ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BDC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 30/5/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
0										
	SOSH	BLK	0 – 19.1m. BROKEN PYRITIC BLACK SHALE Rather soft pyritic black shale, broken throughout (some core loss). Has a sulphidic smell. Py looks authigenic Slightly silty + micaceous in places		3-5% py Mostly ultra fgr disseminated		None		Py	
5									Py	
					Sometimes coarse in thin beds. Some py on fractures + occasional sooty py				Py	
10									Py	
					nodules to 20mm max	So: 85°/LCA			Py	
15						So: 85°/LCA			Py	
						So: 83°/LCA So: 75°/LCA Contact: Abrupt, irreg			Py	
20			19.1 – 24.8m: VITRIC SANDSTONE						Py	
	SESA	YL-GY	Pale yellow + grey, broken, mildly oxidized, fine sst composed of: qtz, feld, lithics + volcanic glass. Minor dark carbonaceous material. Generally massive - bedding in fine qtz zones Sl sericitic after the glass	Ox (1) Ser (1)	py: trace (confined to dark "carbonaceous" zones	So: 70°/LCA So: 75°/LCA Contact: gradational	None			
25										

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Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 31/5/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
25	VMBR	gn-bn	MAFIC VOLCANIC BRECCIA 24.8 – 54.1m Khaki-brown, oxidized clayey (crumbly in patches), hyaloclastite. Angular, irregular mafic lava fragments from 3mm to 300mm, in matrix of finely comminuted glassy volcanic material, cherty or baked in places		py: minor					
30				cy (2) chl (1)	py: 2% dissem + in cherty matrix material					py
			frags commonly with sharp delicate curved edges.							py
			Breccia ranges from zones where frags are matrix-supported to zones of interlocking frags and very subordinate matrix	cy (2) fe ox (1) chl (1)	1% py as above					
35			Larger frags are aggregated/							
				cy (1) chl (1)	py: trace					
40					38.8m: 5-10mm gn-sp vein 50°/CA					← gn-sp vein
					py: minor sp+gn: trace					
					sp-gn stringer →					
				cy (2) fe ox (1) chl (1)	py: trace	common crumbly zones				
45										
							Fe ox veinlets (1)			
50										

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DIAMOND DRILL HOLE LOGGING

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Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 31/5/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
50			OXIDIZED MAFIC VOLCANIC BRECCIA (continued)	cy (2) fe ox (1) chl (1)	py: Trace		fe ox veinlets (2)			fe ox veinlets
				cy (3) fe ox (2) chl (1)				Possible fault? Very crumbly + clayey, with possible gouge		F?
			↙ Base of oxidation							
55										
	VMBR	gn	MAFIC VOLCANIC BRECCIA 54.1 – 77.8m Green fairly hard, unoxidized mafic hyaloclastite as before except occasional zones of coherent lava to 1m		py: rare (even - rarely cp)					
60			Comprises abundant angular, often delicate-edged, mafic lava frags in the volcanic matrix	sil (1-2) alb (1) epi (1) chl (1)			Zone of strong qtz-epi ± hem veins 20-30mm			qtz-epi veins
			Lava is both amygdaloidal and feldspar-porphyritic. felds 2-3mm, amygdales 2-50mm often elongated, smaller to be chlorite, larger are qtz			← Amygdale lineation 35°/LCA	10°/LCA			
65			Patchy silica-albite ± epidote alteration – both clasts and matrix are silicified in zones of strongest alteration.				qtz (1)			
70						slightly broken by two-angle fractures				
75										

ZINIFEX ROSEBERY MINE
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DIAMOND DRILL HOLE LOGGING

Hole_ID BOC5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 31/5/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
75			MAFIC VOLCANIC BRECCIA (Continued) Green hyaloclastite as before: amygdaloidal + feld-phyric. Zone of coherent lava from 75-76.3m.	sil (2) alb (1) chl (1) chl (2)	py: trace	Amygdale lineation 35°/CA contact ~parallel So: 45°/CA	qtz (1)			
80			77.8 – 101.8m		py: 2-3% disseminated around cherty mud matrix					py
	VNBR	pk-gn	ANDESITIC LAVA BRECCIA Dark pinkish khaki. Quench-brecciated highly feldspar-phyric non-amygdaloidal lava frags in a cherty mud matrix above 88m and silicified fine volcanic material matrix below this. frags are angular but generally not as	sil (1) alb (1)	py: 1%		qtz-cb (1) (no acid reaction) Irreg, gen low angle.			py Grey pyritic cherty mud matrix
85										
			delicate-edged as in unit above. frags predominate over matrix. Some weak colloform textures in quartz in matrix in places.	sil (2) alb (2) hem (2) chl (1)	py: minor			Occasional low-angle fractures		
90										
95										
				sil (2) alb (1) chl (1)						
100				ox (1) fe ox (1)	py: minor (in frac?)					

