

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Collar Eastings: 790.00

Collar Northings: 4880.00

Collar Elevation: 0.00

Grid: GULLBRIDGE

DRILLED LAST YEAR UNDER THE MINE.

Collar Inclination: -54.00

Bearing: 294.00

Final Depth: 1033.59 metres

PURPOSE: TO TEST THE EXTENSION OF FE-MG ALTERATION AND CU-ZN MINERALIZATION

Logged by: S. MAIA PUDIFIN

Date: FEB. 18, 1992

Down-hole Survey: TROPARI

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
0	4.27	CASING - Ice, Water, Overburden								
4.27	13.00	GABROIC MAFIC DYKE								
		- Dark grey-green; fine to medium-grained with very fine-grained and chilled lower contact over 40 cm. - massive, unfoliated; interlocking subh. and anh. crystals composition difficult to determine exactly though 40-50% mafics; 60-65% feldspars; minor calcite and local chlorite; amphiboles are up to 1mm diameter. - alteration consists of minor, locally abundant chlorite, along breaks; minor calcite veinlets; local minor pervasive light green epidote alteration. - uniform weak to moderate magnetism - mineralization: minor local disseminated fine-grained pyrite - competent; fractured into pieces 40-5 cm, 15 cm average - lower contact fractured; qtz-cs-gt vein.								
13.00	43.28	MAFIC VOLCANIC FLOW (BIOTITIC)	193166	36.00	36.60	0.60	63	7	40	10
		- Dark medium grey-green up to 10-20% local diffuse brownish patches (v. f. gr. biotite and possibly gt?) - f. gr. to aphanitic - massive with narrow zones exhibiting poorly developed folia @ 50-60° to CA - composition too fine-grained to determine though feldspar, chloritized amphiboles, biotite and probably qtz in siliceous domains - generally non-magnetic though local very weak magnetism; generally very hard - alteration: upper 1.0m is chloritic grading into more siliceous								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 2

FROM TO		LITROLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDT	ASSAYS			
							Cu	Pb	Zn	Ba
		- locking volcanic; qtz-cc-diopside? veinlets with brownish red-qtz in central part of irregular veins is common; (0.5% thin planar cc veinlets usually @ 40-50° CA, these same veinlets commonly rimmed with very f. gr. qtz and chl) - mineralization: minor - tr f. gr. dissen. py, generally more abundant in more biotitic and/or chloritic zones. - competent; fractures @ high angle to core axis; breakage on average is 15 - 20 cm. - lower contact planar @ 53° CA.								
19.39	28.30	FELSIC QTS-EYE TUFF/LITHIC LAPILLI TUFF								
		- Medium light grey with green and brownish specks and frags; fine-gr. to aphanitic - siliceous chlorite sericite matrix with f. gr. to lapilli size fragments; poorly sorted; strong well developed foliation defined by different elongated fragments; 19.39 - 21.80m: fragments appear to coarsen and are more abundant down-hole; foliation @ 20.40 ± 52° CA; poly lithic fragments (subangular to subrounded light grey rhyolitic fragments (1%); subangular brown biotitic fragments (1-15), clear glassy qtz eyes (0.5%-tr); minor medium greyish green intermediate dacitic fragments; size:(0.5 mm-2-3 cm - 22.50 - 22.80 m: brown frags have ragged edges and are up to 1.5 cm x 5 cm; non-magnetic; hard; tr f. gr. py lower gradational contact parallel to foliation - 21.80 - 24.80 m: more homogeneous and finer-gr.; siliceous, brownish patches are "ghost-like" (could be overprinted frags) - foliation not as well developed as above and below interval - 24.80 - 26.00 m: 10% brownish fragments with minor fine light grey chert fragments in siliceous + chlorite matrix; foliation @ 24.80 m @ 55° CA and @ 24.80 m @ 42° CA - 26.00 - 28.00 m: Intense shearing stretches 40-50% fragments into the foliation @ 55-60° CA; core has a banded or laminated appearance; 1% clear, glassy qtz-eyes. - strong local magnetism - core grades into more bio and chl from 27.20 - 28.00 m finally into what appears to be a mafic volcanic interval; gradational lower contact @ 45° CA.								
28.00	43.28	MAFIC VOLCANIC								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 3

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Dark greenish-grey with mottled brownish patches of f. grained biotite(?), locally; f. gr. - poorly to moderately well developed foliation as at 36.50 m @ 45° CA. - composition as described for 13.00 m - strong to mod. magnetic; hard indurated core - alteration consists of f. gr. biotitic(?) patches comprising 5 - 15% of core, locally; light greyish green irregularly oriented "worn" silicified patches generally associated with cc - brownish/red garnets are common (1% overall, up to 15% from 36.30 - 36.75 m); often rimmed with chlorite; minor epidote occurs with cc as at 40.55 m - mineralization: tr to minor f. gr. dissem. subhedral py; locally up to 1% as euhedral crystals in carbonatized zones. - competent core; breakage on average 15-20 cm at high angle to CA minor rubble zones @: 30.70 - 30.75 m; 33.15 - 33.20 m - sheared, rubbly lower etc @ 65° CA (carbonatized).								
48.25	366.95	MAFIC VOLCANIC FLOW (cut by mafic dykes)	193167	75.00	76.00	1.00	47	2	19	10
			193168	120.25	122.25	2.00	52	2	41	42
		- Dark green; f. gr.; usually massive; 3% planar veinlets and discontinuous stringer of cc; 1% c. gr. cc veins as @ 52.60 (2 cm @ 42 CA); 52.74-52.86 m upper etc @ 88 CA; lower etc @ 75 CA - <0.5% silicified patches and irregular stringers with cc and gt, though certain intervals have more; tr epidote mainly in dykes - poorly dev. fol'n generally defined by cc veins; minor-2% darker grey porphyroblasts from 52.85- 53.00 m; grades into completely massive intervals which are probably flow centers but resemble late massive dykes without obvious etc's, gradual fining into:	193169	318.40	319.00	0.60	46	11	71	10
54.05	61.00	MAFIC DYKE OR FLOW CENTER								
		- Med. - dk greenish-grey; f. gr. - med. gr.; massive, unfol'd, ophitic texture similar to 4.27 - 13.00m but finer gr.; mafic in composition; 1% planar cc veinlets; 1% green pervasive epidote over 2-3 cm; mod. to wk magnetism; hard; core becomes rubbly and has stronger cc veinlets as well as chlorite and clay alteration which is pervasive along fractures; tr f. gr. local py; lower etc brecciated and sheared from 58.35 - 61.00m @ 43 CA								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 4

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Mafic volcanic grades into cherty intervals as @: 62.80-63.00m - Magnetism varies from moderately strong to weak locally; core is generally very hard, indurated - Mineralization is negl. to tr. dissem. py - competent except in fault zones: - 63.80 - 63.95m: Fractured; cc veinlet folded; minor chlorite gouge in hackly fractures - 64.40 - 64.55m: Narrow fault: chlorite schist with cc veins @ 20° CA rubbly core.								
72.90	78.81	FAULT ZONE								
		- 16 % Core loss - Bleached lighter grey-green; f. gr.; brecciated; upper 1.0m is consolidated but fractured with silica cement; fragments are subrounded to subangular (1mm-1cm), most rubble and clay/silica gouge occurs from 75.15 - 76.81m; minor to 2% cc - non-magnetic; core is easily scratched (soft) - minor f. gr. diss. py - upper ctc @ 30-35° CA; lower ctc @ 40° CA.								
78.81	81.70	MAFIC VOLCANIC								
		- as previously described, but more strongly fractured with cc along fractures; minor irregular soft, chloritic veins, 0.3-1.5 cm wide; often magnetic, particularly near lowermost 60 cm resemble pillow margins; core becoming increasingly siliceous towards bottom of interval with a crackle-type network of qtz:cc ± clay veinlets from 81.20 - 81.32 m; negligible sulphides - 81.32 - 81.70m: FLOW-TOP BRECCIA - Med. to dark green with lighter grey coloured fragments; f. gr. - aphanitic; chloritic matrix with 50% subangular to rounded felsic fragments; 2 mm - 5 cm; elongated fragments @ 30° to CA; crosscut by qtz-cc:ep veinlets parallel and perpendicular to CA; up to 0.5% f. gr. diss. euhedral py; lower ctc rubbly @ 30° CA.								
81.70	96.35	MAFIC GABBROIC DYKE								
		- Dark grey, med. gr. to f. gr.; massive - core is homogeneous with qtz:cc veinlets (1%) with minor ep to								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 5

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		86.16m followed by much finer gr. core which appears to be a chill dyke margin to 96.35m (the hole must have followed along the margin) - silicified irregular veins whose core is filled with salmon-brown coloured garnet and minor cc comprise 3-4% of the interval; from 86.50-87.10m, vein is subparallel to CH; from 92.75-93.02 m, patches are 90° CA - variable wk to mod strong at - tr to minor f. gr. diss. py - competent except @ 89.65m; cc vein 1.5cm wide @ 20° CA causes brecciation - sharp, undulating lower etc roughly @ 60° CA.								
		96.35 117.00 MAFIC VOLCANIC with DYKES - As previously described; dark grey, generally f. gr.; massive except over 4-5cm interval which could represent pillow margins of chlorite material commonly assoc. with gtzccfgt; some intervals are so f. gr. that they resemble dyke chilled margins without distinct etc's; strong-variable wt; very hard; competent yet fractures in pieces of core 5-10cm usually @ 55-60° CA - negligible sulphides 102.72m: etc sharp @ 16 CA into definite black chilled dyke lower etc? - 105.20-106.15: 2-3% subrounded cc filled vesicles (0.3mm-2mm) - 107.45-107.60: Composite veins of m. gr. gtz dioritic vein with upper etc @ 50° CA; offset by fracture @ 35° CA - 111.52-111.70m: Vein-like silicification and minor cc along vein defines fol'n @ 65° CA; lower etc from 116.00-117.00m hosts increasing amounts of brownish biotite								
		117.00 122.35. ALTERED FELSIC TUFFS (interflow?) - P. gr.; light grey and brown as compositional bands and more massive light grey 'speckled' with brown biotite - well dev'd fol'n defined by segregations of biotite + chl within more siliceous felsic rock: fol'n @ 50.00m: 75° CA; 119.00 m: @ 55° CA; 120.20m: 56° CA - composition varies locally: - 117.00-117.90m: 50% siliceous felsic domains with 40% more mafic volc-looking domains; and 10% brown biotite-rich patches								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 6

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		in upper part; 1½ brownish gt patches within silicified fol'n - parallel patches in upper part - alteration consists of pervasive biotite and minor cc proximal to silicification; non-magnetic; tr py, speck cp(?) - 117.90-120.25m: More felsic, granular, poorly foliated interval with up to 1½ blue-grey rounded glassy gtz eyes; siliceous with 5% fine patches of brownish bio evenly dispersed though increasing down hole and tending to occur along the fol'n of 60° CA - 1-2½ f. gr. interstitial chl; non-magnetic; minor to 0.5% f. gr. diss. py; lower etc defined by appearance of compositional banding - 120.25-122.35m: Strong fol'n defined by 40% irregular, often discontinuous bands of brown biotitic rock (1mm-2cm) and sil. bands grading into more chloritic mafic volcanic with diffuse patches of biotitic material which resemble coarse (<0.5 x 1 cm to 3 cm x 1 cm) ellipsoidal fragments with ragged edges; weak local mt; minor diss. py; lower etc defined by local bi'n over 2 cm at 30° CA revealed with cc 122.35 167.52 MAFIC VOLCANIC (PILLOWED) - As described previously but with stronger chl which commonly lines cc veins; variable biotitic alt'n; upper 4.0 m are chl. with pervasive patches of biotite, up to 10% locally; up to 2-3% irreg. discontinuous cc veinlets, veins and patches; local zones of lighter green silicification and minor brown gt within these patches, especially strong from 124.48 - 126.90m; mod. - strong local mt but generally weak; chl/biot zones are soft and tend to host stronger magnetism (could represent pillow margins?); cc veinlets define local fol'n ie: 135.10m = 51° CA; 137.00m = 55° CA; 163.00-165.00m = 25-30° CA; sharp undulating etc @ 30° CA. 167.52 176.05 MAFIC DIKE - dark f. gr.; homogeneous, massive, unfoliated; minor planar, cctep veinlets; uniform, moderate magnetism; hard, indurated; negligible sulphides; sharp lower chilled etc @ 25° CA 176.05 202.10 MAFIC VOLCANIC - As @ 122.35 - 167.52m; irreg oriented cc veins (1mm-0.5cm)								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 7

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	B ₂
		comprises 2% of interval; 2% silicified patches (over up to 6 cm with assoc'd cc and brownish gt; patchy brown biotite along a distinct fol'a with stronger dark chl occurs from 188.40-191.50 cm with fol'a @ 30-40° CA; 191.50-202.10m: few cc veins; very competent - epidote is often assoc'd with gt/biot as @ 187.70-183.12m; 183.70-183.82m; 183.92-184.01m - 186.35-186.66m: "Micro-breccia"-lighter green bleached interval; subangular mafic volc frags (Clms - 0.6cm) in an ep-silica matrix; Br'n @ 88-90° CA - 187.65-188.05m: strong cc flooding with 20% 'relict' elongated mafic volcanic fragments (1 7mm x 1-2cm) oriented along fol'a @ 35° CA; 188.20m: silicified band @ 50° CA - 188.30-188.40m: cc vein causing brecciation of mafic volcanic; vein etc's @ 55° CA.								
190.45	191.48	FAULT ZONE - very blocky core; f. gr., indurated mafic volcanic as fine rubble pebbles ground by the drill; no gouge observed; loss of 30-40 cm. - Aphanitic black chilled dykelets present as @ 199.80 - 199.85m; sharp lower etc into larger dyke @ 50° CA								
202.10	212.40	MAFIC DYKE - P. gr. - med. gr., gradually finer gr. @ etc's; med. grey; massive homogeneous; dioritic to gabbroic in composition; minor very fine planar cc veinlets; local minor cc and epidote veins as @ 208.02-208.10m; uniform strong magnetism; hard very competent (up to 90 cm pieces); minor tr f. gr. diss. py; sharp lower etc @ 46° CA; note @ 212.70m is 3 cm wide brecciation ('microbreccia') cemented with cc.								
212.80	222.50	MAFIC VOLCANIC - as @ 176.05-202.10m; sharp lower etc @ 15 CA								
222.50	224.70	MAFIC DYKE - similar in composition to above unit but exhibits sharp etc's which are chilled; lower etc @ 35 CA; cc veins parallel to cc.								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 8

