

Appendix D

Geotechnical logs and photographs






SOIL LOG SHEET

Client : Department of State Growth
Project : Phase 2: Site 5a Geotechnical Investigation and Landslide Risk Assessment
Location : Lyell Highway, Lk 60, ~ Ch 10.065, PD, 1.6 m from edge of seal

LOCATION No. BH5a_01

SHEET 1 OF 1

Position : 424030.0 E, 5325624.0 N MGA20\ **Surface RL :** 618.10m **Angle from Horiz. :** 90° **Processed :** Kia.I
Contractor : KMR Drilling **Rig Type :** HydroPower Scout MK IV **Checked :** AH
Date Started : 14 Apr 23 **Date Completed :** 14 Apr 23 **Logged by :** Kia.I **Date :** 21 Jul 23

DRILLING				MATERIAL					ADDITIONAL DATA				
SCALE (m)	Method	Hole Support	Run	Water	Depth/ (RL)metres	Graphic Log	Description Soil Name (USC Symbol) Other Minor Components, Plasticity or Particle Characteristics, Colour, Moisture Condition, Consistency, Structure	Group Symbol	Moisture Condition	Consistency / Relative Density	Samples & Tests	Comments/Observations Insitu test results	SCALE (m)
					0.15 (617.95)		ASPHALT					Possible ground up asphalt	
					1.00 (617.10)		FILL: Silty GRAVEL with silt, fine to medium, angular to subangular, dark grey/black, sand is fine to coarse grained, silt is low plasticity	GM	D	VD			
					1.45 (616.65)		FILL: Silty Sandy GRAVEL, fine to coarse, subangular to angular, high strength, brown/mottled orange, sand is fine to medium grained	GM	M - W	MD	SPT	SPT1 (1.0 - 1.45 m) 11/8/3 N = 11, Recovery=300mm	
					1.75 (616.35)		roots and rootlets						
					2.70 (615.40)		trace cobbles, colour change to dark brown to light brown, mottled orange, roots and rootlets, cobbles up to (70mm)				U63	U63 (2.5 - 2.95 m) Recovery=450mm Gravel at toe of U63	
					3.10		Start of coring at 3.1 metres. See Core Log Sheet for cored interval.				SPT	SPT2 (2.95 - 3.0 m) 20* Refusal N = Refusal, Recovery=50mm	
												Note: Groundwater level may not have reached equilibrium at the time of reading.	

Hollow Stem Auger

15/04/2023

GEO SOIL BOREHOLE LOG SHEET 12602827.GPJ_GHD_GEO_TEMPLATE_TASMANIA.GDT 24/7/23

See standard sheets for details of abbreviations & basis of descriptions



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Job No.
12602827

CORE LOG SHEET

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Project : Phase 2: Site 5a Geotechnical Investigation and Landslide Risk Assessment
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LOCATION No. BH5a_01

SHEET 1 OF 2

Position : 424030.0 E, 5325624.0 N MGA20\ **Surface RL :** 618.10m **Angle from Horiz. :** 90° **Processed :** Kia.I

Contractor : KMR Drilling **Rig Type :** HydroPower Scout MK IV **Checked :** AH

Date Started : 14 Apr 23 **Date Completed :** 14 Apr 23 **Logged by :** Kia.I **Date :** 21 Jul 23

