

Hole ID	ROC 7	Project	BOCO SIDING
Hole Type	DDH	Tenement No.	EL 4/2000
Year	2006	Prospect	HOLLISDAY
Geologist	GERALD KERRIS	Date	14/11/2006

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code		Up to 3 codes w. Intensities (1-3)	Up to 3 codes with %				
0		NO CORE 0 - 4.1m						
5		4.1 - 10.8m HIGHLY OXIDIZED FLOW-BANDED FELSIC LAVA Pale yellow-brown broken and clayey feldspar-porphyrific flow-banded lava. Highly oxidized. Feldspars an 2mm. Rock is soft - lightweight	OX (3)	Fe on surfaces + stains	Flow banding 25% Fe		Broken & crumbly	
10		10.8 - 29.0m OXIDIZED FELSIC LAVA BRECCIA. Yellowish-brown, clayey, crumbly + broken. Breccia (coarse) of feldspar-porphyrific lava as above with 1-2m flow-banded zones (large lava blocks?) Breccia matrix is subordinate and generally volcanic material possibly originally chloritic, but below 20m matrix includes patches of grey shaley sediment in places - minor.	OX (3)	Fe on stains, esp on surfaces	Flow banding 45% Fe *Contact not clear due to rx	Relict pink (clay) veining 9-4 cm	Broken & crumbly in places	
15								
20								
25					Flowing banding 35% Fe			

Depth	Lithology Code	Colour	Comments	Alteration Up to 3 codes w. intensities (1-3)	Mineralisation Up to 3 codes with %	Structure	Veining	Faults	Graphic Log
25			OXIDIZED FELSIC LAVA BRECCIA (continued) Oxidation effects weakening. Rock becoming firmer and less leached. Feldspars to 3mm.	ser-ch (1) OX (2)	limonite stains & boxworks on fractures (weak)	* gradational	qtz-lim (1) strong tan-angle qtz-lim veins to 2mm		
30	VF	bn	29.0 - 39.5m OXIDIZED FELSIC LAVA pale brown feldspar - porphyritic lava, moderately oxidized, weakly to moderately broken. Feldspars 1-3mm. Lava is brecciated in places - cracks the flow banding seen above 10.8m	OX (2)	Fe-ox (limonite) stains and boxworks on fractures		qtz-lim veinlets (1)		
35				OX (1) ser-ch (1) ser-ch (2) OX (2) ser (1)	strong limonite stains MINOR py qtz-lim veinlets		qtz-lim veinlets, all angles (2) qtz-lim veinlets		
40	CFBR	Dark gn	39.5 - 44.0m: STRONGLY CHLORITIC FELSIC LAVA BRECCIA Dark green, sl leached, mod broken fine felsic lava breccia with indistinct, often irreg, frag ahhins and finer (1-2mm) felds than above felds grey-pink. Very strong chlorite all. Minor homblende.	OX (2)	Fe-ox (limonite)		qtz-lim (1)		
	CBBR	Pale gn	44.0 - 47.0m: ARBITIC AMYGDALOIDAL BASALT BRECCIA pale green, soft clayey & broken. Highly amygdaloidal basalt breccia with porphyritic to faceous matrix. Frag angular, to 100mm. Amygdaloides green (1mm or less).	ch (2-3) OX (1-2)	3% py - fine submicron matrix 7-10% fine py in waddy matrix	gradational	nil	moderately broken puggy & broken in places	
	NLBA	Pale gn	47.0 - 74.5m: PILLOWED AMYGDALOIDAL BASALT pale green, chloritic, soft, broken & clayey amygdaloidal basalt pillows (highly amygdaloidal, viny, coarse centres) in chloritic & porphyritic inter-pillow material & fine frays.	ch (2-3) OX (1-2)	5-7% fine py in chloritic inter-pillow mud (locally + 10%)	gradational	nil	Ditto Very finely broken & puggy	

Sample 44 - 50m

Depth	Lithology Code	Colour	Comments	Alteration Up to 3 codes w. intensities (1-3)	Mineralisation Up to 3 codes with %	Structure	Veining	Faults	Graphic Log
50			ALLOWED AMYGDALOIDAL BASALT (continued) Green, very badly broken + clayey + leached highly amygdaloidal basalt with variations in amygdale sizes indicating pillows (finely- amygdaloidal rims, coarse-amygdaloidal cores) with pyritic chlorite in pillow material Most amygdalites leached out but those that remain are either chlorite or cb. Overall, rock becoming more massive with depth - inter-pillow material very minor below ≈ 60m + amygdalites larger.	Ch (2-3) Ox (1-2) sil-alk (1) - weak + patchy only.	3-5% py, in inter-pillow mat nil 3-5% py, in chloritic inter-pillow material (patchy) 2-3% py, as above v patchy		↑		
55									
60	NDPA	gn			1% py as above, v patchy		nil		
65			1.5m of lost core		Trace py in amygdalites				
70				✓	nil		✓		
75			amygdalites finer Ruggy + broken white cb veins rock frags of unit below.		1-2% py in matrix nil nil		cb ven / bx 15% LCA About, broken ≈ 15% LCA		

