Tasmania Department of Mines—Unpublished Report 1988/38

Foundation investigation, HCC Bathurst Street car park, Hobart

by R. C. DONALDSON

A five-hole auger drilling programme was carried out at the Hobart City Council's Bathurst Street car park by H. Stacpoole between the 14 and 15 September.

The hole locations are marked on Figure 1, with the engineering logs of each hole being attached.

[21 September 1988]

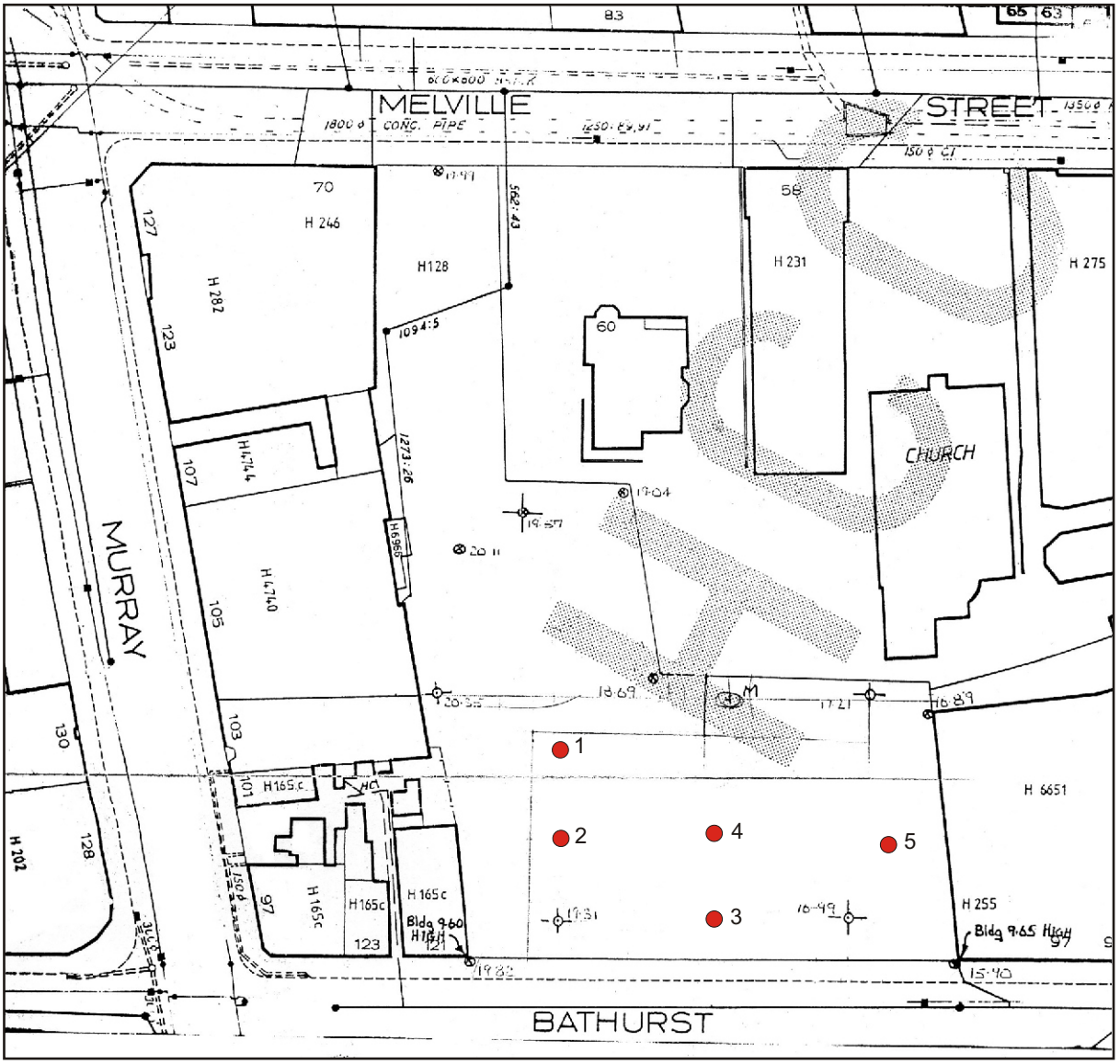

Figure 1

Location of auger holes.

