Photograph 19 – WBH114 Inspection pit

Photograph 20 – WBH115 Inspection pit

Photograph 21 – WBH116 Inspection pit

APPENDIX 3 - Exploratory Hole Logs

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH101**

Sheet 1 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546597.85 - 258929.66	Hole Type CP
Location: CAMBRIDGE		Level: 11.42	Scale 1:50
Client: RPMI RAILPEN		Dates: 15/11/2022 - 16/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.12	11.30		MADE GROUND: Black tarmac.
		0.20 - 0.40	B					MADE GROUND: Firm brown sandy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including chalk, brick, limestone and chert. Sand is fine to coarse.
		0.40 - 0.80	B					
		0.60	ES		0.75	10.67		MADE GROUND: Structureless chalk composed of firm light brown cream sandy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including weak low density chalk, occasional brick and occasional slate. (Reworked).
		0.90	ES					
		1.30	ES		1.40	10.02		
		1.50	ES					
		1.50		N=6 (1,2/2,1,1,2)				
		1.50 - 1.95	D					Structureless CHALK composed of firm white cream mottled yellowish brown silty gravelly clay with moderate cobble content. Clasts are weak low density subangular to subrounded. (Grade Dm).
		2.00 - 2.50	B					
		2.50	ES					*Occasional flint gravel present between 1.5m bgl and 2.5m bgl.*
		2.50 - 2.95	U					*High strength at 2.5m bgl*
		3.00	D					
		3.00 - 3.50	B					
	▼	3.50	ES					*Becomes soft to firm between 3.5m bgl and 4.3m bgl.*
		3.50		N=9 (1,2/2,3,2,2)				
		3.50 - 3.95	D					
		4.00 - 4.50	B					
		4.50	ES					
		4.50 - 4.95	U					
		5.00	D					
		5.50	ES					
		5.50 - 6.00	B					
		6.00	ES		5.90	5.52		Stiff dark grey silty laminated CLAY.
		6.00		N=13 (2,3/3,4,3,3)				
		6.00 - 6.45	D					
		6.50 - 7.00	D					
		7.50	D					*High strength at 7.5m bgl.*
		7.50 - 7.95	U					
		8.00	B					*Becomes very stiff from 8.0m bgl.*
		8.00	D					
		8.50 - 9.00	B					
		9.00		N=16 (3,4/4,3,4,5)				
		9.00 - 9.45	D					
		9.50 - 10.00	B					
		10.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 6m: 2m plain, 4m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH101**

Sheet 2 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546597.85 - 258929.66	Hole Type CP
Location: CAMBRIDGE		Level: 11.42	Scale 1:50
Client: RPMI RAILPEN		Dates: 15/11/2022 - 16/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50 - 10.95	U						
		11.00	D						11
		11.50 - 12.00	B						
		12.00		N=27 (4,4/6,7,7,7)					12
		12.00 - 12.45	D						
		12.50 - 13.00	B						13
		13.50 - 13.95	U						
		14.00	D						14
		14.00 - 14.50	B						
		15.00	ES						15
		15.00		N=34 (4,5/7,9,8,10)					
		15.00 - 15.45	D						
		15.50 - 16.00	B						
		16.00	D						16
		16.50 - 16.95	U					*Becoming very high strength at 16.5m bgl.*	
		17.00	D						17
		17.50 - 18.00	B						
		18.00		N=35 (4,5/8,8,9,10)					18
		18.00 - 18.45	D						
		18.50 - 19.00	B						19
		19.50 - 19.95	U						
		20.00	D						20

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 6m: 2m plain, 4m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH101**

Sheet 3 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546597.85 - 258929.66	Hole Type CP
Location: CAMBRIDGE		Level: 11.42	Scale 1:50
Client: RPMI RAILPEN		Dates: 15/11/2022 - 16/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	ES						
		20.50 - 21.00	B						
		21.00		N=37 (5,5/7,9,11,10)					21
		21.00 - 21.45	D						
		21.50 - 22.00	B						
									22
		22.50 - 22.95	U						
		23.00	D						23
		23.50 - 24.00	B						
		24.00		N=43 (6,6/10,10,11,12)					24
		24.00 - 24.45	D						
		24.50 - 25.00	B						
		25.00	ES						25
		25.50	D						
		25.50 - 25.95	U						
		26.00	D						26
		26.50 - 27.00	B						
		27.00		N=45 (6,8/10,11,12,12)					27
		27.00 - 27.45	D						
		27.50 - 28.00	B						
									28
		28.50 - 28.95	U					*Becoming very high strength at 28.5m*	
		29.00	D						29
		29.50 - 30.00	B						
		30.00	ES		30.00	-18.58			30

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 6m: 2m plain, 4m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH101
Sheet 4 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546597.85 - 258929.66	Hole Type CP
Location: CAMBRIDGE		Level: 11.42	Scale 1:50
Client: RPMI RAILPEN		Dates: 15/11/2022 - 16/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		30.00		N=47 (7,6/10,11,13,13)				End of borehole at 30.00 m
		30.00 - 30.45	D					

31
32
33
34
35
36
37
38
39
40

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 6m: 2m plain, 4m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH102**

Sheet 1 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546659.86 - 258941.90	Hole Type CP
Location: CAMBRIDGE		Level: 10.43	Scale 1:50
Client: RPMI RAILPEN		Dates: 22/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES		0.10	10.33		MADE GROUND: Black tarmac.
		0.20 - 0.40	B					MADE GROUND: Dark brown grey gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including limestone.
		0.40 - 0.80	B		0.40	10.03		
		0.50	ES					MADE GROUND: Dark brown clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including chert, concrete and slag with high cobble content of concrete, brick and plastic. Sand is medium to coarse.
		0.80 - 1.20	B					
		1.00	ES		1.20	9.23		
		1.30	ES		1.40	9.03		
		1.50	ES					MADE GROUND: Structureless chalk composed of firm light brown cream gravelly clay. Clasts are weak low density angular to subrounded. (Reworked).
		1.50		N=9 (1,1/1,2,3,3)				
		1.50 - 1.95	D					
		1.50 - 2.00	B					
	▼	2.50 - 2.95	U					Structureless CHALK composed of firm light brown cream gravelly clay. Clasts are weak low density angular to subrounded. (Grade Dm).
		3.00	D					
		3.00 - 3.50	B					
		3.50	ES					
		3.50		N=10 (2,2/3,2,3,2)				
		3.50 - 3.95	D					
		4.00	ES					
		4.00 - 4.50	B		4.20	6.23		
		4.50	ES					High strength very stiff silty laminated CLAY.
		4.50 - 4.95	U					
		5.00	D					
		5.50 - 6.00	B					
		6.00		N=12 (2,3/2,3,3,4)				
		6.00 - 6.45	D					
		6.50 - 7.00	B					
		7.50 - 7.95	U					
		8.00	D					
		8.50 - 9.00	B					
		9.00		N=13 (2,3/3,3,4,3)				
		9.00 - 9.45	D					
		9.50	ES					
		9.50 - 10.00	B					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit to 1.30m bgl. 3. Groundwater seepage encountered at 2.5m bgl. 4. Standpipe installed to 4m; 1m plain, 3m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH102**