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DIAMOND DRILL HOLE LOGGING

Hole_ID BOC5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 1/6/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
100			ANDESITE LAVA BRECCIA (continued) Weakly oxidized, broken by fracture // LCA	ox(1) feox(1) chl(1) sil-alb(2)	-		Qtz-cb(1)	Fract // LCA		
	VNBR	gn	101.8 – 103.3m: FAULT Gouge + rubble of above rock type. Both upper + lower limits of fault 25°/LCA	sil-alb-chl(2)	-		qtz-cb(1)	fault 25°/LCA (?)		F
105	VNBR	DK gn	103.3 – 108.25m: ANDESITE LAVA BRECCIA Dark green chloritic highly feld-porphyritic lava bx as before except frags 5% smaller + more matrix (matrix is finely-comminuted volcanic material)	chl(2) sil-alb(1)	py: rare	Contact: 1° undulating, abrupt, irreg	qtz-cb(1)			
110		gy-gn	108.25 – 118.8m: MAFIC LAVA BRECCIA Greyish-green amygdaloidal mafic lava breccia with angular frags from a few mm to lumps commonly 100-500mm (900mm max). All in matrix of fine volcanic material now altered by silica-carbonate-epidote cement Amygdales gen < 5mm, max 40mm, qtz-cb or chlorite. Noticeable that the larger lumps of lava contain the most and largest amygdales.	↓ marked change in alteration	py: minor					
115	VMBR			chl-cb(2) sil(1) epi(1)	-		qtz-cb(1) irreg	Largely unbroken		
			Minor white feld phenos 1-2mm			↓ contact: 1° irreg, abrupt				
120			118.8 – 126.5m: MASSIVE AMYGDALOIDAL MAFIC LAVA Greyish-green amygdaloidal mafic lava as above				qtz-cb-epi(1)			
	VLAN	gy-gn	except massive. Common 1-2mm feld phenos scattered throughout. Lesser small (1mm) ferromag phenos - prob pyroxene Amygdales are qtz-cb, to 30mm, commonly elongate.	chl(1-2) cb(1) epi(1) sil(1)	rare py.	Amygdale lineation 75°/LCA ↓ Amygdale lineation 50°/LCA	30mm epi-qtz 15°/LCA → 30mm qtz-cb 25°/LCA →	Largely unbroken		
125										

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SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

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Hole_ID	BOCS	Project	BOCO SIDING
Hole_Type	DDH	Tenement_No.	EL 4/2000
Year	2006	Prospect	HOLLWAY
Geologist	GERALD PURVIS	Date	1/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log	
125			AMYGDALOIDAL MAFIC LAVA (continued)			Contact 1° irreg, abrupt		fract 10°/LCA		
	VEBR	94 gn	126.5 — 129.9m: MIXED ANDESITIC + MAFIC LAVA BRECCIA Greyish-green, fractured, lava breccia with mixed feld-porphyritic andesite + finely amygdaloidal mafic (as above). Two types are variably altered	andesite frags: sil-alb (2) rest: epi (1) chl-sil (2) + sil conc in matrix chl in frags.	–	Broken	qtz-cb (1) (on fract)	Strong fracture 0-10°/LCA		
130						Contact 1° irreg, abrupt				
	VMBR	gn	129.9m — 138.4m MAFIC LAVA BRECCIA Green chloritic finely-amygdaloidal + sparsely feld-phyric mafic lava frags in silicified matrix. frags are angular and range up to 600mm (gen < 100mm). Composition is the same as lava at 120 - 125m.	chl (2) sil (2) epi (1) matrix only	–		35mm qtz-cb 65°/LCA → qtz-cb (1).			
135			Amygdales tiny (few mm) except in larger blocks where up to 10mm max. Most are chlorite or epidote, larger tend to be qtz-cb. Occasional tiny laths of possible hornblende.				25cm qtz-cb 75°/LCA →			
						Contact 1° irreg, abrupt				
			138.4 - 143.8m MAFIC LAVA Green finely-amygdaloidal + sparsely feld-phyric lava as before. Amygdales mostly < 7mm, to 15mm max, qtz-carb or chl, commonly slightly elongate (all angles)	chl (1)			qtz-cb (1)			
140	VLAN	gn		sil (1-2) (patchy) epi (1) (patchy)			qtz-cb (1)			
						Contact gradational	qtz-cb (1)			
							qtz-cb (2)			
145			143.8 - 150.2m: MAFIC LAVA BRECCIA ~~Green coarse breccia ? above rock type with~~ lava lumps commonly 200-400mm. Some lumps have noticeable flow lineation/banding. In basal half of unit smaller frags/clasts are sub-angular and show signs of transport. Patchy shearing below 147.7m, increasing towards basal contact.	sil (1) patchy, mainly in matrix with cb (2) + epi (2) chl (1-2)	↑ Trace mag in cb-epi veins No py ↓ Minor py	Some lava lumps flow-banded.	spidery cb-epi (2) ↓	Shearing 45°/LCA → Shearing 35°/LCA →		
150	VMBR	gn			cellular sp>gn in fg-cb vein 20mm →		cb>chl (3) 25°/LCA	veined + sheared 25°/LCA		F/shear

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SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