DRILLING				MATERIAL						ADDITIONAL DATA				
SCALE (m)	Method	Run	Water	Depth/ (RL)metres	Graphic Log	Description ROCK TYPE, colour, grain size, structure (texture, mineral composition, hardness, alteration, cementation, etc. as applicable) and SOIL TYPE, colour, structure, minor components (origin)	Weathering	Estimated Strength	Core Recovery (%)	RQD (%)	Defect Spacing (mm)	Samples & Tests	Joints, partings, seams, zones and veins Fracture type, orientation, infilling or coating, shape, roughness, other Insitu test results	SCALE (m)
1														
2														
3				3.10 (615.00)		Start of coring at 3.1 metres. See Soil Log Sheet for soil interval. METASEDIMENT, fine to medium grained, pale green/grey	SW	M	0				3.1 m, Jt, 75°, So, Pln, Cn	
4	HQ Coring	1										PL	PL (3.3 m): Is(50) corrected = 0.76 Mpa	
4		2										PL	3.86 m, Jt, 35°, So, Ir, Cn PL (3.95 m): Is(50) corrected = 1.87 Mpa 4.03 m, Jt, 40°, So, Un, Sn 4.13 m, Jt, 30°, So, Pln, Cn 4.26 m, Jt, 30°, So, Pln, Cn	
4		3											4.45 m, Jt, 25°, So, Cu, Sn 4.5 m, Jt, 20°, So, Ir, Cn	
5				4.85 (613.25)		Colour change to purple		VH					4.65 m, Jt, 10°, So, Ir, Cn 4.76 m, Jt, 60°, So, Un, Cn 4.92 m, Jt, 50°, So, St, Cn	

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GEO CORE LOG SHEET 12602827.GPJ GHD_GEO_TEMPLATE_TASMANIA.GDT 24/7/23

CORE LOG SHEET

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Project : Phase 2: Site 5a Geotechnical Investigation and Landslide Risk Assessment
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LOCATION No. BH5a_01

SHEET 2 OF 2

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SCALE (m)	Method	Run	Water	Depth/ (RL)metres	Graphic Log	Description ROCK TYPE, colour, grain size, structure (texture, mineral composition, hardness, alteration, cementation, etc. as applicable) and SOIL TYPE, colour, structure, minor components (origin)	Weathering	Estimated Strength	Core Recovery (%)	RQD (%)	Defect Spacing (mm)	Samples & Tests	Joints, partings, seams, zones and veins Fracture type, orientation, infilling or coating, shape, roughness, other Insitu test results	SCALE (m)
	HQ Coring	4		5.90 (612.20)		Colour change to grey	H		72			PL	5.14 m, Jt, 38°, So, Ir, Fe, Sn PL (5.2 m): Is(50) corrected = 4.67 Mpa 5.28 m, Jt, 70°, So, Pln, Fe, Sn 5.41 m, Jt, 75°, So, Pln, Fe, Sn 5.45 m, Jt, 15°, So, Pln, Fe, Sn 5.5 m, Jt, 10°, So, Pln, Fe, Sn 5.53 m, Jt, 10°, So, Pln, Fe, Sn	
		5		7.10 (611.00)		Colour change to dark brown/pale grey	HW		80	100		PL	5.87 m, Jt, 12°, So, Pln, Fe, Sn 5.91 m, Jt, 35°, So, Pln, Fe, Sn 6.1 m, Jt, 80°, So, Cu, Fe, Sn 6.32 m, Jt, 80°, So, Cu, Fe, Sn 6.61 m, Jt, 20°, So, Pln, Cn 7.1 - 7.2 m, Too disturbed to log defects Fe, Sn, medium strength 7.33 m, Jt, 8°, So, Pln, Cn 7.41 m, Jt, 10°, So, Pln, Cn 7.45 - 7.56 m, Csm 7.61 m, Jt, 80°, So, Pln, Cn 7.7 m, Jt, 80°, So, Pln, Cn 7.8 m, Jt, 45°, So, Pln, Cn	
		6		8.20 (609.90)		Target depth reached End of hole at 8.2 metres.						PL PL	PL (7.9-7.95 m): Is(50) corrected = 1.07 Mpa PL (7.95 m): Is(50) corrected = 1.13 Mpa	
													Standpipe installed on completion. 0.0 to 0.3 m - Grout 0.3 to 1.1 m - Bentonite 1.1 to 3.1 m - Sand 1.6 to 3.1 m - Screen 3.1 to 8.2 m - Bentonite	

GEO CORE LOG SHEET 12602827.GPJ GHD_GEO_TEMPLATE_TASMANIA.GDT 24/7/23

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SPT1(1.0-1.45m) 11/8/3 N=11 R=300mm