Sample 50 - 51.5m (1 sample)
54 - 55.7m (2 samples)

Hole ID	BDC7	Project	BOCO SIDINGS
Hole Type	DDH	Tenement No.	EL 4/2000
Year	2006	Prospect	HOLLWAY
Geologist	GERALD FORVIS	Date	18/11/2006

Depth	Lithology		Comments	Alteration Up to 3 codes w. intensities (1-3)	Mineralisation Up to 3 codes with % nit	Structure	Veining	Faults	Graphic Log	
	Code	Colour								
75	VLAN	gn	74.5 - 143.35m MAFIC LAVA + LAVA BRECCIA Complex mixture of amygdaloidal mafic andesite lava + lava breccias. Distinguished from unit above by being very sparsely feld-phynic but mostly by the presence of common carbonate veining, bx-fill and amygdaloes, and diffuse carbonate alteration. Amygdaloes vary from < 1mm to several cm with size variations occurring over short distances indicating presence of pillows and scoriaeous blocks, with highly-angy margins.	chl (2) cb (2) (4-epi + brachyq)	1% py 10% py in mud 2% py Trace py in matrix	Broken by low-angle fractures	cb (+ bx fill) (2) cb (1) cb bx fill		py mud fractures.	
80				sil-alb (2)	nil		cb (2)			
85				epi (2) sil-alb (1) patchy	Trace py		cb ± epi + qtz (2) net- veins + bx fill			veining
90							cb (2) irreg net-vein + bx-fill			
95										
100										

Sample 76.3 - 77.0 m.

Hole ID	B0C 7
Project	B0C0 SIDING
Hole Type	DDH
Tenement No.	EL 4/2000
Year	2006
Prospect	HOLLWAY
Geologist	GERALD PARNIS
Date	19/11/2006

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
125			Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
130								
135								
140								
145								
150								

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
125			Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
130								
135								
140								
145								
150								

MAFIC LAVA / LAVA BRECCIA (continued)
 Amygdaloidal very mafic andesite as before,
 predominantly breccia.

ch (2-3)
 sil-cb-bleached ep.
 (2) partially
 Minor py,
 dissemin. conc.
 in sil-bleach
 zones.
 Rare ep-sp

cb (1)

ch (1-2)
 sil-a/b (2)
 ± cb
 Trace py
 Minor py

cb (Fe type)
 (2)
 string veins
 to 40mm,
 gen. low angle
 (=15°)

ch (2) cb (1)
 alb (1)
 cb (1)
 ch (1)
 ch (2)
 cb (1)
 alb (1)
 2% py in shale
 rip-ups

cb (Fe type)
 (1)
 cb (Fe type)
 (2)
 40mm
 cb veins
 40°/ZCA
 cb (Fe type)
 (1)

Contract. sharp
 90°/ZCA
 So 70°/ZCA
 So 65°/ZCA
 2% py, conc
 in certain clasts
 Rare py
 Minor py

cb veins
 (FeCO₃)
 cb (FeCO₃)
 veins
 15°/ZCA
 F, broken
 some bedding
 discontinuity
 blms
 py
 9°/ZCA
 cb vein (FeCO₃)
 py shale rip-ups

143-35 - 151.3m: VOLCANIClastic SANDSTONE
 Faunty-Khaki. Mostly medium to coarse grained
 sandstone of mafic to volcanic provenance - visible
 grains and chloritic mafic lithic grains. Grades to
 fine mafic epiclastic breccia (clasts to 1-2cm in
 quartz matrix) above 144.9m, and grey pyritic bedded
 sh. stone / shale below 150.6m. Generally massive
 but bedded in places. Well sorted. Some gtz grains.
 Bx clastic grains are gen subangular to subrounded

Hole ID	BRC 7	Project	BRC SIDING
Hole Type	DDH	Tenement No.	EL 4/2000
Year	2006	Prospect	HOLLOWAY
Geologist	GERRARD PURVIS	Date	2017/12/06