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Hole_ID BOC5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 2/6/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
150										
	VLBA	gn	150.2 – 181.0m: AMYGDALOIDAL BASALT Green + white, highly-amygdaloidal f-gr basalt lava with minor intervals of breccia to 1.5m max. Amygdales (round or ovoid) av ≈5mm, to 25mm max. Amygdales are white cb, as is matrix of breccia zones. Amygdales not evenly spread: in places they cluster	cb (2-3) chl (2) epi (1)	rare py > cp		cb (2-3) irreg breccia-veins almost // LCA (± epi)			
155			and make up 30-40% of the rock, in other places they are largely absent eg: 161 – 163m. Breccia zones appear structural + related to low angle irreg veins of cb or (uncommonly) cb-epi-qtz (±alb)				low-angle sil-cb -epi (±alb) bx veins (1-2-3)			
160										
			The amygdale clusters tend to be evenly-sized. ie: all tiny (1-3mm) or all medium-sized (≈5mm)		No py. Trace mag in amygdales					1° bx with scoriaceous lumps
165										
170										
175										cb matrix

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 2/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
175			AMYGDALOIDAL BASALT (continued) Less amygdales. Basalt contact a small fault	chl (2) cb (2) epi (1) 300mm zone of strong →	Trace py. Minor mag in amygdales & cb veins		as before		
180				sil-cb-epi± mag				Contact: fault 60°/LCA	F
	CMBR	gn	181.0 – 184.8m: FINE MAFIC EPICLASTIC BRECCIA Green with palest red sections. Sub-angular clasts of variable mafic volcanics: some amygdaloidal, some feld-pyric, others fine gr. clasts gen <25mm, to 100mm max. All in matrix largely replaced by cb.	cb (2) chl (2) sil-alb of clasts (2) cb (2) chl (2)	py: minor. Dissem + vein in some clasts py in clasts →		cb (1) irreg cb veins stockwk // LCA		pyritic clasts
185						Contact: gradational	cb (1)		
	CMSA	gn	184.8 – 190.4m: VOLCANICLASTIC SANDSTONE Green, massive medium to coarse gr sst of mafic provenance. Chloritic, occasional visible felds, trace hem.	chl (2) cb (1)	py: minor		cb (1)		
190				sil (2) chl (1)	py: 1% dissem	Bedding irreg → Contact: gradational			py
	CMBR	gn	190.4 – 191.75m: MAFIC VOLCANICLASTIC BRECCIA Epiclastic, grading down through disrupted cherty pyritic silts to angular gen mafic lava bx	chl (2) epi (1)	Minor py, hem-mag 1-2% py minor py	50 50°/LCA About, irreg 30°/LCA			pyritic cherty silt
	VLAN	gr-gn	191.75 – 212.1m: ANDESITIC LAVA Greyish-green, feldspar-porphyritic + sparsely amygdaloidal lava with minor breccia zones (some just incipient brecciation). Feldspars white or pink 1-2mm, lathy	chl (1-2) alb (1)	py: minor gen assoc		qz-cb (1) Some net-vein type in bx zones		
195			Amygdales, gen ovoid to elongate, 15mm max, cb or qz-cb	sil (1) - patchy	± sil esp in bx zones.				
200				sil-alb (2)	py: 1% in sil net-veinlets in bx lava				

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SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLOWAY
Geologist GERALD FURVIS	Date 13/6/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
200			ANDESITIC LAVA (continued) As before	chl (2) epi (1) sil-alb (1) patchy patches of sil-alb (2-3)	py: minor often as selvages to shadowy sil fracture + by-fill		qtz-cb (1) qtz-cb (2) epi (1)	fracts	py py	
205										
210					sil-py net veinlets		qtz-cb (1) epi (1)		py	
215	CMBR	gn	212.1 – 217.7m: MAFIC LAVA BRECCIA Dark green lava breccia with angular and sub-angular clasts to 150mm, most 50-100mm of andesite as above (feld-phyric ± sparsely amygdaloidal) and highly (amygdaloidal) non-feld phyric mafic lava. Some clasts highly bleached ± silicified. Py assoc with silicification of matrix + in margins of clasts.	chl (2) sil (1-2) (patchy) epi (1) Sil tends to be conc in matrix + certain clasts	Py assoc ± sil Minor py. 3% py in bx matrix Minor py.	Contact gradational contact gradational	qtz-cb (1)	fract // LCA		
220	VLAN	gn	217.7 – 225.15m: BRECCIATED ANDESITIC LAVA Green with fawny bleached zones feld-phyric lava ± calcite amygdales (<10mm) (in patches)	chl (2) sil-alb-ble (1-2) patchy	Py: 1-2% ? (impossible to see in this light as grey silica-ultrafine py selvages to net vein fracts + breccia frags	11)	qtz-cb (1) qtz-cb // LCA			
225			Common zones of lava breccia + incipient brecciation, to about 700mm max, these sites of sil-alb-bleaching alteration.			contact abrupt, irreg				