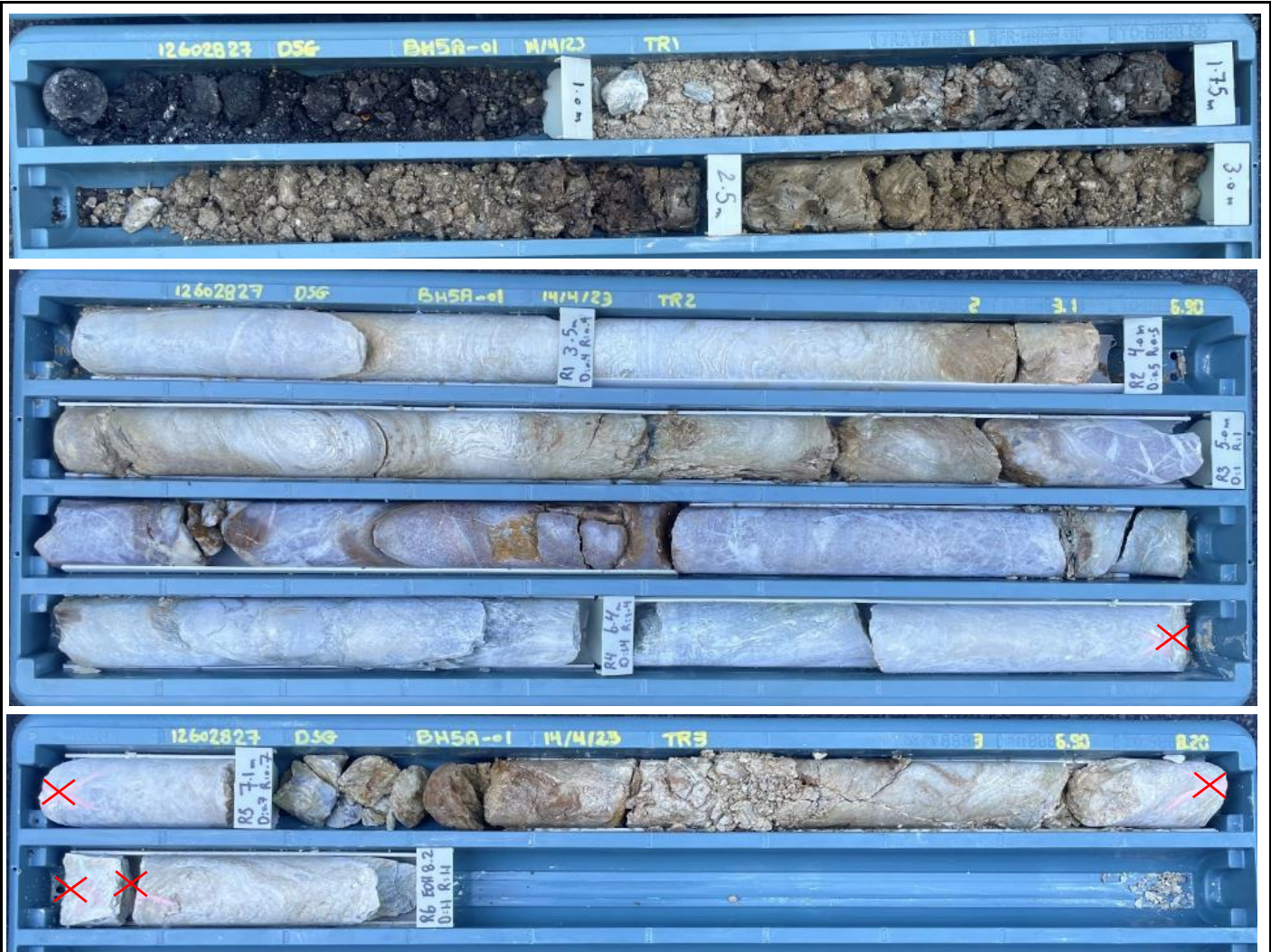
U63 (2.5-2.95) No Penetration R=450mm

Hit the rock




SPT2(2.95m) 20* N=refusal R=300mm

Prepared By Kia.I	Date 24-Apr-23	Job Number 12602827	A4	Title Photographic Log BH5a_01	Client DSG	
Revision A	Date				Project DSG - Land Slide Options Analysis	
					Figure No	



