

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-151

Collar Eastings: 725.00

Collar Northings: 1700.00

Collar Elevation: 0.00

Grid: MAIN 1988

LOCATED 130 M NORTH ALONG STRIKE

Collar Inclination: -55.00

Grid Bearing: 265.00

Final Depth: 879.97 metres

TO TEST FOR EXTENSION OF THE MINERALIZATION AND ALTERATION IN FALCONBRIDGE'S OLD HOLES

Logged by: M. MUGGRIDGE

Date: OCT. 23, 1991

Down-hole Survey: TROPARI

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
0	3.66	OVERBURDEN								
		- (4.88 m casing); core recovered from 3.66-4.88 m, but unsure whether bedrock or boulders.								
3.66	17.66	MAFIC VOLCANIC	193208	12.00	13.00	1.00	NIL	NIL	NIL	NIL
		- Medium to dark green colour. Fine-grained with feldspar-porphyrific upper section. Massive; localized silicified zone @ 5.73-6.02 m with mod. developed foliation subparallel to CA.								
		- Pervasive to patchy veining; 4% cc-sil-gt-ep veins (irregular, 2-20 mm wide + (1% hairline veinlets), local cc veins (1%, irregular, (1.5 cm wide, subparallel to CA).								
		- Composition is too fine-grained to determine, but weakly to moderately chloritic. White feldspar phenocrysts (compose 5% of upper section - 3.66-7.76 m), are anhedral to subhedral, generally diffuse crystal margins.								
		- Non-magnetic; scratches easily with steel nail. Alteration consists of pervasive stringer chloritization; cc-sil-gt-ep veins as described above.								
		- Sulphide mineralization consists of overall trace amounts of py, locally (1% disse py (euhedral to subhedral).								
		- Core competency: rubbly core (avg. 3 cm length core) - 3.66-10.45 m.								
		- 10.45-17.66 m: moderately competent (avg. 12 cm core). Upper contact not observed; lower contact is sharp, irregular @ 50° CA.								
		5.73-6.02 m: zone of silicification with moderately developed foliation which is irregular (possibly folded) subparallel to CA.								
		6.25 m: Fracture @ 60° CA.								
		9.60 m: Fracture infilled with cc; @ 45° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 2

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		17.16 m: cc along foliation @ 30° CA.								
17.66	31.96	DACYTIC PORPHYRY								
		- Medium grey (locally salmon tint) colour; phenocrysts (6 mm diam.) in fine-grained groundmass. Massive; veining consists of hairline cc veinlets (0.5%) generally @ 50-55° CA, ep-sil irreg/anastomosing (crackle) veinlets ((8.5%). - Composed of 60% siliceous groundmass, 25% feldspar phenocrysts - euhedral to anhedral (14% white colour, 9% salmon colour, 2% saussuritized), 10% quartz phenocrysts - anhedral, 3% mafic mineral (amphibole?) + others. - Unit is generally non-magnetic, except weakly at from 18.07-18.58 m; hardness greater than nail. - Alteration is patchy - pervasive, typically salmon-brown colour (causes colour variation in feldspar phenocrysts), may be hematite alteration, affects 30-40% of unit. - Non-mineralized. - Competent core (avg. 25 cm core length). - Upper contact is sharp, irreg. @ 50° CA with good chill margin; lower contact @ 75° CA, sharp, irreg., intrusive (good chill margin).								
		21.62 m: ep-cc infilled fracture @ 55° CA.								
		21.65-21.73 m: Mafic dykelet (inclusion?), fine-grained, dark grey-green colour, 3 cm wide; both upper and lower contacts are sharp, planar @ 55° CA, moderately magnetic.								
		24.66-24.99 m: Mafic dyke (inclusion?), fine-grained, dark grey-green colour, mod. magnetic, blocky core (avg. 4 cm core), 0.5% cc hairline veinlets; upper contact @ 60° CA is brecciated, in filled with cc-ep; lower contact is broken core but appears to be sharp, planar @ 45° CA.								
31.90	34.39	SERIE-FOLIATED FELSIC VOLCANIC	193201	31.90	32.90	1.00	56	3	35	26
		- Light-medium grey-green colour; medium-grain size Qtz crystals/frags ((4 mm diam.) with fine-grained sericite and								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 3

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

siliceous matrix.

- Well-developed foliation which has variable orientations, ranging 20-50° CA; foliation is crenulated with later foliation cross-cutting @ 25-45° CA.

31.98-32.84 m: Upper section is moderately chloritic, fine-grained, siliceous, medium grey-green colour, with 1.5% pyrite (euhedral to anhedral) along foliation and within ep-cs-sil veins (3% of these irreg. shaped veins). locally scratches with nail; non-magnetic.

32.84-34.39 m: Lower section is weakly chloritic, strongly siliceous (70% qtz), 25% sericite, 5% chlorite, trace pyrite disseminations; non-magnetic; harder than nail.

- Competent core (avg. 15 cm core); upper contact @ 75° CA, sharp, irregular; lower contact @ 50° CA (cross-cuts foliation), sharp, planar, intrusive contact.

33.39 m: Foliation @ 25° CA with later foliation (causing crenulation) @ 25° CA - cross-cutting.

34.37 m: Foliation @ 40° CA.

34.39 48.09 DACITIC PORPHYRY

- Rusty-salmon colour; fine-grained, siliceous groundmass with quartz and feldspar phenocrysts (2 mm diam, avg. 3 mm diam).

- Massive with weak to strong micro-brecciation (dark green colour mineral - chlorite? - infilling fractures); cc veinlets (1%) hairline, irregular-shaped.

- Composition: 50% siliceous groundmass, 10-20% (variable) phenocrysts, 0-10% qtz phenocrysts, (20% chlorite (spots & fracture-infilling) especially where brecciation is strongest.

- There are localized zones of weak to mod. magnetite (20%); harder than nail.

- The rusty-salmon colour may be a pervasive alteration (hematite or potassic?) effect.

- Non-mineralized; competent core (avg. 30 cm core) except rubbly @ 43.08-43.28 m.

- Upper contact @ 50° CA, sharp, intrusive; lower contact is sharp, but highly irregular.

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 4

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
48.89	52.76	MAFIC VOLCANIC	193209	48.50	49.50	1.00	69	4	25	10
		- Medium to dark green colour; fine to medium-grained; massive to moderately foliated; contains 3% cc-ep-sil veins (irregular). - Composition: too fine-grained to tell, except chlorite porphyroblasts (5%) (< 3 mm diam, also, some str. chl zones, grey coloured clay "blebs"/"spots" (locally 2%) (< 1 mm. - Non-magnetic; mostly indurated, but scratches with nail in str. chl zones. - Trace amounts of pyrite (dissem; subhedral) locally. - Competent core (avg. 30 cm core). - Upper contact is highly irregular but sharp; lower contact is subtle, but exists where grain-size increases and mineralogy is intermediate. 48.45 m: Foliation @ 15° CA. 51.63-51.65 m: cc-sil-ep vein @ 50° CA; 1.5 cm wide.								
52.76	54.72	DIOBITIC DYKE								
		- Medium grey colour; medium-grained, ophitic texture; massive; (< 0.3% ep-sil, < 0.2% cc hairline veinlets. - Composition: 30% feldspar crystals, 5% qtz crystals, 65% groundmass contains mafic minerals (amph? + chl + siliceous). - Generally, weakly mt, scratches with nail. - Trace amount of dissem py grains - anhedral to subhedral. - Competent core (avg. 15 cm core). - Upper contact is obscure; lower contact @ 40° CA is sharp, slightly irregular with weak chill margin.								
54.72	55.16	MAFIC VOLCANIC								
		- As described from 48.09-52.75 m.								
55.16	56.83	DIOBITIC DYKE								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 5

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- As described from 52.76-54.72 m. - Upper contact @ 50' CA, sharp, no chill margin; lower contact is subparallel to CA, irregular (follows core from 56.45-57.15 m); mostly to moderately at and near the lower contact - bands of dissen at occur along contact.								
56.83	66.54	MAFIC VOLCANIC								
		- Medium-dark green colour, fine-grained with chlorite porphyroblasts (<1 mm dia, avg. 2 mm), massive to moderately foliated; cc-ep veins (2%) are planar to irregular; fractures in core seem to follow foliation, generally 40-50' CA. - Composition - too fine-grained to determine. - Locally, zones of moderate at occur as bands of at usually associated with cc veins at low angles to CA (subparallel to 25'); harder than nail generally. - It py throughout as dissen + in cc veins. - Competent core (avg. 20 cm core). Local blocky zones: 60.22-60.35 m; 61.65-61.80 m. Upper contact as described above; lower contact is irregular & subtle. 59.28 m: 5 mm cc-at band @ 25' CA. 60.79 m: 5 mm cc vein @ 70' CA. 65.40 m: Foliation @ 40' CA.								
66.54	69.19	SHEAR FOLIATED FELSIC VOLCANIC WITH MODERATE CHLORITIC FELSIC VOLCANIC	193202	66.58	67.58	1.00	11	3	44	15
		* NOTE: This section of core contains both shear (60%) foliated felsic and (40%) moderate chl felsic volcanic as they are subparallel to CA; the chloritic sections may be altered felsic volcanic, if not mafic volcanic - contacts between these rock types are generally sharp or have ep-sil margins. - Shear-Foliated Felsic: Medium green-grey colour, medium-grained, strong crenulation foliation, 1% cc-ep-sil veinlets - planar, generally @ 35' CA. - Composition: 70% qtz (anhedral crystals & groundmass), 20%								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 6

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		sericite, 8% chlorite (fine-grained), 2% pyrite. - Non-magnetic; harder than nail. - Weak-moderately chloritic alteration (pervasive) with 2% subhedral to euhedral py disseminations. - Competent core (avg. 30 cm core). Upper contact is irregular and subtle; lower contact is sharp @ 30' CA. - Moderately Chloritic Felsic Volcanic: Very similar to that described from 56.83-66.54 m. There are more ep-sil patches/veins in this section - i.e. 10%. 66.75 m: Foliation @ 35° CA; crenulated by a later foliation @ 60° CA in cross-cutting direction. 66.91 m: ep-sil veinlet @ 35° CA. 66.54-67.58 m: Zone of 100% qtz-ser schist. 67.58-68.95 m: Predominantly mafic volcanic (90%). 68.95-69.19 m: 100% qtz-ser schist.								
69.19	74.10	DACITIC DYKE - Dark green colour at upper & lower sections, salmon colour in central feldspar-qtz + porphyritic section, massive, fine-grained at chill margins to feldspar-qtz phenocrysts in fine-grained groundmass; feldspar phenocrysts (4 mm diam, qtz phenocrysts (2 mm). - Composition: too fine-grained to determine total composition, but siliceous groundmass (with chl), 5% feldspar phenocrysts in central section to 0.5% feldspar phenocrysts within chill margins; 2% qtz phenocrysts in central section; phenocrysts are anhedral to subhedral. - Weak-moderately magnetic zones throughout; chilled section scratches with nail; porphyritic zone does not. - Weak-moderate al-chl alteration (patchy); non-mineralized. - Competent core (avg. 30 cm core). Upper contact is sharp, chilled @ 30' CA; lower contact is sharp, chilled @ 30' CA. 69.19-70.20 m: Massive, chilled section. 71.30-74.10 m: Massive, chilled section.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 7

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
74.10	152.41	SHEAR FOLIATED FELSIC VOLCANICS INTERBEDDED WITH CHLORITIC FELSIC VOLCANICS	193210	79.00	80.00	1.00	NIL	NIL	NIL	NIL
			193203	81.00	90.00	2.00	94	7	56	10
			193204	106.35	108.35	2.00	NIL	7	72	12
			193211	110.36	111.36	1.00	NIL	NIL	NIL	NIL
			193205	124.07	126.07	2.00	53	11	77	17
74.10	85.79	Moderately Chloritic Felsic Volcanic - Medium to dark green colour, fine- to medium-grained; massive to moderately foliated;; 2% ep-sil patchy veins, 2% cc-ep veins (35-55° CA), planar generally. - Composition: too fine-grained to determine, but siliceous-chloritic (moderately) - most siliceous from 84.20-86.79 m. Locally weakly to moderately magnetic zones; generally scratches with nail. - Silicification-chloritization pervasive. - 1% disse py - subhedral grains (locally (3% where most chl-nt)). - Competent core (avg. 35 cm core). Upper contact is sharp, planar @ 30° CA; lower contact is brecciated. 82.96 m: ep-cc vein @ 30° CA. 83.08 m: Foliation at 25° CA.								
86.79	92.02	Felsic Ash Tuff to Shear-Foliated Felsic Volcanic - Light to medium green-grey colour, massive cherty sections to brecciated/fragmental sections to well-foliated sections (15-40° CA), fine to medium-grained; avg. 2% cc-ep-sil veinlets, irregular. - Composition: 70% qtz, zones (20% chl, zones of qtz-ser schist have 20% ser, 1% py, + others. Localized zones of weak-moderate mt; harder than nail generally, moderate chl-ser-mt alteration is patchy; disse to stringer style py content varies throughout from trace (3% (avg. 1%)), anhedral - euhedral grains. - Competent core (avg. 40 cm core); upper contact is brecciated-seems to be fragmental at upper section of unit; lower contact is sharp, irregular @ 35° CA. 86.79-87.10 m: Brecciated section - abundant cc-mt. 87.01-90.85 m: Massive section - mod-str chlorite. 90.85-91.59 m: Quartz sericite schistose zone. 91.59-92.02 m: Brecciated zone.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 8