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SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BDC5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLOW
Geologist GERALD FORSYTH	Date 14/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
225									
	CMBR / CMSA	gn	225.15 – 229.6m: MAFIC BRECCIA + SANDSTONE Green. Comprises blocks to 800mm of amygdaloidal + feld-phyric lavas in subordinate volcaniclastic sandstone matrix with 3 intervals 200–400mm of well-bedded volcaniclastic sandstone/siltstone, one of which shows clear upwhole fining. Much of the sand is made up of feldspars	chl (2) sil (± alb) (1)	py: 1% assoc ± sil py: 5% disseminated py: 2% disseminated py: 3-5% disseminated py: minor py: 2-3% disseminated	So 65°/LCA So 70°/LCA	cb (1)		py py py
230									
			229.6 – 246.5m AMYGDALOIDAL MAFIC LAVA Green, chloritic partly-brecciated amygdaloidal lava ± feldspar-phenos visible in places (not common) Amygdales are carbonate, commonly ± 10mm and often elongate. Amygdales tend to occur in zones up to 2m with little or no amygdales	chl (2-3) sil-py (1)	py: 3-5% v fgr. ± sil in diffuse net-vein type infill Some in amygdales		Dark grey sil-py along breccia faints (net-vein type)		py py py
235									
	VLBA	gn	in intervening areas. Common recipient breciation and occasional small breccia intervals, with silica-py infill. Some show perlitic cracking + contain pink feldspar accumulations (sand). Rock is quite pyritic in places.		py: 2-3% as above		40mm cb vein 35°/LCA (2) cb>qtz (1)		py
240				↓ spi (1)	py: 3-5% as above py: 3%				
				sil-alb (1) patchy	py: 1-2%		cb>qtz (1)		py
245					py: minor				
						✓ contact gradational	cb>qtz (2)		
	VNBR	pk-gn	246.5 – 249.35m: BRECCIATED ANDESITIC LAVA Pinkish-green feldspar-phyric ± finely-variably amygdaloidal lava, generally brecciated. Top on lava below.	chl (2) alb (1) sil (1)	py: minor		cb (2)		
						✓ contact gradational			
250			See p 11.						

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Year 2006	Prospect HOLLOWAY
Geologist GERALD PURVIS	Date 14/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
250									
	VLAN	rd	249.35 – 261.75m: ANDESITE LAVA Dark reddish brown, hard, strongly silicified and albitized, feldspar-porphyritic andesite. 1-2mm pink feld laths. Cb or qh-cb amygdales (morphol. gen avoid-around 5mm (to 15mm max) Massive – no brecciation.	sil-alb (3) chl (1)	Rare py.		cb>qh (1) ± epi	Minor ↑ on back	
255									
			Weak to moderately magnetic due to fine (v) hematite-magnetite dusting.						
260									
						contact ± sharp, 45°/LCA			
	CMGR	gn-gy	261.75 – 264.75m: MAFIC VOLCANICLASTIC GRIT Greyish-green epiclastics ranging from fine mafic epiclastic breccias (variable angular to subangular clasts mostly <15mm), to lesser massive sst with felds; to finely bedded siltstone.	sil-alb (2) chl (2)	py. minor ↙5% py at base	S0: 60°/LCA contact: ↘abrupt, irreg→	cb (1)		↑? py
265									
	YNBR	rd-gn	264.75 – 272.9m: ANDESITE LAVA BRECCIA Pale reddish-green. A coarse breccia of lumps of feldspar-porphyritic, sparsely amygdaloidal andesite. These lumps generally >50mm. The subordinate matrix has smaller frags of same lava. A very primary sort of deposit. Weakly magnetic to 268m	chl (2) sil (2) alb (2)	Minor disem py		qh-cb-hem (2)		
270									
						contact abrupt, irreg			
	VLAN	rd-gn	272.9 – 276.2m: VHEAVILY AMYGDALOIDAL ANDESITE LAVA Pale reddish-green, brecciated andesite with abundant cb amygdales, ab <5mm, + pale red felds 1-2mm	chl (2) alb (2) sil (1-2) patchy	Minor py 5% py in bx matrix (ultra fgr)		30mm cb ± ↘vein at contact cb (1)		py
275									

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Hole_ID BDC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 15/6/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
275			AMYGDALOIDAL ANDESITE (continued) This is the top of lava below.		5% py 3% py in bx matrix	gradational loss of amygdales			py	
			276.2 — 306.6m: PARTLY-AMYGDALOIDAL ANDESITE LAVA. Pale greyish-brown andesite lava. Cb 5mm amygdales, locally abundant, gradually dying out around 290m, with lava becoming massive and more clearly feldspar porphyritic (pink or white laths av 1-2mm).	chl (2)	3% py Disseminated 1% py Disseminated		cb (1)		py	
280				chl (2)						
	VLAN	gy-brn	Zones of breccia in amygdaloidal zone, esp above ~280m, and zones of low-angle net-veined breciation (cb vein material in matrix) continue to 293m.	alb (2) sil (1) patchy	Minor py Minor specular hematite in cb veinlets		cb (3) spidery veinlets cb (1)			
285										
				alb (2) chl (1) sil (1) patchy	py in bx matrix (5-7% over 0.3m) Rare py fine horn		cb (3) net breccia-veins		py	
290										
			Rare cb amygdales to ~295m				cb (2) veinlets at all angles.			
295				chl (2)	Nil					
					fine horn (rock is non-magnetic)					
				sil-alb (2)			cb (1)			
300										