Sheet 2 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546659.86 - 258941.90	Hole Type CP
Location: CAMBRIDGE		Level: 10.43	Scale 1:50
Client: RPMI RAILPEN		Dates: 22/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50 - 10.95	U					*High strength at 10.5m bgl.*
		11.00	D					
		11.50 - 12.00	B					
		12.00		N=19 (4,3/4,4,6,5)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.50 - 13.95	U					
		14.00	D					
		14.50 - 15.00	B					
		15.00	ES					
		15.00		N=28 (4,7/7,6,8,7)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					
		16.50 - 16.95	U					
		17.00	D					
		17.50 - 18.00	B					
		18.00		N=32 (5,5/7,8,8,9)				
		18.00 - 18.45	D					
		18.50 - 19.00	B					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit to 1.30m bgl. 3. Groundwater seepage encountered at 2.5m bgl. 4. Standpipe installed to 4m; 1m plain, 3m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH102** Sheet 3 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546659.86 - 258941.90	Hole Type CP
Location: CAMBRIDGE		Level: 10.43	Scale 1:50
Client: RPMI RAILPEN		Dates: 22/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	ES						
		20.50 - 21.00	B						
		21.00		N=35 (6,7/8,8,10,9)					21
		21.00 - 21.45	D						
		21.50 - 22.00	B						
									22
		22.50 - 22.95	U						
		23.00	D						23
		23.50 - 24.00	B						
		24.00		N=41 (6,7/9,10,11,11)					24
		24.00 - 24.45	D						
		24.50 - 25.00	B						
		25.00	ES						25
		25.50 - 25.95	U						
		26.00	D						26
		26.50 - 26.95	B						
		27.00		N=45 (6,7/11,11,11,12)					27
		27.00 - 27.45	D						
		27.50 - 28.00	B						
									28
		28.50 - 28.95	U					*Becoming very high strength from 28.5m bgl.*	
		29.00	D						29
		29.50 - 30.00	B						
		30.00	D		30.00	-19.57			30

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit to 1.30m bgl. 3. Groundwater seepage encountered at 2.5m bgl. 4. Standpipe installed to 4m; 1m plain, 3m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH102
Sheet 4 of 4

Project Name:	PROJECT OTTER	Project No. GRO-22165	Co-ords:	546659.86 - 258941.90	Hole Type CP
Location:	CAMBRIDGE		Level:	10.43	Scale 1:50
Client:	RPMI RAILPEN		Dates:	22/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		30.00 30.00	ES	N=49 (7,7/11,12,13,13)				End of borehole at 30.00 m

31
32
33
34
35
36
37
38
39
40

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit to 1.30m bgl. 3. Groundwater seepage encountered at 2.5m bgl. 4. Standpipe installed to 4m; 1m plain, 3m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH103**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546658.24 - 258889.96	Hole Type CP
Location: CAMBRIDGE		Level: 10.01	Scale 1:50
Client: RPMI RAILPEN		Dates: 18/11/2022 - 21/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.26	9.75		MADE GROUND: Black tarmac.
					0.55	9.46		MADE GROUND: Light brown grey reinforced concrete.
		0.60	ES					MADE GROUND: Brown clayey medium to coarse sand and angular to subrounded medium to coarse gravel of mixed lithologies including chert and quartzite.
		1.10	ES					
		1.50		N=46 (9,5/11,12,12,11)				
		1.50 - 2.00	B		1.80	8.21		
		1.60	ES					MADE GROUND: Structureless chalk composed of firm white cream mottled brownish yellow gravelly silty clay. Clasts are weak low density subrounded. (Reworked).
		2.00	ES		2.20	7.81		
		2.30	ES					Structureless CHALK composed of firm white cream mottled brownish yellow silty clay. (Grade Dm).
		2.50 - 2.95	U					
		3.00	D					*Becomes light brown grey and laminated from 3.0m bgl.*
		3.00	ES		3.20	6.81		
		3.50	ES					Stiff dark grey silty laminated CLAY.
		3.50		N=12 (1,1/2,3,3,4)				
		3.50 - 3.95	D					
		3.50 - 4.00	B					
		4.50	ES					
		4.50 - 4.95	U					
		5.00	D					
		5.50 - 6.00	B					
		6.00		N=15 (2,3/3,4,4,4)				
		6.00 - 6.45	D					
		7.00	D					
		7.00 - 7.50	B					
		7.50 - 7.95	U					*Becomes very stiff from 7.5m bgl.*
		8.00	D					
		8.00 - 8.50	B					
		9.00		N=23 (3,4/6,6,6,5)				
		9.00 - 9.45	D					
		9.50	ES					
		9.50 - 10.00	B					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Coring undertaken to 0.55m bgl. 3. Hand excavated trial pit undertaken to 1.40m bgl. 4. Groundwater encountered at 2.5m bgl. 5. Standpipe installed to 2m: 1m plain, 1m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH103**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546658.24 - 258889.96	Hole Type CP
Location: CAMBRIDGE		Level: 10.01	Scale 1:50
Client: RPMI RAILPEN		Dates: 18/11/2022 - 21/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50 - 10.95	U					
		11.00	D					
		11.50 - 12.00	B					
		12.00		N=27 (4,5/5,7,8,7)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.50 - 13.95	U					*High strength at 13.5m bgl.*
		14.00	D					
		14.50 - 15.00	B					
		15.00	ES					
		15.00		N=30 (4,5/7,8,8,7)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					
		16.50 - 16.95	U					
		17.00	D					
		17.50 - 18.00	B					
		18.00		N=35 (4,6/8,9,9,9)				
		18.00 - 18.45	D					
		18.50 - 19.00	B					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Coring undertaken to 0.55m bgl. 3. Hand excavated trial pit undertaken to 1.40m bgl. 4. Groundwater encountered at 2.5m bgl. 5. Standpipe installed to 2m: 1m plain, 1m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH103
Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546658.24 - 258889.96	Hole Type CP
Location: CAMBRIDGE		Level: 10.01	Scale 1:50
Client: RPMI RAILPEN		Dates: 18/11/2022 - 21/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	ES					
		20.50 - 21.00	B					
		21.00		N=38 (6,6/9,9,10,10)				
		21.00 - 21.45	D					
		21.50 - 22.00	B					
		22.50 - 22.95	U					*Becomes very high strength at 22.5m bgl.*
		23.00	D					
		23.50 - 24.00	B					
		24.00		N=42 (6,6/10,10,11,11)				
		24.00 - 24.45	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-14.99		End of borehole at 25.00 m

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Coring undertaken to 0.55m bgl. 3. Hand excavated trial pit undertaken to 1.40m bgl. 4. Groundwater encountered at 2.5m bgl. 5. Standpipe installed to 2m: 1m plain, 1m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH103A
Sheet 1 of 1

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: -	Hole Type CP
Location: CAMBRIDGE		Level:	Scale 1:50
Client: RPMI RAILPEN		Dates: 17/11/2022 - 17/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25			MADE GROUND: Black tarmac.
					0.30			MADE GROUND: Light grey concrete.
								End of borehole at 0.30 m

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Obstruction encountered at 0.3m bgl. 3. Position relocated. 4. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH103B
Sheet 1 of 1

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: -	Hole Type CP
Location: CAMBRIDGE		Level:	Scale 1:50
Client: RPMI RAILPEN		Dates: 17/11/2022 - 17/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.27			MADE GROUND: Black tarmac.
								End of borehole at 0.27 m

