Hydro Tasmania
the renewable energy business

Engineering Log
Borehole

borehole no: RT 2
sheet 1 of 3

Job no: E203332 file:

Project: DUNROBIN [illegible] ROBERTS

Borehole Location: mE 492172.8 mN 5320849.1

Borehole commenced: 15.02.08
Borehole completed:
Supervised by: [illegible]
Log checked by:

drill model and mounting: HP SCOUT
hole diameter: 125mm
slope: vertical
bearing:
R.L surface m
datum
Driller: D ROBERTS

method	notes samples tests, etc	depth metres	classification	material: soil type; plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency, density index	structure and additional observations
AD	SPT 0.5 3,4,5 n=9	0–0.5	SM	SAND fine silty dk brown slightly clayey fines becoming clayey	D	L to MD	
	SPT 1.0 4,5,8 n=13	0.5–2.0	CI	CLAY: silty yellow brn to grey becoming sandy at 1.0m	M	H	p.p at 0.75m = 7.8kg/cm²
	SPT 1.5 4,5,8 n=13			- grey with yellow mottling		VSt	p.p. at 1.3m = 6.0 kg/cm²
				- becoming very sandy, micaceous			p.p at 1.75m = 10.0kg/cm²
		2.0–2.4		SANDSTONE. silty pale yellow brown - grey micaceous			
				AUGER REFUSAL REFER TO CORED HOLE LOG			

KEY

method
AS auger screwing
AD auger drilling
RR roller/tricone
W washbore
HA hand auger
HFA hollow flight auger

support
T - timbering
C - casing

penetration
1 2 3 no resistance ranging to refusal

water
level (date)
inflow
outflow

notes - samples and tests
U₅₀ undisturbed sample 50mm diameter
S disturbed sample
N standard penetration test (SPT)
N* SPT - sample recovered
Bs bulk sample
R refusal

classification symbols and soil description
based on Unified Classification System

moisture condition
D dry
M moist
W wet
PL plastic limit

consistency/ density/ index
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

Hydro Tasmania
the renewable energy business

Engineering Log
Cored Borehole

Job no: E203332 file:

Project: DUNGROVE DAMS ROBERTS	hole commenced: 15·02·08
borehole location: (MGA 94) mE 492172.8 mN 5320849.1	hole completed:
	supervised by: D. BEAR / W. CRAMER / M. DAVIDSON 15/2/08 18/2/08 18/2/08
	log checked by:
drill model and mounting: HD SCOUT	slope: vertical 84°
barrel type and length: NQTT fluid WATER	bearing: -280°
R.L surface: m	datum: AHD
Driller D. ROBERTS	

drilling information | rock substance (212 - 18/2/08) | rock mass defects

method	case-lift	water	R.L	depth (m)	graphic log / core loss	substance description (rock type: grain characteristics, colour, structure, minor components)	weathering	strength	defect spacing mm	RQD %	defect description (thickness, type, inclination, planarity, roughness, coating; particular / general)
RR				0 – 2.25		REFER TO BORED HOLE LOG. CASING ADVANCED TO 2.25					
	1			2.25 – 3.3		SANDSTONE fine yellow brn bedded - sub horizontal	SW			17	$I_{s(50)}$ = 0.1MPa Diametral. -1 to 15mm joints planar along bedding clay infill
						SILTSTONE fine sandy grey brn interbedded clayey layers	DW				
						CORE LOSS 0.33 LOOSE SAND silty brown					CORE LOSS 0.33 LOOSE SAND silty
	2			3.3 – 4.5		SANDSTONE: fine yellow brown sub-horizontal bedding	SW			82	-1mm joints clean planar along bedding
	3			4.5 – 5.2		cross bedded layers of fine siltstone and claystone. Layer of dark brown siltstone at 4.8-5.1	DW			19	-1 to 3mm joints closely spaced parallel to bedding silty clay infill
	4			5.2 – 6.0		SANDSTONE fine to medium Lt. brown and grey interbedded sub-horizontal bedding. CORE LOSS 5.74 6.0 6.0m		x		11	$I_{s(50)}$ = 0.2MPa Diametral, 0.4MPa Axial. -1 to 5mm joints closely spaced along bedding dark oxide stained infill. CORELOSS 0.26
	5			6.0 – 7.35		SANDSTONE (as above). SILTSTONE - finely laminated, pebbly dark grey to black. orientation attempted but unsuccessful	SW / Fr	x		65	Planar smooth [illegible] fe-stained, sub-horizontal. $I_{s(50)}$ = 1.5MPa Diametral, 1.7MPa Axial. Heavy fe-staining on undulating to planar smooth surface
	6			7.35 – 8.3		SILTSTONE - sandy in places; dark grey to black; finely laminated; some load structures (?); possible drop stones	Fr			76	1-10mm joints; fe-stained; planar to stepped smooth; @ 7.81m a 10mm clay-fill joint
	7			8.3 – 9.0		SILTSTONE - sandy in places; dark grey to black; finely laminated; load structures (?); dropstones (?)	Fr	x x		78	Predominately sub-horizontal planar smooth joints with fe-staining. $I_{s(50)}$ = 1.0MPa Diametral, 6.2MPa Axial. 2 joint sets opposing at ~45° to E.S. Undulating rough - no infill

