.063	.31	.81	11.4	.06					*	631	3054	8147	964	57	27	11.4	59
45436	577.3	578.7			1.5											205	77	94	82	77	3	1.1	3
45437	578.7	579.6			0.9	.067	.17	.01	2.3	.01					*	672	1722	70	237	291	6	2.3	4
45438	579.6	581.1			1.5											31	45	29	62	190	2	0.4	2

HOLE NO 396

PAGE 5

LITHOGEOCHEMISTRY

			Column:	1	2	3	4	5	6	7	8	9	12	13	16	17	18	19	20	22	23	24	25
SAMPLE NUMBER	From	To	Length	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	FeO_{23}	MnO_2	TiO_2	Cu ppm	Zn ppm	Au ppb	Ba ppm	Ag ppm	Pb ppm	P_2O_5	S %	Total %	As ppm	Sb ppm
45394	425.0	426.5	2.5	38.90	19.76	7.64	6.30	.40	4.09	8.97	.14	1.33	36	47	5	294	1.3	27	.32	5.32	93.39	22	1
45395	426.0	428.9	0.9	60.87	15.18	1.52	2.00	.01	3.27	7.02	.03	1.65	37	30	5	254	0.7	39	.16	4.81	96.70	108	3

Hole No. 396 Entered by R.M. Logged by A. Hill Page No. 1

DRILL HOLE RECORD

PROJECT NAME : SAM.	DATE STARTED (M/D/Y): 06/07/91
HOLE NUMBER : RG-397	DATE COMPLETED (M/D/Y): 06/11/91
LOCATION : near Cana line	DATE LOGGED (M/D/Y): 06/11/91
PROJECT NUMBER : 247	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : ESTIMATED
	NORTH :		NORTH : 7+80 N
	EAST :		EAST : 126+00 W
	ELEV :		ELEV : 1060.

COLLAR BRNG			
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) :	
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) :	
	COLLAR DIP : -55° 00' 00"	PULSE EM SURVEY (Y/N) :	

CONTRACTOR : FRONTIER DRILLING	LOGGED BY : C. NAGATI
CORE STORAGE : SAM EX CAMP	START DEPTH : O.D.
CASING : PULLED	FINAL DEPTH : 325.2.
PLUGGED (Y/N) : N.	
HOLE SIZE : NQ.	

PURPOSE/COMMENTS : FILL IN UPDIP OF C91-10 AND "266-STYLE" SEDIMENTS.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
86.6	A	—	-57	OK	
125.6	A	—	-57	OK	
181.7	A	—	-57	OK	
233.5	A	—	-57	OK	
297.8	A	—	-57	OK	

HOLE NO. RG-397.

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 – 48.8	<GSG>							
48.8 – 52.0	<SIL SEDS/ QTZ VN>	gray white.	fine	intense silicification of sediments washes out original textures. 1/3 of interval is massive white bull qtz. Principal qtz vein is located between 51 – 51.9m. Vein orientation and prominent fracture in the vein is at. Fracture surfaces in qtz vein are coated with limonite.	25°	very intense silicification	Trace pyrite.	
52.0 – 53.5	<QTZ/SER/PY ALT SEDS/	gray	fine.	fine grained sediments have been strongly and variably altered. Foliation at.	50°	52 – 52.9 : Pervasive weak to moderate gray sericite and pyrite alteration. Some limonite on fracture surfaces. 52.6-52.9m gradational change in alt'n. 52.9 – 53.5: weak to moderate pale yellow-gray to greenish sericite and silica flooding give core banded appearance.	52.2 – 52.6: 15% fine to med. grained dissem. pyrite. 52.6-52.9: 10% pyrite in dissem and stringers. 52.9-53.5: <5% dissem pyrite except the final 45mm which contain 40% py.	

HOLE NO RG 397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
53.5–68.3	<TECT BX ARG>	black gray	fine to 4 cm	Strongly tectonized arg interval which contains up to 50% subangular to subrounded and elongate clasts of qtz, cherty seds, and sericitic seds. In some location tectonism has not moved fragments large distances or has only contorted the seds; sense of cleavage at 70° Minor late stage qtz veining or flooding except 53.5–55.5m where the arg is unbrecciated (outside of some crackle breccia) and silicified +68.1–68.3 + <FLT GOU>		Alteration throughout hole is generally weak gray sericitization which give case phyllitic surfaces. Minor intervals to 20 cm of more intense yellowish sericite alt'n. 53.5–55.5: mod to intense silicification as in the over lying interval at 48.8–52 m. Between 56–56.5m, 57.15–57.3m, and 57.7–57.95m there is pervasive strong nodular porphyroblastic dolomite growths. sericite alt'n increases downhole.	2–5% fine grained disseminated pyrite	
68.3 – 75.2	<QTZ/SER/PY SED>	yellow	fine.	intense alteration destroys original textures; 10% white quartz veinlets/veins. Some of the veins are contorted Numerous small fault gauge zones comprise 20% of interval; faulting decreases with depth.		intense yellow sericite alt'n. Alt'n becomes patchy at base of interval as unit grades into the underlying unit.	10% disseminated pyrite	

HOLE NO RG 397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				+68.3 - 68.7+ <FLT GOU>				
75.2 - 78.8.	<ALT. SEDS, FLT BX>	black gray	fine.	Black argillite is the principal rock type. Arg. is laminated by silty and cherty bands. Bedding is strongly deformed. 5% white qtz veining - fractured. Interval is very blocky and is commonly weak to moderately fault bx		Minor, graphitic argillite of moderate intensity. Weak gray sericite alteration. Gradation into patchy yellow sericite at base of interval as alteration grades into that of underlying unit. Patchy zones of nodular porphyroblastic dol growth.	3% pyrite which generally occurs as as fine grained seams and some disseminations	
78.8 - 105.9	<ARG/CHT. FLT.BX/GOU>	black	fine	Interval is strongly fault brecciated with zones of well developed fault gauge. 75% of interval consists of argillite, 25% argilliceous chert. Cherts are generally finely laminated; 5% white quartz veining 84.9-93.: Principally argilliceous chert		Minor graphite. Argillite has weakly phyllitic surfaces. Minor talc. Some intervals are a paler gray due to more intense sericitic alteration and bleaching	Pyrite content varies between 1-15%; Pyrite is fine grained and occurs as dissem to patches and seams. 89.8-90m: qtz vein contains 1% med. grained coarsely dissem. galena, 10% pyrite.	96.6-98.1: 60% core recovery

HOLE NO RG 397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
105.9 – 108.9.	<HET FRAG>	gray black	fine to 3cm	argilliceous to silty matrix supports up to 50% clasts. Clast composition includes qtz, argillite and sericitic seds?. Much of the clastic textures appear to be caused by tectonism rather than a primary texture. Clasts are subrounded somewhat elongate. – well milled. 5% 'interbeds' of argillite 5% qtz veining and flooding.		interval is weakly sericitically (gray) altered which gives core phyllitic surfaces. Minor silicification associated with qtz veins.	3% dissem. pyrite. 105.9 - 106.5 : 10% disseminated and patchy pyrite. 107.1 - 107.2 : 2% disseminated sphalerite in silicified interval; associated with brilliant green talc.	
108.9. – 116.5.	<ALT. MIXED SEDS>	black gray white.	fine.	interval consists primarily of variably altered argillite. Local alteration obscures protolithic textures. Numerous small (generally <10cm wide) Het Frag intervals (as above) make up 15% of volume. Principal interval +113.9 - 114.7+ <HET FRAG> Some qtz stringer in filling of fractures. Bedding contorted, Foliation at	60-90	15% patchy intense to moderate silic. and qtz veining. Max vein width 20cm. Rock is phyllitic due to weak to moderate gray sericite development. Local patchy greenish sericite alteration. +114.1 - 114.3+ <MUT> pyritiferous, sericitic	3% dissem. fine to med grained pyrite. 114.1 - 114.3 : 30% very fine grained pyrite.	

HOLE NO RG 397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
						alteration zone in a Het Frag interval		
116.5 – 125.8	<HET FRAG>	shades of gray, black	fine to 6 cm	angular to subrounded clasts. Elongate clasts common. Clasts are unsorted - large and small clasts commonly intermixed. Matrix is argillaceous to silty but is a relatively minor component of unit – framework supported locally clasts. Clast composition includes argillite, quartz, and gray, beige, brown altered (ser, dol) altered seds? 120.3 - 122.9 + fairly pervasive moderate <FLT BX, GOU> 123.4 – 124: cherty arg; foliation at	45°	weak but pervasive gray sericite alt'n local zones of moderate gray to brownish sericite alt'n. Trace MUT. 121.9 – 122.3: intense yellow-green sericite alt'n.	2% fine to coarse grained pyrite dissem and blebs	Clastic texture may be a combination of tectonism and conglomerate.
125.8 – 128.1	<ARG TECT BX>	black	fine	black argillite which contains 20% qtz / chert? in disrupted laminae? and cataclastic fragments. The silica is pale gray in color. Interval		weakly developed sericite gives phyllitic sheen.	5% fine grained pyrite in fine to coarse dissem.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Contains 2% late stage white qtz veining. Foliation at. +127.3 – 127.6t <HET FRAG> interval similar to overlying unit.	60°			
128.1 – 129.4.	<QTZ/SER ALT SED>	gray green	fine	intense alteration destroys original textures. Foliation. Gradational contacts	65°	Pervasive gray to green sericite alt'n which contains abundant (20%) discontinuous and bounded qtz veinlets and lenses.	7% disseminated Pyrite.	Early stages of a yellow sericite and quartz alteration?
129.4 – 141.1	<HET FRAG>	shades of gray/ black	fine to 4cm	similar to the Het Frag between 116.5 – 125.8m. Textures between 129.4 – 136.3m are obscured by structures and alteration. From 136.3 – 141.1m clastic texture is well defined +132 – 134.7t <FLT Bx, Gou> Intermittant, narrow gauge zones 134.7 – 136.3		weak sericite alt'n throughout. 132 – 133.2: moderate gray-green sericite in faulted interval. 133.5 – 133.9m, 134.15 – 134.3m, 135.3 – 136.3m intense yellow sericite altered intervals.	5% fine to coarse grained pyrite in fine to coarse dissem. 129.5 – 129.56m: 5% combined gn, cp, sp. BM are very fine grained. Occur in Het Frag matrix. Some silicification of nearby core. 132.2 – 132.8: 15% fine grained pyrite.	Base Metals likely to have been introduced by siliceous fluids although, silicified core is unmineralized except by pyrite.

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
141.1-177.4	<QTZ/SER ALT SED>	yellow gray black	fine.	Intensely altered seds in which original textures distroyed. Patchy intervals in which alteration is not complete consist of laminated sericite and argillite. Bedding is contorted in these intervals; bullseye structures and bedding that is subparallel to the C/A is common. Bedding offset by cleavage Argillite most common in the following intervals 141.1 – 144.5m, 150.3-153.3m where arg and sericite is cut by 40% white to gray fractured qtz veining, and 167.4- 173m. Overall the interval contains 15% argillite. Some folded structures seen in the intensely altered seds as well. 3% late stage qtz veining 157.6 & 159.1 weak to moderate <FLT BX> with clay gauge. 172.9- 174.5: fracture oriented parallel to C/A with gauge developed	75-90	intense yellow sericite alt'n which locally grades into a gray-green sericite <30% white to gray qtz veinlets and patches found throughout interval. veining is generally parallel to foliation Foliation varies widely in orientation.	1-2% fine to med grained disseminated py; local concentrations to 5%.	HINGE ZONE AREA?

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				along it, ending in a fault bx.				
177.4-181.6.	<QTZ VN>	white gray		Veining is gray and white. Some of the white qtz may be a later stage of veining white qtz veining contains <20% pink, med grained dolomite Vein 3% gray altered argillite inclusions; Between 180.2-181.3 50% green/brown sericitic altered seds.			3% coarsely dissem. py and minor arsenopyrite.	
181.6-203.1	<QTZ/SER ALT SEDS>	yellow gray black	fine.	Similar to the interval 141.1-177.4m, except that bullseye structures are not common and argilliceous zones are less intermixed with with sericite. +188.3-188.6t <HET FRAG> + 188.8-189.3t <HET FRAG> Het frag intervals have sericite/pyrite to silty matrix. Clasts reach a max size of 3cm but are generally <1cm		altn similar to that of 141.1-177.4m sericite alteration is variably yellow to mustard with minor gray + brown ser. patches. Alteration somewhat more mottled than in overlying interval Qtz content <35%.	5% pyrite.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Between 188.3 - 188.45m clasts are rounded qtz grains - possibly well milled tectonite. Clasts are hetero lithic and coarser down hole. Clast comp'n. qtz, arg and ser. alt. seds.			188.3 - 188.45: 10-20% fine grained pyrite in matrix.	
203.1 - 206.5	<HET FRAG>	gray.	fine to 4cm	Silty, sericitic and pyritiferous matrix supports 50% clasts. Clasts are subrounded to subangular; rounded to elongate in shape; Clasts are predominantly chert or quartz with subordinant amounts of intensely sericitized clasts and argillite.		Matrix is sericitically altered - gray sericite.	10% dissem. Py.	
206.5 - 219.9.	<QTZ/SER ALT SED>	yellow gray black	fine.	Similar to similarly titled intervals above (141.1 - 177.4, 181.6 - 203.1) +213.2 - 214.7+ <FLT BX> weakly developed, slay gauge is also present.		Alteration is similar to that of overlying intervals. Sericite is tending more of greenish gray rather than yellow between 208.9 - 213m 30% qtz veining	2-3% disseminated pyrite.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
219.9 – 225.8	<CHERTY ARG>	black gray	fine.	black argillites are laminated by gray siliceous and silty bands. Bedding is contorted and disrupted. Cleavage at Minor qtz/dol stringers Some small scale folding present. 221.7 – 222.5: Qtz Vein with minor graphite and dolomite.	75°	Patchy weak dol of arg/silt? bands and within some qtz veinlets. Argillite in the H/W of qtz vein is graphitic. Minor sericitized zones.	1% coarsely dissem. pyrite patches.	Interval appears to be subjected to broad folding.
225.8 – 232.9	<SIL ARG/ SER SED?>	gray black	fine.	65% black cherty to silty laminated argillite, 35% intensely altered sed? Bedding at 227.4m at Cleavage at 227.4m at Overall sense of foliation	40 75 65.	There is abundant silica throughout interval. as patchy banding in argillite and local intense silicification in arg and as the typical quartz banding with intense yellow to brownish ser+chl? which destroys original textures. Arg is generally not silicified but is veined + banded.	<15% very fine grained dissem pyrite in qtz/ser alt. seds? 3% pyrite in argillite. +232.65 – 232.8 ± 1 <10% sp. 5% cp 1% gn> occurs in sil. sed. between and qtz veins. BM are fine to med. grained coarsely disseminated. 1% med grained arseno-pyrite, 10% pyrite.	

HOLE NO RG397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
232.9-260.6	<QTZ/SER ALT SED?>	gray greenish	fine	intense alteration destroys original textures Minor remnant bedding? is contorted. weak cleavage at	70-80	intense yellow to greenish-brown sericite alteration Pervasive moderate patchy silicification	5% disseminated pyrite.	
260.6-262.1	<QTZ VEIN>	white gray.		qtz vein is weakly fractured; 5% sericitized argillite clasts and sutures. 10% gray cherty material with argillite banding.			+260.7-261.2+ <20% py> very fine to fine grained. Very coarsely disseminated and patches to semi-massive. 261.2-262.1: 1% py	
262.1-267.3.	<CHERT/ ARG>	gray black	fine.	262.1-263.35: gray chert has 5% 1mm wide argillite partings - remnant bedding. 263.35-267.3. 60% of interval is relatively massive to finely laminated cherts with arg partings, 40% argillite, sil arg, cherty arg?. The sil/cherty arg contains gray patchy silica which is locally pyritiferous. 10% white, late stage qtz veining. Veins have diffuse boundaries within the chert.		262.1-263.35: chert has been silicified by white qtz which washes out some arg. partings. 263.35-267.3: patchy moderate gray sericitization. Patchy silic. Minor yellow sericite alt'n.	262.1-263.35: 1-2% pyrite which occurs in argillite and seams in chert. 263.35-267.3: 15% fine grained pyrite in the argillite.	

HOLE NO RG 397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
267.3 – 279.6	<QTZ/SER ALT·SED/ ARG>	yellow gray black	fine	Black argillites alternate with intensely altered sediments (SERT) 75% of the interval is altered. Locally cleavage offsets sericitic bands. Cleavage Foliation is also at in general. 5% white late stage qtz veining and patches Abundant gray qtz veinlets and lenses which have been stretched and truncated by cleavage (30%)	75 75	Intense yellow sericite alteration and qtz. Minor silicification of argillite.	10% dark brassy coarsely diasem py in the altered seds. Up to 15% v. coarsely dissem and patchy pyrite in the argillites – primarily associated with qtz.	
279.6 – 282.4	<QTZ/ARG FLT BX>	black	fine.	black argillite is cut by 20% white qtz veining and patches. Interval is fault brecciated with clay gouge developed locally		Argillite is strongly graphitic. Minor moderate silicification where qtz veining Trace talc.	3% coarsely dissem. pyrite 279.7–279.85: 5% cp 2% gn, 35% py. 280.25m: 3cm wide 15% cp, 5% gn, 30% py. in a veinlet. 280.7 m: 2% galena in a 2cm veinlet.	Middle Thrust Fault?
282.4 – 298.5	<QTZ/SER/ DOL SEDS>	black gray	fine.	Core consists of argillite which is laminated by silty beds. Bedding is weakly contorted.		Weak to moderate gray sericite throughout locally sericite is buff colored	Pyrite occurrence is irregular throughout interval	

HOLE NO RG397

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				15% white to gray qtz veins to 20cm 70% qtz / 30% dol.		Core has been weak to mod. dol. locally Dol occurs as nodular porphyroblastic growths As well some dolomite is found in the qtz veins. Minor, moderate gray silicification of argillite caused by silica flooding/ replacement	282.4 – 294.7 : 3-15% pyrite patches and disseminations 294.7 – 298.5 : 2% pyrite	
298.5 – 325.2	<SER SEDS>	gray black	fine.	Interbedded argillite and siltstone with minor chert bed at 316.6 – 316.8 m. Bedding is frequently chaotic, locally boudined Weak cleavage at General sericitic banding/ foliation At 302.5m seds exhibit small scale disharmonic folding. Axial plane at 5% white to gray qtz veining 301.15 – 301.5 : fault bx and gauge. +322.2 – 325.2 + Intermittent <FLT GOU>	10 60-80 55	spotty moderate gray to yellow-gray sericite alt'n increases down hole Minor talc at end of hole.	1% dissem. pyrite, up to 5% coarsely disseminated py and py patches in qtz veins.	

HOLE NO RG 397

END OF HOLE.

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31403	52.0	53.5			1.5											148	77	73	32	199	1	0.1	15
31404	88.4	90.2			1.8											42	139	237	494	57	19	0.8	87
31405	94.8	96.3			1.5											131	613	114	241	137	11	1.2	172
31406	105.9	107.3			1.4											134	269	206	57	98	50	2.7	25
31407	113.4	114.5			1.1											27	77	90	89	102	1	0.5	10
31408	122.8	124.3			1.5											34	93	92	26	99	1	0.1	8
31409	124.3	125.8			1.5											36	147	84	1	74	1	0.2	2
31410	129.4	130.1			0.7	.072	.56	.27	4.4	.01					*	722	5610	2711	81	245	268	4.4	12
31411	130.1	131.7			1.6											149	1306	621	36	121	7	0.8	14
31412	131.7	133.2			1.6											67	131	226	50	133	1	0.1	3
31413	137.8	139.3			1.5											69	278	233	125	67	18	0.7	5
31414	177.4	178.9			1.5	.004	.01	.01	0.3	.15					*	44	81	142	4472	31	33	0.3	145
31415	178.9	180.4			1.5											28	40	89	275	54	5	0.1	4
31416	188.3	189.3			1.0											221	186	102	173	79	1	0.1	2
31417	203.1	204.2			1.1											48	146	124	1	78	1	0.3	2
31418	204.2	205.3			1.1											142	410	353	39	91	28	1.7	3
31419	205.3	206.5			1.2											202	897	576	1	100	9	2.7	4
31420	231.5	236.65			1.15											78	365	374	577	71	1	0.9	40
31421	232.65	232.8			0.15	0.619	3.07	1.71	41.5	0.55				re-assayed	*	5923	26247	13847	3968	26	95	42.4	413
31422	232.8	234.3			1.5	.027	.04	.03	1.3	.14					*	274	418	307	1442	77	7	1.3	144

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PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31423	260.7	261.2			0.5	.015	.02	.03	0.8	.23					*	150	208	310	1008	47	58	0.8	229
31424	261.2	262.1			0.9											22	61	60	91	23	5	0.2	6
31425	263.1	264.6			1.5											15	14	59	86	48	3	0.1	2
31426	264.6	266.1			1.5											30	31	51	79	39	3	0.1	1
31427	266.1	267.3			1.2	.008	.01	.01	0.6	.14					*	76	54	97	1554	65	18	0.6	141
31428	267.3	268.8			1.5											46	79	86	679	87	6	0.2	35
31429	274.2	275.7			1.5	.006	.01	.01	0.4	.04					*	60	31	50	1414	111	.28	0.4	40
31430	278.1	279.6			1.5											66	30	54	314	98	6	0.1	14
31431	279.6	280.7			1.1	.166	.26	.32	7.4	.06					*	1664	2586	3249	519	171	29	7.4	58
31432	280.7	282.4			1.7											91	817	501	114	226	7	0.9	2
31433	282.4	283.9			1.5											80	128	102	199	93	4	0.2	6
31434	283.9	285.4			1.5	.008	.03	.02	0.1	.21					*	80	262	165	2617	85	26	0.1	212
31435	285.4	286.9			1.5											38	25	71	1576	98	12	0.1	109
31436	286.9	288.4			1.5											51	49	72	439	122	2	0.1	4

HOLE NO Rg 397

PAGE 2

DRILL HOLE RECORD

PROJECT NAME :	SAM	DATE STARTED (M/D/Y):	06/11/91
HOLE NUMBER :	RG398	DATE COMPLETED (M/D/Y):	06/17/91
LOCATION :	Sam extension area	DATE LOGGED (M/D/Y):	06/16/91
PROJECT NUMBER :	240	UNITS (F/M) :	m
CLAIM NUMBER :			

PLOTTING COORDS		ALTERNATE COORDS	
	GRID : SAM GEOL		GRID : est.
	NORTH : 791.55 N		NORTH : 6+00 N
	EAST : 11999.85 W		EAST : 120+00 W
	ELEV : 1046.64		ELEV : 1050.00W

COLLAR BRNG			
	GRID :	180° 00' 00"	COLLAR SURVEY (Y/N) : N
	ASTRONOMIC :	225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP :	-55° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR :	FRONTIER	LOGGED BY :	A. HILL / C. NAGATI
CORE STORAGE :	SAM EXPL. CAMP	START DEPTH :	0.0
CASING :	LIH	FINAL DEPTH :	374.8.
PLUGGED (Y/N) :	N		
HOLE SIZE :	NQ		

PURPOSE/COMMENTS : Fill-in gap on Sam horizon repetitions near middle fault on section 12000W. New "MBA GOLD ZONE" discovery hole.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
46.6	A	—	-56	OK	
114.6	A	—	-56	OK	
163.7	A	—	-55	OK	
221.6	A	—	-52	OK	
267.3	A	—	-52	OK	
303.9	A	—	-52	OK	
338.9	A	—	-53	OK	

HOLE NO. RG398

LOGGED BY A. HILL / C. NAGATI

rent vehicle. ← Glovet {Sunday night / Mon morning

Tues. Aim: Ferrie

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 33.5	<Csg.>			No core — overburden.				
33.5 to 51.4	<QTZ-SER ALT. SEDS>	Yellow, white, black, grey		Strongly sericitized, thinly bedded, contorted mixed sediments cut by 10% white qtz veinlets that are boudined and deformed. Short black argillaceous intervals (up to 10cm) are tectonic breccias. Possibly minor tuff as portions (<10%) are brown sericitic and carbonatized. Relict bedding at all orientations. Strong foliation ave:	65°	Intense yellow sericite after ?siltstone, silicification related to veinlets, and minor ferrodolomitization are patchy and controlled by permeability of host rock.	Wispy py (5%) along bedding planes and in fractures.	Typical "SERT"

HOLE NO RG398

PAGE 2

ZIPPY PRINT® BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
51.4 to 55.2	<SIL ARG + CHT>	Black, white, grey.		Very sharp conformable upper contact. Laminated argillite and cherty argillite cut by 20% deformed white qtz veinlets. Bedding is tectonically disturbed but commonly parallels fabric at	70°	Very hard and "glassy" core due to pervasive silicification. Carbon "stylolites" are common.	2-3% py in fractures.	
55.2 to 60.8	<RIBBON CHT + ARG>	Grey and black.		Gradational contact with light grey, very finely laminated ribbon cherts, cherty argillite, and argillite. Bedding is buckled and chaotic with numerous bull's eyes. Local spaced cleavage	50°	Minor silicification is possible, as hazy qtz stringers are throughout.	Minor py only except for: {55.2-56.1} <12% py, 2% sp, gv> in highly deformed qtz veinlets 1-10cm thick.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
60.8 to 61.1	<MASS PY>		fine grained	Massive, cataclysed pyrite seam, probably a vein as it resembles the smaller vein at 55.2m. Matrix is white and clear interstitial quartz. Sharp upper and lower contacts at	60°		<75% py, 1% sp in qv>	
61.1 to 64.0	<ARG BX> "Argillite Breccia"			Back into contorted black cherty argillite as on other side of the vein. Less siliceous, with a higher proportion of argillite (80:20) to siltstone or chert.		Minor silicification of silty beds. +62.0 - 64.0 +<FTE bx>	tr. py.	