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Obstruction encountered at 0.27m bgl. 3. Position relocated. 4. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH104**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546704.85 - 258917.46	Hole Type CP
Location: CAMBRIDGE		Level: 9.62	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	B		0.10	9.52		MADE GROUND: Black tarmac.
		0.40 - 0.80	B					MADE GROUND: Dark brown grey very gravelly medium to coarse sand with moderate cobble content of mixed lithologies including concrete and quartzite. Gravel is angular to rounded fine to coarse of mixed lithologies including brick, concrete and chert.
		0.50	ES					
		0.70	ES		0.75	8.87		
		0.80 - 1.20	B					
		1.00	ES					
		1.50	ES		1.50	8.12		MADE GROUND: Dark brown grey clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including concrete, brick and quartzite with occasional plastic and rubber. Sand is fine to coarse. (Plastic & rubber=5%).
		1.50		N=4 (1,1/1,1,1,1)				
		1.50 - 2.00	B					
		2.50	ES					MADE GROUND: Soft to firm dark grey black ashy sandy gravelly clay with high cobble content of wood, brick and tiles. Gravel is angular to subangular fine to coarse of mixed lithologies including glass, brick, concrete and tiles. Contains plastic, metal, wood and occasional fabric. Moderate organic odour. (Fines=50%, Coarse inert=10%, Metal, Glass & Ceramics=33%, Fabric=2%, Wood=5%).
	▼	2.50		N=5 (1,1/1,1,2,1)				
		2.50 - 3.00	B					
		3.20	ES					
		3.50		N=6 (1,1/1,2,2,1)				
		3.50 - 4.00	B					
		3.70	ES					
		4.20	ES					
		4.50		N=4 (1,1/1,1,1,1)				
		4.50 - 5.00	B					
		5.00	ES		4.90	4.72		MADE GROUND: Black clayey angular to subangular fine to coarse gravel of mixed lithologies including brick with high cobble content of brick and tiles. Contains wood, metal, bottle caps, glass, string, fabric and plastic. Moderate to strong organic odour. (Metal, Glass & Ceramics=45%, Fabric=5%, Fines=20%, Coarse Inert=30%).
		5.50 - 6.00	B					
		6.00	ES		6.00	3.62		
		6.00		N=3 (1,1/1,0,1,1)				
		6.00 - 6.50	B					MADE GROUND: Soft to firm black gravelly sandy ashy clay with high cobble content of mixed lithologies including glass, tiles, brick and ceramic. Gravel is angular to subangular fine to coarse of mixed lithologies including glass, tiles and ceramic. Contains wood, plastic, metal, glass bottles, springs and fabric. Moderate organic odour. (Fines=50%, Metals. Glass and Ceramics=25%, Fabric=2%, Wood=10%, Coarse Inert=13%)
		7.00	ES					
		7.50		N=6 (1,1/2,2,1,1)				
		7.50 - 8.00	B					
		8.00	ES					*Strong hydrocarbon odour at 8.0m bgl.*
		8.50	ES					
		8.50 - 9.00	B					
		9.00	ES					*Contains shoes and leather at 9.0m bgl.*
		9.00		N=6 (2,2/1,1,2,2)				
		9.00 - 9.50	B					
		10.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered 2.8m bgl. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 16m, 4m plain, 12m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH104** Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546704.85 - 258917.46	Hole Type CP
Location: CAMBRIDGE		Level: 9.62	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		10.50		N=0 (0,0/0,0,0,0)				
		10.50 - 10.95	D					
		10.50 - 11.00	B					
		11.00	ES					*Contains bones, pottery and copper wire with a moderate hydrocarbon odour from 11.0m bgl.*
		12.00	ES					
		12.00		N=0 (0,0/0,0,0,0)				
		12.00 - 12.50	B					
		13.00	ES		13.00	-3.38		
		13.00 - 13.50	B					MADE GROUND: Black slightly clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including glass, tiles and brick with high cobble content of of mixed lithologies including tiles, brick and glass. Contains metal fragments, plastic, copper, rubber, wood and fabric. Moderate organic odour. (Fines=20%, Metals, Glass and Ceramics=40%, Coarse Inert=25%, Wood=10%, Fabric=5%).
		13.50		N=7 (1,2/2,1,2,2)				
		13.50 - 14.00	B					
		14.00	ES					
		15.00	ES					
		15.00		N=4 (1,1/1,1,1,1)				
		15.00 - 15.50	B					*Contains carpet from 15.2m bgl.*
		16.00 - 16.50	B		15.90	-6.28		Stiff grey silty laminated CLAY.
		16.50		N=22 (3,4/6,5,6,5)				
		16.50 - 16.95	D					
		17.00	ES					
		17.00 - 17.50	B					
		18.00 - 18.45	U					*Very high strength at 18.0m bgl.*
		18.50	D					
		18.50 - 19.00	B					
		19.50		N=32 (2,7/6,8,8,10)				
		19.50 - 19.95	D					
		20.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered 2.8m bgl. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 16m, 4m plain, 12m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH104**

Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546704.85 - 258917.46	Hole Type CP
Location: CAMBRIDGE		Level: 9.62	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		21.00 - 21.45	U					
		21.50	D					
		22.00 - 22.50	B					
		22.50		N=40 (6,6/9,10,11,10)				
		22.50 - 22.95	D					
		23.00 - 23.50	B					
		24.00 - 24.45	U					*High strength at 24.0m bgl.*
		24.50	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-15.38		End of borehole at 25.00 m

21 22 23 24 25 26 27 28 29 30

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered 2.8m bgl. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 16m, 4m plain, 12m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH105**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546720.51 - 258986.62	Hole Type CP
Location: CAMBRIDGE		Level: 9.67	Scale 1:50
Client: RPMI RAILPEN		Dates: 21/11/2022 - 22/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	D		0.10	9.57		MADE GROUND: Black tarmac.
		0.30	ES					MADE GROUND: Dark brown grey gravelly medium to coarse sand. Gravel is angular to subangular medium to coarse of mixed lithologies including limestone.
		0.50 - 1.00	B					
		0.80	ES		0.75	8.92		MADE GROUND: Firm to stiff light grey mottled dark brown sandy gravelly clay. Sand is medium. Gravel is angular to subrounded fine to medium of mixed lithologies including chert, quartzite and limestone. Faint organic odour.
		1.00	D					
		1.30	ES					
		1.50		N=1 (1,0/0,1,0,0)	1.50	8.17		MADE GROUND: Soft to firm black sandy very gravelly ashy clay with low cobble content of concrete, metal and rubber. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including glass, wood, metal, limestone, and rubber. Moderate organic odour. (Metal, Glass and Ceramics=15%, Fines=65%, Wood=5%, Coarse Inert=15%).
		1.50 - 2.00	B					
		1.80	ES					
		2.00	D					
		2.30	ES					
		2.50		N=4 (1,2/1,1,1,1)				
		2.50 - 3.00	B					
		2.80	ES					
		3.00	D					*Gravel of brick present from 3.0m bgl.*
		3.30	ES					
	▼	3.50	ES					
		3.50		N=13 (2,4/4,4,3,2)				
		3.50 - 4.00	B					
		4.00	ES					
		4.50		N=50 (2,5/50 for 20mm)				
		5.00	ES		5.00	4.67		MADE GROUND: Soft black dark grey very gravelly clay with low cobble content of concrete. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, glass, chert and fabric. Moderate organic odour. (Poor recovery). (Fines=70%, Metals, Glass and Ceramics=10%, Coarse Inert=15%, Fabric=5%).
		6.00		N=2 (1,0/0,1,0,1)				
		7.00	ES					
		7.50		N=7 (1,1/1,2,2,2)				
								Rope present from 8.0m bgl.
		9.00	ES					
		9.00		N=3 (3,3/1,0,1,1)				
		10.00	D		10.00	-0.33		Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusal recorded at 4.5m bgl. 5. Dual standpipe installed: Shallow installation to 3m, 1m plain, 2m slotted. Deep Installation to 6m, 4m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH105** Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546720.51 - 258986.62	Hole Type CP
Location: CAMBRIDGE		Level: 9.67	Scale 1:50
Client: RPMI RAILPEN		Dates: 21/11/2022 - 22/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00 - 10.50	B					MADE GROUND: Structureless chalk composed of firm light brown cream mottled yellow brown gravelly very silty clay. Clasts are weak low density subangular to subrounded. (Reworked).	
		10.50	ES						
		10.50		N=16 (2,3/4,4,4,4)					
		10.50 - 10.95	D						
		11.00	D						11
		11.50 - 12.00	B						
		12.00	D						12
		12.00 - 12.45	U						
		12.50 - 13.00	B						
		13.00	D						13
		13.50	ES						
		13.50		N=11 (1,2/2,3,3,3)					
		13.50 - 13.95	D						
		14.00	D		14.00	-4.33			14
		14.00 - 14.50	B					Very stiff silty laminated CLAY.	
		15.00	ES						
		15.00 - 15.45	U					*Very high strength at 15.0m bgl.*	15
		15.50	D						
		15.50 - 16.00	B						
		16.50	D						16
		16.50		N=30 (3,4/6,7,8,9)					
		16.50 - 16.95	D						
		17.00 - 17.50	B						17
		17.50	D						
		18.00 - 18.45	U						18
		19.50	D						
		19.50		N=37 (4,6/8,8,10,11)					19
		19.50 - 19.95	D						
		20.00	ES						20

