

CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

Rea Gold
824643
1985

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER RG-33	GRID Main	FIELD COORDS.	LAT. 99+50	DEP. 3+90N	ELEV. (1495)	COLLAR BRNG. 225°	COLLAR DIP -89°	HOLE SIZE NQ	FINAL DEPTH 440.9
PROJECT 212	CLAIM # AR L ?	SURVEY COORDS.				DATE STARTED: Feb 22nd DATE COMPLETED: March 7th	CONTRACTOR: Borisven CORE STORAGE: Skuaam Bay	CASING: PVC piped Left in hole	

PURPOSE: **Test HW Barium anomaly.**

Stabilized core barrel used to 150m. Removed due to tightening of hole. Large machine moved on at 304m

RQD LOG
 COLLAR SURVEY
 PULSE EM SURVEY
 MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (M)	CORRECTED ANGLE	DEPTH (M)	CORRECTED ANGLE	DEPTH (M)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
30	86°			348	192½M / 215½E	-74°			
60	87°								
100	84½°								
120	84½°								
145	81½°								
180	79°								
203	79°								
255	76½°								
270	75½°								
304	73°								
383	69½°								
413	67½°								
440	67°								

HOLE NO. RG 33

ZIPPY PRINT® - BRIDGEPORT, RICHMOND

LOGGED BY APRE

1277

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0 - 12.2	CASING			(additional 1 m added during drilling				
12.2 - 20.4	MIXED CHEST CHERT TUFF AND SERICITIC TUFF	black to grey to buff	fg	12.2-16 Mainly creamy, sericitic tuff with minor chert. local clay gouge. 16-17.5 Clay gouge with white quartz vein 17.5-22.9 As 12.2-16. Still quite broken and gouged. 22.9-41.0 Sericitic tuff, some pale chert with frequent interbeds of black chert and chert breccia. Breccia usually consists of grey chert frags in a black chert matrix. Rip-ups from a tuff bed at 24.5 suggest tops up the hole. Contortion of laminae is locally pronounced.	3 14m = 70° 6 24.5m = 65° 7 25.0m = 61° 8 29.6m = 67° 10 31.5 = 62° 11 37.7 = 52°	3 Strongly sericitic 12 Strongly sericitic tuff component	4 3-4% py	5 As intersected in R6-32. Confirms very shallow dip (20-35°) of this impure 'Rea Breccia' equivalent. 12 Pyrite occurs disseminated in tuff and/or chert, as weak incipient stockwork and as thin pyritic beds. Average 5-10% over the section