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD DAVIS	Date 15/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
300			ANDESITE LAVA (Continued)	sil-alb (1)	Nil		qtz-cb (±epi) (1)		
			Minor small cb amygdales often elongate	chl (2)	Minor hem				
		gy-gn		chl (2)					
				sil (2)		amygdale lineation 20°/LCA			
305				alb (1)					
			↙ some laminar flow texture in lava on contact	tr sil		Contact ↙ abrupt. 45°/LCA			
			306.75 – 327.5m MASSIVE DACITE LAVA (150mm fine volcaniclastic sandstone ± sph threads // the mod schistosity at bedding)	chl (2) ser (1)	5% sp. fine-med	si/so 45°/LCA			sp
			Pale grey-green with pale red sections, massive feldspar-porphyritic lava, with	sil (3)		↑ reversal(?)			
310	VLDA	gy-gn	abundant feld phenos av 2mm, to 4mm max,	alb (2) patchy		sharp contact 45°/LCA			
			and minor small green chloritic laths, probably hornblende (V)	chl-ser (1)					
			(in places feldspars are also green due to chlorite -sericite alteration) Felds range from pink to white to green.		Trace py		qtz-cb (1)		
			Rock is very even-grained + hard.	alb (1)					
315				chlor-ser (1)					
			Alteration is variable, but compared to mafics above, is notable for the appearance of patchy bleaching and sericitization.	sil (1)					
				bleach (2) sil (3) alb (1)	1% py in fault			FAULT 70°/LCA? 25mm zone of rubble, pug, qtz vein frags + bleached dacite	F
				sil-alb (1) chl-ser (1)	Nil				
320									
				sil-alb (3)	Trace py				
				sil-alb (2) (patchy)					
				chl-ser (1)			qtz-cb veinlets in fracts	1/ fracts 10-20°/LCA	
325									

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BDC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLOWAY
Geologist GERALD FURVIS	Date 15/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
325			DACITE LAVA (continued)	sil-alb (2) patchy chl-ser (1)	Persistent Trace py	arbitrary alteration bdy	30mm qtz-cb (feture) - chl vein 35°/CA →		
330	VLDA	rd	INTENSELY SILICIFIED + ALBITIZED MASSIVE DACITE LAVA AS ABOVE 327.5 – 340.0m. Very hard, massive feldspar-porphyritic dacite	alb (3) sil (2) chl-ser (1)	Nil				
335			exactly as above except for the intense sil-alb alteration. Colour varies from bright red to dark brownish-red Feldspars tending to be sl smaller-gen not >2mm	sil-alb (3)			cb > qtz (1)		
340				chl-ser (1)		arbitrary alteration bdy		Fracts (sl broken)	
345	VLDA	pk-gn	340.0 – 345.4m LESSER-ALBITIZED, SILICIFIED DACITE LAVA AS BEFORE Mottled green + blotchy pink, dacite lava as before - massive, hard, abundant pink feld laths av 2mm, some 3mm. Albitization is less and patchy, silicification still strong. Alb alt is conc along fractures + diffuses out from there. Visible hornblendes	sil (3) alb (1-2) chl-ser (1)	NIL	arbitrary alteration bdy	qtz-cb (1)		
350	VLDA	rd-bn	345.4 – 365.2m INTENSELY SILICIFIED + ALBITIZED MASSIVE DACITE LAVA AS BEFORE Reddish-brown, v hard, even grained. Abund pink feld laths av 2mm + occasional chloritic grains, some of which are hornblendes, all in totally albitized fgr groundmass. Rock v weakly magnetic due to new > mag dosting assoc ē albitization.	sil-alb (3) pervasive	NIL		cb (1)		

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD FURVIS	Date 16/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log	
350			INTENSELY SILICIFIED + ALBITIZED DACITE LAVA (continued)	sil-alb (3) pervasive	NIL		virtually none (rare cb veinlets)	Fault 0-20°/LCA		
355			Very, very weakly magnetic							
360										
365			Alteration decreases in basal 1.3m	sil-alb (1) chl-ser (1)	Rare py	contact: Fault.		Fault: 60°/LCA? 200mm broken, sericite		
	VLDA	gy-gn	365.2 – 368.05m: FINER GRAINED DACITE LAVA Creamy-pink than khaki-green, dacite lava with abund 1-2mm ser-chl altered feldspars (green). Could be fine base on above lava, but alteration style different with emphasis on sericitization + some bleaching.	ser (2) sil-alb (2) patchy ser-chl (1)	Rare py	contact: abrupt @ 70°/LCA.	cb (2)			
				ser-chl (1)			cb (1)			
370			368.05 – 378.1m: SILICIFIED COARSE FELSIC LAVA BRECCIA Blotchy white + green, hard. Angular + irreg frags of variable felsic lavas, most notably (below 372m) lumps of white, intensely silicified + bleached rhyolite (?) to 250mm, with minor dissem sp-py. These clasts altered before inclusion in the brx? Other lava clasts incl non-silicified flow-brecciated lava; feld-phyric lava + (rarely) chloritic amygdal. -oidal mafics. Bx matrix commonly silicified but not all clasts are. Looks very primary.	Ser (2) sil-alb (1-2) patchy	1% py-stringers Trace py	10cm sheared hfl-shale on contact	cb (1)	Fault ≈ 40°/LCA		strong fault: Broken 250mm cataclasite pug
375	CFBR	gn		sil (2-3) ser-chl (2)	NIL Minor dissem + clots of sp>py, mainly assoc with "white rhyolite" lumps		irreg 10mm vein qtz-fluorite → qtz-cb (1)		sil	"white rhyolite" lumps

