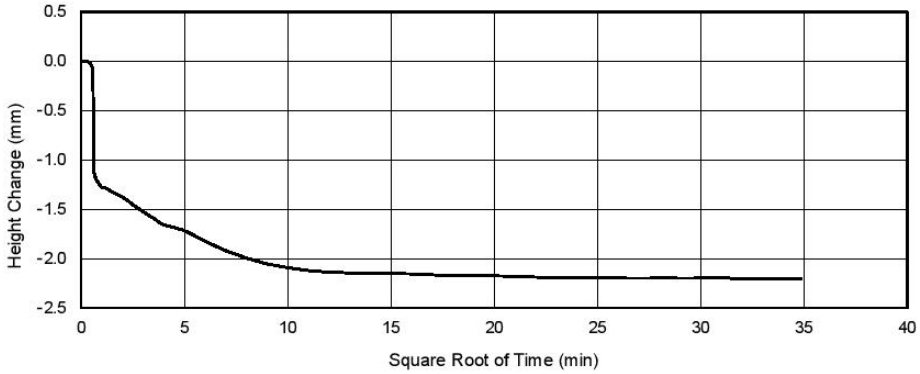
Kiwa CMT

Shearbox BH02 03.00 - C8650-391922.xls : Sample ID 391922

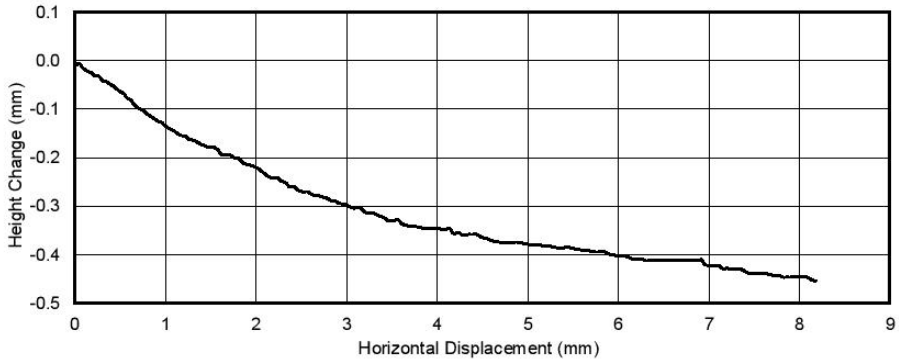
igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH02 Depth(m) 3.00-3.45

Specimen No. 3 Normal Pressure = 200 kPa

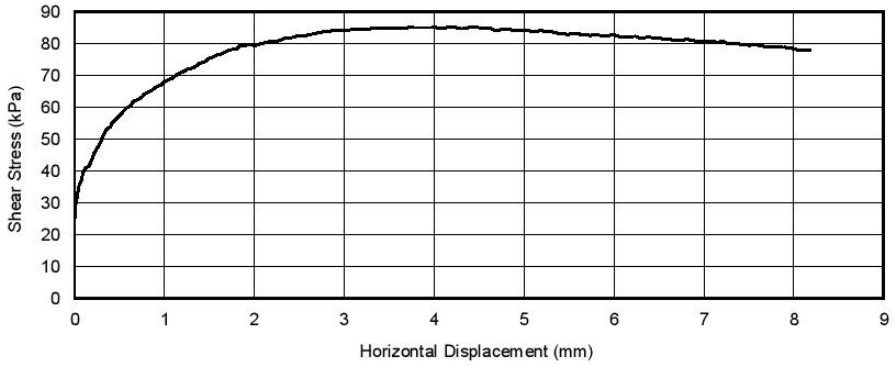
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Kiwa CMT

Kiwa CMT Ltd
Unit 5
Prime Parkway
Prime Enterprise Business Park
Derby
DE1 3QB
For the attention of Daniel Newton

Report No: C8650
Issue No 03

LABORATORY TEST REPORT

Project Name	**BARRY WATERFRONT COLLEGE**		
Project Number	**C8650**	Date samples received	28/11/2023
Your Ref	SC14907	Date written instructions received	27/11/2023
Purchase Order	71183	Date testing commenced	20/12/2023

Please find enclosed the results as summarised below

Item No	Test Quantity	Description	ISO 17025 Accredited
7.14	4	Set of 3 x 60mm shear box	Yes

Remarks :

Issued by : Hollie Ward [redacted] Date of Issue : 26/01/2024

Approved Signatories :
J.Hopkins (Laboratory Coordinator), M D Brown (Senior Quality Manager), R Norris (Supervisor), R Collett (Site Supervisor), M Bryan (Senior Lab Technician)

Key to symbols used in this report
S/C : Testing was sub-contracted

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date.
All results contained in this report are provisional unless signed by an approved signatory
This report should not be reproduced except in full without the written approval of the laboratory.
Under multisite accreditation, testing in this report may have been performed at another Terra Tek Ltd (Trading as igne) laboratory.
The enclosed results remain the property of Terra Tek Limited (Trading as igne) and we reserve the right to withdraw our report if we have not received cleared funds in accordance with our standard terms and conditions

Only those results indicated in this report are UKAS accredited and any opinions or interpretations expressed are outside the scope of UKAS accreditation.

Feedback on the this report may be left via our website www.igne.com/contact

Kiwa CMT

Shearbox BH03 04.00 - C8650-391913.xls : Sample ID 391913

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 4.00-4.45

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Submerged
Description	Brown slightly sandy slightly gravelly CLAY. Gravel is fine.
Preparation	Material >2mm removed (99% passing). Remoulded using 2.5 Kg compactive effort at the as-received water content.

Specimen Number		1	2	3
Length	mm	60.1	60.1	60.0
Width	mm	60.1	60.1	60.0
Height	mm	20.0	20.0	20.0
Initial water content	%	37.1	37.1	37.1
Initial bulk density	Mg/m³	1.81	1.81	1.81
Initial dry density	Mg/m³	1.32	1.32	1.32
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65
Consolidation Stage				
Normal stress	kPa	50	100	200
Height change	mm	-1.5	-2.3	-4.4
Duration	day(s)	1	1	1
Shearing Stage				
Normal stress	kPa	50	100	200
Peak Conditions:				
Rate of horizontal displacement	mm/min	0.06	0.06	0.06
Maximum shear stress	kPa	22	46	96
Horizontal displacement	mm	6.1	7.9	7.9
Height change	mm	-0.3	-0.4	-0.5
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	34.8	31.8	29.4
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)

Effective Cohesion	kPa	**0**
Effective Angle of Shearing Resistance	degrees	**25.5**

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 18/01/2024	BS EN ISO 17892-10:2018	Sheet 1 of 5

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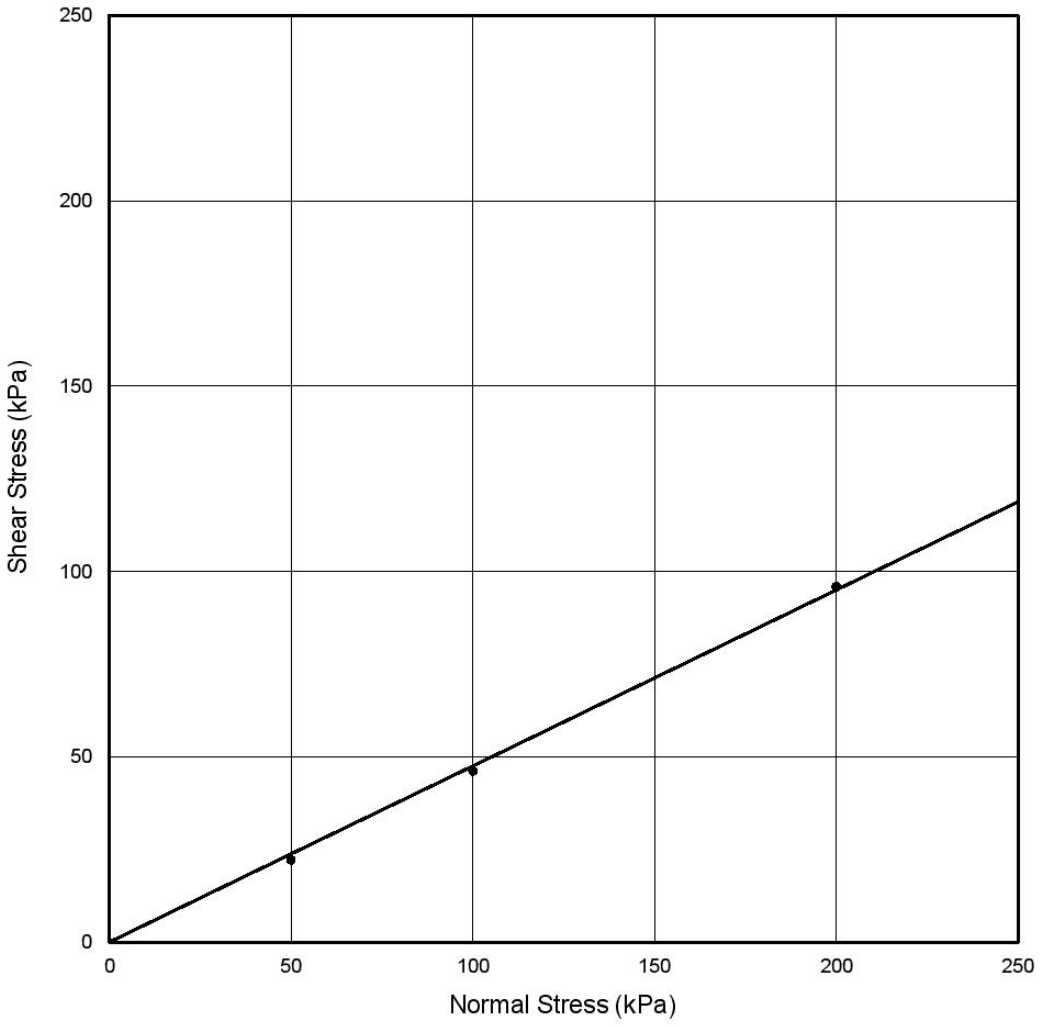
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 4.00-4.45

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 0 kPa
Ø' = 25.5 °

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Shearbox BH03 04.00 - C8650-391913.xls : Sample ID 391913