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>41.0 - 47.8</u> All grey and black chert, variably laminated. Abundant secondary silica. Black chert is moderately graphitic locally, with good conductor slip planes. 47.4 - 47.8 is strongly veined with quartz + what may, in part, be barite.	²⁰ 46 = 47°	—	²¹ locally pyritic layers but <5% overall.	
				<u>47.8 - 52.1</u> Mainly sericitic tuff	³⁰ 48.4 = 52°	³⁰ Strong sericitic	³⁰ A little very pyritic and very weak incipient stockwork.	
				contact grades over 0.6m <u>52.1 - 55.0</u> Grey and black chert, intensely folded with complete reversals evident in core locally. Local graphite.	³⁵ 50.5 = 59° ³⁵ 54.8 = 40° bedding = 50°	—	³⁵ Several thin pyritic beds	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p><u>55.0 - 120.4.</u></p> <p>Mixed grey chert and sericitic tuff. Occasional black chert beds. Abundant evidence of folding, at least in part, tectonic. Occ. secondary quartz in veins, often intricately folded with the chert/tuff.</p> <p>Becomes progressively blockier with depth, especially beyond 93m. Core is ground locally</p> <p><u>96.6</u> Matrix fragment, may be dyke that is tectonically broken up.</p> <p>Contact very sharp, irregular, suggests <u>tops down hole</u></p>	<p>39 55-60 Highly variable from 30-70°</p> <p>41 61 = 61°</p> <p>44 65.8 = 55°</p> <p>46 71 = 57°</p> <p>47 72 - 120.4 Chaotic (0-90°) but averages ~50°</p>	<p>41 Strong sericitic in tuff component</p>	<p>41 Still occ. pyritic beds as well as veins and disseminations. Overall ~5% py.</p> <p>47 By 90m pyritic beds are absent. Pyrit still occurs disseminated and in quartz veins, but only 2-3%</p>	<p>48 Recovery estimated at 80%-90% beyond 93m</p>
120.4 - 133.25	GRAPHITIC CHERTY ARGILLITE	black	vfg	<p><u>120.4 - 125.0</u></p> <p>First 10cm are closely black graphitic argillite with grey tuff/chert fragments, apparently ripped up from the previous unit.</p>				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
20.4 - 133.25 (cont)				<p>Then rock becomes unconsolidated black fault gouge derived from cherty argillite and containing 5-10% quartz.</p> <p>125.0 - 129.0</p> <p>As first 10cm of this unit. Only slightly broken up.</p> <p>Chert mainly as fragments rather than beds. Very minor tuff component. Still graphitic.</p> <p><u>129 - 129.6</u></p> <p>Light green tuff with grey chert.</p> <p>top contact sharp @</p> <p>bot contact sharp @</p> <p><u>129.6 - 133.25</u></p> <p>As 125-129.</p>	<p>14 127 = 52°</p> <p>20 40°</p> <p>21 65°</p> <p>23 132.5 = 60°</p>		<p>8 5% pyrit</p> <p>15 5% pyrit, mainly disseminated.</p>	<p>9 Weakly conductive throughout.</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
133.25 -148.5	MAFIC TUFF WITH SOME CHERT	light green	fg	Mainly sericitic tuff but with a definite chert component. Also fairly abundant grey-blue quartz veining, often at a shallow angle to the CA. <u>141.6 - 141.8</u> Black = grey chert Top contact sharp @ Btm contact broken From 141 - 148.5 veins are distinctly calcite-quartz rather than just quartz.	5 135.5 = 50°	4 Weak-mod. sericit Minor green talc mineral	4 2% PY.	
148.5 - 177.9	GRAPHITIC ARGILLITE, Minor TUFF AND CHERT.	black to grey	vg.	Mainly graphitic argillite, locally cherty. Numerous thin beds of grey tuff or tuff-wacke and occasional chert. <u>149.65 - 149.65</u> 40% green talc mineral (richitic?) <u>149.65 - 150.5</u> Badly broken and ground	10 62°	8 Intense green talc/miner chert	8 10% py, <1% SP. disseminated	10 60% recovery.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
177.9 - 179.3	TRANSITION ZONE			<p>Bedding highly catarted, often with fold noses in the core. Foliation consistently 50-60° to CA. Individual graphitic beds can be highly conductive, much more so than any higher in the hole.</p> <p>Core is locally broken but relatively good otherwise.</p> <p>Fault gorge (black, graphitic) 176.7 - 177.1.</p> <p>Transition between units composed 60% of secondary quartz.</p>			<p>12 5% pyrite. Tends to be quite coarse cubes concentrated in veins</p>	<p>13 HIGHLY CONDUCTIVE!</p> <p>Fault</p>
179.3 - 365.4	MAFIC MAFIC PYROCLASTICS	light grey-green	fg	<p>Football mafic volcanic with an occasional vague fragment and possible vesicular zones</p>	4 50-55°	<p>3 Zone of weak-moderate sericit-quartz ± chlorite</p>	<p>3 10% disseminated pyrite throughout, often concentrated in quartzose patches</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>Alteration lessens away from the preceding unit and distinctly fragmental. Lapilli size fragments are present present in pyroclastic flows with possible thin flow units between them.</p> <p>From 215 lapilli are rare. Rock is quite homogeneous with only a slight banding due to more siliceous and more siliceous layers. Probably originally tuffaceous</p> <p><u>206.8-207.0</u> Banded, cherty layer, possible interflow chert.</p>	<p>6</p> <p>8 50-57°</p> <p>11 218 = 55°</p> <p>13 223 = 60° -65°</p> <p>15 228 = 75°</p> <p>16 232 = 65°</p> <p>18 237 = 70°</p> <p>19 240 = 62°</p> <p>20 247 = 65°</p> <p>21 251 = 65°</p> <p>22 259 = 70°</p> <p>23 266 = 68°</p>	<p>6 Tends to become more chloritic with depth</p> <p>12 Weak sericit-chlorit</p>	<p>6 185.5 Traces of sphalerite and galena in quartz</p> <p>9 lessens to 5-10% pyrit from ~190m.</p> <p>12 Pyrit increases to 10-15%.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p><u>269.2 - 270.0</u> 0.4m of sericitic gouge topped by 0.4m of black cherty argillite breccia</p>		<p>²⁵ Tuff prior to 269.2, is distinctly more sericitic</p>	<p>²⁵ 5% pyrite</p>	
				<p><u>270.0 - 289.5</u> Predominantly tuffaceous but with a minor cherty component and fairly abundant secondary (but not <u>using</u>) quartz. Appears to have been movement of $SiO_2 + CO_2$ through the unit during, or just after deposition. Thin black chert bed (3-5mm) at 276.9 supports this.</p>		<p>²⁹ Abundant yellowish sericit, pale chlorit and rare green mica</p>	<p>²⁹ 5-10% pyrite only to 277.5, then app-sp-gr and even local cp. start to appear. They occur both in apparently primary sulphides as the matrix to cherty fragments and in the secondary quartz-carbonate. Although over narrow widths, app-sp-gr ± cp may amount to 5%, over any 1.5m section this combined total is < 1%.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p><u>289.5 - 365.4</u></p> <p>Becoming more flow dominated.</p> <p>Aa-type? with coarse, vesicular blocks, still local cherty interflow zones. Similar to Fw mafic unit typified by Rf-23, 24.</p> <p>Occ. Qtz-curb veins.</p> <p>Becoming increasingly homogeneous with fewer interflow zones with depth almost dioritic in appearance but probably just redox gauged flow.</p> <p>~ 357m starts to become pale, more heterogeneous, with a minor cherty component</p>	<p>4 292 = 55°</p> <p>5 300 = 43°</p> <p>7 348 = 63°</p> <p>9 355 = 55°</p>	<p>3 Weak sericit locally.</p> <p>Weak red chlorite throughout, but weak not very altered</p> <p>7 Becomes increasingly chloritic with depth</p> <p>13 Still chloritic but + minor sericit.</p>	<p>Most notable sections are</p> <p>277.6 - 283.5</p> <p>286.0 - 287.5.</p> <p>5 ~5% py with rare traces of gr, sp, cp and apy. in cherty zones and small veins.</p> <p>13 5% py.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
365.4 - 396.2	MIXED CHERT AND SERICITIC TUFF	grey to light grey grey	vfg	<u>365.4 - 366.6</u> Mainly grey, weakly laminated and brecciated chert.	✓ 72°			
				<u>366.6 - 366.7</u> Pyritic cherty exhalite	7 90°		7 15% py, trans of sp.	
				<u>366.7 - 382.7</u> 65% sericitic tuff with grey chert intimately intermixed and interbedded. Generally finely laminated, often brecciated	8 Foliate ~ 80° bedding highly variable.	9 tuff component strongly sericitic	9 5-8% pyrite, often as fairly coarse cubes.	
				<u>382.7 - 383.0</u> Pyritic exhalite	14 70-90°		14 15% py	
				<u>383.0 - 396.2</u> As 366.7 - 382.7 Locally strong tectonic brecciation				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
396.2 - 401.1	MAFIC TUFF	green-grey	fg	Dark, relatively homogeneous mafic tuff with minor quartz-carb veining	65°	Predominantly chloritic	2% disseminated pyrite	
401.1 - 401.8	FAULT BRECCIA	light green - grey		Well healed fault breccia with mafic tuff frags in a more clay rich matrix				
401.8 - 416.4	SERICITIC MIXED TUFF AND CHEST	light green	vfg	Highly contorted, laminated chert and tuff similar to 365.4-396.2. Increasing quantity of dark grey to black chert downhole. Also occ. breccia beds.	Foliation = 65-70°	tuff compact strongly sericitic	5% coarse, disseminated pyrite. No apparent mineralized horizons.	
416.4 - 416.6	FAULT GOUGE			Clay rich gouge			traces of py.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
416.5 - 428.2	MIXED TUFF AND ARGILLITE	grey-green to black	fg	Interbedded and mixed mafic tuff and argillite locally finely bedded. Tuff is vaguely spotted with in places Also vague lapilli throughout	68°	Weakly chloritic	10% 5% pyrit, generally disseminated, but locally more concentrated in argillite beds	Tuff is very similar, texturally to that intersected at the collar of RG-32. Some of the vague lapilli even have the same hexagonal shape
428.2 - EOH	INTERMEDIATE TUFF WITH MINOR ARGILLITE	Pale grey	fg	<u>422.2 - 422.7</u> Finely bedded ribbony chert	contacted	Moderate sericit (-carbonate?)	5% pyrit, mostly with argillite beds. Minor incipient stockwork at 430.	As in RG-27. Black flakes prob. argillite fragments rather than garnet!
440.9	END		OF	HOLE				

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (M)	TO (M)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid			
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au							
BCD 3176	188	191																						
			Mafic volcanic, possibly vesicular, with ser-chl (modest) and										some secondary quartz.											
3177	221	224																						
			Mafic tuff. Weakly altered 10-15% PY										Check for Au.											
3178	250.5	253.5																						
			Mafic tuff. Weak chl-ser 10-15% PY																				
3179																								
3180																								
			Maf. Qtz-calc series 5% PY																					
3181	340	343																						
			Mafic flow, weakly-moderately chloritic <5% PY																					
3182	417	420																						
			Hw mafic tuff. Poss mixed argillite. Wk chloritic 5% PY																					
3183	436.5	439.5																						
			Hw, bleached, int-maf pyroclastic. 5% PY. Higl Ba?																					