HOLE NO RG398

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
64.0 to 82.7.	<DOL/SER ALT SED/VOL?>	Grey and black.		Upper contact faulted, schistose, gougey, and interbanded. {64.0-64.5}<FLT. gou> intense alteration destroys most original textures - interval contains some altered argillite but other rock types indeterminant. Local granular textures may have been due to remnant wackes. 10% gray qtz/dol veinlets and patches to 3cm 81.4-82.7: 20% qtz veining in weakly altered black argillite		Patchy bands of intensely dolomitized and bleached rock is interbanded with gray to brown sericitized core Minor silicification associated with veining. At 82.4-82.5m 10% talc.	Generally fine grained disseminated pyrite. 3% pyrite. {73-74.2} <1% py, min. cp> pyrite occurs in patches and coarse dissem primarily in contorted qtz veinlets. Chalcopyrite occurs between 73.5-73.61m: 8% coarsely dissem cp in qtz with associated pyrite.	In places the core looks to be a precursor to MVT.
82.7-106.1	<FLT'D ALT SEDS>	black gray	fine.	60% of interval is black argillite which interbedded with an intensely altered gray, granular? sediment?			2-3% py. - local concentrations.	

HOLE NO RG 396

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION Move up	SULPHIDES	REMARKS
				granular texture & may be secondary, due to alteration - possibly a silt / wacke. Argillites are intensely fault brecciated and altered to clay gouge. except between 102.1-102.85 m where the argillite is silicified. The gray altered seds are generally more competent		Gray seds? are strongly dolomitized and phyllitic where not clay altered. Where argillite is not altered to swollen clays it is phyllitic except 102.1-102.85 where there is moderate silicification. Minor talc.		
				Bedding-parallels foliation	70°	Minor intense graphite		
				Some low angle foliation present. 10% qtz veining to 25cm much of the veining is fault brecciated or fractured. 102.8-106 1:25% white to gray quartz veining +105.1-105.65 t< Qtz vn > 15% pink dolomite				
106.1 - 108.2	<Mixed Seds/ Volc/H.F.>	gray buff black	fine to 3cm.	Contacts are gradational Much of the interval is strongly altered but local clastic textures of qtz, sericite, argillite.		localized nodular dolomite growths. Dol. intense in gray alt. Volc?, Dol also occurs in veinlets. Moderate gray sericite alteration	3% very fine grained disseminated and stringer pyrite Pyrite concentrations up to 10% in narrow zones which approach	

HOLE NO R6398

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				in a gray sericite matrix Local interbeds of argillite and volcanics? 5% arg, 20% volc?, 75% Hct Frag.(?).		brownish sericite in volc? clast/bed.	MVT in texture and style of mineralization	
108.2 - 111.3	<GR. SOR/ PY ALT SEDS>	brownish gray.	fine.	Original rock type completely altered. Foliation at. 15% white qtz stringers and veins. Veinlets locally exhibit small scale folding.	75°	Rock is pervasively altered to gray sericite, fine grained quartz, and <25% fine grained py.	25% pyrite. Minor amounts of coarsely disseminated sp and gn are associated with qtz veins and coarser grained pyrite Overall <1% B.M. in unit. Trace tetrahedrite at 109.3 m.	Typical 'MVT'!
111.3 - 138.45.	<MIXED ALT SED/ VOL>	gray green black white	fine to 8cm	Beds of Hct Frag which range in thickness from 10cm to over 2 meters 30% Hct Frag is interbedded with 40% black argillite, 30% volc? wacke? Clast composition again consists of qtz, argillite, sericitic/dolomitic clasts in a silty matrix 10% white qtz veining to 9cm. Some veins contain up to 40% dol/		Alteration is dependent on protolith. Volc? are calcareous, dol alt. various shades and grades of sericite present through out ranging from a weak phyllite to a intense yellow sericite and quartz alteration between 113.9 - 115.2 m.	Pyrite content is variable with rock type Volc, wacke contain <3% in general. Argillites can contain 2-12% fine to coarse disseminated and stringer pyrite.	

HOLE NO RG398

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				feldspar, but the majority of veins are primarily qtz. Some small scale folding of veinlets. Bedding in argillite is chaotic when visible; General foliation at. 128.1-129.7: pyritiferous (10%) and 8% qtz veined argillite.	85°	115.2-116.m: moderate silicification and brecciated qtz in argillite. 122.9-123.6: patchy quartz veining and moderate silicification	+115.75-115.79t silicified zone contains <5% cp, 3% tt, 1% gn> +118.6-118.7mt: <20% py, <1% sp> 20% coarse clots of pyrite with <1% pale coarsely dissem. sp. in a silicified Het Frag. +122.9-123.6mt <15% py, min. gn, cp, tt?> BM are in qtz veinlets.	
138.45-140.8.	<CHERTY ARG>	black gray	fine.	Argillite is laminated by chert bands. Bedding is chaotic. Some bulls-eye textures. Upper contact is sharp - bedding truncated - cleavage offsets bedding 3% white qtz veining	90	Minor moderate silicification.	up to 5% fine grained pyrite coarsely dissem. in the argillite.	Soft sediment slump contact.
140.8-149.2	<CHERT?>	gray white	fine.	chert? locally has some remnant bedding and partings which has been silicitized. Bedding is chaotic. Contacts are gradational. Chert's are cut by 1% grayish		Local zones of moderate silicification. Wall rock clasts are silicitized. Patchy, minor dolomite. 148.9-149.05: 10% fuchsite/talc?	Pyrite content varies between 2-5% in cherts and altered partings (arg?). Trace to minor pyrite in the	QTZ Veins similar to that which is auriferous below.

HOLE NO RG398

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				white dolomite stringers Minor clay fault gouge. 40% of the interval consists of massive to weakly fractured white bull qtz. Veins contain local fragments of pyritiferous, altered country rock. Vein range from stringers to veins in excess of 1 meter. Vein orientation is irregular and at low angles to core axis, it is quite likely that there is a vein which is deformed and cuts back forth through the rock. +142.7 – 145.8+ is the principal interval that is <QTZ VN>, with 85% veining.			quartz veins. +141.5 – 141.8+ <20% Py>, fine grained coarsely disem to semi massive +142.3 – 142.5+ <20% Py>	
149.2 – 156.3	<CHERT/ ARG>	gray black	fine.	Top of interval consists of chert laminated by argillite. chert content decreases with depth to laminations within argillite. Bedding is		Argillite is weakly phyllitic	3-5% patchy disseminated pyrite in argillite.	

HOLE NO RC 398

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				contorted, local tectonite. Contacts are gradational. 5% white to gray irregular qtz veining with minor dolomite - some small scale folding.				
156.3 - 160.75	<QTZ/SER ALT. SED?>	gray buff	fine	Intensely altered sediments? Alteration destroys original textures. Some cataclastic textures - clasts of qtz/ser. Minor fault gouge in narrow zones. +156.9 - 157.3 t <QTZ VN> vein has irregular contacts at 30 vein is generally massive white bull qtz with 10% wall rock inclusions which have been altered to a dark gray color - mineralogy uncertain - include py, sericite. Pyrite also forms med grained xtal clots on margins of clasts.		Interval is strongly silica flooded and sericitized - gray, buff minor yellow sericite. Alteration is mottled. 156.3 - 156.6: patchy weak dolomitization, minor talc +157.3 - 157.6 t <INT. SER> grayish sericite on footwall of qtz vein.	<5% disem. pyrite; local concentrations in bands +156.9 - 157.3 t <1% py, Min Au>. Gold occurs as 3 coarsely disseminated clots at 157.2m. Gold occurs at or near margins of altered wallrock clasts. Approx 26 grains of gold seen which range from 1.5mm to very fine grained. Gold is smeared from coring. Each auriferous zone is <2cm in diameter 157.3 - 157.6: 1% py, fine grained.	157.3 - 157.6: similar to MUT.

HOLE NO RG398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
160.75-163.7.	<QTZ VN & FLOOD>	White	fine to coarse	20% of the interval is white bull qtz/dol (95%/5%) veining. Dolomite is coarse grained coarsely disseminated within veins preferentially along margins of vein. Where vein margins are identifiable they are irregular with no identifiable preferential orientation. but there is a weak consistent fracture plane at. In general veins grade into a white and grey qtz flooded zone with clasts of wallrock These 'messy' veins are locally mineralized. Wallrock comprises 10% of interval. Wallrock is altered.	30	Wallrock is altered to a gray to brown sericite.	Minor fine grained disseminated sphalerite in qtz vn. 3% fine grained, coarsely dissem py in altered wallrock. +160.75-161.55+ <Minor gn, cp, 2% sp> B.M. are fine to med grained, in fine to coarse disseminations Sphalerite occurrence is primarily between 161 - 161.1 m where there is 5% sp. 162.6 m: a 3cm zone containing 8% sp, <1% gn. BM are in coarsely disseminated band. The following 10cm contains 15% fine grained semi massive pyrite patches.	
163.7-165.0	<QTZ/SER ALT SED?>	gray buff	fine	similar to interval 156.3 - 160.75m. Lower contact is gradational		similar to interval 156.3-160.75m.	2% dissem. pyrite.	

HOLE NO RG398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				as it core becomes increasingly siliceous.				
165.0 – 172.4.	<QTZ VN/ ALT. SED>	White gray buff	fine	Interval contains 30% gray to green/buff altered sediments which are locally silicified and flooded as in the interval 160.75–163.7m. The remainder of the interval consists of bull white quartz veining, with up to 10% gray to pink coarse grained dolomite and veining with altered wallrock clasts. Increasing country rock with depth. Veins have irregular contacts and orientation. Bull qtz vein sections are up to 50 cm. Some boudele folds.		Intense sericitic (gray to brown) alteration of clasts/country rock.	2% pyrite dissem in altered country rock. 165.2–162.5: 10% dark, coarsely dissem. pyrite.	Veins are locally deformed and move into and out of the core.
172.4 – 232.5.	<QTZ/SER ALT SED>	yellow gray white.	fine.	Intense alteration destroys original textures. Minor black argillite present. Locally core exhibits a good cleavage at 75°. Foliation varies between 60–80	75° 60–80	intense pervasive sericite alteration. Sericite alt'n varies in color from pale yellow to a pale gray-green. Silica is also pervasive throughout interval although more patchy	5% fine grained, coarsely disseminated py. Py occurs as discontinuous patches, and stringers in qtz which are locally contorted/folded.	The most heavily veined sections of core have been sampled. TYPICAL 'SERT'.

HOLE NO R6398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Banding in the core (remnant bedding?) is locally strongly contorted, locally parallel to C/A. 10% of the interval is patchy, irregular white qtz veins. Veins contain altered clasts of wallrock, minor, coarsely dissem pyrite patches. Some veins are fractured by en echelon jointing which is oriented between 25-50 local vugs. Largest intermittent vein zone 80 cm wide. Narrow zones of fault bx and gouge. 183.7 - 183.8: fault gouge +190.2 - 190.5+ <FLT Bx/Gou> +197.9 - 198.4+ <FLT Bx> +211.4 - 215.9+ intermittent <FLT Bx>	than the sericite. Silica is grayish to white. Qtz/sericite bands the core. Dolomite veinlets are also present. Gray in color, fine grained. Locally make up to 10% of vein material.	Trace sphalerite in qtz veins.	Hinge Zones?
232.5 - 316.	<FLT SEDS/ ARG>	yellow gray black buff	fine -	60% of the interval is qtz/ser altered seds as in the overlying unit. This rock type grades into and out of 40% black argillite with silty laminae. Some of the silt is altered.		The qtz/sericite alteration is similar to that of the overlying interval except that locally the sericite can be darker green/brown color - chloritic? - possible mafic vol	5% coarsely dissem + patchy pyrite in the qtz/ser alt seds? as in the overlying unit. Argillites similarly contain up to 5% pyrite. Pyrite concentrations can reach 10% locally.	

HOLE NO RG 398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Discernable bedding is frequently chaotic. Where bedding is undisturbed the banding within the altered seds parallels bedding — relict bedding. Black argilliceous sediments are most prevalent in the intervals: 232.5-236.7m, 242.2-244.4m, 249-258.7m and 280.8-295.1m. Lower contact is gradational. Core contains 5% white, largely bull, quartz veins to 70cm. Some veins contain intensely altered wallrock clasts. +232.5-239.9+ <50% QV> intermittent veining with <10% pink, coarse grained dolomite +249.9-254.4+ <45% QV> Narrow fault bx and gouge zones common: Major fault intervals occur at: 237.9-238.15m: fault bx 238.45-238.6m fault gouge +253.7-259.4+ intermittent <FLT Bx> of 70% of interval		component. Argillites are locally phyllitic with minor moderate gray sericite alteration bleaching core. In fault zones some argillite is moderately graphitic. Silty beds are locally weakly dol or sil. altered.	+232.9-233.4+ <Minor V.G.> one patch of smeared gold grain(s) occurs over area 2x3mm at 233.35m where vein is in contact with argillite. A second ½mm x 1mm grain in the same qtz vein which is situated near coarse white to gray dol. crystals. Two final grains at 233.07m. very fine grained. - up to ½mm length. +238.15-238.15+ <Tr V.G.> 4 grains of gold in a 1cm diameter. The largest grain measures 1mm. Au occurs in qtz on broken rather than cut surface.	237.9-238.6: These faulted intervals affect the auriferous qtz vein.

HOLE NO RG398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				+263.8 – 267+ <FLT BX/GOU> +307.1 – 307.9+ <FLT BX/GOU>				
316.0 – 326.6	<ARG>	black gray.	fine.	argillite contains bleached zones, possibly after silty intervals. Minor small zones of tectonite & white qtz veinlets and veins. Veins show some preference for orientations parallel to foliation. Qtz also occurs as patches and warped veins. Foliation at. 55-85° to C/A. Some offsetting by cleavage plane at. +321.8 – 323+ intermittant <FLT BX>.	75°	Argillite is phyllitic due to development (weak) of gray sericite. Minor dolomite.	3% fine grained coarsely dissem pyrite and stringers of pyrite.	
326.6 – 357.3	<ALT SED/ARG>	yellow black gray buff	fine.	very similar to the interval 232.5 – 316 m. Bedding in argillite is chaotic and locally tectonized. Intermittant narrow fault gouge zones to 10 cm +335.2 – 336.3+ intermittant		alteration as in 232.5 – 316 m. The amount of alteration increases down hole. Yellow to grey-green sericite (chl??) is banded by grey qtz/dol veinlets + patches.	2-5% fine grained, coarsely dissem and patchy pyrite. 348.25 – 348.9: 8% py. in gray sericitized arg.	342.0 m: Change to BQ core.

HOLE NO RG398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<FLT BX/GOU>				
351.3 - 358.2	<QTZ/SIL/ SER/PY ARG>	black yellow white gray buff	fine.	Interval of variably altered argilliceous seds. Lower contact is faulted.		351.3 - 352.7m: sediments are primarily altered to yellow sericite with irregular qtz/dol banding and zones of blacker, pyritiferous, less altered argillite which is locally graphitic. 352.7 - 355.5: interval is primarily qtz veined and silicified argillite which ends in a 6cm qv with 60% pyrite. 355.5 - 357.7: another qtz sericite altered interval, with irregular qtz veining. 357.7 - 358.2: tectonized and silicified/veined argillite.	Pyrite is common throughout interval. Very fine to fine grained. In quartz and argillite pyrite occurs as dissem. to semi massive patches. At 355.5 m there is a 6cm vein which contains 60% pyrite. In quartz sericite altered core - pyrite occurs in irregular patches - primarily in deformed? qtz stringers and veinlets. Minor arsenopyrite was seen in a diffuse disseminated 2cm band at 353.7m. As PY is fine grained. Minor sp, cp is dissem. in some qtz veins. B.M. are fine grained, fine to coarse dissem.	
358.2 - 360.1	<SER ALT MAF/SED?>	green	fine.	margins of interval are altered mafic volcanic. From 358.5 - 357.7m is an altered sediment?		The alteration of the mafics is a moderate chloritic to mustard yellow sericite. Core is locally bleached	minor pyrite in the mafics. 5-15% dark, very fine grained	with the amount of Fe carbonate (dol) in the altered seds? they

HOLE NO RG398

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Shear foliation at The altered sed. contains a white veinlet which is locally buckled and offset and which trends down the core axis.	60	to a gray color where core is strongly dolomitic 358.5-359.7m: intense yellow to mustard sericite alt'n, no chloritic coloration. Patchy mod to intense dol.	pyrite patches and bands Trace cp in qtz veins.	may be volcanics which are just more intensely altered.
360.1-374.9	<CARB. MAFICS>	green	fine	speckled to massive mafic volcanics. Volcs. are weak to moderately carbonatized. White spotting comes from an Fe-calcite (stains red) porphyroblasts?- rounded to cylindrical in shape. Up to 10% White qtz/Fe-Calcite (70/30%) veining and stringers. Some veins exhibit small scale folds.		Mafics are at least locally chloritic. Green matrix stains blue-so it may be dolomitized.	No visible sulphides	REA MAFICS
374.8.				END OF HOLE.				

HOLE NO RG398

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31437	54.2	55.2			1.0					.01						148	250	143	90	85	70	2.8	10
31438	55.2	56.1			0.9	.039	.22	.12	15.8	.18						386	2242	1243	475	60	234	15.8	180
31439	56.1	57.0			0.9					.02						113	822	281	56	121	55	3.1	15
31440	57.0	58.5			1.5					.01						18	119	87	37	128	8	0.5	5
31441	58.5	59.8			1.3					.01						45	138	73	50	170	22	0.8	10
31442	59.8	60.8			1.0					.02						31	161	69	61	151	18	0.5	20
31443	60.8	61.1			0.3	.318	.10	.18	68.8	3.35						3180	1043	1820	1696	14	1481	68.8	3350
31444	61.1	61.8			0.7					.05						92	234	80	76	144	50	1.6	45
31445	73.0	74.2			1.2	.147	.13	.03	2.5	.62						1468	1287	264	498	61	29	2.5	620
31446	81.2	82.7								.04						138	415	238	102	200	15	3.4	35
31447	98.6	100.1			1.5					.01						222	386	236	331	327	64	5.0	10
31448	101.6	103.1			1.5					.01						39	88	81	51	196	6	1.2	5
31449	103.1	104.6			1.5					.02						59	390	188	59	324	11	1.5	15
31450	104.6	106.1			1.5					.01						39	448	236	70	196	1	1.0	5
31451	106.1	107.1			1.0					.01						123	1199	445	127	147	19	1.8	5
31452	107.1	108.2			1.1					.01						40	188	193	107	151	3	0.6	5
31453	108.2	109.7			1.5	.024	.09	.09	6.8	.04						244	989	864	89	144	116	6.8	40
31454	109.7	111.3			1.4					.01						33	773	493	88	117	9	1.6	10
31455	111.3	112.8			1.5					.01						35	29	76	72	168	1	0.5	5
31456	115.2	116.0			1.2	.066	.14	.13	32.9	.08						662	1387	1256	82	91	140	32.9	—

HOLE NO RG 398

(Do not enter info in brackets)

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31457	116.0	117.7			1.7					.01						29	254	253	110	118	1	1.0	5
31458	117.9	119.1			1.2					.02						55	429	191	182	93	13	1.2	15
31459	122.9	123.6			0.7	.043	.42	1.13	4.9	.03						827	4165	1286	251	97	16	4.9	30
31460	123.6	125.1			1.5					.01						49	173	125	128	198	1	0.5	5
31461	128.2	129.7			1.5					.01						51	78	84	72	240	1	0.4	5
31462	129.7	131.2			1.5					.01						42	144	96	104	282	1	3.8	5
31463	139.8	141.3			1.5					.10					*	23	47	44	78	209	1	0.2	—
31464	141.8	142.8			1.0					.09						16	1	65	134	221	8	0.4	90
31465	142.8	143.3			1.5					.29					*	14	12	55	65	111	1	0.4	—
31466	144.3	145.7			1.4					.01						6	2	40	25	79	1	0.7	5
31467	145.7	147.2			1.5					.09						14	1	41	74	186	1	0.6	90
31468	147.2	148.2			1.0					.05						15	1	39	70	309	1	0.1	50
31469	148.2	149.0			0.8					.22					*	13	60	71	49	125	1	0.9	—
31470	154.8	156.3			1.5					.23						19	1	40	95	145	1	0.3	225
31471	156.3	156.9			0.6	.005	.01	.02	0.4	.66					*	48	37	166	157	324	1	0.4	—
31472	156.9	157.3			0.4	.001	.01	.01	6.8	208.31					*	5	13	32	23	56	1	6.8	—
31473	157.3	158.4			1.1	.001	.01	.01	0.2	.32						20	15	61	124	166	1	0.2	320
31474	158.4	159.5			1.1					.06						11	32	41	99	143	1	0.1	60
31475	159.5	160.75			1.25					.10						21	502	59	205	170	4	0.4	100
31476	160.75	161.55			0.8					.13						91	863	98	183	187	6	0.8	125

(40.03 g/t Au over 2.1 m cut = 6.89)

HOLE NO RG 398

ASSAY SHEET

	Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
~	31477	161.55	162.45			0.89					.58					*	23	238	85	122	86	3	0.7	—
~	31478	162.45	162.8			.35					1.79					*	75	1762	433	322	142	37	1.7	—
~	31479	162.8	163.7			1.1					.12					*	13	40	54	75	100	1	0.7	—
	31480	163.7	165.0			1.3					.19						14	28	61	107	157	1	0.1	195
~	31481	165.0	166.7			1.7					.35					*	145	185	150	142	120	16	1.2	—
~	31482	166.7	167.6			1.1					.02					*	35	43	36	46	61	1	0.1	—
~	31483	167.6	168.6			1.0					.02					*	6	24	42	26	137	1	0.5	—
	31484	168.6	169.5			1.1					.01						17	18	58	176	124	1	0.3	10
~	31485	169.5	170.6			1.1					.01					*	6	25	40	47	94	1	0.4	—
~	31486	170.6	171.8			1.2					.02					*	11	21	60	129	298	1	0.3	—
~	31487	171.8	172.4			0.6					.01					*	6	68	93	66	176	1	0.5	—
~	31488	200.6	201.9			1.3					.08					*	17	84	41	1001	84	12	0.1	—
	31489	203.6	205.1			1.5					.09						21	61	73	1113	66	14	0.1	95
	31490	207.0	208.5			1.5					.21				(re-assay? hi as)		52	67	74	2663	51	44	0.9	215
	31491	215.3	216.8			1.5					.08						11	95	69	2275	131	27	0.1	80
~	31492	227.9	229.5			1.6					.18					*	18	19	42	171	132	4	0.1	—
	31493	229.5	231.0			1.5					.01						10	15	32	103	114	2	0.1	10
~	31494	231.0	232.5			1.5					.24					*	12	40	43	104	165	1	0.1	—
~	31495	232.5	232.9			0.4					.20					*	6	16	28	81	117	1	0.3	—
Std #9	31496	232.9	233.4			0.5	.001	.01	.01	0.5	5.90					*	6	14	27	46	101	1	0.5	—

HOLE NO RG 398

ASSAY SHEET

	Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
m	31497	233.4	233.95			0.55					.18					*	9	18	35	117	161	1	0.1	—
	31498	233.95	234.6			0.65					.16					*	9	18	37	91	122	1	0.5	—
	31499	234.6	235.3			0.7					.07					*	5	20	29	95	137	1	0.2	—
	31500	235.3	236.6			1.3	.002	.01	.01	0.2	10.39					*	9	20	36	82	151	1	0.2	—
	31501	236.6	238.0			1.4	.002	.01	.01	0.5	.87	(5.36g over 4.9m)				*	16	37	55	79	165	1	0.5	—
Vg	31502	238.0	238.7			0.7	.001	.01	.01	0.4	15.40					*	5	21	35	12	74	1	0.4	—
	31503	238.7	240.2			1.5	.002	.01	.01	0.2	.51					*	20	22	43	101	171	2	0.2	—
	31504	249.9	251.1			1.2					.21					*	8	33	44	56	190	1	0.4	—
	31505	251.1	256.6			1.5					.08					*	25	223	77	101	176	1	0.1	—
	31506	252.6	254.1			1.5					.08					*	20	42	67	93	173	1	0.2	—
	31507	254.1	255.6			1.5					.25					*	46	68	88	93	180	1	0.1	—
	31508	267.0	268.5			1.5					.09					*	21	17	46	71	103	1	0.1	—
	31509	268.5	270.0			1.5					.02					*	17	28	47	48	107	1	0.1	—
m	31510	270.0	270.9			0.9					.02					*	14	36	51	91	143	1	0.1	—
	31511	348.0	348.9			0.9					.01						73	196	310	295	88	5	1.0	5
	31512	351.3	352.7			1.4					.01						71	66	105	203	79	3	0.5	5
m	31518	262.2	263.8			1.6					.02					*	22	27	46	29	120	1	0.1	—
	31513	352.7	355.5			2.8	.026	.15	.07	3.0	.10						259	1543	716	4589	79	40	3.0	105
	31514	355.5	356.6			1.1					.01						92	83	237	481	84	5	0.9	5
	31515	356.6	357.8			1.2					.01						60	79	106	128	54	1	0.6	5

HOLE NO RG 398

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31516	357.7	358.2			0.5					.01						77	111	77	204	44	5	0.9	5
31517	358.2	359.7			1.5					.01						161	378	161	141	96	3	1.6	5

HOLE NO RG398

ASSAY SHEET

	Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
m	34106	173.2	173.8			0.6					.03						9	130	91	146	268	4	0.1	—
	34107	173.8	175.3			1.5											15	32	32	117	81	3	0.5	22
m	34108	199.1	200.6			1.5	.002	.01	.01	0.5	.12						18	44	17	984	85	16	0.5	—
	31409	304.0	305.6			1.4											57	38	19	62	46	3	0.1	1
	31410	307.7	308.7			1.0											35	41	14	44	195	3	0.4	1
	31411	308.7	309.5			0.8											21	35	16	44	49	2	0.1	2
	31412	311.1	312.4			1.3											19	24	15	59	69	3	0.2	1
	31413	316.2	317.8			1.6											19	27	16	50	39	2	0.1	1
m	31414	320.0	320.2			0.2					.02						28	37	21	108	99	3	0.1	—
	31415	325.7	327.2			1.5											38	33	21	62	50	3	0.1	1
	31416	327.2	328.7			1.5											42	38	22	58	61	3	0.1	2
	31417	328.7	330.2			1.5											40	44	18	56	53	4	0.1	1
m	31418	330.2	330.7			0.5					.03						80	67	95	87	96	9	0.1	—
	31419	330.7	331.6			1.4											46	36	44	60	133	4	0.2	1
m	31420	334.2	335.3			1.1					.01						23	54	28	77	72	4	0.1	—
	31421	335.3	337.2			1.9											18	44	21	47	88	2	0.1	2

HOLE NO Pg 398 : Additonal Samples

PAGE 1

Enter survey data

DRILL HOLE RECORD

Note changes

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 06/18/91
HOLE NUMBER : RG400	DATE COMPLETED (M/D/Y): 06/21/91
LOCATION :	DATE LOGGED (M/D/Y): 06/22/91
PROJECT NUMBER : 240	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID : SAM GEOL		GRID : ESTIMATED
	NORTH : 674.03 N		NORTH : 6+85 N
	EAST : 11998.90 W		EAST : 120+00 W
	ELEV : 1034.923		ELEV : 1045.