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Kiwa CMT

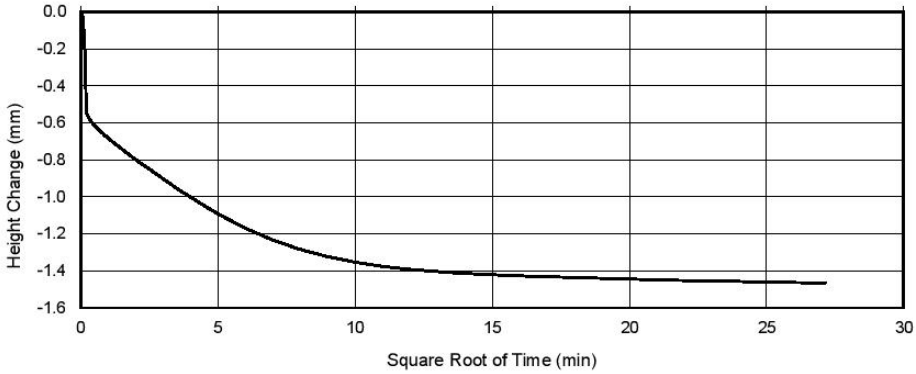
Shearbox BH03 04.00 - C8650-391913.xls : Sample ID 391913

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH03
	Engineer:	Depth(m): 4.00-4.45

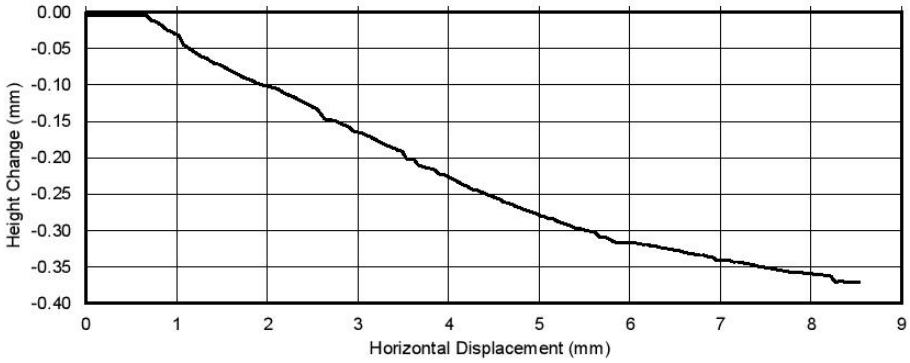
Specimen No. 1

Normal Pressure = 50 kPa

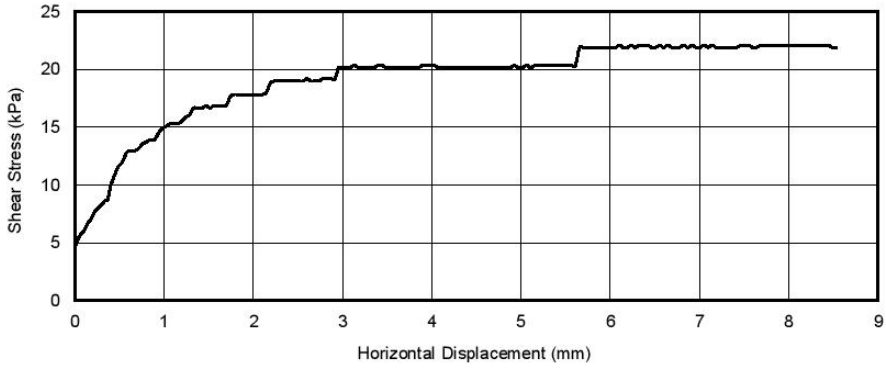
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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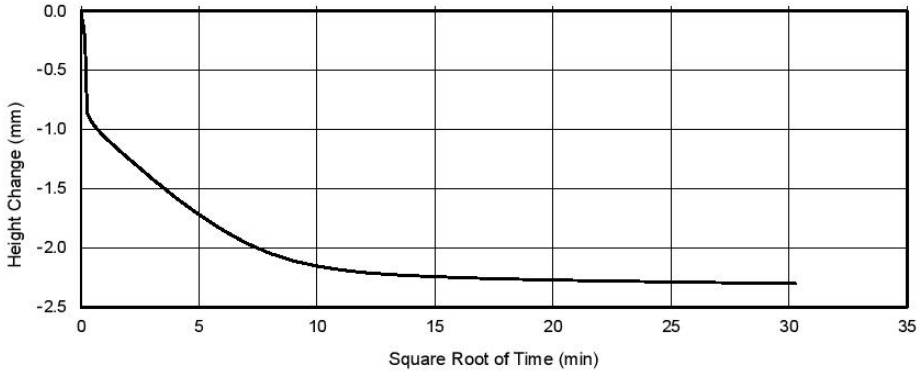
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 4.00-4.45

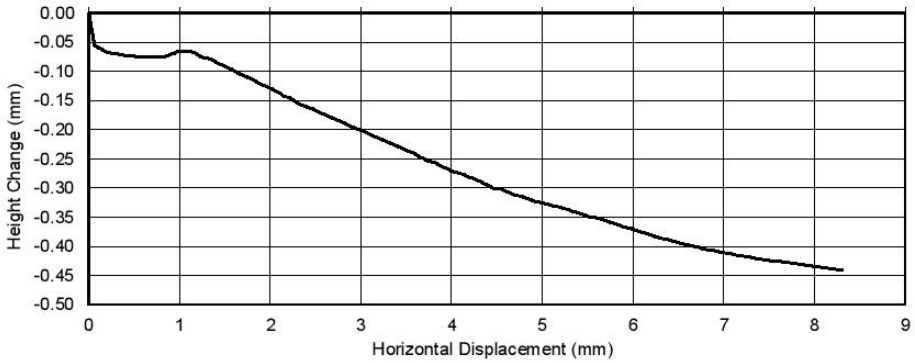
Specimen No. 2

Normal Pressure = 100 kPa

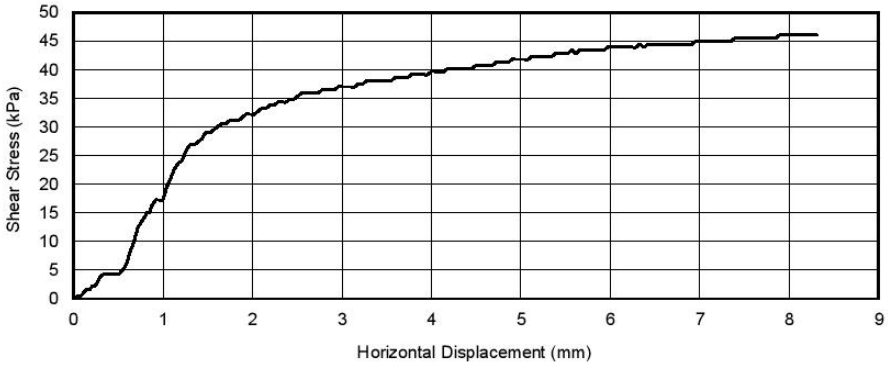
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Shearbox BH03 04.00 - C8650-391913.xls : Sample ID 391913

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Kiwa CMT

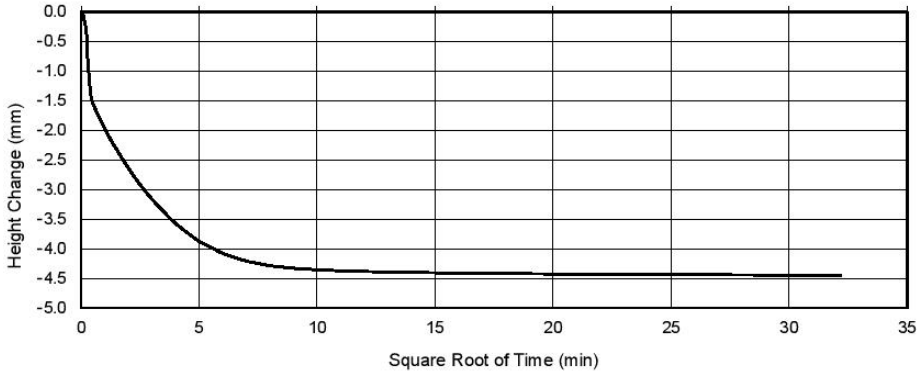
Shearbox BH03 04.00 - C8650-391913.xls : Sample ID 391913

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID BH03
	Engineer:	Depth(m) 4.00-4.45

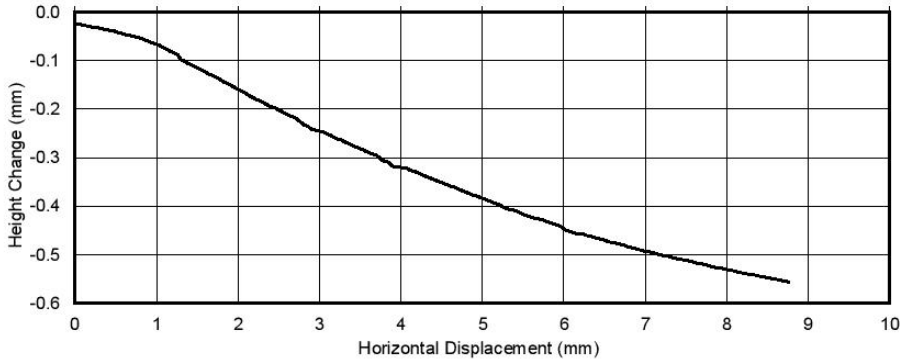
Specimen No. 3

Normal Pressure = 200 kPa

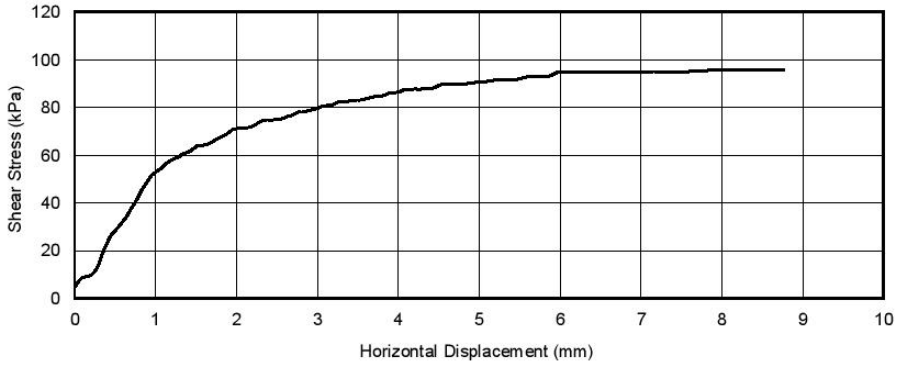
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Kiwa CMT

Shearbox BH03 13.00 - C8650-391918.xls : Sample ID 391918

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 13.00-13.45

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Submerged
Description	Grey slightly sandy clayey fine to coarse GRAVEL.
Preparation	Material >2mm removed (31% passing). Remoulded using 2.5 Kg compactive effort at the as-received water content.