Hole No. Re-33

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CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER RG-34	GRID Main	FIELD COORDS	LAT. L 104	DEP. 1+90N	ELEV.	COLLAR BRNG. 225°	COLLAR DIP -70°	HOLE SIZE NQ	FINAL DEPTH 82.6 m
PROJECT 212	CLAIM #	SURVEY COORDS.				DATE STARTED: Feb 28th DATE COMPLETED: March 1st 1985	CONTRACTOR: Boisvert CORE STORAGE: Stroan Bay CASING: Left in hole		

PURPOSE

Max Min anomaly on a horizon

RQD LOG
 COLLAR SURVEY
 PULSE EM SURVEY
 MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (M)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
30	68°								
65	67°								

HOLE NO. RG-34
 ZIPPY PRINT * - BRIDGEPORT, RICHMOND

LOGGED BY J. D. IRE

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0-12.2	CASING							
12.2 - 24.7	MAFIC VOLCANIC	grey-green	Gg	Footwall mafic volcanic without obvious primary textures. Slightly blocky with weathered, linearitic fractures. Weakly foliated. Begins to develop a weak chert component about 20m with concomitant increase in pyrite.	5 = 72° 18.5 = 65° 21.5 = 75°	Weak to moderate sericit-chlorite	5-10% pyrite disseminated throughout, rising to 15-20% from 20m.	
24.7-25.0	FAULT GOUGE			Clayey / sericitic fault gouge				
25.0 - 28.8	REA BRECCIA WITH SERICITIC TUFF	Black to yellow	vfg	Mainly dark, brecciated cherty agglomerate with sericitic tuff in the middle. 1-2cm pyritic exhalite with minor sphalerite at 25.2	65°	Strong sericit with tuff component	Semi-massive pyrite with ~1% sphalerite in exhalite. ~5% pyrite throughout along with 1/2% sp, 1/4% apy	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
28.8 - 29.3	QUARTZ VEIN WITH CLAY GOUGE	White	fz	White bull quartz vein with minor calcareat bounded at the bottom by 1cm of clay.				Hard to find a piece of core without sp± app. NIL
29.3 - 33.3	SERICITIC TUFF WITH MINOR CHEST	yellow grey	fz	Intensely sericitized tuff with some grey chert. Clayey in places. Strongly foliated local incipient stockwork		Intense sericite and other clay minerals		10% pyrit, disseminated and as incipient stockwork.
33.3 - 42.9	MAFIC TO INTERMEDIATE TUFF	light grey	fz	Johnson pyroclastic type tuff with occ. lapilli. local white spotted sections	42 = 63°	Very little, Minor sericite only.		2% pyrit

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
42.9 - 47.2	MAFIC DEBRIS Flow	grey	fg	Well preserved, moderately ^{metavolcanic} foliated, debris flow. Magnetically fragile supported. Frags, up to 5cm across, consist of mafic to intermediate tuff, chert, argillite and pyrite	65°	Very weak sericit	Up to 10% pyrite highly disseminated in matrix as well as in fragments	
47.2 - 48.6	MIXED TUFF AND PYRITIC ARGILLITE	grey - black	fg	Mixed top of next cut downhole consists of 25% tuff and 75% pyritic argillite. Pyrite occurs as well preserved framboids from pin prick size to 5mm diameter. Fine lamination as well as coarse bedding	Varies from 60-90°	—	15-20% pyrite overall though locally 50%.	Moderately - strongly conductive.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
48.6 - 59.1	MAFIC TUFF AND LAPILLI TUFF	Grey	fg	Distinct spotted tuff, the spots being accretionary lapilli up to ~1 1/2 cm dia. Some argillite component is apparent.	66-90°	Weakly chloritic and sericitic	10% pyrite, usually concentrated in certain layers, often with obvious argillite.	
59.1 - 59.8	FINE PYRITIC DEBRIS FLOW	brassy	fg	Moderately quartz-carb veined fine debris flow and argillite	45-90°	—	30% pyrite, fr sp.	
59.8 - 61.5	MIXED TUFF AND CHERT	grey	fg	Badly broken and gouged sericitic tuff and graphitic cherty argillite with some secondary quartz veining (Probable Hwd fault)			5% py.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
61.5 - 71.3	ARGILLITE WITH MINOR WACKE	black -grey	fg	Mainly poles chip black, Weakly graphitic argillite with interstratified wacke.	50°	NIL	Local pyritic layers.	
71.3 - E0H	QUARTZOSE WACKE	grey	fg-cg	Predominantly quartzose wacke grading up to fine conglomerate and down to argillite. Local blue quartz frags. Good grading and scowling indicating tops down the hole. Increasingly argillitic with depth	50°	—	1-2% disseminated pyrite.	
82.6	END		OF	HOLE				

CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER RG-35	GRID Main	FIELD COORDS	LAT. L 91	DEP. S+83N	ELEV. * 1520	COLLAR BRNG. 225°	COLLAR DIP -89°	HOLE SIZE NA/BQ	FINAL DEPTH 852.4M	
PROJECT 212	CLAIM #	SURVEY COORDS.				DATE STARTED: 9th March DATE COMPLETED: 26th March 1985	CONTRACTOR: Bosven PVC pipe in hole to 742.0m CORE STORAGE: Suwan Bao CASING: Left in hole			
PURPOSE							Reduced to BQ @ 732.3m (2402)		<input type="checkbox"/> RQD LOG <input type="checkbox"/> COLLAR SURVEY	<input type="checkbox"/> PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (M)	CORRECTED ANGLE	DEPTH (M)	CORRECTED ANGLE	DEPTH (M)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
38	89°	490	61½°	204.6	187½ M 210½ T	-80°			
87	89°	525	60°	811.0	183 M 206 T	-46°			
122	unreadable	549	60°						
157	81°	590	55°						
188 ²¹	unreadable ⁷⁹	610	54°						
213 ²⁵	77½°	648	51°						
252 ³¹	78½° (bad etch) ^{74½}	671	51°						
284 ³²	72°	703	49°						
307	75° (bad etch)	730	48°						
334	unreadable	762	48°						
368	71°	801	47°						
398	70°	852	No etch.						
427	66°								
457	63°								

HOLE NO. RG-35
 ZIPPY PRINT * - BRIDGEPORT, RICHMOND

* Elevation relative to BLO/4100 = 1400m.