COLLAR BRNG		
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : ~~N~~ Y
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP : -55° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR : FRONTIER DRILLING	LOGGED BY : C. NAGATI
CORE STORAGE : SAMEX CAMP	START DEPTH : 0.0
CASING : PULLED	FINAL DEPTH : 242.9
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : TO TEST THE UPDIP EXTENSION OF THE NEW GOLD ZONE.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
101.2	A	—	-56	OK	
104.2	M	234	-56	OK	Single Shot
154.5	A	—	-56	OK	
218.5	A	—	-55	OK	
236.8	M	230.5	-55.5	OK	Single Shot.

HOLE NO. RG400

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0-92.65	<CSG>							STARTING WITH THIS HOLE AN ATTEMPT WILL BE MADE TO SEPARATE YELLOW SERICITE (+ QTZ) ALT'N FROM GREENISH-YELLOW SERICITE ALT'N - ABBREVIATED AS GN-YEL.SER.
92.65-97.5	<GN-YEL. SER/QTZ. SEDS?>	gray greenish-brown yellow white.	fine.	intense alteration of country rock. Resultant core is banded gray (qtz/dol) and yellow, brown, and greenish from shades of sericite. Banding may mimic bedding. General banding orientation is at 3% white, coarse qtz veins (late stage?) except between 96.3-97.5 where there is 15% white veining. Some qtz veinlets are are extremely buckled.	60-70	Alteration consists of a greenish to brownish yellow sericite which is band by qtz/dol (70/30%) fine grained veinlets. Limonite on fracture surfaces to 93.4m. Between 96.3-97.3m the sericite is a much purer yellow.	Overall pyrite content is 5-7% with local concentrations to 15%. Pyrite is generally very fine grained and occurs as blebs to bands in quartz. and coarse to fine dissem in sericite locally. At 93.4-93.48 there is 7% very fine grained matted to accicular arsenopyrite coarsely disseminated in quartz. <1% Aspy>	
97.5-106.6.	<QDV-ε-ALT SED?>	white		Interval consists of 15% intensely altered sediments? as above 85% of interval consists of coarse grained white qtz/carb. veining.		The host rock and wall rock inclusions in the interval are in general intensely altered to a gray/brown sericite. larger hard. rock intervals contain	Altered seds? contain 5-10% pyrite which occurs as in the overlying interval. Qtz/carb veins contain <1% medium grained dissem	Gray/brown sericite is most intense adjacent to veins - replacing yellow sericite?

HOLE NO RG400

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accicular
acicular ?

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Veins are 95% qtz 5% white, gray, pink bladed iron carbonates. except for veins between. 103 - 104 m where the ratio is 65/35%. Veins contains 10% altered wallrock fragments. Veins contain minor vugs and in general appears to be quite barren. Veins are locally irregular. Contact orientations vary from 20-90 degrees to C/A. Some low angle fracturing of qtz veins. +98.15- 98.25+ <FLT GOU>		some greenish and yellowish sericite as well. Sericite alt'n (+/- chl) is intense. and still contains early gray qtz veinlets	pyrite. +99.45 — 99.50+ <2% py, Trace Au> medium to coarse pyrite forms selvage to a quartz veinlet. One grain of gold, irregular in shape, measuring .75 X 2mm is present in the selvage. +106.35—106.6+. <2% Aspy> Aspy occurs as very fine grained, coarsely disseminations in qtz. Crystal habit is a felted mass of cubes and accicular needles.	
106.6- 112.1	<GN-YEL SER ALT SED>	yellow. grey white	fine.	Interval consists of pervasively and intensely altered sediments which contain 1% late, white bull qtz veins. Interval is competent.		Intense pervasive yellow sericite alt'n with greenish tint. 15% vague grey; irregular qtz veinlets with vague contacts	7% fine to medium grained pyrite. Pyrite is coarsely dissem. in contorted stringers of gray quartz +107.37 - 107.65+ <10% aspy, py; 8% BM> Sulphides occurs in qtz flooded siliceous interval. Sulphide breakdown is 5% aspy,	

HOLE NO RG 400

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
							5% py, 3% galena, 4% sphalerite, 1% chalcopyrite. BM are fine grained, coarsely dissem. Arsenopyrite occurs as vf. grained masses to coarse oct. diamonds. Py + Aspy are also coarsely disseminated and are locally intimately associated.	
112.1-115.05	<QTZ VN/ ALT SED>	White yellow grey green.		80% of interval consists of irregular white qtz veining containing and surrounding 20% intensely altered wallrock. Veins contain minor iron carbonates. Vein orientations are highly variable.		Wallrock material is intensely altered to yellow sericite with a greenish tint. Wallrock is the same as in the overlying unit.	5% fine grained pyrite in coarse dissem in the altered seds as above. Qtz veins contain 3% med to coarse grained patches of pyrite. There is also 2% very fine grained felted masses of acicular arsenopyrite coarsely dissem. throughout the veins.	Acicular Aspy may be auriferous. - Assay for metallics and fire assay.
115.05-124.4	<GN-YEL SER ALT SED>	yellow grey	fine.	Rock is the same as that in 106.6-112.1m. Between 123-123.7m there is 70%, late, white, coarse grained qtz vein		as in 106.6-112.1m. 123-123.3m: sericite is cleaner, yellower in color.	as in 106.6-112.1m. Minor aspy associated with qtz veins.	

HOLE NO RG 8/00

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
124.4-204.7.	<ARG/.YEL SER. SED.>	black yellow gray white.	fine	50% of interval is black argillite, 50% variably altered seds. Argillites contain variable amounts of qtz stringers and veins. ranging from 5 to 60% and averages 20%. Veining is irregular, frequently contorted, and locally offset with minor localized tectonic bx. add het frag ??? Qtz veining is similar within the altered seds although the smaller veins do not standout against the yellow/gray groundmass. Bedding is frequently contorted. Where bedding/foliation is consistent their orientation varies between 60-80° to C/A Intense zones of qtz veining occur as follows: -|127.4-133.1 + <40% QTZ VN> -|134.1-135.4 + <95% QTZ/CARB VN> vein is comprised of 65% qtz, 35% white to pink coarse grained vein carb.		Altered seds are intensely sericitized. Sericite coloration ranges from yellow to greenish yellow + brownish green and grey. Some sericitic alteration is banded by grey qtz veinlets. Intense alteration locally grades in and out of black argillite via a grey sericite. Grey sericite alt'n of argillite is commonly seen in envelopes surrounding some quartz veins.	1% fine grained coarsely dissem pyrite in quartz. Trace sphalerite + galena in quartz veins.	

HOLE NO RG 400

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				-/188.9 - 193.5 + <30% QTZ VN> veining in both altered and unaltered rock. Narrow fault bx and gauge zones comprise 2% of the core. Larger fault intervals occur as follows: 128.8 - 129 : Flt. gauge. +129.6 - 130.25 + <FLT BX/GOU> 135.2 - 135.6 : intermittent fault bx +200.9 - 202.1 + <FLT BX> The interval +171.9 — 174.9 is a fine grained arg <debris flow ? > QTZ veinlets have been bx. Cleavage at 75	edit note.			J.C. calls it a debris flow/soft sed slumping. - Similar to much of what has been called tectonite.
204.7 - 242.9.	<ARG/ALT SED>	black grey green	fine.	This interval is a continuation of the overlying unit with weaker alteration. 65% of the interval is black to grayish argillite/silt and 35% grayish to green sericitically altered sediments. Minor chert present.		Most argillite is phyllitic due to development of weak grey sericite. Locally grey sericite alt'n increases to moderate intensity. In general moderate to intense sericite	Trace coarsely dissem galena, chalcopyrite in quartz veins at 240.75m. 3-5% fine grained pyrite occurs as disseminations, patches, stringers in argillite and quartz	

HOLE NO RG 400

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Interval contains 15% qtz in veins, stringers, patches, clasts and minor stwk in chert laminated argillite. Bedding + veining is frequently chaotic due to soft sed slumping? and tectonism There is a moderate Fe-carbonate component which occurs intermixed with quartz veining and cherty laminae. and local spotty growths.		alteration is greenish to brown in color. Patchy weak to moderate silicification. No Yellow sericite.	242.1 – 242.9 : 10% pyrite	
				+204.7 – 206.3+ <FLT BX/GOU>				
				+215.8 – 216.2+ <FLT GOU> in cherty interval.				
				At 238.6 m, cleavage at Bedding is parallel to C/A.	65			238.6 : possible, small Hinge Zone.
				END OF HOLE.				

HOLE NO RG400

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Fire Assay for Au

ICP

ASSAY SHEET

	Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
	31532	94.8	96.3			1.5					0.10						21	62	20	330	107	4	0.4	100
m	31533	96.3	97.5			1.2					0.20						35	65	30	441	98	5	0.3	—
	31534	97.5	98.15			1.35					0.10						10	49	54	86	52	2	0.5	—
	31535	98.15	99.2			1.05					0.80						48	19	102	657	115	10	1.4	—
VG.	315 36	99.2	99.6			0.4					1.69						30	6	45	932	74	9	0.8	—
	315 37	99.6	101.1			1.5					0.12						16	51	43	188	49	2	0.4	—
	315 38	101.1	102.6			1.5					0.81						37	13	47	245	47	8	1.2	—
	315 39	102.6	104.1			1.5					0.24						8	30	37	49	16	1	0.4	—
	315 40	104.1	105.5			1.4					0.50						37	13	31	827	47	6	0.6	—
m	315 41	105.5	106.6			1.1					0.36						28	23	29	2384	57	15	0.4	—
	315 42	106.6	107.37			0.77					0.10						33	7	31	478	112	3	0.6	95
m*	315 43	107.37	107.65			0.3	.190	2.48	2.59	81.3	5.26						1903	24787	25894	23676	45	394	81.3	—
	315 44	107.65	109.2			1.55					0.07						24	23	37	688	110	4	0.4	65
	315 45	109.2	110.7			1.5					0.11						21	54	18	737	133	7	0.4	105
	315 46	110.7	112.1			1.6					0.17						17	60	14	1293	86	10	0.4	165
m	315 47	112.1	113.0			0.9					0.36						40	235	240	2219	51	32	0.8	—
m	315 48	113.0	114.0			1.0					0.46						28	173	187	3734	50	47	0.7	—
m	315 49	114.0	115.05			1.05					0.70						35	112	70	3017	58	28	0.8	—
	315 50	115.05	116.0			0.95					0.30						13	46	20	2063	73	19	0.5	300
	315 51	116.5	118.0			1.5					0.20						8	36	10	1196	102	8	0.3	200

HOLE NO Rg 400.

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31552	122.8	124.4			1.4					0.11						11	68	34	281	55	2	0.1	—
31553	127.4	128.8			1.4					0.06						7	50	30	330	68	3	0.1	—
31554	128.8	130.3			1.5											11	22	17	240	177	6	0.2	10
31555	130.3	131.8			1.5					0.01						13	54	31	331	76	5	0.1	—
31556	131.8	133.3			1.5					0.02						23	36	19	336	68	5	0.1	—
31557	133.3	134.1			1.4					0.02						23	31	17	214	82	2	0.1	—
31558	134.1	135.7			1.5											13	200	20	115	52	2	0.2	20
31559	137.2	138.7			1.5											13	59	16	262	91	2	0.1	5
31560	138.7	140.2			1.5					0.01						30	49	31	284	115	3	0.1	—
31561	185.0	186.5			1.5											37	72	78	48	56	2	0.6	10
31562	186.5	188.0			1.5											22	42	23	36	63	1	0.3	10
31563	188.0	189.5			1.5											35	58	42	47	57	1	0.2	5
31564	189.5	191.0			1.4											25	59	34	54	85	1	0.2	5
31565	191.0	192.5			1.4											33	103	41	46	74	1	0.1	5
31566	192.5	194.0			1.5											21	54	32	37	36	1	0.2	5
31567	194.0	195.5			1.5											25	44	36	39	52	1	0.4	10
31568	135.7	137.2			1.5											10	58	14	140	112	1	0.1	5
31569	212.5	214.0			1.5											52	208	129	56	55	1	0.5	5
31570	214.0	215.5			1.5											49	193	125	54	53	1	0.5	10
31571	219.7	221.2			1.5											53	33	33	51	49	1	0.3	5

HOLE NO R9 400

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31572	240.3	241.7			1.4											103	193	223	44	39	1	0.9	5
31573	241.7	242.9			1.2											45	114	175	84	142	5	0.9	10
31574	205.8	207.3			1.5											30	81	142	30	63	1	0.6	5

HOLE NO RG400

assays ... make copy → VK.

DRILL HOLE RECORD

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 06/21/91
HOLE NUMBER : RG 401	DATE COMPLETED (M/D/Y): 06/26/91
LOCATION :	DATE LOGGED (M/D/Y): 06/23/91
PROJECT NUMBER : 240	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID : SAM GEOL		GRID : ESTIMATED
	NORTH : 721.97 N		NORTH : 7+35 N
	EAST : 12100.46 W		EAST : 121+00 W
	ELEV : 1046.267		ELEV : 1074.

COLLAR BRNG		
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : N
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP : -55° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR : FRONTIER DRILLING	LOGGED BY : C. NAGATI
CORE STORAGE : SAMEX CAMP	START DEPTH : 0.0
CASING : PULLED	FINAL DEPTH : 310.3
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : TO TEST THE STRIKE EXTENSION OF THE NEW GOLD 100mgW and 65mgS OF THE ORIGINAL INTERSECTION IN RG398

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
86	A	—	-55	OK	POOR ETCH
151.8	M	226	-55	OK	SINGLE SHOT
215.5	A	—	-55	OK	
270.4	A	—	-55	OK	
304.2	M	228	-54	OK	SINGLE SHOT

HOLE NO. RG 401

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0. - 27.7.	<CSG>							
27.7 - 39.3	<CHERT/ CHTY ARG>	gray black	fine	Interval consists primarily (75%) of argilliceous chert, remainder of interval consists of interbedded cherty argillite, and qtz veined argillite. The principal argillite intervals occur between 27.7-29.5m and 32.3 - 34 m; and 38.4-39.3m The argillites contain 10% white qtz veining whereas the cherts have <5% veining. Veins and stringers are locally vuggy. Bedding is locally contorted, general sense of bedding at	75	Argillites are locally, weakly silicified in vicinity of veins. Minor sericite. Limonite on fracture surfaces to 32.6m. Argillites are weakly graphitic except between 38.4-39.3m where there is strong graphite.	Minor pyrite in cherts. 2-10% fine grained pyrite dissem and bands in argillite. The final 4 cm of the interval contains 30% fine to coarse pyrite. Qtz veins within the cherts contain minor amounts of sp, cp, gn, tt. locally +29.45 - 29.65+ <10%py, 7%BM, 2%tt> Mineralization occurs in silicicified argillite SX are coarse dissem, fine to very fine grained. BM are 1% sp, 3% gn, 3% Cp.	
39.3 - 54.8	<SER/QTZ/PY ALT SED>	gray white brown black	fine	Sediments are strongly altered, where alt'n is weaker the sediments are argillite +39.3 - 40.8+ <FLT Bx/GOU> Faulting is most intense at		Core is altered to weak gray sericite with 25% white to grey qtz/dol veining, flooding. 52.9-54.8: Core is weak to moderately	39.3-49.2: 20-50% Pyrite. Pyrite is fine to medium grained. Pyrite occurs as dissem to semi-massive patches	There may be a mafic component to the seds.

HOLE NO RG401

PAGE 2

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				top of the interval. 40.2 – 40.4: Competent qtz/dol (85/15%) vein. Qtz/Dol (65/35%) veining and flooding throughout unit. Locally veins are buckled		dolomitized. Trace fuchsite associated with qtz.	Locally a massy pyrite rims a darker pyritic masses. Between 49.2-54.8m pyrite content is < 15% with overall content decreasing downhole. Between 44.2 – 49.3m there is 1% base metals disseminated in quartz veins. sp>cp>gn The principal intervals mineralized by base metals are: 44.2-44.6m with 2% cp, 1% sp, minor very fine gray metallic mineral - galena?, tet??, 46.2 – 46.35m with 4% sp; and 48.8-49.1m with 2% sp.	
54.8 – 69.7.	<ALT. VOL?/ HET. FRAG>	gray.	fine to 1cm	The principal rock type is a gray strongly altered volcanic?. Original textures are indistinct but there appears to be minor argillite inter beds. There is 5% qtz/carb (80/20%) veining and patches which are primarily concentrated in the final 7m of the interval		Volc? are moderately Fe-dolomitized; Moderate patchy gray to brown sericite alt'n with minor fuchsite.	3% fine to med grained dissem pyrite; <5% in the Het. Frag.	The volc? may be a siltstone/wacke with a strong mafic component. Unit interval correlates fairly well with a Dol MAF Vol unit in RG393

HOLE NO RG 401

PAGE 3

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				These are narrow interbeds of het. frag which are located as follows: 54.8-56.6m: 50% het frag interbeds; and 69-69.15m. Het Frag has an argillite/silt matrix which supports qtz/argillite/sericite clasts in ratio. 60/35/5. Clasts comprise 30-50% of intervals.				
69.7-73.1.	<HET FRAG>	black grey	fine to 2cm.	Argillite to silty argillite matrix supports up to 70% clasts. Locally clasts are framework supported. Clast composition is 20% quartz, 20% argillite, 60% variably altered (Ser, carb) clasts. Interval contains thin argillite/wacke interbeds. 2% qtz/carb stringers which are strongly deformed.		Weak silvery to gray sericite development gives cow phyllitic sheen. Minor patchy brown sericite	Fine to med grained pyrite content varies between 3-12%. Pyrite occurs as dissem. and blebs in the matrix and in quartz. Minor sphalerite occurs as dissem in quartz/carbonate veining at 71.8-73.1m.	

HOLE NO RG401

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
73.1-94.6	<ALT ARG>	black gray white.	fine	rock is primarily argillite with local silty intervals that has been weak to moderately altered. Style of alteration varies. Rock is locally intensely deformed. Ballseye texture and tight folds are present at 77m. Bedding is locally oriented subparallel to the C/A. Cleavage at. Interval contains 5% white qtz/carb (90/10%) veining. The carbonate is coarse grained, pale orange in color. Veins are oriented at all angles to C/A. Some veinlets are buckled. Veining is most predominant between 75.4-76.8m and 79.7-81.3 <35% QTZ/CARB VN> 73.7-74.4 <FLT BX> 85.9-86.5 <FLT Gou> 92.2-92.35m: Flt bx.	80	Argillites are locally graphitic. Patchy intense gray sericite gives an intense phyllite sheen. Sericite locally grades into a greenish tinted variety. 86-92.2: core is moderately silicified. Subinterval contain numerous crosscutting quartz stringers and veins.	3-5% coarsely dissem. py. and minor concentrations in qtz. 86.5-86.6: Minor galena in qtz/carb. vein.	

HOLE NO RG 401

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
94.6–100.	<MIXED SEDS>	gray black white.	fine to Sem.	Het. Frag is the principal rock type which is interbedded with argillite, Cherty argillite, and siltstone. Matrix is difficult to determine, appears to be silty. Clasts are frequently framework supported. Clastic texture is relatively poorly developed - may be partially tectonite in origin. Cleavage plane at	(60%) 60	Argillite is weak to moderately silicified except 98.5–98.9m which is intensely silicified. Minor talc and fuchsite?. Patchy streaks of green to brown sericite alt'n.	5% coarsely disem pyrite	
100–110.4.	<SIL ARG/ VOL ?>	gray black white	fine.	75% of interval is greenish gray volcanics? (possibly a coarser, altered sediment) Generally massive in appearance 3% white to gray qtz veining and crosscutting stringers. Minor white qtz/carb veining 21% argillite with minor sil. 1% chert? occurs between 109.45–110.2 m. Where bedding is discernable it is weakly contorted		Volcanics are moderately Fe-dolomitized with patchy green to brown sericite alt'n Argillite is weak to moderately silicified. and glassy in appearance due to qtz flooding.	Trace sphalerite and galena are coarsely disseminated in silicified argillite. Minor galena occurs in a white qtz/carb vein between 103.1–103.22 m. 1-5% coarsely disem pyrite.	