Specimen Number		1	2	3
Length	mm	60.1	60.1	60.0
Width	mm	60.1	60.1	60.0
Height	mm	20.0	20.0	20.0
Initial water content	%	19.7	19.7	19.7
Initial bulk density	Mg/m^3	1.87	1.87	1.87
Initial dry density	Mg/m^3	1.56	1.56	1.56
Particle Density (assumed)	Mg/m^3	2.65	2.65	2.65
Consolidation Stage				
Normal stress	kPa	150	300	600
Height change	mm	-1.6	-1.8	-3.4
Duration	day(s)	1	1	1
Shearing Stage				
Normal stress	kPa	150	300	600
Peak Conditions:				
Rate of horizontal displacement	mm/min	0.08	0.08	0.08
Maximum shear stress	kPa	86	187	381
Horizontal displacement	mm	4.6	8.0	7.0
Height change	mm	0.0	-0.2	-0.3
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	18.6	17.9	17.4
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	**0**
Effective Angle of Shearing Resistance	degrees	**32**

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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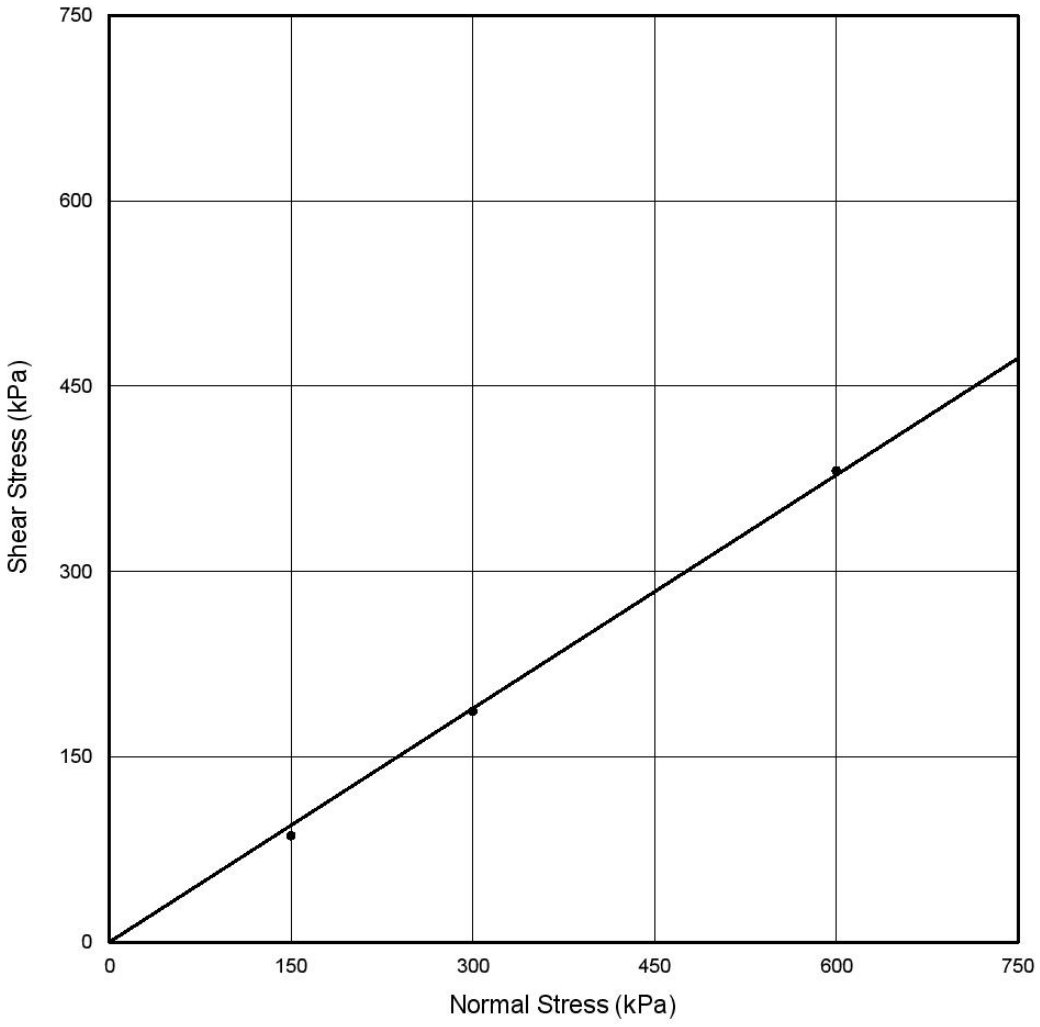
Kiwa CMT

Shearbox BH03 13.00 - C8650-391918.xls : Sample ID 391918

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 13.00-13.45

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 0 kPa
Ø' = 32 °

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 2 of 5

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Kiwa CMT

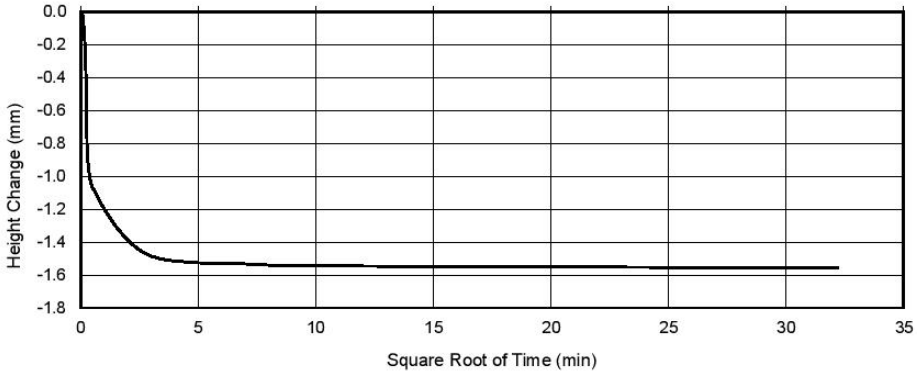
Shearbox BH03 13.00 - C8650-391918.xls : Sample ID 391918

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH03
	Engineer:	Depth(m): 13.00-13.45

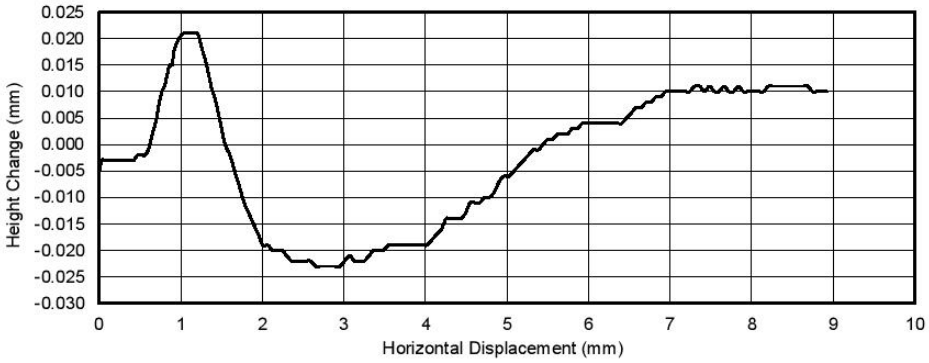
Specimen No. 1

Normal Pressure = 150 kPa

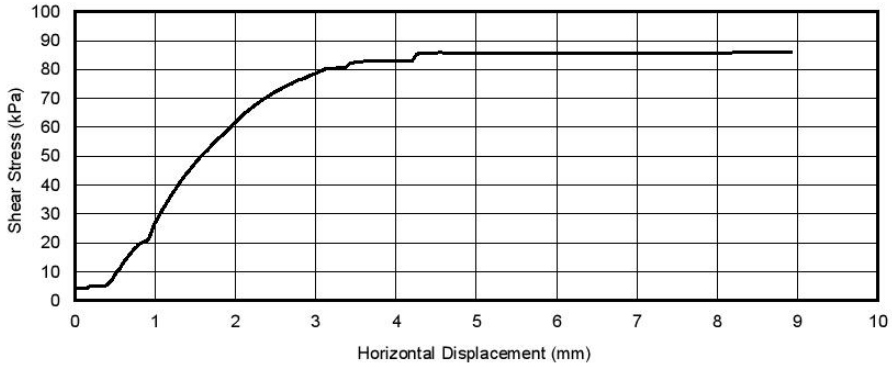
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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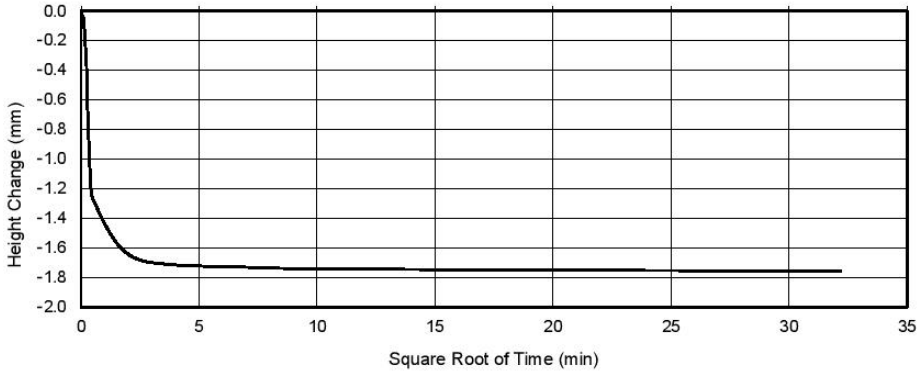
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH03 Depth(m) 13.00-13.45

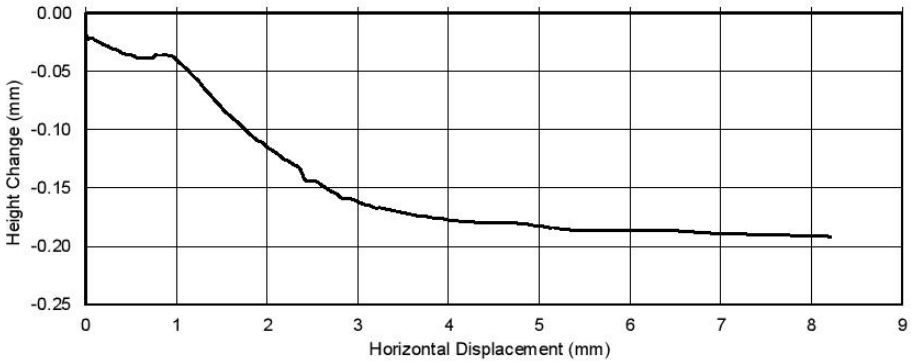
Specimen No. 2

Normal Pressure = 300 kPa

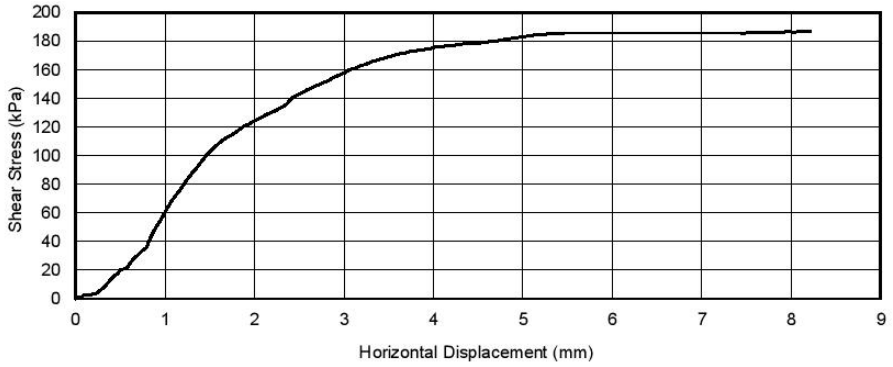
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Shearbox BH03 13.00 - C8650-391918.xls : Sample ID 391918