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
224.78	231.50	MAPIC VOLCANIC - As previously described, massive, unaltered except for 1½ thin planar cc veinlets @ 0° CA or 40° CA; 221.50-221.60m: pervasive silicified zone @ 60° CA from qtz-cc veins; up to 2-3½ irregular sil-ep-cc patches from 227.50m; wk loc. at; minor to tr diss. py; very competent except blocky core from 226.16-227.00m where core is fractured into rubble, 2-3 cm pieces; lower etc defined by cc veinlets @ 25° CA.								
231.50	233.82	MAPIC DYKE - Dark grey, v. f. gr.; massive, unaltered with weak ghost-like feldspar phenocrysts homogeneously distributed throughout ((0.5mm - 10%); minor thin planar cc ± ep veinlets; moderate uniform at; negligibles sulphides; sharp lower etc @ 25° CA.								
233.82	238.20	MAPIC VOLCANIC - CC ALTERED SEDS? - Dk grey-green; similar to previously described units but more abundant irregular cc wisps and veins/veinlets, up to 4½ which occur along distinct fol'n @ 25° CA @ 234.50m; 0° CA @ 236.50m; 50° CA @ 237.60m; core appears to be more chloritic and can generally be scratched with steel; weak to generally non-mag.; tr to 0.5% f. gr. diss. py; increasing patches of brownish v. f. gr. biot? with chl alone the fol'n towards lower etc which is gradational at 40° CA.								
238.20	242.30	FELSIC TUFF - Lighter grey; f. gr. to aphanitic with minor coarser-grained angular qtz crystals ((0.5mm) 1½, and traces angular feld. crystals - poorly defined fol'n defined by alignment of fine patches of chl-ser; ie 32° CA @ 241.20m; 39° CA @ 241.80m - composition is siliceous with up to 5% ser-chl; alteration is comprised of pervasive diss. sericitization and chloritization increasing towards the etc's; 0.5% cc veinlets along fractures and minor qtz veinlets; non-magnetic; hard except for greenish brown specks; up to 0.25% local diss. py; competent; core breakage 15-20 cm; lowermost etc sharp @ 48° CA. - 240.00 - 241.12m: MAPIC VOLCANIC - upper etc @ 19 CA, parallel to 1 cm wide cc vein; lower etc grades from biot-chl wisps/bands								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 9

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		(which are usually weakly magnetic) into more felsic rock.								
242.30	301.45	MAFIC VOLCANIC - STRONGLY VEINED, PORPHYRITIC - Generally massive; med. gr. to f. gr.; poorly developed fol'n except from 242.30 - 244.30m @ 20° CA - distinct network of irregular and planar, variably oriented, bleached, sil. fractures (4-5%), commonly with cc and minor brownish-red gt? or hematized gtz within the central part of the sil. zone; epidote also often occurs within silicified patches; minor - 7% local light green chl-ser? patches over 1-3 cm - non-magnetic; hard; cannot be scratched with steel except in localized patchy chl-ser? zones - trace to minor dissen. f. gr. py; tr local cp @ 271.40m - 274.00 - 274.60m: 55% gtz-ep-hem/gt alteration; cc:gtz veins @ 286.46-286.55m; 290.50-290.80m: local fine brecciation; 293.00 - 293.08m: 30° CA; 298.90 - 299.00m - core is generally competent (pieces 10-90 cm; average 30 cm) except for bleached, silicified locally chloritic weakly sheared zone from 270.40-271.30m: pieces are 10 cm long with minor clay-cc gouge along fractured surfaces - fol'n @ 270.40-271.30m @ 58° CA; 270.80m @ 60° CA; 271.20m @ 70° CA; 300.83 - 300.90m: qtz:cc vein @ 60° CA followed by cc-clay rich bleached shear zone over 10 cm - lower etc grades into slightly less fractured, porphyritic zone; proximal to etc irreg. band of chl-biot alt'n @ 42° CA								
277.20	- 288.55m	PORPHYRITIC MAFIC VOLCANIC - F. gr., dark grey-green as above with 2-8% c. gr. (<0.5-2 mm) subhedral cream-co.'d feldspar phenocrysts; silicified altered fractures slightly less (2-3%) - lower etc defined by 1cm wide cc vein and presence of more aphanitic, more magnetic core @ 60° CA.								
301.45	305.90	MAFIC DYKE - V. f. gr.-aphanitic; dark green mafic dyke; massive - strong uniformly magnetic; very hard, indurated, alteration consists of 2-3% cc veins which mainly occur as cement in two zones of bx'n @ 302.55-302.76m and @ 304.75-305.15m; minor silicification								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 19

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- core breakage = 20 cm average - lower contact @ 40" CA.								
501.15	519.90	MAFIC VOLCANIC	193180	512.00	514.00	2.00	109	73	95	10
			193181	515.50	517.00	1.50	73	28	100	10
			193182	518.90	519.90	1.00	61	19	53	10
		- Dark green; f.gr.-aphanitic; well developed foliation @ = 35° CA; particularly towards upper part of interval give core a somewhat sedimentary appearance								
		- composition is mafic; ibolitic and cc in upper 1.0 m; strong pervasive chlorite noticeable on slip or breakage surfaces; moderate uniform magnetism; = 1% local; cc veinlets, variable orientations: 50° CA @ 501.85 m; local silicification with local minor epidote veinlets increasing particularly below dyke to = 3% qtz-epidote patches and veinlets								
		- core can easily be scratched with steel (due to high chl content)								
		- blocky core; friable from 507.30-507.50 m (fol'n @ 30° CA)								
		- SHEARED @ 508.60-509.63 m; friable with chl-clay gouge along slip surfaces; broken core @ 35-20° CA								
		- mineralization consists of negligible to minor f.gr. dissem py increasing below the dyke to 0.5% with tr v.f.gr. cp								
		- sharp planar etc with dyke chill margin @ 30° - lowermost etc with tuffs seems gradational and defined by presence of significant py								
		510.30-512.00 m: PORPHYRITIC MAFIC DYKE								
		- Dark grey-green; f.gr., porphyritic = 2-3% 0.25-0.5 mm subhedral creamy coloured feldspar phenocrysts; minor very thin qtz-cc planar veinlets; pinkish coloured cc along fracture surfaces								
		- weakly magnetic								
		- minor f.gr. dissem py								
		- competent; lower etc is fractured.								
519.90	529.44	MINERALIZED CHLORITIZED FELSIC TUFF(?) + MAFIC VOLCANIC?	193183	519.90	520.40	0.50	902	461	544	17
			193184	520.40	522.40	2.00	185	60	820	10
		- Light and dark grey and dark green; f.gr. aphanitic; laminated	193185	522.40	523.10	0.70	299	33	4400	10

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 20

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		or banded exhibiting tuffaceous character in upper 0.5 m	193186	523.10	523.70	0.60	3.1	20	2925	10
		remainder shows well-developed foliation @ = 45° CA @ 523.20 m;	193187	523.70	525.70	2.00	234	29	259	10
		40° CA @ 526.00 m. Composition is mainly qtz and chlorite with	193188	525.70	527.70	2.00	260	44	276	10
		minor sericite; most of the interval is strongly chloritized	193189	527.70	529.44	1.74	206	29	174	10
		with dark green "greasy" slips along which breakage occurs								
		- more chloritic intervals often have rounded light green qtz-ep								
		patches or veins which seem typical of mafic volcanic; i.e.								
		from 525.70-529.44 m								
		- magnetite is variable but generally strong to moderately								
		strong; 525.70-525.82 m hosts up to 10% masses f.gr. mt								
		- local intervals of cord (retrograded to chl) occur from 523.10-								
		523.50 m; ragged edges = 3mm-2mm and finer-grained porphyro-								
		blasts 527.00-527.70 m; local silicified, qtz flooded zones,								
		i.e. 527.70-529.44 m								
		- core is hard but can be scratched with steel								
		- competent, average breakage = 12 cm								
		- blocky zones @ 521.85-522.00 m and from 528.80-529.44 m								
		- Mineralization: py is ubiquitous and generally occurs along								
		foliation as discontinuous bands or laminations of v.f.gr. or								
		m.-c.gr. "buckshot" py; = 3% on average; 520.80-526.12 m hosts =								
		25% buckshot py in felsic tuff; local minor sph (boney coloured-								
		reddish) occurs as specks or wisps along fol'n; minor cp								
		present locally along chloritic slips; speck of galena observed								
		in qtz-cc-ep veinlet.								
		- Lower contact fractured into pieces of rubble = 0.5-3 cm;								
		sharp etc with chilled dyke margin @ = 40° CA.								
529.44	534.62	MAFIC DYKE								
		- Dark green; f.gr.; massive								
		- minor qtz-cc-ep veinlets; strongly magnetic; tr disse py;								
		competent except for upper chilled contact to = 530.05 m which								
		is broken into 2-3 cm angular fragments								
		- lower contact sharp chill @ 32° CA.								
534.62	542.80	ALTERED FELSIC TUFFS/SEDIMENTS (py+sph:gal:mt)	193190	534.62	536.87	2.25	67	43	152	15
			193191	536.87	538.20	1.33	79	129	528	10

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 21

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Mottled and/or crenulated medium green, brown and light grey; v.f.gr. to f.gr.; well developed foliation to locally schistose 534.62-539.00 m: fol'n @ = 55° CA though locally contorted @ 537.67-538.00 m (qtz-flooding) 541.40 m @ 50° CA 541.80 m @ 52° CA - Composition: variable qtz; variable chl possibly argillaceous material; variable wisps, elongated patches of dark brown v.f.gr. biot?? (in places it resembles h⁺ck sphalerite versus the thin discontinuous wisps of red sph observed in this interval); qtz-eyes (= 2% locally) and feldspar crystals (= 3% locally) observed from = 536.87-542.80 m; remainder of interval is too fine-gr. to distinguish mineralogy but appears to host chl+biot-qtz distinct irregular wavy silica-epidote-gt patches and stringers, up to 5% occur within these zones such as from 534.62-536.87 m - Alteration: pervasive chlorite; irreg discontinuous cc and qtz-cc veinlets (= 1-2% overall); local qtz flooding such as @ 537.67-537.97 m - core is strongly magnetic - Mineralization: ubiquitous disse py - up to 4-5% v.f.gr. to f.gr. buckshot py, over = 10 cm on average = 1-2%; tends to follow foliation but in more mafic domains; appears to be finely "peppered" throughout - variable fine discontinuous wisps of reddish sphalerite present; tr galena specks - competent, 12 cm average breakage.	193192	538.20	540.50	2.30	57	53	499	46
			193193	540.50	542.80	2.30	20	42	366	47
542.80	546.75	SILICIFIED MAFIC VOLCANIC/MAFIC TUFF?	193194	542.80	544.80	2.00	118	31	218	38
		- Dark greenish grey; v.f.gr.-aphanitic; shows well developed foliation locally along tuffaceous horizons (2 cm wide to 8 cm wide), i.e. 56° CA - Composition too f.gr. to determine but siliceous - core is very hard; dark colour due to f.gr. chl?; brownish colour due to f.gr. biotite?; particular irregular wavy patches and stringers of light green silicification with epidote commonly with brownish coloured cores (gt?) and occasional cc comprise	193195	544.80	546.75	1.95	75	45	161	26

HOLE No: GB-155

RIC ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 22

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		= 10-15% of interval; local pervasive qtz flooding from 546.12-546.70 m - strong pervasive magnetism - = 1% v.f.gr. to f.gr. dissem py (more abundant in brown coloured sections) - 545.62-545.68 m; weakly contorted laminated felsic tuff (ash tuff?) - Competent; breakage 2-20 cm, average 12 cm - Lower contact gradational into qtz-chl-ser schistose crystal tuff.								
546.75	557.00	QUARTZ-CHLORITE-SERICITE SCHIST (CRYSTAL TUFF)	193196	546.75	548.25	1.50	13	49	307	28
		- Variable greenish-grey to light grey 'v.f.gr.' schistose; locally crenulated strongly sheared felsic volcanics: foliation 50-55°	193197	548.25	549.75	1.50	47	52	413	10
		- Composition is mainly qtz-chl-ser and variable brown domains due to biotite? 546.75-548.25 m is qtz-chl-ser schist with minor to 1% feldspar crystals and = 1% greasy qtz crystals grading into less chloritic schist from 548.15-551.10 m (qtz sericite schist)	193198	549.75	551.10	1.35	179	121	570	WIL
		- 551.10-557.00 m: qtz chl-ser schist to cordierite spotted felsic rock - 25% c.gr. coalescing dark grey cords from 553.22-553.98 m	193199	551.10	552.60	1.50	22	32	315	19
		- interval fairly competent except in sheared fault zones: 547.00 m @ = 45° CA; cc along fol'n	193200	553.22	554.72	1.50	95	232	1992	10
		552.60-553.22 m: chilled dark grey mafic dyke - magnetic; totally fractured into rubble; upper etc @ 35° CA; lower etc @ = 30° CA. 1.5 m dykelet @ 553.55 @ = 30° CA.	197318	554.72	557.00	2.28	179	163	2412	10
		555.55-557.00 m: rubbly; schistose with gouge along chips of rock @ = 48° CA.								
		- Alteration is mainly variable amounts of chl:ser; variable qtz flooded zones also exist, such as at: diffuse veins from 547.00-547.35 m @ = 70-80° CA; 549.75-551.10 m (up to 8 cm wide veins)								
		- Mineralization: ubiquitous py, generally as v. finely dissem to med-gr. 'buckshot'; along foliation or as discontinuous bands or veins (1-4% average)								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 23

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- sphalerite is reddish-brown and occurs locally as thin discontinuous wisps along the foliation or as fine specks associated with py - minor local cp as fine fracture coatings generally in more siliceous zones - very minor traces of v.f.gr. galena occasionally associated with sph. - lowermost contact sharp, planar defined by qtz vein @ 43' CA.								
557.66	567.50	MAFIC VOLCANIC/MAFIC SEDIMENT?								
		- Similar to 542.80-546.75 m - Dark grey-green v.f.gr. to aphanitic; mod. to poorly developed foliation defined by irregular discontinuous qtz-cc patches which comprise ~ 8-10% of interval ~ 54-60' CA; composition appears to be mafic volcanic though seems to grade into more argillaceous? rock with v.f.gr. py aligned along foliation @ 58' CA; light grey waxy ghost-like siliceous fragments?, i.e. @ 564.40-564.60 m; minor thin planar qtz-cc veinlets - competent core; average breakage ~ 20 cm - rubble core @ dyke contact - negligible mt though local wk mt; mineralization consists of minor disseminated py, locally up to 2% over 10 cm.								
		565.75 567.50 MAFIC DYKE								
		- Dark grey, cherty aphanitic chilled dyke; upper contact is finely brecciated (crackle-brecciation) over ~ 8 cm and healed with cc @ 40' CA; lower etc is planar sharp @ 42' CA; v. weak mt; fractures filled with cc ~ 1%; carbonatized mafic volcanic fragments caught up in dyke 566.90-566.98 m; negligible f.gr. py.								
567.50	584.00	SHEARED ALTERED FELSIC VOLCANIC & CRYSTAL TUFF	197319	567.50	568.25	0.75	27	11	203	20
			197320	568.25	569.78	1.53	120	48	1900	NIL
		- Variably coloured light grey to medium grey with brownish	197321	569.78	572.00	2.22	9	11	453	20