HOLE NO RG401

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
110.4–112.65	<HET FRAG>	green-gray	fine to 3cm.	Silty to sandy matrix supports <30% clasts. Clast composition is quartz, sericite altered rock, argillite in decreasing order of abundance. Clasts are angular to subrounded. 10% white qtz/dol (90/10%) veining. The principal vein intersection occurs at 110.95–111.15m.		Patchy brown sericite alt'n. Matrix is weakly ferro-dolomitized.	5% disseminations and blebs of pyrite	
112.65–123.8.	<ARG/SILT>	gray black	fine.	50% of interval is greenish gray siltstone which is interbedded with argillite and minor tectonically? bx. argillite. 5% qtz/carbonate veining. Carbonate is iron rich and comprises 20-70% of the veins. In general quartz is the predominant mineral. but 123.1–123.3m is an example of a fine grained carbonate vein with 30% quartz.		Argillite is generally weakly silicified. with patchy, minor, brown sericite alt'n. Coarse sediments are Fe-dolomitic – moderate to intense.	Trace galena + sphalerite associated with qtz. Up to 4% fine to med grained pyrite dissem and blebs. Pyrite content is generally higher in the argillites.	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Interval contains broad fault bx zones.: +114.4 - 115.4 t <FLT BX> +118 - 118.6 t <FLT BX> +119.6 - 123.8 t intermittent <FLT BX>; 90% of interval is brecciated.				
123.8-161.9	<SER ALT SED>	Yellow gray white.	fine.	Intensely altered sediments. Original textures have been larger destroyed. Foliation at. Locally foliation may be an expression of bedding; elsewhere it express cleavage where bedding? appears to be sub parallel to C/A. Faulted intervals occur as below: 138.2 - 138.3 : fault bx 141.4 - 141.6 : fault bx +141.9 - 142.4 t <FLT BX> Irregular white qtz veins present which are variably mineralized. Some stringers/veinlets are buckled.	60	Pervasive moderate to intense pale yellow sericite alt'n. No carbonate present Approximately 25% quartz in matrix as gray stringers, veinlets and groundmass.	10% fine to medium grained coarsely dissem pyrite in quartz stringers Locally some of the white quartz veins are mineralized with sp, gn, cp, tt, aspy. Mineralization occurs as follows: +125.1 - 125.15 t: 30% py 5% gn, 1% tt, 10% sp in qtz <30% py, 15% BM, 1% tt> +128.6 - 128.7 t <10% py 1% tt 6% BM> Base metals are 5.5% sp, .5% galena.	Sericite alt'n of the type which has been proposed to be caused by diagenesis.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				The interval +133.4-134.1+ appears to be a silicified <Het. Frag?> Similarly +136.05-136.2+ <Het Frag> Het Frag intervals contain clasts of argillite and sericitically altered rock. 157.4-161.9: Predominant alteration weakens, core becomes locally banded with argillite; minor Het frag between 158.5-158.65 m. Minor narrow zones of fault bx and gauge.			+133.3-134.5+ <8% py 3% sp 1% gn> 150 m: 2cm wide veinlet contains 45% py, 1% cp, 10% tt, 10% gn. +152.8-154.4+ Interval contains 4 10-15cm qtz veined zones with sulphides. Sulphides make up 15% of the interval. Sulphide composition is approximately 43% py, 1% arsenopyrite 23% sphalerite, 10% tt, 15% galena, 8% chalcopyrite	
161.9-213.4	<HET FRAG>	shades of gray, white black	Fine to 7cm.	Interval consists of 95% clastic material which is angular to subrounded. Clasts are framework supported. Clasts composition is 50% variably sericitically altered clasts, 30% quartz		Interval is weakly dolomitized by nodular porphyroblastic growths. 171-175.8: Intense carbonate growths	There is 5% fine to medium grained disseminated pyrite. Trace galena in quartz veins at 203.8-204m.	A distinctive appearance to unit.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				and siliceous clasts, 20% arg and sil arg. Minor pyrite clasts. 2% white qtz/carb veining (80°/20%) 171.m: Narrow fault gouge. 185.2–185.8m: qtz vn. +209.1–209.7+ <Qtz/carb vn> (60/40%)		and flooding. Interstitial to carbonate growths the core is altered to dark gray to brown sericite. 185.8–187.1: moderate gray sericite, pyrite alteration	+172.5–173.3+ <2% sp> dissem in the carb altered Het Frag.	185.8–187.1: Similar to MVT but lacks the overwhelming foliation.
213.4–243.1	<ARG/ALT SED>	black; brownish-green	fine	70% of interval consists of black argillite. Arg commonly contains siliceous laminae which are discontinuous, locally contorted or stretched in plane of foliation at 65. 1% of qtz +/- carb stringers are crosscutting; local buckling. 20% moderate to intensely green to gray, altered sediments. 10% white qtz veining and flooding. Minor Het Frag. +221.7–225.2+ intermittent intense <FLT BX/GOU>		20% of interval has been qtz veined and altered to a green/brown sericite. Sericite is a pale green color locally. Sericitic alteration is patchy. Between 227.8–230.8 m there is patchy weak to moderate silicification associated with qtz veining.	3% fine grained coarsely dissem pyrite.	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				‡230.9 – 231.05 ‡ <FLT GOU> ‡236.9 – 243.1 ‡ intermittent <FLT BX/GOU>				
243.1 – 256.2	<HET FRAG>	Shades of gray green white brown.	fine to 5cm.	Unit is very similar to the Het frag between 161.9 – 213.4m in clast composition, and alteration (ser, Fe-dol) but clasts are matrix supported in general, 40-70% clasts. Matrix is intensely altered. Minor qtz veinlet. ‡245.3 – 245.7 ‡ <FLT GOU>		Porphyroblastic carb. growths and greenish sericite as in 161.9 – 213.4m.	1% disseminated pyrite.	Unit does not have the distinctive appearance of the Het frag at 161.9 – 213.4m
256.2 – 310.3	<ARG/ALT SED>	black green gray yellow white	fine	very similar to unit between 213.4 – 243.1m but much more of the rock has been altered – 35% of interval is black argillite with silty, gray interbeds. There is 5% white qtz/carb (90/10%) veining within the argillites. Some veinlets are buckled. There is 20% qtz veining within the sericitically altered core.		Argillites grade into and out of greenish to brownish sericite alteration. Minor patchy dolomite alt'n. 306.6 – 309.4m: sericite is an intense yellow color.	1-2% coarsely disseminated pyrite with local concentrations to 5%	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				+260.8 – 261.9+ intermittant <FLT Gou>				
				+278.9 - 279.0+ <FLT Gou>				
				+286.4 – 292.6+ intermittant brittle <FLT Bx> and gauge				
				+300.1 – 310.3+ intermittant <FLT Bx/ Gou>. faulting increases in intensity and pervasiveness with depth.				
				where bedding is identifiable it is commonly contorted				
				+279.1 – 279.55+ <QTZ/CARB VN> carbonate is pink coarse grained in white quartz which also contains chloritized wall rock fragments. H/W seds are silicified for 4cm.				
				END OF HOLE.				

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ASSAY SHEET

	Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
	31575	27.7	29.5			1.8											75	294	91	77	212	19	2.0	14
	31576	29.5	29.65			0.15	.368	.92	.97	123.9	.28					*	3680	9172	9687	436	38	1667	123.9	275
	31577	35.7	37.2			1.5											81	389	107	54	86	16	1.1	6
	31578	37.2	38.7			1.5											146	157	91	103	95	24	1.6	21
	31579	38.7	39.3			0.6	.090	.05	.03	15.2	.08					*	902	529	314	263	105	250	15.2	75
	31580	39.3	40.4			0.9											161	1043	297	144	119	26	2.0	4
	31581	40.4	41.9			1.5	.018	.25	.08	3.3	.04					*	181	2539	790	303	58	28	3.3	42.
	31582	41.9	43.4			1.5											60	951	564	266	37	14	1.5	68.
	31583	43.4	44.9			1.5	.042	.06	.01	4.3	.08					*	422	556	129	498	28	40	4.3	82.
	31584	44.9	46.4			1.5											58	436	109	369	29	15	1.2	128
	31585	46.4	47.9			1.5											107	118	79	305	28	20	1.9	69
	31586	47.9	49.4			1.5	.038	.09	.01	11.0	.29	?				*	380	850	144	525	37	119	11.0	286
	31587	49.4	50.9			1.5											29	196	56	354	32	6	1.1	95
	31588	70.1	71.6			1.5	.005	.13	.08	2.2	.01					*	48	1250	841	117	49	5	2.2	8
	31589	71.6	73.1			1.5	.005	.10	.09	2.5	.01					*	45	1046	898	111	37	6	2.5	3
m	31590	75.2	76.7			1.5	.006	.02	.03	1.9	.04					*	61	212	294	154	130	12	1.9	—
	31591	76.7	78.2			1.5											63	169	61	144	109	9	1.1	12
	31592	78.2	79.7			1.5											41	116	49	104	132	5	0.6	4
m	31593	79.7	81.3			1.6	.004	.08	.01	1.0	.01					*	39	828	128	86	279	6	1.0	—
m	31594	89.9	91.5			1.4	.003	.04	.03	1.8	.01					*	34	440	320	66	85	9	1.8	—

HOLE NO Rg 401

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
31595	98.4	100.0			1.6											30	243	157	80	80	4	0.8	22
31596	100.0	101.5			1.5	.007	.11	.07	1.8	.01					+	69	1085	723	119	38	3	1.8	7
31597	101.5	103.0			1.5	.008	.13	.07	1.9	.02					+	84	1258	656	128	34	1	1.9	18
31598	103.0	104.5			1.5	.013	.18	.06	1.9	.01					+	129	1762	592	84	62	3	1.9	6
31599	107.4	108.9			1.5											48	511	389	101	80	3	1.5	5
31600	108.9	110.4			1.5											39	190	239	84	56	3	1.3	10
31601	115.9	117.4			1.5											53	957	276	251	449	13	2.5	40
31602	117.4	118.9			1.5											50	720	497	131	114	5	1.7	4
31603	122.3	123.8			1.5											27	922	272	134	311	9	2.0	38
31604	123.8	125.3			1.5											34	579	902	239	85	10	2.1	47
31605	127.6	129.1			1.5											43	317	234	411	72	14	1.9	42
31606	131.8	133.3			1.5											14	46	39	402	54	8	0.6	56
31607	133.3	134.5			1.2	.025	.49	.11	12.2	.37					+	252	4954	1099	539	40	94	12.2	368
31608	134.5	136.0			1.5											43	193	189	410	56	21	1.9	49
31609	143.9	145.4			1.5											42	63	94	692	127	13	1.1	63
31610	149.8	150.0			0.2	.311	.07	.23	131.8	.16					+	3113	658	2277	1224	65	1280	131.8	158
31611	151.5	152.8			1.3	.004	.01	.01	1.2	.03					+	41	60	121	486	63	16	1.2	32
31612	152.8	153.6			0.8	.414	.12	.22	189.3	.16						4143	1191	2180	1437	152	2018	189.3	—
31613	153.6	154.4			0.8	.220	.60	.12	49.1	.08						2199	5966	11593	1248	73	706	49.1	—
31614	154.4	156.0			1.6	.028	.03	.02	6.4	.09						278	312	223	789	110	121	6.4	86

HOLE NO Rg 401

ASSAY SHEET

	Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
	31615	157.4	158.9			1.5	.004	.01	.01	3.0	1.22	(reassayed) F.A.				*	36	116	112	8275	115	129	3.0	1230
	31616	158.9	160.4			1.5	.003	.03	.02	1.4	.16						28	283	205	1857	121	27	1.4	157
	31617	160.4	161.9			1.5											22	86	40	1020	88	12	0.2	28
	31618	170.9	172.4			1.5											73	293	153	49	81	32	2.3	5
	31619	172.4	174.1			1.7	.037	.56	.32	5.7	.01					*	371	5580	3193	40	55	183	5.7	2
	31620	174.1	175.6			1.7	.022	.11	.03	4.7	.03					*	223	1129	323	51	95	99	4.7	32
m	31621	185.3	185.8			0.5	.003	.01	.01	1.3	.01						30	92	44	8	633	9	1.3	—
	31622	185.8	187.1			1.7	.004	.01	.01	0.6	.01						36	49	43	77	141	8	0.6	5
m	31623	209.1	209.8			0.7	.002	.01	.01	1.5	.04						23	70	38	146	92	6	1.5	—
m	31624	227.8	229.3			1.5					.02						31	88	33	42	68	6	1.8	—
m	31625	229.3	230.8			1.5					.02						62	513	42	64	84	6	0.6	—
	32276	230.8	232.4			1.4											53	173	93	54	108	8	0.9	24
	32277	277.6	279.1			1.5											15	79	29	30	80	2	0.2	1
m	32278	279.1	279.55			.45					.01						6	37	27	22	57	4	0.2	—
	32279	281.0	282.5			1.5											25	35	14	44	62	2	0.1	2
	32280	307.3	308.8			1.5											112	56	51	89	127	2	0.3	4
	32281	308.8	310.3			1.5											58	64	63	143	68	6	0.5	14

HOLE NO 401

DRILL HOLE RECORD

PROJECT NAME :	SAM
HOLE NUMBER :	RG 402
LOCATION :	SE pit
PROJECT NUMBER :	240
CLAIM NUMBER :	
PLOTTING COORDS GRID :	
NORTH :	
EAST :	
ELEV :	
COLLAR BRNG GRID :	180° 00' 00"
ASTRONOMIC :	225° 00' 00"
COLLAR DIP :	-88° ' "
CONTRACTOR :	FRONTIER
CORE STORAGE :	SAMEX CAMP
CASING :	L.I.H.
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ/BQ
PURPOSE/COMMENTS :	P-17. Had to reduce to BQ at 1227' due to faulting

DATE STARTED (M/D/Y):	06/23/91
DATE COMPLETED (M/D/Y):	
DATE LOGGED (M/D/Y):	
UNITS (F/M) :	M
ALTERNATE COORDS GRID :	est.
NORTH :	8+25 N
EAST :	93+00 N
ELEV :	1500.00m
COLLAR SURVEY (Y/N) :	N
RQD LOG (Y/N) :	N
PULSE EM SURVEY (Y/N):	N
LOGGED BY :	A. HILL
START DEPTH:	0.0
FINAL DEPTH:	504.4

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
85.6	A	—	-87	OK	
145.3	A	—	-82½	OK	
197.2	A	—	-77	OK	
260.5	M	197	-76	OK	Sperry Sun
288.5	A	—	—	—	no etch
346.6	A	—	-72	OK	

HOLE NO. RG 402

LOGGED BY AL. HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 3.0	<CSG>			No recovery.				
3.0 to 322.1	<MAF VOLC/ FLT BX>	Dark green		Typical green chloritic Sam matics, but with only minor qtz-calcite veinlets. Core is very broken but a strong foliation exists at: Ghosted pale green lapillis become common at 73m, and this rock type continues through 208m with minor broken core and fault breccia throughout.	30°	Chlorite and very minor dol. locally. -{23.0-25.4}-<flt.bx> -{32.2-57.0}-<flt.bx> Fault breccia is friable throughout. Notably low in qtz-carb veining. -{146.5-175.0}-<flt bx> -{314.5-320.3}-<flt bx>	Trace diss. py only.	

HOLE NO RG 402

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				From 208.0 m to ?(320) the core is shattered and badly broken. Bleaching is patchy over 0.5 to 1.0 m runs. Dol-qtz veining, much at low angles to c/a, comprises 25% of the core +218.8 - 221.5 f <flt at 30deg> +300.8 - 303.5 f <clay flt gou>		Patchy dol'n assoc with veining from 208.0 - Minor yellow-brown sericite after chlorite.	trace to minor dissem py assoc with dol (<2%) At 206.5-206.8 a dol vein contains 3% gn and sp.	
322.1 to 365.0	<DOL MAF VOLC>	Brown and grey		Fairly sudden change to brown sericitic, strongly carbonatized mafics. Fault brecciation also stops. Ghosted lapilli still visible to end of interval, marked by fault breccia and qdv over 20cm Foliation avg	55°	Pervasive brown ser. after chlorite, with minor chlorite surviving Also patchy grey Fe-dol flooding	2-3% diss py.	Very competent core.

HOLE NO RG 402

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
365.0 to 373.3	(GRY SER/SED FLT BX)			Variably broken, gougey, and schistose mixed sediments. Unit starts below a 10 cm clean qdv and from +365.1 - 365.9 ft (het frag.) with yellow sericitic, arg, and cherty clasts up to 4cm stretched out 7:1. Below this is a fault brecciated, disrupted, silicified argillite/siltstone/wacke pile. Argillite laminae have survived, while coarser beds are strongly grey sericitic, and pyritic.		Patchy, white, broken veins (<10%) and silica flooding. Grey sericite/py alteration also patchy, moderate to intense.	Overall 7% disseminated pyrite. Best sample is: +368.6 - 369.3 ft (15% py, tr sp)	
				Faulted schistosity	90° to 40°			

HOLE NO RG402

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
373.3 to 437.6	<GREY SER/ PY DF SEDS> "Debris flow seds"			Rather monotonous pile of "washed out" grey sericite/pyrite schist that cores well and strongly overprints primary sed textures. Most of pile displays relict coarse lithic wacke to het frag textures typical of debris flows. From {409.2-410.0} <arg> finely laminated, + contorted with pyrite laminae; has escaped sericitization. Fairly even textured with strong foliation: From {406.2-406.8} <fold hinge> broad and open.	70°	Strong, near complete grey sericitization with accompanying finely disseminated pyritization. An excellent argument for diagenetic development as no veining is present at all, except {398.9-399.2} <barren qdv 25 deg> and <10% from 379-390 m. Spotted dol overgrowths common throughout, especially from 410.5-EOI	→ probably indicating primary carbonate component. SULPHIDES Finely disseminated pyrite throughout. Selectively alters coarser beds in argillaceous portions. {373.3-437.6} <10% Pyrite> {427.9-437.6} <het frag.> with recognizable clasts up to 4cm stretched out to 4:1 at 60 degrees.	Natural wedging after reduction to BQ size core 370.9 to EOH. Redundant core from 370.9-373.9

HOLE NO RG402

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
437.6 to 438.5	⟨QV ZONE⟩			Gradational, silicified contacts with quartz veined zone. Interval begins with semi-massive pyrite for 20 cm and followed by relatively barren smokey grey quartz and sil. wallrock.		Intensely sil. wallrock slivers contained within interval of white and smokey grey vein quartz.	{437.6-438.0} ⟨25% py, 10% sp, tr gn, sp⟩ in massive seam along vein margin. Remainder of veined zone has spotty pyrite and trace sp.	
438.5 to 443.3	⟨SIL ARG + CHT?⟩			Gradational upper contact, faulted lower contact. Interval is highly contorted light grey "cherty" silicified argillite and short 10-20 cm runs of black argillite. Possibly a primary chert? component. Foliation	50	Intense patchy-pervasive sil assoc. with 15% white stockwork qtz veinlets.	3-4% py and trace sp only, disseminated and in veins. Tr. gn in veinlet at 442.8 also.	

HOLE NO RG402

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
443.3 to 455.3	⟨ALT'D MAF⟩			Brittle fault breccia at {443.3-443.6}⟨flt.bx.⟩. The interval begins with brilliant green fuchsitic rock, pervasively silicified, with coarse pyrite grains in thin seams and dissem. throughout. From 445.8 m down the interval is less siliceous, carbonatized mafic tuff(?), with only minor fuchsite, and a minor argillaceous component.		{443.3-445.8}⟨sil/fuchsite/py⟩ {445.8-450.5}⟨dol/py⟩ Also quartz-carb vein from 451.5-451.9 with trace cpy, and "mutlike" alt. on HW side for 1.0 m.	5% py over first half of interval, with euhedral aspy grains (2-3mm) at 445.0 and 445.7 m (trace). Dol portions 2-3% py dissem. only	

HOLE NO RL402

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
455.3 to 463.8	⟨SIL ARG +/- TUFF⟩			Conformable contact at angle of: Interval of black argillite, highly contorted and silicified, internally brecciated, with subordinate pale green to brown tuff interbeds (15%) Conformable lower contact.	80	Stockwork qtz veinlets (20%) and pervasive silicification of argillaceous breccia. Minor dol of tuffaceous component with brown sericite and at 460.4-460.6 yellow sericite	Only 2-3% fracture filling pyrite. Minor graphite at 463m.	
463.8 to 486.5	⟨DOL MAF +/- ARG⟩			Typical dolomitized mafic volcanics, with brown sericite, and grey dol patches. Foliation strong 465.5m Sil arg as above from ⟨472.3-474.5⟩ ⟨sil arg⟩ and ⟨486.2-486.5⟩ ⟨sil arg⟩	55°	Carbonatized mafics predominate. ⟨473.2-473.4⟩ ⟨flt. bx.⟩	2-3% diss py except ⟨469.8-472.3⟩ ⟨5% py, tr cp⟩ assoc with qdv's.	

HOLE NO RG 402

ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
486.5 to 504.4	<SER/QTZ SCHIST>			Faulted contact with pale yellow sericite schist with 20% qtz "segregations" forming bands across core roughly parallel to foliation at Minor black arg component from 492.3 - 494.2 m. Pale green chloritic wisps become a minor component increasing downhole. {486.5 - 487.2} <flt> Fabric is weakening downhole. ** END OF HOLE **	55	Strong yellow sericite and silicification.		Very finely laminated relict tuffaceous? textures, highly contorted.
EOH								

HOLE NO RG402

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au. PPb
45456	362.5	364.0			1.5											79	901	960	78	40	10	2.1	10
45457	364.0	365.1			1.1											45	397	617	220	112	1	1.2	11
45458	365.1	365.9			0.8											36	51	95	133	123	1	0.8	20
45459	365.9	367.4			1.5											8	86	41	66	84	1	0.4	1
45460	367.4	368.6			1.2											14	110	77	97	232	1	0.4	2
45461	368.6	369.3			0.7	.097	.31	.46	7.1	.02					+	968	3067	4592	540	169	178	7.1	18
45462	369.3	371			1.3											34	74	151	50	150	3	0.8	5
45463	371.0	371.8			0.8											39	202	60	40	246	2	0.8	2
45464	371.8	373.3			1.5											85	129	99	48	132	6	0.6	4
45465	373.3	373.9			0.6											46	24	47	63	94	2	1.1	2
45466	373.9	375.4			1.5											18	30	59	51	169	1	0.6	12
45467	375.4	376.9			1.5											41	57	74	53	134	1	0.5	2
45468	376.9	378.4			1.5											63	27	56	45	159	1	0.3	3
45469	378.4	379.9			1.5											94	33	85	83	162	1	0.5	2
45470	379.9	381.4			1.5											58	166	36	69	154	1	0.5	10
45471	381.4	382.9			1.5											65	17	69	56	135	1	0.5	21
45472	382.9	384.4			1.5											42	69	114	53	144	1	0.6	2
45473	384.4	385.9			1.4											37	66	106	101	120	1	0.7	1
45474	385.9	387.4			1.5											39	250	585	91	156	1	0.9	2
45475	387.4	388.9			1.5											39	22	29	100	138	1	0.2	24

HOLE NO Rg 402

PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPb
45476	388.9	390.4			1.5											44	45	51	96	131	1	0.3	1
45477	390.4	391.9			1.5											55	57	136	60	108	1	0.3	1
45478	391.9	392.9			1.0											114	819	656	61	109	2	0.7	15
45479	392.9	394.4			1.5											80	47	60	44	142	1	0.1	18
45480	394.4	396.9			1.5											83	58	145	21	146	1	0.2	4
45481	396.9	397.4			1.5											86	76	53	34	176	2	0.3	12
45482	397.4	398.9			1.5											126	75	76	31	157	1	0.2	14
45483	398.9	399.2			0.3											31	52	538	1	39	6	1.2	1
45484	399.2	400.2			1.0											77	151	79	37	160	1	0.1	16
45485	408.0	409.2			1.2											83	140	36	1	127	1	0.1	20
45486	409.2	410.4			1.2											76	66	33	36	126	1	0.1	26
45487	429.5	431.0			1.5											42	106	36	44	175	3	0.1	7
45488	431.0	432.5			1.5											37	111	23	29	185	1	0.1	2
45489	432.5	434.0			1.5											43	120	31	42	162	3	0.1	11
45490	434.0	435.5			1.5											40	92	28	36	184	3	0.4	8
45491	435.5	437.0			1.5											26	71	54	44	104	3	0.3	21
45492	437.0	437.6			0.6											25	19	66	111	88	4	0.3	75
45493	437.6	438.0			1.4	.040	2.15	1.29	23.6	.39						364	18106	9752	3480	14	101	18.3	—
45494	438.0	438.5			0.5											21	24	80	78	169	3	0.4	32
45495	438.5	439.4			0.9											29	138	163	241	89	10	0.7	89

HOLE NO Rg 402

PAGE 2

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPb	
45496	439.4	440.8			1.4											21	165	461	120	127	5	1.0	63	
45497	440.8	442.3			1.5											26	25	56	78	62	6	1.0	118	
45498	442.3	443.3			1.0	.011	.20	.27	5.9	.06					*	111	2016	2717	105	78	18	5.9	61	
45499	443.3	444.3			1.0	.045	.08	.03	0.5	.19					*	451	766	279	3506	51	26	0.5	186	*
45500	444.3	445.8			1.5	.025	.14	.03	0.2	.21					*	245	1391	313	7105	116	48	0.2	214	*
45501	445.8	447.2			1.4											41	135	173	446	101	1	0.5	27	
45502	450.5	451.5			1.0											79	54	234	148	140	1	0.2	82	
45503	451.5	451.9			0.4											125	37	81	49	63	1	0.9	9	
45504	451.9	452.9			1.0											228	146	64	493	36	1	0.7	19	
45505	469.8	470.4			0.6	.224	.40	1.52	15.6	.07					*	2243	3953	15246	334	107	31	15.6	68	
45506	470.4	471.5			1.1	.010	.02	.10	0.7	.03					*	97	182	988	272	66	1	0.7	27	
45507	471.5	472.3			0.8	.252	.73	.49	9.2	.04					*	2521	7338	4927	197	75	16	9.2	44	
45508	472.3	473.4			1.1	.015	.35	.45	4.1	.02					*	147	3528	4460	98	222	10	4.1	23	
45509	473.4	474.5			1.1											26	58	75	84	65	2	0.5	3	

HOLE NO 402

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DRILL HOLE RECORD

PROJECT NAME :	SAM
HOLE NUMBER :	RG 403
LOCATION :	MBA GOLD ZONE
PROJECT NUMBER :	240
CLAIM NUMBER :	
DATE STARTED (M/D/Y):	06/24/91
DATE COMPLETED (M/D/Y):	06/26/91
DATE LOGGED (M/D/Y):	06/27/91
UNITS (F/M) :	M

PLOTTING COORDS		ALTERNATE COORDS	
GRID :	SAM GEOL.	GRID :	est.
NORTH :	740.10 N	NORTH :	2+45 N
EAST :	11899.00 W	EAST :	119+00 W
ELEV :	1031.355	ELEV :	1037.00 m

COLLAR BRNG			
GRID :	180° 00' 00"	COLLAR SURVEY (Y/N) :	Y
ASTRONOMIC :	225° 00' 00"	RQD LOG (Y/N) :	N
COLLAR DIP :	-55° 00' 00"	PULSE EM SURVEY (Y/N) :	N

CONTRACTOR :	FRONTIER
CORE STORAGE :	SAMEX CAMP
CASING :	pulled
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ
LOGGED BY :	A. HILL
START DEPTH :	0.0
FINAL DEPTH :	264.3

PURPOSE/COMMENTS : Follow-up gold veins in RG396, 100m upstrike to the SE.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
121.0	M	228	-54½	OK	Sperry Sun
122.0	A	—	—	—	poor etch
188.0	A	—	-53	OK	
244.4	A	—	-51	OK	
255.1	M	222	-50	OK	Sperry Sun

HOLE NO. RG403

LOGGED BY A. HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 40.8	<CSG>			No recovery				
40.8 to 55.6	<SIL/SER MIXED SEDS>	Black, grey, yellow, and brown.		Mixed altered sediments displaying local soft sed. deformation and "het. frag" debris flow textures over short 20-30cm intervals. Laminated, black and white silicified argillite, and pale yellow-green to brown sericitic intervals separate the fragmentals. Warped foliation avg: Fragmental's clasts are not stretched.	70°	Silicification is weak to moderate and deformed veinlet (5%) controlled. Patchy yellow-green and brown sericite appears protolith dependant. Black argillite comprises 30% of interval in bands. Patchy dol. with assoc. brown sericite is minor until 51.4, then is main alt to EOI.	Disseminated fine to medium grained pyrite comprises 2-3%. -{40.8-55.6}<25% het frag> -{51.4-55.6}<matics?>	

HOLE NO RG 403

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
55.6 to 67.5	<QTZ-DOL VEIN>			Upper contact is 10cm gouge. Unit is comprised of a coarse grained, milky white, quartz +/- carbonate vein (80:20). Very broken and limonite stained on fractures that are open. A large sliver of highly altered ?mafic wallrock from 57.1-58.3. From {66.1-67.5}<flt gou + bx> is broken qv in grey pyritic gouge. Broken contacts and fractures at angle of . . .	30	Wallrock slivers (15%) and fragments are wholly altered to brown sericite, pyrite, dol, + talc.	5% pyrite only assoc with altered wallrock inclusions.	Metallic assays throughout. No visible gold observed but core is rusty and fairly broken.