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusal recorded at 4.5m bgl. 5. Dual standpipe installed: Shallow installation to 3m, 1m plain, 2m slotted. Deep Installation to 6m, 4m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH105
Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546720.51 - 258986.62	Hole Type CP
Location: CAMBRIDGE		Level: 9.67	Scale 1:50
Client: RPMI RAILPEN		Dates: 21/11/2022 - 22/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		20.50	D					
		21.00 - 21.45	U					*High strength at 21.0m bgl.*
		21.50	D					
		21.50 - 22.00	B					
		22.50	D					
		22.50		N=38 (5,7/9,9,10,10)				
		22.50 - 22.95	D					
		23.00 - 23.50	B					
		23.50	D					
		24.00 - 24.45	U					
		24.50	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-15.33		End of borehole at 25.00 m

21 22 23 24 25 26 27 28 29 30

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated pit undertaken to 1.40m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusal recorded at 4.5m bgl. 5. Dual standpipe installed: Shallow installation to 3m, 1m plain, 2m slotted. Deep Installation to 6m, 4m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH106**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546673.71 - 259009.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.18	Scale 1:50
Client: RPMI RAILPEN		Dates: 17/11/2022 - 18/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	ES		0.10	11.08		MADE GROUND: Black tarmac.
		0.20	D		0.20	10.98		MADE GROUND: Dark brown gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including limestone.
		0.50 - 1.00	B		0.40	10.78		
		0.80	D					
		1.00 - 1.50	B		1.00	10.18		MADE GROUND: Light brown grey dry mix concrete.
		1.10	ES					
		1.20	D					MADE GROUND: Light brown concrete (Poor condition).
		1.50		N=4 (1,1/1,1,1,1)				
		1.50 - 1.95	D					MADE GROUND: Firm light brown sandy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including flint and chert. Sand is fine to coarse.
		1.60	ES					
		1.90	ES		2.00	9.18		*Gravel of low density chalk present from 1.70m bgl.*
		2.00	D					Structureless CHALK composed of firm white cream mottled yellow brown gravelly silty clay. Clasts are weak low density angular to subrounded with occasional flint. (Grade Dm).
		2.00 - 2.50	B					
		2.10	ES					
		2.50		N=28 (1,4/5,10,7,6)				
		2.50 - 2.95	D					
		3.00	D					*Occasional shell fragments present from 3.0m bgl.*
		3.00	ES					
		3.00 - 3.50	B					
		3.50		N=17 (1,2/3,4,5,5)				
		3.50 - 3.95	D					
		4.00	D					*Low cobble content between 3.80m bgl and 4.10m bgl.*
		4.00	ES					*Becomes light brown and laminated with bands of dark grey clay from 4.10m bgl.*
		4.00 - 4.50	B		4.30	6.88		Stiff dark grey silty laminated CLAY.
		4.50 - 4.95	U					
		5.00	D					
		5.00	ES					
		5.00 - 5.50	B					
		6.00	D					*Very stiff from 6.0m bgl.*
		6.00		N=17 (2,3/3,4,5,5)				
		6.00 - 6.45	D					
		6.50 - 7.00	B					
		7.00	D					
		7.50 - 7.95	U					*High strength at 7.5m bgl*
		8.00	D					
		8.00 - 8.50	B					
		9.00	D					
		9.00		N=25 (2,4/5,6,7,7)				
		9.00 - 9.45	D					
		9.50 - 10.00	B					
		10.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Standpipe installed to 4m: 1m plain, 3m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH106**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546673.71 - 259009.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.18	Scale 1:50
Client: RPMI RAILPEN		Dates: 17/11/2022 - 18/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.00	ES					
		10.50 - 10.95	U					
		11.00	D					
		11.00 - 11.50	B					
		12.00	D					
		12.00		N=26 (3,4/5,6,7,8)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.00	D					
		13.50 - 13.95	U					
		14.00	D					
		14.00 - 14.50	B					
		15.00	D					
		15.00	ES					
		15.00		N=34 (3,4/6,8,10,10)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					
		16.00	D					
		16.50 - 16.95	U					
		17.00	D					
		17.00 - 17.50	B					
		18.00	D					
		18.00		N=36 (4,5/7,9,10,10)				
		18.00 - 18.45	D					
		18.50 - 19.00	B					
		19.00	D					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Standpipe installed to 4m: 1m plain, 3m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH106**

Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546673.71 - 259009.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.18	Scale 1:50
Client: RPMI RAILPEN		Dates: 17/11/2022 - 18/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	ES					
		20.00 - 20.50	B					
		21.00	D					
		21.00		N=40 (6,8/9,9,10,12)				
		21.00 - 21.45	D					
		21.50 - 22.00	B					
		22.00	D					
		22.50 - 22.95	U					*Very high strength at 22.5m bgl.*
		23.00	D					
		23.00 - 23.50	B					
		24.00	D					
		24.00		N=41 (5,8/8,10,11,12)				
		24.00 - 24.45	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-13.82		End of borehole at 25.00 m

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Standpipe installed to 4m: 1m plain, 3m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH107**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546696.74 - 258791.14	Hole Type CP
Location: CAMBRIDGE		Level: 9.55	Scale 1:50
Client: RPMI RAILPEN		Dates: 23/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	9.35		MADE GROUND: Black tarmac.
		0.50	D					MADE GROUND: Brown clayey fine to coarse sand and angular to subangular medium to coarse gravel of mixed lithologies including brick, concrete and plastic with moderate cobble content of brick and concrete.
		0.50	ES					
		0.50 - 1.00	B					
		1.00	D					
		1.00	ES					
		1.50	ES					
		1.50		N=11 (1,2/2,3,3,3)				
		1.50 - 2.00	B					
		1.90	ES		2.00	7.55		Structureless CHALK composed of firm light brown cream mottled yellowish brown gravelly silty clay. Clasts are weak low density subangular to subrounded. (Grade Dm).
		2.00	D					*Medium strength at 2.5m bgl*
		2.00 - 2.50	B					
		2.10	ES					
		2.50 - 2.95	U					
		3.00	D					
		3.00	ES					
		3.00 - 3.50	B					
		3.50		N=7 (1,1/1,2,2,2)				
		3.50 - 3.95	D					
		3.90	ES		4.00	5.55		Very stiff silty laminated CLAY.
		4.00	D					
		4.00 - 4.50	B					
		4.10	ES					
		4.50 - 4.95	U					
		5.00	D					
		5.00	ES					
		5.00 - 5.50	B					
		6.00	D					
		6.00		N=15 (2,3/3,3,4,5)				
		6.00 - 6.45	D					
		6.50 - 7.00	B					
		7.00	D					
		7.50 - 7.95	U					
		8.00	D					
		8.00 - 8.50	B					
		9.00	D					
		9.00		N=20 (3,4/4,5,5,6)				
		9.00 - 9.45	D					
		9.50 - 10.00	B					
		10.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. No groundwater encountered. 4. SPT refusal recorded at 24m bgl. 5. Standpipe installed to 4m: 2m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH107**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546696.74 - 258791.14	Hole Type CP
Location: CAMBRIDGE		Level: 9.55	Scale 1:50
Client: RPMI RAILPEN		Dates: 23/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50 - 10.95	U					*Very high strength at 10.5m bgl.*
		11.00	D					*Becomes silty at 11.0m bgl.*
		11.00 - 11.50	B					
		12.00	D					
		12.00		N=27 (2,4/5,7,7,8)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.00	D					
		13.50 - 13.95	U					
		14.00	D					
		14.00 - 14.50	B					
		15.00	D					
		15.00	ES					
		15.00		N=27 (3,4/5,6,8,8)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					
		16.00	D					
		16.50 - 16.95	U					
		17.00	D					
		17.00 - 17.50	B					
		18.00	D					
		18.00		N=29 (4,5/5,6,8,10)				
		18.00 - 18.45	D					
		18.50 - 19.00	B					
		19.00	D					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. No groundwater encountered. 4. SPT refusal recorded at 24m bgl. 5. Standpipe installed to 4m: 2m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH107
Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546696.74 - 258791.14	Hole Type CP
Location: CAMBRIDGE		Level: 9.55	Scale 1:50
Client: RPMI RAILPEN		Dates: 23/11/2022 - 23/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		21.00	D					
		21.00		N=36 (5,5/7,9,10,10)				
		21.00 - 21.45	D					
		21.50 - 22.00	B					
		22.00	D					
		22.50 - 22.95	U					
		23.00	D					
		23.00 - 23.50	B					
		24.00	D					
		24.00		N=50 (6,8/50 for 285mm)				
		24.00 - 24.45	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-15.45		End of borehole at 25.00 m