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 24

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		intervals; f.gr. to aphanitic	197322	572.00	574.00	2.08	29	9	197	27
		Composition: mainly qtz with variable sericitic and lesser	197323	576.38	578.00	1.62	47	2	1398	25
		variable chlorite and cordierite spots; generally well developed	197324	580.00	582.70	2.70	5	5	79	14
		foliation except in crystal tuff interval: average fol'n = 50°; 20° CA @ 571.85 m								
		- generally non-magnetic though locally wk composition particularly in cord-act'd intervals								
		- competent core; average breakage = 15 cm								
		- core can be scratched with steel								
		- Mineralization is slightly variable but py is ubiquitous as f.gr. "buckshot" dissems or as thin discontinuous veinlets with sph (honey-coloured)								
		- 567.50-568.25 m: felsic tuff; 0.5% dissem py; local zones of irreg qtz flooding (25%); fol'n @ 70° CA in upper 10 cm; remainder poorly defined								
		- 568.25-569.78 m: Argillaceous sed/felsic tuff; easily scratched; = 1-2% f.gr. dissem py with minor honey-coloured sphalerite in thin discontinuous veinlets @ = 50° CA often with v.f.gr. py; fol'n @ = 38° CA								
		- 569.78-572.00 m: felsic tuffs with up to 10% coarse ragged edge porphyroblasts of cordierite which seem to be stretched parallel the foliation @ 45-58° CA; local qtz flooding in upper = 40 cm								
		- 572.00-574.00 m: qtz-feldspar crystal tuff; brownish colour due to = 10% pervasive bio; qtz-feldspar crystals in siliceous- biotitic groundmass								
		- Lower contact with dyke planar @ 38° CA.								
		574.00 576.38 MAFIC DYKE								
		- Dark grey, aphanitic to f.gr. in the centre of dyke; massive; fractures when broken along 54° CA; tr thin cc veinlets; negligible sulphides; lower etc broken; etc @ = 15° CA.								
		576.38 578.00 FELSIC VOLCANIC								
		- Quartzose with minor sericitic along fol'n which is = parallel to CA; = 10% m.-c.gr. cord porphyroblasts; 0.25% dissem py; tr minor specks reddish sph; qtz flooded = 5-6% pygmatic qtz veins; non-magnetic								
		- Lower contact with dyke @ = 40° CA.								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 25

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
578.00	579.87	PORPHYRITIC DACITIC DYE - Medium grey aphanitic with ~ 2% m.gr. (0.5 mm) white subhedral feldspar phenocrysts; massive - minor chl/pilled fractures with associated minor v.f.gr. py; v. wk to non-magnetic - irregular sharp lower ctc @ ~ 80° CA.								
579.87	584.02	FRACTURED RHYOLITE (felsic volcanic) - Light grey, aphanitic, poorly developed fol'n defined mainly by chl-ser concentrations along fractures @ 50-60° CA; rock is mainly quartzose - ~ 8-10% qtz flooding and ~ 1% qtz veinlets - non-magnetic, hard core - mineralization consists of ~ 2-3% f.gr. concentrations of py, generally along chl-ser fractures though also v.f.gr. dissem py specks throughout - 582.70m-582.88 m: Breccia: contacts @ 50° CA subangular rhyolite frags (<0.5 mm to 2 cm) in cc matrix - 582.80-584.02 m: ~ 10% qtz flooding in fractured rhyolite; mod-str chl-ser fractures along which ~ 2-3% py occurs; honey coloured & reddish coloured discontinuous wisps/stringers sph sph present often at ctc's with qtz-flooded zones - Lower contact @ 52° CA.	197325	582.70	584.02	1.32	84	14	2800	NIL
584.02	591.93	MAFIC VOLCANIC(?) TUFF? - Dark grey-green; f.gr.-aphanitic; generally quite massive; fol'n difficult to distinguish except in upper ~ 1.5 m which could be a mafic tuff; composition too f.gr. to distinguish mineralogy but unit resembles 542.80-546.75 m and 557.00-567.50 m - feld-chl-qtz? and local f.gr. pervasive patchy biotite, particularly in upper 1.5 m to 585.50 m (light grey felsic irregularly shaped lapilli frags??); local qtz flooding - 850.80-591.93 m: More massive, homogeneous looking core which is competent but tends to break along ~ 60° CA - Alteration: 1-4% irregular, discontinuous qtz-cc/brownish gl?	197326	584.02	585.50	1.48	65	22	431	26

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 26

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		patches often @ 45° CA; minor cc veins with chloritic selvages - core is hard, though chloritic fracture surfaces can be scratched with steel - moderate-strong mt - mineralization consists of ubiquitous f.gr. disse py up to 0.5% - looks like chilled dyke margins towards bottom of interval - competent; average breakage = 20 cm - lower contact, broken core.								
591.93	628.40	MAFIC VOLCANIC/GABBRO CUT BY DIABASE DYKES								
		- Aphanitic; chilled to locally med-grained; dark grey-green; generally massive, homogeneous core; poorly developed foliation defined by weak alignment or elongation of magnetite specks/porphyroblasts and cc=qtz veins @ = 50° CA. Several chill margins suggest several crosscutting dykes. Composition: gabbroic (feld-amph-chl) with = 3-4% planar qtz-cc veins (1mm-1cm) crosscut by later finer-grained diabase dykes @: - 595.10-597.47 m: Fractured, broken upper and lower etc's of dyke margin; dykelet @ 598.35-598.40 m (90° CA) - 610.68-611.50 m: Upper dark aphanitic chill @ 25° CA; sharp chilled lower etc @ 25° CA; minor epidote lines fracture surfaces; mafic volcanic inclusion - 617.70-520.80 m: Diabasic texture; upper etc sharp and defined by qtz-cc vein @ 25° CA; sharp chilled lower contact @ 25° CA - 626.98-627.34 m: Bleached light grey qtz-cc veins, looks like ash tuff frag; fol'd @ = 60° CA. - Strongly to moderately magnetic - core is generally competent but broken up locally, particularly near chilled dyke margins; average breakage is = 10-25 cm - rubble zones @: 596.81-597.47 m; 610.68-611.00 m; 611.25-611.50 m; 617.25-617.70 m; 621.35-621.40 m; 622.00-622.10 m, followed by 8 cm bleached silicified zone; 626.80-626.98 m								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 27

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Negligible mineralization; minor f.gr. py, locally - Lower etc sharp @ 65' CA defined by qtz-cc vein.								
628.40	638.60	DYKE MARGIN/MAFIC VOLCANIC/TOFF								
		- Fine-grained - aphanitic chilled mafic volcanic undulating approximately parallel to CA in contact with mafic volcanic tuff to 634.05 m; lower contact broken								
634.05	638.60	MAFIC VOLCANIC TOFF								
		- Similar to 584.02-591.93 m except = 40% have well folded tuffaceous appearance @ 40' CA, i.e. from 637.17-637.40 m; remainder is with irregular silicified wormy patches; = 0.5% disseminated py. - Lower contact is silicified with minor cc @ 40' CA.								
638.60	674.40	ALTERED FELSIC? VOLCANICS AND TOPPS MINERALIZED - PY-SPH (scptgal)	197327	638.40	639.40	1.00	400	NIL	6600	NIL
			197328	639.40	640.90	1.50	700	NIL	3800	NIL
			197329	640.90	641.75	0.85	309	10	3230	37
		- Varicoloured brownish green-greyish-green; f.gr.; alteration seems to occasionally obliterate distinct foliation though sulphides and chl-and/or sil-rich domains tend to occur along a wavy oritneation; locally schistose and intensely contorted; foliation variable and described in each subinterval of altered felsic volcanic tuff or agglow?	197330	641.75	642.90	1.15	8	3	452	20
			197331	642.90	644.90	2.00	7	2	129	48
			197332	644.90	645.60	0.70	88	6	84	83
			197333	645.60	646.80	1.20	59	1	250	NIL
			197334	646.80	647.95	1.15	216	13	2700	NIL
			197335	647.95	649.15	1.20	30	4	315	205
		- Composition appears to be felsic though some intervals have strong chl-cord. alteration; most schistose intervals are mainly qtz and sericite; variable brownish v.f.gr. biotite(?) altera- tion is present particularly in blue qtz-eye tuff interval	197336	649.15	650.10	0.95	10	75	763	37
			197337	650.10	651.90	1.80	108	6	235	83
		- local qtz flooding present	197338	651.90	653.20	1.30	9	4	126	77
			197339	653.20	654.55	1.35	71	5	1372	NIL
		- generally non-magnetic; variable blocky core	197340	654.55	655.95	1.40	173	6	1882	125
			197341	658.40	659.90	1.50	3	5	187	118
		- sulphides are ubiquitous - py and lesser amount sphctpgal are observed and described with each interval; somewhat blocky; i.e. 662.50-663.30 m; fault: 663.68 m gouge @ 30' CA; 664.78 m gouge @ 18-20' CA	197342	663.30	664.30	1.50	68	11	239	30
			197343	666.55	668.55	2.00	23	13	684	90
			197344	668.55	670.30	1.75	131	156	2100	NIL
			197345	670.30	671.20	0.90	200	400	1600	NIL
			197346	672.60	674.40	1.80	165	7	1300	NIL
638.60	641.75	ALTERED FELSIC VOLCANIC?								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 28

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Mottled, cord-chl-ser altered rock - foliation is $\approx 40^\circ$ CA along which sulphides tend to align; - lower part of interval has tuffaceous appearance - non-magnetic - competent - ≈ 3-5% disse and discontinuous py; $\approx 3\%$ reddish discontinuous wisps sph; tr cp; tr gal associated with sph.								
641.75	645.60	VARIABLELY SHEARED FELSIC VOLCANIC/RYHOLITE & Qtz-SER SCHIST								
		- v.f.gr. to aphanitic; fractured or banded, locally schistose, showing tight folding - 642.90-644.90 m: schistosity @ 35-40° CA; 's' folding suggests synform downhole with west-facing closure - 644.90-645.60 m: banding/foliation @ 0-39° CA - Composition: mainly quartzose with variable chl and/or ser alteration along foliation or along fractures; variable ragged cordierite porphyroblasts up to 8% - local qtz flooding common - biotite(?) alteration present in qtz-ser-schist - non-magnetic - Mineralization: 0.5 to ≈ 5-10% f.gr. & m.gr. disse euhedral py; some py concentrations are folded often associated with chl fractures; variable thin sph wisps, to $\approx 0.25\%$ - Lower contact gradational into more tuffaceous interval @								
645.60	649.15	ALTERED FELSIC/CRYSTAL TUFF								
		- f.gr.; poorly developed fol'n 0-25° CA; strong chl-biot alteration and minor qtz flooding; strong sulphide mineralization; up to 10% disse py; up to 1% wispy sph with occasional tr gal; tr minor cp								
649.15	653.20	BANDED FELSIC VOLCANIC/RYHOLITE/Qtz-SER SCHIST								
		- f.gr.-aphanitic; light beige to light greyish-green variable foliation; intensely schistose, locally contorted or banded; foliation 15-0° to 650.10 m; 20° CA from 650.10-651.90 m								
653.20	655.95	Qtz CRYSTAL TUFF								
		- similar to 646.80-647.95 m								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 29

FROM	TO	LITROLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
655.95	668.55	RYHOLITE/SCHISTOSE FELSIC VOLCANIC - f.gr.-aphanitic; chaotic intensely schistose to 559.98 m - composition mainly qtz and sericite - up to 8% beige coloured elongated porphyroblasts rimmed with chl (augens) in disrupted schist to 659.90 m; plastic deformation @ 655.95 m - sharp contact @ 60° CA with non-schistose pyritic rhyolite - blocky: 662.50-664.80 m Fault gouge: 663.68 m @ 30° CA; 664.78 m @ 18-20° CA - qtz veins @ 656.20 m and 656.20-659.70 m. P.gr.-m.gr. dissem py occur along stringers (= 1 mm) = 5% minor v.f.gr. replacement within lighter grey siliceous rhyolitic zones.								
657.72	658.15	MAPIC DYKE - massive; non-nt; competent - upper etc is irregular; lower etc fractured								
660.15	662.50	PORPHYRITIC MAPIC DYKE - f.gr.; = 2% f.gr. feldspar phenocrysts; crosscut by thin cc veinlets @ 30-40° CA - upper etc @ 60° CA; lower etc irregular and fractured								
665.78	666.55	MAPIC DYKE - sharp bleached upper etc @ = 40° CA; lower etc irreg, sharp @ 40° CA; inclusion of pyritic rhyolite								
668.55	670.30	INTENSELY CHLORITIC MAPIC(?) VOLCANIC/TUFF (py-sph) - v.f.gr., dark green; relatively homogeneous with = 10% ghost-like felsic-light grey fragments (to = 0.8 cm x 0.4 cm) suggesting could be strongly altered lapilli tuff?; elongation at = 0° CA in almost completely chl matrix - non-magnetic - core breakage = 10-12 cm; rubbly broken core @ 669.90-669.95 m - Mineralization consists of localized patches or stringers of py accumulations = 0.5% overall and associated sph (0.3-0.5%); tr gal								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 30

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- sharp slightly undulating etc @ = 30° CA into more felsic interval (contact tends to host more abundant sph)								
670.30	671.20	PYRITE-SHPALERITE RHYOLITE-CHLORITE FRACTURE								
		- Massive aphanitic light grey cherty rhyolite with = 10% chl ± ser fractures along which f.-m.gr. dissen py (3%) occurs, often with reddish sph (= 2%); f.gr. accum. of galena (= 0.5 cm diam) and as specks associated with sph; minor cp along chl fracture surfaces - sharp undulating lower contact @ = 24° CA								
671.20	672.60	BRECCIATED SHEARED CHL MAPIC(?) VOLCANIC (similar to 668.55-670.30 m) FAULT ZONE								
		- gouge and rubbly core @ 671.48 m; core is strongly chloritic and shows good slickensides on fracture surfaces - non-nt; minor euhedral py along qtz-cc vein - lower etc broken but core @ 52° CA								
672.60	674.22	INTERBEDDED RHYOLITIC ROCK & TUFF (similar to 670.30-671.20 m)								
		- Massive siliceous rhyolitic core fractured with chl:ser lining fractures and strong m.gr.-f.gr. subbedral py = 8-10% overall tending to form semi-massive patches/fractures - some tuffaceous domains are composed of chl:ser-biot and host up to 0.5% f. sph and minor py - non-magnetic - cherty discontinuous qtz veins (= parallel CA) - gouge-filled fracture parallel to CA extends through majority of interval - = 2% qtz-cc veins - sharp lower etc @ = 70° CA.								
674.22	687.68	STRONGLY ALTERED MAPIC VOLCANIC?/TUFF? PE-MG-PY-PO-MT	197347	674.48	676.10	1.70	134	28	4820	10
			197348	676.10	677.65	1.55	302	30	6760	10
		- Medium-dark grey-green; generally homogeneous f.gr. with a somewhat "grainy" texture; foliation is poorly developed; though occasionally a fabric is developed from alignment of sulphides and/or stretched porphyroblasts; i.e. 677.75 m @	197349	680.90	681.98	1.08	154	26	1032	57
			197350	682.75	684.75	2.00	135	12	770	55
			197351	685.00	687.00	2.00	164	12	873	84