HOLE NO RG 403

PAGE 3

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
67.5 to 91.1	<SIL/SER TUFF?>			Silicification is pervasive and weakens downhole. Interval is fairly monotonous pale yellow green sericitic. Almost cherty from 67.5 to 75.3 due to pervasive sil. Strong spaced cleavage, now infilled with fine wispy pyrite, cuts kinked and contorted sericite rock. Cleavage ranges from 30-90 but most commonly at 60. Brittle fault breccia from {77.6-84.0}{<Flt bx, 20% qdv>} is possible fold nose.		Intense pervasive yellow-green sericite, overprinted by very intense sil which weakens downhole.	Wispy fracture filling pyrite 5-10% throughout. Most intense from 67.5-71.3 where up to 20% pyrite in 5cm seams assoc. with sil. Veined interval from 78.7-84.0 has 5% py and traces of sp and cp only.	

HOLE NO RG403

PAGE 4

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
91.1 to 140.6	<SER SCH/ TUFF?			Pale yellow green, monotonous pile of very fine grained, dense sericite. Faint laminations are highly contorted and marked by wispy disseminated pyrite, and minor qtz-dol stringers. Overall 95%+ sericite! Moderate to strong cleavage foliation at Faulting: -|96.4-96.8|<brittle flt> -|124.1-125.7|<brittle flt> both cored well but are friable, with q.v frags (<10%)	50	Intense, pervasive, complete pale yellow-green sericitization. Possibly diagenetic sericite formed in limy siltstone? Lighter colored laminations stain pale blue. -|133.3-133.7|<qtv>	3% diss and wispy fracture filling fine pyrite	Complete lack of argillite is certainly notable.

HOLE NO RG403

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
140.6 to 198.7	<QTZ/SER SILT ARG>	Yellow and black		Marks the beginning of brecciation, increase in qtz-dol veining (15%), and appearance of dark green to black chloritic and argillaceous bands from 10-50cm thick. From {162.9-163.7} <felsic dyke?> which is light grey, aphanitic and very hard and siliceous. Only trace py on fractures. Contacts sharp and parallel to foliation. Compare lithochem to {181.9-182.9} <ribbon cht> which is light/dark grey and barren, with internal hydrobreccia texture.	60	Strong pale yellow green sericitization is dominant (70%) but is separated by dark bands of argillite-chlorite-dolomite overgrowths. Probable an argillite-siltstone-mudstone package now variably altered.	Veining is mostly barren except for 2% pyrite. Margins of some veins show chlorite after sericite. Also... {168.5-169.9} <qv in flt bx> resembling the gold veins in RG398. {174.0-175.8} <qv's in flt bx> ditto above.	Short veined intervals throughout are sampled for Au.

RC 403

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
196.7 to 215.5	<SIL ARG +/-SER>			Beginning of interval marked by sudden appearance of dissem-inated pyrite (7%) ~~pervasive~~ throughout in grey to black contorted siltstone and argillite. Short intervals of yellow sericite still present but in minor amounts. From +211.9-215.5+ <qdv's all angles> resemble gold veins.		Silicification pervasive to fracture controlled from highly deformed white veins (20%). Patchy sericite is subordinate, and from 207.5 to EOI it has undergone 50% destructive alteration to green brown chlorite.	5-7% fine to coarse dissem. and fracture filling pyrite.	

RC 403

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
215.5 to 252.0	<SER SILT SEDS>			Return gradationally to monotonous pale yellow-green sericite rock after siltstone(?). Typical wispy pyrite along contorted laminae. From 225.5-226.5 <flt bx> is very brittle		Pervasive, complete sericitization. Minor thin contorted qtz stringers. Trace chlorite marginal to qtz stringers.	3% wispy pyrite	
252.0 to 264.2 EOH	<SER SILT ARG SEDS>			Return of black and green laminated interbands. Highly contorted with Strong cleavage at: Fault breccia from 259.0 to 261.0. Typical "yellow and black" lithology.	70	Minor Olive green sericite(?) after patchy yellow sericite (90%) Minor chlorite assoc. with qtz veinlets. Real "grab-bag" of alteration types probably reflecting primary rock types.	3% wispy py	

RG403

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32282	49.9	51.4			1.5											81	51	50	115	141	5	1.2	68
32283	51.4	52.9			1.5											85	118	108	218	165	4	1.1	156
32284	52.9	54.4			1.5											57	276	132	241	185	2	0.9	54
32285	54.4	55.6			1.2											47	178	128	170	411	4	0.7	
32286	55.6	56.6			1.0											15	184	96	47	40	2	1.0	
32287	56.6	57.5			0.9											6	9	6	20	17	1	0.4	
32288	57.5	58.3			1.2											74	172	57	249	301	1	0.1	
32289	58.3	59.7			1.6											23	35	28	76	149	1	0.5	
32290	59.7	61.2			1.5											22	30	46	77	79	1	0.4	
32291	61.2	62.9			1.7											12	13	19	25	13	1	0.6	
32292	62.9	64.3			1.4											9	6	15	19	8	1	0.4	
32293	64.3	66.1			1.8											41	29	106	29	36	2	3.2	
32294	66.1	67.5			1.4											27	122	73	94	414	6	0.7	
32295	67.5	68.5			1.0											17	49	24	208	194	4	0.5	
32296	68.5	69.8			1.3	0.01	0.036	0.008	4.3	0.10					*	102	360	75	626	99	33	4.3	104
32297	69.8	71.3			1.5											29	76	56	365	94	6	0.9	89
32298	78.7	80.2			1.5	.004	.01	.01	1.6	.01													
32299	80.2	81.7			1.5	.005	.04	.01	1.9	.02													
32300	81.7	83.3			1.4	.040	.04	.05	4.7	.03													
32301	83.3	84.0			0.7	.016	.01	.01	1.9	.02													

HOLE NO 403

PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32302	140.6	142.5			0.9											9	57	22	70	78	2	0.1	3
32303	142.5	143.6			1.1											11	38	18	57	45	3	0.1	2
32304	143.6	144.9			1.3											33	49	14	72	55	2	0.1	2
32305	124.1	126.1			2.0	.003	.01	.01	0.1	.49					*	27	33	20	142	51	2	0.1	494
32306	126.1	127.1			1.0											35	36	18	132	64	3	0.1	13
32307	153.3	153.7			0.4											8	72	15	41	56	1	0.1	
32309	167.8	168.5			0.7											28	93	81	271	112	5	0.1	1
32310	168.5	169.9			1.4											32	426	142	86	300	3	0.4	1
32311	169.9	170.9			1.0											45	67	43	111	94	4	0.1	
32312	174.0	175.4			1.4											36	62	37	49	76	2	0.1	
32313	175.4	175.8			0.4											7	79	29	1	14	1	0.1	
~~32314~~																							
32315	182.9	184.0			1.1											49	51	26	62	55	3	0.1	1
32316	184.0	185.2			1.2											40	40	17	79	91	3	0.1	2
32317	185.2	186.2			1.0											32	42	28	146	88	4	0.1	16
32318	197.8	198.3			0.5											19	196	16	57	63	1	0.1	
32319	211.9	213.1			1.4											50	33	22	97	85	2	0.1	
32320	213.1	214.0			0.9											35	32	21	55	173	3	0.1	
32321	214.0	215.3			1.3											219	44	16	62	103	3	0.1	

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32222	215.3	215.5			0.2											18	27	28	62	25	1	0.1	
32323	260.9	264.0			3.1											16	39	10	50	79	1	0.1	2

HOLE NO Pg 403

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LITHOGEOCHEMISTRY

Column:	1	2	3	4	5	6	7	8	9	12	13	16	17	18	19	20	22	23	24	25
SAMPLE NUMBER	From	To	Length	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	FeO_{23}	MnO_2	TiO_2	Cu ppm	Zn ppm	Au ppb	Ba ppm	Ag ppm	Pb ppm	P_2O_5	S %	Total %	As ppm	Sb ppm
32308	162.9	163.7	0.8	91.89	1.77	.33	.54	.03	.40	1.84	.10	.07	12	34	5	27	0.4	21	.01	.06	97.03	46	3
32314	181.9	182.9	3.0	93.47	1.71	.07	.37	.06	.35	1.35	.06	.06	31	18	5	24	0.1	12	.01	.12	97.63	25	3

Hole No. Rg 403 Entered by R.M. Logged by _____ Page No. 1

DRILL HOLE RECORD

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 06/26/91
HOLE NUMBER : RG404	DATE COMPLETED (M/D/Y): 06/30/91
LOCATION : 'MBA' GOLD ZONE	DATE LOGGED (M/D/Y): 06/30/91
PROJECT NUMBER : 240	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID : SAM GEOL		GRID : ESTIMATED
	NORTH : 878.71N		NORTH : 8+89 N
	EAST : 12000.20W		EAST : 120+00 W
	ELEV : 1040.125		ELEV : 1048.

COLLAR BRNG		
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : N
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP : -55° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR : FRONTIER DRILLING	LOGGED BY : C. NAGATI
CORE STORAGE : SAMEX CAMP	START DEPTH : 0.0
CASING : PULLED	FINAL DEPTH : 358.7
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : TO TEST THE DOWN DIP EXTENSION OF THE 'MBA' GOLD ZONE.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
50.9	A	—	-55	OK	
121.0	A	—	-55	OK	
151.5	M	219	-55.5	OK	SINGLE SHOT
157.6	A	—		NO	BAD ETCH
197.2	A	—	-55	OK	
279.5	A	—	-55	OK	
317.6	A	—	-54	OK	
352.7	M	238.5	-51.5	OK	SINGLE SHOT

HOLE NO. RG400

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 29.9	<CSG>							
29.9 - 46.1	<BL. ARG / CARB / SIL ALT>	black gray	fine to 5mm.	The protolith is a black argillite with silty laminae. Bedding is locally contorted. Alteration locally bleaches core to a very pale gray. General sense of bedding 2% white qtz/carb veining crosscuts bedding. Core relatively blocky, localized shear and gouge zones. 36.9 - 38.1 intermittent <FLT Bx> Contact with underlying mafics is faulted.	55°	29.9 - 36.1: interval is intensely carbonate altered - Coarse porphyroblasts of Fe-poor calcite grow in an ankerite matrix at top of interval. By 30.4 m original protolith is completely altered. Carbonate is nearly massive in appearance locally, but in general coarse blades/porph can still be seen. Alteration starts weakening at 33.2 m. 38.5 - 46.1: patchy weak to moderate silicification. Possibly cherty locally.	Carb. altered rock is sulphide poor. Black argillites contain 5% fine grained stringers, patches, seams of pyrite. #15 - 46.1 ft <20% py>	
46.1 - 76.7.	<DOL MAF VOL>	gray	fine	Interval consists of an intensely dolomitized mafic volc. Alteration destroys original textures. Core is gray in color with a green tint. 3% qtz/carb (80/20%)		Intense dol/ankerite alteration bleaches core. Spotted texture caused by alteration/overprinting. Fuchsite occurs on	<1% fine grained dissem pyrite.	

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				veining. Veins are generally oriented at low angles to C/A. +46.1 - 46.7 + <FLT BX> +66.3 - 67.5 + <QTZ/CARB VN>		margins of some veins; minor talc in sheared zones		
76.7 - 85.9	<BL. ARG/ CARB, SIL ALT>	black gray white.	fine to 7mm	Protolith is an argillite which may have been somewhat cherty locally; Minor altered volcanics? Core is very blocky +84.2 - 84.4 + <FLT BX>		30% of interval is weak to moderately silicified caused by qtz veining and flooding. Arg is weakly graphitic in these zones. Where the core is not silicified it is commonly carbonatized. Zones of argillite contain coarse crystals locally euhedral, of white, non-dolomite in an ankerite altered groundmass. In some instances dol/ank occur with quartz. Intense carb alt'n occurs between 78.8 - 79.5m and 85.2 - 85.9m.	1% fine grained, fine to coarsely dissem. py.	

HOLE NO RG 404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
85.9-86.6	<DOL MAF VOL?>	gray	fine	Interval is the same as that between 46.1-76.7m except there is 10% patchy qtz veining.		Intense carb. alt'n with greenish sericite as in 46.1-76.7m.	5% pyrite.	
86.6-88.45	<QTZ VN>	white		Core is very blocky. Massive white quartz contains 5% white to grey carbonate (+/- feldspar?) and 10% altered wall rock inclusions. Contacts at.	75	Carbonate, sericite alt'n of wallrock fragments	1% fine to med. grained py in wallrock, and coarsely dissem. in the vein.	
88.45 93.9	<SER SEDS>	gray black brown white.	fine.	Black argilliceous sediments are banded by gray, brown, yellow sericitically altered sediments. 90% of the interval is altered. Locally core has cataclastic textures and minor isoclinal folds. Axial plane. +88.95-90.15 +<FLT BX> 91.2-91.4m: white qtz/carb vein (85/15%) with contacts oriented at General sense of foliation	45° 25 60	Patchy weak to intense sericite alteration. Minor silicification.	2-3% coarsely dissem pyrite.	
93.9-113.8	<CHERT/ ARG/TUFF?>	gray black		rock types varies between a coarsely laminated through cherty argillite		Minor graphite in argillite.	2% fin grained coarsely disseminated pyrite.	

HOLE NO RG 404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				localized contortions of bedding are common. The cherty end of the spectrum is prevalent. Core is very blocky; intermittent fault bx throughout. +95.8 – 97.3 + <Brittle Flt Bx> 5% white qtz veining/patches. 103.4 – 103.75: Qtz vn. 106.7 – 109.1 + intermittent <FLT BX>		93.9 – 96 m: cherts have been moderately sericite altered. Sericite is gray to pale brown in color.	+93.9 – 96.5 + <4% py 2% BM> Sulphides are fine grained and very coarsely dissem. in silicified zones. BM concentration sp > gn = cp. 100.1 m: An irregular 6 cm wide, irregular patch of qtz veining contains 12% sp, 2% tt, 10% cp, 7% gn, 10% py. Sulphides are coarsely disseminated. 110.5 – 110.7 m: 20% fine grained pyrite bands/dissem associated with qtz veining	
113.8 – 117.3	<SER/Py ALT VOL?>	green gray	fine.	Intense alteration destroys original textures. Contacts are sheared/fault gouge. 35% white qtz veining which occurs in the interval 114.8 – 116.3 m. The vein is patchy + contains some black argillite fragments. Weak, intermittent fault bx occurs between 113.8 –		Matrix is weakly Fe-dol. altered. Pervasive moderate to intense green to brown sericite alt'n, small amounts of fuchsite present.	113.8 – 115.9: 15% fine to med. grained Pyrite dissem, bands and patches. Minor narrow semi-massive zones. 115.9 – 117.3: 5% py.	There is a good possibility that the interval is an altered sediment

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				115.9m. Some low angle warped foliation				
117.35 120.	<SIL/CHERT/ ARG>	black white.	fine	Bedding in argillite/cherty arg is weakly contorted. Arg. locally is finely laminated by cherts. 10% of interval is patchy white qtz veining. Locally the veins have been brecciated.		Argillite is weakly silicified in vicinity of qtz veining.	Minor to 1% fine grained, pale brown sphalerite is disem. in quartz. 2% coarsely disem pyrite	
120- 143.1	<ALT. VOL?/ SED. TR. ZN>	grey black brown		Interval consists of 60% intensely altered mafic volcanics which are interbedded with argillites. Argillites are themselves frequently intensely altered - presumably some silty sediments were present and have been altered. 5% fault brecciation within the interval. Individual zones are <20cm wide. 15% gray qtz/carb veins/veinlets. There has been some minor folding of the veinlets. Some veins can contain		Vole? are very Fe-carbonate rich. This alt'n bleaches the core. Brownish sericite bands are weakly developed. Minor talc. Argillites have a preponderance for altering to grey sericite	1-3% disem. py. Trace sphalerite in qtz/carb veins. Between 132.6 — 133.8m and 135.4 — 136.7m there is 7% pyrite	"DOL SEDS"

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				60% coarse grained Fe-dol Upper and lower contacts are faulted				
143.1 – 156.8	<ARG FLT BX>	black white	fine	Argillite has been intermittantly fault bx throughout the interval; faulting decreases down-hole. Interval contains 20% white qtz veining which has also been bx by faulting. Qtz veins can contain up to 40% pale grey coarse grained Fe-dol		Argillite is weakly graphitic. Arg. has been weakly silicified by and in the vicinity of veins	Pyrite content varies between 1-5% Pyrite is generally fine grained, coarsely dissem. Minor sphalerite is disseminated in qtz/carb veins. {152.2–152.4} <1%gn, 3% cp, 10% py> sx are fine grained, coarsely dissem. in qtz	
156.3 – 191.4	<ALT. MIXED SED/VOL>	gray black white		Interval consists of 10% black argillite 15% het. frag, 10% qtz/carb veining and 65% gray altered volcanics? Volcanics are strongly altered; alteration tends to wash out original texture. Argillite is patchily interbedded with the het frag and volcanics; Bedding		Volcanics? are intensely Fe-dol altered and banded by <20% brown sericite. Argillite is locally moderately silicified. Silicification is related to the abundant white qtz veins, stringers, and patches that occur within the argillite.	Het Frag + Arg contains 5-9% fine to medium grained, coarsely dissem and patchy pyrite. Minor disseminated sphalerite in the quartz veins. {grey} {161.4–161.6} <20% py 12% sp 2% gn> in a qtz vein oriented	

HOLE NO RG 404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				is indeterminant. Arg. also locally occurs as wispy 'beds' with the vole. (possibly altered silt/sandstone) the largest het. frag intervals occur at - +167.6 – 169.1 + <Het Frag> +171.3 – 173.6 + <Het Frag> +174.6 – 175.2 + <Het Frag> Clasts are sericitized vole/seds, arg, quartz in a silty matrix Clasts comprise up to 60% of the fragmental intervals. Some highly altered coal appears to have originally been clastic but alt'n washes out most textures. Qtz/dol (80/20) vns are white to gray in color. Veins are irregular – occur as stringers to veins, patches. Vein orientation is highly variable particularly within argillite +162.35 – 163.6 + Irregular <QTZ/CARB VN> oriented subparallel to CIA. +169.4 – 170.6 + patchy <QTZ VEIN>ing and silicification.		Matrix of het frag interval is sericitized - gray to brown in color 174.6 – 177.5: patchy, intensely green fuchsite and talc alt'n closely associated with qtz veining.	at 45 degrees to CIA.	Sample between 176.1-177.6m returned decent values but the only distinguishing characteristic is minor narrow white quartz veinlets and a small fault gouge zone. F/W sample taken.

HOLE NO RG 404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				+183.7 – 184.05 + <QTZ/CARB VN> +177.2 – 177.5 + <FLT BX>				
191.4 – 192.8	<QTZ/DOL VN>	white	coarse	Bull, white qtz vein containing 25% grey to pink coarse banded Fe-dol (ankerite). Upper contact is fault brecciated. Lower contact at	60			
192.8 – 208.85	<HET FRAG/SEDS.	gray black white	fine to 4cm.	Het frag comprises 70% of interval. H.F is interbedded with argillite and siltstone. In the H.F <60% subangular to subrounded clasts are supported by a silty matrix. Bedding is indeterminant. Foliation at 85 Interval is cut by 15% white, irregular, and locally deformed/cleaved qtz veining. Qtz veining is preferentially concentrated within arg/silt. 205.7 – 206: 50% patchy qtz veining becomes a well developed qtz vein breccia between 206 – 206.3 m and again between 206.63 – 206.7 m; on margin	weak but pervasive gray to yellowish sericite alt'n gives core phyllitic sheen. Minor moderate yellow-green sericite alt'n. 192.8 – 193.1: intense dol alteration bleaches core. Patchy brown sericite banding and 4% green talc/fuchsite spotting (Interval may be volc.). 193.1 – 193.8: Weakening dol alt'n in fine silt?	There is 5-10% fine to med grained pyrite disseminated throughout interval, local concentrations of 20 – 75% over narrow widths. +201.7 – 202.45 + <60% py> semi massive to massive pyrite in quartz, including a sulphide poor central 10cm wide section. Some pyrite may be cataclastic. +206.3 – 206.63 + <75% py, min cp+gn+sph+as> (plus sphs) bull qtz. Qtz is translucent grey to white in colour.	206-206.7: MBA zone?

HOLE NO RG204

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				of a qtz pyrite vein zone. Clasts are angular and are composed of argillite. {208.15 - 208.45 t <FLT BX>			{207.85 - 207.92 t qtz vein with coarsely dissem sulphides <40% py 2% cp 1% sp, tr gn> Trace galena seen quartz clasts	
208.85 - 210	<QTZ/CARB VN>	white	coarse	massive white, fractured vein contains 20% altered wall rock fragments and 15% coarse white to grey ankerite, upper contact is gradational. Lower contact in fault gouge.			1-2% fine grained pyrite is concentrated in the wall rock frags	
210 - 223.1	<DOL MAF VOL?>	grey green white	fine.	intense alteration destroys original textures. 3% white to gray quartz veins and patches. {222.5 - 223.1 t <FLT GOU>		intense pervasive Fe-dol alt'n which is banded by green to brown sericite, minor talc.	3-10% dissem pyrite, local concentrations to 30% over 10cm widths. {210.3 - 210.45 t <2% gn 1% sp 15% py> in qtz vein as fine to coarse dissem. and blebs. 216.2 - 217.8: 1% sp, gn, 2% cp. dissem. in patchy qtz veining.	
223.1 - 229.4	<HET FRAG>	grey black white buff	fine to 5cm	silty to argilliceous matrix supports up to 80% subangular to rounded clasts. Clast composition includes argillite, quartz, and sericitized volc/seds. Mean clast size varies throughout interval.		weak grey sericite alt'n gives core some phyllitic sheen.	2% coarsely dissem pyrite.	

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Interval contains numerous narrow fault gouge and shear zones. Intensity and frequency increases with depth.				
229.4 - 248.9.	<DOL MAF VOL>	grey green	fine	Identical to the unit between 210-223.1 m. Intermittant fault zones between 229.4 - 234.7m. +237.2 - 237.6t <FLT BX>		As in 210-223.1m Minor fuchsite	3-5% dissem Pyrite. 234.7 - 234.99m : 2% sphalerite, 8% py in silicified interval	
248.9 - 252.9	MIXED SEDS.	black grey white.	fine	Argillite is the principal rock type. Local intervals of siltstone, het frag, and tectonite or soft sed slump - contains qtz clasts. Het. frag is poorly developed, 20% altered volcanic clasts and argillite in a silt to sandy matrix 15% white; crosscutting quartz/carb (90/10%) stringers, fracture filling, veins and patches Lower contact is faulted,		Patchy weak silicification of argillite.	3% fine grained, coarsely dissem py except between 251.3 - 252.9m where there is 12% py Trace cp in qtz vein	
252.9 - 261.6	<QSB-SPR ALT SEDS>	grey yellow white black.		Core has largely been intensely altered. Minor black argillite remnants present; small het frag intervals are locally		moderate, pervasive sericite alt'n which ranges from gray through pale yellow to green/brown in	5% fine grained py Pyrite occurs as disseminations and	

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				only weakly altered, or are recognizable from clastic textures. Hed frag intervals between 257.2 - 257.9m, 259.2-259.35m, 276.7-277.1m, and 278.5-278.8m.		color.	as dark patches/stringers associated with qtz. Minor sphalerite and galena - fine grained, fine to coarsely disem - occur in the qtz veins.	
				Core has a banded appearance due to sericite and quartz - after bedding? Locally this bedding? is contorted. At. 275.7m a strong, widely spaced cleavage is oriented at	70			
				Intermittent narrow zones of fault bx over 10% of the interval.				
				10% white qtz/carb veins/veinlets and patches. Locally veinlets are strongly buckled.				
				+252.9-255.25+ patchy, sulphide rich, <qtz vn> Qtz veining comprises 30% of interval			+252.9-255.25+ <7% py, 1.5% sp, .5% gn> coarsely disem in the qtz.	