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. No groundwater encountered. 4. SPT refusal recorded at 24m bgl. 5. Standpipe installed to 4m: 2m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH108**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546751.38 - 258785.48	Hole Type CP
Location: CAMBRIDGE		Level: 8.93	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By MB

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10	8.83		MADE GROUND: Black tarmac.
		0.50	D					MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.
		0.50	ES					
		0.50 - 1.00	B					
		0.90	ES		1.00	7.93		
		1.00	D					MADE GROUND: Dark brown clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete with low cobble content of brick. Contains metal. Faint solvent odour.
	▼	1.00 - 1.50	B					
		1.10	ES					
		1.50	ES					
		1.50		N=2 (1,0/0,1,1,0)				
		1.50 - 2.00	B					*Becomes very clayey at 1.5m bgl.*
		1.90	ES		2.00	6.93		MADE GROUND: Black clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including brick. Sand is fine to medium. Contains ceramic, cloth, wood, metal, wire, copper and plastic. Faint solvent odour. (Fines=35%, Coarse inert=25%, Metal, Glass & Ceramics=15%, Fabric=10%, Wood=5%).
		2.10	ES					
		2.50	ES					
		2.50		N=0 (0,0/0,0,0,0)				
		3.00	ES					
		3.50	ES					
		3.50		N=0 (0,0/0,0,0,0)				
		3.50 - 4.00	B					
		4.00	ES					
		4.50	ES					
		4.50		N=2 (1,0/0,1,0,1)				
		4.50 - 5.00	B					
		5.00	ES					
		5.50	D					
		5.90	ES					
		6.00		N=13 (2,3/3,3,3,4)	6.00	2.93		MADE GROUND: Firm grey sandy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick. Sand is fine to medium. Contains metal and plastic. (Fabric=10%, Fines=55%, Metal, Glass & Ceramics=15%, Wood=10%, Coarse inert=10%).
		6.00 - 6.45	D					
		6.00 - 6.50	B					
		6.10	ES					
		6.50	ES					
		7.00	D					
		7.00	ES					
		7.00 - 7.50	B					
		7.50		N=8 (1,2/2,2,2,2)				
		7.50 - 7.95	D					
		8.00	D					*Faint hydrocarbon odour.*
		8.00 - 8.50	B					
		8.10	ES					
		9.00	D					
		9.00	ES					
		9.00		N=8 (1,1/2,2,2,2)				
		9.00 - 9.45	D		9.50	-0.57		Firm dark grey silty laminated CLAY.
		9.40	ES					
		9.50 - 10.00	B					
		9.60	ES					
		10.00	D		10.00	-1.07		

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 1.5m bgl. 4. Dual standpipe installed. Shallow installation to 2m: 1m plain, 1m slotted. Deep Installation to 9.5m: 4m plain, 5.5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH108**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546751.38 - 258785.48	Hole Type CP
Location: CAMBRIDGE		Level: 8.93	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Very stiff dark grey silty laminated CLAY.	
		10.50 - 10.95	U						
		11.00 - 11.50	B						11
		12.00	D						12
		12.00		N=25 (2,3/4,6,7,8)					
		12.00 - 12.45	D						
		12.50 - 13.00	B						
		13.00	D						13
		13.50 - 13.95	U						
		14.00	D						14
		14.00 - 14.50	B						
		15.00	D						15
		15.00	ES						
		15.00		N=28 (3,4/6,7,7,8)					
		15.00 - 15.45	D						
		15.50 - 16.00	B						
		16.00	D						16
		16.50 - 16.95	U						
		17.00	D						17
		17.00 - 17.50	B						
		18.00	D						18
		18.00		N=29 (3,4/5,7,8,9)					
		18.00 - 18.45	D						
		18.50 - 19.00	B						
		19.00	D						19
		19.50 - 19.95	U					*High strength at 19.5m bgl.*	
		20.00	D						20

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 1.5m bgl. 4. Dual standpipe installed. Shallow installation to 2m: 1m plain, 1m slotted. Deep Installation to 9.5m: 4m plain, 5.5m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH108** Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546751.38 - 258785.48	Hole Type CP
Location: CAMBRIDGE		Level: 8.93	Scale 1:50
Client: RPMI RAILPEN		Dates: 24/11/2022 - 25/11/2022	Logged By MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		21.00	D					
		21.00		N=41 (6,7/9,10,10,12)				
		21.00 - 21.45	D					
		21.50 - 22.00	B					
		22.00	D					
		22.50 - 22.95	U					
		23.00	D					
		23.00 - 23.50	B					
		24.00		N=44 (6,8/10,10,12,12)				
		24.00 - 24.45	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-16.07		End of borehole at 25.00 m

21 22 23 24 25 26 27 28 29 30

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.40m bgl. 3. Groundwater encountered at 1.5m bgl. 4. Dual standpipe installed. Shallow installation to 2m: 1m plain, 1m slotted. Deep Installation to 9.5m: 4m plain, 5.5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH109**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546913.67 - 259028.67	Hole Type CP
Location: CAMBRIDGE		Level: 9.31	Scale 1:50
Client: RPMI RAILPEN		Dates: 29/11/2022 - 30/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	B		0.27	9.04		MADE GROUND: Black tarmac.
		0.40	ES					MADE GROUND: Light brown gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including limestone.
		0.40 - 0.80	B					*Geogrid present at 0.90m bgl.*
		0.80	ES					
		0.80 - 1.20	B		1.00	8.31		MADE GROUND: Dark brown slightly sandy clayey angular to subangular fine to coarse gravel of mixed lithologies including brick, chert and ceramic. Sand is fine to medium.
		1.20	ES					
		1.50		N=12 (1,3/2,3,4,3)				
		1.50 - 1.95	D					
		1.70	ES					
		2.00 - 2.50	B		2.00	7.31		MADE GROUND: Firm to stiff brown grey silty slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including chert. Sand is coarse. (Reworked).
		2.20	ES					*Gravel of low densitry chalk present from 2.40m bgl.*
		2.50		N=13 (2,2/3,4,3,3)				
		2.50 - 2.95	D					
		3.00	ES					
		3.00 - 3.50	B					
		3.50		N=10 (3,2/3,2,2,3)				
		3.50 - 3.95	D					
		3.50 - 4.00	B					
		4.00	ES					
		4.50		N=14 (3,3/4,4,3,3)	4.60	4.71		Structureless CHALK composed of cream mottled brownish yellow gravelly clay with bands of soft to firm dark grey black silty organic clay. Clasts are weak low density subrounded of chalk and occasional chert. Occassional shells present. (Grade Dm).
		4.50 - 4.95	D					
		4.50 - 5.00	B					
		5.00	ES					
		5.50	D					
		6.00	ES					*High strength at 6.0m bgl*
		6.00 - 6.45	U					
		6.50	D		6.30	3.01		Firm dark grey black slightly sandy slightly gravelly silty organic CLAY. Sand is fine. Gravel is subrounded to rounded fine to medium of quartzite. Moderate organic odour.
		7.00	ES					
		7.00 - 7.50	B					
		7.50		N=15 (3,4/3,3,4,5)				
		7.50 - 7.95	D					
		8.50 - 9.00	B					
		9.00	ES					*High strength at 9.0m bgl*
		9.00 - 9.45	U					
		9.50	D		9.40	-0.09		Stiff to very stiff grey silty laminated CLAY.
		9.50 - 10.00	B					
		10.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 9m, 3m plain, 6m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH109**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546913.67 - 259028.67	Hole Type CP
Location: CAMBRIDGE		Level: 9.31	Scale 1:50
Client: RPMI RAILPEN		Dates: 29/11/2022 - 30/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50		N=17 (3,4/4,5,4,4)					
		10.50 - 10.95	D						
		11.00	D						11
		11.50 - 12.00	B						
		12.00 - 12.45	U					*Becomes very stiff from 12.0m bgl.*	12
		12.50	D						
		13.00 - 13.50	B						13
		13.50		N=21 (4,4/5,5,5,6)					
		13.50 - 13.95	D						
		14.00 - 14.50	B						14
		15.00 - 15.45	U						15
		15.50	D						
		16.00 - 16.50	B						16
		16.50		N=30 (3,5/6,8,8,8)					
		16.50 - 16.95	D						
		17.00 - 17.50	B						17
		18.00 - 18.45	U						18
		18.50	D						
		19.00 - 19.50	B						19
		19.50		N=33 (4,5/6,9,8,10)					
		19.50 - 19.95	D						
		20.00	ES						20