✗ indicates drilling/handling break

Prepared By Kia.I	Date 24-Apr-23	Job Number 12602827	Title Photographic Log BH5a_01	Client DSG	
Revision A	Date			Project DSG - Land Slide Options Analysis	
				Figure No	

SOIL LOG SHEET

Client : Department of State Growth
Project : Phase 2: Site 5a Geotechnical Investigation and Landslide Risk Assessment
Location : Lyell Highway, Lk 60, ~ Ch 10.042, PD, 1.0 m from edge of seal

LOCATION No. BH5a_02

SHEET 1 OF 1

Position : 424046.0 E, 5325640.0 N MGA20\ **Surface RL :** 619.70m **Angle from Horiz. :** 90° **Processed :** Kia.I

Contractor : KMR Drilling **Rig Type :** HydroPower Scout MK IV **Checked :** AH

Date Started : 14 Apr 23 **Date Completed :** 15 Apr 23 **Logged by :** Kia.I **Date :** 21 Jul 23

DRILLING					MATERIAL					ADDITIONAL DATA			
SCALE (m)	Method	Hole Support	Run	Water	Depth/ (RL)metres	Graphic Log	Description Soil Name (USC Symbol) Other Minor Components, Plasticity or Particle Characteristics, Colour, Moisture Condition, Consistency, Structure	Group Symbol	Moisture Condition	Consistency / Relative Density	Samples & Tests	Comments/Observations Insitu test results	SCALE (m)
					0.15 (619.55)		ASPHALT						
					0.40 (619.30)		FILL: Sandy GRAVEL with silt, fine to coarse, angular to subangular, yellow/orange, sand is fine to medium grained, silt is low plasticity Colour change to grey	GP-GM	D	VD			
					0.60 (619.10)		FILL: Silty GRAVEL, fine to coarse, angular to subangular, dark grey to black, silt is low plasticity, metapelite	GM	D	VD			
1					1.10 (618.60)		silt is low to high plasticity, dark grey to black, trace rootlets	GM	M	L	SPT	SPT1 (1.1 - 1.55 m) 5/1/2 N = 3, Recovery=450mm	1
					1.55 (618.15)		FILL: SILT with sand, trace gravel, high plasticity, dark grey to black, sand is fine to medium grained, gravel is fine to medium, angular to subangular, W>PL, wood fragments, roots	MH	M	S-F	U63	U63 (1.55 - 2.0 m) Recovery=300mm piece of wood at the bottom of tube	
2					1.95 (617.75)		FILL: Clayey Gravelly SAND, fine to medium grained, grey to dark grey, clay is medium to high plasticity, gravel is fine to coarse, angular to subangular, roots and wood fragments	SC	M	L			
					2.20 (617.50)		dark grey to black, trace rootlets					penetration slow @ 2.2m possible penetration through weathered rock	
					2.30		Start of coring at 2.3 metres. See Core Log Sheet for cored interval.						

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CORE LOG SHEET

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LOCATION No. BH5a_02

SHEET 2 OF 2

Position : 424046.0 E, 5325640.0 N MGA20\ **Surface RL :** 619.70m **Angle from Horiz. :** 90° **Processed :** Kia.I

Contractor : KMR Drilling **Rig Type :** HydroPower Scout MK IV **Checked :** AH

Date Started : 14 Apr 23 **Date Completed :** 15 Apr 23 **Logged by :** Kia.I **Date :** 21 Jul 23

