

**Buchans
River**

Depth	Azi_TN	Azi_Grid	Dip	Test Type
50		153.8	-89.8	
101		206.6	-88.6	
152		199.3	-83	
176		204.2	-82.6	
206		203.4	-82.5	
250		206.1	-82.1	
302		204.3	-81.8	
353		202	-81.7	
404		201.3	-81.5	
452		202.2	-81	
500		202.7	-81.4	

Comments:

Mineralogy

mercator | GEOLOGICAL
SERVICES

Lithology**From To Length**

clasts comprise 15%, 2-10 mm (avg 4 mm), subrounded clear to orange qtz amygdules/phenos and 5%, 1-20 cm aphanitic pink rhyolite fragments that contain vesicles described above (locally filled with epidote), dacitic/felsic frags have delicate fluidal to angular shapes; very fine gr. matrix is moderately siliceous accompanied by weak pervasive chl; wk-mod x-cutting qtz-carb strngs at 30 tca; tr diss py, tr spec hem in QC strngs

Mineralogy

Chalco:

Minor Lithology

47 48.15 1.15 MSI

Upp Ctc:

REG

S

50

From To Width Samp Zn% Cu% Pb% Ag g/t Au g/t
StructureFrom To

41 41.5

FLT Gouge and badly broken

Description:**Clasts/Cryst**

Basaltic Sill: Dark-grey to grey green, calcic, massive and aphanitic; weak silica and wk-mod chl; wk qtz car strngs x-cut at 70 and 30 tca with tr py and spec; shp ct's

Colour: DKG

DGRN

Foliation:**Texture:** mass

Apha

Alteration: Chl

P

Pyrite: TR DISS

QC

W

Sphalerite:

Minor Lithology

50.5 52.72 2.22 MSI

Upp Ctc:

REG

S

60

Description:**Clasts/Cryst**

Basaltic Sill: Dark-grey/black, calcic, massive and aphanitic; cross-cutting qtz-carb strngs at 30 and 70 tca with tr py and spec; ct's are sharp, paralleling fol'n and undulating with faint chills

Colour: DKG

DGRN

Foliation:**Texture:** mass

Apha

Alteration: Chl

P

Pyrite: TR DISS

QC

W

Sphalerite:

Lithology**From To Length**

Minor Lithology				Upp Ctc:
75.55	76.3	0.75	MSI	REG
				S 40

Description:

Basaltic Sill: Dark-greyish black, aphanitic, strongly calcic and massive; local wk fol'n; sharp contacts parallel to fol'n of host rock

Clasts/Cryst**Colour:** DKG**Foliation:** 40**Texture:** mass Apha

Alteration: QC W
 CARB S

Pyrite:

Sphalerite:

Minor Lithology				Upp Ctc:
79.4	80.66	1.26	MSI	REG
				S 40

Description:

Basaltic Sill: see description for 75.55-76.30 m; upper ct's sharp at 40 and 35 tca, respectively; weak qtz-carb strngs

Clasts/Cryst**Colour:** DKG BLK**Foliation:****Texture:** mass Apha

Alteration: QC W
 CARB S

Pyrite:

Sphalerite:

Minor Lithology				Upp Ctc:
83.4	84.23	0.83	MSI	REG
				S 30

Description:

Basaltic Sill: see description for 75.55-76.30 m

Clasts/Cryst**Colour:** DKG BLK**Foliation:****Texture:** mass Apha

Alteration: QC W
 CARB S

Pyrite:

Sphalerite:

Mineralogy

H-07-3348

Lithology

From To Length

Minor Lithology				Upp Ctc:
92	92.44	0.44	MDY	REG
				S 45

Description:

Mafic Dyke: Fine-grained, non-calcareous, massive and aphanitic; lwr ct shp, cuts fol'n at 50 tca and is chilled

Clasts/Cryst

Colour: G_G

Foliation:

Texture: mass Apha

Pyrite:

Alteration: Chl W

Sphalerite:

Minor Lithology				Upp Ctc:
95.3	96.7	1.4	MDY	REG
				B

Description:

Mafic Dyke: Fine-grained, non-calcareous, massive and aphanitic; shp but brkn ct's

Clasts/Cryst

Colour: G_G

Foliation:

Texture: mass Apha

Pyrite:

Alteration: Chl W

Sphalerite:

Mineralogy

H-07-3348

Lithology

From To Length

Minor Lithology				Upp Ctc:	
97.9	102.02	4.12	MSI	REG	
				S	30

Description:

Basalt Dyke: Dark-grey to grey-green, massive and aphanitic; strongly calcareous groundmass and wk carb veining; local finely laminated foliations; upper ct is shp @30 tca and parallels foliation, lwr ct is irreg, truncates fol'n at 25 tca

Clasts/Cryst

Colour: DKG G_G **Foliation:** 30

Texture: mass Apha

Alteration: Chl W
CARB S

Pyrite:

Sphalerite:

Minor Lithology				Upp Ctc:	
106	108.25	2.25	MSI	REG	
				S	40

Description:

Basalt Sill: Dark-grey, massive and aphanitic, strongly calcic groundmass with fine carb strngs; both ct's shp and parallel fol'n at 40 tca

Clasts/Cryst

Colour: DKG

Foliation:

Texture: mass Apha

Alteration: CARB P

Pyrite:

Sphalerite:

Mineralogy

H-07-3348

Lithology**From To Length**

Minor Lithology

120.5 122.35 1.85 MSI

Upp Ctc:

REG

G

30

Mineralogy**Description:****Clasts/Cryst**

Basaltic Sill: Dark-grey green, very fine-grained, massive and aphanitic; weak internal fol'n; strongly calcic groundmass with wk chl overprint; wk x-cutting hairline carb-filled fractures at 20 tca; strong fracturing at 30 tca; upper and lwr ct's shp at 30 and 35 tca respectively and paralleling fol'n

Colour: DKG

G_G

Foliation: 30**Texture:** mass

Apha

Alteration: CARB

P

Pyrite:

QC

W

Sphalerite:

123.22 165.85 42.63**IV****Foliated Intermediate
Volcanic**

REG

G

30

Colour: DGRN

G_G

Pyrite:

1% DISS

Texture: FOLs

BD

Sphalerite:

TR DISS

Alteration: S

CARB

Galena:

TR DISS

M

Chl

Chalco:

TR DISS

Description:**Clasts/Cryst:**

Foliated Intermediate Volcanic: Dark- green to light grey-green, fine-grained and strongly foliated; alternating 1 cm laminated coloured compositional banding; local patches of 0.4 cm rounded qtz amygdules; weakly siliceous with moderate to strong pervasive chl overprint with wk ser banding; planar to crenulated fol'n; 5-10% carb as x-cutting frac fills and irreg blebs along fol'n; tr diss py to 144.5 m, 1-10% fine wispy diss py from 144.5-159.15 m; 158.15-158.95 m, 0.5% cp, very tr gal and sph; intruded by several foliation parallel aphanitic mafic basaltic sills (144.26-144.55 m, 145.26-145.83 m)

Minor Lithology

140.05 140.92 0.87 MSI

Upp Ctc:

REG

S

60

Structure**From To**

142.3 142.8

SHR

From To Width Samp Zn% Cu% Pb% Ag g/t Au g/t

144.55 145.25 0.7 43731 0.03 0.01 0.03 1.37

145.25 145.83 0.58 43732 0.03 0.02 0 0.68

145.83 146.8 0.97 43733 0.02 0.01 0 1.37

146.8 147.8 1 43734 0.02 0.01 0.01 1.37

Description:**Clasts/Cryst**

Basalt Sill/Dyke: Green, fine-grained, massive and aphanitic; calcic and chl

Lithology**From To Length**

in gms; carb on fracs that cut over
ct's; ct's shp and parallel fol'n

Colour: GRN**Foliation:****Texture:** mass Apha

Alteration: CARB P
Chl P

Pyrite:

Sphalerite:

Minor Lithology

161.97 165.85 3.88 MSI

Upp Ctc:

REG

S 55

Description:**Clasts/Cryst**

Basaltic Sill: Dark green-grey, very
fine-grained, massive and aphanitic;
stoped xenoliths of underlying unit;
moderately siliceous with a mod perv
chl overprint; moderate
microfracturing filled with carb that
post-dates ct's; shp ct's are parallel to
fol'n @ 55 and 40 tca respectively;
local faulting

