Multiple

Jacobs	**Client:** Tasmanian Networks	**Title:** HB-BH06-C	
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 3/6

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HB-BH06-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 4/6

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HB-BH06-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 5/6

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HB-BH06-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 6/6

Engineering Log - Excavation

HBLF-BH01-C

Project: Heybridge Converter Station
Page: 1 of 5
Client:
Location: Heybridge Landside Landfall Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414163.8 m	**Elevation:**	5.43 m	**Started:**	08/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452650.9 m	**Datum:**	AHD	**Finished:**	09/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
HA			D	5	0.5		SAND: fine to medium grained, dark grey black; trace silt; with rootlets *0.10m: colour becoming pale yellow brown, trace silt* *0.50m: reduced silt content*	M	L		MARINE DEPOSITS
			SPT N=5 2,2,3		1.0						
				4	1.5						
			D		2.0		*1.75m: sand becoming fine to coarse grained, minor coarse grained content*				
		▼		3	2.5						
			SPT N=27 3,10,17				Gravelly SAND: fine to coarse grained, brown, fine to medium grained, sub-angular to rounded gravel; trace low plasticity silt	W	MD		
			D	2	3.5				D		
							Continued as cored hole from 3.50m				
				1	4.5						
				0	5.5						
				-1	6.5						
				-2	7.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

Jacobs Engineering Log - Cored Borehole

HBLF-BH01-C

Project: Heybridge Converter Station **Page:** 2 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414163.8 m	**Elevation:**	5.43 m	**Started:**	08/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452650.9 m	**Datum:**	AHD	**Finished:**	09/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

DRILLING				MATERIAL SUBSTANCE			ROCK MASS DEFECTS				
Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○ - Diametral	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm)	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)
					Starting coring from 3.50 m							
HQ3	20	5	0.5		GRAVEL: fine to coarse grained, sub-angular to sub-rounded, pale grey (Quartzwacke and Quartz)							
		4	1.0		QUARTZWACKE: fine grained, grey with minor yellow staining; medium bedded; slightly weathered; high to extemely high strength	SW			0	100		JT, 35°, PR, RF, SN, (Fe), x2 JT, 60°, UN, RF, SN, (Fe), x2 JT, 30°, PR, RF, VNR, (clay), x2
			1.5		*4.10m: colour becoming grey with very minor white streaking*							
			2.0						83	100		JT, 30°, PR, RF, SN, (Fe), x2 JT, 30°, UN, RF, SN, (Fe)
		3	2.5									
			3.0									
		2	3.5									
			4.0									FZ FZ
		1	4.5						49	100		JT, 10°, UN, RF, CN JT, 10°, UN, RF, CN BP, 50°, PR, RF, CN, x13
			5.0									JT, 10°, UN, RF, CN JT, 80°, UN, RF, CN
		0	5.5									
			6.0			FR						
		-1	6.5						40	100		JT, 5°, UN, RF, CN BP, 45°, PR, RF, CN, x7 JT, 80°, PR, RF, CN
			7.0					a=6.90				JT, 30°, UN, RF, CN JT, 30°, UN, RF, CN, x3
		-2	7.5						47	100		BP, 40°, PR, RF, CN, x4 JT, 50°, UN, RF, CN BP, 30°, PR, RF, CN, disturbed by drilling JT, 15°, UN, RF, CN JT, 80°, UN, RF, CN

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)

= Water inflow

WEATHERING

RS	residual soil
XW	extremely weathered
HW	highly weathered
DW	distinctly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

ROCK STRENGTH (Is50 MPa)

0.03-0.1	Very Low (VL)
0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH01-C

Project: Heybridge Converter Station **Page:** 3 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414163.8 m	**Elevation:**	5.43 m	**Started:**	08/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452650.9 m	**Datum:**	AHD	**Finished:**	09/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

DRILLING				MATERIAL SUBSTANCE		ROCK MASS DEFECTS				
Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○ - Diametral VL 0.1 L 0.3 M 1 H 3 VH 10 EH	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm) 20 60 200 600 2000	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)
HQ3	20	-3	8.5		QUARTZWACKE: fine grained, grey with minor yellow staining; medium bedded; slightly weathered; high to extemely high strength				41	100		BP, 40°, PR, RF, CN BP, 40°, PR, RF, CN, x4 BP, 40°, PR, RF, CN BP, 40°, PR, RF, CN BP, 40°, PR, RF, CN JT, 5°, PR, RF, CN JT, 20°, PR, RF, CN
			9.0									JT, 90°, PR, RF, CN JT, 20°, PR, RF, CN
		-4	9.5					a=5.00	25	100		BP, 30°, PR, RF, CN, x5 JT, 45°, IR, RF, CN JT, 5°, PR, RF, CN JT, 45°, PR, RF, CN JT, 70°, PR, RF, CN JT, 20°, UN, RF, CN BP, 30°, PR, RF, CN
			10.0									JT, 20°, UN, RF, Filled, (sand)
		-5	10.5		*10.54m: minor yellow staining*	FR			0	100		JT, 45°, IR, RF, CN JT, 30°, UN, RF, VNR, (clay) BP, 40°, PR, RF, CN, disturbed by drilling
			11.0									FZ, disturbed by drilling BP, 30°, UN, RF, VNR, (clay)
		-6	11.5						0	100		BP, 30°, PR, RF, SN, (Fe), x6 JT, 30°, UN, RF, CN JT, 60°, PR, RF, CN BP
			12.0									BP, 40°, PR, RF, CN, x4 BP, 40°, PR, RF, CN FZ, disturbed by drilling JT, 45°, PR, RF, CN JT, 30°, UN, RF, CN JT, 50°, PR, RF, CN, subverticle
		-7	12.5					a=12.00	26	100		JT, 20°, UN, RF, CN JT, 30°, UN, RF, CN JT, 20°, PR, RF, CN BP, 45°, PR, RF, CN
			13.0		*12.96m: minor yellow staining*							JT, 30°, PR, RF, CN BP, 40°, PR, RF, CN JT, 30°, PR, RF, Filled, (sand and gravel)
	40					SW						JT, 30°, PR, RF, CN BP, 30°, PR, RF, CN, x4 FZ, disturbed by drilling
		-8	13.5						0	100		JT, 60°, PR, RF, SN, (Fe) JT, 20°, IR, RF, CN JT, 30°, PR, RF, CN
					13.70m: reduced yellow staining							JT, 25°, PR, RF, CN BP, 40°, PR, RF, SN, disturbed by drilling
			14.0		*14.10m: calcite/carbonate deposits*				10	100		JT, 70°, PR, RF, SN, (Fe) BP, 30°, PR, RF, CN, x4 JT, 15°, IR, RF, CN, x3 JT, 10°, UN, RF, CN
		-9	14.5			FR						BP, 30°, PR, RF, CN JT, 45°, UN, RF, CN JT, 60°, UN, RF, CN
					14.70m: minor yellow staining							
			15.0									BP, 40°, PR, RF, CN, disturbed by drilling
		-10	15.5						28	100		JT, 60°, IR, RF, CN BP, 35°, PR, RF, CN, disturbed by drilling
					15.50m: colour becoming pale grey with yellow brown staining	SW						JT, 90°, UN, RF, SN, (Fe) BP, 40°, PR, RF, CN
					15.80m: increased yellow brown staining with minor dark brown staining							JT, 10°, UN, RF, SN, (Fe) JT, 30°, IR, RF, SN, (Fe)

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)

= Water inflow

WEATHERING

RS	residual soil
XW	extremely weathered
HW	highly weathered
DW	distinctly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

ROCK STRENGTH (Is50 MPa)

0.03-0.1	Very Low (VL)
0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH01-C