DRILLING				MATERIAL						ADDITIONAL DATA	
SCALE (m)	Method	Run	Water	Description ROCK TYPE, colour, grain size, structure (texture, mineral composition, hardness, alteration, cementation, etc. as applicable) and SOIL TYPE, colour, structure, minor components (origin)	Weathering	Estimated Strength	Core Recovery (%)	RQD (%)	Defect Spacing (mm)	Samples & Tests	SCALE (m)
							20 80	20 40 100 300 1000			
6	HQ Coring	4						100		PL	4.94 m, Jt, 20°, So, Pln, Cn 4.97 - 5.01 m, Csm PL (5.0-5.36 m): Is(50) corrected = 1.73 Mpa 5.05 m, Jt, 8°, So, Pln, Cn 5.2 - 5.65 m, Too disturbed to log defects
6		5									5.73 m, Jt, 80°, So, Pln, Cn 5.84 m, Jt, 15°, So, Pln, Cn 5.96 m, Jt, 10°, So, Pln, Cn 6.08 m, Jt, 80°, So, Pln, Cn 6.22 m, Jt, 10°, So, Pln, Cn 6.44 m, Jt, 50°, So, Pln, Cn 6.55 m, Jt, 10°, So, Pln, Cn
7		6				VH				PL	6.81 m, Jt, 50°, So, Pln, Cn 6.91 m, Jt, 45°, So, Pln, Cn PL (7.15 m): Is(50) corrected = 5.14 Mpa 7.2 m, Jt, 80°, So, Pln, Cn 7.3 m, Jt, 80°, So, Pln, Cn 7.38 m, Jt, 80°, So, Un, Cn 7.46 m, Jt, 10°, So, Un, Cn
8				7.70 (612.00)	Target depth reached End of hole at 7.7 metres.						Standpipe installed on completion. 0.0 to 0.3 m - Grout 0.3 to 0.6 m - Bentonite 0.6 to 2.3 m - Sand 0.8 to 2.3 m - Screen 2.3 m to collapse - Bentonite

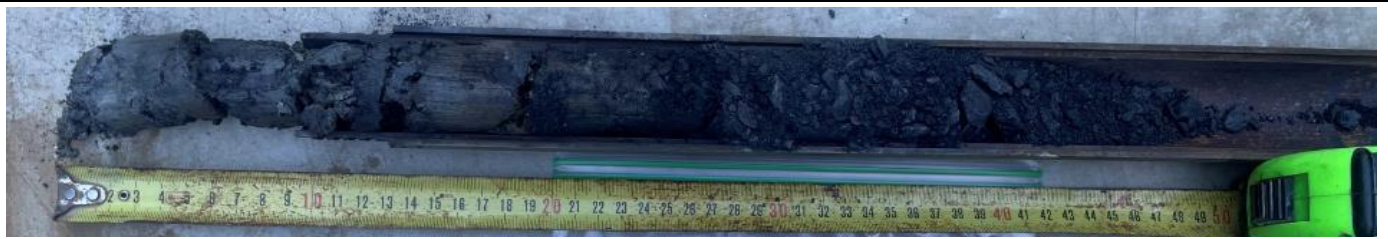
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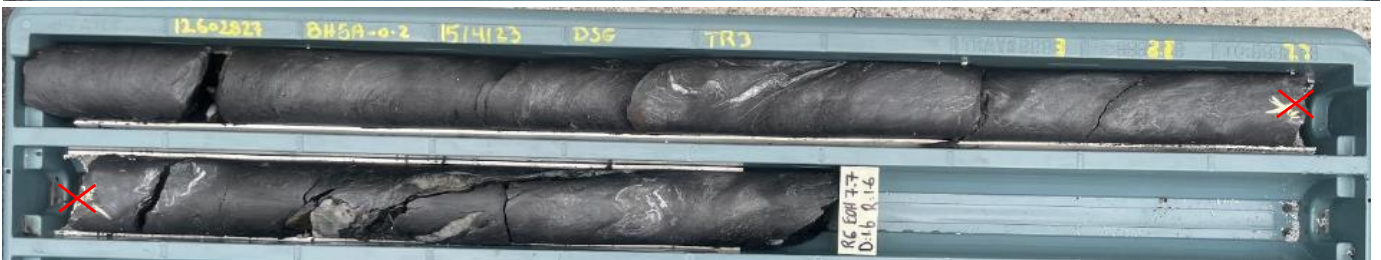



SPT1(1.0-1.45m) 5/1/2 N=3 R=450mm



U63 (1.5-1.95) PP>550Kpa R=300mm

Piece of wood at the bottom of the tube



Prepared By Kia.I	Date 24-Apr-23	Job Number 12602827	Title Photographic Log BH5a_02	Client DSG	
Revision A	Date	A4		Project DSG - Land Slide Options Analysis	
				Figure No	