Colour: DGRN G_G**Foliation:****Texture:** mass Apha

Alteration: CARB M
Chl P

Pyrite:

Sphalerite:

165.85 199.95 34.1 IV

REG

S

25

Description:

Intermediate Volcanics: Dark-green to green-
grey, well foliated; dominantly interbedded
horizons of strongly foliated fine-grained
(tuffaceous-local lapilli tuff) volcanics with lesser:
rhyolitic agglomeratic breccias (0.5-4 cm frags)
and calcite vesicle-rich flows/frags (30 cm); tr py;
moderate carbonate-filled irregular blebs and
fractures; fragments are strained along fabric;
well foliated horizons are identical to the overlying
unit

Clasts/Cryst:

local 0.5-4 cm rhy fragments

Structure**From To**

146.5

GOU 1 cm

Structure**From To**

147.4 147.67

FLT Gouge, fol'n parallel

Structure**From To**

164.93 165.85

FLT fault breccia with grey-
clay heal, ct's at 20 and
25 tca resp.

Mineralogy

147.8	148.8	1	43735	0.02	0.01	0	0.34
148.8	149.8	1	43736	0.02	0.01	0	3.42
149.8	150.8	1	43737	0.02	0.01	0	1.37
150.8	151.8	1	43738	0.01	0.01	0	3.42
151.8	152.8	1	43739	0.01	0.01	0	0.34
152.8	153.8	1	43741	0.01	0.01	0	1.71
153.8	154.85	1.05	43742	0.02	0.01	0	1.08
154.85	155.85	1	43743	0.01	0.01	0	1.08
155.85	156.85	1	43744	0.01	0.01	0	1.71
156.85	157.65	0.8	43745	0.02	0.02	0.01	2.74
157.65	158.15	0.5	43746	0.02	0.02	0	0.34
158.15	158.65	0.5	43747	0.03	0.13	0.18	9.93
158.65	159.15	0.5	43748	0.44	0.04	0.24	5.14
159.15	159.65	0.5	43749	0.02	0.01	0	1.08

Colour: DGRN G_G

Pyrite: TR DISS

Texture: FOLs ST

Sphalerite:

Alteration: M CARB
M Chl

Galena:

Chalco:

H-07-3348

Lithology**From To Length****Mineralogy**

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Lithology**From To Length**

229.25 manifested as locally badly broken zones with gouge; 1 ft lost core @224.30 m

Mineralogy

				<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
				Structure								
				<u>From</u>	<u>To</u>							
				219.6	234.02							
				FLT								
234.02	300.5	66.48	SCGL	REG								
				S	50							
Description:				Colour:				Texture:				
Polyliithic Conglomerate: Pinkish-grey to reddish-orange, massive to very poorly sorted; clasts range from 0.5-30 cm and are well-rounded to angular in shape, lithologies range from massive to qtz-phyric aphanitic rhyolites, lesser mafic volcanics and jasper; several fining upwards sequences from granule sst to conglom; mtrx comprises fine to granule sand; str perv sil, buff pale-green ser on irr fractures; microfracs contain carb and lesser chl /hem; abundant faulting and badly broken core; tr py				PNK				mass				
				ORG				LBB				
				Alteration:				S				
								W				
Clasts/Cryst:								SIL				
dominantly cobble-sized rounded to angular aphan to phyric rhyolitic and mafic volcanics								Chl				
				</								

H-07-3348

Lithology

From To Length

Mineralogy

Structure

From To

274.7

GOU 1 cm gouge

Structure

From To

292 293.6

BB

Structure

From To

293.15

GOU 2 cm

300.5	335.8	35.3	FRY	REG	45	Colour: BRN	Pyrite:	TR DISS
				S		Texture: PHY	Apha	Sphalerite:
						Alteration: M	SIL	Galena:
						W	CARB	Chalco:
Description:			Clasts/Cryst:					
Feldspar Phyric Hematitic Rhyolite: Dark-red brown with brick-red microfracture selvages; 10%, 1-5 mm anhedral pink k-spar phenos; moderately siliceous aphanitic groundmass with a strong pervasive hem overprint; 1% dissem spec; carb frac fills @ 45 tca, epidote/ser on fractures; blocky and locally badly broken; unit often resembles a hematitic crackle breccia; upper ct is weakly brecciated and ser hld @ 45 tca, lwr ct is shp, irreg and chilled								