HOLE NO RG404

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Coarse qtz - Fe carb veins similar to those hosting visible gold mineralization occur at: +273.7 - 275+ <QTZ/CARB VN>. The bulk of the vein occurs between 274.6 - 275m. Between 273.7-274.6m the vein is narrow (22cm) and oriented subparallel to the C/A.; Minor sp and gn. +278.85 - 279.75+ <QTZ/CARB VN> The carbonate in the veins is ankerite, pink in color, coarse bladed.			+280.85 - 281.6+ <10% py> occurs as massive bands.	
281.6 - 291.5	<HET FRAG>	gray black buff	fine to 5cm	Sericitized and dolomitized volcanics, argillite and qtz (50/40/10%) clasts are supported by a silty matrix. Clasts comprise 40-80% of interval. Minor pyrite clasts present. 1% white qtz veining. Intermittent narrow fault bx zones		Patchy weak, gray to yellow sericite alt'n, silicification and nodular dol. alt'n. Minor talc.	3% fine grained pyrite which occurs in bands. 291.35: 5cm wide qtz vein +295.3 - 295.5+ 8 cm wide qtz vein oriented at 40° degrees to C/A. Minor aspy, 1% ±t, .5% cp, 5% sp, 2% gn, 20% py <1% ±t 8% BM>	and silicified zone which contains 15% py, 3% ±t, 1% sp, 1% cp, 5% gn. Sx are fine grained, coarsely disseminated

HOLE NO RG 404

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
291.5-358.7	<ARG. & QTZ/SOR SED?>	yellow grey black white	fine	intensely altered seds comprise 85% of the unit, 15% of the unit is black argillite with 5% (weakly altered) Weakly altered seds are most prevalent between 294-295.7m, 307.3-308.6m and 317.6-330.8m General sense of bedding 70 locally beddings contorted but in these areas there is a cleavage at 70 |291.7-292.1| <FLT BX> |300.95-301.3| <FLT GOU> |329.9-330.8| intermittent <FLT BX> |340.4-341.3| <FLT BX> Qtz veining comprises approx 15% of the interval. Veins are generally massive, barren white qtz +/- carbonate. The interval 348-358.1m contains 20% qtz veining with associated chlorite.		Intense, patchy yellow green sericite alt'n	Intensely altered core contains 2-5% fine grained disseminated 2% pyrite in argillite. |295.7-296.1| <1% aspy 12% BM> BM are roughly equal amounts of coarsely diss sp, gn, cp in siliceous, qtz veined sed/argillite. Seds are altered to brownish green sericite 10% pyrite. Fine to med-grained.	Sx and occur is similar to that which are between 291.2-291.5m

HOLE NO RG 404

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Qtz - carb vein similar to those that host visible gold in RG 398 occur as follows:				
				@300.7 - 300.85ft <QTZ/CARB VN>				
				@301.9 - 302.7ft <QTZ/CARB VN>				
				@313.3 - 313.65ft <QTZ/CARB VN>, trace sp.				
				@ 315.5 - 316.25ft <QTZ/CARB VN>				
				@325.55 - 325.95ft <QTZ/CARB VN>				
				END OF HOLE				

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HOLE NO RG404

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32324	38.4	40.0			1.6											53	74	73	494	97	21	0.8	164
32325	43.5	45.0			1.5											21	33	31	1245	93	15	0.8	228
32326	45.0	46.1			1.1										*	123	123	96	1430	86	28	20.6	257
32327	46.1	47.6			1.5										*	114	74	31	501	137	42	21.5	181
32328	66.3	67.6			1.3											55	115	1	74	25	7	1.5	28
32329	85.1	86.6			1.5											18	46	1	34	57	2	1.1	6
m 323,30	86.6	88.45			1.85					0.02						6	42	3	9	523	1	0.2	—
323,31	93.9	95.4			1.5										*	3100	12344	6338	23.7	53	770	99.8	84
32332	95.4	96.5			1.1					.21					*	2019	6271	7968	265	54	258	48.4	208
32333	99.2	100.3			1.1										*	954	1591	1055	98	108	236	27.3	21
32334	110.5	112.2			1.7											87	259	267	357	74	56	2.6	76
32335	113.8	114.8			1.0											165	230	121	307	95	15	0.2	40
m 32336	114.8	116.3			1.5					0.09						69	302	250	233	106	12	0.2	—
32337	117.85	119.5			1.65											129	382	101	151	103	20	1.3	38
32338	132.6	133.8			1.2											310	1137	471	462	71	59	4.5	69
32339	135.4	136.7			1.3											194	428	243	405	59	28	2.7	37
32340	145.1	146.5			1.4											56	66	112	76	221	6	0.9	23
32341	151.5	153.0			1.5											779	406	383	165	158	107	34.5	46
32342	153.0	154.5			1.5											76	221	236	121	100	16	2.2	39
32343	154.5	156.1			1.6											80	711	340	154	158	19	1.9	38

HOLE NO Rg 404

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32344	159.9	161.4			1.5											59	233	385	186	112	3	0.5	24
32345	161.4	161.6			0.2										*	328	43181	13628	418	78	42	17.8	363
32346	161.6	162.35			0.75										*	66	1878	547	198	153	5	0.7	19
m 32347	162.35	163.6			1.25					0.02						51	108	217	66	87	1	0.2	—
32348	163.6	164.1			1.5											31	216	143	124	173	3	0.3	23
32349	169.4	170.6			1.2											42	229	159	103	119	4	0.9	30
32350	174.6	176.1			1.5											39	179	124	354	273	5	0.8	146
~~32351~~	~~176.1~~	~~177.6~~			~~1.5~~					~~.92~~													
32352	178.9	180.4			1.5										*	99	1886	571	321	210	11	2.1	99
32353	182.2	183.7			1.5										*	103	1428	583	348	233	4	1.2	280
m 32354	183.7	184.05			0.35					0.02						15	120	148	92	103	2	0.5	—
32355	190.0	191.4			1.4											53	116	157	212	229	3	0.9	316
new assays 32356	191.4	192.8			1.4					.01						6	68	25	39	76	1	0.4	—
32357	192.8	194.3			1.5											40	114	78	224	180	4	0.8	102
32358	194.3	195.4			1.1											50	313	207	160	148	7	1.2	67
new assays 32359	195.4	197.4			2.0											42	428	88	81	147	3	1.2	36
32360	197.4	198.9			1.4											28	93	73	66	113	2	0.9	42
32361	201.7	202.45			0.75											29	114	284	178	68	1	0.1	67
32362	202.45	204.2			1.75											25	79	85	91	134	1	0.7	26
32363	204.2	205.7			1.5											39	245	67	94	159	2	1.0	22

HOLE NO Rq 4/04

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32364	205.7	206.3			0.6											141	1084	388	178	122	19	5.8	2
~~32365~~	~~206.3~~	~~206.7~~			~~0.4~~	~~.537~~	~~.97~~	~~1.82~~	~~57.9~~	~~2.90~~													
32366	206.7	207.85			1.15											79	179	338	142	122	10	3.5	64
32367	207.85	208.85			1.0											124	1056	380	217	165	16	3.7	174
32368	208.85	210.0			1.15	0.005	.02	.03	1.0	0.19						52	241	278	111	199	3	1.0	—
32369	210.0	211.5			1.5											720	4330	1701	450	43	14	5.6	880
32370	211.5	212.4			0.9											162	2316	540	200	107	4	1.8	146
32371	212.7	214.9			1.2											176	1343	635	167	159	2	2.1	148
32372	216.2	217.8			1.6											443	7689	2017	271	165	12	5.6	64
32373	224.6	226.1			1.5											139	306	262	114	90	63	6.0	37
32374	251.3	252.9			1.6											51	253	610	357	107	12	2.4	69
32375	252.9	254.05			1.15	0.074	.89	.39	258	0.63						737	8851	3948	551	15	164	25.8	—
32376	254.05	255.25			1.2	0.009	.17	.04	1.4	0.10						89	1713	416	427	103	17	1.4	—
32377	264.2	265.6			1.4											124	191	64	163	73	9	1.8	20
32378	273.65	275.0			1.35					0.04						19	814	136	241	65	6	0.1	—
32379	278.85	279.75			0.9					0.02						10	136	68	120	39	5	0.6	—
32380	280.95	281.6			0.75											106	206	125	1247	81	52	3.3	58
~~32381~~	~~291.2~~	~~291.5~~			~~0.3~~					~~.68~~						~~4258~~	~~12044~~	~~9755~~	~~4381~~	~~101~~	~~2106~~	~~188.7~~	~~?~~
~~32382~~	~~295.7~~	~~296.1~~			~~0.4~~					~~.63~~						~~5177~~	~~8017~~	~~18677~~	~~7871~~	~~73~~	~~249~~	~~52.5~~	~~?~~
32383	300.7	300.95			0.25	0.001	.03	.84	6.1	0.01						4	253	8387	43	25	15	6.1	—

HOLE NO RG 90 4

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32384	300.95	301.9			0.95											17	31	29	104	82	3	0.5	16
32385	301.9	302.7			0.8					0.02						18	444	163	37	281	4	0.1	—
32386	307.8	309.0			1.2					0.02						8	55	50	57	65	2	0.1	—
32387	313.3	313.6			0.3					0.01						10	43	33	42	52	1	0.1	—
32388	315.5	316.25			0.75					0.02						5	145	119	20	594	2	0.7	—
32389	319.2	320.0			0.8					0.02						10	49	37	62	108	2	0.3	—
32390	320.0	321.5			1.5											10	119	13	51	93	1	1.0	21
32391	325.55	325.95			0.4					0.08						13	39	24	52	576	1	0.1	—
32392	347.4	348.9			1.5											22	58	24	55	113	6	0.9	5
32393	354.2	355.7			1.5											25	46	12	47	93	2	0.5	12
32394	355.7	357.2			1.5											15	42	13	47	82	2	0.5	9
32395	296.1	297.6			1.5											27	67	180	177	131	5	1.0	25
32456	176.1	177.6			1.5	.004	.017	.007	0.1	0.92						42	173	72	196	109	1	0.1	
32457	206.3	206.7			0.4	.113	.387	.226	81.8	2.90						1134	3873	2260	1481	33	423	81.8	
32458	177.6	178.9			1.3		—									74	2802	1086	323	194	6	2.7	62
32459	291.2	291.5			0.3	.604	1.111	.670	277.0	0.68						6035	11108	6704	2298	56	2892	277	
32460	295.7	296.1			0.4	.372	.569	1.681	47.6	0.63						3719	5694	16814	4894	52	186	47.6	

HOLE NO Rg 404

DRILL HOLE RECORD

PROJECT NAME :	SAM
HOLE NUMBER :	RG406
LOCATION :	SE of pit
PROJECT NUMBER :	240
CLAIM NUMBER :	
DATE STARTED (M/D/Y):	07/01/91
DATE COMPLETED (M/D/Y):	07/06/91
DATE LOGGED (M/D/Y):	07/06/91
UNITS (F/M) :	M

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : est
	NORTH:		NORTH : 6+50 N
	EAST :		EAST : 92+25 W
	ELEV :		ELEV : 1470.00m

COLLAR BRNG			
	GRID :	180° 00' 00"	COLLAR SURVEY (Y/N) : N
	ASTRONOMIC :	225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP :	-78° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR :	FRONTIER
CORE STORAGE :	SAMEX CAMP
CASING :	pulled
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ
LOGGED BY :	A. HILL
START DEPTH:	0.0
FINAL DEPTH:	386.1

PURPOSE/COMMENTS : P-15A

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
90.5	A	—	-75	OK	
197.2	A	—	-70	OK	
?→ 294.7	M	221	-69	OK	Single Shot
367.9	A	—	-67	OK	

HOLE NO. RG406

LOGGED BY HILL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 12.1	⟨Csg.⟩							
12.1 to 245.6	⟨MAFIC VOLC⟩	Green		Typical mafic "lapilli tuff" and blocky flows; weakly broken core. Overall still green and chloritic except for bleached envelope around qdv from ⟮25.4-34.7⟯ ⟨dol mafics⟩ From ⟮109.5-112.1⟯ ⟨flt bx⟩ with yellow lapillis in green matrix in envelope for several meters on either side.		Patchy Fe-dol locally assoc. with qtz-dol veining. Mostly calcareous-chloritic Sam mafics.	Only trace py except for gn and sp in qtz-dol veins: 12.1-12.3: 3% gn, 1% sp 23.6-24.0: 2% gn ⟮28.7-29.5⟯ ⟨9% sp, 5% gn tr cp, qdv⟩ 69.95-71.1: 5% sp, 1% gn 135.5-136.4: qdv 3% gn, sp 139.0-140.6: qdv tr cp, gn, sp	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Again from 155.5 to 187.6 the lapilli are yellow surrounding faulting and qtz-dol veining from 175.0 to 179.3.				
				From (215.0-245.6) <brittle/clay flt bx>				
				Foliation at 150m	70			
				at 175.7m	35			
				at 199m	55			
				Bottom contact follows long faulted interval, where mafics are still chloritic with yellow lapillis. Only weak to moderate patchy carb.		A couple of specks of galena in thin broken qdv's near the contact.		

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
245.6 to 250.5	⟨GREY SER/PY FLT BX⟩			Friable, fault brecciated core up to 249.5, consists of siliceous, grey sericite-pyrite schist. Faint cleavage in faulted mat'l at: 30 From 249.4-249.8 the unit is intact and consists of faintly laminated grey sericite +/- pyrite schist. Possibly a very stretched out fragmental. Foliation 50° Bottom contact sharp but marked by qtz veinlet.		Grey "cherty" siliceous patches in broken interval. Intense pervasive grey sericite and fine pyrite alteration.	⟨245.6-250.5⟩ ⟨15% py⟩ finely disseminated throughout. From ⟨249.8-250.0⟩ ⟨qdv, tr. gn, cp⟩ cuts core at 40 degrees.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
250.5 to 252.0	<SER/SIL MAFICS>			Interval comprised of 25% brown sericite, 50% quartz, 25% Fe-dol in typical patchy "dol matics" texture. Possibly overprinted by silica. Warped foliation	60	Brown sericite, sil and carb alteration fairly complete and destructive.	Disseminated pyrite, in boudin (?) and lense shaped qtz ± dol patches, up to 10% Average 5%.	
252.0 to 253.3	<SIL ARG BX>	Black and grey		Well healed, cherty argillite breccia. Laminations contorted and intraformationally brecciated. Lower contact is 20cm black gouge. Non-graphitic.		Weak to moderate silicification, fracture controlled.	1% diss. pyrite only	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
253.3 to 254.4	⟨GR. SER DEB FLOW⟩			Strong grey sericite/py schist but displays good relict fragmental textures, with clasts now paper thin and stretched out 10:1 at an angle of: Heterolithic clasts of arg, cht, br. ser, pyrite and yellow ser. Last 30cm friable and faulted.	60	Strong, complete grey sericite/py alteration.	10-15% finely disseminated py mostly in matrix, but also selectively replacing clasts.	
254.4 to 254.7	⟨FLT BX⟩			First 10cm is fuchsitic schist, followed by argillaceous schist.			5% diss py in first 10cm only.	

HOLE NO RC406

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
254.7 to 265.9	<DOL MAFICS>			Typical, strongly carbonatized mafic lapilli tuff and pyroclastics. Fault brecciation up to 258.5.		Brown sericite after chlorite, intense pervasive dark grey dolomite. Also minor sil patches and traces of talc on fractures.	3-4% diss. py	
265.9 to 339.8	<LIMY ARG +/- TUFF?>	Black and green		Conformable contact with laminated to thinly interbedded black argillite and pale green silty tuff? beds. Laminations contorted but common bedding at 75 which parallels foliation. Overall 80/20 arg to tuff.	75	More argillaceous portions tend to be silicified, playing host to stockwork qtz veinlets. Tuffaceous portions are carbonatized without the creation of brown sericite.	1-2% diss and vein controlled pyrite	Resembles "Victory Volcaniclastics"

HOLE NO RG406

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
339.8 to 386.1	<DOL MAF V'CLSTCS>			Spotted, pale, bleached, washed-out appearance to massive green chloritic volcaniclastics (?). Rock now has a "pseudo-intrusive" look, but is clearly conformable with argillites showing interbedded contacts.		Patchy carbonatization with nodular Fe-dol overgrowths. There is no brown sericite development, and alteration is waning with depth.	Tr. py only in uncommon qdveinlets.	
				From /349.3-356.9/ <arg> argillite (as above) forms conformable interbed with pale green siltstone. It is contorted, but foliation and contacts at	50			
	END OF HOLE			From 356.9 to EOH, typical strong dol mafics, with ghosted lapilli from 382m to end.				

HOLE NO RC406

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPb
45439	28.7	29.5			0.8	.055	7.63	6.18	35.2	0.17					✓	546	76300	61770	64	46	87	35.2	172
45440	69.95	71.1			1.15	.022	1.63	.262	3.4	0.03					✓	216	16253	2618	1	34	8	3.4	34
45441	135.5	136.4			0.9											17	499	307	1	38	3	1.4	23
45442	139.0	140.6			1.6	.017	.148	.075	1.8	0.04					✓	165	1477	746	48	73	5	1.8	38
45443	157.9	158.1			0.9	.015	.642	1.03	5.8	0.07					✓	152	6417	10285	175	102	20	5.8	74
45444	177.9	179.3			1.4											50	425	361	105	106	1	0.6	39
45445	241.4	242.9			1.5											64	399	378	48	274	1	0.5	22
45446	242.9	244.4			1.5											102	350	202	34	317	1	0.8	6
45447	244.4	245.6			1.2											115	332	92	25	286	1	0.5	4
45448	245.6	248.0			2.4											62	112	105	331	44	4	0.1	80
45449	248.0	249.0			1.0											30	60	74	205	97	1	0.1	104
45450	249.0	249.8			0.8											44	142	102	169	153	1	0.1	208
45451	249.8	250.5			0.7											81	189	365	74	93	2	0.4	230
45452	250.5	252.0			1.5											113	160	20	232	64	1	0.2	61
45453	252.0	253.3			1.3											49	55	41	761	73	6	0.5	64
45454	253.3	254.4			1.1											93	108	18	234	98	3	0.8	5
45455	254.4	256.9			1.5											68	26	39	95	67	4	0.1	84

HOLE NO RQ 406

DRILL HOLE RECORD

PROJECT NAME : SAM	DATE STARTED (M/D/Y): 07/08/91
HOLE NUMBER : RG409	DATE COMPLETED (M/D/Y): 07/12/91
LOCATION : CREEK ZONE	DATE LOGGED (M/D/Y): 07/10/91
PROJECT NUMBER : 240	UNITS (F/M) : M
CLAIM NUMBER :	

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : ESTIMATED
	NORTH :		NORTH : 9+80 N
	EAST :		EAST : 114+00 W
	ELEV :		ELEV : 1016

COLLAR BRNG		
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) : N
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) : N
	COLLAR DIP : -60° 00' 00"	PULSE EM SURVEY (Y/N) : N

CONTRACTOR : FRONTIER DRILLING	LOGGED BY : C. NAGATI
CORE STORAGE : SAMEX CAMP	START DEPTH : 0.0
CASING : PULLED	FINAL DEPTH : 380.1
PLUGGED (Y/N) : N	
HOLE SIZE : NQ	

PURPOSE/COMMENTS : TO RETEST THE CREEK ZONE AND TEST "266-STYLE" SAM SEDS. AT DEPTH IN THIS AREA.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
43.3	A	—	-60	OK	
98.5	A	—	-59	OK	
151.5	S	238	-56.5	OK	
169.8	A	—	-55	OK	
224.6	A	—	-55	OK	
282.5	A	—	-55	OK	
303.9	S	232	-54	OK	

HOLE NO. RG 409

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 – 40.05	<CSG>							
40.05 – 73.6	<MFLT>	green white buff	fine to 6 cm.	aphanitic matrix supports up to 30% stretched lapilli sized clasts. Clasts have been preferentially altered to a buff color. 7% white qtz/carb (20/80%) stringers, patches and veins. Carbonates are siderite, ankerite Fe-dol. Veins exhibit no preferential orientation. Qtz is commonly restricted to the carb veins which it crosscuts. although minor qtz veins are present.		Core is chloritic and calcareous. Lapilli clasts are preferentially sericitized to a buff color.	The least veined core contains 2-3% fine grained, fine to coarsely dissem pyrite. The overall pyrite content for the interval is 3-5%. In addition there is, overall, approx. 1% BM, plus minor tt and aspy. These sulphides occur within qtz/carb veins where they are very fine to fine grained and generally coarsely disseminated. The major sulphide rich intersections are described below: 40.35 – 40.47 ↓ <3% sp, 3% gn, 1% tt> sp is very pale in color. Gn has spider-web texture.	Note samples are generally taken over larger intervals. An attempt was made to keep best mineralized material together

HOLE NO RG 409

PAGE 2

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
							40.8-41 : 2% very fine grained, accicular to felted aspy occurs with pyrite as selvage in some veinlets. 42.8-43.5 : <1% gn, minor sp, cp dissem in veins. +48.95-49.25 + <4% cp 2% gn 1% sp minor tt > 5% py in veins. 64.2m : a 6cm wide q-c vein contains 3% sp, 10% gn, 7% cp, 10% py. +72.35-72.6 + <3% cp, 1% sp + gn> gn > sp; 8% py. Sx on margin of a carb. zone.	
73.6 - 76.9	<TERT DYKE>	dark grey	fine.	core is not aphanitic except in vicinity of lower contact and right at upper contact Upper contact at Lower contact at	 70 20	Relatively unaltered		

HOLE NO RG 409

PAGE 3

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Contacts are sharp. Rock is basaltic; Minor to 2% carbonate amygdules - trace quartz. Core is calcareous. 1% very fine grained olivine? crystals. Dyke is moderately magnetic				
76.9-83	<MFLT>	green grey buff white	fine to 3mm.	protolith is the same as in the interval 40.05-73.6m except that it has undergone more extensive and intensive alteration		83-78.6: chlorite is a minor component of the interval, being replaced by yellow sericite. Interval is extremely calcareous - calcite, siderite, ankerite common throughout. with 1% qtz veining. 78.6-79.3: chloritic 79.3-83: chlorite content decreases downhole, yellowish sericite alt'n becomes more prevalent (weak) core becomes grayish in color. Core is strongly calcareous; some carbonate is secondary.	3-5% fine grained, fine to coarsely disseminated pyrite. Trace galena.	