LOGGED BY W.P.R.E.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0-7.62	CASING							
7.62-64.0.	MAFIC FRAGMENTAL	green	fg	Coarsely fragmental ³ basalt, probably of block, lapilli and ash origin, but may locally be aa-type flow. Frags are ^{sub} angular and somewhat stretched and up to 30cm+. No evidence of pillow selvages. Fragments locally contain Magnetite. Weak qtz-carb veining. Beyond ~25m the rock settles down into a sequence of thin flows with rubble tops (40cm-150cm on average). Tops probably down the hole on balance.	14 = 40° ⁴ 16 = 43° ⁵ 22.3 = 45° ⁹ 30.8 = 45° ¹¹ 36 = 50° ¹² 43 = 43° ¹⁴	Moderate carbonate throughout. Weak to moderate chlorite. <u>18.1-19.0</u> Strong carb-qtz-chl Chlorite always stronger in rubble zones in the matrix. Overall, though, alteration is very weak and does not mask textures in any way.	1-2% py. Traces of cp quite common. <u>18.1-19.0</u> 5% py with carb-qtz-chl zone.	30% recovery of list 3m.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
64.0 (approx) - 113.6	Twin Mountains MINERALIZED ZONE			<p><u>48.5-50.0</u> Abundant chloritic gouge but little displacement. Core is only slightly blocky.</p> <p>From ~55m core becomes very blocky and slightly more veined. At 64m bleached fragments first occur in an increasingly chloritic matrix.</p> <p><u>81.1-82.8</u> Strong, irregular, ^{vegy} qtz-carb vein with sulphides and malachite. Bodily broken up.</p> <p><u>89.8-90.5</u> Rotten qtz-carb vein bounded by clay gouge on either side. No mineralization.</p>	<p>67 = 50°</p> <p>69 = 40°</p> <p>73.5 = 48°</p> <p>76 = 45°</p> <p>77.5 = 30° (general angle in this zone is 40° but ranges from 30-45°)</p>	<p>#</p> <p>Becoming more and more chloritic.</p> <p>Bleaching seems to be mainly quartz, minor carbonate and poss. sericite.</p> <p>Veins are accompanied by 'rotten' chlorite-carb (qtz-ser) alteration.</p>	<p><u>49.6-50.4</u> 10% py in gouge and adjacent qtz-carb zone.</p> <p><u>77.5m</u> Two <1cm veinlets of gn-sp-(cp-py) cut the core at 30° to CA.</p> <p><u>81.1-82.8</u> 10% py, 1% gn, 1/2% sp < 1/2% cp (+ malachite). Base metals occur in specific, irregular veinlets at ~82.3m.</p>	<p>Numerous sections of ground core. ~80% recovery overall.</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Throughout this strongly veined, broken zone, sections of bleached fragments in chloritic matrix can still be seen. There is no change in primary rock type.	16 91=43°			
				<u>107.2-108.7</u> Another veiny zone, mainly Qtz-cals with 25% wallrock. Again base metals occur only in one specific part of the vein, near its base (in the hole).	19 106=50°		21 <u>107.2-108.7</u> 10% py, 1/2% og, 1/2% osp < 1/4% cp.	
				<u>112.8-113.6</u> Another mineralized quartz vein.			25. <u>112.8-113.6</u> 10% py, 2% osp, 2% og, 1/2% cp.	
113.6-132.8	MAFIC FLOWS AND FRAGMENTALS	grey-green	Py	Now out of the ^{body} broken up, and veined twin zone.				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>113.6 - 117.3</u> Fairly featureless, homogeneous flow as tuff. A few vague fragments towards the end.		6 Very weak background chl-ses-carb.	6 3-4% disseminated py.	
				<u>117.3 - 120.7</u> 70% weakly bleached, stretched fragments in a darker matrix. 5cm of gouge at 120.6.	10 120 = 50°	10 Slight bleaching is carb-chl(-ses).	10 3-6% disseminated py.	
				<u>120.7 - 121.9</u> Bleached and veined interflow zone, Brit. broken, slightly ground locally.		14 Moderate strong bleaching	14 5-10% py. 2cm contain 20% gr, 15% sp, 1% ocp at 121.4 (within qtz-carb vein)	
				<u>121.9 - 132.8</u> Moderately rotated vesicular flow, characterized by dark green felds (chloritic vesicles?) with preferred orientation. Also occasional zones of	125 = 49°			