Structure

From To

321.8 322.4

BB

Structure

From To

327.6 329.1

BB

From To Width Samp Zn% Cu% Pb% Ag g/t Au g/t

335.8	344.3	8.5	IVBX	REG		Colour: DGRN	G_G	Pyrite:	3% DISS
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Lithology**From To Length**

S

65

Description:

Intermediate Vesicular Volcanic Breccia (Agglomerate): Clastic, very poorly sorted, dark-green and locally bedded; 60%, 0.5-30 cm aphanitic dark-green strongly vesicular (calcite filled) angular fragments of intermediate basalt(?); rare clasts of jasper and pink rhyolite otherwise monomictic; localized irregular fine-grained tuffaceous bedding; 3-4% diss py and strngrs, tr f.g. gal?; moderately chloritic; @342.70 -342.90 m, green f.g. dykelet x-cutting at 40 tca, 10% clear soft green 2 mm phenos, 5% diss py and carb vesicles

Clasts/Cryst:

0.5-30 cm vesicular clasts

Texture:

Alteration: M
M

Chl
CARB

Mineralogy**Sphalerite:**

Galena:

Chalco:

<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
335.8	336.8	1	58851	0.01	0.01	0	0.68	
336.8	337.8	1	58852	0.02	0.01	0.01	1.08	
337.8	338.3	0.5	58853	0.02	0.01	0.01	2.05	
338.3	338.8	0.5	58854	0.1	0.02	0.04	5.82	
338.8	339.8	1	58855	0.04	0.01	0.01	4.45	
339.8	340.8	1	58856	0.03	0.01	0.01	5.14	
340.8	341.8	1	58857	0.03	0.01	0.01	4.45	
341.8	342.8	1	58858	0.06	0.01	0.02	3.42	
342.8	343.55	0.75	58859	0.09	0.01	0.03	3.42	
343.55	344.33	0.78	58861	0.09	0.03	0.06	2.74	

344.33 357.8 13.47 FRYREG
S

45

Colour: PNK LGTG**Texture:** PHY Apha

Alteration: S
W

SIL
CARB

Pyrite: 1% DISS

Sphalerite: TR DISS

Galena: TR DISS

Chalco: TR DISS

Description:

Felsic Rhyolite: Light-pink to light pinkish green; 5%, 1-3 mm anhedral yellow-green phenos (unknown mineral, clear, green, soft, not olivine?); aphanitic silica-kspar groundmass; crackle brx to 344.90 m; wk diss py, tr diss gal and sph; tr cp in carb fracs; moderate carb in microfracs; upper ct is shp @ 45 tca

Clasts/Cryst:

<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
344.33	345.3	0.97	58862	0.49	0.05	0.31	116.4	
345.3	346.3	1	58863	0.1	0.01	0.02	6.85	

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Lithology**From To Length****Mineralogy**

346.3	347.3	1	58864	0.12	0.02	0.04	7.19
347.3	348.3	1	58865	0.02	0.01	0.02	44.2
348.3	349.3	1	58866	0.02	0	0.02	9.93
349.3	350.3	1	58867	0.01	0.01	0.01	3.08
350.3	351.3	1	58868	0	0	0	3.08
351.3	352.3	1	58869	0	0	0	2.05
352.3	353.3	1	58871	0.01	0	0.01	3.42
353.3	354.3	1	58872	0	0	0.01	3.08
354.3	355.3	1	58873	0.01	0	0.02	6.16
355.3	356.3	1	58874	0.03	0	0.02	4.79
356.3	357	0.7	58875	0.01	0	0	0.68
357	357.8	0.8	58876	0.01	0	0	1.71

357.8 372.4 14.6 IVBX

REG

S

45

Colour: DGRN

LgtGrn

Pyrite: -1% DISS

Texture:

Sphalerite:

Alteration: S

M

Chl

CARB

Galena:

Chalco:

Description:

Intermediate Vesicular Volcanic Breccia (Agglomerate): Dark to pale-green, poorly sorted and monomictic; 70% fluidal /delicate to angular clasts that range in size from 2 mm-70 cm's; phyric clasts comprise 10% carb-filled vesicles, 10% 1-3 mm anhedral alt'd pyroxenes?(soft, transparent green and soft), gms is aphanitic, wk siliceous and mod chloritic; mtrix is strongly chloritized; tr py in clasts, mod carb on fracs; bedded towards ct's, lwr ct conformable; 371.45-371.98 m, mafic dyke with chilled ct's @ 70 and 75 resp.