HOLE NO RG 409

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
83-106.1	<QTZ/SERI/PY SCHIST>	yellow grey white.	fine.	rock is extensively and pervasively altered which destroys original textures. Interval contains 35% white qtz/carb veins and flooding. (95/5%) Qtz veins are grey to white; generally very irregular. Some quartz has diffuse indistinct boundaries. Foliation at 101.7 – 102.1 : subinterval is clastic at the top - possibly an altered Het Frag and silic. arg. Lower contact at	65 80	Pervasive mod to int. yellowish sericite alt'n with associated qtz stringers. Minor grey sericite. 100 – 100.6 : intense sil. 102.3 – 106.1 = rock is certainly an alt. Volc. Alt'n is patchy yellow sericite, but primarily brownish sericite, patchy weak talc, and Fe-dol.	There is approx. 10% fine grained pyrite in the interval. Pyrite can occur as fine diasem but generally occurs as coarse diasem in stringers and bands in quartz. Pyrite concentration has wide range : 3-30% over 10 cm widths. Between 83-101.5 : there is approx 2% combined base metal sulphides diasem in qtz veins : gn > sp > cp. Sx are generally very fine to fine grained, and fine to coarsely diasem. Principal mineralized zones occur as follows: 83-83.13 : 20% py 186.8 - 88.3 + <2% sp, 2% gn, 1% cp> 192-92.2 + <30% py, 6% sp> in qtz 196.85 – 97.13 + <20% py> in qtz.	As a guess the prob-lith was volcanic s/patches

HOLE NO RG 409

99.6 m : minor aspy. mixed in with pyrite in qtz.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
106.1 – 119.5	<FLT'D TURBIDITE>	black grey white	fine.	Core consists of finely laminated argillite and siltstone and sandy siltstone. Max bed thickness 8cm. Bedding is locally highly contorted with minor bullseye structures. At 111m general slues of bedding at Cleavage at Foliation at Interval contains numerous, intermittant fault zones to 30cm. Approx. 25% of the interval has been affected by faulting. 5% massive white qtz/carb (90/10%) veining to 23cm.	 70 60 50	Minor grey to silvery grey sericite development	1% patchy pyrite.	
119.5 – 136.7.	<SED FLT BX>	black grey white	fine.	Interval is strongly fault brecciated with local clayey gouge. Principal rock type is a silicified argillite. Interval contains 20% patchy white qtz		Argillites are locally weak to intensely graphitic. Argillite has patchy moderate silicification.	8% pyrite overall. Pyrite is fine grained and occurs in large patches – commonly in the vicinity of qtz. Pyrite content locally	

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				veining and silicified zones +120.2 – 120.4+ <Het Frag?> +123.05 – 124.6+ <Het Frag?> Textures in the Het Frag intervals appear to be primary rather than caused purely by faulting. Clast composition is primarily qtz, sed (arg) frags and minor sericite alt. clasts. Clasts are supported by an argillaceous to silty matrix which is locally pyritiferous. Clasts are angular to subrounded. Between the intervals.		Between the intervals 124.6 – 125.35m and 125.7 – 126m the core is grey, very siliceous with 12% talc, minor brownish sericite pyrite. Possibly an altered volcanic.	reaches 30%. Notable intervals are: +120.4 – 120.55+ <30%py> +133.4 – 134.8+ <10%py>	
136.9 – 158.0	<SED/VOL? TRANS. ZONE>	grey black brown	fine.	The principal rock type is an altered volc? Volc? is grey in color, is locally weakly siliceous and is weakly calcareous Volc? is interbedded with 10% black argillite and a brown, dolomite veined wacke? the core has a weak clastic texture supported by a brown wacke? matrix – Het Frag? Arg is		Volc? are bleached, calcareous with minor brownish sericite. Coarser seds are brown – sericite? between 148.4 – 158m Between 147.8 – 148.4m	1-2% dissem pyrite. +146.2 – 146.6+ <3%sp, tr gn> coarsely dissem in fault bx qtz veined / silicified zone.	The volc? may be an altered sandy sediment in part, but seeing as underlying unit is volcanic, it is likely volcanics compriser

HOLE NO RG 409

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				similar to that in the overlying interval except that there is less qtz veining. Interval is weakly and intermittantly fault bx Faulting decreases down hole and is largely gone by 145.2m.			+148 – 148.2+ Qtz/dol veined zone contains <10% py, 1% gn, 1% sp>.	a large proportion of this unit's altered core.
158.0 190.	<QTZ/DOL/ SER-ALT VOL>	grey buff.	fine.	Volcanics are intensely altered. Alt'n destroys original textures. 5% white qtz/carb veins cut core; locally veins are associated with sp, gn. 153.9–160.7: intermittant, weak fault bx over 30% of the interval. -1180 – 184+ <Brittle FH Bx> local fault gouge. Trace sed beds.. very minor.		Core has undergone patchy bleaching due to carbonatization and minor silicification. locally there is some silica flooding and minor overprinting. Patchy brown sericite alt'n is common. Between 166.5–168m there is 5% fuchsite in very bleached, altered core. Locally there is minor talc present. 184–190: core starts to become weakly chloritic	There is 3-5% fine grained py and 1% combined base metal sulphides coarsely disseminated throughout interval. BM are in qtz veins, locally in highly altered volc. Notable Sx intersections occur as follows: +158.6 – 158.7+ <30% py, 5% gn> in qtz vein. +161 – 161.25+ <2% gn, 8% py> in	

HOLE NO RG 409

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
						with depth as the rock grades into the underlying unit.	silicified zone. 164 - 166.6 : 1% gn, 1% sp, 5% py in qtz veins. -172.8 - 173.t <20% py> as blebs in qtz veins. -173.95 - 174.27t <20% py>	
190 - 264.9.	<CHL/DOL MAF VOL>	green grey buff white.	fine.	Core consists of mafic volcanics of uncertain genesis - tuffs?, flows? Most original textures are indistinguishable but core retains or has superimposed on it a foliation, which is primarily shown by streaky carbonate alteration. This foliation varies between 10-65 degrees to C/A. -207.2 - 211.9t <MAF DYKE?> core in this interval		Volcanics are generally chloritic throughout the interval but are mottled by patchy Fe-dol/ankerite alt'n. The amount of carb alt'n is variable between 20-90%. Intensely carbed core is bleached to grey. Minor localized weak sericitic alt'n causes a brown/buff coloration. Minor fuchs to except between 198.7 - 200.2m where there is 5% fuchsite	2-3% finely disem. to blebs of pyrite. 217 - 264.9m : Qtz/Carb veinlets contain minor amounts of disem galena, chalcopyrite. Gn > Cp	The massive white qtz veins may be of the same origin as veins hosting the 'MBA' gold zone. Veins sampled. Core tends quite blocky between 205.5 - 225.5m

HOLE NO RG 409

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				aphanitic with 5% white qtz/carb stringers. Dyke? has a pale brownish color. Broken core prevents identifying orientation of contacts. Local narrow fault brecciation				
				@211.6 – 218.9t <Brittle Flt Bx>				
				<221.3 – 221.8t <Flt Bx>				
				@235.8 – 240.2t intermittent <Flt Bx> over 30% of the interval.				
				@262.8 – 264.1t intermittent <Flt Bx>				
				There is approx 3% white qtz/carb (80/20%) veining. Individual veins are generally <20cm				
				@201.9 – 203.3t <20% QDV>				
				@255.35 – 256.35t <90% QDV> 20% qtz, 80% Fe-dol/ankerite. In this interval some of the qtz has been brecciated ~~by~~ and then rehealed with carb. but in general both qtz & carb are coarse grained				

HOLE NO RG409

ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
264.9-269.3.	<TERT DYKE>	dark grey	fine.	Tertiary basaltic dyke. Dyke is the same as that intersected between 73.6-76.9 m. Between 166.7-167.4m core is bleached, altered to brown sericite with qtz/carb - possibly a section of mafic to intermediate volcanics. Weak shearing. 268.25-268.4m - patchy brown sericite alt'n, weak shearing. 268.8-269.3 dyke is <FLT Bx> with strong clay gouge. Upper contact at 65. Lower contact at 45. 1% qtz/carb (90/10%) amygdules.		Core is weakly calcareous		
269.3-380.1	<MAFIC VOL>	green grey white.	fine to 3cm.	Interval consists of a thick sequence of mafic volcaniclastics and possible flows. Texturally		Core is generally at least weakly chloritic - locally moderate chlorite. Core	Pyrite content ranges between minor to 2%.	

HOLE NO RG409

ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Volcanics range from aphanitic through granular tuff to lapilli tuff. The rock ranges from a very dark green chloritic volc to a pale green or a dol. altered grey. Interval contains ~5% white qtz/carb (85/15%). Veins are commonly <20 cm Noteworthy intervals are as follows: 269.3 - 269.6m and 270.37 - 270.65m contain core that has been strongly fault bx brackets a silicified zone. +273.4 - 274.7+ strong <Flt Bx> 276.3 - 276.6: Volc. bx, competent. 281 - 281.9: intermittent fault bx. +299.15 - 300+ <QTZ/CARB VN>: upper		is calcareous, with local Fe-dol alt'n bleaching the rock. 269.6 - 270.37: intense silicification.	270.2 - 270.35: 10% py. 299.95 - 300: margin and selvage of the vein contains 6% clots of cp	

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ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				contact is oriented at veins travels along the C/A.	20			
				305-307.9: core has large, irregular bleached sections of core which be representative of a blocky flow margin.				
				317.8-328.5 m and 332.6-337.1 m are intervals of mafic lapilli tuff with the clasts preferentially altered and bleached.				
				339.9-342.5: 30% qtz/carb veining - but veins are running down the core axis		342.5-346.6: core has mod to intense Fe-dol alt'n with streaky brown sericite alt'n Only minor chlorite present.		
				346.6-353.2: clean, uniform, weakly calcareous, fine grained, granular volcanic - possibly sedimentary. Weak epidote alteration.				
				353.2-356.45 ft <QTZ/CARB VN> quartz/carb. is coarse grained		353.2-355.5m: country rock is intensely altered to fuchsite.	353.2-355.5m: Vein is generally barren of sulphides outside of	

HOLE NO RG 407

ZIPPY PRINT® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Vein contains 15% altered wall rock fragments. 359.1 – 359.5 = flt bx. {362.2 – 364.2} <Flt Bx> breccia is poorly healed. Between 363 – 364.6m there is 20% white qtz/carb 365.4 – 365.7 : flt bx. {366.6 – 372.1} blocky <Brittle Flt Bx> {367.5 – 368.2} <Fe-Dol Vn> vein is vuggy and fractured		356.45 – 380.1 m : Core is strongly chloritic. 371.5 – 380.1 : there is coarse bladed dolomite crystals growths within the volcanics. Crystals are very abundant at top of subinterval, decreases down hole.	minor pyrite in the wallrock fragments Trace galena. At 355.45m there is trace cp and a patch of smeared, fine grained sulphide. The sulphide is greyish bronze, has a hardness < 4. - copper mineral ? - Nicolite ? {363 – 363.5} <5% py, 1% gn> Sx are fine grained, coarsely disseminated in qtz/carb.	Sample between 354.75 – 355.5 m is being tested for platinum group minerals and metallic gold.
				END OF HOLE				

HOLE NO RG 409

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPb
32461	40.05	41.0			.95	0.101	0.39	0.24	9.7	0.40						838	2785	1379	1018	13	169	6.4	.
32462	41.0	42.8			1.2	.004	.015	.004	0.6	0.012						35	151	44	262	24	2	0.6	122
32463	42.8	43.5			1.7	.036	.122	.100	4.5	0.484						363	1221	1002	859	14	55	4.5	484
32464	43.5	44.6			1.1											33	135	17	97	133	1	0.2	26
32465	44.6	45.6			1.0											21	132	22	77	18	1	0.4	71
32466	45.6	46.7			1.1											41	99	129	127	22	1	0.9	22
32467	46.7	47.8			1.1											36	250	210	107	19	1	0.8	48
32468	47.8	48.95			1.15											39	348	167	115	22	1	0.9	59
32469	48.95	49.25			0.3	.119	.184	.182	5.2	.134						1191	1843	1824	330	24	31	5.2	134
32470	61.0	63.1			2.1											118	672	231	74	69	2	1.1	20
32471	63.1	64.6			1.5											455	629	979	85	30	3	1.7	22
32472	71.8	73.2			1.5											194	683	566	41	101	1	1.3	20
32473	81.5	83.0			1.5	.016	.172	.050	0.8	.037						159	1721	496	258	218	1	0.8	37
32474	83.0	83.55			.55											325	1798	1877	272	130	112	4.4	15
32475	83.55	85.2			1.65											65	783	710	172	342	15	1.3	22
32476	85.2	86.8			1.6	.009	.356	.172	2.1	.028						89	3558	1723	206	195	15	2.1	28
32477	86.8	88.3			1.5	.077	.962	.430	8.6	.080						765	9621	4299	289	132	23	8.6	80
32478	88.3	89.3			1.0	.028	.114	.071	2.0	.022						282	1143	711	170	157	9	2.0	22
32479	89.3	90.5			1.2											32	416	332	231	205	9	0.9	21
32480	90.5	92.0			1.5											13	75	108	179	180	9	0.4	4

HOLE NO Rg 409

PAGE 1

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32481	92.0	92.3			.03	.010	.885	.132	3.2	.169						95	8854	1315	720	54	91	3.2	169
32482	92.3	94.7			2.4											33	611	517	443	152	25	2.1	60
32483	94.7	96.2			1.5											10	65	109	346	168	10	0.4	21
32484	96.2	96.85			.65											18	267	297	224	221	15	0.6	25
32485	96.85	97.13			.28											44	294	645	285	130	17	1.7	57
32486	97.13	98.5			1.37	.026	.337	.295	7.8	.088						258	3374	2948	196	230	139	7.8	88
32487	98.5	100.0			1.5											155	792	514	177	269	79	3.5	65
32488	100.0	100.6			0.6	.008	.105	.068	2.1	.168						84	1051	676	309	146	27	2.1	168
32489	100.6	102.1			1.5											57	128	62	147	192	5	1.1	19
32490	102.1	103.6			1.5											219	296	75	404	112	5	1.2	42
32491	103.6	104.8			1.2											82	309	248	405	105	6	1.5	56
32492	104.8	106.1			1.3											162	423	212	605	143	8	1.3	88
32493	106.1	106.8			0.7											163	254	196	217	77	8	2.6	50
32494	112.8	113.95			1.05					0.01						28	73	27	56	60	3	0.4	—
32495	119.5	120.9			1.4	.016	.042	.034	5.5	.181						162	415	343	739	245	34	5.5	181
32496	133.8	134.8			1.0											94	899	437	334	81	66	3.1	86
32497	146.1	146.6			0.5	.022	.754	.211	2.2	.015						222	7538	2109	181	30	42	2.2	15
32498	147.5	148.4			0.9											76	905	973	247	46	3	0.9	14
32499	158.6	158.9			0.3	.038	.330	1.320	12.1	.037						378	3295	13197	399	38	29	12.1	37
32500	161.0	161.25			.25	.016	1.053	1.036	8.0	.022						162	10525	10361	187	26	22	8.0	22

HOLE NO 409

PAGE 2

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
32501	164.0	165.3			1.3					0.06						92	770	451	106	28	9	1.2	—
32502	165.3	166.6			1.3	.010	.216	.179	2.2	.027						101	2163	1787	186	30	6	2.2	27
32503	166.6	168.1			1.5											35	98	64	74	31	3	0.2	2
32504	172.8	173.2			0.2											356	209	415	204	19	1	0.1	42
32505	173.95	174.27			0.32											163	100	296	130	30	1	0.1	19
32506	183.8	184.3			1.5	.020	.593	.034	0.9	.036						195	5926	336	172	43	4	0.9	36
32507	188.5	190.0			1.5											73	107	89	201	31	1	0.8	18
32508	198.7	200.2			1.5					0.02						91	57	1	223	44	1	1.3	—
32509	201.9	203.3			1.6					0.01						29	42	9	117	49	2	0.6	—
32510	219.4	220.8			1.4											85	184	10	51	24	1	0.8	10
32511	229.1	230.6			1.5											81	165	135	234	41	5	0.5	40
32512	230.6	232.1			1.5	.032	.152	.075	1.1	.098						321	1515	751	295	74	8	1.1	98
32513	243.0	244.4			1.6											85	480	291	97	58	3	1.3	20
32514	254.1	255.35			1.35											85	285	339	284	99	3	0.6	42
32515	255.35	256.35			1.0					0.06						19	56	152	134	134	269	1.0	—
32516	258.3	259.0			0.7											18	52	83	96	199	1	0.8	10
32517	262.6	264.1			1.5											98	369	315	313	53	3	0.3	57
32518	269.2	270.7			1.5											33	77	178	191	49	6	0.3	47
32519	276.4	278.7			1.3											22	82	1	1	12	1	0.6	15
32520	288.5	289.8			1.3	.104	.022	.019	7.0	.075						1044	218	187	64	21	228	7.0	75

HOLE NO 409

PAGE 3

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au. ppb
32521	297.3	297.8			1.5					0.03						43	80	114	35	96	1	0.6	—
32522	299.15	300.0			.85	.24	.01	.01	2.9	0.02					*	2400	35	75	32	219	12	2.9	—
32523	320.5	321.3			.08											52	47	1	2	11	1	1.0	10
32524	353.1	353.9			.08											63	177	13	1	16	1	2.5	10
32525	339.9	341.1			1.2											67	180	1	73	61	1	1.4	2
32526	341.1	342.7			1.6											47	170	1	1	134	1	3.6	1
32527	353.2	354.75			1.55					0.01						29	101	1	24	37	1	0.5	—
32528	354.75	355.5			.75					.01						24	116	1	1	38	1	0.4	—
32529	355.5	356.45			.95											42	89	1	1	30	1	0.6	3
32530	363.0	364.5			1.5											95	203	33	53	57	2	1.9	17
32531	364.5	366.0			1.5											81	301	392	80	64	1	0.6	10

Nickel = 687 ppm
PT/PD = 1 ppb
Cr_{total} = 1881 ppm

HOLE NO Rg 409

PAGE 4

DRILL HOLE RECORD

PROJECT NAME :	SAM
HOLE NUMBER :	RG436
LOCATION :	MBA. GOLD ZONE
PROJECT NUMBER :	240
CLAIM NUMBER :	
PLOTTING COORDS — GRID :	Sam
NORTH :	674.0 N
EAST :	11974.0 W
ELEV :	1035.0
COLLAR BRNG — GRID :	270° 00' 00"
ASTRONOMIC :	315° 00' 00"
COLLAR DIP :	-78° 00' 00"
CONTRACTOR :	FRONTIER DRILLING
CORE STORAGE :	SAM Ex CAMP.
CASING :	PULLED
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ

DATE STARTED (M/D/Y):	07/13/91
DATE COMPLETED (M/D/Y):	07/15/91.
DATE LOGGED (M/D/Y):	07/18/91
UNITS (F/M) :	M
ALTERNATE COORDS — GRID :	ESTIMATED
NORTH :	6+85 N
EAST :	119+25 W
ELEV :	1045.
COLLAR SURVEY (Y/N) :	N
RQD LOG (Y/N) :	N
PULSE EM SURVEY (Y/N):	N
LOGGED BY :	C. NAGATI
START DEPTH:	0.0
FINAL DEPTH:	237.4

PURPOSE/COMMENTS: OFF-AZIMUTH HOLE TO TEST 'MBA' GOLD ZONE 25m adjacent to best intersection. Collared 25 m east of RG400 collar.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
63.9	A	—	-79	OK	
91.4	S	310	-79	OK	
123.1	A	—	-79	OK	
185.0	A	—	-79	OK	
236.8	S	302	-79	OK	

HOLE NO. RG.436

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 – 52.4	<CSG>							
52.4 – 61.7	<SER/QTZ SCHIST>	yellow white	fine.	protolith has been completely altered. Interval contains 10% white/grey qtz veinlets and some patches. Some veins have diffuse margins. Veins are generally oriented parallel to foliation at 25-35 degrees to C/A. 60.7-61.7m: 20% patches and veins of qtz		Interval has been intensely altered to yellow sericite. Between 60.7-61.7m, the sericite is more greenish to brown.	3% fine grained pyrite which occurs as fine disseminations to patches.	
61.7 – 63.5	<HET FRAG>	grey brown black	fine to 5cm.	A silty to fine sand matrix supports 50% rounded to subangular clasts. Clast composition is 15% qtz and chert, 1% arg, 84% variably altered sed/vol? clasts. Alteration consists of bleaching, silicitization. Some rip up clasts at the base of interval indicate that tops are up hole.		Interval contains 5% white/grey Fe-dol nodular porphyroblastic growths. Interval has been weakly sericitized. Sericite is grey to brown and its presence gives core phyllitic partings	5% disseminated pyrite.	
63.5 – 64.9	<SER CHERT>	grey	fine	Protolith was likely a chert with argillaceous partings. Currently the core consists of grey chert with remnant		Arg? material is altered to green or yellow sericite. Trace kaolinite	1% fine grained dissem. pyrite.	

HOLE NO RG436

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				bedding at 25-40 degrees to C/A. Bedding is locally ruptured Interval has 5% patchy to irregular white qtz veining including one vein oriented at 20 degrees to C/A between 64.65 - 64.9m.				
64.9 - 93.6.	<SER/QTZ ALT SED?>	yellow white grey green	fine.	Rock has intensively and extensively altered to the point where all original textures are destroyed. Foliation given by qtz/sericite banding varies but in general ranges between 20-40 degrees to C/A. locally foliation subparallels the core axis. Bulls eye structures present between 77.1 - 77.4m. Minor fault breccia at 90.5m and 91.2m.		Interval contains up to 4.0% silica. silica primarily occurs as veins/veinlets, but also as patches and in the groundmass. Sericite is the primary mineral. Color of the sericite varies between a pale yellow and a dark greenish grey. Both types occur together or separately	3% pyrite occurs as fine to coarse grains which are finely to coarsely disseminated. A 2cm vein at 89m contains 1% coarse grained galena f 91.7 - 91.95 f <1% cp 1% sp+gn> in qtz-carb vein	
93.6 - 100.2	<SIL CHT? & ARG/QV>	White black grey		Protoliths are chert? and argillite. Alteration destroyed bedding textures in the argillite but there is a weak, ghosted remnant in some of the chert.		Interval is intensely silicified and qtz veined. Minor sericite present - occurs as alteration of patches in the chert.	1% coarsely dissem, fine grained pyrite except between 96.95 97.2 m where there is 10-30% fine to coarse grained pyrite in the quartz. In general	Entire interval sampled for metallics.

HOLE NO RG 436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Bedding appears to be contorted. Quartz generally occurs as flooding but is also present as discrete veins up to 25cm long. The base of the interval is such a vein. Interval contains 30% sil arg, 15% discrete qtz veins 55% sil chert			the pyrite occurs in the argillite.	
100.2 - 113.2	< QTZ/SER ALT SOD? >	yellow greenish-grey white.	fine	Interval has strong similarities to the core in the interval 64.9 - 93.6m. Intense alteration destroys all original textures. Protolith very uncertain. 10% discrete white to grey qtz veining. Veins contain wallrock fragments and are weakly fractured. There is a local wide spaced cleavage at some qtz veinlets follow this cleavage. At 104.8m the sericite and quartz banding exhibits bullseye structures - after bedding?	80	There are two types of sericite present. 60% of the sericite is pale yellow. These intervals can be very clean in that sericite comprises 80% of the rock, and has a massive uniform appearance. The remainder of the sericite is a mixture of grey-green sericite which grades into and out of yellow sericite giving a mottled appearance. Locally sericite is banded with quartz.	There is 6% finely disseminated pyrite in the dark sericite altered core and 3-5% fine to coarse grained patches and stringers of pyrite in the yellow sericite altered core.	

HOLE NO RG 436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
113.2-126.2.	<QV/CHT/SER ALTN>	white cream grey brown.		Interval is heavily quartz veined and sericitically altered: 50% of the interval is quartz veining, 20% altered chert and 30% sericitically rock of indeterminant origin. Chert has remnant bedding planes which have been contorted but are at low angles to the core axis in general.		There is intense silicification in the interval; sil takes the form of qtz veins. Patchy moderate to intense sericite alt'n of the country rock. Sericite is generally greenish brown to pale brown in color but locally (in cherts in particular) is grey to silvery grey.	Overall pyrite content of the interval is ~5%. Pyrite is fine to coarse grained - and very coarsely dissem. Pyrite occurs as bands, patches in quartz and at quartz-sericite contacts. Small amounts of gn, cp, sp (in order of decreasing abundance) are disseminated in the quartz veins - eg. between 114.1-114.5m a 1 to 3cm wide quartz vein running parallel to the C/A contains 1-2% coarse grained blebs of galena. Overall the base metals comprise <1% of the interval except between MBA zone (?) -/123.85 - 125.2/- where intense qtz veining contains 8% py and marcasite <<3% cp 2% gn, <1% sp>	<53% core recovery between 120.1 - 123.1m Marcasite is identified by radiating growth structure 'marcasite dollars'

HOLE NO RG 436

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
126.2 - 169.	<QV + QTZ/SER ALT SED>	grey yellow White		Outside of minor intervals that may be altered cherts and two intervals of Het frag - 143.6 - 144.05m and 144.7 - 144.9m - the intense alteration of the rock destroys all original textures. The Het frag intervals consist of qtz sericite altered seds/vol?, and silicified argillite clasts supported by a pyritiferous matrix. Clasts comprise up to 80% of the intervals. The F/W contact of the lower H.Fragmt is in fault contact with ser seds. The unit contains 10-20% white qtz veins up to 50 cm long. These veins are locally discrete but are commonly smaller irregular veins, veinlets and patches caught up by and containing wall rock clasts. Some veins contain 20% creamy Fe-carbonate. Many veins are barren except for some coarsely disseminated and patchy pyrite, others are intensely mineralized		Interval is intensely sericite altered. Between 126.2 - 135.1m the sericite is predominantly yellow. Below 135.1m the sericite is predominantly greenish with subordinant patchy yellow and grey sericite. Silicification is minor, most of the quartz is in veins. Some of the argillite is silicified.	Between 126.2 - 147.2m there is 4% fine grained pyrite. Pyrite is generally very coarsely disseminated or in in patches and irregular discontinuous bands. Pyrite is commonly associated with quartz. No BM sulphides were seen in this subinterval except at 144.05 - 144.18m and 144.45 - 144.7m. These intervals consist of mineralized qtz/carb veins F/W and H/W to the two Het Frag intervals (respectively) + 144.05 - 144.18 + <2% sp, 10% py + marc> Pyrite is cubic - fine to coarse grained. Marcasite is very fine grained and has framboidal texture. - 144.45 - 144.7 + <30% py, 1% sp, min cp> Between 147.2 - 169m the pyrite content	

HOLE NO RG436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				A general kind of foliation, possibly after bedding, is given by banding of sericite, quartz and pyrite. In general the foliation ranges between 40-60 degrees to C/A. Between 129.5-140.8m the foliation is contorted and is oriented subparallel to the core axis. minor bullseye structures. The core is generally competent except between 156.2-163.3m where numerous fault gouge zones <10cm wide affect 25% of the interval. Between 165.6-165.8m and 167.3-168.8m there is some patchy, weakly altered argillites.			increases to ~7% overall, with local concentrations to 15%. Quartz veins in this interval may be barren or other 5% contain trace to minor amounts of sp, cp, gn or be highly mineralized. Strongly mineralized zones are indicated below: -1149.7-150t 30% py, 5% gn, 5% sp 2% cp 2% tt. Sx are fine to med-grained and very coarsely diseem ~1% tt is clearly visible and estimated 1% is very fine grained + difficult to distinguish from the galena. (30% py 12% BM 2% tt) Upper contact is irregular lower contact is at 65 degrees to the core axis. +154.0-156.3t a fairly continuously veined zone. Overall	