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BDC 5	Project BDCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 16/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log	
375			FELSIC LAVA BRECCIA (Continued). Many clasts/lumps are rather diffuse + v irreg - suggests intense silicification may be in-situ rather than pre-bx? sp in white clasts and in matrix	sil (2-3) chl-ser (2)	Minor disseminations stringers sp; 2% sp stringers; Minor sp ← spin purplish-grey silica; Minor sp	Contact: Sharp, 30°/LCA	sp (1)		sil	"white rhyolite" lumps
380			378.1 – 386.7m: SPARSELY-AMYGDALOIDAL MAFIC DYKE Dark green, dioritic, fine to med gr mafic lava with sparse cb amygdales to 5mm, and shadowy pale green phenos (augite?), these most noticeable in central part of unit (1-2mm) A bland wide/formed rock. Non-magnetic.							sample 376.1-377.1 377.1-378.1
385	IMXX	gn		chl (2)	NIL		cb (1)			Dyke
			Common small amygdales in basal 1m		√ Rare py	Contact: sharp (upper edge of vein 25°/LCA)				
390	IXCT	gy	386.7 – 389.2m VEIN-LIKE CHERTY SILICA WITH SPHALERITE: v dark purplish-grey cherty silica with significant yellow-brown sp near upper contact as a vein-like diffuse injection into above mafic (occasional amygdales visible)	sil (3) chl (2) if background mafic	7% sp, disseam; NIL	Vein is low angle (0-25°/LCA); Contact diffuse			sp	sample: 386.6-387.5 387.5-388.5 388.5-389.2
395	CDBR	gn-gy	389.2 – 403.5m SILICIFIED DACITE LAVA BRECCIA: From creamy to grey-green to dark purplish-grey variably altered breccia with flow banded + commonly feld-porphyritic felsic (1-2mm) dacitic lava frags/clasts, typically with indistinct edges - very difficult to tell fragments from matrix. ~~Smaller clasts/frags are exception.~~	sil (2) chl-ser (1); sil (3) chl-ser (2) bleach (2)	Trace py; Conspicuous fine laminae		qp-cb (1)			
400			Some clasts strongly bleached + silicified. Some "pseudobreccia" texture in larger clasts (~200mm) where silicification + bleaching extends along + out from fractures within the clasts.	sil (2) chl-ser (2); sil (3) chl-ser (2)	Trace sp assoc w purplish-grey cherty silica					

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID	BOC 5	Project	BOCO SIDING
Hole_Type	DDH	Tenement_No.	EL 4/2000
Year	2006	Prospect	HOLLWAY
Geologist	GERALD PURVIS	Date	28/6/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
400			SILICIFIED DACITE LAVA BRECCIA (continued) As below. less flow banded and more feldspar phyric types. More small angular frags in matrix.	sil (3) ser-chl (2) Patchy bleaching	Minor py.	Contact above irreg. @ LCA.	colloform qtz - Alunite net-veinlets (2)			
405			403.5 - 409.25m: MASSIVE DACITE LAVA Dark pinkish grey-green, hard. Highly feldspar-phyric lava with abund fine white 1-2mm feld laths and lesser larger feld xyls 2-4mm. Blotchy sil>alb alteration produces "pseudobreccia" texture in places, obscuring the finer felds.	sil > alb (3)			Tiny qtz vein @ 5° (1)			
	VLDA	PK-GY	The groundmass feldspar has very weak sub-ophitic texture in places	chl (2)	Nil fine leucoxene	Contact sharp irreg. ≈ 30°/LCA				
410					Trace py					
	VLBA	gn	409.25 - 428.4m: MAFIC LAVA OR DYKE Green massive mafic volcanic with abundant light green ferromags ≤ 3mm (augite?), coarsest in the central section 411 - 421m. Fine cb amygdales in the 2m adjacent to both contacts & sparsely below fault at 420m.	chl (1-2)	Nil		15mm cb vein → 20°/LCA (trace cp) cb (1)			
415										
			Rock is chloritic but relatively unaltered. Fine dark green ferromags scattered throughout. Non magnetic.		Trace py		40mm qtz - cb-ser → 40°/LCA		Dyke?	
420				leaching & bleaching around fault			100mm cb vein (magnesite?)	small fault + vein Broken 35°/LCA	F	
					Rare py		35°/LCA			
				sil-alb (1) patchy chl (2)			cb-qtz (2)			
425										