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
89.85 m:		Foliation @ 38° CA.								
91.05 m:		Foliation @ 48° CA.								
91.32 m:		Ep-sil veinlet @ 25° CA; 4 mm wide.								
92.02	93.77	Moderately Chloritic Felsic Volcanic - Same as described above from 74.10-86.79 m. Upper contact is sharp @ 35° CA; lower contact is gradational.								
93.77	94.21	Shear-Foliated Felsic Volcanic - Light-medium green-grey colour, fine- to medium-grained, well foliated with fragmental zone in upper section (93.77-94.02 m), 0.5% cc-ep-sil veinlets, irregular. - Composition: 75% qtz, 15% sericite, 10% chlorite, & minor py. - Non-magnetic; barely scratch with nail (where chl most abundant). Pervasive, weak-moderate ser-chl-sil alteration; minor disse py grains - subhedral to euhedral. - Competent core (15 cm avg. core length); upper contact is gradational; lower contact is sharp, planar @ 25° CA. 93.77-93.99 m: (brecciated fragmental) zone - mostly fragments are obscure with subtle margins; avg. diam = 2 cm. 94.18 m: Foliation @ 58° CA.								
94.21	96.64	Moderately Chloritic Felsic - Same as described above from 74.10-86.79 m; upper contact is sharp, planar @ 25° CA; lower contact is sharp, but irregular. 95.05 m: Calcite-sil vein @ 20° CA. 95.55 m: Foliation @ 20° CA.								
96.64	101.21	Shear-Foliated Felsic Volcanic - Light to medium green-grey colour, fine-medium grained, generally well-foliated (10-38° CA, locally 80° CA) with some massive to brecciated sections; 3% cc-sil-ep-ser veinlets (network), avg. 5% sil-ep-gt-pink feldspar veins, irregular, patchy. - Composition: 70% qtz, 20% ser, 5% chl; 5% others. Qtz occurs as siliceous groundmass + veins; sericite occurs as fine-grained flakes along foliation planes and in veins; chl finely disse throughout.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 9

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- Non-magnetic; harder than nail. - Moderately sil-ser-ep alteration is patchy; weak chl is pervasive; minor py, anhedral-subhedral, in sil veins + some disseminations. - Competent core (avg. 20 cm core); upper contact is highly irregular; lower contact is subtle & occurs at a cc vein (1 cm wide) @ 30° CA. 95.57-97.18 m: Zone of brecciation & intense epidotization. 97.59 m: Foliation @ 80° CA (localized foliation). 98.77 m: Foliation @ 20° CA. 99.21-100.59 m: Zone of intense silicification-ser.								
101.21	103.74	Moderately Chloritic Felsic Volcanic - Same as described above from 74.10-86.79 m; except, 5% ep-sil veins (fracture-controlled); mod-str. chl (pervasive); 2% py-dissem to stringer style subhedral-anhedral; upper contact sharp @ 30° CA; lower contact is subtle/gradational - could be alteration effect. 102.95 m: foliation @ 20° CA.								
103.74	105.61	Shear-Foliated Felsic Volcanic - Light-medium green-grey colour, fine-grained, well-foliated (subparallel to CA), 4% qtz veins, irregular; 0.5% cc veinlets, irregular. - Composition: 70% qtz, 20% ser, + 5% chl, 0.5% py and 4% others. Locally weakly magnetic; locally scratches with nail. Moderate, patchy silicification, mod. ser-chl, pervasive alteration. 0.5% py (subhedral) occurs along foliation. - Competent core (avg. 15 cm core). Upper contact is subtle, irregular; lower contact is silicified, irregular @ 15° CA.								
105.01	105.38	Chloritic Felsic Volcanic - Zone of mod-str. chl; dark green colour, fine-grained; mod-well foliated, 5% ep-sil patches/veins; locally weak to moderate st; harder than nail. - Composition: too fine-grained to determine, but moderately siliceous; mod-str. chl; pervasive alteration, 1.5% py. dissem-conc along foliation, anhedral-subhedral. - Competent core (avg. 30 cm core); contacts are subtle and								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 10

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		often irreg, silicified.								
108.38	112.65	Shear-Foliated Felsic Volcanic								
		- Light-med green-grey colour, fine-medium-grained, well-foliated - highly variable (subparallel to 60° CA); 24 sil-ep veins (irregular to planar @ 20° CA); 14 cc veinlets - hairline.								
		- Composition: too fine-grained to tell, but strongly siliceous, weak-mod. chl, weak sericite; 0.51 fine disse gr; chl-ser-sil pervasive to patchy silicification.								
		- Competent core: (avg. 40 cm core), upper contact is sharp but silicified; lower contact is sharp, irreg, silicified (both @ 30° CA).								
109.62 m:		Foliation @ 30° CA.								
110.63 m:		Foliation @ 10° CA.								
112.65	120.98	Chloritic Felsic Volcanic								
		- Zone of mod chl, more massive ("mafic-looking"); same as described above 105.01-108.38 m.								
116.20 m:		Foliation @ 15° CA.								
120.98	121.30	Shear-Foliated Felsic Volcanic								
		- Small zone, as described above 108.38-112.65 m. Upper contact sharp @ 20° CA; lower contact is subtle, gradational.								
121.30	122.50	Chloritic Felsic Volcanic								
		- Mod chl, massive - mod foliated zone.								
122.50	127.65	Shear-Foliated Felsic Volcanic								
		- Foliation subparallel to 60° CA.								
122.70 m:		1.5 cm wide, ep-cc-sil vein @ 10° CA.								
127.65	132.59	Chloritic Felsic Volcanic								
		- Mod chl, massive mod foliated zone, foliation subparallel to CA from 127.65-132.23 m; brecciated zone with upper contact @ 40° CA from 132.23-132.59 m.								
126.98-129.18 m:		Brecciated zone - matrix of ep-sil-cc; upper and lower contacts @ 30° CA.								
131.10 m:		Foliation subparallel to CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-151

Page 11

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
132.59	133.98	Non-Shear Foliated Felsic Volcanic - Mod chl, as described previously, 0.5% py, wk-mod st. 133.43 m: Foliation @ 40° CA.								
131.98	136.20	Brecciation - Mod-silicified, carbonatized, hematized, epidotized; alteration is fracture-controlled - network veining. 135.80 m: Open-space infilling of euhedral qtz crystals in irregular-shaped vein @ 10° CA.								
136.20	152.41	Moderate-Shear-Foliated Felsic Volcanic - Med grey-green colour; pervasive, mod chl; wk-mod sericitized; cc veins/veinlets (1%); ep-sil veins/veinlets (1%); locally, wk-mod st. - Competent core (avg. 15 cm core length); except blocky zones: 148.75-149.14 m, 152.22-152.40 m. 143.47 m: Foliation @ 30° CA. 146.25 m: Foliation @ 35° CA.								
152.41	154.49	FELSIC CRYSTAL-LITHIC TUFF - Medium green to reddish-brown colour, medium-grained, well- laminated (generally 45-65° CA); 2% irregular shaped cc veinlets, 1% sil-ep veins/veinlets - network to anastomosing. - Composition: 60% anhedral qtz crystals & groundmass; 15% lithic fragments (rhyolite and cherty silica), mod chl-ser. - Non-magnetic, scratches with nail (except in local silicified zones). - Minor disse py locally; competent core, (20 cm core length), upper contact is brecciated - silicified, lower contact is gradational @ 50° CA. 153.65 m: Foliation @ 45° CA. 153.56 m: Foliation @ 65° CA.								
154.49	159.11	BRECCIATED FELSIC VOLCANIC	193206	157.36	159.11	1.75	465	16	114	10

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 12

FROM

TO

LITHOLOGICAL DESCRIPTION

SAMPLE No.

FROM

TO

WIDTH

ASSAYS

Cu(ppm)

Pb(ppm)

Zn(ppm)

Ba(ppm)

- Looks like lapilli tuff.

- Light-medium green colour; brecciated fragments (<3.5 cm diam) of original rock (fine-grained, banded/foliated to massive felsic volcanic) compose 60% of rock; frags range from red-brown, hematized frags to light green, epidotized frags; 40% cementing matrix is fine-grained, mod-str chloritic, ± ser-sil.

- Unit is weakly brecciated in upper section (154.49-155.64 m); intense brecciation from 155.63-157.42 m.

- 2% ep-sil veinlets - irregular to anastomosing (8 mm wide); 1.5% cc veinlets - planar (40-70° CA) to irregular, <4 mm wide.

- Fragments are angular; non-magnetic, scratches only in most chloritic sections.

- Mod carbonate alteration is pervasive, mod chl-ep is patchy (intense ep is pervasive from 156.68-157.15 m, wk ser-sil is patchy (and difficult to determine extent of it). Only trace py except from 157.36-159.11 m which has 2% finely disseminated, euhedral py grains.

- Mod competent core (avg. 10 cm core) 154.49-157.42 m; intensely blocky core: 157.42-159.11 m (avg. 1 cm diam core pieces), int. clay/fault gouge 158.98-159.11 m (could be major fault).

- Upper contact is gradational @ 50° CA; lower contact is faulted.

154.80 m: Ep-sil vein (8 mm wide) @ 40° CA; planar to irreg.

155.19 m: red-brown Qtz(?) vein @ 50° CA; slightly irreg - hematized silica?

159.11	222.71	FELSIC VOLCANICS - MASSIVE TO BRECCIATED RHYOLITE WITH INTERBEDDED LAPILLI TUFFS	193207	159.11	161.61	2.50	99	11	73	10
			193212	179.00	180.00	1.00	NIL	NIL	NIL	NIL
			193213	222.00	222.50	0.50	17	11	64	22

- Rhyolite is light-medium grey colour, fine-grained, aphanitic; massive (crackle breccia) to strongly brecciated massive zones: (95% rhy frags + 5% fracture infilling material; range up to strongly brecciated zones: 30% rhy frags + 70% matrix (looks similar to lapilli tuff, but not foliated and frags are more angular); (3% cc veinlets - network, <4 mm wide, along fracture within rhyolite; varying quantities of chl, ep, sil, ser occur within fractures; minor (<0.5%) cc veins (<1.0 cm wide) which

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 13

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		are planar to irregular (10-30' CA); (1% ep-sil veins (<5 cm) - planar to irregular (40-80' CA). - Composition: too fine-grained to determine, but strongly siliceous (70%), weakly to strongly chloritic, weak to mod epidote, wk sericite. - Non-magnetic; harder than nail, except in chloritized and carbonatized zones. - Weak-str carbonatization is pervasive, wk-str chl is patchy, wk-ep-sil is vein-controlled. - Only trace amounts of py locally in fractures. - Moderately competent core (avg. 10 cm core length) to very blocky sections. Upper contact is faulted with clay/fault gouge; lower contacts are generally planar to slightly irregular. - Lapilli Tuffs are generally medium green-grey colour; fine-grained, ash matrix (range 40-90%), lapilli-size frags (<6.0 cm diam) compose 10-60% of rock; massive to moderately foliated (20-40' CA), locally spherulitic (range 1-2 mm diam). - Composition: matrix is siliceous, mod-str chloritic; frags composed of felsic volcanic (light grey rhyolite) and qtz; 1% cc veinlets, hairline + 1% cc veins, irregular; minor ep-sil veinlets - irregular to planar. - Locally, weak-mod mt (<5%); generally scratches with nail except in silicified zones. - Mod carbonatization is patchy to fracture-controlled; wk-str chl is pervasive; wk sil is patchy. Trace py locally. Competent core (avg. 15 cm core), blocky sections.								
159.11	170.52	Rhyolite								
		- Crackle breccia to strongly brecciated, as described above; lower contact is sharp, irregular @ 60' CA.								
159.11-161.60 m:		Rubbly to very blocky section (avg. 1 cm core).								
162.35-162.77 m:		Strongly chl; rubbly section (avg. 2 cm core).								
162.28 m:		Cc-infilled fracture @ 25' CA.								
170.52	173.30	Lapilli-Tuff								
		- As described above; amount of frags increased downhole from								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 14