Depth marks: 1.0, 2.0, 2.25, 3.0, 4.0, 5.0, 6.0, 7.0, 7.35, 8.0, 9.0

Strength scale: EL VL L M H VH EH. Defect spacing: 30 100 300 1000 3000

KEY

method
- AS auger screwing
- AD auger drilling
- R roller/tricone
- W washbore
- NQTT NQ triple tube core drilling

case-lift
- casing used
- barrel withdrawn

water
- 6 May 07 water level date shown
- water inflow
- partial drilling water loss
- complete drilling water loss

graphic log/ core loss
- core recovered (hatching indicates material)
- no core recovered

weathering
- Fr - fresh
- SW - slightly weathered
- DW - distinctly weathered
- EW - extremely weathered
- RS - residual soil

strength (indirect tensile strength)
- x Point Load Test
- EL extremely low
- VL very low
- L low
- M medium
- H high
- VH very high
- EH extremely high

Hydro Tasmania

Engineering Log
Cored Borehole

borehole no: FF12

Job no: E 203332 file:

Project:	hole commenced: 15-02-08
borehole location: (MGA 94) mE 493172.8 mN 5328849.1	hole completed: "
	supervised by: ~~[illegible]~~ B.Cromey/M.Davidson
	log checked by:
drill model and mounting: H P SCOUT	slope: vertical
barrel type and length: NQTT fluid WATER	bearing: -
R.L surface: m	datum: AHD
Driller D. ROBERTS	

drilling information | **rock substance** | **rock mass defects**

method	case-lift	water	R.L	depth (m)	substance description (rock type: grain characteristics, colour, structure, minor components)	weathering	strength	defect spacing mm	RQD %	defect description (thickness, type, inclination, planarity, roughness, coating) particular / general
	7			9.0	Conti...	Fr				1 joint at ~60°, planar rough, no infill (@ 9.22m)
					SILTSTONE - sandy in places; dark grey to black; finely laminated; [illegible]					
	8			10.0	PEBBLY MUDSTONE - light grey; small pebbles; pyrite (?) closed joints	Fr				Closed joints (vertical) [illegible] horizontal, open, Fe-stained
					SILTSTONE - as above				70	
	9			11.0	SILTSTONE - as above					
					Pyrite visible in leached zone	Fr			60	Sub-vertical closed & open joints (~60-80°); [illegible] on open
	10			12.0	SILTSTONE - pebbly, possibly with limestone clasts (?); dark grey; laminated; [illegible]; dropstones; pyrite visible.	Fr			95	Predominantly closed joints though one open w abundant Fe-staining @ 12.87m. Joints about 60-80°
				13.0	E.O.H.		x			$I_{s(50)}$ = 1.8MPa Diametral, 4.4MPa Axial
				14						
				15						
				16						
				17						
				18						

Strength scale: EL VL L M H VH EH. Defect spacing scale: 30 100 300 1000 3000.

KEY

method
- AS auger screwing
- AD auger drilling
- R roller/tricone
- W washbore
- NQTT NQ triple tube core drilling

case-lift
- casing used
- barrel withdrawn

water
- 6 May 07 water level date shown
- water inflow
- partial drilling water loss
- complete drilling water loss

graphic log/ core loss
- core recovered (hatching indicates material)
- no core recovered

weathering
- Fr - fresh
- SW - slightly weathered
- DW - distinctly weathered
- EW - extremely weathered
- RS - residual soil

strength (indirect tensile strength)
- x Point Load Test
- EL extremely low
- VL very low
- L low
- M medium
- H high
- VH very high
- EH extremely high