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
B2.8 - 140.5	SHEAR ZONE	green-grey to white	fg	<p>qtzose (\pm carb) vesicles which have not been flattened.</p> <p>Several interflow zones are indicated by bleaching and sometimes by a few fragments</p> <p>Badly broken up zone of mafic wallrock and quartz-carbonate veining. Some slickensiding. No major zone of gouge. Seems to be more of a fracture/joint zone than a major fault. Movement post dates veining, at least in part.</p>	24 131 = 43°	quite chloritic	<p>27 126.0 - 126.7</p> <p>interflow bleached zone includes qtz-carb with minor galena, sphalerite and chalcopyrite.</p> <p>2-3% py generally. Much of the veining is quite barren but traces of gn-sp occur locally.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
140.5 - 169.2	MAFIC FLOWS	green	fg	Massive to moderately foliated, locally vesicular flows with numerous bleached interflow zones. Also occ. fragmental sections. Strongly quartz-carb-chl veined from 154-162.	145=43° 168=50°	More chloritic than 113.6-132.8. Bleached zones often include pale green talcy mineral (mica?) Numerous rhombs of Fe/Mg carbonate	2% disseminated py. <u>154.5 - 154.9</u> ~8% combined sp-gr with minor cp+py in qtz vein. <u>156.4 - 158.0</u> Impure quartz vein with minor gr-sp and a trace of apy in the last 0.5m. <u>158.0 - 159.5</u> K-20% py to trace gr and sp in quartz injected mafic. <u>160.3 - 162.2</u> 20% py, ~10% sp+gr in qtz vein and qtz-injected mafic.	
				<u>160.2 - 160.3</u> Fault gouge on the edge of a quartz vein.				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
169.2 -316.0	MAFIC FRAGMENTALS AND FLOWS	grey-green	Py	Mainly fragmental with weakly bleached, isolated frags in a slightly darker matrix. Still some more massive zones which may be flows. Frags are usually vesicular, often extremely so. Occasional white quartz (-chl - carb) veins. <u>201.1 - 203.0</u> Distinct flow with flow top breccia indicating inversion. <u>210.1 - 218</u> Starts to be More broken and bleached. Abundant	3 4 176 = 50° 9 191 = 50° 14 202 = 55° 15 211 = 60° 16 225 = 52° 19 239 = 60°	3 Weak, background chl - carb - ser. Numerous more intensely bleached zones associated with silica movement. Chl - ser in the matrix of frags appears to increase with depth.	3 Up to 25% py locally. Average 10%. Although invariably disseminated in frags, concentrations tend to occur in matrix.	3 Fragmental texture appears more like a air/water fall lapilli and ash with minor blocks. Period of deposition was definitely hydrothermally active.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>apparently barren quartz-carbonate veining (up to 50% of the rock in some sections).</p> <p><u>288-316</u></p> <p>Fairly homogeneous matrix lapilli tuff. Only occasional quartz-carb veins.</p> <p>From 295-297.5, fragments are darker than matrix and ^{it is} heterolithic (debris flow?)</p>	<p>²⁰ 255=50°</p> <p>²² 275=70°</p> <p>²⁷ 296=70°</p>	<p>²⁰ Still background chlorite. Pervasive carbonate.</p> <p>²⁵ Weak background chlorite.</p>	<p>²⁰ 2% disseminated pyrite. increasing locally to 5%.</p> <p>²⁵ 3-4% pyrite.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
316.0 - 353.7	MAFIC TUFF	light - dark grey	fg	Quite distinct change to heterogeneous "footwall- like" tuff with abundant secondary quartz, some of which is cherty. contact knife sharp @	329 = 60° 63°	Variable bleaching, mainly qtz-carb-chl(-ser)	10-15% PJ, locally up to 20%+. Occasional vein-associated gn-sp-ep.	Not intensely altered but definitely weakly -moderately so.
353.7 - 357.7	REA BRECCIA	black- grey	vfg	Predominantly black chert with grey chert laminae that are carbonated and brecciated. Minor tuff. Last 30cm is a pyritic bed with disseminated PJ. only Contact sharp @	highly variable 55°	—	5% on average, the last 30cm contains 20%.	
357.7 - 363.8	PYRITIC MUDDY TUFF	grey	fg	Quartz-seriate-chert mud with sulphides.				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>Identical to ruddy tuff near the RE-8 lens, even with fine debris locally.</p> <p><u>358.3-360.6</u></p> <p>Blocky quartz with clay gouge. Strong green malachite locally. Contact gradational</p>	362.5 = 58°	intensely sericitic and chloritic.	<p>25-30% disseminated pyrite, locally 75%^{in very} fine pyritic beds. Traces of sp ± gr throughout</p> <p>Pods of py in quartz.</p> <p>Py also part of clay gouge.</p>	
363.8 - 371.3	REA BRECCIA	black - grey	vfg - gph	<p>Mainly grey chert with abundant white quartz and some ruddy tuff. Quite tectonically brecciated</p> <p>contact tectonic</p>			<p>Tends to be highly pyritic in certain beds, particularly ruddy tuff ones, but fairly barren in others.</p> <p>Average 15% PY</p> <p>Still persisted traces of sphalerite.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
371.3 - 388.9	Pyritic Muddy Tuff	grey	fg.	Similar to 357.7-363.8. Slightly cherty, becoming more argillitic downhole. Homogeneous, muddy looking, pyritic throughout with definite sulphide horizons.	380=60°	muddy seriate- cherty	<u>371.45 - 371.6</u> Semi-massive sulphide bed (70% S ²⁺) 35% py 5% cp 25% sp 5% gn (10% Zn, 1% Cu 2% Pb)	
				Last 3m is quite gougey.	NO		<u>371.80 - 371.82</u> 50% sulphides 25% py, 15% sp 5% cp 5% gn. Apart from above	
							<u>371.3 - 372.4</u> 40% py, traces sp, cp, gn.	
							<u>372.4 - 379.9</u> Varies from 10-25% py with occ. beds of sp+gn ± cp. (<5cm)	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
388.9 -389.8	FAULT BRECCIA AND GOUGE			Majas fault? Separates distinct units	58°			
389.8 - 643.9	MAFIC FRAGMENTAL	bright green	fg	Block and lapilli bearing fragments identical to units intersected higher in the hole. <u>395.4 - 398.2</u> Green, mafic volcanic gouge <u>398.2 - 399.7</u> Bull quartz vein with green mica spots. <u>399.7 - 407</u> Several bull quartz veins in badly broken section			3 2% disseminated PJ 10 5% PJ. 13 5% PJ, disseminated in mafic and as pods in veins.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
						<u>407-412</u> Moderately bleached with just a hint of incipient stockwork mineralization	8% py in very weak incipient stockwork.	
				<u>438-444</u> Bleached, very zone with Fe/Mg carbonate development. Finishes with ~30cm of fault breccia. Also minor fault gouge between 447 and 451m.	1 414.5 = 68° 2 420.5 = 60° 3 430.5 = 66° 4 440.5 = 60° 7 456 = 70°	<u>438-444</u> Moderate bleaching. Good Fe/Mg carbonate + chlorite (-sericit) Very minor green mica	2 5-8% pyrite, disseminated and in the veins.	
				<u>468.4-469.1</u> Very distinctive fine lamination bed with pyritic matrix.	11 474 = 65°		9 <u>468.4-469.1</u> 10-15% py.	
				<u>469.1-470.0</u> Strong, irregular quartz vein				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>482.5 - 485.5.</u> 20% qtz-carb veins		15 Slightly paler than normal but still mainly chloritic.	15 5-10% py.	
				<u>511.9 - 513.9</u> Intermit zone composed mainly of secondary quartz, but with a few fragments and muddy matrix. Very minor incipient stockwork just above zone.	16 511-64'	18 Bleaching increases towards intermit zone	18 8% pyrit. Very minor	18 No chert perse, but seems to have been a slight hiatus when SiO ₂ was moving around.
				<u>517.2 - 517.6</u> As 511.9-513.9. Again minor incipient stockwork above. Several highly scoriaceous fragments below.		24 Still quite bleached	24 10% py	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>590m</u> Back into zone of hyaloclastic matrix. Possible very weakly developed selvages or some fragments — may be a globby pillow breccia but no obvious pillows	600 = 73°	As before, quite dark, somewhat chloritic in hyaloclastic zones	1-2% py. Starts to pick up again, especially from ~625m, to 5%, more in places.	
				<u>617.8 - 622.1</u> Two flows flows separated by a thin zone of hyaloclastite and breccia. Flow is very similar in appearance to fragments.	620 = 80°		<u>630 - 633</u> 15% py associated with qtz-chlorite (-calc) in hyaloclastic zone.	
643.9 - 755.9	ALTERED MAFIC FRAGMENTALS			Commencement of 'footwall-type' alteration		<u>643.9 - 646.6</u> First strongly altered zone where textures are obscured by qtz-ser-chl alteration	<u>643.9 - 646.6</u> 15% py.	First real sign of hydrothermal action.
						<u>654.5 - 654.7, 6558 - 6570</u> As above		