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 31

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		30' CA Composition: protolith difficult to determine but has a 'mafic' appearance; mainly composed of chl-feldspars altered sericite + qtz? - Strong alteration: pervasive chl and ser as well as localized intervals of coarse-grained cord? porphyroblasts - now altered to chl-qtz; strongest alteration is from 680.90-681.90 m; 8-10% cord (1 mm-0.4 cm diffuse contacts) - minor mt and po replacing cores of porphyroblasts; pervasive web-like patches "muddy" greenish brown chl - = 692.70-687.00 m: 10-15% cord porphyroblasts as above; stronger py-po stringers and local zones of fine needle-like anthophyllite? - minor local thin discontinuous cc veinlets - local strong magnetism from po & mt - fairly competent though numerous local fractures 675.70-676.10 m: Fracture = parallel CA; chl-gouge lined 676.70-677.55 m: Same fracture = parallel CA 678.35-678.49 m: Blocky core: chilled dykelet; ctc @ 38 & 35' CA Fault: 680.10-680.32 m: gouge = 1-2 cm wide fracture @ = 10' CA - Mineralization: pervasive strong py stringers (semi-massive accumulations of dissen py); (1 mm wide to = 1 cm wide; veins or veinlets are discontinuous generally and comprise = 10%-12% to = 2-3% on average; po, up to = 2% to minor amounts is associated with most altered cordierite-rich domains with py; minor sph is present as f.gr. dissen, locally, but up to 2-3% as irregular masses with py in upper 1.5 m of interval; tr gal associated with sph; tr cp present in strongly Fe-Mg altered domains - Narrow, definitely felsic intervals: - 680.60-680.90 m: felsic, cherty upper ctc @ 35' CA; lower ctc @ 25' CA; qtz flooding - Lower contact sharp and irregular @ = 70' CA.								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 32

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
687.68	690.10	QUARTZ SERICITE SCHIST & INTERBEDDED CHERT	197378	688.90	690.00	1.10	37	18	110	96
		- Light grey-whitish from qtz flooding; banded/laminated light-med. grey and dark greenish brown; aphanitic-amorphous chert; f.gr. sed bands - well developed banding - "dome and basin" folding with elongation = parallel to CA. - Composition: 687.69-188.50 m: qtz-ser schist; 688.50-688.90 m; strong irreg qtz veins/flooding causes brecciation of greenish chert; 688.90-690.20 m: folded chert (65%) interbedded chl-biot seds (35%); chert bands = 2 cm to 4 mm wide; chl-biot-rich siltstone = 0.5 mm to 0.5 cm wide bands - = 1% f.gr. disseminated py concentrates within chl-biot bands - minor at in chl/biot bands; competent - lower etc @ = 25° CA.								
690.10	714.40	MAFIC VOLCANIC(?) (with minor chert/felsic volcanic interbeds)								
		- Dark green; homogeneous; v.f.gr.-aphanitic poorly developed foliation with narrow intervals of light grey chert or felsic volcanics - Composition of mafic volcanic too fine-grained to determine; alteration of mafic volcanics is mainly chloritic fracture surfaces and local irregular lighter grey silicified patches = 4% occasionally with minor epidote - thin crackled cc veinlets proximal to blocky zones; local v. wk at; very minor v.f.gr. py except in strongly chl zone below fault @ 697.39-697.90 m; = 3% disseminated and stringer py - blocky zones generally @ etc's with felsic intervals; mafic volcanic hosts more qtz-ep:cc veinlets (= 3%) below 703.18 m - Felsic intervals @:								
693.40	693.55	MAGNETIC LAMINATED CHERT (light grey)								
		- Brecciated chert frags elongated parallel to 45° CA; upper etc crosscuts chert lamination @ 70° CA; lower etc @ = 30° CA								
695.78	697.12	QUARTZ FLOODING								
		- = 50%; minor chert from = 696.95-697.12 m with fol'n @ 45° CA								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 33

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
697.12	697.39	FAULT - Chl schist frags with gouge, 40° CA?? too broken to determine with certainty								
699.34	700.75	VERY BLOCKY FRACTURED INTERVAL - Siliceous felsic volcanic; qtz-ser schist with local cordierite cordierite and strong dark chl from 699.50-699.70 m; minor to 0.5% v.f.gr. dissem py along fracture surfaces; more massive bleached buff coloured cherty interval @ 699.85-700.75 m								
700.75	701.05	BLOCKY BOBBLY CORE								
702.84	703.00	MAFIC TUFFACEOUS INTERVAL WITH SILICEOUS FRAGMENTS - Light grey cherty bands or fragments elongated @ ± 51° to CA to 702.75 m with ± 1% dissem subhedral py; non-nt - 702.75-703.00 m: qtz flooded with salmon-pink feldspar?; upper contact @ 60° CA; lower etc @ 30° CA								
703.45	703.50	FAULT - Rubbly with gouge @ ± 50° CA								
703.53	714.45	MAFIC VOLCANIC - Weak fol'n but generally better defined @ 60° CA - 3-5% qtz-epitec stringers; vianlets more abundant - strong qtz-ep network of veins @ 703.60-703.70 m @ 30° CA and @ 712.86-712.30 m @ 22° CA - Silicification appears to be associated with stringer qtz-ep veins: 710.80-711.12 m; silicified with wk laminations?; diffuse boundaries of qtz: pinkish feld? frags?/patches								
713.54	714.45	POLYLITIC AGGLOMERATE? - Mafic volcanic with v. coarse siliceous fragments (10 cm stretched @ 40° CA) and bedded chert/sed frag (± 15 cm).								
714.40	716.48	PELSIC VOLCANIC: QUARTZ-FELDSPAR FLOODED RHYOLITE								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 34

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Medium-light grey-green; 40% whitish qtz veins; salmon coloured alteration in earlier diffuse veins; aphanitic-cherty; brecciated locally from thin later qtz veins; local qtz-ser-chl (altered felsic volcanic?) shows foliation, i.e. 38° CA @ 716.25 m - negligible sulphides - non-magnetic - very blocky; core breakage = 12-1 cm; average = 5 cm; rubble @ 715.60-715.68 m and 715.78-715.85 m - lower etc @ = 40° CA; fractured.								
716.48	730.15	TUFF-LAPILLI AND QUARTZ CRYSTAL	197352	722.50	724.50	2.00	93	6	84	56
		- (f.e. zone @ 716.48-720.48 m) - Dark greenish-grey; f.gr.-s.gr.; locally strongly sheared into friable chl-ser:qtz schistose rock with gouge along schistosity to = 729.40 m @ 35-40° CA - most rubble @ = 718.65-718.80 m - beneath this sheared zone, core shows less pronounced foliation, more massive - Composition: strong chl-ser with felsic augen shaped frags (lapilli?) = 0.5 mm to = 5 mm in size to 720.40 m (non-magnetic) - 720.40-721.00 m: Increasingly finer gr. size with = 3% f.gr. cpy along foliation of 45° CA; interval is cherty with thin stratiform chloritic bands; non-mt - 721.00-725.00 m: Qtz-crystal tuff; = 8% whitish anhedral-subhedral qtz/feld? crystal (=1-2 mm) variable glassy to blue qtz-eyes (<0.25-1 mm) (=2-3%) in a chl-ser matrix with variable to = 4-5% brownish biot? (looks like brown chl) particularly proximal to qtz stringers - Alteration consists of a pervasive chloritization and biot? (brown chlorite, probably) which occurs in matrix around qtz crystals; = 2-3% discontinuous qtz veins; minor to 2% disse local py; tr po; tr cp - local blocky rubbly zones as at 723.00 - 723.15 m and @ 733.60-723.63 m, and @ 725.00 m; lower etc @ = 40° CA. Beneath dyke crystal tuff is siliceous due to								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 35

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		irreg qtz-flooding and host up to 1-4% dissen py with local po								
725.00	728.05	CHL MAFIC VOLCANIC? SED?								
		- Dark greenish-black; v.f.gr.-aphanitic								
		- very soft due to chlorite, but probably has certain argillaceous competent; rubbly blocky upper and lower etc; poorly developed fol'n								
		- strong-moderate magnetism; minor cctqtz veinlets								
		- negligible sulphides								
728.05	730.15	DYALITE OR DACITIC DYKE								
		- Light grey to mottled purplish grey; aphanitic with = 1% f.gr. feldspar phenocrysts								
		- mainly quartzose rock with = 1-2% 'bin qtz-cc veinlets; mainly oriented $\theta = 06^\circ$ CA								
		- very hard; non-magnetic								
		- irregular sharp undulating lower etc.								
730.15	734.35	CHLORITIC TUFF	197353	730.15	731.15	1.00	306	8	59	25
		- Siliceous tuff with strong chlorite $\pm$ sericitic alteration; strong-moderate qtz flooding; 1-5% dissen and thin discontinuous py stringers; local trace cp associated with qtz stringers; non-magnetic	1	732.00	733.15	1.15	56	3	36	39
		- lower etc qtz flooding $\theta = 90^\circ$ CA.								
734.35	740.35	CHLORITE-CORDIERITE-BIOTITE-MAGNETITE ALTERED ROCK	157355	736.00	738.00	2.00	495	13	111	38
		- Dark green f.gr., poorly developed foliation with variable rounded dark green porphyroblasts (= 1-4 mm diam) = 1-8% locally								
		- protolith difficult to determine but upper part of interval is hard								
		- homogeneous mafic nature of most of the interval suggest it may have been a mafic volcanic								
		- Composition: qtz-chl-cord:biot-mt								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
 HOLE No.: GB-155

Page 36

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Fe-Mg alteration is pervasive - discontinuous wisps and f.gr. disse py occur locally throughout interval - gradual lower contact into homogeneous mafic volcanic dyke.								
748.35	756.30	MAFIC VOLCANIC (BZIE) po & py	197356	752.00	754.00	1.00	190	7	51	22
		- Dark green, f.gr.; massive, homogeneous strongly chloritic but too f.gr. to determine other minerals - alteration consists of patches & irregular stringers of qtz ep (diffuse boundaries) = 2% locally - = 0.5% cc ± qtz veinlets; dark chl fractures and qtz flooding from 753.35-753.78 m with associated po:py - local strong magnetic; some magnetism due to local concentrations of po; dark green cord porphyroblasts in a chl mass (matrix) adj to po as well as brownish altered chl? - = 0.5% planar stringers of disse py often with 0.25% po along chloritic fractures (1-2 mm wide) (= 50-60° CA) in average - massive po @ 755.00-755.10 m ± py - competent; breakage 80-10 cm; average = 20 cm; broken rubbly zones @ 743.00-743.20 m - lower contact appears to grade into str chl-cord altered chert.	197357	754.00	755.80	1.80	63	9	52	40
			197358	755.90	756.30	0.50	190	22	72	111
756.30	767.75	SHEARED-QUARTZ-SERICITE SCHIST/QUARTZ CRYSTAL TUFF	197359	756.30	757.05	0.75	53	10	47	55
		- Light grey, with variable mottled darker greenish colour due to alteration; f.gr.-apbaitic; local well developed foliation to schistose from 757.40-757.85 m = @ 30° CA; 762.40-762.60 m @ 60° CA; 763.90-764.10 m @ 40° CA; 766.25-767.30 = 0° CA - Composition: quartzose with variable alteration as chl, cord, ± biot, or sericite - generally non-magnetic - minor to 1% local disse py along chloritic fractures; tr ep?? - 756.30-757.05 m: Intensely chloritic, cherty interval with = 8% cord porphyroblasts in upper 20 cm; = 4-5% local disse py and = 2% f.gr. po; needle-like py occurs within chloritized	197360	764.00	766.00	2.00	8	4	20	68

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 37

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		porphyroblasts; grades into well foliated felsic volc - 757.85-762.20 m: Qtz-ser-chl schist with elongated ragged-edged porphyroblasts grading into massive qtz-feld? crystal tuff; biot + chl is pervasive and occurs along margins of crystals (= 10%); minor local v.f.gr. py; = 1% qtz veins = 0.4-0.1 cm - grades into more strongly foliated felsic volcanic 762.20-766.00 m: Qtz-ser schistose felsic volcanic, locally cretulated grading into more strongly chloritic & cord altered rock; cordierite is stretched out along fol'n of = 50-40° CA - f.gr. dissem py occurs along strongly chloritic fractures 766.00-767.75 m: Qtz-ser-chl schist with = 5-8% ghost-like stretched out porphyroblasts along foliation parallel CA; has tuffaceous appearance; negligible sulphides - grades into 20 cm of cherty laminated bands = 5 cm wide @ = 30° CA - sharp lower etc into muddy green soft chl alt'd rock @ 30° CA.								
767.75	773.80	INTENSELY CHLORITE-CORDIERITE-MAGNETITE ALTERED ROCK (Mafic volcanic?) - Medium-light "muddy" green with dark grey porphyroblasts; v.f.gr.; massive - Composition is mainly a pervasively chloritized rock; outer core shows a web-like matrix of very soft chlorite with ragged-edged coarse-grained porphyroblasts (= 2 mm - 1 cm) which seem to be altered to qtz & mt - many broken pieces of core have dark green "greasy" chlorite with slickensides though others have a recognizable felsic? volcanic protolith; local very strong mt; as dissem f.gr. magnetite crystals (= 2%+) - = 2% qtz veins or irregular masses along which minor py & cp seem to occur - Mineralization: = 1% local f.gr. dissem py; minor v.f.gr. py is needle-like and occurs in qtz-mt porphyroblasts - minor fine concentrations of cp occurs in strongly chloritic zones, minor local po - competent core; average breakage = 25 cm	197361	770.00	772.50	2.50	125	5	89	18