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Sa(ppm)
		16-30% at base; weakly foliated; mod chl matrix; non-magnetic; upper contact sharp, irreg @ 60° CA; lower contact is sharp, highly irregular @ low angle to CA (16-30° CA). 170.60 m: Foliation @ 10° CA. 171.57 m: Cc vein (1 cm wide) irreg @ 20° CA. 171.76-171.96 m: Spherulitic - light green colour spherulites, 1-2 mm diam, 20% spherulites.								
		173.30 177.28 Rhyolite - Crackle breccia as described above, mod chl, minor py (<0.5%); upper contact sharp, irreg; lower contact is sharp, planar @ 20° CA. 175.80-176.00 m: Blocky core (2 cm core length). 176.44 m: Foliation @ 20° CA.								
		177.28 182.90 Lapilli-Tuff - As described above; medium green colour, mod chl, mod-well foliated; 20-60% fragments (most frags occur at base); non-magnetic; upper contact is sharp @ 20° CA; lower contact is silicified, brecciated, irregular @ subparallel to CA; moderately competent (10 cm core), except blocky sections: 178.80-179.00 m; 179.68-179.93 m, 181.35-181.60 m. 180.19 m: Foliation @ 40° CA. 181.72 m: Foliation @ 40° CA. 182.42 m: Ep-sil vein/network of veinlets @ 60° CA.								
		182.90 185.40 Rhyolite - Crackle breccia to mod brecciated; wk chl-ser, as described above; mod competent core, except blocky from 184.19-184.73 m; upper contact irregular, subparallel to CA; lower contact is gradational. 183.22-183.55 m: Spherulitic section - spherulites are medium-dark green colour, 1-2 mm diam; comprise 20% of section.								
		185.40 189.18 Lapilli-Tuff Medium green-grey colour; as described above; weak-mod chl; 20-40% lapilli fragments; most fragments at base; massive to medium foliated (30-40° CA); competent core (avg. 15 cm core), non-magnetic. Upper contact is gradational; lower contact is								

HOLE No: GB-151

RIO ALCOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 15

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		sharp, planar @ 75° CA (intrusive contact). 187.69 m: Foliation @ 48° CA. 188.83 m: Foliation @ 38° CA.								
189.18	190.75	MAFIC DYKE								
		- Dark green colour, fine-medium-grained, massive; 2% cc veinlets, planar - irregular @ 46-70° CA; good chill margins at both contacts; upper contact is sharp, planar @ 75° CA; lower contact is sharp, slightly irregular @ 75° CA.								
190.75	203.47	SHEAR-FOLIATED FELSIC VOLCANIC (RHYOLITE?)								
		- Light-medium grey colour; fine-grained, aphanitic, as described above; generally shear-foliated, crackle breccia; siltsier infilling fractures (crackle fractures) ranges from 3-5% of the rock; mod.chl upper section (190.75-193.08 m); weak chl-mod sil lower section (193.08-203.47 m). - Non-magnetic, harder than nail. - Fracture-controlled chl-sil alteration; minor disseminated anhedral to euhedral grains. - Competent core (avg. 20 cm core), blocky sections: 196.84- 196.12 m, 198.27-198.87 m. Upper contact is sharp, slightly irregular @ 75° CA; lower contact is sharp, slightly irregular @ 20° CA. 191.66 m: Foliation @ 46° CA. 199.15 m: Fracture @ 55° CA (generally fractures 46-70° CA). 199.83 m: Foliation @ 45° CA. 201.86 m: Foliation @ 45° CA.								
203.47	204.22	MAFIC DYKE								
		- Same as previous dyke (189.18-190.75 m), except this dyke is fine-grained; upper contact is sharp, slightly irreg. @ 20° CA; lower contact is sharp, planar @ 50° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 16

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
244.22	222.71	SERIALIZED-FOLIATED FELSIC VOLCANIC (HYOLITE?) - As described previously from 190.75-243.47 m; however, this unit is much less brecciated - minor brecciated zones & 2% silty net-work veinlets; minor disseminated py - anhedral to euhedral; trace ep. - Competent core (avg. 25 cm core length); upper contact is sharp @ 50° CA; lower contact is sharp @ 35° CA. 246.14- 206.20 m: 2.5 cm wide interband is medium green-grey colour, fine-grained, sediment(?) - (siltstone/ash tuff?), 3% py stringers; ep-wil-infilled network veinlets @ upper contact @ 25° CA; lower contact @ 20° CA, brecciated. 206.95-207.03 m: Same as previously described (206.14-206.20 m); 1% py; contacts @ 30° CA. 211.76 m: Foliation @ 40° CA. 217.43 m: Foliation @ 30° CA. 221.26 m: Foliation @ 15° CA.								
222.71	235.86	DIOGENIC DYKE - Light-medium grey colour; fine-medium-grained (qtz-fs crystals (3 mm diam, avg. 1.5-2.0 mm), massive, ophitic texture, with good chill margins; 2% sil-ep veins/veinlets (generally 40-60° CA). - Composition: 50% qtz, 20% feldspar, 30% mafic mineral(?) and chlorite. Non-magnetic; harder than talc. Alteration consists of weak pervasive chl; sil-ep veins; trace py disseminated anhedral grains. - Competent core (avg. 35 cm core); upper contact is sharp @ 35° CA; lower contact is irreg., silic-cc @ 30° CA. 228.73 m: Sil-ep vein (7 mm wide) @ 45° CA.								
235.86	254.04	FELSIC VOLCANICS - Shear-foliated to massive/crackle breccia; variable chl (str. chl sections are "mafic-looking").	193214	237.00	239.00	2.00	6	17	41	24
			193215	249.30	251.00	1.70	84	13	212	10
			193216	251.00	252.00	1.00	NIL	NIL	NIL	NIL
			193217	252.00	254.03	2.03	155	13	897	16

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 17

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
235.88	254.04	Shear-Foliated Felsic Volcanic (rhyolite?) - Light green-grey to dark green colours; generally fine-grained; shear-foliated with some brecciated sections; 2% cc veinlets - irregular; (2% sil-ep veinlets (especially in upper section). - Composition: too fine-grained to determine, except 76-88% qtz., wk to intense chl, wk ser. - Minor py throughout, (3% locally within intensely chloritic zone; wk-mod magnetic within intensely chl zone, harder than mail except where strong-intense chl section. 247.44-247.56 m.								
235.88	244.90	Rhyolite - Light grey colour, wk chl, minor crackle breccia with sil-ep infilling fractures; upper contact is irregular-brecciated-silicified @ 30' CA; lower contact is sharp @ 15' CA. 237.20 m: Foliation @ 50° CA. 247.71 m: Foliation @ 55° CA.								
244.90	248.02	Moderate to Strong Chlorite - Medium-dark green colour, mod-str brecciated with chaotic foliation; upper contact is sharp @ 15' CA, lower contact is gradational.								
248.02	254.04	Strong to Intensely Chloritic Zone - "Mafic looking" dark green colour, avg. 2% finely disse py throughout; foliation generally 15-35° CA; wk-mod magnetic; upper contact is gradational; lower contact is irregular, sharp, intrusive. 246.26 m: Foliation @ 15° CA. 249.74 m: Foliation @ 35° CA.								
254.04	267.42	COMPOSITE DYKE - Predominantly (80%) dacitic porphyry with fine-grained mafic sections.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 18

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
254.64	258.00	Dacitic Porphyry - Medium grey-green colour, fine-grained, siliceous groundmass with 15% feldspar phenocrysts (<5 mm diam), anhedral-euhedral, white to salmon colour; 5% qtz phenocrysts (<2 mm diam; euhedral-subhedral; 2% mafic mineral; 1.5% cc network veinlets; minor sil-ep veinlets. - Non-magnetic; harder than nail; salmon colour may be due to wk hematite alteration (patchy). - Trace amounts of py disseminations. - Competent core (avg. 35 cm core length); upper contact sharp, irregular; lower contact is slightly irreg., sharp @ 35° CA.								
253.66	259.00	Mafic Dyke - Medium-dark green colour, fine-grained, massive with 15% chlorite porphyroblasts, (<2 mm diam, 2% cc veinlets (irreg-hairlike), 2.5% cc veins (2.5 cm wide) planar @ 30° CA. - Composition: mafic - too fine-grained to determine. Mod magnetic throughout; scratches with nail. Non-mineralized; competent core (avg. 15 cm core); upper contact is slightly irreg, sharp @ 35° CA, lower contact is sharp, planar @ 40° CA - both contacts are chilled. 258.67 m: 2.5 cm wide cc vein @ 30° CA.								
259.84	265.52	Dacitic Porphyry - As previously described 254.04-258.00 m; except finer-grained (diffuse feldspar phenocrysts) section from 260.79-261.22 m - seems like a "chill" of some sort.								
265.52	267.30	Mafic Dyke - Dark green-black colour, fine-grained, massive, trace cc veinlets. - Composition too fine-grained to determine. Mod-str magnetic throughout, scratches with nail. - Mod-str chl-qt, wk carbonate alteration is pervasive. Trace amounts of dissen py. - Very competent core (avg. 40 cm core length). Upper contact: is sharp, planar @ 30° CA; lower contact is sharp, slightly irregular @ 50° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 19

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
267.30	257.42	Dacitic Porphyry - Same as previously described, upper contact is sharp, irreg @ 56' CA; lower contact is sharp, slightly irreg @ 45' CA.								
267.42	280.01	FELSIC BRECCIA - Light-dark grey-green colour, fragments (15 cm diam (range 1 m - 15 cm diam), frags are subangular to angular, fine- grained matrix; poor-mid foliation with variable orientation; 0.5% cc veinlets - irreg to planar; 0.5% sil-ep veinlets - planar to irreg. - Composition: 70% fragments, 30% matrix; fragments consist entirely of light-medium grey colour, massive to locally shear-foliated rhyolite; matrix consists of dark green to black colour, argillaceous, wk chl, aphanitic sediment. - Generally, non-mt with few localized zones of mod-str mt; harder than mail, except locally. - Pervasive silicification; pervasive wk chl alteration; localized zone of hematite-sil (277.73-278.20 m); patchy mod- str mt alteration; minor py disseminations - anhedral grains (within frags & matrix). - Competent core (30 cm core); upper contact is sharp, slightly irreg @ 45' CA; lower contact is sharp, highly irregular. 269.60-269.75 m: Ep-sil-argillaceous-rich matrix with foliation @ 20' CA. 270.70 m: Foliation @ 40' CA. 273.53 m: Foliation @ 35' CA. 273.81 275.86 Dacitic Porphyry - Salmon colour, same as described from 254.04-258.00 m; good chill margins are medium grey colour; upper contact is sharp, planar @ 50' CA; lower contact is sharp, brecciated, epidotized- silicified @ 25' CA.								
280.01	295.58	'GRANODIORITE' PORPHYRY - Light-medium grey to red-brown colour; fine-grained, siliceous								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 20

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		groundmass with phenocrysts of qtz-feldspar (1.2 cm diam); variable content of mafic mineral (amphibole?) phenocrysts (2 mm diam; massive with weak foliation developed @ 35-50° CA; 0.5% hematite infilling fractures; trace amounts of cc veinlets (irreg-hairline). - Composition: amount of phenocrysts range from 5% to 50%; 85% qtz, 6% amphibole(?), 8% pink feldspar, locally 1% tan colour, acicular to feather-shaped phenocrysts (3 mm length; phenocrysts are anhedral to euhedral (predominantly subhedral). - Non-magnetic; harder than nail. Patchy to pervasive hematization (wk-xoc). Trace amounts of py locally (disse). - Very competent core (45 cm core length) except blocky zones where hematite most prevalent: 282.85-284.20 m, 292.25-294.20 metres. Upper contact (also 280.01-280.21 m) is brecciated; lower contact is sharp @ 50° CA; both contacts have chilled margins. 281.89 m: Hematite-infilled fracture @ 25° CA. 284.85 m: Foliation @ 50° CA. 286.10 m: Hematite-infilled fracture @ 10° CA. 290.28 m: Foliation @ 40° CA. 292.24 m: Foliation @ 35° CA.								

255.58 297.43 DIORITE DYKE

- Medium grey colour; fine-medium-grained; massive; 1% cc veinlets ((3 mm wide), planar @ 50° CA, to irregular.
- Composition: 15% feldspar phenocrysts, minor qtz phenos (subtle-vague), remaining components too fine-grained to distinguish.
- Non-magnetic; barely scratches with nail; apparently unaltered - non-mineralized.
- Competent core (avg. 20 cm core); upper contact is sharp @ 50° CA; lower contact is sharp @ 65° CA; both margins are chilled.