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>Becomes quite broken up as alteration increases. Frags become more conspicuous as bleached patches in a darker matrix.</p> <p><u>~680m</u> Textures still present but locally hazy due to pervasive carbonate spotting.</p> <p>Gradually sections with good fragmental textures become less frequent as alteration increases.</p> <p><u>726m</u> Good scoria fragments.</p>	<p>9 669-673</p> <p>12 680m</p> <p>14 685-76°</p> <p>17 700=80°</p> <p>18 708=75°</p> <p>19 722=79°</p>	<p>Moderately-strongly altered</p> <p>Pervasive carbonate, both calcite and Fe/Mg carb.</p> <p>"Football-type" alteration almost pervasive now though weak usually.</p>	<p>10 5% py locally increasing to 15%</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p><u>733.1 - 755.9</u> Distinct 'footwall'-type alteration.</p> <p><u>736.0 - 745</u> Zones of fault breccia interspersed with wallrock remnants. Fragments are quartzose (cherty??) in a yellow, clay matrix.</p> <p>Otherwise quite schistose, crumpled, primary features gone.</p>		<p><u>733.1 - 755.9</u> Moderately to strongly altered. Sericite-quartz-chlorite pervasives. Flecks of green mica locally present.</p>	<p>23 10-15% pyrit increasing locally to 30-40% over a few cm.</p>	
755.9 - 757.1	MINERALIZED HORIZON			<p>755.9 - 757.1 Mineralized horizon consists of irregular areas of qtz-cals-chlorite, giving a graphic texture similar to R6-1b, in a predominantly chloritic matrix. Contacts sharp @</p>	32 80° 70-80°		<p><u>755.9-757.1</u> Overall 20% pyrit with sp-cp-gr which, although weakly concentrated in thin bands, are each less than 1% overall. Last 5cm is 60% py, possibly as clasts.</p>	

733.3 - 755.9 Int. Alford reef + abundant py + secondary qtz.
Middle section is fault breccia. (737-745)

755.9 - 757.1 Mat. + w irregular secondary qtz w 20% py
incl. traces of sp, gn + cp.

757.1 - (8036) Fw type matrix fragmental. Distinctive green.
Abundant quartz + calcite. Fragments not always present

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
757.1 — 850.3				<p>Basalt</p> <p>Mafic tuff with occasional lapilli size fragments. Banded appearance due to numerous ^{diffuse} foliation parallel carb (qtz) veinlets.</p> <p>Fragments gradually become more common and larger. Carbonat-qtz 'banding' diminishes, although carb-qtz are still quite abundant. Several thin, sharp, well preserved fault breccia zones occur, notably 772.1-772.4 and 778.8-779.4. The latter cuts CA at a shallow angle (20°).</p> <p>Fragments again become occasional beyond ~780m and are of lapilli size</p>	<p>78°</p> <p>6 Foliation become more erratic with 60° being the most common.</p> <p>12</p>	<p>① Moderate to weak ② Carbonat - chlorit</p> <p>7 Carbonat (-chlorit) weak but pervasive.</p>	<p>① Background 1% py but local concentrations with some veinlets. Traces of cp and gn noted locally, too.</p> <p>8 < 1% Pyrit</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Have fault breccias are seen, again apparently at a shallow angle to the core axis.	786 = 60°	16		
					794 = 45°	17		
					795 = 52°	18		
					796 = 50°	19		
					797 = 40°	20		
					801 = 20°	21		
					803 = 75°	22		
					809 = 58°	23		
				821 = 68°	24			
				<u>827.1 - 833.6</u>				
				Major gouge zone. Entirely green, mafic mud with quartz fragments.				
				Contacts sharp, especially lower one which is @	15°	29		
				Foliation @	70°	30		
				Fault / foliation angle =	55°	31		
					835 = 72°	32		
							26 Very minor pyrite	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
850.3 - E04	DIORITE	Green	Mg	<p>848.8-850.3 Minor bleaching and pyritization in contact metamorphic aureole</p> <p>contact sharp at ———</p> <p>Massive, homogeneous diorite</p>	40. 45°	<p>33 840-841 Weak bleaching associated with veins.</p> <p>37 carb-ser (-chl)</p>	<p>34 8% Py.</p> <p>37 5-8% Py</p>	
852.4	END	OF		HOLE.				

HOLE NO. RG-35.

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (M)	TO (M)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid	
Bcd) 3184	35	38																				
			Fragmantal basalt, weak chlorite 1-2% PY																			
3185	65	68																				
			Ditto. Bleached frags, chl'c matrix 5% PY																			
3187	122	125																				
			Mafic flow. Unaltered. 2% PY																			
3188	164	167																				
			Mafic flow. weakly altered. 10% PY.																			
3189	189.5	193																				
			Mafic fragmental, bleached frags, chloritic matrix 5% PY																			
3186	249	252																				
			Mafic - strong ec-grt zoning minor PY.																			
3190	325	328																				
			Altered mafic (ses-chl-cc) 15% PY																			
3191	400	403																				
			Mafic fragmental, weakly altered, 2% PY.																			
3192	459	462																				
			Mafic frag ^e . No alteration 2% PY																			
3193	521	524																				
			Mafic fragmental Less than 2% PY																			

Hole No. RG-35

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (M)	TO (M)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid		
3194	579	582																					
			Mafic frag ^t 2% py																				
3195	641	644																					
			Mafic frag ^t <2% py																				
3196	693	696																					
			Mafic frag ^t . weak-moderate alteration 5-10% py																				
3197	749	752																					
			Altered mafic mod ses-carb-chl 6% py																				
3198	782	785																					
			Mafic tuff carb altered 1% py																				
3199	836.5	839.5																					
			Mafic tuff wk carb (-chl) trace py.																				