Project: Heybridge Converter Station **Page:** 4 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414163.8 m	**Elevation:**	5.43 m	**Started:**	08/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452650.9 m	**Datum:**	AHD	**Finished:**	09/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○ - Diametral	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm)	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)	General
HQ3	40	-11	16.5		QUARTZWACKE: fine grained, grey with minor yellow staining; medium bedded; slightly weathered; high to extemely high strength	SW						BP, 40°, PR, RF, CN SM, sand and sub-angular to angular gravel JT, 10°, UN, RF, SN, (Fe) JT, 30°, UN, RF, SN, (Fe), x2	
			17.0					d=0.60	34	100		BP, 20°, PR, RF, CN, x4 BP, 30°, PR, RF, CN JT, 10°, IR, RF, CN JT, 60°, PR, RF, CN, x2 JT, 30°, PR, RF, SN, (Fe) JT, 60°, UN, RF, CN	
		-12	17.5		*17.56m: quartz/calcite deposit*							CS, 45°, sand and sub-agular to angular gravel BP, 30°, PR, RF, SN, (Fe) JT, 70°, IR, RF, SN, (Fe) JT, 60°, UN, RF, CN JT, 50°, UN, RF, CN	
			18.0						18	100		BP, 40°, PR, RF, SN, (Fe) JT, 80°, UN, RF, CN JT, 45°, PR, RF, SN, (Fe) JT, 35°, IR, RF, SN, (Fe) JT, 5°, UN, RF, SN, (Fe) JT, 60°, UN, RF, SN, (Fe) JT, 30°, UN, RF, SN, (Fe)	
		-13	18.5					a=3.10				JT, 20°, PR, RF, SN, (Fe), x2 JT, 30°, UN, RF, SN, (Fe)	
			19.0		CORELOSS							JT, 35°, PR, RF, SN, (Fe)	
					QUARTZWACKE: fine grained, pale grey with minor yellow staining and dark brown streaking; thinly to medium bedded; slightly weathered; very high strength	SW			24	92		JT, 50°, PR, RF, CN JT, 30°, UN, RF, CN JT, 50°, UN, RF, Filled, (sand)	
		-14	19.5									JT, 10°, IR, RF, CN BP, 30°, PR, RF, CN JT, 40°, IR, RF, Filled, sand, sub-angular to sub-rounded gravel	
			20.0					a=0.36 d=1.70	21	100		JT, 10°, IR, RF, CN JT, 70°, PR, RF, CN JT, 20°, UN, RF, CN BP, 30°, UN, RF, CN, x4 JT, 10°, UN, RF, SN, (Fe)	
					20.20m: very minor yellow staining							disturbed by drilling	
		-15	20.5									BP, 30°, UN, RF, CN, x11, 30, CN 60°, IR, RF, CN	
			21.0		*20.85m: highly bedded, colour becoming dark grey*	FR			0	100		BP, 40°, PR, RF, CN JT, 45°, PR, RF, CN BP, 60°, PR, RF, CN	
		-16	21.5									JT, 50°, PR, RF, CN JT, 0°, PR, RF, CN BP, 30°, PR, RF, CN, x4	
			22.0						23	76		JT, 90°, IR, RF, CN JT, 5°, PR, RF, CN JT, 40°, PR, RF, CN BP, 30°, PR, RF, CN, disturbed by drilling	
					CORELOSS							JT, 20°, UN, RF, CN	
		-17	22.5		QUARTZWACKE: fine grained, pale grey and white; thinly to medium bedded; fresh; medium to high strength *22.35m: calcite/carbonate seam colour becoming dark grey with minor white streaking*	FR						JT, 20°, IR, RF, CN FZ, disturbed by drilling	
					MUDSTONE: fine grained, dark grey and white streaking, thinly to medium bedded; medium strength *22.90m: colour becoming black*				10	86		JT, 45°, IR, RF, CN BP, 30°, PR, RF, CN	
			23.0		CORELOSS								
		-18	23.5		Gravelly CLAY: low plasticity, fine to medium grained, sub-angular to sub-rounded gravel, black MUDSTONE: fine grained, dark grey; laminated to very thinly bedded; fresh; medium to high strength *23.30m: colour becoming grey*	FR			0	100		FZ, disturbed by drilling FZ	
					CORELOSS								

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)

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ROCK STRENGTH (Is50 MPa)

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0.1-0.3	Low (L)
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DEFECT ABBREVIATIONS

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BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
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CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH01-C

Project: Heybridge Converter Station **Page:** 5 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414163.8 m	**Elevation:**	5.43 m	**Started:**	08/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452650.9 m	**Datum:**	AHD	**Finished:**	09/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

DRILLING				MATERIAL SUBSTANCE			ROCK MASS DEFECTS				
Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○ - Diametral VL 0.1 L 0.3 M 1 H 3 VH 10 EH	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm) 20 60 200 600 2000	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)
HQ3	40	-19	24.5		MUDSTONE: fine grained, dark grey; laminated to very thinly bedded; fresh; medium to high strength	FR			0	86		FZ, disturbed by drilling
					24.30m: colour becoming dark grey							BP, 30°, PR, RF, CN
			25.0						0	100		BP, 30°, PR, RF, CN SM, Calcite BP, 30°, PR, RF, CN
												FZ, disturbed by drilling
		-20	25.5						0	100		JT, 45°, PR, RF, CN BP, 30°, PR, RF, CN BP, 30°, PR, RF, CN, x7
			26.0						0	100		JT, 10°, IR, RF, CN JT, 70°, UN, RF, CN JT, 15°, UN, RF, CN BP, 20°, PR, RF, CN JT, 35°, PR, RF, CN JT, 35°, IR, RF, CN, x3
					CORELOSS							
		-21	26.5		MUDSTONE: fine grained, dark grey; thinly to medium bedded; fresh; high strength				0	86		JT, 20°, UN, RF, CN
					26.70m: CaCO3/calcite seam			a=0.64				BP, 50°, PR, RF, CN, x6
			27.0						23	100		BP, 50°, PR, RF, CN, disturbed by drilling FZ, disturbed by drilling
		-22	27.5		*27.35m: CaCO3/calcite seam*			a=4.00				BP, 50°, PR, RF, CN, x8
			28.0			FR			13	100		JT, 30°, IR, RF, CN, x9
		-23	28.5									JT, 80°, IR, RF, CN BP, 30°, PR, RF, CN JT, 80°, IR, RF, CN JT, 45°, PR, RF, CN FZ, disturbed by drilling
			29.0						17	100		BP, 40°, PR, RF, CN, disturbed by drilling
		-24	29.5									BP, 40°, PR, RF, CN, x4 BP, 40°, PR, RF, CN, x9, 30-40, CN CS, sand, fine grained, sub-angular to angular gravel
			30.0		Exploratory hole terminated at 30.00 m Target depth							CS, sand, fine grained, sub-angular to angular gravel JT, 30°, UN, RF, CN CS, clay, fine to coarse grained sand and fine grained, sub-angular to angular gravel
		-25	30.5									
			31.0									
		-26	31.5									

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
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3.0-10	Very High (VH)
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DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
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CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Engineering Log - Excavation

HBLF-BH02-C

Project: Heybridge Converter Station
Page: 1 of 5
Client:
Location: Heybridge Landside Landfall Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414287.2 m	**Elevation:**	5.11 m	**Started:**	10/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452577.0 m	**Datum:**	AHD	**Finished:**	11/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
HA		Not Observed	SPT N=R 3, 23/20mm	5	0.5		Silty GRAVEL: fine to medium grained, sub-angular to angular, red brown, low plasticity silt	D-M	MD		MARINE DEPOSITS
				4	1.0		SAND: fine grained, yellow brown; trace silt	M	L		
					1.5				D-VD		
							Continued as cored hole from 1.50m				
				3	2.0						
					2.5						
				2	3.0						
					3.5						
				1	4.0						
					4.5						
				0	5.0						
					5.5						
				-1	6.0						
					6.5						
				-2	7.0						
					7.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

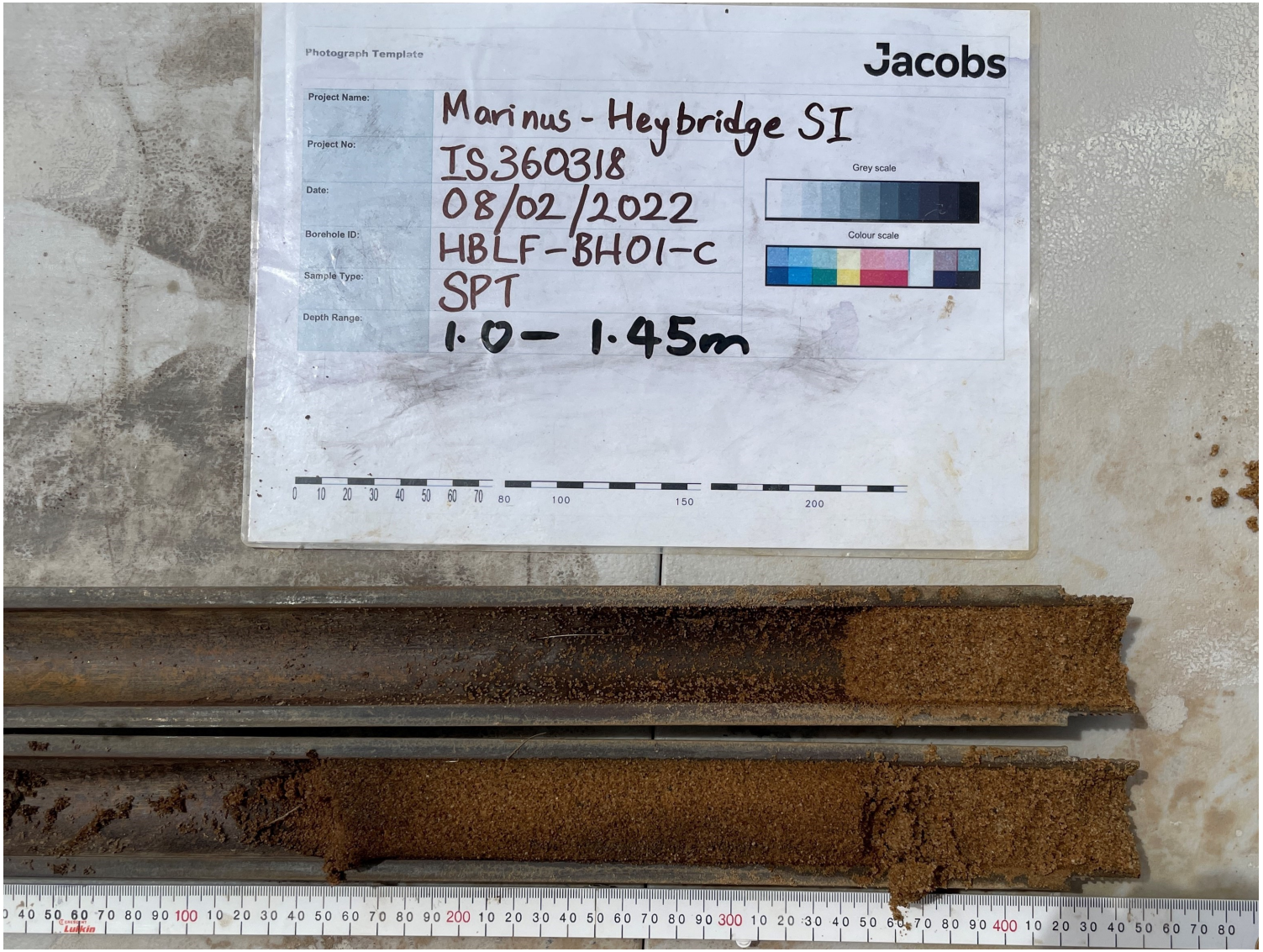
MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