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
175		ANDESITE LAVA (Continued) (coherent lava (medium to fine grained) > brecciated lava intervals 1-2mm felts throughout but not always readily apparent Amygdales throughout, generally < 3-4mm, calcite, occasionally to 10mm, mainly towards top of unit Overall, amygdales smaller & less common with depth, also more irreg shaped with depth Rock is dark khaki-green with pink tinge due to weak pervasive alb alteration. Rock moderately magnetic below 181m due to visible disseminated magnetite	Weak epi -> chl (2)	Minor py minor hem 2-3% fine disseminated py + weak sil, esp in bre matrix		cb (1)		
180	gn		chl (1-2) alb (1)	Minor py + 1-2% disseminated mag		cb-mag (2) high-angle to 35mm cb (2) calcite spidery irreg + as br-fill		
185								
190								
195						cb (3) mainly as spidery br-fill		
200				1% py disseminated Disseminated mag Minor py Disseminated mag		cb (2) fine spidery irreg as high-angle veinlets low angle structures		

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
200			chl (1-2) alb (2)	Trace py mag 1% py, dissem mag 3-5% fine disse py. Mag.	Contact abrupt, irreg	cb (2) High angle veinlets		
205	VLAN br-qn	<u>ANDESITE LAVA (continued)</u> As before except amygdaloids rare. Common 1-2mm folds (pink). Mostly medium gr massive lava - little bx.						
	CMBR qn	205.0 - 207.0m: <u>MAFIC BRECCIA</u> Khaki mafic fr., variable but appears partly epiclastic. Frags angular + subangular, feldphyric andesite, highly amygdaloid. An < 25mm	chl (1-2) alb (2)	3-5% disse py. Minor mag	gradational	cb (1)		
210	VLAN qn	207.0 - 210.9m: <u>AMYGDALOIDAL ANDESITE</u> Khaki-green andesite similar to before, but more and coarser cb amygdaloids. 1-2mm feldspars visible in places. Several bx intervals.	chl (2) alb (1)	1% disse py esp + sil in bx matrix + along fractures Minor mag	Contact abrupt, 50°/LCA	cb (2) veinlets + spidery br-fill		
	CMSA qn	<u>PYRATIC</u> 210.9 - 215.0m: <u>MAFIC VOLCANICLASTIC SANDSTONE</u> + <u>FINE BRECCIA</u> Khaki. Fine, poorly bedded sst at top, grading down into fine epiclastic bx with mafic vbe frags and occasional layers of highly amygdaloided lavas, in sandy grit matrix. Very pyritic.	chl (2) alb (1)	7-10% fine disse py throughout	50 40°/LCA	cb (1)		
215		215.0 - 217.1m <u>ALBITE FLOWES, PYRATIC ANDESITE</u> Pale reddish brown, massive, unbedded, fine grained, grossly ophitic, moderately albite altered intermediate mafic lava with minor lava breccia. Large quartz breccia v. @ 217.1 - 216.5m. No obvious amygdaloids. Minor irregular cl patches.	alb (2) chl (1)	Py 5%	Contact; abrupt, irreg	cb (1) fle (1)		
220	VLAN red-brown	Minor py glass pyrite (~5%)	alb (2) chl (1)	Py 5%	220.5m - 221.0m Bx to lava	chl (1)		
225								

Sample 203.5 - 207 m
210.9 - 215.0 m

Depth	Lithology	Comments	Alteration Up to 3 codes w. intensities (1-3)	Mineralisation Up to 3 codes with %	Structure	Veining	Faults	Graphic Log
225	VIAN red-brown	215.0-227.4m. <u>ALBINE ALTERED TRACHE ANDESITE</u> As. above. Lower cont'd marked by 3cm cb-grt vein.	al (2) cl (1)	Pl: 3%		cb (1)		
230	VIAN grey	227.9-236.4m. <u>ESP PHANIC ANDESITE</u> Olive grey to greenish grey massive, variably top phytic & weakly amphibole/picrophane physis, weak to moderately sericite-albite altered andesite to andesitic basalt lava. Fsp phenocrysts to 1mm with scattered mafic phenocrysts, typically < 1mm. Minor, irregular, & a characteristic veinlets & stringers Trace diss. low pyrite. Common: cb-grt breccia veins from 234.5-236m.	Ser (2) cb (1)	Pl: trace		cb (1) Ser (1)		
235	VIAN red-brown	236.4-240.5m. <u>RED ROCK ALTERED ANDESITE</u> Moderate reddish brown to dark olive grey, massive, top-picrophane physis, stringy red rock altered andesitic lava. Distinct red-rock alteration, possibly breccia, as doesn't look like albite or k-feldspar Minor, irregular, cb veins, veinlets & irregular, patches Breccia interval 244.5-245.5m.	red-rock (4)	Pl: core trace		cb (1)		
240	VIAN red-brown	Moderate to strongly breccia, rare, particularly in red rock altered facies. Brecciated lava, contact	red-rock (2) cl (1)	Pl: rare trace		cb (1)		
245	VIAN red-brown	240.5-251.9m. <u>BRN/GD ANDESITE BRECCIA</u>	cl (1)	-		cb (1)		
250	VIAN red-brown							