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borehole no. 1

ENGINEERING LOG – BOREHOLE

sheet 1 of 3

project HCC CARPARK REDEVELOPMENT location BATHURST ST, HOBART

co-ordinates Refer Site Plan. drill type Gemco 210 D

drill method Auger

R.L.

inclination Vertical

bearing

drill fluid

hole commenced 19 SEPT '88

hole completed —"—

drilled by MINES

logged by R DONALDSON

checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L. / depth	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency / density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
						GW	GRAVEL: fine - coarse, blue grey (Colcrete)	D	D		Asphalt / sub-base
						CH	CLAY: high plasticity, brown, some fine - medium sand and fine gravel.	M ~ W_P	St.		
				1		CH	CLAY: high plasticity, red brown + yellow brown, some fine sand.	M ~ W_P	VSt		Residual CLAY grading into Extremely Weathered DOLERITE
				2							
							similar to above, material shows remnant dolerite texture in places.		H		
			9 | N* 11 | 15 | 26	3							
				4							
			8 | N* 13 | 16 | 29	5			similar to above, some grey green colouration				
				6							
				7			Colour variation ⇒ brown. Some fine - medium gravel comprising H.W. dolerite rock fragments.				Extremely to Highly weathered DOLERITE.
				8							
				9			similar to above - colour variation ⇒ olive green / brown. Some sandy clay material.				
				10							

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borehole no. 1

ENGINEERING LOG – BOREHOLE

sheet 2 of 3

project | location

co-ordinates | drill type | hole commenced
drill method | hole completed
R.L. | drilled by
inclination | drill fluid | logged by
bearing | checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L. / depth	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
		▼ 19 SEPT '87.		11 12 13 14 15 16 17 18 19 20			as above, brown clay returns.	W			
							similar to above, olive green clay returns with some green-grey H.W. dolerite rock fragments.				

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borehole no. 1

ENGINEERING LOG – BOREHOLE

sheet 3 of 3

project | location

co-ordinates | drill type | drill method | hole commenced | hole completed

R.L. | drilled by

inclination | drill fluid | logged by

bearing | checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L / depth	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
				21							
				22			Hole terminated @ 21.7 m in H.W. DOLERITE. Drill close to refusal over last 1.5 m.				

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borehole no. 2

ENGINEERING LOG – BOREHOLE

sheet 1 of 2

project H.C.C. CARPARK REDEVELOPMENT location BATHURST ST, HOBART

co-ordinates Refer Site Plan
R.L.
inclination Vertical
bearing

drill type Gemco 210 D
drill method Auger
drill fluid

hole commenced 19 SEPT 88
hole completed 20 — " —
drilled by Mines Dept
logged by R. Donaldson
checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L.	depth	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
							GP	GRAVEL: medium, blue grey, some clay	D	MD		Asphalt.
					1		CH	Sandy CLAY: high plasticity brown and yellow brown, sand fine-coarse, some fine-medium gravel (dolerite, baked schist?)	M > PL	St		Tertiary Alluvial(?) Deposits?
					2			similar to above - colour change to red brown.				
							GP	GRAVEL: fine-med, blue grey, some brown clay		VD		S.W. DOLERITE.
					3			augers refused @ 2.5m on S.W. DOLERITE. continued on Cored Borehole log-sheet 2.				

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borehole no. 2

ENGINEERING LOG – CORED BOREHOLE

sheet 2 of 2

project | location

co-ordinates | drill type: NQ. Triple Tube | drill method | hole commenced | hole completed | drilled by | logged by | checked by

R.L. | inclination | bearing | drill fluid

drilling information						rock substance				rock mass defects	
case-lift	fluid loss	water	notes	lugeons 0.3 1 3 10 30 100	metres R.L. / depth	graphic log	substance description (rock type: grain characteristics, colour, structure, minor components.)	weathering	strength VL L M H VH EH	defect spacing mm. 30 100 300 1000 3000	defect description (thickness, type, inclination, planarity, roughness, coating.) significant / general
					1						
					2						
					3		DOLERITE: fine grained, blue grey.	S.W			
					4		DOLERITE: yellow brown, green grey, some red, Remoulds in part to CH clay with some sand.	EW CHW			
					5		DOLERITE: fine grained, red, some yellow brown + olive green subrounded - subangular gravel + cobble sized dolerite kernels or core stones supported by prominent clay filled fractures.				
					6						
					7		DOLERITE: fine grained, green grey and brown.	HW			
							Hole terminated at required depth of 7.0m in H.W. DOLERITE				