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 9m, 3m plain, 6m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH109
Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546913.67 - 259028.67	Hole Type CP
Location: CAMBRIDGE		Level: 9.31	Scale 1:50
Client: RPMI RAILPEN		Dates: 29/11/2022 - 30/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		21.00 - 21.45	U					
		21.50	D					
		22.00 - 22.50	B					
		22.50		N=34 (5,4/7,8,10,9)				
		22.50 - 22.95	D					
		23.00 - 23.50	B					
		24.00 - 24.45	U					*Very high strength at 24.0m bgl.*
		24.50	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-15.69		End of borehole at 25.00 m

21 22 23 24 25 26 27 28 29 30

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.30m bgl. 3. No groundwater encountered. 4. Dual standpipe installed: Shallow installation to 2m, 1m plain, 1m slotted. Deep Installation to 9m, 3m plain, 6m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH110**

Sheet 1 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546858.54 - 259181.16	Hole Type CP
Location: CAMBRIDGE		Level: 10.99	Scale 1:50
Client: RPMI RAILPEN		Dates: 01/12/2022 - 01/12/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	B		0.23	10.76		MADE GROUND: Black tarmac.
		0.40 - 0.80	B		0.30	10.69		MADE GROUND: Light brown orange gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including limestone.
		0.50	ES					
		0.80	ES		0.75	10.24		
		0.80 - 1.20	B					MADE GROUND: Brown gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including chert and flint.
		1.30	ES					
		1.50		N=5 (1,1/1,1,2,1)				*Geogrid encountered at 0.50m bgl.*
		1.50 - 1.95	D					
		1.80	ES					MADE GROUND: Dark brown silty very clayey gravelly sand. Sand is fine to medium. Gravel is angular to subrounded fine to medium of mixed lithologies including chert, brick and slag.
		2.00 - 2.50	B		1.90	9.09		
		2.10	ES					Structureless CHALK composed of cream mottled brownish yellow gravelly clay. Clasts are weak low density subangular to subrounded of chalk and occasional chert and flint. (Grade Dm).
		2.40	ES					
		2.50 - 2.95	U		2.50	8.49		
		2.60	ES					Soft light brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine of mixed lithologies including chalk and occasional chert.
		3.00	D					
		3.00 - 3.50	B		3.20	7.79		*Becomes silty from 2.70m bgl.*
		3.10	ES					Stiff to very stiff dark grey silty laminated CLAY.
		3.50	ES					
		3.50		N=10 (1,1/2,2,3,3)				
	▼	3.50 - 3.95	D					
		4.00 - 4.50	B					
		4.50	ES					
		4.50 - 4.95	U					
		5.00	D					
		5.50 - 6.00	B					
		6.00		N=14 (2,3/3,4,3,4)				
		6.00 - 6.45	D					
		6.50 - 7.00	B					
		7.50 - 7.95	U					*High strength from 7.5m bgl*
		8.00	D					
		8.50 - 9.00	B					
		9.00		N=16 (3,3/4,4,4,4)				*Becomes very stiff from 9.0m bgl.*
		9.00 - 9.45	D					
		9.50 - 10.00	B					
		10.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater seepage encountered at 4.0m bgl. 4. Standpipe installed to 3m: 1m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH110**

Sheet 2 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546858.54 - 259181.16	Hole Type CP
Location: CAMBRIDGE		Level: 10.99	Scale 1:50
Client: RPMI RAILPEN		Dates: 01/12/2022 - 01/12/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50 - 10.95	U					
		11.00	D					
		11.50 - 12.00	B					
		12.00		N=26 (4,5/6,7,7,6)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.50 - 13.95	U					
		14.00	D					*Occasional belemnites present from 14.0m bgl.*
		14.40 - 15.00	B					
		15.00	ES					
		15.00		N=29 (5,5/6,7,8,8)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					*Becomes slightly sandy from 16.0m bgl.*
		16.50 - 16.95	U					*Very high strength from 16.5m bgl.*
		17.00	D					
		17.50 - 18.00	B					
		18.00		N=33 (5,6/7,7,9,10)				
		18.00 - 18.45	D					
		18.50 - 19.00	B					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater seepage encountered at 4.0m bgl. 4. Standpipe installed to 3m: 1m plain, 2m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH110
Sheet 3 of 3

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546858.54 - 259181.16	Hole Type CP
Location: CAMBRIDGE		Level: 10.99	Scale 1:50
Client: RPMI RAILPEN		Dates: 01/12/2022 - 01/12/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.50 - 21.00	B					
		21.00		N=39 (5,7/9,10,10,10)				
		21.00 - 21.45	D					
		21.50 - 22.00	B					
		22.50 - 22.95	U					
		23.00	D					
		23.50 - 24.00	B					
		24.00		N=45 (6,6/10,11,12,12)				
		24.00 - 24.45	D					
		24.50 - 25.00	B					
		25.00	ES		25.00	-14.01		End of borehole at 25.00 m

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater seepage encountered at 4.0m bgl. 4. Standpipe installed to 3m: 1m plain, 2m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH111**

Sheet 1 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546557.54 - 258371.44	Hole Type CP
Location: CAMBRIDGE		Level: 11.64	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 09/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.25	11.39		MADE GROUND: Light grey concrete.
		0.20	ES	PID=1	0.35	11.29		MADE GROUND: Light brown gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including limestone.
		0.50	ES	PID=805				Structureless CHALK composed of cream mottled brown firm gravelly silty clay. Clasts are weak low density angular to subangular of chalk and chert. (Grade Dm).
		0.50 - 1.00	B					*Moderate to strong solvent odour between 0.5m and 2.5m bgl.*
		1.00	ES	PID=205				
		1.20	D					
		1.50	ES					
		1.50		N=21 (2,4/4,5,6,6) PID=1165				
		2.00	D					
		2.50	ES	PID=162				*High strength at 2.5m bgl*
		2.50 - 2.95	U					
		3.00	D		3.00	8.64		Structureless CHALK composed of cream firm silty gravelly clay with moderate cobble content. Clasts are weak low density angular to subangular of chalk with occasional chert. (Grade Dm).
		3.50	ES					
		3.50		N=20 (2,3/4,5,5,6) PID=26				
		4.00	D					
		4.50	ES	PID=4				
		4.50 - 4.95	U					
		5.00 - 5.50	B					
		5.70	D					
		6.00		N=29 (4,5/6,7,8,8)				
		6.70	D					
		7.00 - 7.50	B		7.00	4.64		Stiff dark grey laminated silty CLAY.
		7.50 - 7.95	U					
		8.00	D					
		8.00 - 8.50	B					
		8.70	D					
		9.00	ES					
		9.00		N=24 (3,4/5,5,7,7)				
		9.50 - 10.00	B					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 4.5m bgl, rising to 3.8m bgl after 20 minutes. 4. SPT refusals recorded from 24.0m bgl. 5. Rotary coring undertaken between 30.0m bgl and 32.0m bgl with 0% recovery. 6. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH111**