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 28/6/2006

Depth	Lithology			Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log	
425	Code	Colour	Comments	Up to 3 codes w. intensities (1-3)	Up to 3 codes with %					
			MAFIC LAVA OR DYKE (continued) Dark green with red patches Some pesitic cracking on contact	sil-alb (2) patchy chl (2)	Nil	Contact abrupt ✓irreg, low angle	cb-qtz (1)			
430			428.4 - 453.8m	sil-alb (3) chl (2)						
	CDBR	gn-gy	SILICIFIED DACITIC LAVA BRECCIA Mainly greenish-grey, but varying from dark green with red patches, to cream. Indistinctly-textured. Variably-altered coarse breccia of feldspar-phyric dacite lava, commonly flow-banded. Common white feldspar phenocrysts to 3mm.	sil (3) ser-chl (2)	Trace fine py		qtz-cb (1)			
435			Textures now indistinct due to alteration which also causes much "pseudobreccia" textrue, apparently by invading along cracks in the lava lumps and spreading from fox matrix, modifying the original clast shapes.	sil (3) bleach (2) ser-chl (1)	Minor py fine stringers					
440				sil (3) chl-ser (2)	3% py in sil-flooding Trace py					py
			1° lava lumps look to have been up to 30-40cm.		1-2% py disseminated veinlets Minor py. Trace py					py
445										
				V	1% fine dissem py Minor py + grey silica					
450										

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BCC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PORVIS	Date 28/6/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
450			SILICIFIED DACITIC LAVA BRECCIA (continued) As before - indistinctly-textured Grey-green	sil (3) chl-ser (2).	Minor py 1% py & grey silica	"contact" ~ashy-subtle change in bx character	qtz-cb (1) tiny veinlets		
455			453.8 — 462.9m: SILICIFIED FELSIC VOLCANIC BRECCIA		Minor py				
460	CFBR	gy	Greenish-grey, hard finer breccia than above, characterized by light grey or pink (alb) f-gr silic clasts & sparse felds - probably acid lavas. Other clasts are ser-chl f-gr & leucocrene (?) fragments. Unlike breccia above, clasts are discrete, often matrix supported and angular to subangular (possibly slightly transported). Clasts are up to ~50mm, to ~100mm max. There are marked variations in the degree of packing of the clasts	sil (3) ser (2) alb (1)	trace py fine 1% py, fine disem Minor py		qtz-cb (1)		
465			462.9 — 473.25m: DACITE LAVA BRECCIA Grey-green to pink, variably silicified, indistinctly-textured. Sparsely feld-porphyritic, flow-banded dacite with zones of breccia texture, some with flow-banded frags at all angles (rare). In other places lava appears more coherent. Distinctly more vitric & pumiceous, with flow banding, in uppermost and lowermost 1-2m	sil (2) ser (2) chl (1)	1% py, fine disem Minor py	Contact sharp ~35°/LCA flow banding 30°/LCA	colloform qtz-py veinlet // LCA		
470	CDBR	gy-gn		sil (3) ser (2) chl (1) sil (3) alb (2) ser-chl (1)	Rare py		qtz-cb (1)		
475	VLDA	pk	473.25 — 478.6m DACITE LAVA (SILICIFIED) See p 20 for description	sil (2) ser (2) sil-alb (3)	Rare py	flow banding 20°/LCA ↑ contact: gradational	sericite ? veining around fault	small fault 60°/LCA	F

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 29/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log
475			SILICIFIED DACITE LAVA (continued)						
	VLDA	pk	Pink, very hard, intensely silicified + albitised rather bland volcanic c scattered 2mm feld phenocrysts. Minor bx zones above 475.5m and weak flow banding 476 + 477m + 478m (50-60°/LCA)	sil-alb (3)	Rare py	Flow banding 60°/LCA →	qtz > cb (1)		
				sil (2) ser (2)	Trace py	Contact sharp ↓ Linear flow 35°/LCA			
480	CDBR	gy-gn	478.6 — 481.4m DACITIC LAVA BRECCIA Greenish-grey, Quench bx? Angular frags of fels-phyric Volc in silicified matrix containing abundant fine splinters of same volc. Lumps to 300mm but most frags < 20mm. Looks very fg.	ser-chl (2) sil (2)	1% ultrafine py in grey silica matrix	↓ Contact abrupt 15°/LCA			
	CFBR	gy	481.4 — 492m VARIABLE FELSIC VOLCANIC BRECCIAS Creamy grey to pale pinkish grey, silicified. Mostly similar to breccia 454 - 462m, with pink fgr silic subangular clasts mostly 10-30mm, with larger, often brecciated lumps to 50-60cm of intensely silicified obleached pale grey feld-porph dacite. From 489 — 491.5m lumps + patches of green chloritic amygdaloidal basalt. The pale pink silic small clasts show clear signs of some transport	sil (3) ser-chl (1) alb (1)	1% ultrafine py assoc ↓ c grey silicification Rare sp in large dacite clasts		qtz (2) spidery		
490				sil (3) ser-chl (2) alb (1)		very gradational change			
495	VLDA	gy	492 — 507.5m: SILICIFIED DACITE LAVA Fawny-khaki, hard. fgr dacite lava c 1-2mm white porphyritic feldspar laths scattered throughout. Ubiquitous brecciation to varying degrees but lava generally fairly massive.	sil (3) ser (1)	Minor fine py ↓ minor py in qtz veins →		qtz-cb (1) Strong vuggy qtz net veins		qtz, broken
				alb (1)	Trace py		qtz-cb (1)		
500					Mino py, conc in bx/fractured zones				