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borehole no. 3

ENGINEERING LOG – BOREHOLE

sheet 1 of 1

project HCC CARPARK REDEVELOPMENT location BATHURST ST, HOBART

co-ordinates Refer Site Plan drill type Gemco 210 D hole commenced 20 SEPT '88

drill method Auger hole completed — " —

R.L. drilled by Mines Dept

inclination Vertical. drill fluid logged by R Donaldson

bearing checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L	metres depth	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
							GW	GRAVEL: fine-medium, blue grey, some clay	D	VD		Asphalt
					1		CH	Sandy CLAY: high plasticity, black⇒ brown, sand fine-medium, some coarse sand, trace fine gravel	M > PL	F - St		Topsoil
					2		CH	CLAY: high plasticity, red-red brown, some fine sand.	M > PL	St - V St		Residual clay grading to Extremely weathered DOLERITE
			6 10 12 N* 22		3			Similar to above, some yellow brown colouration. Remnant dolerite rock texture evident. Thin (< 1mm) joints noted.		H.		
			9 14 21 N* 35		4 5			as above, some grey grey colouration. Trace coarse sand and fine gravel (dolerite)	M ≈ PL			
			12 14 20 N* 34		6							
					7			Hole terminated at required depth of 6.45 m in E.W. DOLERITE.				

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borehole no. **4**

ENGINEERING LOG – BOREHOLE

sheet **1** of **1**

project HEC CARPARK REDEVELOPMENT location BATHURST ST, HOBART

co-ordinates Refer Site Plan drill type Grenco 210-D
drill method Auger
R.L.
inclination Vertical drill fluid
bearing

hole commenced 20 SEPT 88
hole completed —"—
drilled by Mines Dept
logged by R. Donaldson
checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L. / depth	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency / density index	hand penetrometer kPa (25 50 100 200 400)	structure, geology
						GW	GRAVEL: fine-coarse, blue grey (dolerite)	D	VD.		Asphalt
						GC	Clayey GRAVEL: fine-medium, blue grey + brown, clay of medium-high plasticity.	D	MD		Sub-base
				1		CH	Sandy CLAY: high plasticity, brown, sand fine-medium, some coarse sand and fine-medium gravel comprising dominantly dolerite and brick fragments.	M > PL	F St.		FILL
			1½ 1 1 N* 2	3				M ≈ PL			
			2½ 1½ 2½ N* 4	5			as above, olive green to brown	M ≈ PL			
			1 ½ 1 N* ½	6			no sample.				
			1½ 1½ 1 N* ½	8							
						CH	Gravelly sandy CLAY: high plasticity, olive green, sand fine-medium, gravel fine (f.w dolerite chips).				H.W DOLERITE
				9			Augers refused @ 8.9m on SW – H.W. DOLERITE.				

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borehole no. 5

ENGINEERING LOG – BOREHOLE

sheet 1 of 1

project HEC CARPARK REDEVELOPMENT location BATHURST ST, HOBART

co-ordinates Refer Site Plan drill type Gemco 210-D. hole commenced 20 SEPT '88

drill method Auger hole completed " "

R.L. drilled by Mines Dept.

inclination Vertical drill fluid logged by R Donaldson

bearing checked by

penetration 1 2 3	support	water	notes samples, tests	metres R.L	metres depth	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency density index	hand penetrometer kPa 25 50 100 200 400	structure, geology
							GW	GRAVEL: fine-medium, blue grey, some clay	D	D		Asphalt
							GC	Gravelly CLAY: high plasticity, brown, fine-medium gravel, some f-m sand.	D			Sub-base
					1		OH	Sandy CLAY: high plasticity, black, sand fine	M> PL	F		Topsoil.
							CH	Sandy CLAY: high plasticity, brown, sand fine-medium, some coarse sand, trace fine gravel.		St.		Clay soil.
					2							
					3							
			5 7 9 N* 16				CH	CLAY: high plasticity, green grey, brown along defects, some fine sand	M ≈ PL	St V. St		Extremely weathered DOLERITE
					4		GC	Clayey GRAVEL: fine, green grey, clay of high plasticity				HW. DOLERITE SW
					5			Augers refused @ 4.5 m on SW? DOLERITE.				