Sheet 2 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546557.54 - 258371.44	Hole Type CP
Location: CAMBRIDGE		Level: 11.64	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 09/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					
		10.50 - 10.95	U					
		11.00	D					
		11.50 - 12.00	B					
		12.00	D					
		12.00		N=27 (4,4/5,6,8,8)				
		12.50 - 13.00	B					
		13.20	D					
		13.50 - 13.95	U					
		14.00	D					
		14.00	ES					
		14.00 - 14.50	B					
		14.70	D					
		15.00		N=31 (4,6/6,7,9,9)				
		15.50 - 16.00	B					
		16.20	D					
		16.50 - 16.95	U					
		17.00	D					
		17.00 - 17.50	B					
		17.80	D					
		18.00	ES					
		18.00		N=47 (6,9/9,12,12,14)				*Becomes very laminated and very stiff from 18.0m bgl.*
		18.50 - 19.00	B					
		19.20	D					
		19.50 - 19.95	U					*High strength at 19.5m bgl*
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 4.5m bgl, rising to 3.8m bgl after 20 minutes. 4. SPT refusals recorded from 24.0m bgl. 5. Rotary coring undertaken between 30.0m bgl and 32.0m bgl with 0% recovery. 6. Standpipe installed to 6m: 1m plain, 5m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH111**

Sheet 3 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546557.54 - 258371.44	Hole Type CP
Location: CAMBRIDGE		Level: 11.64	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 09/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00 - 20.50	B					
		20.70	D					
		21.00		N=36 (3,6/6,9,9,12)				
		21.50 - 22.00	B					
		22.00	ES					
		22.20	D					
		22.50 - 22.95	U					
		23.00	D					
		23.00 - 23.50	B					
		23.70	D					
		24.00		N=50 (5,8/50 for 285mm)				
		24.50 - 25.00	B					
		25.20	D					
		25.50 - 25.95	U					
		26.00	D					
		26.00 - 26.50	B					
		26.70	D					
		27.00	ES					
		27.00		N=50 (6,9/50 for 275mm)				
		27.50 - 28.00	B					
		28.20	D					
		28.50 - 28.95	U					
		29.00	D					
		29.00 - 29.50	B					
		29.70	D					
		30.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 4.5m bgl, rising to 3.8m bgl after 20 minutes. 4. SPT refusals recorded from 24.0m bgl. 5. Rotary coring undertaken between 30.0m bgl and 32.0m bgl with 0% recovery. 6. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH111
Sheet 4 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546557.54 - 258371.44	Hole Type CP
Location: CAMBRIDGE		Level: 11.64	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 09/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		30.00		N=50 (9,9/50 for 255mm)				
		33.50 - 34.00	B					
		34.00	D					
		34.50 - 34.95	U					*Very high strength at 34.5m bg*
		35.00	D					
		35.00	ES					
		35.00 - 35.60	B					
		35.70	D					
		36.00		N=50 (7,10/50 for 255mm)				
		36.50 - 37.00	B					
		37.20	D					
		37.50 - 37.95	U					
		38.00	D					
		38.00 - 38.50	B					
		38.70	D					
		39.00		N=50 (8,10/50 for 225mm)				
		39.60 - 40.00	B					
		40.00	ES		40.00	-28.36		End of borehole at 40.00 m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 4.5m bgl, rising to 3.8m bgl after 20 minutes. 4. SPT refusals recorded from 24.0m bgl. 5. Rotary coring undertaken between 30.0m bgl and 32.0m bgl with 0% recovery. 6. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH112**

Sheet 1 of 5

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546647.22 - 258449.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.70	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 02/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.40	B		0.10	11.60		MADE GROUND: Black tarmac.
		0.40 - 0.80	B					MADE GROUND: Light brown angular to subangular fine to coarse gravel of mixed lithologies including limestone.
		0.50	ES					
		0.80 - 1.20	B		0.70	11.00		Structureless CHALK composed of cream mottled brown firm gravelly silty clay. Clasts are weak low density angular to subangular of chalk and chert. (Grade Dm).
		1.00	ES					
		1.50 - 1.95	U					
		2.00	D		2.00	9.70		Structureless CHALK composed of cream firm silty gravelly clay with moderate cobble content. Clasts are weak low density angular to subangular of chalk with occasional chert. (Grade Dm).
		2.00	ES					
		2.00 - 2.50	B					
		2.50		N=12 (2,3/3,4,2,3)				
		2.50 - 2.95	D					
		2.50 - 3.00	B					
		3.00	ES					
	▼	3.50 - 3.95	U					*Low strength at 3.5m bgl.*
		4.00	ES					
		4.00 - 4.50	B					
		4.50		N=7 (2,3/1,2,2,2)				
		4.50 - 4.95	D					
		5.00	ES					
		5.50 - 6.00	B					
		6.00	ES		6.00	5.70		Stiff dark grey laminated silty CLAY.
		6.00		N=9 (1,1/1,2,3,3)				
		6.00 - 6.45	D					
		7.00	D					
		7.00 - 7.50	B					
		7.50 - 7.95	U					
		8.00	D					
		8.50 - 9.00	B					
		9.00		N=17 (3,2/3,4,5,5)				
		9.00 - 9.45	D					
		10.00	ES					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusals recorded from 27.0m bgl. 5. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH112**

Sheet 2 of 5

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546647.22 - 258449.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.70	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 02/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.00 - 10.50	B					
		10.50	D					*High strength at 10.5m bgl.*
		10.50 - 10.95	U					
		11.00	D					
		11.00 - 11.50	B					
		12.00	D					
		12.00		N=32 (4,6/7,9,8,8)				
		12.00 - 12.45	D					
		12.50 - 13.00	B					
		13.50	D					
		13.50 - 13.95	U					
		14.00	D					*Becomes slightly gravelly of mudstone from 14.0m bgl*
		14.00 - 14.50	B					
		15.00	D					
		15.00	ES					
		15.00		N=35 (5,7/8,8,9,10)				
		15.00 - 15.45	D					
		15.50 - 16.00	B					
		16.50	D					
		16.50 - 16.95	U					
		17.00	D					
		17.50 - 18.00	B					
		18.00		N=42 (5,6/10,11,11,10)				
		18.00 - 18.45	D					
		19.00	D					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusals recorded from 27.0m bgl. 5. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH112** Sheet 3 of 5

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546647.22 - 258449.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.70	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 02/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	ES					*Becomes very stiff and slightly sandy from 25.0m bgl.*	
		20.50 - 21.00	B						
		21.00		N=33 (5,5/5,7,10,11)					21
		21.00 - 21.45	D						
		21.50 - 22.00	B						
									22
		22.50 - 22.95	U					*Very high strength at 22.5m bgl.*	
		23.00	D						23
		23.00 - 23.50	B						
		24.00		N=45 (5,6/10,12,11,12)					24
		24.00 - 24.45	D						
		24.50 - 25.00	B						
		25.00	ES						25
		25.50	D						
		26.00	D						26
		26.00 - 26.50	B						
		27.00	D						27
		27.00		N=50 (6,5/10,11,13,16)					
		27.00 - 27.45	D						
		28.00	D						28
		28.00 - 28.50	B						
		28.50 - 28.95	U						
		29.00	D						29
		29.00 - 29.50	B						
		30.00	ES						30