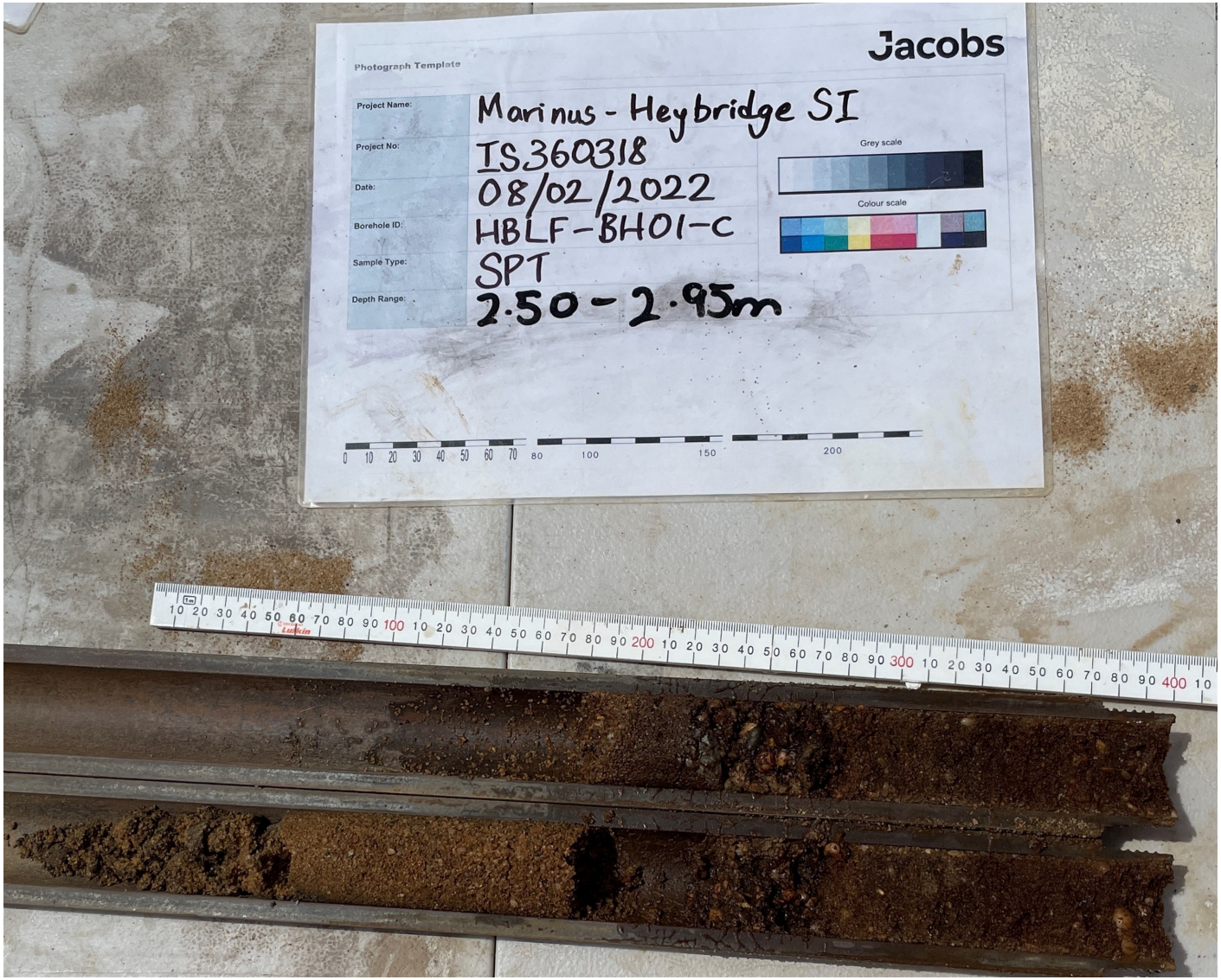
CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}



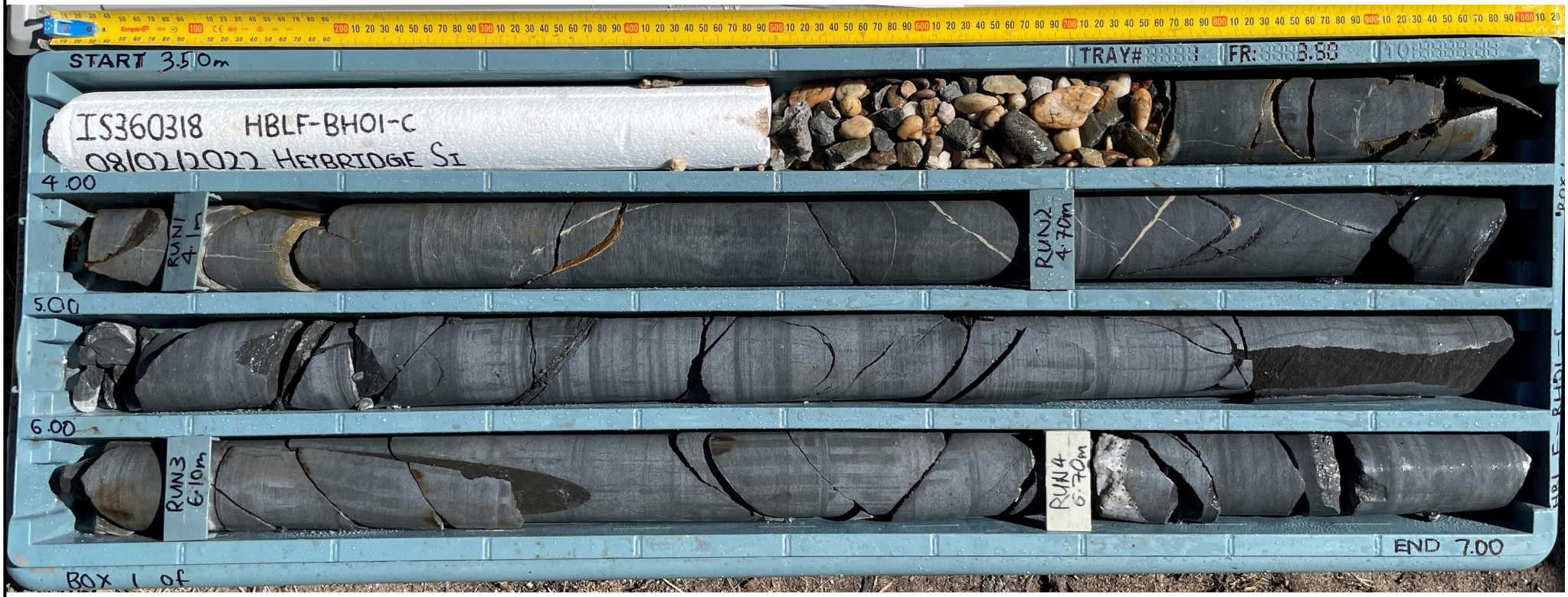
Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 1/9



Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS **Drawing Number:** 2/9

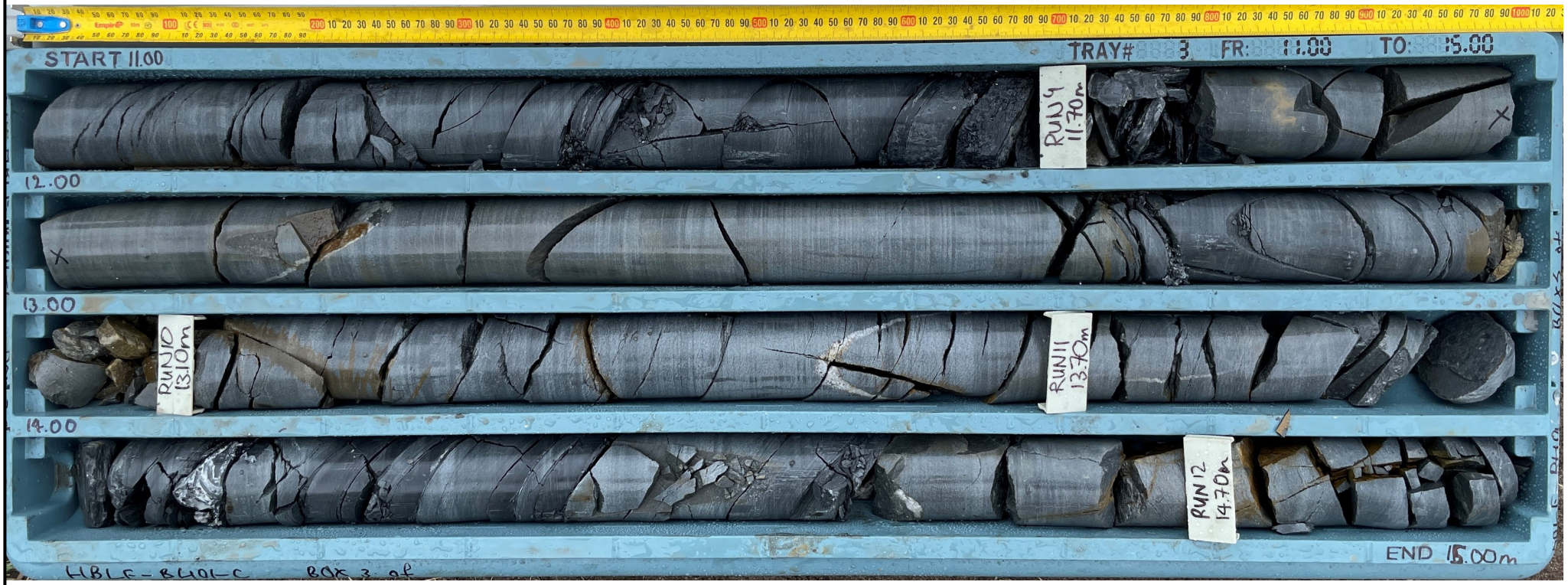


Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 3/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH01-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 4/9