Clasts/Cryst:

dominantly intermed-mafic carb vesicular clasts, 2 mm-20 cm that have fluidal to angular shapes; 5-10% anhedral unidentified phenos described in above unit

<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
357.8	358.8	1	58877	0.01	0.01	0	1.08	
370.95	371.45	0.5	58878	0.01	0.01	0	0.01	
371.45	372	0.55	58879	0.02	0.02	0	0.34	
372	372.4	0.4	58881	0.02	0.01	0	0.34	

372.4 376.25 3.85 FRY

REG

S

60

Colour: LGTG

PNK

Pyrite: 5% DISS

Texture: MASS

SIL

Sphalerite: TR DISS

Alteration: M

W

SIL

Ser

Galena: TR DISS

Chalco: TR BLEBS

Description:

Rhyolitic Breccia: Light greyish green to pink, 60% 1-20 cm subangular rhy clasts; clast size

Clasts/Cryst:

rhyolitic fragments 0.3-5 cm

Lithology**From To Length**

and abundance decreases towards conformable, gradational contacts as primary bedding is introduced; 5% fine diss py as wisps dominantly in the fine mtrx; tr sph and gal in rhy clasts, cp splashes in upper 10 cm; tr carb in frac;

Mineralogy

<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
372.4	372.9	0.5	58882	0.55	0.09	0.17	3.08	
372.9	373.9	1	58883	0.21	0.02	0.01	0.68	
373.9	374.9	1	58884	0.09	0.01	0	0.68	
374.9	375.6	0.7	58885	0.17	0	0.02	1.08	
375.6	376.25	0.65	58886	0.31	0.01	0.02	2.05	

376.25 392.98 16.73 SCGLREG
S

55

Colour: PNK

LGTG

Pyrite:

TR DISS

Texture: mass

SIL

Sphalerite:

Alteration: P
WSIL
CARB

Galena:

Chalco:

Description:

Polymictic Conglomerate: Light pink-orange grey, massive and moderately sorted to poorly sorted; interbedded sst horizons; clasts pebble to cobble-sized, subrounded to angular and comprise pink rhyolite, qtz and lesser mafic volcanic; local bedding ranges from 50-60 tca; pervasive moderate silicification; conformable ct's

Clasts/Cryst:

pebble to cobble-sized

Structure

From To
386.78 387.13

FLT Fault Zone with gouge

<u>From</u>	<u>To</u>	<u>Width</u>	<u>Samp</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Pb%</u>	<u>Ag g/t</u>	<u>Au g/t</u>
376.25	376.75	0.5	58887	0.24	0.01	0.07	0.68	
376.75	377.75	1	58888	0	0	0	0.01	

392.98 500 107.02 SSSTREG
S

55

Colour: PNK

GREY

Pyrite:

TR DISS

Texture: mass

SIL

Sphalerite:

Alteration: P
WSIL
CARB

Galena:

Chalco:

Description:

Sandstone: Fine-medium grained, grey to pinkish-orange; well sorted massive beds with local bedding planes at 45 tca; locally interbedded pebble conglomerates; pervasive silicification with wk carb on frac; locally BB. Locally minor argillaceous banding with traces of carbonaceous material with graphic material along fracture surfaces. Thin beds (@ 478.51m) at 70 deg to ca, exhibiting graded bedding with tops up. Faulting

Clasts/Cryst:

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Lithology

From To Length

at 474.50 - 475.01m (fractured and rehealed),
480.83 - 480.93m (broken core), 482.84 -
484.79m (broken core).

Mineralogy

Structure

From To

411.8 411.95

FLT Broken with gouge

From To Width Samp Zn% Cu% Pb% Ag g/t Au g/t

EOH: 500