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Lab Project No C8650 : 25/01/2024 09:22:38

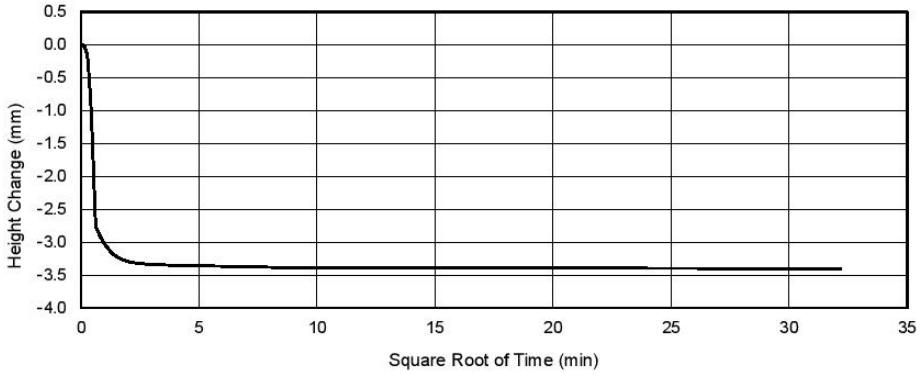
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH03
	Engineer:	Depth(m): 13.00-13.45

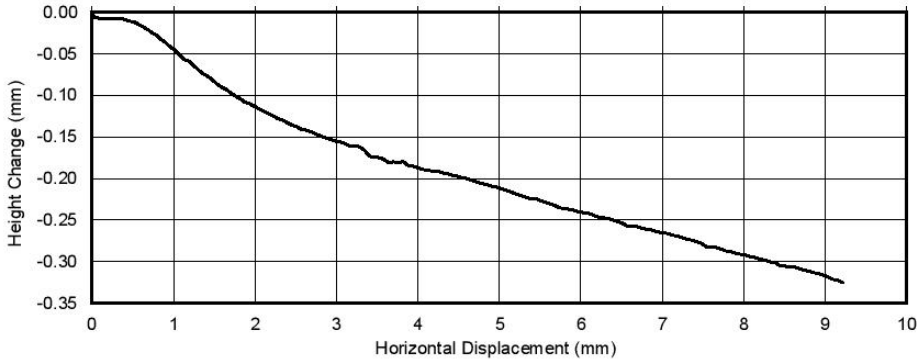
Specimen No. 3

Normal Pressure = 600 kPa

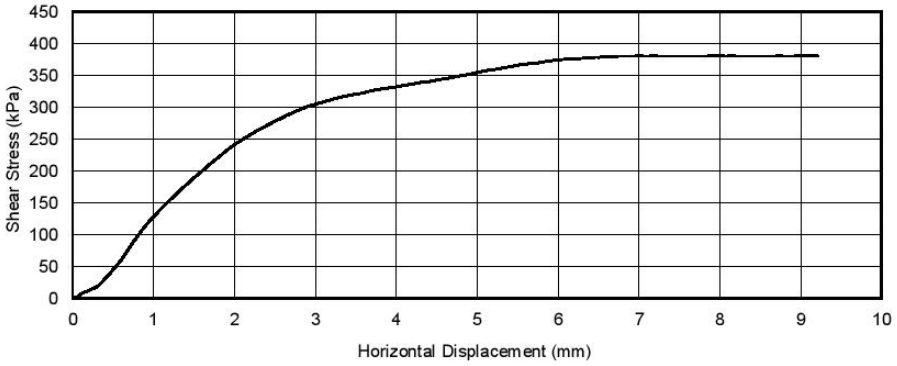
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Shearbox BH03 13.00 - C8650-391918.xls : Sample ID 391918

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Kiwa CMT

Shearbox BH02 09.00 - C8650-391927.xls : Sample ID 391927

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	**Contract No. SC14907** Hole ID: BH02 Depth(m): 9.00-9.45

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Submerged
Description	Grey very sandy very silty fine to coarse GRAVEL.
Preparation	Material >2mm removed (29% passing). Remoulded using 2.5 Kg compactive effort at the as-received water content.

Specimen Number		1	2	3
Length	mm	60.1	60.1	60.0
Width	mm	60.1	60.1	60.0
Height	mm	20.0	20.0	20.0
Initial water content	%	31.3	31.3	31.3
Initial bulk density	Mg/m^3	1.91	1.91	1.91
Initial dry density	Mg/m^3	1.46	1.46	1.46
Particle Density (assumed)	Mg/m^3	2.65	2.65	2.65
Consolidation Stage				
Normal stress	kPa	100	200	400
Height change	mm	-2.4	-3.3	-7.2
Duration	day(s)	1	1	1
Shearing Stage				
Normal stress	kPa	100	200	400
Peak Conditions:				
Rate of horizontal displacement	mm/min	0.048	0.048	0.048
Maximum shear stress	kPa	50	106	194
Horizontal displacement	mm	7.3	7.0	8.0
Height change	mm	-0.3	-0.3	-0.3
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	21.1	20.0	19.1
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	**6**
Effective Angle of Shearing Resistance	degrees	**25.5**

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 1 of 5

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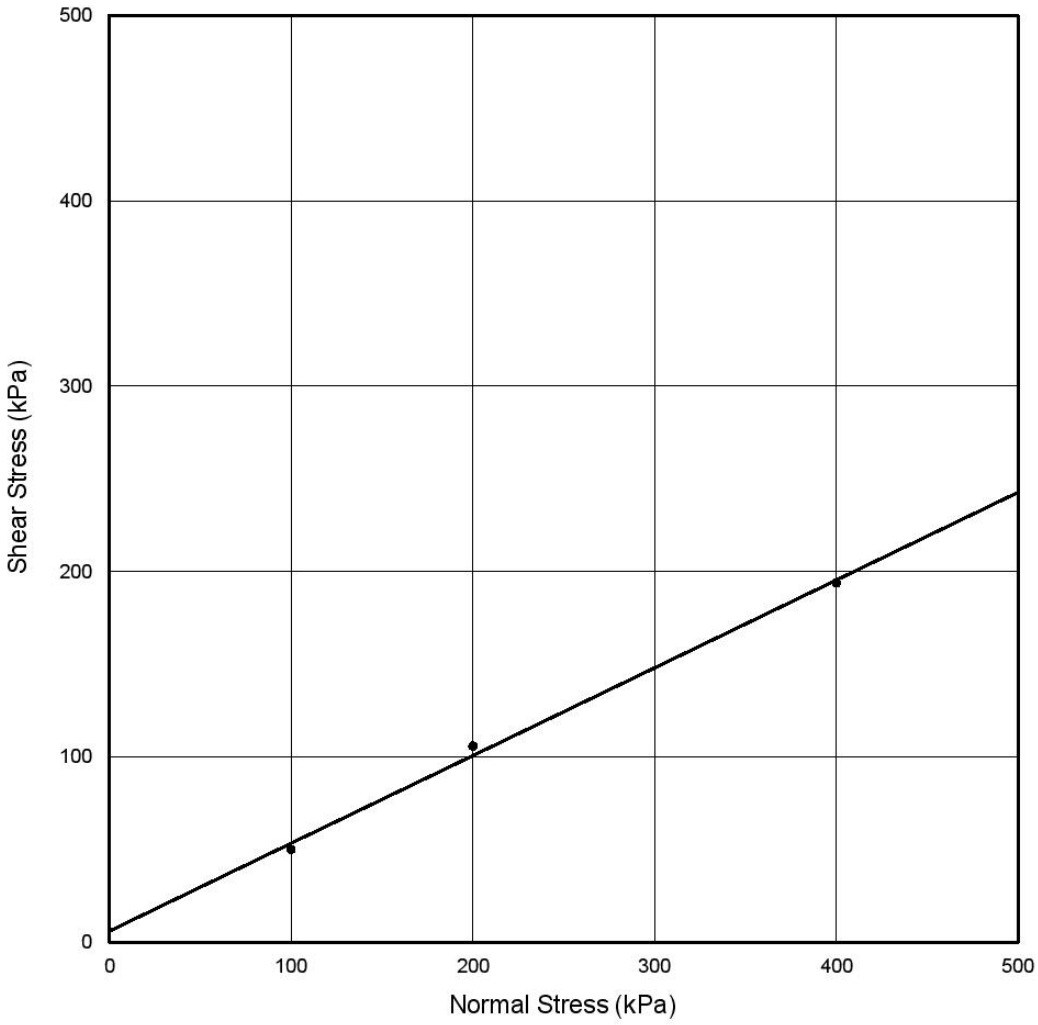
Lab Project No C8650 : 25/01/2024 09:32:00

Kiwa CMT

Shearbox BH02 09.00 - C8650-391927.xls : Sample ID 391927

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	**Contract No. SC14907** Hole ID: BH02 Depth(m): 9.00-9.45

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 6 kPa
Ø' = 25.5 °

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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Kiwa CMT

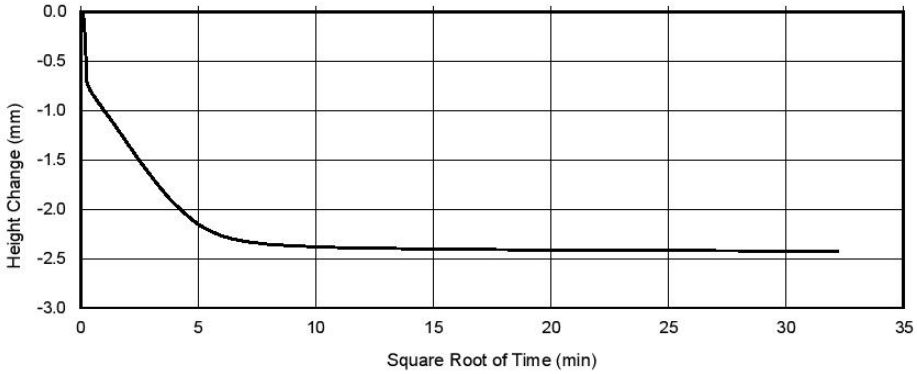
Shearbox BH02 09.00 - C8650-391927.xls : Sample ID 391927

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH02
	Engineer:	Depth(m): 9.00-9.45