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 38

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- lower contact sharp 2 m chl-py vein in etc with felsic light grey siliceous volcanic (chert?).								
773.80	791.55	CORDIERITE-CHLORITE ALTERED FELSIC : CP - PY - PO VOLCANICS AND TUFFS (fine-grained glassy quartz eyes)	197362	776.10	777.40	1.30	822	2	58	52
			197363	777.40	778.40	1.00	344	2	39	54
			197364	778.40	180.15	1.75	671	6	182	71
		- Mottled light grey with dark green porphyroblasts; f.gr. to generally aphanitic; foliation usually well defined by schistosity or elongation of cord porphyroblasts @ = 20° CA @ 774.00 m; 0° CA @ 774.50-778.00 m. Foliation continues as 2 generations - highly variable	197365	780.15	782.15	2.00	28	2	24	53
		Composition: mainly quartzose, often with very f.gr. glassy qtz-eyes or qtz-eye frags	197366	782.15	784.65	2.50	112	55	89	42
		- variable chlorite alteration - local patches stringers up to 10% of black chl often with slickensides, hosts cp, py, po ± mt	197367	784.65	786.10	1.45	169	331	32	28
		- cordierite porphyroblasts are ragged-edged & mainly intensely shredded and occasionally folded as @ = 782.55 m	197368	786.10	789.10	3.00	359	39	93	52
		- agglomerates over = 30 cm @ 776.10-776.40 m; other intervals have ghost-like lapilli up to 0.4 cm as @ 784.65-785.50 m followed by more massive felsic volcanic								
		- agglomerate: 787.55-788.00 m: subrounded rhyolitic frags to 3-4 cm x 2 cm								
		- mineralization occurs in more strongly cord-chl patches or stringers: best is from 778.40-780.15 m: = 2-3% py; 1-2% po; 0.5-1% hin cp stringers; mt concentrations in = 1-2%								
		- core is competent; average breakage = 20-30 cm								
		- lower etc with definite crystal tuff @ 53° CA.								
791.55	795.10	FELSIC CRYSTAL TUFF	197369	789.10	791.60	2.50	95	2	27	55
		- More massive, f.gr. aphanitic qtz-chl-sericite matrix with = 10-15% qtz:feld? frags of subrounded qtz = 0.5-4 mm; minor local cp occurs locally in narrow chl-cord spotted interval along chl slips (minor, overall), i.e. @ 794.55-795.10 m.								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 39

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
795.10	804.65	FELSIC VOLCANIC	197370	803.10	804.10	1.00	293	4	47	23

- Local qtz-ser schist; beige porphyroblasts
- light grey, f.gr.-aphanitic, foliation variable:
786.75 m: Minor brecciation and silicification over = 2-3 cm @ 90° CA
- 786.75-798.30 m: 40° CA
- 799.60-800.10 m: 30° CA
- Bottom of interval more massive
Composition: mainly quartzose rock with v.f.gr. broken glassy qtz eyes (= 1-2% to minor) from = 799.10-803.10 m
- minor chlorite present along fol'n; minor to = 2% sericite along foliation particularly in well-foliated intervals
- crosscut by = 2-3% qtz and qtz-cc veins (planar @ = 32-40° CA; = <1 mm-1 cm wide); cc veins = 2% (1-4 cm wide = 45° CA); = 1-2% coars-grained rounded, sometimes elongated beige porphyroblasts (2 mm-1 cm diam)
- mineralization is mainly disse or blebs py to 1% locally with minor associated cp - generally associated with cc ± qtz veins
- sharp, slightly silicified bleached planar cte @ = 38° CA.

804.65	837.90	MAFIC DYKES (Composite dykes)	197371	832.40	834.25	1.85	40-	5	34	10
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804.65 812.00 DIABASE DYKE
- F.gr.-med.gr.: dark grey-green; massive, homogeneous optically textured dyke; diabase (unmineralized)
Composition: mainly feldspar and amphiboles
- Alteration: numerous thin qtz-cc veinlets commonly with epidote (>2%); strong magnetism; lower chilled contact is strong-intensely carbonatized (811.30-812.00 m); competent; breakage 20-30 cm
- lower cte = cc veinlet @ 48° CA

812.00 814.20 INTENSELY CARBONATIZED MAFIC DYKE
- Dark green, f.gr.; fabric @ 35° CA @ a chilled (over 1 cm) contact @ 812.30 m; remainder of interval is generally massive,

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 40

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		mafic, yet fabric developed by alignment of cc wisps @ $\approx 0^\circ$ CA; pervasive cc comprises at least 10-12% of core; mafic minerals are starting to alter to chl; competent - locally magnetic; up to $\approx 2\%$ f.gr. concentrations of py - sharp lower chilled (over ≈ 10 cm) contact @ 33° CA								
814.70	822.95	POPHYRITIC DYKE (INTERMEDIATE COMPOSITION) - Dark-medium grey-green; m.gr.-c.gr. Massive porphyritic rock; local fabric developed proximal to qtz-cc veinlets as at 815.30-815.90 m; 816.80 m: silicified with minor fine brecciation over 3 cm @ 50° CA; ground core ≈ 2 cm rubble @ 816.40-816.50 m; 818.20 m: cc veinlets @ 45° CA; remainder of interval generally massive - Composition: coarsest intervals: $\approx 35\%$ anhedral feldspar saussuritized 0.1-0.6 mm; 10% blue-grey qtz (eyes?) subrounded up to 2 mm diam; groundmass $\approx 50\%$ of rock appears to be qtz-sericite - Alteration: mainly as qtzite and cc veins and veinlets or 3% overall; pervasive carbonate alteration and more sericitization $\pm$ chl proximal to contact - generally non-magnetic - up to 1% disseminated py present - lower etc defined by finer-grain size and presence of mt @ 822.95 m fracture @ 40° CA								
822.95	827.89	MAFIC DIABASE DYKE - as at 804.65-812.00 m except finer-grained; strongly magnetic; sharp planar to irreg lower etc @ 48° CA								
827.80	830.35	RHYOLITIC DYKE - purplish-brown grading to pinkish buff coloured aphanitic, massive rock; composed essentially of qtz with $\approx 2\%$ f.gr. mafic minerals; strongly veined (v. thin fracture-coated veinlets of qtz-ep-cc) mostly oriented @ $\approx 50-60^\circ$ CA; non-magnetic; no mineralization - sharp lower etc (laminated over ≈ 3 cm @ 41° CA)								
830.35	834.25	MAFIC VOLCANIC(?) - P.gr.; dark green; intensely-strongly chloritic and magnetic;								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 41

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		= 2% qtz and minor qtz-cc-ep veins/veinlets; from 832.40-834.25 metres: up to 2% stringer py; local ghost-like lighter grey patches (over = 3 mm) could be feldspar phenocrysts? or porphyroblasts? - sharp lower etc, thin chill @ 60° CA. 834.25 837.90 DIABASE DYKE - Medium-grained dark grey-green; glomeroporphyritic massive; = 40% feldspar in a f.gr. groundmass - feldspar laths tend to accumulate in concentric circles = 2% overall giving rock a glomeroporphyritic appearance; = 0.5% circular chloritic patches = (0.5 mm to 1 mm diameter; often rim calcite crystals; minor f.gr. disseminated py; strong planar qtz-cc-ep and cc fractures from 837.10-837.90 m (= 8%); core is finer-grained and bleached lighter green.								
837.90	873.06	CHLORITIC MAFIC VOLCANIC(?)	197372	840.00	842.00	2.00	15	3	46	10
		- Dark green, v.f.gr.-aphanitic; generally poorly developed foliation @ 847.34 m @ 30° CA; @ 854.25 m @ 25° CA; homogeneous	197373	845.00	846.50	1.50	34	8	35	10
		Composition: too fine-grained to determine mineralogy but very strong pervasive chl in upper part of interval. Alteration also consists of local qtz flooded zones where core can't be scratched with steel (= 2% of interval)	197374	870.65	872.68	1.35	33	5	14	10
		- minor to 1% qtz-cc veins/veinlets (local brecciation @ 852.00 m); minor qtz-ep patches; local silicified zones (described further); 3 cm wide cc vein @ 35° CA @ 864.10 m								
		- generally moderate to str. slt (v.f.gr. disseminated)								
		- competent core up to 1.5 m long; minor blocky ground core @ 842.38 m; core increasingly becomes less chloritic and very hard beyond = 853.00 m (indurated)								
		- mineralization: local patchy and stringer-type py; possible tr ep in more chloritic zones; = 1 cm wide py vein @ 20° CA @ 854.80-855.00 m								
		- 854.50-855.95 m: Minor to = 3% ghost-like light grey felsic? fragments/lapilli? feldspars: (= 1-2 mm subrounded anhedral)								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-155

Page 42

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
855.95	858.25	CHL-MAFIC VOLCANIC(?) - Light grey silicified zone or felsic volcanic?; mainly qtz with discontinuous elongated variable (5-25%) chl wisps @ = 0° CA; mottled grainy texture; patchy clusters/stringers of py in str chl veins/donains - upper contact is irregular and undulating subparallel to CA to = 856.35 m; lower contact is @ = 20° CA								
870.65	873.06	MAFIC VOLCANIC - With = 10-15% ghost-like siliceous light grey porphyroblasts? which are subrounded and = 1-3 mm diam; local py to = 2% - lowermost contact @ 40° CA.								
873.06	882.10	QUARTZ-EYE FELSIC VOLCANIC (CHL) - Mottled medium-dark green; aphanitic siliceous groundmass with minor to = 3-4% angular f.gr. (< 1 mm) glassy subangular to rounded qtz eyes; well developed foliation parallel to CA; blue qtz eyes towards lower etc - variable moderate to moderately strong pervasive chl alt'n gives core dark green colour: from = 880.70 m intense to moderate chl with local cord porphyroblasts - moderate-strong magnetism (v.f.gr. dissem py) - very competent (to 1.25 m); hard, only more chloritic zones can be scratched with steel - mineralization variable; up to minor f.gr. dissem to over 10% buckshot concentrations in intense chloritic zones (< 0.1-2 mm) - lower etc defined by loss of qtz eyes @ = 50° CA? (seems to grade into str chl fol'd volc).	197375	880.70	882.10	1.40	40	12	23	29
882.10	886.05	MAFIC? VOLCANIC (Silicified Magnetite) - Dark-medium grey-green; aphanitic - v.f.gr. Upper 60 cm seems to be schistose on broken surface = parallel to CA grading into massive indurated rock Composition: too f.gr. to determine, yet upper part of interval is = ongly chloritic; ghost-like lighter grey patches	197379	882.10	882.70	0.60	55	33	62	12

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 43

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba

probably feldspar; on broken surfaces core looks sugary,
silicified hornfelsed:
- v. competent; average breakage: 20-35 cm
- strong pervasive magnetite
- mineralization = 0.25% disseminated f.g. py. generally along chl
fractures
- lower etc sharp @ = 35° CA.

888.05 896.00 FELSIC VOLCANIC (RHYOLITIC?)

- Light grey; aphanitic; foliation developed by alignment of chl
and/or mt;
889.00 m @ 35° CA; 890.80 m @ 20° CA; 891.00 m @ 20° CA;
892.40 m @ 40° CA
- composed essentially of aphanitic qtz; generally angular
glassy f.g. qtz eyes (to 1-2%); variable chl alteration as
fractures or discontinuous wisps with f.g. disseminated mt;
pervasive chlorite adjacent to qtz and qtz-cc veins as at
892.05-892.26 m; cc vein @ 892.60-892.70 m @ = 30° CA and =
893.15-893.50 m irregular to 35° CA; generally has chloritic
contact zones with minor brown garnet; minor local brown
biotite with chl also adj to cc veins
- 893.15-896.00 m: Pervasive chlorite but hard - chloritized
felsic
- ubiquitous magnetite
- competent, very hard; 100% recovery
- Mineralization: minor to locally up to 0.5% disseminated f.g. py,
mainly along chloritic fractures
- lower etc @ 26° CA - cc-qtz vein.

896.00 915.70 MAFIC DYKE

- Upper 5 cm is finely brecciated chilled margin in cc matrix
- f.g. dark grey-green (diabase); massive unfoliated; homo-
geneous grain-size
Composition: mafic but too f.g. to determine; strongly
magnetic; local chloritization of mafic minerals

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 44

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- Alteration: intense cc to ≈ 896.30 with fabric $\theta = 30^\circ$ CA; thin cc $\pm$ ep veinlets are common - local greenish bleaching proximal to cc $\pm$ ep veinlets, i.e. as at 907.60-909.80 m - veinlets $\theta = 60-80^\circ$ CA - 900.10-908.39 m: ground core - core very competent (breakage θ up to ≈ 1.5 m); tends to break $\theta 90^\circ$ CA - mineralization: nil - lower contact chilled (cherty) over ≈ 20 cm $\theta 36^\circ$ CA, sharp planar.								
915.70	958.40	STRONGLY-INTERSECTED APHANITIC MAFIC VOLCANIC (similar to intervals in GB-150) - Dark green, aphanitic; massive; mafic composition ("heavy"); "peppered" with specks or masses of black mt ($\approx 5\%$), though some irreg accumulations or veins of massive mt; 918.30 m mt shows fabric $\theta \approx 60^\circ$ CA - Alteration: consists mainly of ubiquitous dissen mt, minor ep-qtz patches or discontinuous veins ($<0.5'$ as $\theta 928.10$ m $\theta 20^\circ$ CA; 941.70 m - 1 cm wide $\theta 15-20^\circ$ CA; minor reddish "garnet" rimmed by chlorite; core breaks along chloritic fractures at high angle to CA; beneath $\approx 947.00-948.00$ m, strong chloritization and qtzec veins, brecciation - nr. cc patches - Mineralization: minor local tr dissen py along chl fractures usually as at 924.10-924.30 m or occasional minor massive mt domains - very hard, indurated; "rings" when hit with hammer; can't generally be scratched with steel - competent (1 m - 20 cm breakage)								
935.40	939.12	PORPHYRITIC MAFIC DYKE - Dark green, f.gr./aphanitic groundmass with $\approx 5\%$ whitish subhedral to anhedral feldspar crystals (≈ 0.1 mm to ≈ 4 mm) - Alteration: pervasive local light green silica-epidote along hairline fractures - minor f.gr. dissen py								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 45

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		- very hard competent (came out as 1 piece) - upper etc @ 34" CA (silicified light green); lower etc sharp @ 20" CA.								
958.40	977.10	DIORITIC - GRANODIORITIC BRECCIA								
		- Medium-light greyish-green; f.gr. to med.gr. massive, unfoliated intrusive dioritic to granodioritic matrix with = 15-30% subangular to subrounded irregular white qtz frags and = 2-3% salmon to buff coloured massive, qtz veined rhyolite frags with minor greyish cherty frags; frags, particularly the qtz, are rimmed by 1 mm wide reaction rim of chlorite, most rhyolite frags have no reaction rim and appear to have undulating contacts and seem to be partially resorbed; frags are up to 13 cm and as fine as 1 mm x 2 mm, but generally are = 1-2 cm (poorly sorted) - Alteration consists of epidote along many fractures in matrix and crosscutting rhyolite frags; chloritization of mafic minerals; local silicification, several intervals have reddish hematitic(?) alteration; minor local tremolite; minor local pinkish carbonate clay(?) along broken core - matrix is most likely granodioritic in composition though local finer-grained intervals appear to look like diorite with less feldspar - local moderate to weak magnetism in matrix - ubiquitous minor f.gr. py in matrix and occasionally in qtz frags - hard, very competent; average 25-35 cm³ - upper and lower contacts are not sharp but very gradual (could be same rock type?) @ = 90" CA.								
977.10	994.10	PYRITIC-CHLORITIC MAFIC VOLCANIC(?)	197376	977.50	979.50	2.00	20	31	74	13
		- Dark green, fine-grained to aphanitic; massive - Composition: too fine-grained to determine but strongly chloritic and can be scratched easily with steel; minor ep veinlets below dyke; = 0.5% qtz veinlets @ = 25-30" CA in	197377	984.00	986.50	2.50	11	6	66	10