297.43 382.22 DACITIC PORPHYRY

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 21

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- Medium-dark salmon colour, same as described 254.04-258.00 m; upper contact is sharp @ 50° CA, lower contact is sharp, irreg. 301.87-301.95 m: Inclusion of fine-grained, dioritic material as described from 295.58-297.43 m.								
302.22	302.66	DIOCRITIC DYKE								
		- Massive; same as described from 295.58-297.43 m; upper contact is sharp, irregular, lower contact is sharp @ 55° CA.								
302.66	314.31	CHERTY-ARGILLACEOUS SEDIMENTS + ASH TUFFS + FELSIC VOLCANICS	193218	306.00	308.00	2.00	62	21	64	84
		- Light to dark grey-black (i.e. fine laminations of light grey alternately interlaminated with dark grey to black colour laminations; locally predominantly dark grey-black colour); fine-grained (silt-size particles - aphanitic up to ~ 2 mm grain size); generally finely laminated (range <1 mm to 2 cm) avg. 3-4 mm; 1.5% ep-sil veinlets (planar @ 30-50° CA; network), 0.5% cc veinlets (irreg-planar). - Composition is too fine-grained to determine (light grey to green sections are more massive - appear to be felsic volcanic); pervasively mod-strong mt (except 309.89-310.78 m - non-magnetic); generally harder than nail. - Wk-patchy silicification; weak clay alteration(?) is spotty; 0.5% py, disse to infilling fractures; mod competent core (avg. 20 cm core), except blocky sections: 303.45-303.80 m, 309.75-310.05 m; upper contact is sharp @ 55° CA (intrusive, cross-cutting foliation); lower contact is sharp, brecciated @ ~ 50° CA. 305.33 m: Lamination (So) @ 35° CA. 307.61 m: So @ 40° CA. 309.70-310.57 m: Light-medium grey colour section which closely resembles brecciated-shear-foliated felsic volcanic (rhyolite). 310.95 m: So @ 65° CA. 311.12-311.70 m: Light grey colour, bleached section (5% ep-sil veinlets, network).								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 22

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
314.31	326.22	DACITIC PORPHYRY								
		- medium salmon (salmon colour seems to be alteration effect of ep-cc veinlets) to medium grey colour, weak-moderate nt throughout; same as described 254.84-259.00 m; upper contact is sharp, brecciated @ 50' CA; lower contact is sharp, conformable @ 55' CA; both margins are chilled.								
		319.14 m: Ep-cc veinlet (4 mm wide) @ 25' CA; assoc salmon colour alteration halo (3 cm on either side of veinlet).								
		319.68-319.67 m: Inclusion of sheared mafic volcanic breccia(?) - dark grey chl-hem mafic volcanic frags (3 cm long) within chloritic-ep-hematite matrix - apparently chaotic (mixture of yellow to green to grey to purple colour); patchy silicification; generally scratches with nail; mod nt; competent unit; contains 0.5% py; dissem subhedral to euhedral grains within matrix; upper contact is sharp, planar @ 50' CA; lower contact is faulted @ 25' CA (chlorite slips @ 30' CA in the plane of fault).								
326.22	332.00	SEGMENTS	193219	346.00	348.00	2.00	24	4	42	48
		- salmon to red cherts; argillaceous sec's; tuffs; + felsic volcanics.	193224	356.35	358.35	2.00	40	14	38	29
			193220	360.00	362.00	2.00	59	5	153	71
			193223	364.00	365.00	1.00	280	6	185	100
			193225	365.00	366.00	1.00	528	8	94	231
326.22	343.32	Fine-Grained Tuff	193226	366.00	367.00	1.00	174	16	81	121
		- Medium purple-green colour, fine-grained (silt-size), weakly to moderately foliated (foliation is quite variable - 15-65° CA); abundant veining; 5-20% (avg 10%) cc (60% pink + 40% white) veining - highly irregular shaped; avg. 3% ep veins/veinlets are also highly irregular to network.	193221	371.00	372.00	1.00	3	3	52	87
		- Composition: too fine-grained to determine, but appears similar to mafic volcanics - with minor chl + 2% finely dissem nt; minor red hematite frags(?) pervasively mod-str nt; generally barely scratches with nail, except locally; apparently non-mineralized.	193222	378.00	380.00	2.00	42	2	67	30
		- Competent core (avg. 30 cm core length) except blocky sections: 324.45-324.65 m, 330.20-330.55 m; upper contact is								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 23

FROM	TO	LITHOLOGICAL DESCRIPTIONS	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		sharp @ 55° CA, planar; lower contact is sharp, conformable, slightly non-planar @ 40° CA. 326.22-329.31 m: Sheared breccia similar to that inclusion described from 319.48-319.67 m. 326.43 m: Chl-infilled fracture @ 60° CA. 329.65 m: Foliation @ 30° CA. 326.86 m: Foliation @ 50° CA. 330.69 m: Foliation @ 30° CA. 334.36 m: Foliation @ 15° CA. 336.97 m: Foliation @ 55° CA. 338.77 m: Foliation @ 45° CA.								
343.32	343.50	Ash Tuff - Finer-grained than previous unit with much less veining (i.e. 2% cc veinlets); olive green to purple colour; locally so present @ 40° CA; composition undetermined due to fine-grain size. Mod at throughout; harder than nail; patchy mod hematite alteration; apparently non-mineralized. - Competent core (30 cm core); upper contact is sharp @ 40° CA, exhibits soft sediment loading feature indicating younging direction is uphole; lower contact is planar, but subtle @ 55° CA (based on appearance of silica frags).								
343.90	345.10	Pelsic Breccia - Light to medium grey colour; frags of massive to shear-foliated rhyolite within dark green argillaceous-chloritic matrix; avg. 60% frags + 40% matrix; frags (10 cm diam, avg. 2 cm; exhibits moderate foliation @ 35° CA; minor cc veinlets, irregular. - Composition: too fine-grained to determine; non-magnetic; matrix scratches with nail, frags harder than nail; pervasive mod chl alteration, weak, patchy ser; apparently non-mineralized. Competent core (avg. 20 cm); upper contact is planar @ 55° CA, but subtle; lower contact is irregular @ very low angle (≈ 10°) CA.								
345.10	356.33	Cherty-Argillaceous Sediments - Salmon to red-purple to green colour; fine-grained (silt size); laminated/banded (salmon laminae interlaminated with								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 24

FROM	TO	LITHOLOGICAL DESCRIPTIONS	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Co(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		red-purple colour bands); laminations are generally @ 35° CA, but locally variable to chaotic; 2% qtz veins, irregular shaped; micro-faulting offsets laminae (displacement 1 cm), faults @ 30-35° CA.								
		- Composition: too fine-grained to determine, except pervasive, strong Fe alteration; red-purple bands are argillaceous (also contains most of the mt); chloritic; salmon colour laminae are hercynitic cherty sed; pervasive wk-mud mt; dark (red-purple) bands are soft; salmon-laminae are harder than nail.								
		- Pervasive, strong Fe alteration, chl is restricted to dark bands; apparently non-mineralized. Competent core (avg. 30 cm core) except minor blocky sections: 347.05-347.38 m, 354.60-354.79 m, 355.26-355.45 m; upper contact is irreg @ 10° CA; lower contact is sharp, slightly irreg @ 80° CA.								
		345.57 m: Laminae @ 20° CA.								
		346.77 m: Laminae @ 30° CA.								
		347.43 m: Laminae @ 15° CA.								
		352.13 m: Laminae @ 30° CA.								
		352.70 m: Micro-fault @ 35° CA; sinistral offset.								
		352.89 m: Micro-fault @ 30° CA; dextral offset.								
		355.07 m: Laminae @ 35° CA.								
		356.33 358.91 Felsic Volcanic (Banded to Massive)								
		- Light-medium green-grey colour, fine-grained, aphanitic, massive felsic volcanic with dark red-purple colour bands of fine-grained (silt size) argillaceous-chloritic sed; minor cc, hairline veinlets, irreg.								
		- Composition: massive felsic volc too fine-grained to determine, except where dark purple, porphyroblasts (avg. 3 mm diam) occur (patchy), which are euhedral, anhedral with diffuse margins (alteration mineral - hematite?); hematite occurs mostly in the dark bands but also in felsic volcanic; 0.5% hematite porphyroblasts, dark bands of sediment are a argillaceous-chl (her) and scratch with nail, whereas massive felsic does not; non-magnetic.								
		- Patchy, weak hematite porphyroblasts; mod chl-hem occurs dominantly in argillaceous bands; trace py - finely dissem.								
		- Competent core (30 cm core); upper contact is sharp, slightly irreg @ 80° CA; lower contact is sharp, highly irregular.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 25

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		357.53 m: Laminæ @ 45° CA.								
		358.91-392.00 Cherty-Argillaceous Sediments - Dominantly red (70%), with medium green sections (20%) and salmon colour sections (10%).								
		Red & Salmon Colour Cherty-Argillaceous Sections: - Matrix is fine-grained (silt-size to fine sand size) aphanitic, with hematite porphyroblasts (dark red-purple colour - as described in previous unit) (7 mm diam, avg. 3 mm diam; range from 3 mm to 16 mm diam, irregularly shaped, subangular; structure varies from massive, microbrecciated to well-foliated/banded sections to predominantly agglomeritic sections. 1% qtz veinlets, irreg; 1% cc veinlets, irreg, locally planar. - Composition: too fine-grained to determine, but pervasively strong hem-argillaceous-cherty; ubiquitous magnetite (wk-mnd), locally non-mt; 1% her porphyroblasts; generally scratches with nail, except most siliceous cherty zones/frags. Strong hem alteration is pervasive; local veins of chl-cc (minor); locally (chloritic zones) trace py-cp disseminated anhedral to within qtz veinlets. - Competent core (30 cm core).								
		Green Colour Sections: - Similar to red colour sections which may be due to hem alt; mostly seen agglomeritic to "chaotic"; cherty frags seem to be 50% altered to ep-sil-hem assemblage; absence of hematite porphyroblasts; predominantly non-mineralized, local trace py; competent core (40 cm core).								
		358.91-359.65 m: Zone of salmon colour massive-crackle breccia chert with minor argillaceous bands (variable orientation).								
		359.65-372.68 m: Red cherty-argillaceous sediments as described above; upper contact is sharp, planar @ 55° CA; lower contact is sharp, slightly irregular @ 55° CA.								
		360.60 m: Laminæ @ 30° CA.								
		362.44 m: Laminæ @ 45° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 26

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
363.45	369.40	m: Laminæ subparallel to CA. m: Laminæ @ 36° CA.								
372.68	374.51	m: Green colour section as described above; upper contact is sharp @ 55° CA; lower contact is sharp, planar @ 65° CA ep-silicified.								
373.48		m: Foliation at 65° CA.								
374.51	382.70	m: Red colour section as described above; however, ep-sil "patches" increasing to 2% and fewer red chert frags; cc veinlets, planar @ 20° CA to irreg; upper contact is sharp, planar @ 65° CA; lower contact is gradational (seems to be hematite alteration contact more than anything else).								
375.60		m: Foliation @ 45° CA.								
376.83		m: Cc veinlet @ 20° CA, slightly irregular.								
378.84		m: Foliation @ 20° CA.								
382.70	388.00	m: Green colour section is previously described; upper contact is gradational; lower contact is gradational also (alteration effect) - brecciated, silicified, also.								
385.18		m: Cc veinlet @ 30° CA.								
388.00	389.64	m: Red cherty sediment; ep-sil patches instead of cherty frags; as described above; str-int. hem alt; upper contact is gradational; lower contact is subtle, but planar @ 60° CA.								
389.64	392.00	m: Predominantly green with minor red throughout; massive to crackle breccia to brecciation (chaotic) and 2% cc network interstitial veinlets (390.50-392.00 m); as described above; upper contact is subtle, planar @ 60° CA; lower contact is sharp, subtle @ 35° CA, conformable.								
392.00	403.67	MAFIC (TO INTERMEDIATE) TUFF	193227	392.60	394.00	2.00	61	2	39	10
		- Medium-dark green colour; fine-grained; moderately foliated (generally 10-45° CA); 0.5% cc veins/veinlets - planar to irregular; 0.5% ep-sil veins/veinlets - planar to irregular.	193228	394.00	396.00	2.00	71	6	41	10
			193229	400.00	401.00	1.00	71	4	44	10

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 27

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	ASSAYS			
						Wt%	Cu(ppm)	Pb(ppm)	Zn(ppm)
		- Composition: too fine-grained to determine, but appears to be mafic to intermediate; strongly magnetic throughout; barely scratches with nail and doesn't scratch locally. Pervasive, w-mo chl alt; pervasive str mt. Mineralization varies from coarse to fine py - disseminated to stringer style; anhedral to euhedral (avg 0.1% py), possibly trace cp at 403.64 m. - Competent core (40 cm core); upper contact is sharp, planar @ 35' CA; lower contact is sharp, irregular, intrusive contact @ 45' CA (along foliation). 392.66 m: Foliation @ 10' CA. 393.44 m: Cross-cutting fractures: @ 50' CA; @ 20' CA (filled with pink cc). 393.85 m: Foliation @ 65' CA. 397.23 m: Ch vein, @ 30' CA. 403.55 m: Foliation @ 45' CA.							

403.67 404.87 DACTIC DYKE

- Light-medium grey-green colour; fine-grained, (5% feldspar phenocrysts, maximum size 3 mm diam; other use similar to other dacitic dykes described previously; upper contact is sharp, slightly irregular @ 40' CA; lower contact is sharp, planar @ 55' CA.