Hole No. RG-35

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CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER RG-36	GRID Main	FIELD COORDS.	LAT. L 91+00	DEP. 3+50N	ELEV. 1520*	COLLAR BRNG. 225° T	COLLAR DIP -60°	HOLE SIZE NQ	FINAL DEPTH 156.1m
PROJECT 212	CLAIM #	SURVEY COORDS.				DATE STARTED: March 27th DATE COMPLETED: March 29th, 1985	CONTRACTOR: Boisvenue CORE STORAGE: Stewaan Bay		CASING: PVC pipe in hole Left in hole

PURPOSE: **Test up dip on mineralized horizon intersected in RG-35**

RQD LOG
 COLLAR SURVEY
 PULSE EM SURVEY
 MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (M)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
32	-58½°								
85	-56°								
120	-54°								

HOLE NO RG-36
 ZIPPY PRINT * - BRIDGEPORT, RICHMOND

* Elevation relative to BLD/4100 = 14004.

LOGGED BY ISP/RE

FROM TO	ROCK TYPE	COLOR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0 - 4.6	CASING							
4.6 - 116.0	MAFIC FRAGMENTALS	Dark green- grey	Py	<p><u>4.6 - 41.2</u> Fairly unaltered, dark, typical basaltic fragmental. Generally lapilli-size fragments only. Occasional qtz-carb veinlets. Quite broken up (jointed). Tends to become more heterogeneous down the hole with increased veining.</p> <p><u>41.2 - 56.5</u> Bleached, strongly altered mafic with only very vague fragments preserved locally. Bleaching, accompanied by qtz-carb veining, reaches a peak at 53m then drops off again.</p>	<p>5 10.5 = 65°</p> <p>7 25.7 = 66°</p> <p>8 38.1 = 78°</p> <p>14 53 = 55°</p>	<p>4 Minor rhombic carbonat spotting locally</p> <p>13 Strong ser-carb-cl-qtz alteration.</p>	<p>4 1% pyrit, locally 3-5% with veins. Traces of gn+cp at 24.0m and 32.3m (gray) in qtz veins.</p> <p>13 3-5% py. Occ gn-sp(-cp) in veinlets.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>56.5 - 88.7</u> Matrix fragmental. Very little bleaching. Fairly abundant qtz-carb veins still. Frags become quite coarse, up to +15cm dia.	²¹ 80.5 = 65°	²⁰ Local nod-string about seems to be vein related	²⁰ 5% py. Still occ. gn(-sp) in qtz veins.	
				<u>88.7 - 90.2</u> Fault breccia. No major movement though. Similar rock types above, and below and as fragments in the breccia zone				
				<u>90.2 - 112.6</u> Matrix fragmental with an increasing abundance of quartz veins. At least some of these are in interflow areas. Schist breaks between fragmental units can be seen	³⁰ 90.2 = 65°	³⁰ Moderate bleaching. Green mica not uncommon	³⁰ 5-8% py. locally 10%+ in interflow areas	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
116.0 - 118.0	FAULT GOUGE	Bright green - grey	fg	112.6 - 116.0 Mafic fragments are joined by cherty frags in a multilithic breccia. Appears to have been blasting of partly silicified tuff. Frag's are generally < 3cm and angular.	³⁸ 113.5 = 70°	³⁷ Green mica increases towards fault. Moderate-weak sericit. & chlorite.	³⁷ 10% py, both in matrix and fragments	Meterages from here on can only be approximated due to lousy core recovery.
118.0 - 118.6	REA BRECCIA	Black - grey	vfg	Typical black chert with light grey beds and fragments	80°		15% py preferentially in the black chert.	
118.6 - 119.0	FAULT GOUGE			Clay derived from above with grading into clay derived from below unit, with minor quartz				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
119.0 - 119.3	SERICITIC TUFF WITH MINOR CHERT	Yellow grey	fg	Yellow, sericitic tuff with minor remnant grey quartz. Badly chewed up.			5% py	
119.3 - 120.1	PIRITIC Muddy TUFF	grey	fg	Very unconsolidated, clayey muddy tuff			40% py, very finely disseminated throughout	
120.1 - 120.4	FAULT Gouge	dk grey		Dark grey clay gouge				
120.4 - 127	SERICITIC TUFF AND QUARTZ	yellow-grey to white	vfg	Very broken up zone containing 40% white bull quartz with the rest a sericit schist often with pyrit pyrit cubes in it.			15% py.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
127 - 136	Pyritic Muddy Tuff with Minor Chert and Quartz	variable	vfg	<p><u>127-131</u></p> <p>60% quartz, 40% muddy (seriate) tuff. From 129.5</p> <p>the muddy tuff is highly pyritic and very finely laminated</p> <p>All this is broken up and incorporated into the quartz vein. vein also contains cobalt (not cc, possibly with it?)</p> <p><u>131-136</u></p> <p>Minor chert with traces of sphalerite over first 15cm then pure muddy tuff</p> <p>gauge</p>			<p>³ <u>127-129.5</u> 5% py</p> <p><u>129.5-131</u></p> <p>60-70% py within the tuff but only 30-35% when quartz is taken into account. Also several blebs of gn-sp in the quartz and traces in the tuff.</p> <p>¹³ 25-30% py.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
136 - 138	FAULT GOUGE			Initially black, slightly graphitic gouge becoming grey.				
138 - 144.5	MIXED CHERT AND MUDDY TUFF	grey	fg	Mixture of light grey chert medium grey muddy tuff and very minor black argillite Possibly baritic (celsian) (Anorthositic appearance) in places. Fairly pyritic throughout, especially in muddy beds.	⁸ 144 = 65°	³ Primary 'muddy' alteration. Predominantly chlorite and clay.	³ 15-20% pyrite. Possible trace sphalerite locally.	⁷ Very poor core recovery over last 20m. (<60%)
144.5 - E04.	MIXED SERICITIC TUFF AND CHERT	yellow grey to grey	fg	Similar to above but with a significant sericitic tuff component, locally well bedded. Locally brecciated	bedding variable 60° @ 80° at end of hole	Sericite	5-10% pyrite disseminated throughout.	
156.1	END	OF		HOLE				

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (M)	TO (M)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid	
BCD 3200	H5	H8																				
			Mafic frag ^e . Weak bleaching 3-5% py.																			
3026	101.5	104.5																				
			Mafic frag ^e . Wk-mod bleaching 5-10% py.																			