Depth	Lithology	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
Code	Colour	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
250	VM8F bl. gy.	chl (1)	-		chl (1)		
255	VM8N reddish brown	red-rock (2) chl (1)	-	257.1 (5) vein 80° to 100°	chl (1) qtz (1) cb (1)	Fault?	
260		red-rock (1) ser (1)	-		chl (1)		
265	VM8R black grey	ser (1) chl (1)	-	264.6 - BD 65° to 100°	chl (1)		
270							
275	VM8X varied		ser (1)	272.6 - GV 65° to 100°	qtz-cb (1)		

248.5 - 251.0m Amphibolite - Bluish grey, massive, aphyre, fine grained amphibolite breccia.

251.9 - 258.4m Red Rock ALTERED ANDESITE
Pinkish brown to black grey massive, moderately red-rock altered, sp. porous/capable of fine andesite lava similar to red-rock altered interval above.

Minor irregular cb & qtz-cb veins & stringers
Moderately broken core (>10 bpm).

258.4 - 264.7m ESG FINE ANDESITE
Bluish grey to pinkish grey massive to brecciated, variably sp. porous andesite to andesite lava breccia. Rubby core to 260.0m. Variably sp. pyrite with up to 10% pyrite. Weak red rock alteration, particularly picking out top porphyries. Very sparse spalling. Moderately competent core from 260.0m minor cl. veins & stringers.

264.7 - 267.8m ANDESITE BRECCIA
Mixed interval of bluish grey to olive grey amygdaloidal basaltic clasts up to 1m, separated by moderately sericite altered, brecciated schist. Minor cb veining.

267.8 - 276.8m FINE GRained BRECCIA
Highly varied interval of light grey olive grey - pinkish brown to black grey - sericite altered breccia. A soft silty and silty clay like fine lava breccia. Comprises diverse intervals of brecciated silty altered lava breccia (eg. 268.0-269.0m), intensely sericite altered sericite (eg. 272.2m) & silty bluish altered breccia (272.2m). Clasts typically > 2cm. Minor andesite/basaltic clasts. Some fine scale clasts appear to have relict flow banding. Fine qtz-cb veining. Minor brown soft masses. High veining.

Rubble

Hole_ID	BOC7	Project	BOCO
Hole_Type	DDH	Tenement No.	EL4/2000
Year	2006	Prospect	Holloway
Geologist	Mick Skirka	Date	/08/06

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Vein	Faults	Graphic Log
	Code		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
375		567.5 - 386.0m <u>ALYNE - SERRINE ALTERED FELSIC LAVA</u>						
		As above.	alb (1) Ser (2)	-	386.0m to 500m 50° to 1.c.a.	db (1)		
380	VFRA red-orange dk grey	Reddish orange to dark grey, weakly flow banded to massive, weakly esp phice moderately sericite altered & weak to moderately silica- albite altered, depotectitic lava to lava breccia. Similar to above. Scattered esp phenocrysts typically 1mm, within a siliceous to grey ground-mass. Flow banded intervals typically sericite altered.	alb (1) Ser (2) alt (1)	-		db-gtz (1)		
385		Minor db & dk grey veining. No sulphides observed. Competent core (0-2.5m) Circled lower contact.			386.0m to 388.0m 75° to 1.c.a.			
		389.6 - 406.6m. <u>ALYNE ALTERED FELSIC LAVA</u>						
		Reddish orange to light brown grey to pinkish grey, massive to moderately silica banded, weak to moderately esp phice siliceous, weak to moderately silica-albite altered felsic lava.	alb (1) Ser (1)	-		gtz (1)		
390	VFRA red orange dime grey	Similar to above but more homogeneous with coherent texture.	Ser (1) alt (1)	-	392.5m to 406.6m 55° to 1.c.a.	gtz-db (1)		
395		Minor qtz & gtz-db veining. No sulphides observed.	alb (1) Ser (1)	-		gtz-db (1)		
400		Character Complex core (0-3 bgr).						