404.87	642.16	CHERTY-ARGILLACEOUS SEDIMENTS (SILTSTONE) WITH QUARTZ-CRYSTAL TUFF & MINOR BRECCIA	193230	424.00	426.00	2.00	11	7	31	17
		- Same description as unit described from 345.10-356.33 m; trace py locally.	193231	450.00	452.00	2.00	35	8	28	18
		- This unit is predominantly salmon coloured cherty sediments with bands/matrix of dark red-purple sediments with some medium green colour sections (contacts are gradational & similar cherty sediments with argillite-chlorite bands indicating these could be just different Fe alteration).	193232	568.00	570.00	2.00	36	13	36	57
		- This unit also contains interbedded medium buff-green colour quartz crystal tuffs: medium-grained; massive to weakly								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 28

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		foliated; 1% qtz veinlets, irregular; minor cc hairline veinlets; minor ep veinlets locally; also local (10%) dark grey-black colour, anastomosing to irregular, hematite veining/bands (similar in appearance to dark argillite-chlorite-magnetite bands in cherty sed), avg. 2 mm wide. - Composition: siliceous with 15% qtz crystals (mostly milky white crystals (2 mm diam & minor qtz eyes (1 mm diam); 0.5% red hematite "spots"/frags and locally 10% hematite veins; 2% sericite; and others too fine-grained to determine. - Wk-non st; scratches with nail generally; patchy, wk ser alt; vein controlled mud hem alt locally; apparently non-mineralized. - Competent core (30 cm core).								
404.87	407.51	Banded Cherty-Argillite Sediments								
		- Medium grey-green to salmon colour; upper contact is sharp, planar @ 55° CA; lower contact is sharp, planar @ 65° CA.								
406.51	m:	Laminae @ 30° CA.								
407.51	411.66	Breccia								
		- Brd-salmon colour cherty frags and frags of white siliceous (chert or qtz?) (range 2 mm - 20 cm diam) = 70%; in 30% matrix of dark red-purple argill-chl-hem.								
411.66	428.65	Cherty-Argillite Sediments (banded)								
		- Salmon colour; described above; + minor ep-sil veins/veinlets, irregular; highly variable to contorted laminae - parasitic folding of laminae observed.								
412.57	m:	Small-scale fold closure (M-shaped?); fold axis (F2) at 50° CA.								
413.74	m:	Small-scale folding; F2 @ 25° CA.								
413.90	m:	Laminae subparallel to CA.								
415.36	m:	Laminae @ 10° CA.								
422.05	m:	Laminae @ 25° CA.								
425.87	m:	Laminae @ 50° CA.								
429.65	429.69	Quartz-Crystal Tuff								
		- Buff-green colour; 10% hematite veining; as described above; upper contact sharp, irregular; lower contact is sharp,								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 29

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		planar @ 30° CA.								
429.69	434.12	Cherty Argillite Sediments - As above; foliation subparallel to CA.								
436.12	430.30	Quartz-Crystal Tuff - Silicified; foliation @ 20° CA. Both contacts @ 20° CA (conformable).								
430.36	431.40	Cherty Argillite Sediments - Salmon-red; upper contact sharp, planar @ 20° CA; lower contact is highly irregular, sharp.								
430.94	m:	Small-scale, M-folds, P2 @ 25° CA.								
431.40	432.83	Quartz-Crystal Tuff - As above; both contacts are sharp, highly irregular.								
432.83	432.98	Cherty Argillite Sediments - Salmon-red; both contacts highly irregular, sharp.								
432.98	433.22	Quartz-Crystal Tuff - Both contacts irregular, sharp.								
433.22	437.48	Cherty Argillite Sediments - Salmon-red, laminae not as contorted (generally @ 50-80° CA); 14 ep-sil, network veinlets; upper contact is sharp, irregular @ = 80° CA; lower contact is sharp, irregular @ = 80° CA, conformable.								
434.43	m:	Laminae @ 50° CA.								
437.34	m:	Laminae @ 80° CA.								
437.48	441.86	Quartz-Crystal Tuff - Contains massive-brecciated "rhyolitic" sections (frags?); only 2% hem veining; upper contact is sharp, irregular @ 80° CA; lower contact is sharp, highly irregular intrusive.								
437.90	m:	Weak foliation @ 80° CA.								
441.86	445.49	Diorite Dyke - Medium green colour, 10% feldspar phenocrysts; chilled								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 30

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		margins; trace py; mod st; harder than nail; same as previous diorite dykes; upper contact is sharp, irregular; lower contact is sharp, planar @ 35° CA.								
445.49	452.53	Salmon-Red Cherty-Argillite Sediments - Dark grey colour upper section (445.49-446.20 m) - same rock type; laminae are locally contorted; trace py on fractures only (ep-sil infilled, 1% of these 'veinlets' - generally @ 60° CA - 1-2 m wide); upper contact is sharp, planar @ 35° CA; lower contact is gradational - based on colour change from salmon-red to medium grey-green colour (may be due to effect of Fe alteration).								
447.46	m:	Ep-sil infilled fracture @ 60° CA; trace euhed. a)								
PT-										
448.65	m:	Laminae @ 30° CA.								
450.09	m:	Laminae @ 55° CA.								
450.92	m:	Laminae subparallel to CA.								
451.35	m:	Laminae contorted; F2 @ 80° CA.								
451.71	m:	Laminae @ 50° CA.								
452.24	m:	Laminae contorted-chaotic.								
452.53	458.17	Grey-Green to Salmon Cherty-Argillite Sediments - Interdigitated with gradational colour changes (due to Fe alteration); laminae are generally contorted - chaotic; upper and lower contacts are gradational.								
458.17	460.51	Breccia - Predominantly grey-green colour, massive to crackly-breccia chert/rhy? frags with 10% salmon cherty sed frags; within fine-grained chl-argillite-ser matrix; 85% frags + 15% matrix; frags are subangular to angular; mod st; frags harder than nail, matrix softer than nail; apparently non-mineralized; mod competent core (avg. 20 cm); upper contact is gradational; lower contact is diffuse @ ~ 80° CA.								
460.51	474.17	Salmon-Red Cherty-Argillite Sediments - As described above; highly variable laminae orientation (contorted to chaotic to locally planar laminated - subparallel to 45° CA. Upper contact is subtle, brecciated; lower contact								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 31

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		is sharp, planar @ 40° CA; 3½ qtz ribbons - veinlets, mostly along laminae, but also irreg veining; trace py locally. 460.69 m: Laminae @ 35° CA. 461.15 m: Contorted laminae subparallel to CA. 462.34 m: Laminae @ 45° CA. 469.23 m: Laminae contorted - subparallel to CA. 470.92 m: Laminae kink folded; F2 @ 10-15° CA. 471.20 m: Laminae M-folded; F2 @ 15-30° CA.								
		474.17 477.39 Quartz-Crystal Tuff - As previously described; locally weak-moderately st; locally trace py-fine ddsen; locally hematite veining/bands (476.42-476.52 m).								
		477.30 478.53 Salmon-Red Cherty-Argillite Sediments - Laminae are generally planar, subparallel to each other, @ 50-60° CA; small-scale folded to micro-faulted. Upper contact is planar, sharp @ 65° CA; lower contact is slightly irregular, sharp @ = 60° CA. 477.36 m: Laminae @ 50° CA. 478.06 m: Laminae @ 80° CA. 478.33-478.45 m: Zone of strong silicification (vein?) with wk sericite, hematite, chlorite - could be small interbed of qtz-crystal tuff; both contacts are sharp, planar @ 60° CA.								
		478.53 482.23 Quartz-Crystal Lithic Tuff - As previously described except contains white-light grey chert/cherty rhyolite fragments (<8 mm diam; localized zones with dark green "spots" of chlorite (cd? avg 2-3 mm diam; generally massive to weak foliation (unmeasurable); upper contact is sharp, slightly irregular @ 60° CA; lower contact is gradational-silicified. 481.07-481.19 m: Interbed/inclusion of salmon colour, massive to crackle-breccia chert; upper contact sharp @ 70° CA; lower contact sharp, planar @ 60° CA.								
		482.23 483.30 Salmon-Red Cherty-Argillaceous Sediments - Laminae generally planar @ 50° CA to contorted slightly; lower contact sharp, slightly irregular @ 80° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 32

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
483.30	488.50	Felsic Volcanic - Quartz crystal tuff to massive-shear foliated felsic volc; foliation generally @ 55° CA; non-qt; trace py locally; upper contact is sharp @ 80° CA; lower contact is brecciated; 484.62 m: Foliation @ 55° CA. 486.99-487.59 m: Interbedded/inclusion of salmon-red to green cherty-argillite sediments; upper contact is sharp, planar @ 60° CA; lower contact is sharp, planar @ 50° CA.								
488.50	498.08	Salmon-Red Cherty-Argillite Sediments - + 2% qtz ribbons-veins; occasional zones of medium-light green colour (may be Fe alteration effect; also mod-strong silicification), otherwise as described above, laminae generally contorted slightly to kink folded to planar. Upper contact is sharp @ 50° CA; lower contact is sharp, planar, intrusive @ 60° CA. 489.96 m: Kink-folded laminae; F2 @ 35° CA. 490.08-491.00 m: Medium-light green, silicified section; both contacts are gradational, especially lower contact. 491.27 m: Laminae @ 65° CA. 493.68: Qtz-chl vein (4 cm thick) W 40° CA. 494.75 m: Laminae @ 50° CA. 495.08 m: Laminae kink folded; F2 @ 10° CA. 496.46-496.87 m: Light grey-maroon colour, silicified zone with trace fracture-controlled py; qtz-sp (1 cm) vein in central portion @ 50° CA (seems to be alteration hole of this vein type).								
498.08	498.99	Mafic Dyke - Medium green colour; fine-grained with 2% feldspar phenocrysts (2 mm diameter; massive; 0.5% ep-sil veinlets - irregular to anastomosing; good chilled margins; minor py disseminated; both contacts sharp, planar @ 60° CA.								
498.99	435.82	Salmon-Red Cherty-Argillaceous Sediments - With interbeds of medium green-grey colour sections of qtz- crystal tuff & massive-brecciated cherty sediments; similar to units described previously.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-151

Page 33

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WGT%	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
498.99	502.44	Salmon-Red Cherty-Argillaceous Sediments - Laminæ generally 56° CA to contorted; upper contact sharp, planar @ 60° CA; lower contact is sharp, planar @ 70° CA. 499.29-499.41 m: Interbed of qtz-crystal tuff; contacts @ 30 & 50° CA respectively, sharp, planar.								
502.44	502.70	Interbed of Quartz-Crystal Tuff - Contacts sharp, planar @ 70 & 60° CA respectively, conformable.								
502.70	503.96	Salmon-Red Cherty-Argillaceous Sediments - Contorted banding to fragments of salmon cherty seds in argillaceous matrix.								
503.96	504.14	Interbed of Qtz-Crystal Tuff Contacts at 80 & 65° CA respectively, sharp, planar.								
504.14	505.77	Salmon-Red Cherty-Argillaceous Sediments - Upper contact @ 65° CA; lower contact @ 70° CA; sharp, planar; laminae contorted to planar @ 70° CA.								
505.77	506.97	Quartz-Crystal Lithic Tuff - 20% salmon to white cherty frags <8 mm wide and flattened; 20% qtz crystals and 60% matrix (argillite-chl) + others; mod foliated @ 70° CA.								
506.97	521.60	Salmon-Red Cherty-Argillaceous Sediments - Contorted to planar laminated (30-90°) to brecciated locally; upper contact is sharp, planar @ 55° CA; lower contact is sharp, planar @ 75° CA. 507.60 m: Laminæ @ 80° CA. 508.51 m: Laminæ @ 70° CA. 511.14 m: Laminæ @ 60° CA. 515.49 m: Laminæ @ 50° CA. 516.72-517.43 m: Zone of mod silicification - chl - partially qtz-crystal tuff-like. 519.52 m: Laminæ kink folded; F2 @ 50° CA. 520.24 m: Laminæ @ 90° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 34

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
521.60	522.85	Shear-foliated Qtz Crystal Tuff to Massive Chert - Foliation generally @ 70° CA; upper contact is sharp, planar @ 75° CA; lower contact is slightly irreg, sharp @ 50° CA, conformable.								
522.85	535.82	Salmon-Red Cherty-Argillaceous Sediments - Upper contact is sharp, slightly irreg @ 50° CA, lower contact is sharp, planar intrusive @ 65° CA.								
524.18	m:	Laminae @ 36° CA.								
525.26	m:	Laminae @ 75° CA.								
527.68	m:	Laminae @ 75° CA.								
534.29	m:	Laminae @ 65° CA.								
535.62	541.31	Composite Dyke - Contains both (i) mafic (535.82-537.01 m), 537.20-537.23 m - 2 cm wide dykelet) dykes/dykelet; dark grey to black colour, fine-grained, aphanitic; scratches with nail, massive; mod-str mt, pervasive; pervasive mod carbonatization; minor irreg qtz veins/patches; minor dissen py; upper contact is sharp, planar 65° CA; lower contact is irregular; dykelet contacts @ 15° CA. (ii) dioritic dyke (537.01-537.20, 537.23-541.31 m) - medium grey-green colour, feldspar-porphyrific (saussuritized - zoned locally, feldspar); phenos (6 mm diam, avg 2 mm; 5% feldspar phenos; fine-grained groundmass; weak chl; trace py locally, massive; minor cc veinlets; planar but no preferred orientation; non-st; harder than nail; upper contact is irregular; lower contact is also irregular @ 50° CA.								
541.31	602.09	Salmon-Red Cherty-Argillaceous Sediments - contains interbeds of qtz-crystal tuff; mostly planar laminated @ 40-75° CA; some "warping" - contorting of laminae; contains mafic dyke (545.68-547.97 m), which is dark grey-black colour, massive, similar in appearance to mafic dyke at 535.82-537.01 m; except white feldspar? phenocrysts (needle to lath-shaped) (3 mm long, 2 mm wide; 4% phenos in fine-grained ground-mass; pervasive mod-str mt; scratches with nail; upper contact is sharp @ 55° CA; lower contact is sharp @ 65° CA. Upper contact of cherty sed is irreg @ 50° CA; lower contact is								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-151