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 46

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		upper part of interval to parallel to Ca from = 985.75 m - some silicified patches are blue in colour (could be feldspar??); local apophyses of med.gr diabase over = 5 cm (diffuse contacts) - local moderate magnetism; brecciated and seal with silica from 988.90-989.25 m; upper cte @ 26° CA, lower @ 25° - ubiquitous py. = 2-3% locally as clusters or as veinlets (along chl fractures) - py also occurs in silicified domains - lowermost contact gradational into c.gr. intrusive gabbro or granodiorite 981.40 983.03 PORPHYRITIC MAFIC DYKE - Dark green, f.gr.-aphanitic massive rock, porphyritic; = 1% euhedral feldspar (1 mm to = 3 mm) phenocrysts which have resorbed centres - alteration consists of minor epidote along fractures - strongly magnetic - minor local py - upper contact sharp @ 70° CA; lower contact chilled; sharp @ 40° CA.								
994.10	1033.59	GABBRO - GRANODIORITE INTRUSIVE								
		- Phaneritic c.gr. grading into finer-grained intervals; medium grey to pinkish in colour; locally hosts angular-subangular xenoliths (char of margins of larger intrusive body) - massive, occasionally crosscut by minor planar Qtz ± Qtz-cc veinlets and/or epidote veinlets - Composition: = 35-40% feldspar; = 45-50% amphiboles; up to 10-5% Qtz, locally; generally fairly fresh - unaltered - moderately magnetic - crosscut by thin cc ± Qtz-cc veinlets often with minor associated ep; hematization - ubiquitous minor disseminated py - beyond = 1004.15 m, several xenoliths are resorbed in dioritic rock, many subrounded to subangular frags have diffuse contacts and are ghost-like, = 2-3 mm to = 3-4 cm; composition								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 47

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba
		of frags are mainly finer-gr. equivalents of diorite, also qtz frags or ± granitic frags - very competent; only f.gr. mafic dykes are fractured - v.f.gr. mafic massive late chilled magnetic dykes @: 995.96-996.17 m: Sharp planar upper contact @ 25° CA; lower etc sharp slightly undulating @ = 25° CA 996.86-997.88 m: Brecciated frags of black dyke (subangular to subrounded) 1.5 cm to = 5 cm ± 1 cm								
		997.36 997.88 MAFIC DYKE - Upper etc irreg interfingering; lower etc sharp irreg @ = 20° CA								
		998.65 999.48 MAFIC DYKE - Upper etc @ 35° CA; lower etc @ 30° CA								
		1000.30 1000.35 MAFIC DYKELET - Upper and lower contacts @ = 35° CA								
		1004.07-1004.55 PORPHYRYTIC FELSIC DYKE - Purplish-grey aphanitic with v.f.gr. granodioritic phases = 2-3 cm to 6-8 cm diameter round patches; = 3% v.f.gr. feldspar phenocrysts (up to 1 mm; subhedral to anhedral) - up to 2-3% ep ± qtz veinlets @ = 10-70° CA - minor weak-moderate magnetism; medium sulphides - sharp undulating upper etc @ = 70° CA; lower etc undulating @ = 20° CA								
		1004.55 1006.38 GRANODIORITIC DYKE - Massive f.gr. pinkish coloured; mainly feldspar; qtz & (5% mafic minerals; slightly magnetic; similar composition to above dyke's coarser phases - hosts medium-dark green massive, homogeneous chl-qtz rich sediment? dyke? - 26 cm fragment elongated parallel CA from = 1004.58-1005.83 m and @ 1006.66-1006.10 m - lower etc @ 38° CA								
		1006.30 1008.78 MAFIC DYKE								

HOLE No: GB-155

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-155

Page 48

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu	Pb	Zn	Ba

- As other mafic dykes; upper etc @ 30° CA is fractured; lower etc @ 70° CA

1008.78 1033.59 DIORITIC DYKE

- Grading into granitic to granodioritic phases (large scale banding defining segregation of more mafic phases)
- several xenoliths up to 8 cm, i.e. 1022.46-1022.53 m: fine-grained mafic frag or dykelet composed mainly of chl & v.f.gr. biotite (non-magnetic) with etc's @ = 65-70° CA;
- 1022.60-1025.95 m: light pinkish grey granodioritic phase with upper etc @ = 40° CA; lower contact very gradational into

DOWN-ROLE SURVEY DATA

DEPTH	INCLINATION	BEARING
6.10	-53.00	329.50
118.57	-52.00	314.50
188.98	-53.00	325.50
323.40	-52.00	
429.16	-50.00	329.00
555.96	-50.00	321.00
670.26	-49.00	320.00
801.02	-48.00	318.00
1033.59	-48.00	318.00

ROLE No: GB-155

PAGE NO. 1
 HOLE NO. CB-155
 SAMPLED BY: S.M. PUDIEIN

PROJECT: ROBERT'S ARM BR07

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
	From	To	Length						
193166	36.00	36.80	0.80	63	7	40	10	<0.5 - 1% euhedral py	Mafic volcanic; highly silicified; carbonatized
193167	75.00	76.00	1.00	47	2	19	10	tr f.gr. py	Brecciated, faulted, mafic volcanic
193168	120.25	122.25	2.00	52	2	41	42	minor dissem. py	Biotitic felsic (?) tuff; minor cc; chl
193169	318.40	319.00	0.60	46	11	71	10	2% f.gr. py	Mafic volcanic crosscut by Qtz-cc veins
193170	372.90	374.25	1.35	73	4	57	50	2% subhedral py	Cherty biotitic - chl rock
193171	376.13	377.83	1.50	61	82	96	82	0.5-1% dissem. py	Biotitic - chl altered felsic volcanic
193172	397.45	398.43	0.98	243	478	1577	10	0.5% py; tr gal; tr cp	Strongly chloritic - argillaceous sed/mafic volcanic
193173	417.80	419.00	1.20	19	15	70	10	2-3% dissem. py	Brecciated granitic dyke; cc
193174	435.90	437.00	1.10	64	6	26	19	0.5-1% py	Mafic volcanic; f.gr.; strong magnetite
193175	447.10	457.10	2.00	17	3	66	10	0.5% py	Felsic crystal tuff
193176	461.50	463.50	2.00	66	5	19	10	tr py; tr cp?	Mafic volcanic/gabbro
193177	476.00	478.50	2.50	13	6	67	10	minor py; tr cp?	Qtz-feld. crystal tuff
193178	484.00	485.75	1.75	63	5	50	13	minor py; tr cp?	Mafic volcanic; mt; chl
193179	498.10	500.50	2.40	63	120	280	15	0.5-1% py tr f.gr. gal?	chl-biot-ser sediment/tuff
193180	512.00	514.00	2.00	109	73	95	10	0.25% py; tr cp	Mafic volcanic; chl
193181	515.50	517.00	1.50	73	28	180	10	0.5% py; tr cp?	Mafic volcanic; chl; mod mt
193182	518.90	519.90	1.00	61	19	53	10	0.5% py	Mafic volcanic; strong chl
193183	519.90	520.40	0.50	902	461	544	17	10% py; minor cp	Chloritized felsic tuff w "buckshot" py; mod mt.
193184	520.40	522.40	2.00	189	60	820	10	2% py	Chloritized felsic tuff; mod mt.

PAGE NO. 2
 HOLE NO. GB-155
 SAMPLED BY: S. M. PURDIE

PROJECT: ROBERT'S ARM 8807

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
From	To	Length							
193185	522.40	523.10	0.70	299	33	52200 (4400)	10	2-3% py. sph?	Tuff; str. chl; sil-epidote patches; mod int.
193186	523.10	523.70	0.60	311	20	52200 (2925)	10	3-4% py; minor sph	Chloritic tuff; minor cord; mod mt
193187	523.70	525.70	2.00	234	29	259	10	3% py; minor cp	Mod.-str. chl. tuff; cp along chl slips
193188	525.70	527.70	2.00	260	44	276	10	2% py; tr sph / gal tr cp	Str. mafic volcanic / tuff(?); gt-ep patches
193189	527.70	529.44	1.74	206	29	174	10	3-4% py	as above w 10% silicification (qtz flooding)
193190	534.62	536.87	2.25	167	43	152	15	1% v.f.gr. py	chloritic sediment = felsic tuff bands
193191	536.87	538.20	1.33	99	129	528	10	minor py; speck cp speck sph / gal	Chlorite schist; gtz veins; cordierite
193192	538.20	540.50	2.30	57	53	499	46	1% py	Crenulated qtz-ep tuff / sed
193193	540.50	542.80	2.30	20	42	366	47	1% py; tr gal; minor sph	Contacted, laminated felsic tuff / sed.
193194	542.80	544.80	2.00	118	31	218	38	0.5-1% py (v.f.gr.)	Mafic volcanic / tuff; chl-biot.
193195	544.80	546.75	1.95	75	45	161	26	"	as above
193196	546.75	548.25	1.50	13	49	307	28	2-3% py	Qtz-chl-ser schist
193197	548.25	549.75	1.50	47	52	413	10	1-2% py; minor cp tr sph, gal	Qtz-ser schist
193198	549.75	551.10	1.35	179	121	570	—	minor cp; tr gal 2-3% py; ~0.25% sph	Qtz-ser schist; gtz flooding
193199	551.10	552.60	1.50	22	32	315	19	1% v.v.f.gr. py	Cordierite spotted felsic tuff
193200	553.22	554.72	1.50	95	232	1992	10	1-2% py; minor gal	Cordierite spotted gtz-ser-chl schist
197318	554.72	557.00	2.28	179	163	2012	10	3% py; minor sph	Cordierite spotted felsic volcanic w bands py; sheared
197319	567.50	568.25	0.75	27	11	203	20	0.5% py	Felsic tuff; gtz flooding
197320	568.25	569.78	1.53	120	48	1900	—	1-2% py; 2.5% sph	Amphibolite / felsic tuff

PAGE NO.: 3
 HOLE NO.: QB-155
 SAMPLED BY: S.M. PUDLEN

PROJECT: ROBERT'S ARM BOOF

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
	From	To	Length						
197321	569.78	572.00	2.22	9	11	453	20	0.5-1% py; minor sph	Felsic cordierite spotted tuffs
197322	572.00	574.00	2.00	29	9	197	27	1% py	Qtz-feldspar crystal tuff w ~10%
197323	576.38	578.00	1.62	47	2	1398	25	2% py	Sheared Rhyolite; felsic volcanic; chl-ser fractures
197324	580.00	582.70	2.70	5	5	79	14	2-3% py; tr sph?	Sheared rhyolite; py along chl-ser fractures
197325	582.70	584.02	1.32	84	14	2800	—	2-3% py; ^{tr sph} ~1% sph	Brecciated felsic volcanic
197326	584.02	585.50	1.48	65	22	431	26	0.5% py; ^{tr sph} tr sph	Mafic volcanic/tuff?
197327	638.40	639.40	1.00	400	0	6600	—	3-4% py; ^{tr sph} ~3% sph	Cord-chl-ser altered felsic? volcanic
197328	639.40	640.90	1.50	700	0	3800	—	5% py stringers; ^{tr sph} ~2% sph	As above with minor anthophyllite(?)
197329	640.90	641.75	0.85	309	10	3230	37	3-4% py; tr sph +	As above; tuff?
197330	641.75	642.90	1.15	8	3	452	20	0.5% py; ~0.25% sph	Qtz flooded felsic volcanic; discontinuous sulfide stringers
197331	642.90	644.90	2.00	7	2	129	48	3-4% py; 0.25% sph	Qtz sericite schist; ± biot?; ghost-like cordierite
197332	644.90	645.60	0.70	88	6	84	83	8-9% subhedral py	Banded felsic volcanic; strong chl; coalescing cord
197333	645.60	646.80	1.20	59	1	250	—	0.25% py; tr sph	Chl-biot altered felsic tuff; minor qtz flooding
197334	646.80	647.95	1.15	216	13	2700	—	8-9% py; 1% sph; ^{tr sph} tr sph	Crystal tuff; biot. ± chl alteration
197335	647.95	649.15	1.20	30	4	715	205	8-10% py; minor sph	Crystal tuff grading into agglomerate
197336	649.15	650.10	0.95	10	75	763	37	8% py	Banded felsic volcanic → massive rhyolite
197337	650.10	651.90	1.80	108	6	235	83	4.5% py	Brecciated rhyolite; qtz flooding
197338	651.90	653.20	1.30	9	4	126	77	1% py	Contacted qtz-sericite schist; beige porphyroblasts
197339	653.20	654.55	1.35	71	5	1372	—	3-4% py; 0.5% sph	Qtz crystal tuff; biot-ser-chl alteration

PAGE NO. 4
 HOLE NO. GB-155
 SAMPLED BY: S.M. PUDIEIN

PROJECT: ROBERT'S ARM 8807

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
	From	To	Length						
197340	654.55	655.95	1.40	173	6	1882	125	4-5% py; 1% sph	Qtz crystal tuff; ghost-like coarse porphyroblasts
197341	658.40	659.90	1.50	3	5	187	118	1% py; minor sph	Deformed Qtz-ser schist + chl; cord. augens
197342	663.30	664.80	1.50	68	11	239	30	1-2% py;	Pyritic felsic volcanic; sericitic
197343	666.55	668.55	2.00	73	13	684	90	2% py	Pyritic felsic volcanic; fault gouge
197344	668.55	670.30	1.75	131	156	2100	—	1% py; 0.5% sph; ^{tr} sp [?] 0.25% gpl	Intensely chloritic fgr. rock
197345	670.30	671.20	0.90	200	400	1600	—	3% py; 1-2% sph	cherty felsic volcanic; chl-ser fractures
197346	672.60	674.40	1.80	165	7	1300	—	8-10% py; 0.5% sph	Rhyolite + biot-chl-ser altered tuff
197347	674.40	676.10	1.70	134	28	72200 4820	10	2-3% py; 2-3% sph ^{tr} sp [?]	Chloritic mafic volcanic? felsic tuff
197348	676.10	677.65	1.55	302	30	72200 6280	10	10-12% py; tr sph [?]	Chloritic altered mafic tuff
197349	680.90	681.90	1.00	154	26	1032	57	5-6% py; minor sph	Strong cord-chl altered mafic volcanic/tuff?
197350	682.75	684.75	2.00	135	12	770	55	10-12% py; 5% po ^{tr} sp [?]	Chl-cord-mt altered rock
197351	685.00	687.00	2.00	164	12	873	84	10% py, ± po; tr sph ^{tr} sp [?]	as above
197352	722.50	724.50	2.00	93	6	84	56	1% py; minor po ^{tr} sp [?]	Qtz-crystal tuff; biot-chl alteration
197353	730.15	731.15	1.00	306	8	59	25	1% py	Crystal tuff
197354	732.00	733.15	1.15	56	3	36	39	4% py	Chloritic tuff; Qtz veins
197355	736.00	738.00	2.00	495	13	111	38	2% py; 0.5% po	Chl-cord ± biot ± mt altered rock
197356	753.00	754.00	1.00	190	7	51	22	2-3% po ^{tr} sp [?] 0.5% py	Mafic volcanic; chl veins; Qtz flooding
197357	754.00	755.80	1.80	63	9	52	40	1% local po	as above
197358	755.80	756.30	0.50	190	22	72	111	25% po; 1% py; massive stringer	Chl ± biot altered rock with local silicification + local cord.