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusals recorded from 27.0m bgl. 5. Standpipe installed to 6m: 1m plain, 5m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH112** Sheet 4 of 5

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546647.22 - 258449.87	Hole Type CP
Location: CAMBRIDGE		Level: 11.70	Scale 1:50
Client: RPMI RAILPEN		Dates: 31/10/2022 - 02/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		30.00		N=50 (7,11/50 for 295mm)				
		30.00 - 30.45	D					
		30.50	D					
		30.50 - 31.00	B					
		31.50 - 31.95	U					
		32.00 - 32.50	B					*Contains angular to subangular fine to coarse gravel of mudstone from 32.0m bgl.*
		32.50	D					
		33.00		N=50 (8,10/50 for 260mm)				
		33.00 - 33.45	D					
		33.50 - 34.00	B					
		34.50	D					
		34.50 - 34.95	U					
		35.00	D					
		35.00	ES					
		35.00 - 35.50	B					
		36.00		N=50 (6,8/50 for 220mm)				
		36.00 - 36.45	D					
		36.50	D					
		37.50	D					
		37.50 - 37.95	U					
		38.50	D					
		38.50 - 39.00	B					
		39.00		N=50 (7,10/50 for 190mm)				
		39.00 - 39.45	D					
		40.00	D		40.00	-28.30		

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusals recorded from 27.0m bgl. 5. Standpipe installed to 6m: 1m plain, 5m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WBH112
Sheet 5 of 5

Project Name:	PROJECT OTTER	Project No. GRO-22165	Co-ords: 546647.22 - 258449.87	Hole Type CP
Location:	CAMBRIDGE		Level: 11.70	Scale 1:50
Client:	RPMI RAILPEN		Dates: 31/10/2022 - 02/11/2022	Logged By JKP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		40.00	ES					End of borehole at 40.00 m

41
42
43
44
45
46
47
48
49
50

Remarks
1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. SPT refusals recorded from 27.0m bgl. 5. Standpipe installed to 6m: 1m plain, 5m slotted.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WBH113** Sheet 1 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546552.86 - 258561.75	Hole Type CP
Location: CAMBRIDGE		Level: 12.81	Scale 1:50
Client: RPMI RAILPEN		Dates: 03/11/2022 - 08/11/2022	Logged By

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.10 - 0.60	B		0.09	12.72		MADE GROUND: Black tarmac
		0.15 - 1.50	ES		0.20	12.61		MADE GROUND: Brown clayey sandy angular to subangular fine to coarse gravel of mixed lithologies including limestone.
		0.30	ES					
		0.80	D		0.85	11.96		MADE GROUND: Brown clayey fine sand and angular to subangular fine to coarse gravel of mixed lithologies including chert and quartzite.
		0.80	ES					
		0.90	ES					
		1.00 - 1.50	B					Loose light brown gravelly medium to coarse SAND. Gravel is angular to subangular fine to medium of chert and quartzite.
		1.50		N=5 (1,1/1,1,2,1)				
		1.70	D					
		1.90	ES					
		2.00 - 2.50	B					
		2.50	ES					
		2.50		N=4 (1,1/1,1,1,1)	2.60	10.21		
		2.70	D					Firm light brown to light grey very sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of chert, quartzite and low density chalk.
		2.70	ES					
		3.00 - 3.50	B					
	▼	3.50		N=3 (1,1/1,1,0,1)				
		3.70	D					
		3.70	ES					
		4.00 - 4.60	B					
		4.50		N=12 (6,4/4,4,2,2)				
		4.70	ES					
		5.00 - 5.50	B					
		5.40	ES					
		5.50 - 6.00	B		5.50	7.31		Structureless CHALK composed of light grey firm silty gravelly clay. Gravel is weak low density angular to subrounded. (Grade Dm).
		5.70	ES					
		6.00	ES		5.90	6.91		Very stiff dark grey silty laminated CLAY.
		6.00		N=15 (1,3/3,3,4,5)				
		6.60 - 7.00	B					
		6.70	D					
		7.00	D					
		7.50 - 7.95	U					*High strength at 7.5m bgl*
		8.00	D					
		8.00 - 8.50	B					
		9.00	D					
		9.00		N=20 (2,3/3,4,7,6)				
		9.50 - 10.00	B					
		10.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 7m: 1m plain, 6m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH113**

Sheet 2 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546552.86 - 258561.75	Hole Type CP
Location: CAMBRIDGE		Level: 12.81	Scale 1:50
Client: RPMI RAILPEN		Dates: 03/11/2022 - 08/11/2022	Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.00	ES					
		10.50 - 10.95	U					
		11.00	D					
		11.00 - 11.50	B					
		12.00	D					
		12.00		N=27 (4,5/6,7,7,7)				
		12.50 - 13.00	B					
		13.00	D					
		13.50 - 13.95	U					
		14.00	D					
		14.00 - 14.50	B					
		15.00	D					
		15.00	ES					
		15.00		N=23 (3,4/5,5,6,7)				
		15.50 - 16.00	B					
		16.00	D					
		16.50 - 16.95	U					*High strength at 16.5m bgl.*
		17.00	D					
		17.00 - 17.50	B					
		18.00	D					
		18.00		N=35 (4,7/7,8,9,11)				
		18.50 - 19.00	B					
		19.00	D					
		19.50 - 19.95	U					
		20.00	D					

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 7m: 1m plain, 6m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH113**

Sheet 3 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546552.86 - 258561.75	Hole Type CP
Location: CAMBRIDGE		Level: 12.81	Scale 1:50
Client: RPMI RAILPEN		Dates: 03/11/2022 - 08/11/2022	Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	ES						
		20.00 - 20.50	B						
		21.00	D						21
		21.00		N=36 (4,6/8,8,10,10)					
		21.50 - 22.00	B						
		22.00	D						22
		22.50 - 22.95	U						
		23.00	D						23
		23.00 - 23.50	B						
		24.00	D						24
		24.00		N=50 (9,10/50 for 265mm)					
		24.50 - 25.00	B						
		25.00	D						25
		25.00	ES						
		25.50 - 25.95	U						
		26.00	D						26
		26.00 - 26.50	B						
		27.00	D						27
		27.00		N=41 (6,8/9,10,11,11)					
		27.50 - 28.00	B						
		28.00	D						28
		28.50 - 28.95	U						
		29.00	D						29
		29.00 - 29.50	B						
		30.00	D						30

Continued on next sheet

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 7m: 1m plain, 6m slotted.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WBH113**

Sheet 4 of 4

Project Name: PROJECT OTTER	Project No. GRO-22165	Co-ords: 546552.86 - 258561.75	Hole Type CP
Location: CAMBRIDGE		Level: 12.81	Scale 1:50
Client: RPMI RAILPEN		Dates: 03/11/2022 - 08/11/2022	Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		30.00	ES						
		30.00		N=44 (5,9/9,11,12,12)					
		30.50 - 31.00	B						
		31.00	D						31
		31.50 - 31.95	U						
		32.00	D						32
		32.00 - 32.50	B						
		33.00	D						33
		33.00		N=50 (4,9/9,12,14,15)					
		33.50 - 34.00	B						
		34.00	D						34
		34.50 - 34.95	U					*Very high strength at 34.5m bgl*	
		35.00	D						35
		35.00	ES						
		35.00 - 35.50	B						
		36.00	D						36
		36.00		N=44 (5,8/9,11,11,13)					
		36.50 - 37.00	B						
									37
		37.50 - 37.95	U						
		38.00	D						38
		38.00 - 38.50	B						
		39.00	D						39
		39.00		N=43 (6,9/9,10,12,12)					
		39.50 - 40.00	B						
		40.00	ES		40.00	-27.19		End of borehole at 40.00 m	40

Remarks

1. Location cleared for utilities by a specialist using a CAT and GPR. 2. Hand excavated inspection pit undertaken to 1.20m bgl. 3. Groundwater encountered at 3.5m bgl. 4. Standpipe installed to 7m: 1m plain, 6m slotted.