Page 35

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		gradational (based on decreasing amount of red chert & increasing amount of quartz crystal tuff & green cherty sed).								
		541.38 m: Laminæ @ 65' CA.								
		549.18 m: Laminæ @ 65' CA.								
		552.54 m: Laminæ @ 60' CA.								
		557.30 m: Laminæ @ 48' CA.								
		557.71 m: Laminæ @ 76' CA.								
		559.68 m: Laminæ @ 75' CA.								
		561.45 563.37 Interbed of Quartz Crystal Tuff								
		- As described above, contains one red cherty frag/interbed (7 cm wide).								
		565.54 m: Laminæ @ 40' CA.								
		565.65 566.05 Zone of Strongly Silicified Breccia								
		- Red to white cherty frags <5 cm diameter.								
		569.95 m: Laminæ @ 60' CA.								
		573.84 m: Laminæ @ 75' CA.								
		Conformable interbeds of quartz-crystal tuff (locally contains 3% red hematite/chert fragments/spots (2 mm diam):								
		574.45-574.65 m, 575.69-575.78 m, 577.53-577.66 m, 577.62-578.13 m, 578.38-578.47 m, 578.69-578.82 m, 578.97-579.63 m, 579.26-579.27 m, 583.42-583.47 m, 583.54-583.77 m, 584.32-584.48 m (highly irreg lower contact), 585.08-585.22 m.								
		577.58 m: Laminæ @ 56' CA.								
		578.95 m: Laminæ @ 60' CA.								
		580.51-581.33 m: Zone of minor brecciation, mod silicification, weak ep network veinlets; mod bleached.								
		579.00-587.00 m: 0.2% pink carb-qtz infilling fractures generally @ 10-20' CA.								
		584.30 m: Laminæ @ 50' CA.								
		585.16-585.82 m: Zone of str silicification; mod brecciation; mod-atchy mt-chl.								
		588.21 m: Laminæ @ 80' CA.								
		589.26 592.96 Quartz-Diorite Dyke								
		- Medium grey-green colour, medium-grained (equigranular), massive; wide (= 0.5 m) chill margins; 0.5% qtz veinlets,								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 36

FROM	TO	LITROLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		planar @ 30-50° CA; minor cc hairline, irreg veinlets in chilled sections; one singular, slightly irreg to anastomosing, ep-sil veinlet (1-3 mm wide) runs subparallel to CA through upper half of dyke; contains one light grey cherty inclusion (3 cm diam) @ 592.10 m. - Composition: 20% qtz; 30% feldspar; 45% dark mafic minerals (amph-chl-others) + 5% medium green colour mineral (ep, or some other alteration mineral). - Mod at pervasive, harder than nail; "fresh-looking" - altered; competent core (35 cm core); upper contact is sharp, planar @ 80° CA; lower contact is highly irregular, sharp.								
		596.47 m: Laminar @ 80° CA.								
		598.09 598.77 Cherty Sediments - Light-medium grey colour (salmon ting), more "tuffaceous-looking"; non-wk at; upper contact is sharp, planar @ 50° CA; lower contact is subtle, silicified, irregular.								
		598.77 600.12 Quartz-Diorite Dyke - Same as described from 589.26-592.96 m; upper contact is silicified, irreg, subtle; lower contact is sharp, planar, ep-sil, @ 90° CA; both chill margins 5-10 cm (much less extensive than previous dyke).								
		602.09 642.16 Interbedded Cherty-Argillite Sediments - As described previously, salmon-red to green, contains qtz-crystal tuffs (separated from previous unit based upon increasing amount of green cherty sediments - with decreasing salmon-red sediments) & qtz crystal tuffs. 602.09-605.18 m: Qtz-crystal tuff; trace py (subhedral) in irreg qtz veins (2%); 2% at-chl-ep veins (1-3 cm wide), generally slightly irreg @ 80° CA; upper contact is gradual; lower contact is subtle, slightly irreg. 605.18-614.31 m: Section of variable interbedded medium grey-green cherty-argillite zones (70%) with salmon-red cherty-argillite zones (30%) - both types have minor breccia zones; upper contacts are subtle, slightly irregular; lower contact is gradational.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 37

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
609.40	m:	Laminae @ 75° CA.								
610.91	m:	Laminae @ 65° CA.								
513.51	m:	Laminae @ 45° CA.								
514.31-622.48	m:	Variable interbedded salmon-red cherty-argillite (70%) bands/fragments with grey-green argillite bands/matrix (30%); planar laminated to irregular laminations to breccia (red chert frags in argillite matrix); upper contact is gradational (based on change of dominance from green to red colour and absence of Qtz-crystal tuff); lower contact is subtle, slightly irregular.								
614.85	m:	Laminae @ 58° CA.								
619.86	m:	Laminae @ 60° CA.								
622.48-642.16	m:	Interbedded salmon-red cherty-argillite sediments, medium grey-green cherty-argillite seds, dark red-massive cherty sections (630.44-631.62 m, 632.50-632.79 m, 633.52-633.86 m); dark purple colour seds (625.86-626.20 m), fine-grained, aphanitic with salmon-red cherty frags (2%) + veins/patches of ep-sil-cc (10%); minor breccia zones; medium grey-green shear-foliated felsic volcanics (as previously described) @ 631.62-632.50 m, 636.60-636.91 m; planar to irregular laminated; breccias, to massive; upper contact is subtle, irreg; lower contact is gradational, subtle (based on disappearance of medium-dark green colour seds, ("mafic looking" - could be tuffs or seds) with distinctive-looking Qtz-cc irregular patchy-vein-type alteration.								
628.64	m:	Laminae @ 60° CA.								
635.37-635.70	m:	Cream-pink-green colour brecciated, bleached, silicified, carbonatized zone.								
639.47	m:	Laminae @ 65° CA.								

642.16 651.17 MAFIC VOLCANIC

- Medium green colour; fine-grained; massive; abundant veining; 5% cc veins/veinlets (3.5% peach colour, irregular, patches/veins; 1.5% white, planar to slightly irreg @ 50° CA). 2% ep-sil (1% cc) veins/veinlets/irregular patches, some planar veins @ 40° CA; minor interflow sed (646.95-646.99 m) @ 70° CA - could be cc-sil-chl-at-ep vein?; also interflow (frog?)

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 38

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		red chert (649.28-549.32 m). - Composition: too fine-grained to determine. Except 2% chl 'spots' (porphyroclasts); mod at pervasive; generally harder than sil; pervasive wk-chl; pervasive w at, patchy-vein controlled cc-ep-sil-alteration; non-mineralized. - Competent core (avg 25 cm core); upper contact is subtle, gradational; lower contact is sharp, irregular @ low angle CA (= 25° CA). 643.49 m: Ep-sil vein @ 70° CA; 8 mm wide. 645.49 m: Planar, cc vein @ 30° CA; 5 mm wide. 647.83-648.08 m: Strongly silic-ep, wk hematite zone. 649.37 m: Quartz vein @ 40° CA; 1 cm wide.								

651.27 667.16 CHERTY-ARGILLACEOUS SEDIMENTS

193233 661.15 661.65 0.50 537 29 67 38

- Dominantly salmon to dark red-purple colour with light purple-green colour, brecciated section in lower portion (662.06-667.16 m - seems 'in-situ brecciated' - 50% frags - light grey to light green-purple), 10% matrix, badly broken to rubbly core; same as described previously; breccia (661.05-662.06 m), dark red-purple colour, 95% hem-argill matrix, 5% salmon to pink to white colour cherty frags (avg. 5 mm diam; <2 cm diam), 5% ep-sil network veinlets (fracture-controlled) which may have caused the patchy-inconsistent coloration; wk cc in brecciated zone matrix; minor veins of qtz + trem? (green-cream colour, acicular to feather-like euhedral crystals grown in from edge of vein, possibly of the trem-actin series) in upper section 651.70-652.80 m; one mineralized qtz vein @ 661.40 m @ 20° CA, contains 10% (3-4 mm wide) anhedral-subhedral cpy grains (in vein only); upper contact is irreg @ = 25° CA; lower contact is brecciated; ep-sil @ 25° CA.
651.80 m: Qtz-trem vein @ 30° CA; 1 cm wide.
653.75 m: Laminar @ 65° CA
656.23 m: Laminar @ 40° CA.
658.90 m: Laminar @ 60° CA.

667.16 669.30 MAFIC TUFF (or Volcanic Flow?)

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE

HOLE No.: GB-151

Page 39

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- Dark green colour (ep-sil-cc zone is light green colour), fine-medium-grained - but brecciated; 15% ep-sil veinlets/network/bleaching; 1% cc veinlets. - Composition: too fine-grained; non-magnetic; generally softer than nail; pervasive, wk-mod chl; patchy - vein controlled ep-sil-cc; trace disse py locally; badly broken to rubble core; upper contact is brecciated, ep-sil @ 25' CA; lower contact is brecciated, @ 15' CA. 668.45-668.85 m: Silic-ep-cc zone; light green colour.								
669.30	675.10	MAFIC DYKE								
		- Medium green colour, fine-medium-grained, massive, 0.5% cc veinlets - irregular; minor ep-sil veinlets - planar to irreg. - Composition: too fine-grained to determine, non-magnetic; generally softer than nail; pervasive, wk chl; trace py disse locally. Competent core (avg. 30 cm core); upper contact is brecciated, @ 15' CA; lower contact is sharp, sub-planar @ 10' CA.								
675.10	697.08	PELSIC VOLCANIC	193234	677.00	679.00	2.00	122	3	42	10
			193235	682.00	684.00	2.00	95	2	78	10
			193236	684.00	686.00	2.00	87	2	68	10
			193237	689.00	691.00	2.00	85	2	83	19
		- Shear-foliated/laminated tuffs; light green colour, fine-grained, shear-foliated (to laminated?) @ highly variable orientation to CA; 4% qtz veinlets - irreg, anastomosing, avg 2 mm wide, pyritiferous commonly, generally seem to follow foliation; 1% ep veinlets often associated with qtz veinlets; minor cc veinlets - irreg. - Composition: too fine-grained to determine, but siliceous, weak chlorite. - Wk at generally; harder than nail. - Trace to 0.5% py (avg. 0.2%) disse to stringer to contained in qtz veinlets; anhedral to euhedral; competent core (avg 30 cm core); except badly broken core (696.37-696.85 m); upper contact is sharp, sub-planar @ 10' CA; lower contact is sharp, broken @ 45' CA (intrusive).								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 40

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
675.88 m:		Foliation @ subparallel to CA.								
680.18 m:		small-scale dextral fault subparallel to CA; 1.5 cm displacement of foliation.								
680.26 m:		Foliation @ 25° CA.								
684.95 m:		Foliation (S2) @ 15° CA; S3 @ 35° CA.								
685.45 m:		Foliation @ 30° CA.								
689.62 m:		Foliation @ 60° CA.								
692.85 m:		Foliation @ 40° CA.								
693.27 m:		Foliation @ 60° CA.								
695.65-695.74 m:		Cc-qtz vein @ 30° CA; 6 cm wide; contains minor wall-rock inclusions.								
697.08	697.78	DIORITIC DYKE								
		- Medium green-grey colour, fine-grained, feldspar-phyrlic, non-nt; as previously described diorite dykes; upper contact is sharp @ 45° CA (chilled); lower contact is sharp, chilled @ 50° CA.								
697.78	707.89	MAFIC VOLCANIC FLOW	193238	698.00	700.00	2.00	56	2	358	60
		- Medium-green colour, fine-grained, massive to mod. foliation (25-55° CA), 1% cc veinlets/veins irregular to planar; 0.5% qtz-cc veins, irregular with ep-sil alteration haloes (702.00-702.20 m, 702.39-702.58 m, 703.53-703.59 m, 703.66-703.75 m, 704.05-704.16 m); also locally spots (amygdules) of ep-sil (<4 mm diam).								
		- Composition: too fine-grained; non-wk nt; variable hardness resulting from silicification.								
		- Pervasive, wk-mod chl; vein-controlled ep-sil; avg. 0.1% disseminated throughout (range: none to 0.5%).								
		- Mod competent core (avg. 20 cm core); upper contact is sharp, intrusive @ 50° CA; lower contact is sharp, carbonatized, with minor sed interbed @ 65° CA.								
699.92 m:		Foliation @ 55° CA.								
701.08 m:		Foliation @ 25° CA.								
705.58 m:		Foliation @ 35° CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
 HOLE No.: GB-151

Page 41

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
		706.78 m: Ep-cc-gtz vein @ 75° CA; 1.5 cm wide, diffuse - brecciated.								
707.89	709.80	SHEAR-FOLIATED FELSIC VOLCANIC								
		- Light-medium grey-green colour, fine-medium-grained; shear-foliated (20-30° CA); 7% cc veining, irreg.								
		- Composition: too fine-grained to determine accurately; wk mt; scratches with nail.								
		- Pervasive, wk-mod chl; vein-controlled cc; 6.1% py throughout, dissem.								
		- Competent core (avg. 30 cm) except rubby section 709.63-709.72 m; upper contact is sharp @ 65° CA; lower contact is subtle @ = 80° CA.								
		708.31 m: Foliation @ 30° CA.								
		709.11 m: Foliation @ 20° CA.								
709.80	726.13	MAFIC VOLCANIC								
		- Medium to dark green colour, mod-str chl, same as previously described 697.78-707.89 m; upper section (709.80-713.36 m) contains 5% cc veins/veinlets - discontinuous, wispy, irregular shaped and felsic volcanic(?) section 710.76-711.05 m, with diffuse margins (this upper section could be carbonatized sediment/felsic volc?); upper contact is obscure @ = 80°; lower contact is sharp, subtle, intrusive @ = 60° CA; competent core, but badly broken @ 721.98-723.30 m.								
		- Unit also contains dacitic porphyry (719.25-721.11 m, upper contact irreg, lower contact @ 45° CA; 721.23-721.64 m, upper contact @ 45° CA; lower contact @ 50° CA), salmon-grey-brown colour; similar to previously described dacitic porphyries; minor chill margins.								
		714.87 m: Foliation @ 30° CA.								
		717.63 m: Foliation @ 30° CA.								
726.13	740.60	INTERMEDIATE TO MAFIC DYKE								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 42