PAGE NO. 5
 HOLE NO. CB-155
 SAMPLED BY: S. K. R. RUDIN

PROJECT: ROBERT'S ARM 8807

SAMPLE NUMBER	SAMPLE INTERVAL From To Length			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
197359	756.30	757.05	0.75	53	10	47	55	4-5% py; 2% po	Strong-intense chl; 8% cord; local silicification - chert
197360	764.00	766.00	2.00	8	4	20	68	1% py; trcp?	Strongly chloritic felsic tuff
197361	770.00	772.50	2.50	125	5	89	18	1% py; tr po, local cp	Strongly chl - cord ± mt altered felsic
197362	776.10	777.40	1.30	822	2	58	52	1% py; 0.5% cp	Felsic volcanic; narrow agglomerate
197363	777.40	778.40	1.00	344	2	39	54	local minor po, ^{tr} py	Felsic volcanic; ^{local ch} shredded porphyroblasts
197364	778.40	780.15	1.75	671	6	102	71	2-3% py; 1-2% po; 1% ^{minor} tr cp	As above but strong chl stringers/patches
197365	780.15	782.15	2.00	20	2	24	53	tr py, cp	Felsic volcanic & shredded porphyroblasts
197366	782.15	784.65	2.50	112	55	89	42	as above	as above; minor chl
197367	784.65	786.10	1.45	169	331	32	28	0.25% - minor cp 0.5% py; minor po	Felsic lapilli tuff; agglomerate
197368	786.10	789.10	3.00	359	39	93	52	0.5% cp; 1% py minor po	chl - cord altered felsic volcanic; sericitic
197369	789.10	791.60	2.50	95	2	27	55	as above, less cp	as above; more sericitic
197370	803.10	804.10	1.00	293	4	47	23	1% py; minor cp	Felsic volcanic; qtz-cc veins
197371	832.90	834.25	1.95	48	5	34	10	2% stringer py	Strongly chloritic mafic volcanic; magmatic
197372	840.00	842.00	2.00	15	3	41	10	1-2% py; tr cp	as above
197373	845.00	846.50	1.50	34	8	35	10	0.5 - 1% py, tr cp?	as above
197374	870.65	872.00	1.35	13	5	14	10	2% py; tr cp?	Mod. chl mafic volcanic; patchy silicification
197375	880.70	882.10	1.40	40	12	23	29	5-10% buckshot py	Strongly chloritic felsic volcanic
197376	977.50	979.50	2.00	20	31	74	13	2-3% ² py	Very strongly chl mafic volcanic; str. mt; qtz
197377	984.00	986.50	2.50	11	6	66	10	3% py	As above; blue qtz veins/flooding

PROJECT: ROBERT'S ARM 8807

[illegible]

CB-155

ICP Geochemistry Certificate

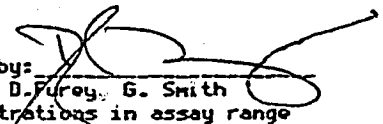
Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

DskFile: 171-6751.wk1

DateIn: February 13/92
 DateOut: February 16/92

Phone: 709-673-3909
 Fax: 709-673-3408

Signed by: 
 D. Furey, G. Smith
 (Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Ce ppm	Sr ppm	Ba ppm	Fe %	P %	Hg ppm	Mg %	As ppm	V ppm	Cr %	Mo ppm	Al %	Be ppm	Ca %	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti %	Cd ppm	Co ppm	Ni ppm	H ppm	La ppm	K %	Mn ppm	Rb ppm	Cr ppm
193166	14	15	10	3.24	0.04	1	1.26	8	110	0.07	1	1.81	0.9	3.07	40	63	5	0.4	7	2	0.04	0.5	26	31	10	10	0.06	283	20	88
193167	10	6	10	1.37	0.05	1	0.67	6	31	0.03	1	0.94	0.5	0.58	19	47	5	0.2	2	2	0.04	0.5	14	22	10	10	0.01	132	20	46
193168	10	11	42	3.44	0.05	1	1.78	5	168	0.13	1	2.97	0.8	1.07	41	52	5	0.2	2	2	0.08	0.5	22	32	10	10	0.96	171	20	130
193169	10	12	10	6.28	0.06	1	2.69	9	211	0.04	1	3.06	1.5	4.32	71	46	5	0.2	11	2	0.04	0.5	24	13	10	10	0.03	609	20	39
193170	10	18	50	4.88	0.05	1	1.62	5	157	0.14	1	3.15	0.9	2.14	57	73	5	0.6	4	2	0.11	0.5	25	62	10	10	>1.10	984	20	174
193171	10	11	82	3.31	0.04	1	1.58	5	127	0.13	2	2.45	0.6	0.96	96	61	5	0.7	82	2	0.09	0.5	23	61	10	10	0.87	406	20	149
193172	10	4	10	4.22	0.05	1	1.98	5	156	0.06	1	1.92	0.5	0.31	1577	243	5	0.7	478	2	0.05	5.4	33	50	10	10	0.06	477	20	116
193173	26	37	10	5.74	0.27	1	1.27	43	117	0.09	1	2.02	1.0	3.82	70	19	5	0.2	15	2	0.05	0.5	20	6	10	10	0.03	805	20	63
193174	10	12	19	2.75	0.07	1	0.79	5	72	0.06	1	1.09	0.5	0.53	26	64	5	0.2	6	2	0.04	0.5	21	16	10	10	0.08	146	20	48
193175	10	3	10	2.51	0.03	1	1.41	5	28	0.08	1	1.63	0.5	0.24	66	17	5	0.2	3	2	0.03	0.5	5	4	10	10	0.06	265	20	63
193176	10	17	10	1.67	0.04	1	1.24	5	39	0.08	1	1.56	0.5	0.65	19	66	5	0.2	5	2	0.02	0.5	12	51	10	10	0.04	181	20	75
193177	10	4	10	2.18	0.03	1	0.92	5	17	0.07	1	1.29	0.5	0.39	67	13	5	0.2	6	2	0.02	0.5	3	4	10	10	0.14	244	20	70
193178	10	19	13	3.47	0.08	1	1.41	5	127	0.11	1	2.12	0.6	0.99	50	63	5	0.3	5	2	0.05	0.5	19	16	10	10	0.08	168	20	47
193179	10	13	15	4.23	0.05	1	2.15	11	164	0.07	1	2.54	0.9	1.47	280	63	5	0.5	120	2	0.03	0.6	19	16	10	10	0.25	518	20	49
193180	10	10	10	3.25	0.04	1	1.43	5	83	0.06	1	1.66	0.5	0.66	95	109	5	0.2	73	2	0.04	0.5	23	26	10	10	0.03	405	20	79
193181	10	15	10	2.78	0.06	1	1.03	5	86	0.07	1	1.33	0.5	0.52	180	73	5	0.3	28	2	0.03	0.5	21	18	10	10	0.02	202	20	40
193182	10	16	10	3.00	0.06	1	1.25	5	121	0.12	1	1.86	0.5	0.71	53	61	5	0.2	19	2	0.03	0.5	21	19	10	10	0.02	341	20	39
193183	10	46	17	>10.00	0.05	1	1.86	20	168	0.09	20	2.10	0.7	0.49	544	902	5	2.0	461	2	0.03	0.5	25	35	10	10	0.05	694	20	88
193184	10	11	10	5.50	0.07	1	2.35	5	215	0.06	1	2.25	0.9	0.27	840	189	5	0.7	60	2	0.03	0.5	30	31	10	10	0.02	805	20	42
193185	35	28	10	4.49	0.07	1	1.56	5	175	0.10	1	2.07	0.8	0.53	>2200	299	5	0.6	33	4	0.02	12.5	31	31	10	10	0.02	514	20	56
193186	12	40	10	6.45	0.07	1	2.32	5	214	0.10	1	2.67	0.9	0.47	>2200	311	5	0.8	20	2	0.02	6.7	40	30	10	10	0.03	624	20	51
193187	13	16	10	5.97	0.06	1	2.25	5	182	0.10	1	2.46	0.8	0.51	259	234	5	0.6	29	2	0.03	0.5	35	28	10	10	0.01	500	20	64
193188	10	28	10	6.79	0.06	1	2.36	5	199	0.12	1	3.43	1.0	0.85	276	260	5	0.7	44	2	0.03	0.5	27	27	10	10	0.01	531	20	45
193189	10	60	10	7.74	0.06	1	2.72	5	203	0.17	1	4.20	0.9	1.14	174	206	5	0.4	29	2	0.02	0.5	37	30	10	10	0.05	518	20	66
193190	10	13	15	3.68	0.04	1	1.48	6	116	0.11	1	2.72	0.6	1.04	152	67	5	0.6	43	2	0.03	0.5	24	85	10	10	0.12	660	20	200
193191	10	14	10	4.26	0.03	1	2.29	5	101	0.06	2	2.51	0.5	0.91	528	79	5	0.7	129	2	0.03	4.4	16	40	10	10	0.10	725	20	132
193192	10	21	46	4.29	0.03	1	1.98	8	89	0.10	1	2.89	0.5	0.80	499	57	5	0.6	53	2	0.05	0.6	13	25	10	10	0.61	1156	20	98
193193	10	24	47	4.68	0.02	1	2.07	6	82	0.08	1	2.58	0.5	0.34	366	20	5	0.5	42	2	0.05	0.5	10	11	10	10	0.70	913	20	67

GB-155

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6754.wk1

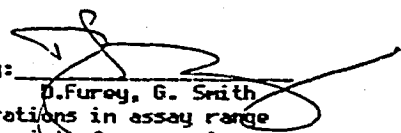
DateIn: February 17/92
 DateOut: February 18/92

FR/AA/ICP Geochemistry Certificate

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

Phone: 709-673-3909
 Fax: 709-673-3408

Signed by:


 D. Furey, G. Smith

(Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Au (FR) ppb	Cu (ICP) ppm	Cu (AA) ppm	Pb (ICP) ppm	Pb (AA) ppm	Zn (ICP) ppm	Zn (AA) ppm	Ag (ICP) ppm	Ag (AA) ppm
193185		293	315	33	27	>2200	4400	0.6	0.4
193186		311	317	20	16	>2200	2925	0.8	0.6
193191	12								

GB-155

ICP Geochemistry Certificate

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

DskFile: 171-6757.wk1

DateIn: February 18/92

DateOut: February 21/92 *rec'd Feb 22/92*

Fone: 709-673-3909

Fax: 709-673-3408

Signed by: 

D. Furey, G. Smith

(Concentrations in assay ranges
 may cause interferences in
 associated elements.)

SAMPLE #	Ce ppm	Sr ppm	Ba ppm	Fe Z	P Z	Hg ppm	Mg Z	As ppm	V ppm	Na Z	Mo ppm	Al Z	Be ppm	Ca Z	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti Z	Cd ppm	Co ppm	Ni ppm	Mn ppm	La ppm	K Z	Mn ppm	Rb ppm	Cr ppm
193194	10	11	38	5.51	0.07	1	1.26	5	224	0.12	1	2.77	1.0	1.06	218	118	5	0.9	31	2	0.10	1.9	32	72	10	10	0.52	467	20	77
193195	11	21	26	4.65	0.06	1	1.30	5	201	0.13	1	2.89	1.0	1.31	161	75	5	0.7	45	2	0.07	2.0	28	25	10	10	0.45	464	20	72
193196	10	17	28	3.99	0.02	1	1.90	5	33	0.08	1	2.40	0.5	0.40	307	13	5	0.3	49	2	0.03	1.8	5	5	10	10	0.49	1450	20	51
193197	10	13	10	2.17	0.02	1	0.68	12	13	0.05	1	1.01	0.5	0.36	413	47	5	0.5	52	2	0.01	2.9	4	4	10	10	0.21	745	20	92
193199	10	23	19	4.28	0.02	1	2.23	5	43	0.05	1	2.40	0.5	0.21	315	22	5	0.3	32	2	0.02	3.2	5	6	10	10	0.24	1563	20	76
193200	10	29	10	5.16	0.03	1	2.63	5	129	0.07	1	2.86	0.6	0.31	1992	95	5	0.6	232	2	0.02	10.6	16	21	10	10	0.08	1621	20	78
197318	12	15	10	6.27	0.04	1	2.80	8	165	0.05	1	3.00	0.7	0.32	2012	170	5	0.8	163	2	0.03	10.2	17	17	10	10	0.09	1620	20	63
197319	10	5	20	2.07	0.02	2	1.06	5	21	0.04	1	1.19	0.5	0.80	203	27	5	0.2	11	2	0.01	1.2	4	6	10	10	0.13	769	20	117
197321	10	4	20	1.77	0.02	1	1.32	5	24	0.04	1	1.32	0.5	0.13	453	9	5	0.2	11	2	0.01	1.3	4	6	10	10	0.19	854	20	85
197322	17	6	27	2.34	0.03	1	1.57	5	42	0.05	1	1.73	0.5	0.13	197	29	5	0.2	9	2	0.02	1.2	8	7	10	10	0.31	777	20	80
197323	10	6	25	1.35	0.02	1	0.93	5	15	0.04	1	0.98	0.5	0.24	1398	47	5	0.2	2	2	0.01	4.0	2	3	10	10	0.16	551	20	75
197324	10	2	14	1.48	0.01	1	0.39	5	5	0.02	7	0.45	0.5	0.29	79	5	5	0.2	5	2	0.01	0.8	1	2	10	10	0.09	360	20	100
197326	10	13	26	4.11	0.04	1	2.48	5	147	0.11	1	2.77	0.6	0.93	431	65	5	0.2	22	2	0.05	3.5	21	45	10	10	0.40	790	20	146
197329	13	38	37	6.44	0.04	2	3.34	5	193	0.10	1	3.56	1.0	0.39	>2200	309	5	0.2	10	2	0.01	12.8	28	41	10	10	0.17	1414	20	130
197330	10	2	20	1.01	0.01	1	0.80	5	8	0.05	1	0.79	0.5	0.03	452	8	5	0.2	3	2	0.01	2.3	1	3	10	10	0.08	366	20	106
197331	15	2	48	2.02	0.02	1	1.07	5	11	0.03	1	1.17	0.5	0.04	129	7	5	0.2	2	2	0.01	1.2	5	3	10	10	0.28	569	20	68
197332	12	8	83	5.10	0.04	1	1.36	5	31	0.05	1	1.46	0.5	0.09	84	88	5	0.2	6	2	0.02	2.4	9	11	10	10	0.38	748	20	100
197335	10	8	205	3.63	0.04	1	1.71	5	32	0.05	1	1.89	0.5	0.10	715	30	5	0.2	4	2	0.03	4.6	6	9	10	10	0.67	752	20	62
197336	13	8	37	4.36	0.05	1	0.90	5	23	0.03	1	1.03	0.5	0.14	763	75	5	0.2	10	2	0.01	4.3	7	6	10	10	0.13	627	20	121
197337	10	9	83	3.66	0.02	1	1.49	5	24	0.04	1	1.59	0.5	0.10	235	108	5	0.2	6	2	0.01	3.0	7	6	10	10	0.40	926	20	76
197338	10	6	77	1.83	0.02	1	1.32	5	14	0.03	1	1.50	0.5	0.04	126	9	5	0.2	4	2	0.02	0.5	3	4	10	10	0.54	645	20	76
197339	10	7	73	2.55	0.03	1	1.17	5	35	0.05	1	1.42	0.5	0.08	1372	71	5	0.2	5	2	0.03	6.1	6	5	10	10	0.46	759	20	74
197340	10	14	125	3.99	0.04	1	1.87	5	69	0.06	1	2.18	0.5	0.17	1882	173	5	0.2	6	2	0.05	7.6	11	6	10	10	0.66	1064	20	74
197341	10	9	118	1.51	0.02	1	1.33	5	10	0.04	1	1.37	0.5	0.10	187	3	5	0.2	5	2	0.01	1.2	2	2	10	10	0.38	801	20	78
197342	14	3	30	4.67	0.05	1	1.71	12	33	0.02	1	1.91	0.5	0.37	239	68	5	0.2	11	2	0.01	3.6	14	19	10	10	0.13	1497	20	72
197343	10	14	90	3.47	0.04	1	2.82	5	85	0.05	1	2.35	0.5	0.29	684	23	5	0.2	13	2	0.04	3.6	13	24	10	10	0.16	1536	20	104
197347	10	5	10	4.93	0.07	1	3.69	10	199	0.05	1	3.31	1.0	0.25	>2200	134	5	0.2	28	2	0.03	15.5	27	55	10	10	0.02	1510	20	187
197348	10	3	10	9.36	0.07	2	3.87	14	178	0.03	1	3.37	0.8	0.17	>2200	302	5	0.2	30	2	0.04	25.0	25	45	10	10	0.01	1969	20	139
197349	10	16	57	9.29	0.07	1	3.39	5	209	0.06	1	3.75	1.0	0.27	1032	154	5	0.2	26	2	0.03	7.9	28	59	10	10	0.14	1616	20	125
197350	10	18	55	7.86	0.07	1	2.80	5	186	0.07	1	2.96	1.0	0.27	770	135	5	0.2	12	2	0.02	5.6	38	53	10	10	0.15	1064	20	172
197351	10	30	84	7.26	0.06	1	3.01	5	200	0.09	1	3.56	1.1	0.36	873	164	5	0.2	12	2	0.03	6.4	26	54	10	10	0.23	1189	20	170
197352	10	39	56	5.96	0.04	1	2.71	5	78	0.07	6	3.89	0.5	0.24	84	93	5	0.2	6	2	0.03	3.1	42	5	10	10	0.40	586	20	74
197353	10	10	25	3.62	0.02	1	1.61	5	36	0.04	17	2.13	0.5	0.52	59	306	5	0.2	8	2	0.02	2.5	32	4	10	10	0.24	438	20	64