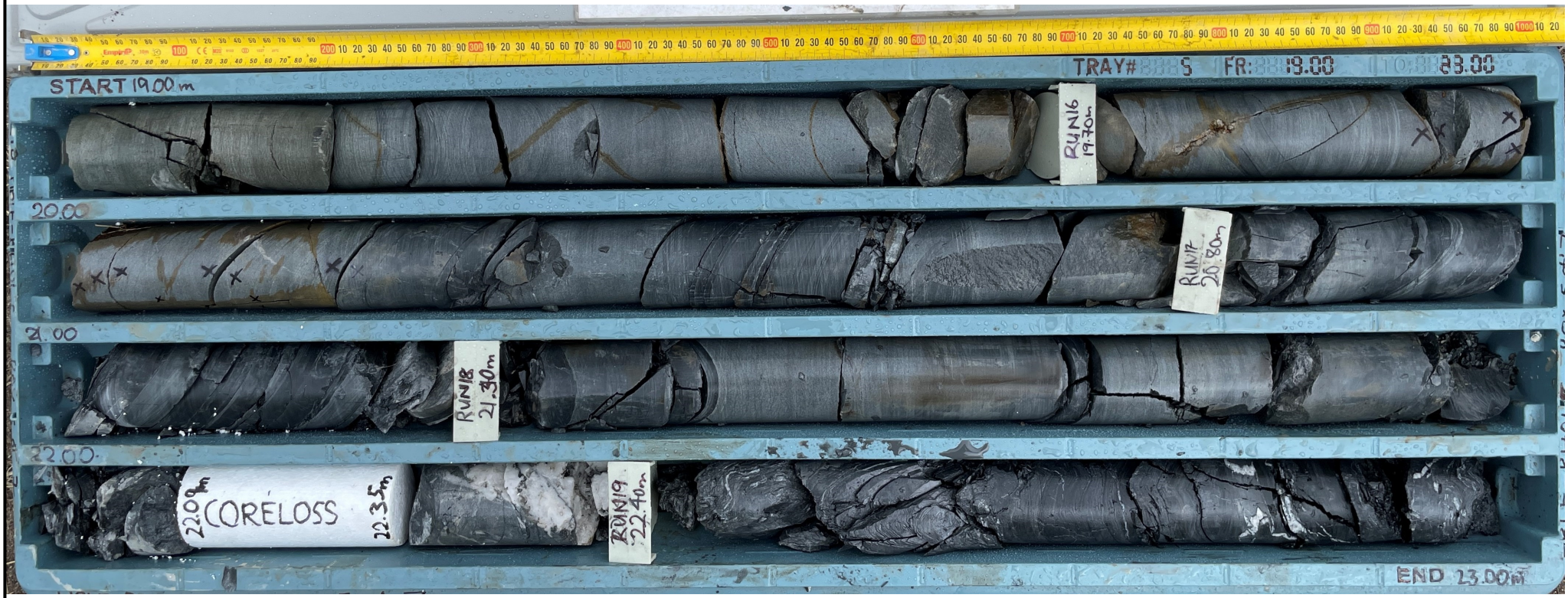


Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 5/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH01-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 6/9



Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 7/9

Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH01-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 8/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH01-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 9/9

Jacobs Engineering Log - Cored Borehole

HBLF-BH02-C

Project: Heybridge Converter Station **Page:** 2 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414287.2 m	**Elevation:**	5.11 m	**Started:**	10/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452577.0 m	**Datum:**	AHD	**Finished:**	11/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

DRILLING | MATERIAL SUBSTANCE | ROCK MASS DEFECTS

Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○- Diametral	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm)	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)	General
HQ3		5	0		Starting coring from 1.50 m								
			0.5										
		4	1.0						0	60			
			1.5		CORELOSS								
			2.0		GRAVEL: medium to coarse grained, sub-angular to angular, red brown	MW-HW						JT, 30°, UN, RF, SN, (Fe)	
		3			QUARTZWACKE: fine grained, red brown with yellow staining; medium bedded; moderately to highly weathered, medium strength							JT, 60°, PR, RF, SN, (Fe), x3	
												BP, 30°, PR, RF, SN, (Fe)	
			2.5		Extremely weathered QUARTZWACKE: Recovered as: Gravelly CLAY: low plasticity, grey mottled yellow brown, medium to coarse grained, sub-angular to angular gravel				63	100		JT, 60°, PR, RF, SN, (Fe) BP, 40°, PR, RF, SN, (Fe), x3 CS, clay, sand, fine to medium grained, sub-angular to angular gravel	
	20				QUARTZWACKE: fine grained, red brown with yellow staining; medium bedded; moderately to highly weathered, medium to high stregth							JT, 30°, UN, RF, SN, (Fe)	
		2	3.0		*2.50m: increased red and yellow staining* *2.70m: yellow and red staining decreasing*							JT, 90°, PR, RF, CN BP, 35°, PR, RF, CN, x7	
									13	100		JT, 35°, UN, RF, CN, x2	
			3.5		*3.47m: colour red brown with yellow/orange staining*							JT, 30°, UN, RF, CN	
					3.75m: reducing yellow and orange staining							JT, 90°, PR, RF, CN BP, 40°, PR, RF, CN, x4	
			4.0			MW-HW		a=2.10				BP, 50°, PR, RF, CN	
		1							64	100		JT, 15°, UN, RF, CN	
			4.5		*4.56m: colour becoming yellow brown* *4.62m: colour change to pale grey*							CS, sand, sub-angular to angular gravel and silt JT, 90°, PR, RF, CN	
												JT, 20°, PR, RF, CN	
		0	5.0		*5.00m: colour becoming yellow brown pale grey*							FZ, disturbed by drilling BP, 30°, PR, RF, CN, x5	
									0	100		FZ, disturbed by drilling	
			5.5									FZ	
												BP, 40°, PR, RF, CN, x5	
												JT, 60°, PR, RF, Filled, (Calcite)	
			6.0		CORELOSS							JT, 30°, IR, RF, CN	
	40	-1			QUARTZWACKE: fine grained, yellow brown pale grey; medium bedded; moderately weathered, high strength							FZ, disturbed by drilling FZ, disturbed by drilling	
			6.5			MW-HW			24	89		JT, 60°, PR, RF, CN JT, 80°, IR, RF, CN	
												JT, 30°, UN, RF, CN BP, 45°, PR, RF, CN, x5	
			7.0		CORELOSS				0	28			
		-2			QUARTZWACKE: fine grained, pale grey with yellow brown staining; medium bedded; moderately weathered; high strength	MW						FZ, disturbed by drilling	
			7.5		*7.34m: colour becoming pale grey with yellow brown staining*				0	100		BP, 40°, PR, RF, CN	
					7.87m: colour becoming pale grey with yellow brown staining							BP, 50°, PR, RF, CN, x5 JT, 60°, ST, RF, CN JT, 60°, PR, RF, CN	

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)

= Water inflow

WEATHERING

RS	residual soil
XW	extremely weathered
HW	highly weathered
DW	distinctly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

ROCK STRENGTH (Is50 MPa)

0.03-0.1	Very Low (VL)
0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH02-C