HOLE NO RG 436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

1571 15.27.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
							the interval contains 35% Sx with subintervals containing up to 50% Sx. Approx. sulphides content is 19% py, <10% sp, 3% cp, <2% tt, 1% gn> local sphalerite can reach concentrations as high as 30% over 10cm.	
							+156.3-157.1 + A cleaner fractured qtz-carb vein cutting altered rock hosts. <4% py, 2% sp+gn, minor tt> Sx occur as clots within the interval - much of the core is relatively Sx poor.	
							+157.1-157.27 + vein contains 50% Sx. 7% py, 3% cp 5% tt, 20% gn, 15% sp. <38% BM, 5% tt, 7% py>. Some galena has been warped - bent cleavage.	
							+160.75-161.05 + Qtz vein hosts 30% sulphides. Approx sulphide content is 1% aspy, 12% py, 7% sp, 5% tt, 4% cp, 6% gn <13% py+aspy, 17% BM, 5% tt>	

HOLE NO RG 436

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
							+166.8- 167.3+ <1%gn 3%py, .5%aspy> in qtz vein and silicified argillite.	
169.0 - 188.3	<Het Frag>	grey white black buff.	fine to 10cm	Throughout the majority of the interval the het frag texture is very well developed. Clasts comprise 75-95% of the volume. Clasts are frequently framework supported. Clasts are rounded to subangular. Matrix appears to be silty, currently pyritiferous. Clasts are quartz, argillite, sericitically altered rock and possible minor pyrite lithoclasts. (qtz > ser alt > arg > pyrite). Most of what looks like pyrite lithoclasts are likely to be caused by the preferential alteration of some clasts. Core is locally well indurated with silica; distinct veins are rather rare, rather silica occurs as flooded +/- veined zones and patches. Between 175.4 - 180.4m		Arg clasts are black but have been strongly silicified. Patchy silicification associated with qtz vein/flooding. Weak sericite is developed through the interval - greyish in color except between 175.4-180.4m where there is intense very pale greenish sericite alteration. Minor talc.	Pyrite is ubiquitous throughout the unit. Pyrite is fine to medium grained. Pyrite occurs as fine to coarse dissem, large patches and as (minor) lithoclasts. Pyrite concentration ranges between 5-25% over 10cm lengths. Base metal, aspy and tetrahedrite primarily occur as indicated below. These minerals are all fine to (locally) coarse grained and are coarsely disseminated in quartz. +169- 170.5+ Overall there is approx 5% sp, 1% tt, min gn, 1% aspy. The BM and tt are most concentrated	

HOLE NO RG436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				core is subjected to intense silica flooding/ veining - some possible replacement of host-rock. Remnant country rock is strongly sericitized but looks to have been a bedded sediment with possible cherty beds rather than a Hel Frag. Core is general quite competent. Minor normal fault bx/gouge zones. 180.5 - 181.m: weak fault bx and clay gouge. +186.1 - 188.3+ intermittent <FW Bx>, faulting increases with depth.			below 169.8m. Aspy occurs primarily above 169.8m. <6% BM, 1% tt, 1% aspy> 5% pyrite. 174.1 - 174.2: 3% sp 1% gn, 5% aspy, 20% py +175.2 - 176+ <15% py, 2% BM, <1% tt> the BM and tt are primarily concentrated within one 7cm wide band. BM are sp, gn and trace cp. 176 - 177.8m: BM Sx are sparse; <1% sp+gn 12% py. +177.8 - 180.4+ mineralization is rather patchy. Concentrated in some qtz veins which are commonly oriented at 15-25 degrees to C/A. Overall Sx content is approx 3% tt, 4% gn	

HOLE NO RG 436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
							3% sp, 1% cp. <3% tt, 8% BM> 5% py + 180.4 – 181.4 + interval is a well mineralized qtz vein zone. Upper contact at 70 degrees to C/A. Lower contact is at 45° degrees to the C/A. <2% tt, 10% sp, 3% gn, tr cp> 20% pyrite. Interval contains a 12cm wide zone containing 30% sp.	
188.3 – 201.0	<QTZ/SER ALT SED?>	grey yellow green	fine	Core is intensely altered. Alt'n destroys most original textures except for minor (sil) arg beds which are only weakly patchily altered – predominantly towards base of the interval. Core is foliated at 30–40 degrees to C/A. 5% discrete white qtz veins oriented sub parallel to foliation. Core is very blocky between 192 – 193m and 199.9 – 200.4m.		Rock is intensely sericitized. Sericite varies between a pale yellow and a greenish yellow color. Sericite is banded by white to grey qtz	3-5% fine grained pyrite occurs as patches and stringers in quartz	

HOLE NO RG436

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Lower contact is weakly fault brecciated.				
204.0-218.05	<ARG>	black white grey yellow	fine.	Interval consists primarily of black bedded argillite. Locally the argillites become somewhat silty or are sericitically altered. Bedding is at Unit contains 5% White qtz veinlets and stringers except between 210.8-212.4m where there is 50% qtz veining which brecciates the argillite. veins contain 5% creamy dolomite +207.9-208.7+ <FlT Bx> +213.1-213.5+ <FlT Bx> +214.6-214.9+ <FlT Bx> Between 217.3m-217.5m Bedding is subparallel to C/A; cleavage at	40 ~15	There is minor silicification associated with quartz veining. Patchy zones of moderate sericitization - yellow and grey-green. Between 214.8-215.2m there is an intense yellow seric. zone. upper contact is in a faulted area but lower contact is at 65 degrees to C/A. A sharp contact. Bedding in arg. is at 40 degrees to C/A therefore alteration is crosscutting bedding	2% finely to coarsely disem. pyrite.	The zone of veining between 210.8-212.4m corresponds the auriferous veins of the lower zone in RG 398.

HOLE NO RGH36

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
218.05 – 237.4.	< ARG + QTZ/SER ALT. SD >	yellow black grey white.	Fine.	Interval consists of 45% bedded argillite and 55% qtz/sericite altered seds? General sense of bedding in the argillites is at 50. Locally bedding is contorted. In these areas a well developed cleavage crosscuts the bedding at 60. Foliation within the altered core appears to parallel bedding. 228.6 – 230.3m: Interval contains 15% white qtz veining. Interval contain 2-3% qtz veining overall 221.9 – 222.2: fault bx.		Sericite is greenish yellow in color. and is banded by qtz.	1% fine to coarsely dissem. py.	Core grades into + out of arg and ser. seds – a more rapid changing sequence of the previous two units
				END OF HOLE				

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HOLE NO RG 436

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ASSAY SHEET

	Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPB
	32532	69.5	71.0			1.5					.02						50	157	58	154	73	13	1.1	22
	32533	79.9	81.0			1.1					.01						46	98	36	103	58	4	0.5	4
m	32534	89.3	90.1			0.8					0.10						23	55	73	147	82	2	0.4	—
m	32535	91.2	92.8			1.6					0.05						41	307	66	224	135	4	0.8	—
	32536	92.8	93.6			0.8					.02						29	64	39	208	111	4	0.8	18
m	32537	93.6	95.25			1.65					0.02						7	143	31	97	121	3	0.4	—
m	32538	95.25	96.9			1.65					0.03						11	53	20	180	91	3	0.4	—
m	32539	96.9	98.55			1.65					0.10						25	28	23	275	65	5	0.5	—
m	32540	98.55	100.2			1.65					0.02	*	coarse fraction Au				6	23	10	65	54	2	0.4	—
m	32541	109.45	110.35			0.9					0.16	*					9	73	27	100	82	2	0.3	—
m	32542	110.35	111.3			0.95					0.02						14	49	35	176	153	2	0.4	—
m	32543	113.2	114.7			1.5					0.04						20	55	217	215	101	3	0.6	—
m	32544	114.7	115.9			1.2					0.02						19	95	44	191	131	2	0.3	—
m	32545	115.9	117.1			1.2					0.03						22	133	49	175	179	3	0.6	—
m	32546	117.1	118.4			1.3					0.01						32	86	131	115	35	7	1.5	—
m	32547	118.4	119.9			1.5					0.02						157	151	75	107	49	10	2.4	—
m	32548	119.9	121.4			1.5					0.12						105	364	391	364	76	11	3.3	—
m	32549	121.4	122.4			1.0					0.02						28	35	451	170	44	10	3.6	—
m	32550	122.4	123.85			1.45					0.02						8	35	100	70	63	3	1.2	—
m	32551	123.85	125.2			1.35	.110	.26	.31	21.1	.22		MBA	Zone			1095	2559	3103	1015	53	53	21.1	—
	32552	125.2	126.3			1.1	.071	.28	.07	16.8	.05						707	2763	742	505	77	34	16.8	52

HOLE NO

PAGE

RG 436

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS PPM	BA PPM	Sb PPM	Ag PPM	Au PPb
32553	127.6	128.9			1.3					.01						55	90	52	153	60	5	0.9	6
32563	142.6	144.05			1.45	.019	.42	.01	2.3	.06						190	4185	126	475	96	14	2.3	60
* 32554	144.05	144.7			0.65	.042	.57	.05	9.6	.18		← HF?				423	5658	506	1152	82	55	9.6	184
32564	144.7	146.2			1.5					.08						42	95	52	607	81	7	0.3	80
32565	146.2	147.2			1.0					.06						22	74	59	910	89	13	0.2	62
32566	147.2	148.2			1.0					.01						19	40	154	591	80	9	0.3	10
32567	148.2	149.7			1.5					.04						26	89	389	780	85	13	0.7	38
* 32555	149.7	150.0			0.3	1.00	2.98	3.90	160.2	0.78	←	over	0.3 m			9119	27954	35924	3544	69	3739	139.5	—
32568	150.0	151.0			1.0	.066	.32	.21	13.7	.29						663	3195	2116	2129	68	299	13.7	285
32569	151.0	152.5			1.5	.005	.01	.03	1.5	.10						45	143	343	1879	65	35	1.5	97
32570	152.5	154.0			1.5	.008	.01	.03	2.1	.16						75	137	305	1604	56	42	2.1	157
* 32556	154.0	155.45			0.45	.226	2.01	.32	14.5	.36						2260	20079	3189	2904	91	199	14.5	355
* 32557	155.45	156.3			0.85	.566	6.64	1.71	64.6	0.46						4838	58881	14719	3639	64	744	48.2	—
32571	156.3	157.1			0.8	.070	.19	.20	21.7	.33		99 g/t Ag	(over 1.82 m			706	1864	1997	2277	51	375	21.7	330
32572	157.1	157.27			0.17	1.330	10.10	27.53	636.0	1.78	*	and .53 g	(t Au)			10607	98650	191450	3947	13	3879	495.2	—
32573	157.27	159.0			1.73	.042	.18	.26	15.2	.20						421	1842	2615	1523	77	234	15.2	195
32574	159.0	160.75			1.75					.06						24	79	199	395	58	7	0.3	59
* 32558	160.75	161.05			0.3	3.553	3.59	9.03	752.0	1.50	* ←	over	0.3 m			29961	31665	69800	13727	32	10519	594.4	—
32575	161.05	162.5			1.45					.08						32	187	275	1467	49	25	0.5	76
32576	162.5	164.0			1.5					.06						25	89	69	1095	80	16	0.1	62

HOLE NO RG 436

ASSAY SHEET

	Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS PPM	BA PPM	Sb PPM	Ag PPM	Au PPb
	32577	164.0	165.6			1.6					.04						20	100	56	1206	79	13	0.1	40
	32578	165.6	166.7			1.1	.003	.03	.03	0.6	.12						32	265	281	2098	71	29	0.6	122
	32579	166.7	167.7			1.0	.030	.48	.34	10.6	.35						300	4790	3407	4142	224	152	10.6	348
	32580	167.7	169.0			1.3	.006	.09	.05	3.3	.21						59	867	516	2661	82	54	3.3	212
	32581	169.0	169.8			0.8	.091	1.03	.20	42.0	.82	97 g/t Ag					823	8675	1074	3306	45	409	35.9	—
*	32559	169.8	170.5			0.7	.360	4.90	.59	159.0	1.67	1.2 g/t Au	over 1.5 m				3278	45592	5105	3876	56	1792	1378	—
	32582	170.5	172.15			1.65	.004	.01	.03	0.9	.20						39	144	310	2812	84	31	0.9	204
	32583	172.15	173.8			1.65	.004	.01	.01	0.8	.20						40	67	129	2604	98	32	0.8	197
	32584	173.8	175.2			1.4	.030	.08	.14	10.9	.32						303	829	1436	3037	91	157	10.9	320
*	32560	175.2	176.0			0.8	.841	.78	1.15	229.0	1.26						8503	6729	10107	4116	85	4635	227.4	1280
	32585	176.0	177.5			1.5	.050	.06	.09	15.9	.12		.6%Cu, 1.7%Zn, .9%Pb				496	590	938	2050	82	261	15.9	122
	32586	177.5	179.0			1.5	.520	.51	.70	143.7	.37		163 g/t Ag over 6.2 m and .7 g/t Au				5202	5137	6972	2564	56	2756	143.7	370
	32587	179.0	180.4			1.4	.561	1.74	.76	119.7	.42		or				5076	15804	5853	1862	48	2139	105.6	—
*	32561	180.4	181.0			0.6	.607	4.87	1.10	249.0	1.85		206 g/t Ag over 3.9 m (with .77 g/t Au)				5621	47760	10177	3645	92	2911	229.1	—
*	32562	181.0	181.4			0.4	1.668	8.91	3.89	678.0	1.91	⊛	.686 Cu 2.483 Zn 1.110 Pb				14280	80800	30742	3666	57	7517	514.8	-
	32588	181.4	182.7			1.3	.009	.02	.08	2.5	.17						88	215	779	2230	86	52	2.5	174
	32589	182.7	184.2			1.5	.031	.30	.04	12.5	.20						309	2986	415	2312	114	173	12.5	196
	32590	184.2	185.7			1.5	.004	.01	.03	0.6	.34						38	148	297	3875	98	55	0.6	339
	32591	185.7	187.0								.07						40	127	327	337	104	10	0.8	72

HOLE NO RG 436

ASSAY SHEET

	Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	As PPM	Ba PPM	Sb PPM	Ag PPM	Au PPb
	32592	187.0	188.2			1.2					.04						40	106	111	269	185	8	0.7	41
	32593	188.2	189.8			1.6	.002	.01	.01	0.2	.17					*	16	82	36	727	53	5	0.2	170
m	32594	194.0	195.03			1.05					.11						13	68	36	1725	149	25	0.1	—
m	32595	205.7	206.3			0.6					.19						8	58	22	200	138	2	0.1	—
m	32596	209.4	210.9			1.5					.20						16	35	19	292	140	2	0.1	—
m	32597	210.9	212.4			1.5	.003	.01	.01	0.3	.52	← (fine + coarse)		← FW Zone			30	60	38	697	88	4	0.3	—
m	32598	212.4	213.9			1.5					.08						9	44	15	212	181	1	0.1	—
m	32599	213.9	214.8			0.9					.14						10	35	17	411	102	2	0.1	—
	32600	221.0	222.5			1.5					.01						6	52	20	182	115	1	0.1	5
	32601	228.3	229.8			1.5					.01						18	32	19	117	163	2	0.1	4
	32602	229.8	231.3			1.5					.02						16	31	19	107	85	1	0.1	20

HOLE NO 436

DRILL HOLE RECORD

PROJECT NAME :	SAM	DATE STARTED (M/D/Y):	07/16/91
HOLE NUMBER :	RG-437	DATE COMPLETED (M/D/Y):	07/21/91
LOCATION :	SAM PIT - MAGAZINE ROAD	DATE LOGGED (M/D/Y):	07/19/91
PROJECT NUMBER :	240	UNITS (F/M) :	M
CLAIM NUMBER :			

PLOTTING COORDS		ALTERNATE COORDS	
	GRID :		GRID : ESTIMATED
	NORTH :		NORTH : 11+00 N
	EAST :		EAST : 102+35 W
	ELEV :		ELEV : 1260

COLLAR BRNG			
	GRID : 180° 00' 00"	COLLAR SURVEY (Y/N) :	N
	ASTRONOMIC : 225° 00' 00"	RQD LOG (Y/N) :	N
	COLLAR DIP : -89° 00' 00"	PULSE EM SURVEY (Y/N) :	N

CONTRACTOR :	FRONTIER DRILLING	LOGGED BY :	C. NAGATI
CORE STORAGE :	SAM EX CAMP	START DEPTH :	0.0.
CASING :	PULLED	FINAL DEPTH :	471.5
PLUGGED (Y/N) :	N		
HOLE SIZE :	NQ		

PURPOSE/COMMENTS : TEST BELOW BARITE ZONE, 150M DOWNDIP OF LAST PIERCE POINT WITH INTENSE SILICIFICATION.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
99.7	A	—	-85	OK	
152.4	M	189	-83	OK	Single shot.
175.8	A	—	-85	OK	
233.5	A	—	-83	OK	
273.4	A	—	-78	OK	
304.8	M	207	-77½	OK	Single shot.
331.3	A	—	-76	OK	
383.1	A	—	-72	OK	
447.1	A	—	-68	OK	
457.2	M	208	-69	OK	Single shot.

HOLE NO. RG 437

LOGGED BY C. NAGATI

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 – 18.2	<CSG>							Started coring at 6.1 m. At 14.0 m the blockiness of the core was causing problem so casing was pushed to 18.2 m. Rock is the same as the first unit below
18.2 – 154.8	<MAF Vol>	green white.	fine.	volcanics consist of an aphanitic matrix which is streaked, spotted and veined by qtz/carbonate. (20/70%) Carb. is ankerite. Max vein length is 20 cm the veins exhibit general orientation at 40 Narrow fault bx zones present. + 30.8 – 31.4 + <Flt Bx + Gou> + 110 – 110.2 + <Brittle flt bx> + 154 – 154.8 + <Flt Bx> Lower contact at 70	Core a strongly chloritic and moderately calcareous Between 6.1 – 31.7 m there is a streaky pale green sericite (+epidote?) alteration which very locally grades into a more yellow sericite. This sericite alteration may be due in part to veining	1% disem pyrite.		Core is frequently relatively blocky to 56 m. The veins may be oriented to a tuffaceous bedding plane.

HOLE NO RG 437

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Between 154-154.3m core contains a section of faulted tertiary dyke running subparallel to the C/A.				
154.8 - 160.05 -	<TERT DYKE>	dk grey to maroon	fine	Dyke is basaltic. 3% carbonate amygdules. Core contains 5% feldspathic? crystals which are coarser than the aphanitic matrix 1% dark olivine? crystals (<1mm) -/157.7 - 160.05 + intense <Flt Bx>				
160.05 - 167.25	<MAF VOL>	green	fine	Similar to the volcanics between 18.2-154.8m Slightly more mottled coloration - possibly due to some coarser tuff clast textures. 166.6 - 167.25 weak fault bx. Lower contact oriented at	50	Vol are strongly chloritic and moderately calcareous.		

HOLE NO RG437

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
167.25-169.5	<TERT DIKE>	dk grey to maroon	fine.	as in the previous Ter't. basalt dyke interval. Lower contact at Between 168.7-169.1m there is a short interval of green chloritic mafic volcanics: Upper contact at 60 degrees to C/A; lower contact at 75 degrees.	20			
169.5. 233.0	<MAF VOL>	green	fine.	similar to the volcanics between 18.2-154.8m except that there are zones where core is weakly bleached, and not as chloritic. 189.6-195.8m aphanitic matrix is spotted by very fine grained carb + sericite - a separate unit - tuff? Between 169.5-232.65m the core contains less qtz/carb veining than at the top of the hole but qtz comprises 65%		Weak bleaching between 179.5-185.1m. Between 219.3-223.8m Core is weakly bleached. Bleaching is associated with veining.	2% fine to coarsely disseminated pyrite Minor galena dissem. in qtz veins. Between 205.2-208.2m there is 1% cp+gn+sp (gn > sp = cp) which is coarsely disseminated and concentrated in qtz veins. -|208.2-208.65 + qtz vein contains <20% py 5% sp, 10% cp, 5% gn>	Cathy: make only 20 spaces long

HOLE NO RG 437

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				of the veins and some veins are 85% qtz. Qtz veins reach 40cm and are associated with minor base metal sulphides. 192.6–192.95: qtz/carb vein oriented at	50		221.9 – 222.3: 1% cp, 1% sn 4% py in qtz vein. +232.65 – 233 + <4% sn, 4% py> in qtz.	
233–372.95.	<MFLT>	green	fine to 6cm	Core is distinct from the Mafics above. Matrix is very chloritic, dark green. Matrix is aphanitic to fine grained and contains minor to 5% darker green chloritic clots to 1mm, – possibly altered glassy fragments. Interval contains up to 40% lapilli clasts. Clasts are paler than the matrix. Consistent plane of fracture parallels foliation/bedding? at There is 3% white Fe-calcite patches and veins.	60	@ Mafics are intensely chloritic and weakly calcareous	Minor disseminated pyrite.	

HOLE NO RG 437

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Between 365 – 371.0 m the clastic texture is sparse, but is still strongly chloritic. 371. – 372.95: core becomes a paler green color. Core again contains lapilli sized clasts. Clasts are preferentially sericitized				
372.95 – 471.5	<MFLT / MAF VOL>	green	fine.	Interval consists of beds of mafic lapilli tuff and fine grained volcanics of uncertain genesis; possibly finer grained tuffs, no clean evidence of flows. Where rock type changes between MFLT and MAF VOL the contact zone is commonly bleached and may contain some qtz-carb veining. Zones of MFLT occur between 394.4 – 405.6m, 425.5 – 471.5m	mafic	Maf. vol. are mottled by sericitic (weak) chlorite alteration, local bleaching and veining.	Trace galena disseminated in qtz vein. There is up to 15% fine grained patches and disseminations of pyrite within and in the vicinity of qtz/carb veins. 1% pyrite in remainder of the core.	

HOLE NO RG437.

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ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				MFLT is less chloritic and contains fewer clasts than in the interval 233 - 372.95m. Mafl. Vol. tend to be more mottled than the MFLT due to variable alteration				
				Interval contains 6% white qtz/carb (25/75%) veining. Veins are somewhat preferentially concentrated in the Mafl. Vol. units.				
				Foliation is approx. perpendicular to the core axis.				
				Between 435.3 - 465.6m there is abundant qtz-carb veining. The veins are commonly oriented subparallel to or at very low angles to the C/A. Veining comprises 15% of the interval.				Minor galena, which is very fine grained, is disseminated in the qtz-carb veins.
				436 - 436.35m: Qtz/Carb vein may contain barite as well - core is very dense.				

HOLE NO RG 437

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				+451.6-457.9+ <Qtz/Carb Vn> runs subparallel to CIA. (80/20%)			+451.6-457.9+ <5% gn+cp>	
							456.9-457.2m interval contains 1%gn, 2% cp, 8%py.	
				+464.4-465.6+ <Qtz/Carb Vn>			-464.4-465.6+ <min tt, 1%gn, 1%cp>	
				END OF HOLE				

HOLE NO RG437

ZIPPY PRINT ® — BRIDGEPORT, RICHMOND

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS PPM	BA PPM	Sb PPM	Ag PPM	Au PPb
32603	202.2	203.7			1.5											25	199	154	48	62	1	0.9	26
32604	203.7	205.2			1.5											28	353	182	86	37	1	0.8	48
32 605	205.2	206.7			1.5	.006	.36	.44	3.7	.07					+	55	3583	4416	61	34	1	3.7	65
32 606	206.7	208.2			1.5	.006	.31	.78	5.6	.12					+	60	3184	7819	231	41	1	5.6	124
32 607	208.2	208.65			0.45	.532	4.07	3.86	29.1	.46		(gdu	in	matics)	+	5321	40740	38559	333	34	57	29.1	459
32 608	219.3	220.3			1.0	.009	.05	.06	1.7	.04					+	93	541	612	103	35	1	1.7	44
32 609	221.9	222.3			0.4	.030	.12	.24	3.8	.06					+	296	1229	2360	18	24	7	3.8	61
32 610	232.65	233.0			0.35	.028	.70	.52	4.6	.13					+	277	7040	5209	222	24	8	4.6	127
32 611	407.0	407.6			0.6											47	110	140	34	27	1	2.3	24
32 612	408.7	409.3			0.6											64	524	429	159	33	3	2.8	66
32 613	415.6	417.2			1.6											33	61	47	87	53	1	1.5	18
32 614	418.2	419.7			1.5											47	72	118	94	35	1	1.4	22
32 615	435.3	436.4			1.1											31	143	139	52	58	1	1.1	16
32 616	439.6	441.0			1.4											18	95	68	33	18	1	0.9	9
32 617	447.5	448.6			1.1											30	187	66	41	31	1	1.0	21
32 618	448.6	450.1			1.5											17	116	167	38	33	1	1.0	10
32 619	450.1	451.6			1.5											26	214	15	25	31	1	1.0	23
32 620	451.6	453.1			1.5											12	138	89	3	17	1	1.1	8
32 621	453.1	454.6			1.5											16	150	17	3	19	1	1.7	22
32 622	454.6	456.1			1.5											13	73	239	33	49	1	1.1	20

HOLE NO Rg 437

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS PPM	BA PPM	SB PPM	Ag PPM	Au. PPB
32 623	456.1	457.6			1.5	.027	.02	.13	6.4	.10					*	265	249	1286	118	34	7	6.4	102
32 624	457.6	458.5			1.1											28	198	581	55	34	1	1.6	38
32 625	461.4	462.9			1.5											32	264	268	97	36	1	1.3	37
32 626	462.9	464.4			1.5	.005	.06	.13	2.2	.05					*	46	568	1337	153	40	1	2.2	46
32627	464.4	465.6			1.2	.084	.08	.11	3.4	.02					*	835	750	1081	1	34	7	3.4	19
32628	465.6	467.1			1.5											73	149	52	109	51	1	1.2	38

HOLE NO 437