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- Med-dark green colour, fine-grained 'mafic-looking' margins (726.13-730.30 m, 740.30-748.60 m) to med-grained feldsparphyric ('dioritic') central portion; similar to previous dykes of this mafic-intermediate composition; trace to minor py ubiquitous.								
740.60	836.79	MAFIC VOLCANIC FLOWS	193239	793.50	795.50	2.00	46	2	76	19
			193240	799.00	800.00	1.00	36	2	65	10
			193241	823.08	824.28	1.20	75	2	19	10
			193242	830.50	852.50	2.00	92	2	33	10
		740.60 763.51 Mafic Volcanic								
		- same as previously described (597.78-707.89); str chl upper section 740.60-744.30 m, but remainder of unit is wk chl, patchy ep-sil, mod sil (S2: 20-60° CA, S3: 30-40° CA) with minor interflow ash tuffs/green cherts; trace py throughout; lower section 760.15-763.51 m is carbonatized by discontinuous, wispy to sigmoidal to asymmetrically folded cc veinlets.								
		- Mod competent core (avg. 20 cm) with numerous badly broken to rubble sections: 754.80-754.95 m, 755.60-755.91 m, 759.25-759.35 m.								
		- Upper contact is subtle @ 20° CA; lower contact is sharp @ 30° CA.								
		748.72 m: Foliation @ 60° CA.								
		753.53-753.55 m: Interflow ash tuff; foliation @ 45° CA.								
		755.90-755.98 m: Interflow green chert; foliation @ 30° CA.								
		757.48 m: Foliation @ 30° CA.								
		757.99-758.33 m: Minor intermediate-mafic porphyritic dykelet, med grey-brown colour, upper contact @ 50° CA; lower contact is badly broken.								
		760.20 m: S2 foliation @ 20° CA; defined by cc veinlets.								
		760.33 m: S3 @ 40° CA; cross-cutting S2.								
		761.54 m: S4 @ 30° CA.								
		763.51 773.06 Mafic Volcanic (dyke?)								
		- Massive to weakly feldspar porphyritic; medium grey-green colour, fine-grained, 1% ep-sil, planar-network-irreg veinlets; 0.5% cc planar-irreg veinlets.								
		- Composition: too fine-grained, except 2% feldspar phenocrysts (<8 mm dia) avg. 2 mm diam.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 43

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		- Mt mt; generally harder than nail, pervasive wk chl-mt; minor py throughout. - Very competent core (40 cm core); upper contact is sharp @ 38" CA; lower contact is subtle, carbonatized @ 40" CA. 764.60 m: Co-ep-sil veinlet @ 55" CA.								
		773.06 818.35 Mafic Volcanic - Mod fol (20-40" CA) to massive, light-medium green colour, fine-grained, variable ep-sil-cc veinlets/veins (ep-sil: 1-10% in bleached zones; cc: 0.5-4% discontinuous wispy veinlets to irreg veins); silic-ep, bleached zones (1-30 cm wide) comprise 15% of unit; sil zone with mod chl + 4% cc veinlets, with 0.5% disse py (793.00-795.71 m); generally only local trace py, trace cp @ 799.38 m as described previously 697.78-787.89 m; upper contact is subtle, carbonatized @ 40" CA; lower contact is sharp, @ 10" CA & has minor interbed of green chert at contact; very competent core (avg. 40 cm core). 785.73 m: Foliation @ 25" CA. 789.86 m: Foliation @ 20" CA. 797.45 m: Sil-cc veinlet, planar, 4 mm wide @ 30" CA. 804.07 m: Foliation @ 25" CA.								
		812.35 836.79 Silicified Mafic (or Intermediate Volcanic) - Weak Feldspar-Phyric - Massive to mod fol (25-35" CA); light-medium grey-green colour, fine-grained, avg. 5% cc-qtz veins (3% cc, 2% qtz) planar to irregular, often conformable; range from 1 mm veinlets to irreg, often conformable; range from 1 mm veinlets to 6 cm veins (irreg). - Composition: too fine-grained, except str siliceous, locally 3% saussuritized feldspar phenocrysts (<5 mm diam); non-magnetic; Harder than nail; patchy to pervasive mod-str silicification; avg. 0.1% py disse. - Unit contains interbedded green cherts, laminated, minor py (823.05-824.28 m, 828.14-828.16 m, 829.59-829.97 m) and tuffs/sc's (821.59-821.80 m, 833.13-833.23 m). - Competent core (avg. 35 cm); upper contact is sharp @ 10" CA; lower contact is sharp, carbonatized @ 40" CA. 821.38 m: Foliation @ 30" CA.								

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 44

FROM	TO	LITHOLOGICAL DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH	ASSAYS			
							Cu(ppm)	Pb(ppm)	Zn(ppm)	Ba(ppm)
		823.65-823.74 m: Qtz vein with 3% dissem py, 5 cm wide @ 30° CA.								
		829.59 m: Foliation @ 25° CA.								
836.79	847.27	PELSIC TO INTERMEDIATE TUFFS WITH INTERBEDDED PYRITIPEROUS CHERTS	193243	839.30	839.90	0.60	22	11	6	10
			193244	840.50	842.50	2.00	55	2	70	10
			193245	845.85	847.00	1.15	35	3	40	10
		TUFFS - Light-medium green colour, fine-grained, well-foliated (variable 15-60° CA); avg. 3% Qtz-cc veins/veinlets - irreg to planar, some are conformable; upper section (836.79-837.96 m) is str chl-argillie, dark green colour w/ 1% Qtz-cc veins, irreg to patchy.								
		- Composition: too fine-grained to determine; non-nt; scratches with nail; wk-str chl; avg. 0.1% py (dissem & assoc with Qtz-cc veins).								
		PYRITIPEROUS CHERTS - 839.31-839.88 m, 843.76-843.84 m, 845.85-847.22 m; dark red-purple to white colours interlaminated, fine-grained, 2% Qtz-cc veinlets/veins.								
		- Strongly nt; harder than nail; avg. 4% py dissem - stratiform (15% in uppermost section 839.31-839.88 m).								
		- Competent core (avg. 30 cm); upper contact is sharp @ 40° CA; lower contact is sharp @ 15° CA; contacts between cherts & tuffs generally sharp, low angle CA (15-40° CA).								
		838.46 m: Foliation @ 30° CA.								
		840.20 m: Cc vein @ 30° CA; 7 mm wide.								
		840.97 m: Foliation @ 20° CA.								
		844.15 m: Foliation subparallel to CA.								
		844.65 m: Foliation is warped/folded; F2 @ 70° CA.								
		845.98 m: Foliation @ 60° CA.								
		846.14 m: Foliation @ 35° CA.								
		847.08 m: Foliation @ 10° CA.								
847.22	875.97	MAFIC VOLCANIC FLOW (OR MAFIC-DERIVED SEDIMENTS)	193246	848.00	850.00	2.00	47	3	69	10
			193247	852.30	854.30	2.00	43	4	70	17
		- Dark green-grey colour, fine-grained, mod-well foliated (generally 10-30° CA); avg. 10% cc veinlets - discontinuous - wispy - irregular - asymmetrically folded, generally follow	193248	859.00	861.00	2.00	67	4	71	10
			193249	865.00	867.00	2.00	35	7	74	10
			193250	868.00	869.00	1.00	33	3	68	10

HOLE # GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 45

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

along foliation; (lt qtz veinlets/veins - irregular to patchy.
- Composition: too-fine-grained to determine; variable st (non-mod); generally softer than nail; wk-mod chl; pervasive; minor py throughout (avg. 0.2%) disscn to concentrated in minor silicified zones, anhedral to euhedral py.
- Mafic Dyke (972.81-875.68 m) - dark grey-green wk feldspar-phyrlic (2%), mod st, as previously described; both contacts are sharp, planar, intrusive @ 40° CA; good chills.
- Whole unit has competent core (avg. 35 cm core); upper contact is sharp @ 15° CA; lower contact is not observed (EOH).
849.32 m: Foliation @ 30° CA.
855.03-855.10 m: Salmon colour, silic-ep alteration zone, alteration halo around ep-sil-cc vein @ 855.05 m @ 45° CA.
857.68 m: Foliation @ 19° CA.
861.90 m: Foliation @ 20° CA.
863.60 m: Small scale folding of foliation (S2) - N to Z folds; S3 @ 35° CA.
866.75 m: Low angle (15° CA) fracture infilled with ep-cc-qtz-chl-py (1%); slightly irreg to minor brecciation.
869.30 m: Foliation @ 45° CA.
869.88 m: Asymmetrically folded S2 with S3 @ 35° CA.
878.72 m: Asymmetrically folded S2 (= 10° CA) with S3 cross-cutting @ 45° CA.

879.97 EOH

Dip Tests (Tropari)	Dip	True AZ
165.20 m	-53°	(-27°)=299.5°
274.93 m	-54°	302°
418.19 m	-54°	300° (mag rock)
506.28 m	-53°	303.5°
638.87 m	-52°	309°
729.09 m	-53°	310° (wk mt)
878.44 m	-53°	315° (wk mt)

HOLE No: GB-151

RIO ALGOM EXPLORATION INC.

DIAMOND DRILL LOG

PROPERTY: GULLBRIDGE
HOLE No.: GB-151

Page 46

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

DOWN-HOLE SURVEY DATA

DEPTH	INCLINATION	BEARING
165.20	-53.00	269.50
274.93	-54.00	262.00
506.28	-53.00	263.50
638.87	-52.00	269.00
729.09	-53.00	270.00
878.44	-53.00	275.00
879.97	-53.00	

HOLE No: GB-151

PAGE NO. 1
 HOLE NO. CB-151
 SAMPLED BY: M. MUGGRIDGE

PROJECT: ROBERTS ARM - 8807

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
	From	To	Length						
193201	31.90	32.90	1.00m	56	3	35	26	1.5% py	Shear-foliated felsic volcanic, mod. chl
193209	48.50	49.50	1.00m	69	4	25	10	trace py	Mafic volcanic str chl, 2% ep-sil veins
193202	66.58	67.58	1.00m	11	3	44	15	2% diss. py	Shear-foliated felsic volcanic
193203	88.80	90.80	2.00m	94	7	56	10	2% py	Cherty rhyolite to shear-fol. felsic volcanic
193204	106.35	108.35	2.00m	52	7	72	12	1.5% py	Felsic volcanic, str chl
193205	124.87	126.87	2.00m	53	11	77	17	1.5% py	Shear-fol. felsic volcanic, mod. chl
193206	157.36	159.11	1.75m	465	16	114	10	2% py	Lapilli tuff, very blocky (fault zone)
193207	159.11	161.61	2.50m	99	11	73	10	1% py	Rhyolite, mod chl
193213	222.00	222.50	0.50m	17	11	64	22	0.5% py, trace cp	Shear-fol felsic volcanic
193214	237.00	239.00	2.00m	6	17	41	24	0.5% py	Shear-fol felsic volcanic
193215	249.30	251.00	1.70m	84	13	212	10	1.5% py	Felsic volcanic, str chl
193217	252.00	254.03	2.03m	155	13	897	10	3% py	Felsic volcanic, int. chl
193218	306.00	308.00	2.00m	62	21	64	84	0.5% py	Medium green-grey sediment / ash tuff
193219	346.00	348.00	2.00m	24	4	42	48	none	Red cherty-argillaceous sediments
193224	356.35	358.35	2.00m	40	14	38	29	trace py	Felsic volcanic with argill-chl bands
193220	360.00	362.00	2.00m	59	5	153	71	none	Red cherty-argill. sed.
193223	364.00	365.00	1.00m	280	6	185	100	minor py	Red cherty-argill. sed.
193225	365.00	366.00	1.00m	528	8	94	231	trace cp-py	Red cherty-argill. agglomerate, mod. chl.
193226	366.00	367.00	1.00m	174	16	81	121	trace py-cp	" " " " "