Project: Heybridge Converter Station **Page:** 3 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414287.2 m	**Elevation:**	5.11 m	**Started:**	10/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452577.0 m	**Datum:**	AHD	**Finished:**	11/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○- Diametral	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm)	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)	General
HQ3	40	-3	8.5		QUARTZWACKE: fine grained, pale grey with yellow brown staining; medium bedded; moderately weathered; high strength *8.00m: colour becoming pale grey with red staining* *8.40m: colour becoming red brown with orange staining*	SW-MW MW		a=2.30	42	100		JT, 90°, PR, RF, CN, x2, JT, 30°, UN, RF, CN, x4 CS, sand, fine to medium grained, sub-angular to angular gravel BP, disturbed by drilling	
		-4	9.0		*9.20m: colour becoming dark grey with minor yellow staining* *9.36m: colour becoming pale grey with red and yellow brown staining* *9.45m: colour becoming yellow brown*	SW-MW			14	100		BP, 45°, PR, RF, CN, multiple BPs FZ, disturbed by drilling BP, 45°, PR, RF, CN, x7 JT, 60°, UN, RF, CN, x3 JT, 90°, PR, RF, SN, (Fe) JT, 45°, UN, RF, SN, (Fe)	
			9.5										
			10.0		*9.85m: colour changing to pale grey with minor yellow staining*				16	77		JT, 30°, PR, RF, SN, (Fe), x2 BP, 45°, PR, RF, CN, x6	
		-5			*10.10m: colour changing to yellow brown*	MW							
					CORELOSS								
			10.5		QUARTZWACKE: fine grained, yellow brown; thinly to medium bedded; moderately weathered; high to very high strength *10.70m: colour changing to red brown with yellow staining*			a=7.20	25	100		FZ, disturbed by drilling CS, silt BP, 30°, PR, RF, CN, x3 JT, 75°, PR, RF, CN JT, 10°, IR, RF, CN FZ, disturbed by drilling	
			11.0		*11.13m: colour changing to pale grey with red brown staining* *11.30m: colour changing to yellow brown*	MW			53	100		BP, 45°, PR, RF, CN, x4 JT, 35°, IR, RF, CN JT, 20°, UN, RF, CN JT, 30°, UN, RF, SN, (Fe) JT, 60°, UN, RF, SN, (Fe)	
		-6	11.5										
			12.0		*11.90m: colour becoming pale grey with minor yellow staining*				60	100		JT, 40°, UN, RF, CN, x3 BP, 45°, PR, RF, CN	
		-7	12.5		*12.20m: colour becoming yellow brown* *12.53m: colour becoming pale grey with yellow brown staining*				24	100		FZ, disturbed by drilling	
			13.0		*13.00m: colour becoming red brown*	MW						JT, 40°, UN, RF, CN, x3 JT, 60°, PR, RF, SN, (Fe) JT, 20°, UN, RF, CN FZ, disturbed by drilling	
		-8	13.5						56	100		JT, 45°, IR, RF, SN, (Fe) JT, 30°, UN, RF, SN, (Fe) JT, 30°, PR, RF, SN, (Fe) BP, 45°, PR, RF, CN, x2	
					CORELOSS								
			14.0		QUARTZWACKE: fine grained, dark grey; thinly to medium bedded; moderately weathered; high to very high strength *13.80m: colour changing to dark grey*	FR			34	92		BP, 30°, PR, RF, CN, x3 JT, 20°, UN, RF, CN, x2 CS, fine to medium grained, sub-angular to angular gravel JT, 60°, UN, RF, SN, (Fe), x2 JT, 20°, UN, RF, CN FZ, disturbed by drilling	
		-9	14.5		*14.34m: colour changing to red brown with yellow brown staining*	MW							
					CORELOSS								
			15.0		QUARTZWACKE: fine grained; red brown with yellow brown staining; thinly to medium bedded; moderately weathered; high strength				0	78		FZ, disturbed by drilling BP, 30°, PR, RF, CN, x3	
		-10	15.5		*15.37m: colour becoming pale grey with red brown and yellow brown staining*	MW						CS, fine to medium grained, sub-angular to angular gravel JT, 60°, PR, RF, SN, (Fe) JT, 45°, IR, RF, SN, (Fe) JT, 30°, PR, RF, SN, (Fe) FZ, disturbed by drilling	
						HW MW							

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)

= Water inflow

WEATHERING

RS	residual soil
XW	extremely weathered
HW	highly weathered
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MW	moderately weathered
SW	slightly weathered
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ROCK STRENGTH (Is50 MPa)

0.03-0.1	Very Low (VL)
0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH02-C

Project: Heybridge Converter Station **Page:** 4 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414287.2 m	**Elevation:**	5.11 m	**Started:**	10/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452577.0 m	**Datum:**	AHD	**Finished:**	11/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

DRILLING				MATERIAL SUBSTANCE			ROCK MASS DEFECTS				
Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○ - Diametral	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm)	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)
HQ3	40	-11	16.5		QUARTZWACKE: fine grained; red brown with yellow brown staining; thinly to medium bedded; moderately weathered; high strength *16.00m: colour changing to red brown* *16.10m: colour changing to pale grey with yellow brown and red brown staining*	MW		a=4.90	11	100		JT, 10°, UN, RF, SN, (Fe) BP, 20°, PR, RF, SN, (Fe), x2 JT, 60°, UN, RF, SN, (Fe), x6 SM, 20°, fine to medium grained, angular gravel
					CORELOSS							
		-12	17.0		QUARTZWACKE: fine grained, pale grey with yellow brown and red brown staining; thinly to medium bedded; moderately weathered; high strength				0	74		FZ, disturbed by drilling JT, 30°, UN, RF, SN, (Fe) BP, 40°, PR, RF, SN, (Fe), x2 JT, 40°, PR, RF, VNR, (Sand), x2 FZ, disturbed by drilling
			17.5					d=1.30				JT, 30°, UN, RF, SN, (Fe), x2 JT, 40°, PR, RF, SN, (Fe), x2
		-13	18.0		*17.75m: colour becoming pale grey with yellow brown and red brown staining*	SW-MW			47	100		BP, 45°, PR, RF, SN, (Fe), x7 FZ, disturbed by drilling JT, 30°, UN, RF, CN, x2
			18.5		*18.45m: colour changing to dark grey with red brown staining*			a=2.20				JT, 30°, PR, RF, SN, (Fe) JT, 40°, IR, RF, SN, (Fe) BP, 30°, PR, RF, SN, (Fe), x6
			19.0		*18.78m: colour changing to red brown with yellow staining* *19.10m: colour becoming grey yellow brown with minor red staining*	MW			17	100		BP, 40°, PR, RF, CN, disturbed by drilling CS, medium grained gravel JT, 20°, UN, RF, SN, (Fe) JT, 45°, UN, RF, SN, (Fe)
		-14	19.5		*19.35m: increased yellow brown staining*							BP, 45°, PR, RF, CN, x2 BP, 45°, PR, RF, CN, multiple BPs
		-15	20.0			MW-HW			0	100		JT, 60°, IR, RF, SN, (Fe), x3 JT, 40°, PR, RF, SN, (Fe), x5
			20.5									FZ, disturbed by drilling FZ, disturbed by drilling
		-16	21.0		*20.60m: colour changing to red brown with yellow brown staining* *20.75m: colour changing to dark brown with yellow staining* *21.00m: colour becoming pale grey with orange brown staining* *21.20m: colour becoming pale grey with red brown staining with minor yellow brown staining*	HW			0	100		BP, 30°, PR, RF, SN, (Fe), multiple BPs JT, 45°, PR, RF, SN, (Fe) JT, 50°, PR, RF, SN, (Fe) JT, 30°, UN, RF, Filled, (calcite)
			21.5			MW			43	100		BP, 45°, PR, RF, SN, (Fe) BP, 45°, PR, RF, SN, (Fe) BP, 40°, PR, RF, SN, (Fe), disturbed by drilling BP, 40°, PR, RF, SN, (Fe), x3
		-17	22.0									JT, 50°, UN, RF, SN, (Fe)
			22.5									FZ, disturbed due to drilling JT, 70°, PR, RF, SN, (Fe) BP, 30°, PR, RF, CN, multiple
					Extremely weathered QUARTZWACKE: Recovered as Clayey SILT: low to medium plasticity, pale grey mottled red brown; with fine to coarse grained sand; with fine grained, sub-angular to angular gravel	XW						
		-18	23.0		QUARTZWACKE: fine grained, pale grey with red brown staining with minor yellow brown staining; thinly to medium bedded; moderately weathered; medium to high strength	MW			14	80		BP, 30°, PR, RF, SN, (Fe) JT, 40°, ST, RF, SN, (Fe) FZ
			23.5		*23.64m: colour becoming grey yellow brown with red brown staining*							BP, 45°, PR, RF, SN, (Fe) JT, 45°, UN, RF, SN, (Fe)
					Extremely Weathered QUARTZWACKE: Recovered as Gravelly CLAY: low plasticity, yellow brown mottled dark brown, medium grained, sub-angular to sub-rounded gravel							JT, 45°, UN, RF, SN, (Fe) JT, 85°, PR, RF, SN, (Fe)

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)
= Water inflow

WEATHERING

RS	residual soil
XW	extremely weathered
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ROCK STRENGTH (Is50 MPa)

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0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
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SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	

Jacobs Engineering Log - Cored Borehole

HBLF-BH02-C

Project: Heybridge Converter Station **Page:** 5 of 5

Client: **Location:** Heybridge Landside Landfall Site, Heybridge TAS **Project No:** IS360318 -1

Contractor:	Tasmanian Drilling	**Easting:**	414287.2 m	**Elevation:**	5.11 m	**Started:**	10/02/2022
Plant:	Hanjin D&B 8-D	**Northing:**	5452577.0 m	**Datum:**	AHD	**Finished:**	11/02/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