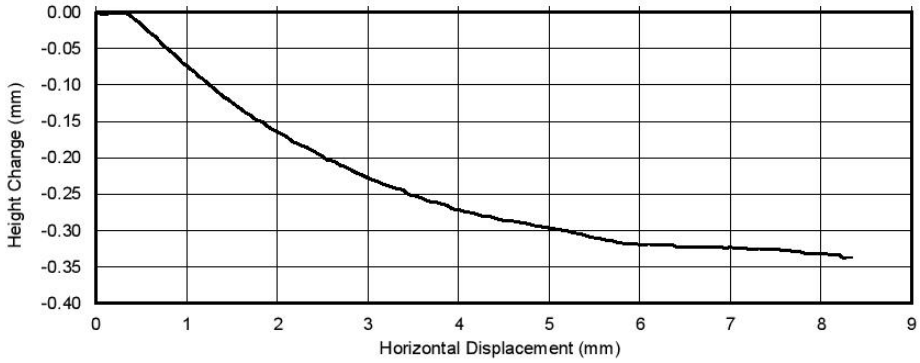
Specimen No. 1

Normal Pressure = 100 kPa

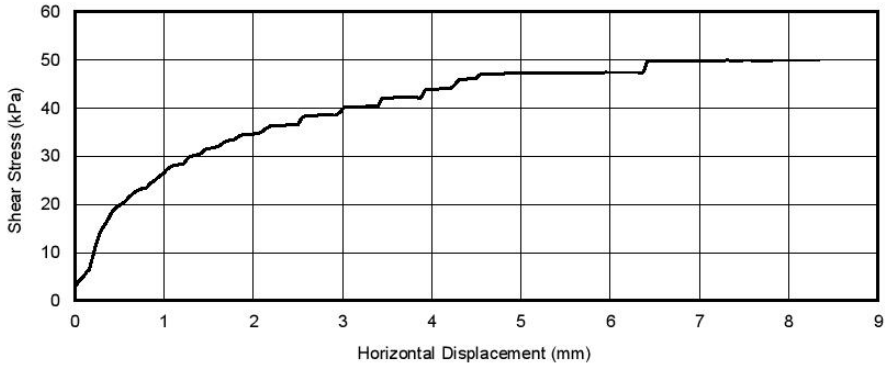
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 3 of 5

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Lab Project No C8650 : 25/01/2024 09:32:00

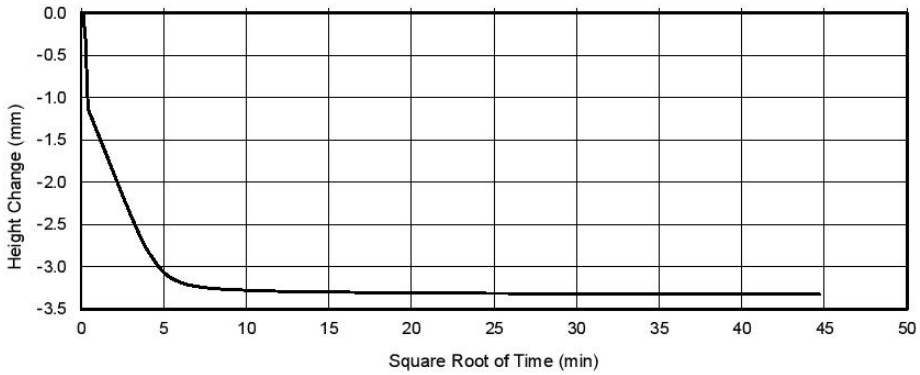
Kiwa CMT

Shearbox BH02 09.00 - C8650-391927.xls : Sample ID 391927

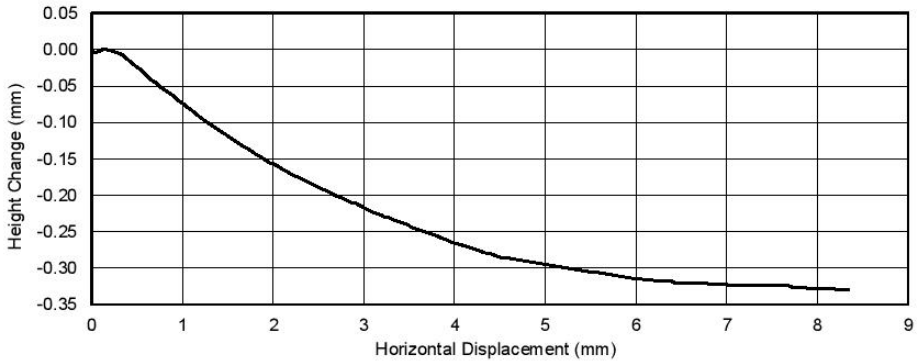
igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH02 Depth(m) 9.00-9.45

Specimen No. 2 Normal Pressure = 200 kPa

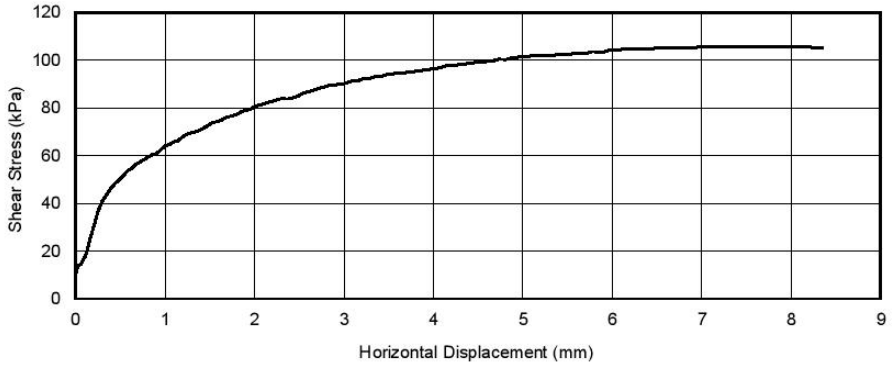
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 4 of 5

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 25/01/2024 09:32:00

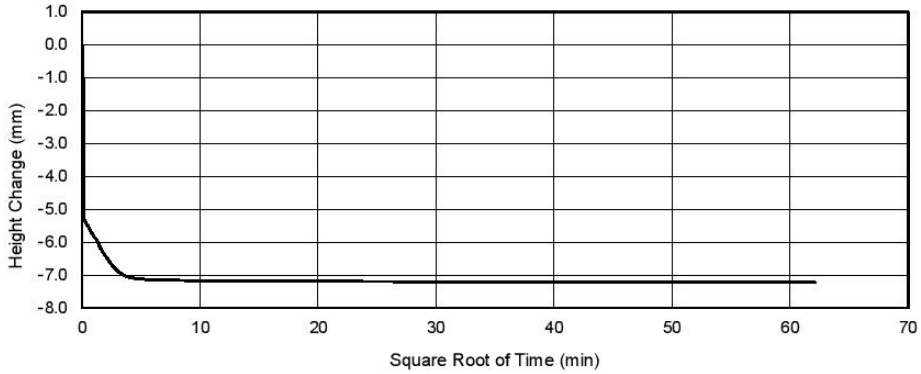
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH02
	Engineer:	Depth(m): 9.00-9.45

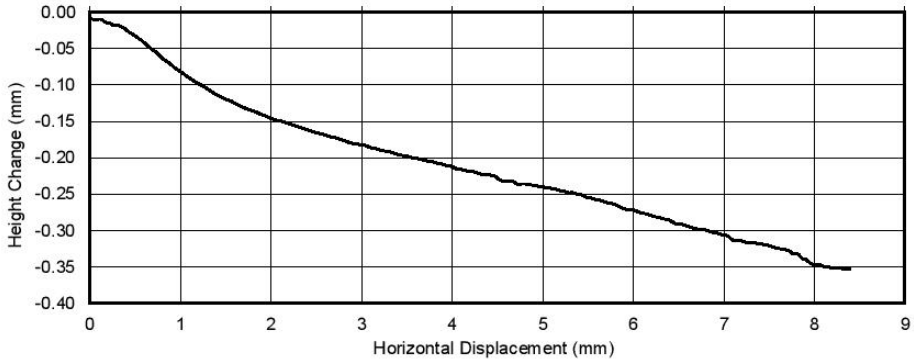
Specimen No. 3

Normal Pressure = 400 kPa

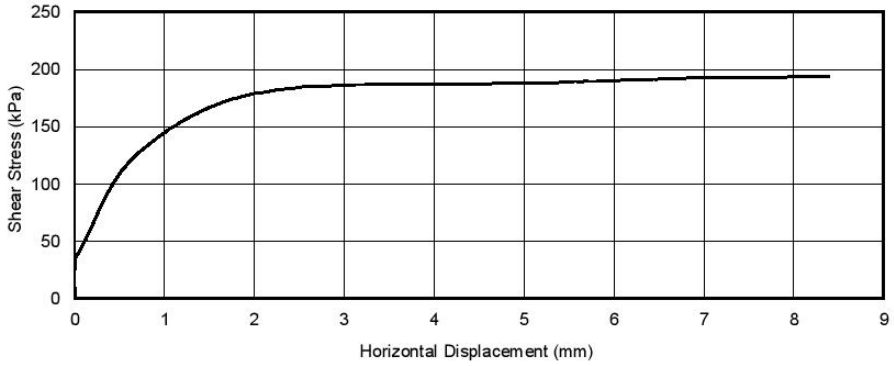
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 5 of 5

Shearbox BH02 09.00 - C8650-391927.xls : Sample ID 391927

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Lab Project No C8650 : 25/01/2024 09:32:00

Kiwa CMT

Shearbox BH04 07.00 - C8650-391940.xls : Sample ID 391940

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	**Contract No. SC14907** Hole ID: BH04 Depth(m): 7.00-7.45

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Submerged
Description	Grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse.
Preparation	Material >2mm removed (62% passing). Remoulded using 2.5 Kg compactive effort at the as-received water content.