Hole No. R6-36

Entered by _____

Logged by INP/IE

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CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER RG-37	GRID Main	FIELD COORDS	LAT. 106+70	DEP. 9+90N	ELEV. 1330m	COLLAR BRNG. 225°	COLLAR DIP -60°	HOLE SIZE NA	FINAL DEPTH 100.00m
PROJECT 212	CLAIM #	SURVEY COORDS.				DATE STARTED: Mar 31st DATE COMPLETED: April 1st	CONTRACTOR: Boisvert CORE STORAGE: Skwanan Bay CASING: left in Hole		

PURPOSE: **Test Max Min anomaly in area of anomalous lithologies.**

RQD LOG
 COLLAR SURVEY
 PULSE EM SURVEY
 MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (M)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
60	53°								
100	54°								

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0-6.1	CASING							
6.1 - 62.0	MAFIC VOLCANIC	green	fg	<p>Predominantly fragmented basalt with some possible flow material. Moderate carb-qtz veining. Quite dark in colour, although, as elsewhere, frags are slightly paler than the matrix. They are full of fine vesicles.</p> <p><u>49.2-49.6</u> fg mafic dyke.</p> <p>Fragments begin to be more bleached with depth (>57m)</p>	<p>8.0 = 70°</p> <p>22 = 70°</p> <p>39 = 60°</p> <p>42 = 63°</p> <p>55.5 = 70°</p>	<p>Background only (cc-chl)</p> <p>Chlorite picks up somewhat ~37m. Frags become fuzzy as it spreads from the matrix</p>	<p>2-3% disseminated pyrite.</p> <p>Traces of sp+gr in qtz veins from time to time</p>	<p>No real pick up of sericitic alteration towards the horizon. Chlorite seems to predominate dominate section here.</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
62.0 - 63.0	MINERALIZED HORIZON	green-grey	fg	Unbedded chert-quartz mud with a few mafic fragments in the central part. Horizon has been injected by grey, fg, mafic dyke material. Mineralization has slightly veiny look within the horizon, possibly due to remobilization by the dyke.			Although running 20-30% within the horizon itself, due to dilution by dyke there is only 10%. (7% py, 1% gn, 1% sp < 1% cp)	Dyke probably syn-depositional.
63.0 - 63.6	MAFIC FRAGMENTAL	green	fg	Pale lapilli-size fragments in dark matrix			3-4% py.	
63.6 - 63.9	MINERALIZED HORIZON	grey	fg	As 62-63, mineralized qtz-chl injected by mafic dyke.	70°		10% py, 2% sp, 2% gn, 2% cp.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
63.9 - 64.6	MAFIC FRAGMENTAL			As previously described (63-63.6)				
64.6 - 65.7	WEAKLY MINERALIZED HORIZON			Mixture of weakly mineralized chlorite-quartz mud with minor chert and possible celadon. Last 15cm is distinctly fragmental, frags ^{rounded,} being < 1cm and consisting mainly of quartz. contact sharp @	70°	Weak chl-ser	8-10% pyrit with traces of sp and gn	
65.7 - 77.5	MIXED GREY, BLACK AND SERICITIC CHERT	yellow to black	qph	<u>65.7-67.0</u> 3 Sericitic impure chert. <u>67.0-67.3</u> 5 Black argillitic chert <u>67.3-67.7</u> 7 Sericitic chert	70°		5% PY.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				67.7 - 67.9 9 Black fragmental chert.				
				67.9 - 73.9 (approx) 11 Grey impure chert with a significant chert component. Locally may be baritic (celsian - anorthositic texture) Several drusy quartz-carb veins.		Primary chert (- sericit-)	5% py disseminated throughout	1m st core ground at 73.6 m.
				73.9 - 77.5 17 Mineralized black and grey chert: Three distinct mineralized horizons as follows:- 74.7 - 75.2 75.8 - 76.0 77.2 - 77.4 (faulted contacts)			10-15% py, + sp except <u>74.7 - 75.2</u> 25% py, 5% sp, 1% cp, 3% gr (hard to judge because sp is heavy and black) (Mainly in the first 20cm) <u>75.8 - 76.0</u> 50% sulphides 35% py, 15% sp, 5% gr, 5% cp	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
77.5 -88.7	Pyritic Muddy Tuff			<p>Fault gouge at contact</p> <p><u>77.5-78.9</u></p> <p>Typical pmt. Qnt argillitic. Very weakly developed chert</p>			<p><u>77.2-77.4</u></p> <p>50% sulphides 30% py, 5% cp, 15% sp</p>	
				<p><u>78.9-80.4</u> 4</p> <p>Hydratized muddy tuff with 15-20% bull quartz (-carb) which is also broken up.</p>			<p>25-30% extremely fine pyrit.</p> <p>5% py.</p>	
				<p><u>80.4-83.2</u> 8</p> <p>locally hydrated, some weak chert and argillitic. 20-25% quartz (-carb). A few pyritic beds</p>			<p>10-15% py, concentrated in a few beds. Traces of galena (-sp-cp) in qtz veins.</p>	
				<p><u>83.2-85.2</u> 12</p> <p>Almost massive quartz with wallrock fragments</p>			<p><u>84.1-84.3</u></p> <p>Massive, coarse grained pyrit with 10% cp.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>contact ground ¹⁹</p> <p><u>85.2 - 88.7</u></p> <p>Muddy tuff, locally pyritic, weakly cherty, 5% qtz.</p>			<p>otherwise (excluding massive)</p> <p><u>83.2 - 84.5</u></p> <p>10% py, 1-2% ep., also coarse grained.</p> <p>Rest of vein is barren</p>	
88.7 - EOH	ARGILLITE AND GREYWACKE	Black to grey	fg. Mg.	<p>contact sharp but disrupted ²⁴ by qtz vein</p> <p><u>88.7 - 89.8</u> 3</p> <p>Black graphitic argillite with 20% fine qtz (-calc) veinlets. Slightly cherty in places</p>			<p>10-15% py py.</p>	
				<p><u>89.8 - 90.4</u> 7</p> <p>Quartz vein.</p>			<p>fine pyrit weakly disseminated throughout with a few pyritic veinlets and beds</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>90.4 - 96.8</u> 9 Well bedded argillite to fine wacke. Bedding distorted, locally broken up.				2-3% fine pyrite
				<u>96.8 - 97.9</u> 13 Hg wacke. Massive to very weakly bedded with grading down the hole.				
				<u>97.9 - EOH</u> 16 Bedded fg wacke, locally to mg.				
100.0		End		OF. Hole				