Method	Groundwater/ Water Loss (%)	RL (m)	Depth (m)	Graphic Log	Description of Strata ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, major defect type)	Weathering	Estimated Strength Is(50) (MPa) □ - Axial ○- Diametral VL 0.1 L 0.3 M 1 H 3 VH 10 EH	Point Load Strength Index Is(50) (MPa)	RQD (%)	TCR (%)	Defect Spacing (mm) 20 60 200 600 2000	Defect descriptions and additional observations (type, inclination, planarity, roughness, coating, thickness, other)	General
HQ3		-19	24.5		CORELOSS GRAVEL: medium grained, sub-angular to angular, pale grey brown QUARTZWACKE: fine grained, brown with minor black streaking; thinly to medium bedded; highly weathered; medium strength	HW		a=0.77	14	90		BP, 30°, PR, RF, SN, (Fe) JT, 30°, UN, RF, SN, (Fe), x3	
		-20	25.0		Extremely Weathered QUARTZWACKE: Recovered as Gravelly SILT: low plasticity, pale grey brown, fine grained, sub-angular to angular gravel; with fine to coarse grained sand CORELOSS				0	45			
			25.5		QUARTZWACKE: fine grained, orange grey brown; very thinly bedded; highly weathered; medium strength *25.34m: becoming pale grey with orange yellow staining*	MW-HW						FZ CS, fine grained gravel, sub-angular to angular JT, 30°, PR, RF, SN, (Fe), x5 BP, 40°, PR, RF, CN, disturbed by drilling	
	30	-21	26.0		CORELOSS				0	66			
			26.5		QUARTZWACKE: fine grained, pale grey with orange yellow staining; thinly bedded; moderately to highly weathered; medium to high strength *26.25m: colour becoming red brown with dark grey staining*	MW-HW						BP, 40°, PR, RF, SN, (Fe) BP, 40°, PR, RF, Filled, (Calcite) BP, 40°, PR, RF, SN, (Fe)	
		-22	27.0		CORELOSS MUDSTONE: fine grained, pale grey with yellow and red staining; thinly bedded; moderately weathered; high strength *26.79m: colour becoming dark grey with minor yellow staining*	MW SW MW			0	87 100		CS, fine to medium grained, sub-angular to angular gravel BP, 30°, PR, RF, SN, (Fe), x5 JT, 45°, UN, RF, SN, (Fe) JT, 30°, IR, RF, CN JT, 30°, UN, RF, CN, disturbed by drilling and multiple BPs JT, 40°, IR, RF, CN, multiple BPs BP, 30°, PR, RF, CN, x8	
			27.5		CORELOSS								
		-23	28.0		MUDSTONE: fine grained, pale brown grey with yellow and red staining; thinly bedded; moderately weathered, medium strength	MW		a=0.37 d=0.35	0 0 0	40 80 100		BP, 40°, PR, RF, CN, disturbed by drilling BP, 30°, PR, RF, CN, x2 FZ BP, 30°, PR, RF, CN, disturbed by drilling FZ BP, 40°, PR, RF, SN, (Fe)	
	20	-24	29.0		CORELOSS								
			29.5		Extremely weathered QUARTZWACKE: Recovered as GRAVEL: fine to coarse grained, angular to sub-angular, pale grey brown; with coarse grained sand QUARTZWACKE: fine grained, orange brown; thickly bedded; moderately weathered; very high strength	MW		a=1.00	48	82		FZ, disturbed by drilling CS, fine to medium grained, sub-angular to angular gravel JT, 45°, UN, RF, Filled, fine grained, sub-angular to sub-rounded gravel, black; with fine to coarse grained sand	
		-25	30.0		Exploratory hole terminated at 30.00 m Target depth								
			30.5										
		-26	31.0										
			31.5										

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (sound rock fraction only measured)

GROUNDWATER SYMBOLS

= Water level (static)
= Water inflow

WEATHERING

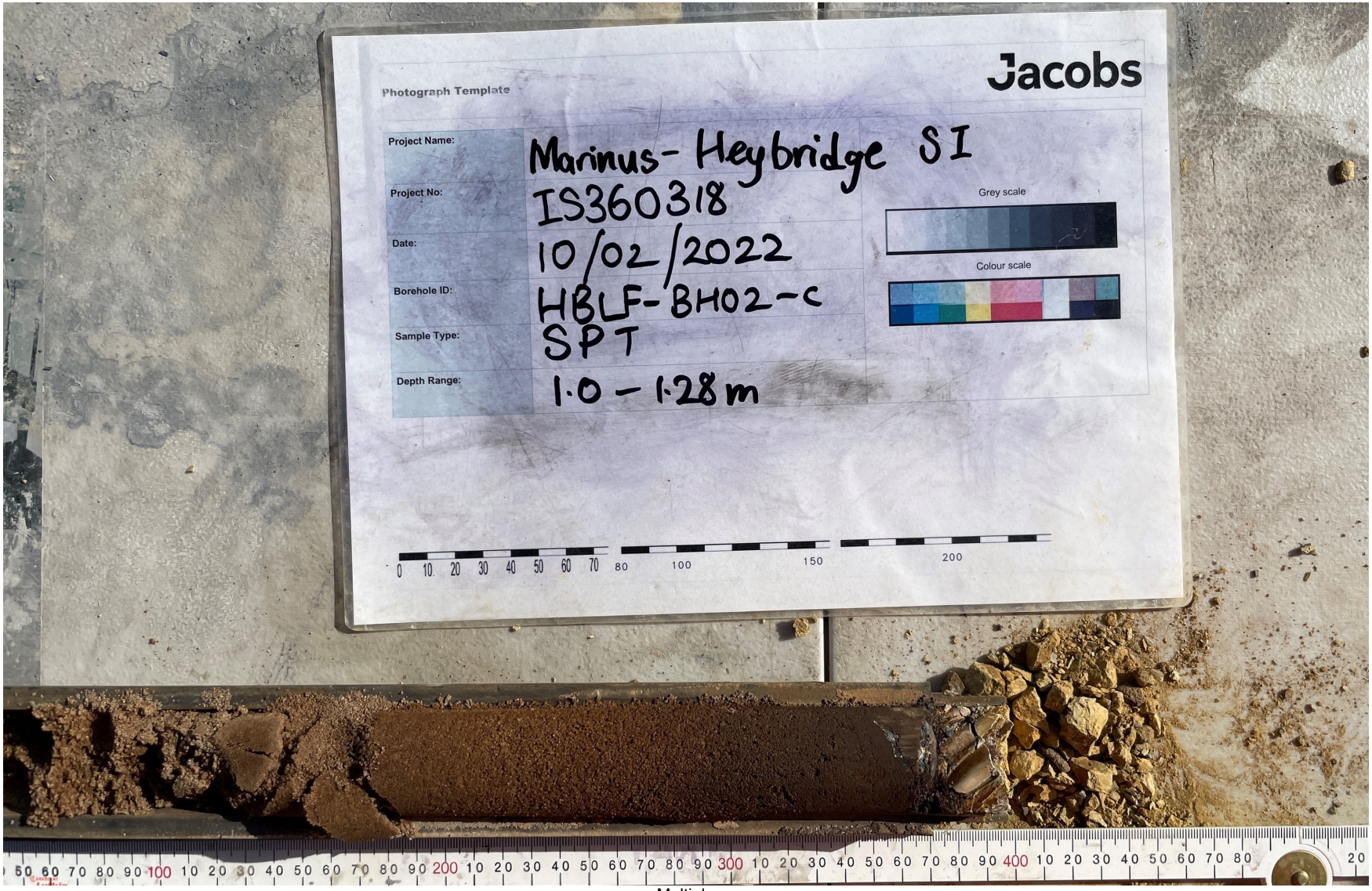
RS	residual soil
XW	extremely weathered
HW	highly weathered
DW	distinctly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

ROCK STRENGTH (Is50 MPa)

0.03-0.1	Very Low (VL)
0.1-0.3	Low (L)
0.3-1.0	Medium (M)
1.0-3.0	High (H)
3.0-10	Very High (VH)
> 10	Extremely High (EH)

DEFECT ABBREVIATIONS

TYPE		COATING	PLANARITY	ROUGHNESS
BP Bedding Parting	FZ Fracture Zone	CN Clean	CU Curved	VR Very Rough
JT Joint	VN Vein	CT Coating	IR Irregular	RF Rough
SM Seam	FL Foliation	SN Stain	PR Planar	S Smooth
CS Crushed Seam	VO Void	VR Veneer	ST Stepped	POL Polished
CZ Crushed Zone	DB Drilling Break	FILLED Filled	UN Undulated	SL Slickensided
SZ Shear Zone	HB Handling Break		DIS Discontinuous	



Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH02-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 1/9

Multiple

Jacobs	**Client:** Tasmanian Networks		**Title:** HBLF-BH02-C
	Project: Project Marinus - Heybridge SI		
	Drawn: MW	**Checked:**	**Scale:** NTS / **Drawing Number:** 2/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 3/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 4/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 5/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 6/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 7/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 8/9

Multiple

Jacobs	**Client:**	Tasmanian Networks		**Title:**	HBLF-BH02-C
	Project:	Project Marinus - Heybridge SI			
	Drawn:	MW	**Checked:**	**Scale:** NTS	**Drawing Number:** 9/9