PAGE NO. 2
 HOLE NO. CR-151
 SAMPLED BY: M. MULLERDIE

PROJECT: ROBERT'S ARM - 8807

SAMPLE NUMBER	SAMPLE INTERVAL			Cu ppm	Pb ppm	Zn ppm	Ba ppm	SULPHIDES	DESCRIPTION
From	To	Length							
193221	371.00	372.00	1.00m	3	3	52	87	none	Red cherty-argillaceous sed.
193222	378.00	380.00	2.00m	42	2	67	30	none	" " " "
193227	392.00	394.00	2.00m	61	2	39	10	trace py	Mafic (to intermediate) tuff
193228	394.00	396.00	2.00m	71	6	41	10	trace - 0.5% py	" " " "
193229	400.00	401.00	1.00m	71	4	44	10	minor py	" " " "
193230	424.00	426.00	2.00m	11	7	31	17	trace py	Red cherty-argillaceous sed.
193231	450.00	452.00	2.00m	35	8	28	18	trace py	" " " "
193232	568.00	570.00	2.00m	36	13	36	57	none	" " " "
193233	661.15	661.65	0.50m	537	29	67	30	0.5% cp	Red-purple cherty sed, cp in Qtz vein.
193234	677.00	679.00	2.00m	122	3	42	10	0.3% py	Intermediate tuff, mod chl
193235	682.00	684.00	2.00m	95	2	78	10	0.3% py	" " " "
193236	684.00	686.00	2.00m	87	2	68	10	0.2% py	" " " "
193237	689.00	691.00	2.00m	85	2	83	19	0.2% py	" " , wk-mod chl
193238	698.00	700.00	2.00m	56	2	358	60	0.2% py	Mafic volcanic, mod chl
193239	793.50	795.50	2.00m	46	2	76	19	0.5% py	Mafic volcanic, mod chl, 4% calcite
193240	799.00	800.00	1.00m	36	2	65	10	trace cp + 0.2% py	" " , wk chl, siliceous.
193241	823.08	824.28	1.20m	75	2	19	10	1% py	Green pyritiferous chert
193242	830.50	832.50	2.00m	92	2	33	10	0.2% py	Weakly porphyritic mafic volcanic, silic.
193243	837.30	837.90	0.60m	22	11	6	10	15% py	Pyritiferous chert

SAMPLED BY: M. MCGRIDE

[illegible]

WRA

PROJECT: ROBERT'S ARM - 8807

[illegible]

OCT 18 1991

Client: Rio Algom Exploration
 Geologist: Maia Pudifin
 Project: 8807-151
 Sample: Rock

DskFile: 171-6642

DateIn: Oct /91
 DateOut: Oct 12/91

Gr-151

ICP Geochemistry Certificate

Eastern Analytical Limited
 P.O. Box 187,
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 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 #	Co ppm	Sr ppm	Ba ppm	Fe %	P %	Hg ppm	Mg %	As ppm	V ppm	Na %	Mo ppm	Al %	Be ppm	Cs %	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti %	Cd ppm	Co ppm	Ni ppm	W ppm	La ppm	K %	Mn ppm	Rb ppm	Cr ppm
193201	19	21	26	3.34	0.07	1	0.72	114	120	0.12	3	2.14	0.6	1.37	35	56	5	0.3	3	2	0.06	0.5	23	21	10	10	0.09	335	20	49
193202	13	14	15	2.11	0.03	1	0.81	5	20	0.06	1	1.43	0.5	0.54	44	11	5	0.2	3	2	0.02	0.5	4	3	10	10	0.17	365	20	57
193203	15	9	10	5.53	0.07	1	1.98	17	133	0.03	1	2.58	0.5	0.64	56	94	5	0.2	7	2	0.06	0.5	27	20	10	10	0.01	666	20	69
193204	10	21	12	4.78	0.08	1	1.37	12	181	0.08	1	2.44	0.8	1.91	72	52	5	0.2	7	2	0.07	0.5	24	19	10	10	0.04	431	20	61
193205	14	15	17	5.70	0.06	1	1.86	30	165	0.05	1	3.01	0.8	1.54	77	53	5	0.3	11	2	0.07	0.5	21	17	10	10	0.12	802	20	57
193206	14	10	10	7.94	0.06	1	3.61	12	128	0.02	1	3.87	0.8	0.50	114	465	5	0.3	16	2	0.05	0.5	37	24	10	10	0.02	1172	20	38
193207	14	29	10	4.67	0.04	1	3.14	5	122	0.02	1	3.36	1.0	2.78	73	99	5	0.3	11	2	0.05	0.5	27	30	10	10	0.02	907	20	86
193209	10	16	10	1.61	0.04	1	0.84	5	55	0.08	1	1.29	0.5	1.00	25	69	5	0.2	4	3	0.03	0.5	11	18	10	10	0.03	345	20	74
193213	21	9	22	1.50	0.02	1	0.51	5	13	0.05	1	1.08	0.5	0.43	64	17	5	0.2	11	4	0.02	0.5	4	4	10	10	0.13	506	20	103

Client: Pio Algon Exploration
Geologist: M. Pudifin
Project: 8807
Sample: Core

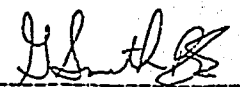
DskFile: 171-6675

DateIn: Oct. 28/91
DateOut: Oct. 31/91

ICP Geochemistry Certificate

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

98-151

SAMPLE	Co	Sr	Ba	Fe	P	Hg	Hg	As	V	Na	Mo	Al	Be	Ca	Zn	Cu	Sb	Ag	Pb	Bi	Ti	Cd	Co	Ni	W	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
193214	27	8	24	0.55	0.01	1	0.14	5	3	0.05	1	0.30	0.5	0.31	41	6	5	0.2	17	2	0.01	0.5	1	3	10	13	0.09	197	20	135
193215	10	19	10	6.69	0.06	1	3.68	9	221	0.06	1	3.44	0.9	1.77	212	84	5	0.2	13	2	0.07	0.5	31	26	10	10	0.02	1103	20	54
193217	10	16	10	6.86	0.06	1	3.50	18	203	0.06	1	3.00	0.8	1.54	897	155	5	0.2	13	2	0.05	0.5	32	26	10	10	0.01	919	20	54
193218	21	18	24	6.49	0.05	1	1.28	14	99	0.05	1	2.03	0.7	0.87	64	62	5	0.2	21	2	0.10	0.5	43	131	10	10	0.24	1953	20	314
193219	36	11	48	1.93	0.03	1	0.91	5	6	0.02	1	0.96	0.5	0.69	42	24	5	0.2	4	2	0.01	0.5	32	19	10	10	0.13	1422	20	83
193220	15	12	71	1.93	0.05	1	1.80	5	40	0.08	1	1.88	0.5	0.44	153	59	5	0.2	5	2	0.07	0.5	24	27	10	10	0.68	1548	20	133
193221	10	8	87	2.05	0.06	1	1.82	5	26	0.09	1	2.14	0.5	0.48	52	3	5	0.2	3	2	0.09	0.5	28	66	10	10	>1.10	1407	34	105
193222	13	11	30	2.58	0.07	1	1.49	5	29	0.07	1	1.84	0.5	0.44	67	42	5	0.2	2	2	0.10	0.5	31	40	10	10	0.88	739	43	95
193223	11	11	100	2.73	0.06	1	2.16	5	67	0.08	1	2.33	0.5	0.46	185	280	5	0.2	6	2	0.09	0.5	20	31	10	10	0.76	1632	20	155
193224	24	6	29	1.53	0.02	1	1.04	5	11	0.03	1	1.20	0.5	0.28	38	40	5	0.2	14	2	0.02	0.5	8	7	10	10	0.18	1131	20	91
193225	10	35	231	4.38	0.07	1	2.98	5	70	0.08	1	3.70	0.5	0.45	94	528	5	0.2	8	2	0.12	0.5	33	56	10	10	>1.10	2231	31	169
193226	10	30	121	3.42	0.06	1	2.24	5	42	0.09	1	2.77	0.5	0.44	81	174	5	0.2	16	2	0.09	0.5	27	39	15	10	0.77	1915	24	115
193227	10	16	10	3.40	0.07	1	1.44	5	126	0.08	1	1.74	0.5	1.19	39	61	5	0.2	2	2	0.06	0.5	14	12	10	10	0.05	318	20	43
193228	10	9	10	3.57	0.07	1	1.53	5	150	0.07	1	1.53	0.5	0.70	41	71	5	0.2	6	2	0.07	0.5	16	13	10	10	0.04	226	20	51
193229	10	11	10	3.74	0.06	1	1.64	5	140	0.07	1	1.72	0.5	0.66	44	71	5	0.2	4	2	0.07	0.5	17	15	20	10	0.05	196	20	52
193230	31	9	17	1.41	0.04	1	0.49	11	8	0.03	1	0.63	0.5	0.31	31	11	5	0.2	7	2	0.03	0.5	22	16	10	10	0.24	883	20	126
193231	26	10	18	1.39	0.03	1	0.52	10	6	0.05	1	0.67	0.5	0.28	28	35	5	0.2	8	2	0.03	0.5	20	16	10	10	0.26	694	20	169
193232	26	10	57	1.78	0.04	1	0.77	5	7	0.03	1	0.80	0.5	0.30	36	36	5	0.2	13	2	0.03	0.5	33	23	25	10	0.15	1108	20	145
193233	10	37	30	4.54	0.07	1	1.75	10	34	0.09	1	2.41	0.7	0.59	67	537	5	0.2	29	2	0.07	0.5	50	91	26	10	0.26	2450	20	234
193234	10	10	10	4.09	0.06	1	1.93	17	86	0.05	1	2.12	0.5	0.48	42	122	5	0.2	3	2	0.07	0.5	25	20	10	10	0.02	429	20	67
193235	10	7	10	4.38	0.06	1	1.95	5	99	0.05	1	2.10	0.5	0.31	73	95	5	0.2	2	2	0.07	0.5	28	19	10	10	0.02	402	20	52
193236	10	6	10	4.23	0.07	1	1.95	8	97	0.05	1	2.11	0.5	0.36	68	87	5	0.2	2	2	0.07	0.5	24	18	10	10	0.04	407	20	44
193237	10	6	19	3.18	0.05	1	1.92	5	65	0.05	1	1.83	0.5	0.49	83	85	5	0.2	2	2	0.07	0.5	22	28	10	10	0.10	331	20	88

1001 01 1001

Client: Rio Algom Exploration Inc.
 Geologist: Maia Pudifin
 Project: 8807
 Sample: Core

DskFile: 171-6690

DateIn: Nov 04, 1991
 DateOut: Nov 08, 1991

ICP Geochemistry Certificate

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 Fax: 709-673-3408

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

GB 151

SAMPLE #	Co ppm	Sr ppm	Ba ppm	Fe 2	P 2	Hg ppm	Hg 2	As ppm	V ppm	Na 2	Mo ppm	Al 2	Be ppm	Ca 2	Zn ppm	Cu ppm	Sb ppm	Ag ppm	Pb ppm	Bi ppm	Ti 2	Cd ppm	Co ppm	Ni ppm	W ppm	La ppm	K 2	Mn ppm	Rb ppm	Cr ppm
193238	10	5	60	1.99	0.05	1	0.96	5	69	0.04	1	1.14	0.5	0.41	358	56	5	0.2	2	2	0.06	0.5	14	11	10	10	0.16	167	20	35
193239	10	33	19	5.02	0.06	1	2.67	7	274	0.05	1	3.21	1.2	3.83	76	46	5	0.6	2	2	0.09	0.5	23	19	10	10	0.19	529	20	34
193240	10	6	10	1.90	0.06	1	0.79	5	55	0.04	1	1.07	0.5	1.24	65	36	5	0.2	2	2	0.05	0.5	14	10	10	10	0.01	237	20	40
193241	10	9	10	1.64	0.03	1	0.95	7	28	0.03	4	0.98	0.6	4.13	19	75	5	0.5	2	2	0.01	0.5	10	22	10	10	0.01	406	20	126
193242	10	9	10	1.26	0.01	1	1.18	12	25	0.04	1	1.18	0.5	2.09	33	92	5	0.2	2	2	0.03	0.5	16	45	10	10	0.01	366	20	128
193243	10	13	10	8.11	0.01	1	0.42	43	26	0.02	1	0.48	0.5	3.94	6	22	5	0.4	11	2	0.01	0.5	4	13	10	10	0.01	1039	20	130
193244	10	14	10	4.25	0.07	1	2.12	5	120	0.03	1	2.64	0.8	3.03	70	55	5	0.5	2	2	0.05	0.5	27	27	10	10	0.01	604	20	70
193245	12	10	10	5.29	0.06	1	1.68	6	90	0.05	1	2.46	0.7	3.00	40	35	5	0.3	3	2	0.03	0.5	16	24	10	10	0.04	902	20	120
193246	10	23	10	5.10	0.08	1	2.06	6	207	0.05	1	2.99	1.3	>5.50	69	47	5	0.2	3	2	0.06	0.5	25	21	10	10	0.04	1068	20	56
193247	10	15	17	5.30	0.08	1	1.95	6	235	0.07	1	3.04	1.2	4.59	70	43	5	0.2	4	2	0.08	0.5	24	11	10	10	0.24	876	20	53
193248	10	26	10	5.31	0.07	1	2.07	5	211	0.05	1	3.05	1.3	>5.50	71	67	5	0.2	4	2	0.07	0.5	26	25	10	10	0.07	1499	20	67
193249	10	16	10	5.42	0.09	1	2.02	5	180	0.04	1	2.94	1.0	3.50	74	35	5	0.3	7	2	0.07	0.5	22	13	10	10	0.05	743	20	66
193250	10	10	10	4.78	0.09	1	1.87	5	125	0.05	1	2.69	0.7	2.70	68	33	5	0.2	3	2	0.05	0.5	18	15	10	10	0.02	707	20	83