MAR 17 1992

Client: Rio Algom Exploration
Geo: M. Pudifin
Project: 8807
Sample: Core

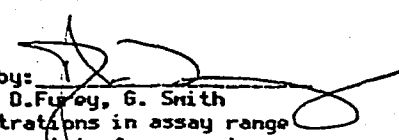
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DateIn: February 25/92
DateOut: March 4/92

Fire Assay Certificate

Eastern Analytical Limited
P.O. Box 187,
Little Bay Road,
Springdale,
Newfoundland.

Fone: 709-673-3909
Fax: 709-673-3408

Signed by: 
D. Furey, G. Smith
(Concentrations in assay range
may cause interferences in
associated elements.)

SAMPLE #	Au ppb
197325	5
197333	5
197334	5

GB-155

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6757.wk1

DateIn: February 18/92
 DateOut: February 21/92

Rec'd Feb 22

ICP Geochemistry Certificate

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

Phone: 709-673-3909
 Fax: 709-673-3408

Signed by:


 D. Forey, G. Smith

(Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Ce ppm	Sr ppm	Ba ppm	Fe %	P %	Hg ppm	Hg %	As ppm	V ppm	Na %	Mo ppm	Al %	Be ppm	Ca %	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti %	Cd ppm	Co ppm	Ni ppm	H ppm	La %	K %	Mn ppm	Rb ppm	Cr ppm
197354	10	14	39	5.90	0.02	1	1.70	5	46	0.05	12	2.55	0.5	0.12	36	56	5	0.2	3	2	0.03	3.3	63	4	10	10	0.41	528	20	81
197355	10	23	38	7.01	0.05	1	2.79	5	136	0.08	14	4.38	0.7	0.82	111	495	5	0.2	13	2	0.05	3.9	59	46	10	10	0.32	689	20	191
197356	10	29	22	7.43	0.05	1	2.51	5	104	0.05	2	3.78	0.5	0.61	51	190	5	0.2	7	2	0.02	3.8	103	43	10	10	0.06	487	20	198
197357	10	42	40	3.53	0.06	1	1.90	5	108	0.08	5	3.27	0.6	0.85	52	63	5	0.2	9	2	0.03	1.8	28	26	10	10	0.25	349	20	146
197358	14	12	111	>10.00	0.05	1	2.92	7	135	0.06	17	3.55	0.5	0.27	72	190	5	0.7	22	2	0.08	11.8	52	40	10	10	0.96	656	20	79
197359	10	15	55	7.52	0.03	1	2.08	5	71	0.05	71	2.84	0.5	0.20	47	53	5	0.2	10	2	0.02	4.7	66	13	10	10	0.32	501	20	60

GB-155

FA/AA Geochemistry Certificate

Client: Rio Algon Exploration
Geo: M. Pudifin
Project: 8807
Sample: Core

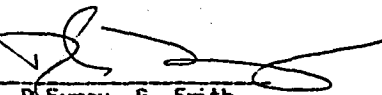
Eastern Analytical Limited
P.O. Box 187,
Little Bay Road,
Springdale,
Newfoundland.

DiskFile: 171-6755.wk1

DateIn: February 18/92
DateOut: February 21/92 Rec'd Feb. 22

Phone: 709-673-3909
Fax: 709-673-3408

Signed by:



D. Furey, G. Smith
(Concentrations in assay range
may cause interferences in
associated elements.)

SAMPLE #	Au(CFA) ppb	Cu(AA) ppm	Pb(AA) ppm	Zn(AA) ppm	Ag(AA) ppm
193198		179	121	570	1.5
197320		120	48	1900	0.5
197325		84	14	2800	0.4
197333		59	1	250	0.2
197334		216	13	2700	0.2
197344		131	156	2100	0.2
197346		165	7	1300	0.2

GE-155

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6756.wk1

DateIn: February 18/92
 DateOut: February 21/92 Rec'd Feb 22

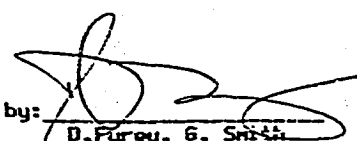
AA Assay Certificate

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

Phone: 709-673-3909
 Fax: 709-673-3408

3473

Signed by:


 D. Furey, G. Smith

(Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Cu(AA) % oz/t	Pb(AA) % oz/t	Zn(AA) % oz/t	Ag(AA) % oz/t	✓ lower limit?
197327	0.04	0.00	0.66	0.00	
197328	0.07	0.00	0.38	0.00	
197345	0.02	0.04	0.16	0.00	

GIB-155

Client: Rio Algom Exploration
Geo: M. Pudifin
Project: 8807
Sample: Core

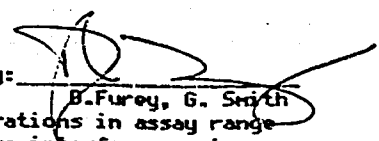
DskFile: 171-6756.wk1

DateIn: February 18/92
DateOut: February 21/92

AA Assay Certificate

Eastern Analytical Limited
P.O. Box 187,
Little Bay Road,
Springdale,
Newfoundland.

Fone: 709-673-3909
Fax: 709-673-3408

Signed by: 

B. Furey, G. Smith
(Concentrations in assay range
may cause interferences in
associated elements.)

SAMPLE #	Cu(AA) wt2	Pb(AA) wt2	Zn(AA) wt2	Ag(AA) wt2
197327	0.04	0.00	0.66	0.00
197328	0.07	0.00	0.38	0.00
197345	0.02	0.04	0.16	0.00

93-155

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6759.uk1

DateIn: February 25/92
 DateOut: February 28/92

Rec'd Feb. 28/92

ICP Geochemistry Certificate

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
 Newfoundland.

Phone: 709-673-3909
 Fax: 709-673-3408

Signed by:

D. Furey G. Smith

(Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Ce	Sr	Ba	Fe	P	Hg	Hg	As	V	Na	Mo	Al	Be	Ca	Zn	Cu	Sb	Ag	Pb	Bi	Ti	Cd	Co	Ni	H	La	K	Mn	Rb	Cr
	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
197360	12	14	68	2.98	0.02	1	1.14	5	18	0.06	5	1.85	0.5	0.12	20	8	5	0.2	4	3	0.02	1.2	18	3	10	10	0.39	323	20	78
197361	20	38	18	7.18	0.09	1	3.00	5	166	0.08	4	4.35	0.8	0.61	89	125	5	0.3	5	2	0.02	2.6	51	42	10	10	0.07	633	20	140
197362	10	21	52	3.47	0.02	1	1.24	5	18	0.06	7	1.99	0.5	0.11	58	822	5	1.6	2	2	0.01	1.8	16	2	10	10	0.37	373	20	74
197363	10	11	54	2.91	0.02	1	1.11	5	14	0.05	7	1.67	0.5	0.06	39	344	5	0.5	2	2	0.01	1.5	14	2	10	10	0.41	302	20	66
197364	10	17	71	4.72	0.02	1	1.66	5	28	0.05	11	2.44	0.5	0.10	102	671	5	0.9	6	2	0.01	2.8	26	3	10	10	0.43	451	20	64
197365	10	26	53	2.59	0.02	1	1.17	5	13	0.06	7	1.76	0.5	0.14	24	20	5	0.2	2	2	0.01	0.8	13	2	10	10	0.30	312	20	76
197366	10	19	42	3.19	0.02	1	1.20	5	17	0.05	4	1.94	0.5	0.14	89	112	5	0.3	55	2	0.01	6.8	18	4	10	10	0.25	377	20	74
197367	10	9	28	2.36	0.02	1	1.08	5	13	0.04	3	1.54	0.5	0.10	32	169	5	0.3	331	2	0.01	1.7	12	3	10	10	0.16	338	20	74
197368	10	25	52	3.34	0.02	1	1.21	5	19	0.06	27	2.01	0.5	0.43	93	359	5	1.4	39	2	0.01	4.1	19	4	10	10	0.22	424	20	68
197369	10	25	55	2.43	0.02	1	1.09	5	14	0.05	3	1.75	0.5	0.15	27	95	5	0.2	2	2	0.01	1.4	12	2	10	10	0.22	319	20	65
197370	14	12	23	2.63	0.01	1	1.11	5	19	0.07	10	1.59	0.5	1.21	47	293	5	0.3	4	2	0.01	2.1	14	3	10	10	0.11	396	20	91
197371	10	17	10	8.32	0.04	1	3.85	14	146	0.04	1	4.47	0.5	0.46	34	48	5	0.2	5	2	0.03	4.8	44	44	10	10	0.03	457	20	171
197372	10	17	10	6.72	0.04	1	3.64	11	142	0.04	3	4.24	0.5	0.50	46	15	5	0.2	3	2	0.02	4.4	43	58	10	10	0.01	574	20	150
197373	15	7	10	8.15	0.06	1	3.47	10	165	0.04	1	4.08	0.6	0.33	35	34	5	0.2	8	2	0.05	3.9	58	29	10	10	0.02	349	20	60
197374	10	33	10	5.29	0.07	1	1.69	5	146	0.08	1	3.41	0.6	1.01	14	13	5	0.2	5	2	0.02	3.5	37	13	10	10	0.03	121	20	53
197375	10	10	29	>10.00	0.02	1	2.83	5	148	0.05	1	3.58	0.5	0.15	23	40	5	0.2	12	2	0.02	8.9	163	12	10	10	0.09	390	20	40

GB-155

Client: Rio Algom Exploration
Geo: M. Pudifin
Project: 8807
Sample: Core

DskFile: 171-6761.wk1

DateIn: February 25/92
DateOut: February 28/92 *Rec'd Feb 28*

AA Geochemistry Certificate

Eastern Analytical Limited
P.O. Box 187,
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Springdale,
Newfoundland.

Fone: 709-673-3909
Fax: 709-673-3408

Signed by: 
D. Furry, G. Smith
(Concentrations in assay range
may cause interferences in
associated elements.)

SAMPLE #	Zn(ICP) ppm	Zn(AA) ppm
197329	>2200	3230
197347	>2200	4820
197348	>2200	6780

MAR 17 1992

Client: Rio Algom Exploration
 Geo: M. Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6763.uk1

DateIn: March 4/92
 DateOut: March 11/92

ICP Geochemistry Certificate

Eastern Analytical Limited
 P.O. Box 187,
 Little Bay Road,
 Springdale,
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Fone: 709-673-3909
 Fax: 709-673-3408

Signed by:

D. Furey, G. Smith

(Concentrations in assay range
 may cause interferences in
 associated elements.)

SAMPLE #	Ce ppm	Sr ppm	Ba ppm	Fe %	P %	Hg ppm	Hg %	As ppm	V ppm	Na %	Mo ppm	Al %	Be ppm	Ca %	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti %	Cd ppm	Co ppm	Ni ppm	H ppm	La ppm	K %	Mn ppm	Rb ppm	Cr ppm
197376	18	32	13	>10.00	0.05	1	>5.50	5	210	0.05	1	>5.50	1.2	1.16	74	20	5	0.4	31	2	0.26	0.5	59	54	10	10	0.03	725	20	163
197377	21	20	10	>10.00	0.05	1	>5.50	5	235	0.04	1	>5.50	1.3	0.76	66	11	5	0.3	6	2	0.28	0.5	79	67	10	10	0.02	803	20	178
197378	45	7	96	6.09	0.05	1	2.05	5	35	0.03	1	2.41	0.5	0.23	110	37	5	0.2	18	2	0.11	0.5	17	32	10	10	0.56	1777	20	142
197379	23	9	12	>10.00	0.05	1	>5.50	6	290	0.02	1	>5.50	1.5	0.52	62	55	5	0.2	33	2	0.18	1.2	113	24	10	10	0.03	665	20	53