Appendix B3. Test Pit Logs and Photos

Engineering Log - Excavation

HB-TP01-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414073.3 m	**Elevation:**	7.29 m	**Started:**	28/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452518.8 m	**Datum:**	AHD	**Finished:**	28/01/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E			B	7	0.5		FILL: Sandy GRAVEL: fine to coarse grained, black, fine to coarse sand; with low plasticity silt FILL: Gravelly SAND: fine to coarse grained, pale grey, fine to coarse grained gravel, low plasticity silt; with sub-angular to angular cobbles	M	MD		FILL 0.10 : dosage = 63 nSv/hr 0.30 : concrete fragments encountered 0.50 : PP = 350 kPa, k = 0.261 W/mK, R = 383.142 Ccm/W, in-situ
			B	6	1.0		Silty SAND: fine to coarse grained, yellow brown,low plasticity silt, with fine grained, angular to sub-angular gravel *0.90m: colour changing to pale grey brown, gravel content decreasing* Silty GRAVEL: fine to medium grained, angular to sub-angular, pale grey brown, low plasticity silt; with fine to coarse grained sand		D		AEOLIAN DEPOSITS Moisture Content : 11.6%, dosage = 110 nSv/hr 0.70 : abandonded pipe encountered 1.00 : PP > 600kPa, k = 0.7448 W/mK, R = 134.261 Ccm/W, in-situ Residual Material Moisture Content = 12.5%, dosage = 115 nSv/hr, 1.4 CPS
				5	1.5		Extremely Weathered QUARTZWACKE: recovered as Gravelly SAND: fine to coarse grained, grey brown, flakes of angular QUARTZWACKE gravels; with low plasticity silt		VD		EXTREMELY WEATHERED MATERIAL
				4	2.0 2.5 3.0 3.5		Exploratory hole terminated at 1.60 m Refusal				

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

HB-TP01-C Depth Range: 0.00 - 1.60 m

HB-TP01-C Depth Range: 0.00 - 1.60 m

Jacobs	**Client:**	Tasmanian Networks	
	Project:	Project Marinus - Heybridge SI	
	Drawn: MW	**Checked:** AC	

Title:	HB-TP01-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP02-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414027.6 m	**Elevation:**	6.73 m	**Started:**	28/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452590.4 m	**Datum:**	AHD	**Finished:**	28/01/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E		Not Observed	B	6	0.5		FILL: Sandy GRAVEL: fine to medium grained, sub-angular to angular, dark grey, fine to coarse grained sand FILL: Sandy GRAVEL: fine to coarse grained, sub-angular to angular, yellow brown, fine to coarse grained; with low plasticity clay, with sub-angular to angular cobbles	M	D-VD	5 10 15 20	FILL 0.10 : dosage = 68 nSv/hr 0.50 : PP > 600kPa, k = 0.0981 W/mK, R = 1019.7 Ccm/W, in-situ
			B		1.0		Silty CLAY: low plasticity, orange brown; with fine to medium grained sand.				RESIDUAL SOIL Moisture Content = 12%, dosage = 69 nSv/hr 0.70 : abandoned electrical cable encountered, PP > 600 kPa, k = 2.3335 W/mK, R = 42.85 Ccm/W, in-situ moisture content = 72% 1.00 : dosage = 77 nSv/hr
			B	5	1.5		Silty SAND: fine to medium grained, orange brown, low plasticity silt; with medium grained, sub-angular to sub-rounded gravel		MD		1.70 : PID = 0.5 PPM (hydrocarbon odour) 2.00 : PID = 0.6 PPM (hydrocarbon odour), dosage = 75 nSv/hr
			D	4	2.5		Extremely Weathered QUARTZWACKE: recovered as Gravelly SILT: low plasticity, pale grey, mottled white, fine to medium grained gravel sized angular flakes of QUARTZWACKE	M <Wp	F		EXTREMELY WEATHERED MATERIAL 2.50 : PID = 4.1 PPM 3.00 : PID = 0.2 PPM, dosage = 85 nSv/hr
				3	3.0		Exploratory hole terminated at 3.00 m Target depth				
					3.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
= Water level (static)
= Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

HB-TP02-C Depth Range: 0.00 - 3.00 m

HB-TP02-C Depth Range: 0.00 - 3.00 m

Jacobs

Client:	Tasmanian Networks		
Project:	Project Marinus - Heybridge SI		
Drawn:	MW	**Checked:**	AC

Title:	HB-TP02-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP03-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414152.6 m	**Elevation:**	8.04 m	**Started:**	31/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452492.6 m	**Datum:**	AHD	**Finished:**	31/01/2022
Logged By:	AV **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E			D	8	0.5		FILL: Sandy GRAVEL: fine to coarse grained, sub-angular to angular, fine to coarse grained sand; with angular to sub-angular cobbles	D	MD-D		FILL 0.10 : PID = 0 PPM, dosage = 0.8 CPS
				7	1.0		FILL: GRAVEL: angular to sub-angular, coarse grained, grey; with fine to coarse grained sand *1.40m: light brown sand clay cobble present 20mm - 60mm*				0.50 : PP > 600 kPa, k = 0.0735 W/mK, R = 1359.7 Ccm/W, in-situ moisture content = 6.6 %, PID = 0 PPM, dosage = 1.0 CPS 1.00 : PP > 600 kPa, k = 1.7370 W/mK, R = 57.57 Ccm/W, in-situ moisture content = 7.5%, PID = 0 PPM, dosage = 1.2 CPS
					1.5		Sandy SILT: low plasticity, light brown mottled white	M	MD		RESIDUAL SOIL
			D	6	2.0		Clayey Sandy SILT: low plasticity, grey with minor orange mottling; fine to coarse grained sand		St		
					2.5		Sandy SILT: low plasticity, grey brown, fine to coarse grained sand; with coarse grained, angular to sub-angular gravel		VSt		
							Gravelly SAND: coarse grained, grey brown, medium to coarse grained, rounded to sub-rounded gravel		D-VD		
				5	3.0		Exploratory hole terminated at 3.00 m Target depth				
					3.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

HB-TP03-C Depth Range: 0.00 - 3.00 m

HB-TP03-C Depth Range: 0.00 - 3.00 m

Jacobs

Client:	Tasmanian Networks		
Project:	Project Marinus - Heybridge SI		
Drawn:	AV	**Checked:**	AC

Title:	HB-TP03-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP04-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414200.9 m	**Elevation:**	10.20 m	**Started:**	31/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452441.7 m	**Datum:**	AHD	**Finished:**	31/01/2022
Logged By:	AV **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E		Not Observed	D	10	0.5		FILL: Sandy GRAVEL: medium to coarse grained, pale grey, fine to coarse grained sand	D	MD		FILL 0.10 : PID = 0 PPM, dosage = 47 nSv/hr 0.50 : PP = 100 kPa, k=0.3500 W/mK, R=285.010 Ccm/W, in-situ moisture content = 0.6%
				9	1.0		*0.90m: colour change to light brown aggregate/cobble size decrease*				1.00 : PP >600 kPa, k = 0.0213 W/m*K, R = 4892.9 Ccm/W, in-situ moisture content = 6.9%, dosage = 75 nSv/hr
			D		1.5		Gravelly SAND: fine to medium grained, orange brown, fine to medium grained gravel; with low plasticity silt	M	MD-D		RESIDUAL SOIL
				8	2.0		Sandy SILT: low plasticity, orange brown, fine to coarse grained; with coarse grained, sub-angular to angular gravel				2.00 : dosage = 65 nSv/hr
							2.30m: softer, moist/damp, weathered rock, siltstone, coarse sand with weathered material				
			D		2.5		Sandy CLAY: low plasticity, dark brown; medium to coarse grained sand; with angular to sub-angular gravel of QUARTZWACKE		St-VSt		
				7	3.0		Exploratory hole terminated at 3.00 m Target depth				3.00 : dosage = 63 nSv/hr
					3.5						

METHOD & SUPPORT	PENETRATION	GROUNDWATER	SAMPLES & FIELD TESTS	MOISTURE	DENSITY (N-value)	CONSISTENCY (SU) {N-value}
N Natural/Existing cutting E Excavator BH Backhoe Bucket B Buldozer R Ripper	No resistance ranging to refusal VE E F H VH	= Water level (static) = Water inflow	D Disturbed Sample B Bulk Sample SPT SPT Sample U Undisturbed Sample E Enviro Sample W Water Sample HP Hand Penetrometer HV Hand Vane Shear (P: Peak Su R: Residual Su)	D = Dry M = Moist W = Wet Wp = Plastic Limit Wl = Liquid Limit	VL Very Loose 0 - 4 L Loose 4 - 10 MD Medium Dense 10 - 30 D Dense 30 - 50 VD Very Dense 50 - 100	VS Very Soft < 12 kPa {0-2} S Soft 12 - 25 {2-4} F Firm 25 - 50 {4-8} St Stiff 50 - 100 {8-15} VSt Very Stiff 100 - 200 {15-30} H Hard > 200 kPa {>30}

HB-TP04-C Depth Range: 0.00 - 3.00 m

HB-TP04-C Depth Range: 0.00 - 3.00 m

Client:	Tasmanian Networks	**Title:**	HB-TP04-C
Project:	Project Marinus - Heybridge SI		
Drawn: AV	**Checked:** AC	**Scale:** NTS	**Drawing Number:** 1/1

