



William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists										DDH – SF1													
Engineering log – Cored borehole										Sheet 1 of 1													
Incorporating the Unified Rock Classification System (URCS)																							
Project HYDRO TASMANIA DUNGROVE SCHEME					Location Southernfield Dam Site (SW embankment)																		
Coordinates			Drill type		Hole started		8 February 2008																
489850mE 5320049mN			Equipment		Hole finished		12 February 2008																
Datum GDA94			Drilling		Drilled by		D. Roberts																
RL Approx. 547.5m ASL			Drill fluid(s)		Checked by		W. Cromer																
Inclination 84°																							
Bearing Not specified																							
Drilling Information				Rock substance				Rock mass defects															
Bit type/size	Case type/size/lift	Fluid loss/water	Notes Samples, tests, unit weight (UW, g/cc)	Core recovery	RQD	metres	Graphic log	Substance description rock type, grain characteristics, colour, structure, minor components	Weathering	Est. strength	Nature of defects	Defect spacing (mm)	Defect description thickness, type, inclination, planarity, roughness, coating	Geol Interp									
															20% 40% 60% 80%	20% 40% 60% 80%	Vertical depth	Inclined depth	A B C D E	A B C D E	A B C D E	30 100 300 1000 3000	Significant General
A			B SPT 2,3,5 N=8 SPT 3.5, 12+dt Refusal Casing advanced			1		Silty SAND: grey, slightly clayey; dry, loose Sandy CLAY: yellow-brown; hard; moist					Pocket penetrometer at 0.5m = 8.5kg/cm ²	Soil									
HZ						2		DOLERITE: fine to medium grained; dark grey - brown oxide stain in joints.					50mm clay seam at top 1mm wide joints, angular, random orientation	Highly fractured Jurassic dolerite									
						3																	
						4			Not logged														
						5																	
						6							$f_{t,c} = 24\text{MPa}$ diametral $f_{t,c} = 23\text{MPa}$ axial										
						7		End of hole at 6.6m															
						8																	
						9																	
Drilling T = Triple tube coring B = Bladed R = Roller/Tripcone A = Auger W = Wash boring DT = Double tube coring HAM = Rotary hammer Case lift Fluid loss No loss 50% loss 100% loss Barrel withdrawn				RQD (Rock Quality Designation Index) The sum of the lengths of sound core pieces >100mm in a drilling run is divided by the total core run length. Expressed as % core length measured along continuous core drilling breaks not included.				Water Inflow Outflow Unit weight (UW, g/cc) A = >2.55 B = 2.40-2.55 C = 2.25-2.40 D = 2.10-2.25 E = <2.10 Strength Hammer impact test Approx. point load strength index $I_p(50)$ MPa Approx. UCS MPa A = rebound (RQ) >4 >103 B = pt (PO) 2-4 55-103 C = dent (DQ) 1-2 21-55 D = crater (CQ) 0.25-1 7-21 E = moldable, friable (MQ) <0.25 <7 Note: X on log is test result. Otherwise, strength is visually estimated. US = Unconfined Compressive Strength				Samples and Notes R = SPT penetration refusal D = Disturbed sample N = Standard Penetration Test pp = Hand penetrometer test SV = In-situ Shear Vane test CS = Core Sample Ux = Undisturbed tube sample (x mm diameter) Nd = SPT and Disturbed Sample Weathering A = Micro fresh state (MFS) B = Visually fresh state (VFS) C = Stained state (STS) D = Partly decomposed state (PDS) E = Completely decomposed state (CDS)				Soil consistency Fine grained soils VS = Very Soft S = Soft F = Firm St = Stiff VSt = Very stiff H = Hard Soil density index Coarse grained soils Fb = Friable VY = Very Loose L = Loose MD = Medium Dense D = Dense VD = Very Dense				Defects Joint Van Shear zone Crush zone Infill seam EW seam A = Solid random breaks (SRB) B = Solid preferential breaks (SPB) C = Solid latent breaks (SLB) D = Non intersecting planes (2-D) E = Intersecting open planes (3-D) Core loss Core loss (interval known) Core loss (interval unknown) Loss is shown in Graphic log column at top of run			