Specimen Number		1	2	3
Length	mm	60.2	60.0	59.9
Width	mm	60.8	60.1	60.0
Height	mm	20.0	20.0	20.0
Initial water content	%	39.9	39.9	39.9
Initial bulk density	Mg/m^3	1.85	1.85	1.85
Initial dry density	Mg/m^3	1.32	1.32	1.32
Particle Density (assumed)	Mg/m^3	2.65	2.65	2.65
Consolidation Stage				
Normal stress	kPa	100	200	400
Height change	mm	-5.3	-5.4	-6.0
Duration	day(s)	1	1	1
Shearing Stage				
Normal stress	kPa	100	200	400
Peak Conditions:				
Rate of horizontal displacement	mm/min	0.048	0.048	0.048
Maximum shear stress	kPa	43	80	170
Horizontal displacement	mm	6.3	7.7	3.2
Height change	mm	-0.4	-0.3	-0.3
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	33.6	30.6	28.2
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)

Effective Cohesion	kPa	**0**
Effective Angle of Shearing Resistance	degrees	**23**

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
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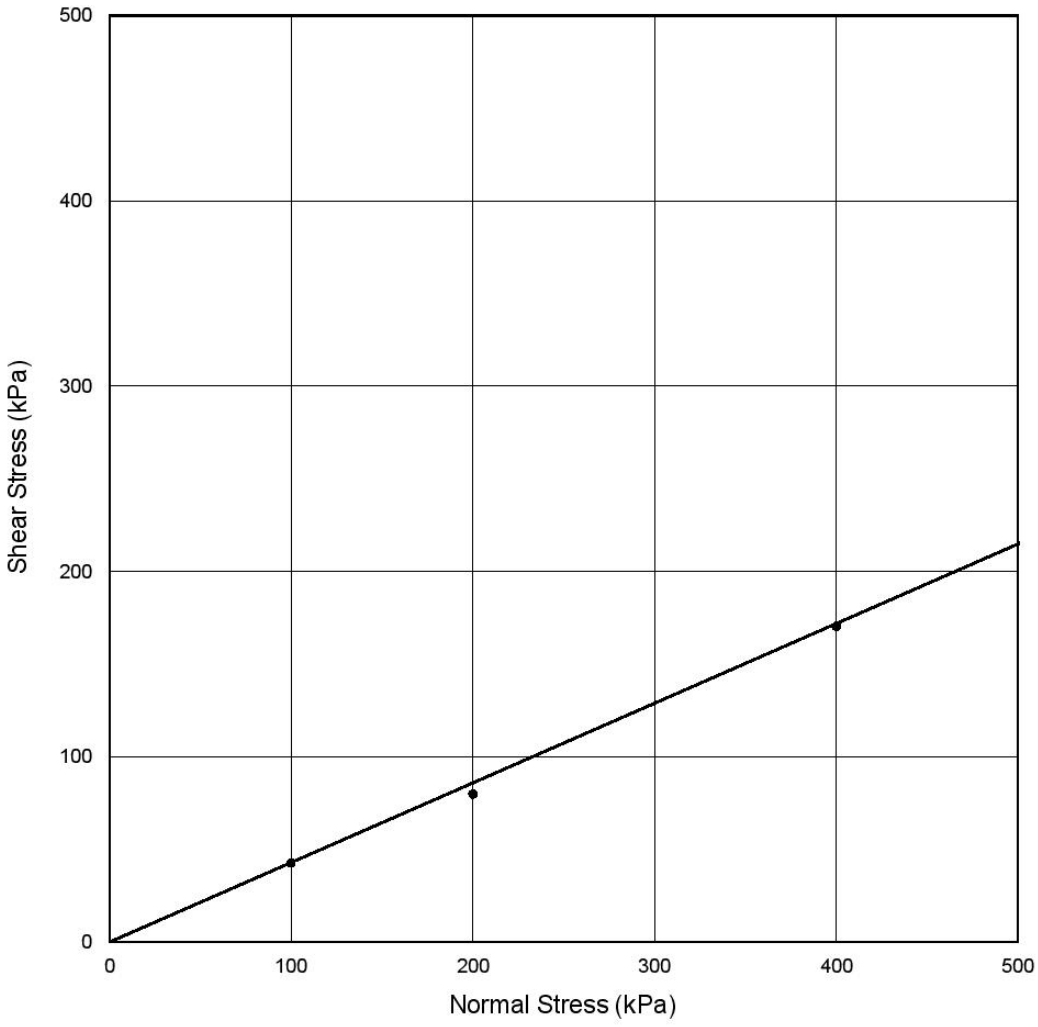
Lab Project No C8650 : 25/01/2024 09:34:52

Kiwa CMT

Shearbox BH04 07.00 - C8650-391940.xls : Sample ID 391940

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	**Contract No. SC14907** Hole ID: BH04 Depth(m): 7.00-7.45

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 0 kPa
Ø' = 23 °

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 2 of 5

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Lab Project No C8650 : 25/01/2024 09:34:52

Kiwa CMT

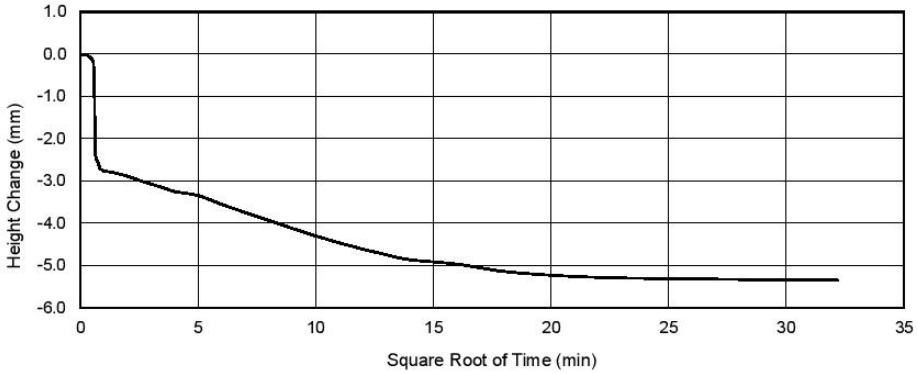
Shearbox BH04 07.00 - C8650-391940.xls : Sample ID 391940

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH04 Depth(m) 7.00-7.45

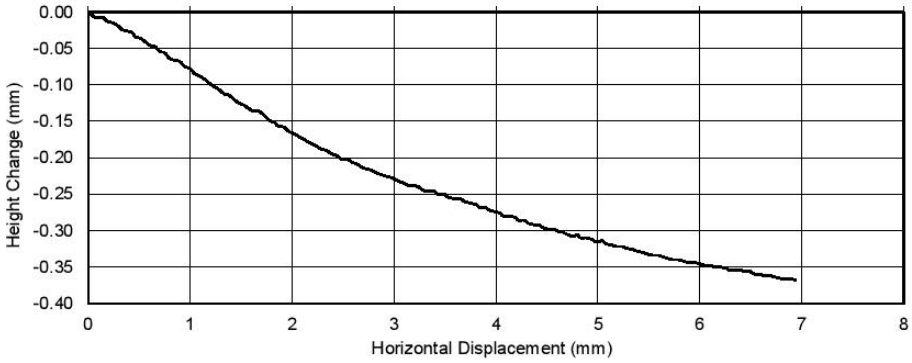
Specimen No. 1

Normal Pressure = 100 kPa

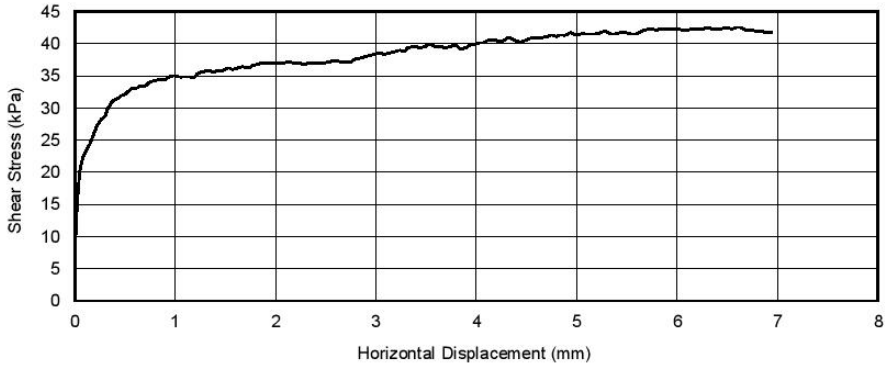
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 3 of 5

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Lab Project No C8650 : 25/01/2024 09:34:52

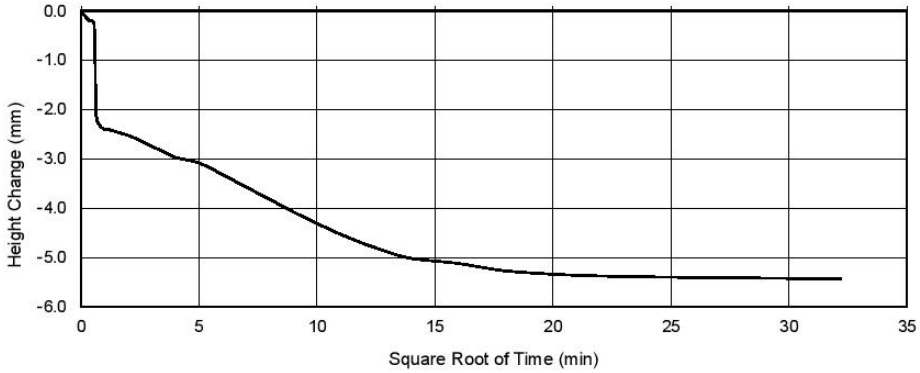
Kiwa CMT

igne	Site: BARRY WATERFRONT COLLEGE Client: Kiwa CMT Ltd Engineer:	Contract No. SC14907 Hole ID BH04 Depth(m) 7.00-7.45

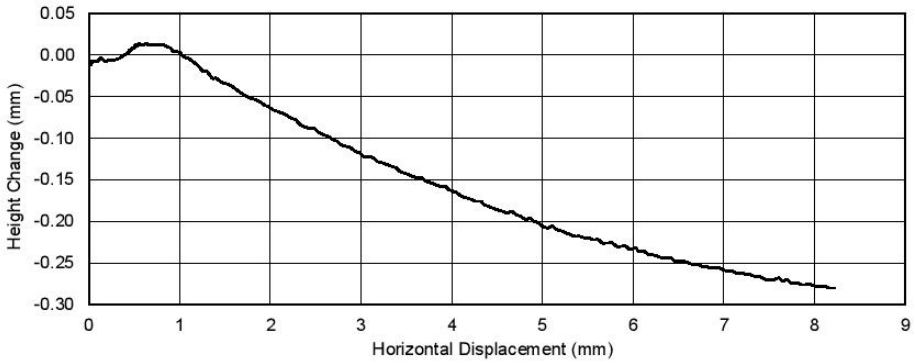
Specimen No. 2

Normal Pressure = 200 kPa

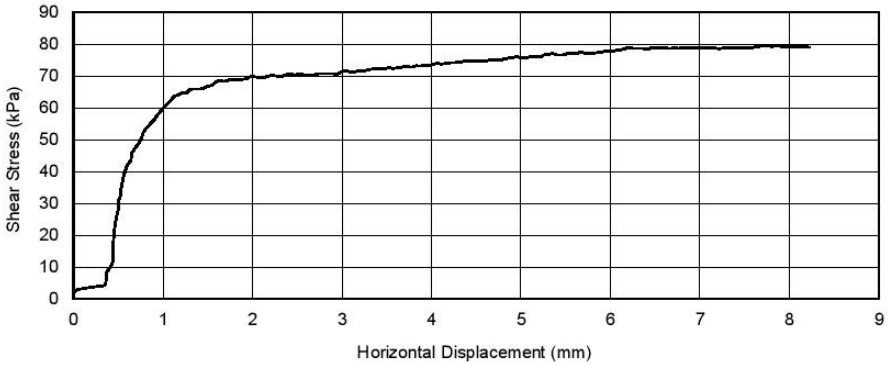
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 4 of 5