Engineering Log - Excavation

HB-TP05-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	413982.1 m	**Elevation:**	8.20 m	**Started:**	28/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452515.4 m	**Datum:**	AHD	**Finished:**	28/01/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E			B	8	0.5		FILL: Gravelly CLAY: low plasticity, dark grey, fine to medium grained gravel; with fine to coarse grained sand	M	D-VD		FILL 0.10 : PID = 0 PPM, dosage = 63 nSv/hr
							FILL: Sandy GRAVEL: fine to coarse grained, sub-angular to angular, pale grey yellow, fine to coarse grained sand; with low plasticity silt, with cobbles				0.50 : PP = 350 kPa, k = 0.1218 W/ m*K, R = 826.652 Ccm/W, in-situ
			B		1.0		FILL: Silty SAND: fine to coarse grained, black, low plasticity silt, with fine to medium grained, sub-angular to angular gravel		MD		Moisture content = 9.4%, PID = 0 PPM, dosage = 92 nSv/hr
				7	1.5		Extremely Weathered QUARTZWACKE: recovered as Clayey SILT: fine to medium grained, pale grey; with fine to medium grained flakes of gravel sized QUARTZWACKE		H		EXTREMELY WEATHERED MATERIAL 1.00 : PP >600kPa, PID = 0 PPM, dosage = 77 nSv/hr
				6	2.0		Exploratory hole terminated at 1.10 m Refusal				
				5	2.5						
					3.0						
					3.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

HB-TP05-C Depth Range: 0.00 - 1.10 m

HB-TP05-C Depth Range: 0.00 - 1.10 m

Client:	Tasmanian Networks		
Project:	Project Marinus - Heybridge SI		
Drawn:	MW	**Checked:**	AC

Title:	HB-TP05-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP06-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414106.5 m	**Elevation:**	11.14 m	**Started:**	28/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452387.3 m	**Datum:**	AHD	**Finished:**	28/01/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E				11	0		FILL: Silty Sandy GRAVEL: fine to medium grained, dark grey, low plasticity, fine to coarse sand	M	MD		FILL 0.10 : PID =0 PPM, dosage = 70 nSv/hr
					0.5		FILL: Sandy Gravelly CLAY: low plasticity, yellow brown, fine to coarse grained sand, fine to coarse grained, sub-angular to angular gravel; with sub-angular to angular cobbles, with boulders up to 250mm (sub-angular to angular)	M <Wp	H		0.50 : PP >600 kPa, k = 0.0589 W/mK, R = 1697.0 Ccm/W, in-situ moisture content = 2.3%, PID =0 PPM, dosage = 68 nSv/hr
			B								
			D		1.0		FILL: Silty SAND: fine to medium grained, dark grey, low plasticity silt	M	MD		1.00 : PP = 200 kPa, k = 0.6287 W/mK, R = 159.061 Ccm/W, in-situ moisture content = 10.5%, PID =0 PPM, dosage = 80 nSv/hr
				10			*1.20m: with fine to coarse, sub-angular to angular gravel; with boulders up to 250mm*				
					1.5		Sandy SILT: low plasticity, pale grey mottled yellow brown; fine to coarse grained sand				RESIDUAL SOIL 1.30 : dosage = 70nSv/hr 1.50 : PP = 350 kPa
							1.70m: colour becoming yellow brown mottled pale grey red brown, sand content increasing				1.80 : PP = 300 kPa
			B		2.0				St		2.00 : PID =0 PPM, dosage = 70 nSv/hr
				9				M <Wp			
					2.5		*2.50m: colour changing pale grey, mottled yellow* *2.60m: increasing sand content*				
			D						St-VSt		
					3.0						3.00 : PID =0 PPM, dosage = 110 nSv/hr
							Exploratory hole terminated at 3.00 m Target depth				
				8	3.5						

METHOD & SUPPORT	PENETRATION	GROUNDWATER	SAMPLES & FIELD TESTS	MOISTURE	DENSITY (N-value)	CONSISTENCY (SU) {N-value}
N Natural/Existing cutting E Excavator BH Backhoe Bucket B Buldozer R Ripper	No resistance ranging to refusal VE E F H VH	= Water level (static) = Water inflow	D Disturbed Sample B Bulk Sample SPT SPT Sample U Undisturbed Sample E Enviro Sample W Water Sample HP Hand Penetrometer HV Hand Vane Shear (P: Peak Su R: Residual Su)	D = Dry M = Moist W = Wet Wp = Plastic Limit Wl = Liquid Limit	VL Very Loose 0 - 4 L Loose 4 - 10 MD Medium Dense 10 - 30 D Dense 30 - 50 VD Very Dense 50 - 100	VS Very Soft < 12 kPa {0-2} S Soft 12 - 25 {2-4} F Firm 25 - 50 {4-8} St Stiff 50 - 100 {8-15} VSt Very Stiff 100 - 200 {15-30} H Hard > 200 kPa {>30}

HB-TP06-C Depth Range: 0.00 - 3.00 m

HB-TP06-C Depth Range: 0.00 - 3.00 m

Jacobs

Client:	Tasmanian Networks		
Project:	Project Marinus - Heybridge SI		
Drawn:	MW	**Checked:**	AC

Title:	HB-TP06-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP07-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	414154.1 m	**Elevation:**	13.59 m	**Started:**	28/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452362.9 m	**Datum:**	AHD	**Finished:**	28/01/2022
Logged By:	MW **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E		Not Observed		13	0.5		FILL: Silty Sandy GRAVEL: fine to medium grained, dark grey, low plasticity, fine to coarse grained sand				FILL 0.10 : PID =0 PPM, dosage = 45 nSv/hr
			B				FILL: Clayey GRAVEL: fine to coarse, grained sub-angular, yellow brown, low plasticity clay; with fine to medium grained sand *0.35m: colour becoming yellow brown mottled red*	M <Wp	H		0.50 : PP >600kPa, k = 0.2740 W/ mK, R = 364.921 Ccm/W, in-situ Moisture content = 2.0%, PID =0 PPM, dosage = 52 nSv/hr
					1.0		FILL: Gravelly Sandy CLAY: low to medium plasticity, grey brown, fine to coarse grained sand, fine to medium grained gravel				
			B				Silty SAND: fine grained, dark grey, low plasticity silt		L		AEOLIAN DEPOSITS 1.00 : PP = 300 kPa, k = 1.0899 W/ mK, R = 91.75 Ccm/W, in-situ moisture content = 3.7%, PID =0 PPM, dosage = 80 nSv/hr
				12	1.5		Gravelly SAND: fine to medium grained, orange brown with minor yellow mottling; with low plasticity clay; trace silt	M			RESIDUAL SOIL
			B		2.0						2.00 : PID =0 PPM, dosage = 47 nSv/hr
					2.5		*2.40m: colour becoming orange brown with minor white and black mottling, increaing clay content*		MD		
			D	11							
					3.0						3.00 : PID =0 PPM, dosage = 43 nSv/hr
							Exploratory hole terminated at 3.00 m Target depth				
				10	3.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

HB-TP07-C Depth Range: 0.00 - 3.00 m

HB-TP07-C Depth Range: 0.00 - 3.00 m

Jacobs

Client:	Tasmanian Networks		
Project:	Project Marinus - Heybridge SI		
Drawn:	MW	**Checked:**	AC

Title:	HB-TP07-C		
Scale:	NTS	**Drawing Number:**	1/1

Engineering Log - Excavation

HB-TP08-C

Project: Heybridge Converter Station
Page: 1 of 1
Client:
Location: Heybridge Converter Station Site, Heybridge TAS
Project No: IS360318 -1

Contractor:	Treloar Transport	**Easting:**	413932.1 m	**Elevation:**	7.75 m	**Started:**	31/01/2022
Plant:	Kobelco SK135 13.5t Excavator	**Northing:**	5452687.3 m	**Datum:**	AHD	**Finished:**	31/01/2022
Logged By:	AV **Checked By:** AC	**Grid:**	GDA2020	**Inclination:**	-90°	**Orientation:**	N/A

EXCAVATION INFORMATION | MATERIAL SUBSTANCE

Method	Penetration	Groundwater Levels	Samples & SPT Data	RL (m)	Depth (m)	Graphic Log	Material Description SOIL TYPE: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture	Consistency Relative Density	DCP (blows/ 100mm)	Field Test Data & Other Observations
E				7	0.5		Sandy GRAVEL: medium grained, grey, fine to coarse grained sand	D-M	MD		FILL
			B		1.0		Silty CLAY:high plasticity, orange brown mottled white; trace fine to medium grained sand	M	VSt-H		RESIDUAL SOIL 0.50 : PP = 120 kPa, k = 1.3582 W/mK ,R = 73.63 Ccm/W, in-situ moisture content = 40.4%, PID =0 PPM, dosage = 1.0 CPS 1.00 : PP = 180 kPa, k = 0.8075 W/mK, R = 123.841 Ccm/W, in-situ moisture content = 39%, PID =0 PPM, dosage = 1.0 CPS
			B	6	2.0						2.00 : PID =0 PPM, dosage = 0.9 CPS
			B	5	2.5		Clayey SILT: high plasticity, red-brown; trace fine to medium grained sand				
					3.0		Exploratory hole terminated at 3.00 m Target depth				3.00 : PID =0 PPM, dosage = 0.8 CPS
				4	3.5						

METHOD & SUPPORT
N Natural/Existing cutting
E Excavator
BH Backhoe Bucket
B Buldozer
R Ripper

PENETRATION
No resistance ranging to refusal
VE E F H VH

GROUNDWATER
▼ = Water level (static)
▶ = Water inflow

SAMPLES & FIELD TESTS
D Disturbed Sample
B Bulk Sample
SPT SPT Sample
U Undisturbed Sample
E Enviro Sample
W Water Sample
HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)

MOISTURE
D = Dry
M = Moist
W = Wet
Wp = Plastic Limit
Wl = Liquid Limit

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100

CONSISTENCY (SU) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}