William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Engineering log – Cored borehole

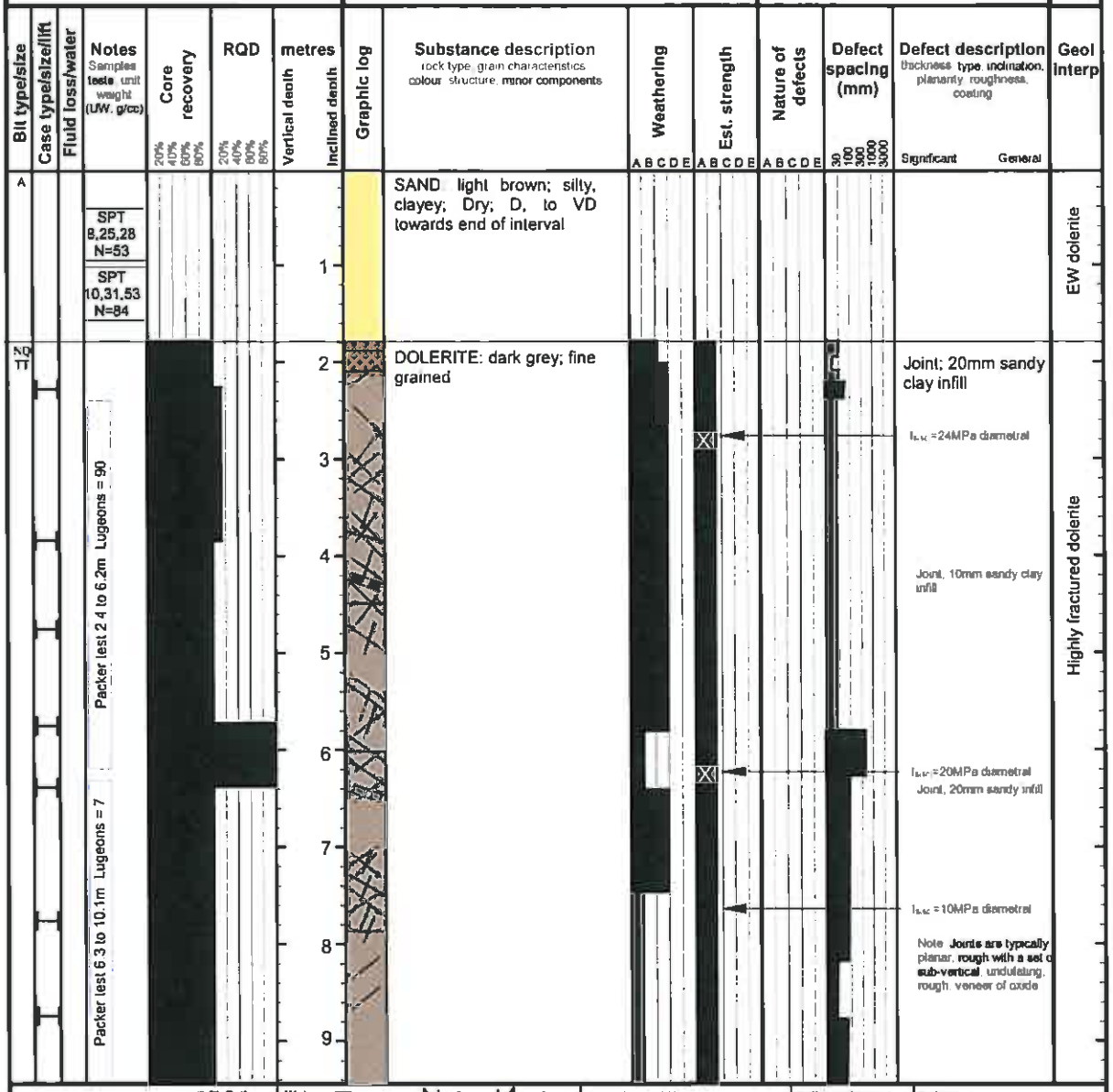
Incorporating the Unified Rock Classification System (URCS)

DDH – SF4

Sheet 1 of 2

Project HYDRO TASMANIA DUNGROVE SCHEME **Location** Southernfield (W embankment dam)

Coordinates	489970.6mE 5320491.8mN	**Drill type**	Hydra Power Scout	**Hole started**	29 January 2008
Datum	GDA94	**Equipment**	120mm hollow auger NQTT triple tube core drilling	**Hole finished**	30 January 2008
RL	Approx. 545m ASL			**Drilled by**	D. Roberts KMR Drilling Pty. Ltd.
Inclination	Vertical	**Drill fluid(s)**	Water	**Logged by**	T. Lagden
Bearing				**Checked by**	W. Cromer



Drilling
T = Triple tube coring
B = Blades
R = Roller/Tricone
A = Auger
W = Wash boring
DT = Double tube coring
HAM = Rotary hammer

Case lift: Casing used; Barrel withdrawn
Fluid loss: No loss; 50% loss; 100% loss

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 centreline. Core drilling breaks not included

Water Level 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 Is(50) MPa	Approx UCS MPa
A = rebound (RQ)	>4	>103
B = pit (PQ)	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, Vein, 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

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Bearing				**Checked by**	W. Cromer

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 20% 40% 60% 80%	RQD 20% 40% 60% 80%	metres Vertical depth	Inclined depth	Graphic log	Substance description rock type, grain characteristics, colour, structure, minor components	Weathering A B C D E	Est. strength A B C D E	Nature of defects A B C D E	Defect spacing (mm) 30 100 300 1000 3000	Defect description thickness, type, inclination, planarity, roughness, coating Significant / General	Geol interp
									DOLERITE: dark grey; fine grained					Jointing sub-vertical with oxide veneer	
							10								
									End of hole 10.1m						
							11								
							12								
							13								
							14								
							15								
							16								
							17								
							18								

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