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 30/6/2006

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults	Graphic Log	
500			SILICIFIED DACITE LAVA (continued)	sil(3) ser(2) leached + bleached	Persistent minor py in bx matrix + fracture-fill, assoc ± grey silica		qtz-cb(1)	slightly bleached minor gouge @502.5m	cb veins	
			As before, pale khaki to grey. Generally intensely silicified (minorly brecciated + zone "pseudobrecciation" due to grey silica-py introduced along net-fractures.				leached cb>qtz veins 15°/LCA (2)			
505							qtz-cb(1)			
				sil(3) ser(1)	2% py ditto	Contact ✓ obscured by alteration overprint	✓		py	
	CDBR	94	507.5 – 509.7m: SILICIFIED DACITE BRECCIA Greenish-grey feld-porph dacite breccia (5th texture heavily modified + obscured by alteration overprint. Irreg indistinct frags/lumps mostly <100mm	sil(2) chl-ser(1)	1% fine py, best assoc ± grey silica	✓ gradual change	qtz-cb(1)			
510										
	VLDA	94	509.7 – 515.4m: SILICIFIED DACITE LAVA Creamy-grey to greenish-grey, hard. Sparsely feld-porphyritic dacite. Brecciated in places, esp towards base. White or pink feld laths 1-3mm	sil(3) ser(1) bleach(1) alb(1)	Persistent minor py fine disseminations, stringers, assoc ± grey silica		cb-qtz(1)			
				sil(3) ser-chl(2)		✓ gradual change				
515										
	CFBR	rd-gy	515.4 – 521.0m: SILICIFIED FELSIC VOLCANIC BRECCIA. Red + grey, intensely silicified, indistinctly fragmental textured breccia, comprising lumps of feld-porphyritic dacite (some flow-banded) + fg-gr non feld-porph silicified volc. usually pink or cream coloured. 519.8 – 520.5m: andesite lumps to 50cm. Fg-gr silic types usually <50mm + often subangular. Matrix invaded by white silica above 518m + brecciates grey silica-py	sil(3) ser(1)	2% py ± grey sil bx by white sil		qtz-cb(1)		py	
					1% py					
520				sil(3) alb(2)	Minor py					
				chl(1)		✓ Contact abrupt, 35°/LCA				
	VLAN	Bk	521.0 – 525.5m: BRECCIATED AMYGDALOIDAL ANDESITE LAVA Dark green to black, finely amygdaloidal andesite. Felds visible where slightly bleached. Fg-gr. Comprises zones of coherent lava and zones of matrix-supported breccia. Mod-strongly magnetic.	sil(1) chl(2)	2% py (fine in bx matrix)		cb(2) net-veinlets		py	Zone of chl-mag-py alteration in andesite
				sil-chl-mag(3)	1% py					
				↓	2% py (fine in bx matrix)				py	
525				sil-chl(2) alb(1)	1% py	✓ amygdales // LCA				

ZINIFEX ROSEBERY MINE
SURFACE EXPLORATION

DIAMOND DRILL HOLE LOGGING

Hole_ID BOC 5	Project BOCO SIDING
Hole_Type DDH	Tenement_No. EL 4/2000
Year 2006	Prospect HOLLWAY
Geologist GERALD PURVIS	Date 30/6/2006

Depth	Lithology		Comments	Alteration	Mineralisation	Structure	Veining	Faults	Graphic Log
	Code	Colour		Up to 3 codes w. intensities (1-3)	Up to 3 codes with %				
525						Contact sharp @ 40°/LCA			
	CDBR	gn	525.5 – 529.8m: SILICIFIED DACITIC BRECCIA Green, hard. Indistinctly-textured breccia of feldphyric lclcs. Some fraglclasts of figr silic types - these mostly pink due to sil-alb alteration.	sil (3) chl-ser (2) alb (1)	1% ultrafine py Minor py	gradational change	cb-qtz (1)		
530	VLDA	pk-gy	529.8 – 545.8m SILICIFIED DACITE LAVA fawny-pink-greenish-grey, hard, massive dacite lava (or intrusive) with evenly-scattered white or pink feldspar laths av 2mm, occasionally 3mm Apart from some mild brecciation in uppermost 1m, brecciation or fracturing is rare	sil (3). chl>ser (2) sil (3) alb (1-2) chl (1)	1% py+gy sil along fault Minor py - zone along occasional fractures or small fry zones Rare py	Flow banding → 15°/LCA	qtz-cb (1)		
540									
545						gradational change			
	CDBR	gy	545.8 – 547.5m: SILICIFIED DACITE BRECCIA Indistinctly-textured breccia of above lava & white or pink feld laths. Silicification easing towards EOH	sil (3) chl-ser (1) sil (2) ser (2)	Minor py & grey sil in matrix		cb (1) Fe-cb (1)		
			547.50m – END OF HOLE						