Hole ID	BOC7	Project	BOCO
Hole Type	DDH	Tenement No.	EL4/2000
Year	2006	Prospect	Holloway
Geologist	Mick Skirka	Date	6/08/06

Depth	Lithology	Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
400		389.6 - 406.6m <u>ALBINE ALTERED FELSIC LAVA</u> As above. Reddish orange to light olive grey, massive to weakly flow banded, variably sp. phreatic, weak to moderately silica-oxide altered felsic lava. Minor qtz-cb veining. No sulphides observed. Conditional lower contact.	ser (1) clb (1)	-	403.2m - BD 68 to 1cm	qtz-cb (1)		
410		406.6 - 430.0m <u>ALBINE ALTERED LAVA & LAVA BRECCIA</u> Pinkish grey to light olive grey to olive grey, massive to weakly flow banded to brecciated, unfoliated. Variably sp. phreatic, siliceous, variably silica-oxide & sericite altered, chondritic lava & lava breccia. Similar to above but less homogeneous with domains of sericite altered lava breccia etc.	alb (1) ser (1)	-		qtz-cb (1)		
415			clb (2) ser (1)	-	410.0m - QVN 67 to 1cm	qtz-cb (1)		
420			clb (2) ser (1)	-		qtz-cb (1)		
425			clb (2) ser (1)	PI: rare trace		qtz-cb (1)	Broken core @ 422m	

Hole_ID	ROC 7	Project	ROC
Hole_Type	DDH	Tenement_No.	BL 4 / 2000
Year	2006	Prospect	WILLWAL
Geologist	MARK SUTKA	Date	6/8/2006

Depth	Lithology		Comments	Alteration Up to 3 codes w. intensities (1-3)	Mineralisation Up to 3 codes with %	Structure	Veining	Faults	Graphic Log
	Code	Colour							
425	VFRA VFBR	pk gr olive grey	406.6 - 430 cm. <u>ALTERED FELSIC LAVA BRECCIA</u> As above. Pinkish grey, massive to flow banded, variably sp phytic moderately to highly altered felsic lava breccia. Trace of dis. pyrite. Greenish brown conch.	alb (2) ser (1)	Py: trace.		qtz-cb (1)		
430			430.0 - 440.7m. <u>ALTERED FELSIC LAVA BRECCIA</u> Pinkish grey to dark grey, massive, variably sp phytic, siliceous, albite-sericite altered felsic lava breccia. Generally clast supported with irregular, weakly flow banded felsic lava clasts, typically silica-albite altered, in a siliceous, colorless, albite-sericite altered groundmass. Minor small qtz & quartz veins & veinlets. Trace of dis. pyrite. Fine trace sp-gr-epf as small blabs assoc. with qtz veining.	ser (1) alb (1)	Py: trace.		qtz cb (1)		
435	VFBR	pk grey olive		alb (1) ser (1)	Py: 1% Sp-gr: trace		qtz-cb (1)		
440									
445	VFRA VFBR	pk gr olive gr.	440.7 - 448.3m. <u>ALTERED FELSIC LAVA</u> Pinkish grey to light olive grey, massive, generally phytic, weak to moderately siliceous. albite altered felsic lava to lava breccia. Minor qtz & qtz cb veining. Rare trace Py typically on breccia surfaces.	alb (2)	Py: trace	<u>440.5 - 448.3m</u> 45° to loc.	qtz (1)		
450	VFBR	pk gr olive gr.	448.3 - 451.5m. <u>RED ROCK ALTERED FELSIC BRECCIA</u> Pinkish grey to yellowish grey, massive, clast supported lava br	alb (2)	Py: trace.		qtz-cb (1)	Broken @ 448 cm.	

Depth	Lithology	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
Code	Colour	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
Comments							
475	VFBR varied						
	VMBA bl. gr.	chl (1)	Pl: trace Pg: dis.		cb (1)		
	VFRH red orange	alb (2) ser (1)			qtz (1) cb (1)		
480	VMBA bl. gr.	chl (1)	Pl: trace Pg: trace		qtz (1) cb (1)		
485	VFRH red orange VFRB dun grey	alb (2) ser (1) ser (2) alb (2)	Pl: trace Pg: trace	485.3m BB 75° to 100°	cb (1)		
490	VMBA l. black grey	chl (1)	Pl: trace Pg: trace	493.0m QVV 65° to 100°	qtz (1) cb (1)		
495							
500							

EOH @ 494.0