Shearbox BH04 07.00 - C8650-391940.xls : Sample ID 391940

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Lab Project No C8650 : 25/01/2024 09:34:52

Kiwa CMT

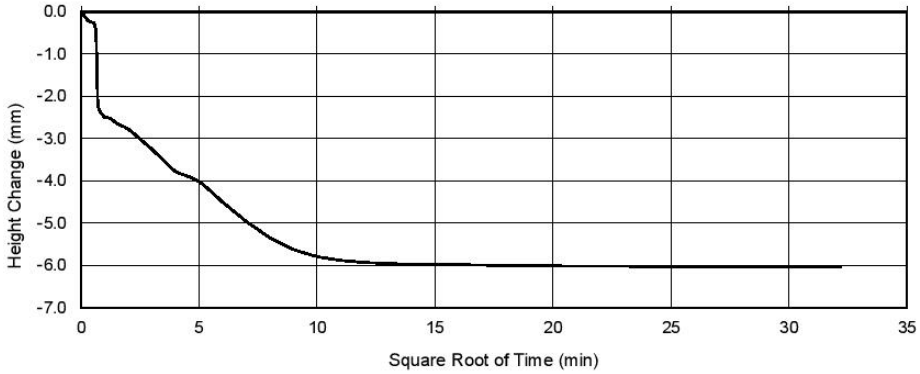
Shearbox BH04 07.00 - C8650-391940.xls : Sample ID 391940

igne	Site: BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client: Kiwa CMT Ltd	Hole ID: BH04
	Engineer:	Depth(m): 7.00-7.45

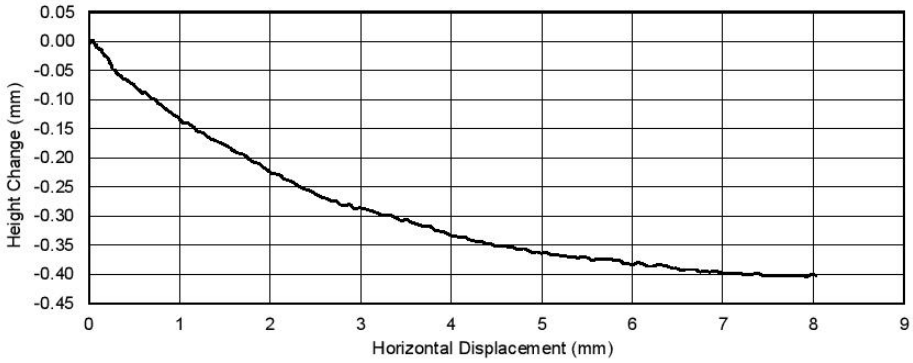
Specimen No. 3

Normal Pressure = 400 kPa

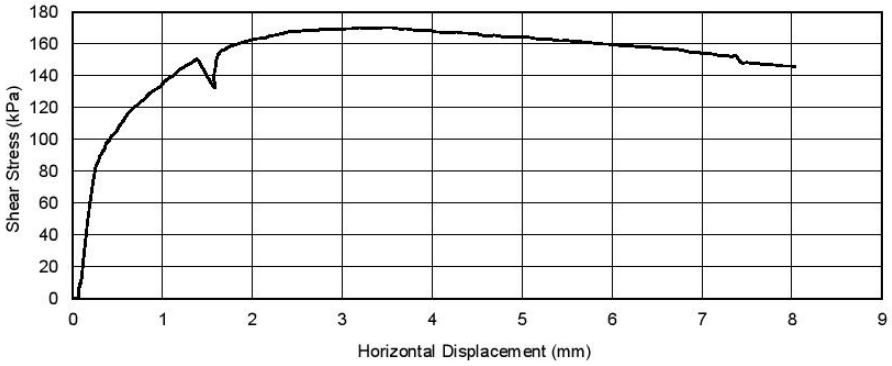
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 25/01/2024	BS EN ISO 17892-10:2018	Sheet 5 of 5

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Lab Project No C8650 : 25/01/2024 09:34:52

Appendix VII

INSITU SOAKAWAY TEST RESULTS

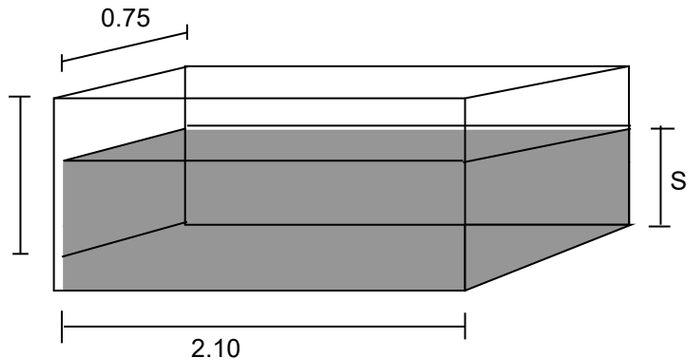
Trialpit No.: SK1/TP5

Soil Profile:

Depth (m) From:	To:	Description
0.00	0.35	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.35	1.00	MADE GROUND - Dark brown sandy very gravelly clay
1.00	1.01	MADE GROUND - Black membrane.
1.01	1.90	MADE GROUND - Dark brown sandy gravelly clay.
1.90	3.10	CLAY - Brown mottled grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

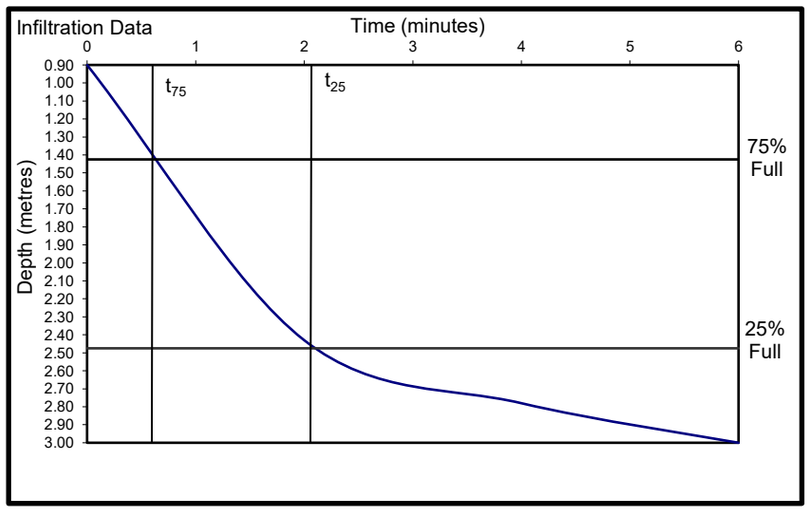


porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.90 to 3.00m.
No Groundwater was encountered

Gives the Figures

S=	2.10	m
a_{p50}=	7.56	m^2
V_{p75-25}=	1.65	m^3

Soakaway Test Run 1 **Test Date: 18/09/2023**



Time (minutes)	Depth (m)
0	0.90
2	2.43
4	2.78
6	3.00

From the above graph,

t_{p25}= 0.6 (min) $t_{p75=}$ 2.1 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.02E-03 f_{run1}= 1.02×10^{-3} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

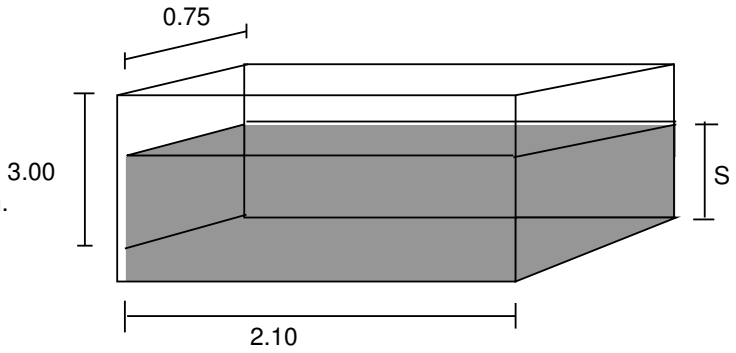
Trialpit No.: SK1/TP5

Soil Profile:

Depth (m) From:	To:	Description
0.00	0.35	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.35	1.00	MADE GROUND - Dark brown sandy very gravelly clay
1.00	1.01	MADE GROUND - Black membrane.
1.01	1.90	MADE GROUND - Dark brown sandy gravelly clay.
1.90	3.10	CLAY - Brown mottled grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

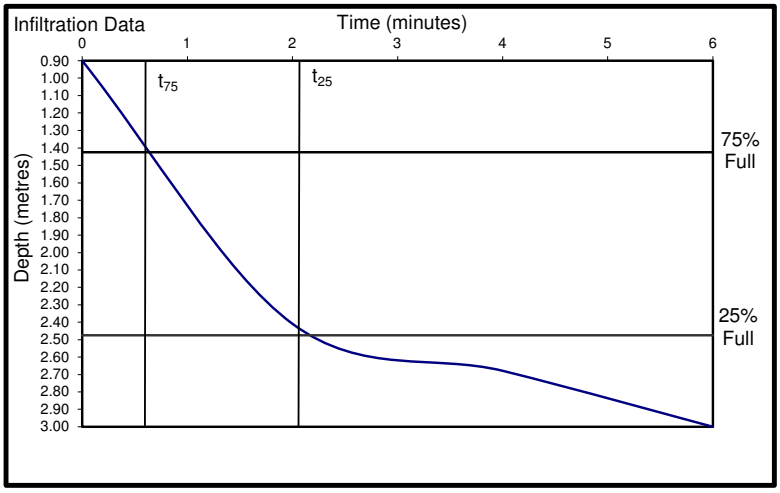


porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.90 to 3.00m.
No Groundwater was encountered

Gives the Figures

S=	2.10	m
a_{p50}=	7.56	m^2
V_{p75-25}=	1.65	m^3

Soakaway Test Run 2 **Test Date: 18/09/2023**



Time (minutes)	Depth (m)
0	0.90
2	2.41
4	2.68
6	3.00

From the above graph,

t_{p25}= 0.6 (min) $t_{p75=}$ 2.2 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 9.57E-04 f_{run1}= 9.57×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

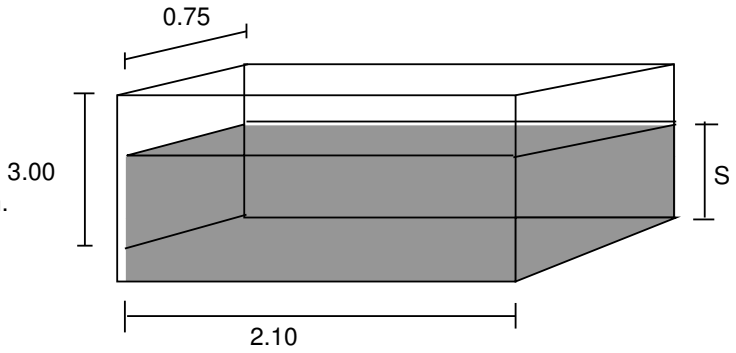
Trialpit No.: SK1/TP5

Soil Profile:

Depth (m) From:	To:	Description
0.00	0.35	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.35	1.00	MADE GROUND - Dark brown sandy very gravelly clay
1.00	1.01	MADE GROUND - Black membrane.
1.01	1.90	MADE GROUND - Dark brown sandy gravelly clay.
1.90	3.10	CLAY - Brown mottled grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

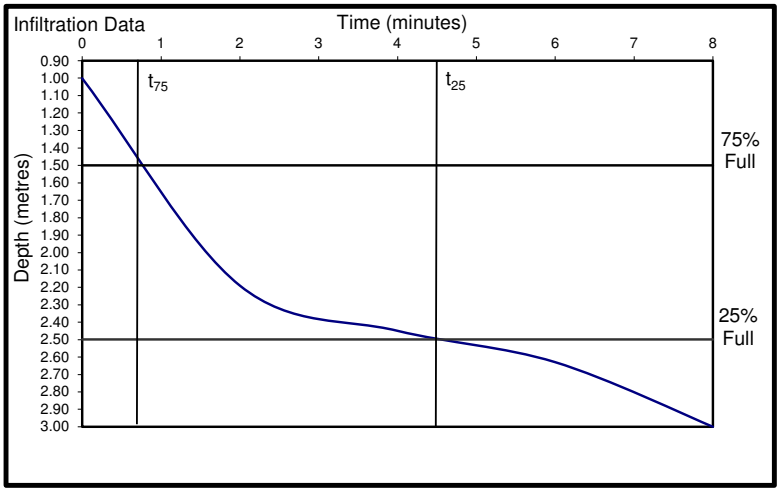


porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 1.00 to 3.00m.
No Groundwater was encountered

Gives the Figures

S=	2.00	m
a_{p50}=	7.28	m^2
V_{p75-25}=	1.58	m^3

Soakaway Test Run 3 **Test Date: 18/09/2023**



Time (minutes)	Depth (m)
0	1.00
2	2.19
4	2.45
6	2.63
8	3.00

From the above graph,

t_{p25}= 0.7 (min) $t_{p75=}$ 4.6 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 3.89E-04 f_{run1}= 3.89x 10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK2/TP6

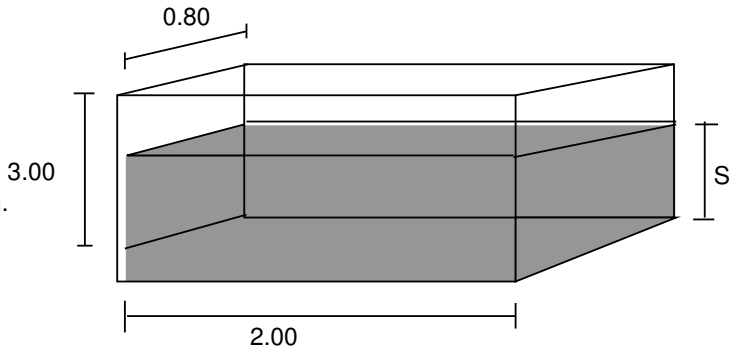
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.30	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.30	2.50	MADE GROUND - Dark brown sandy gravelly clay
2.50	3.00	CLAY - Soft brown mottled yellowish grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

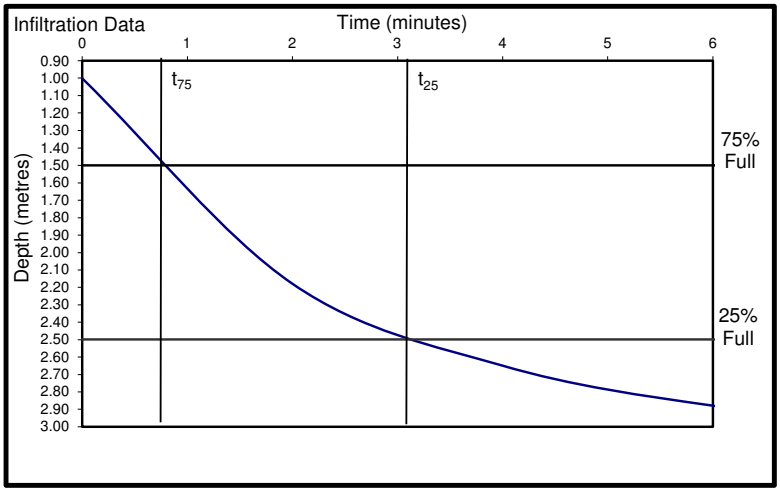
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 1.00 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	2.00	m
a_{p50}=	7.20	m^2
V_{p75-25}=	1.60	m^3

Soakaway Test Run 1 Test Date: 18/09/2023



Time (minutes)	Depth (m)
0	1.00
2	2.18
4	2.65
6	2.88
8	3.00

From the above graph,

t_{p25}= 0.8 (min) $t_{p75=}$ 3.1 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 6.76E-04 f_{run1}= 6.76×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK2/TP6

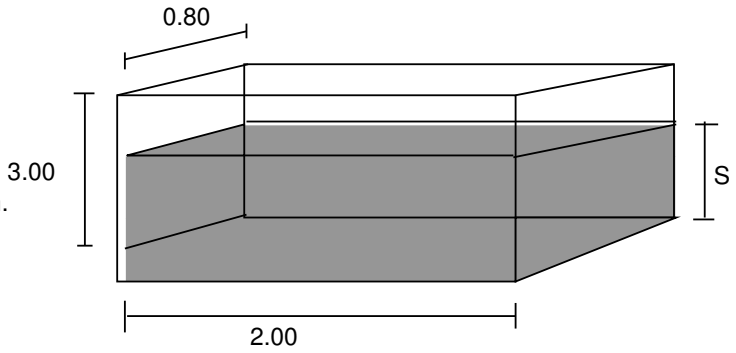
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.30	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.30	2.50	MADE GROUND - Dark brown sandy gravelly clay
2.50	3.00	CLAY - Soft brown mottled yellowish grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

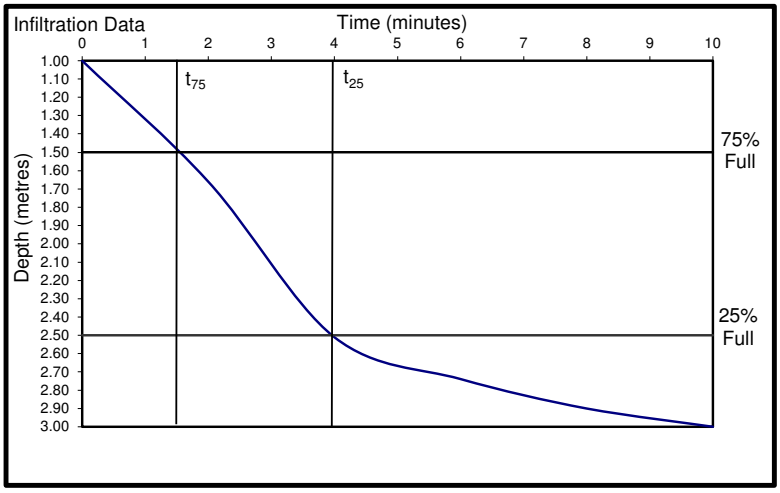
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 1.00 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	2.00	m
a_{p50}=	7.20	m^2
V_{p75-25}=	1.60	m^3

Soakaway Test Run 2 Test Date: 18/09/2023



Time (minutes)	Depth (m)
0	1.00
2	1.66
4	2.51
6	2.74
8	2.90
10	3.00

From the above graph,

t_{p25}= 1.5 (min) $t_{p75=}$ 4 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 6.22E-04 f_{run1}= 6.22×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK2/TP6

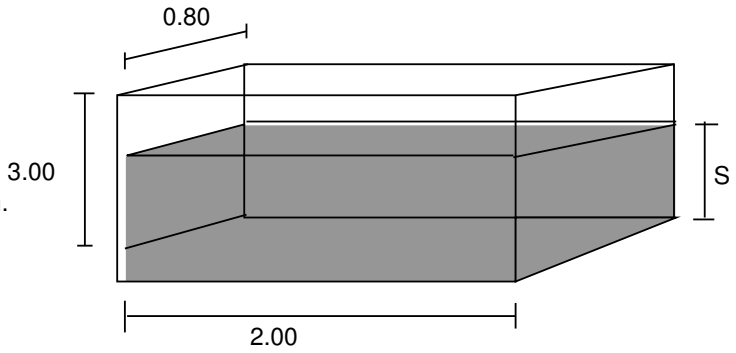
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.30	MADE GROUND - Srub overlying brown sandy gravelly clayey topsoil.
0.30	2.50	MADE GROUND - Dark brown sandy gravelly clay
2.50	3.00	CLAY - Soft brown mottled yellowish grey sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

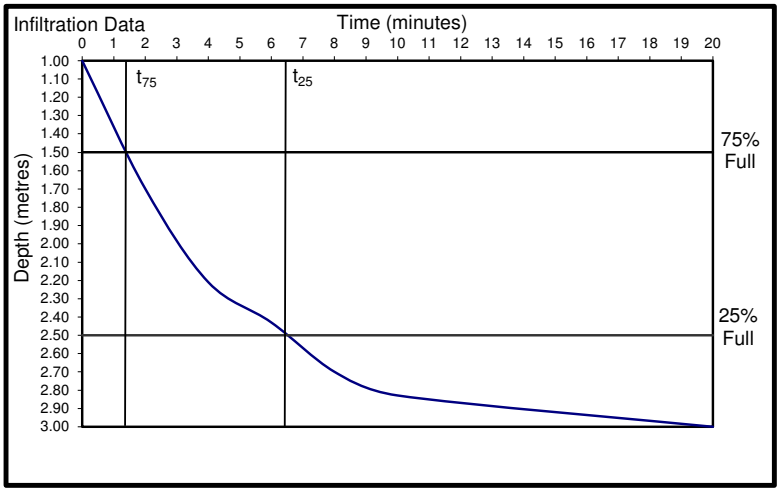
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 1.00 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	2.00	m
a_{p50}=	7.20	m^2
V_{p75-25}=	1.60	m^3

Soakaway Test Run 3 Test Date: 18/09/2023



Time (minutes)	Depth (m)
0	1.00
2	1.70
4	2.21
6	2.43
8	2.70
10	2.83
20	3.00

From the above graph,

t_{p25}= 1.5 (min) $t_{p75=}$ 6.5 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 3.11E-04 f_{run1}= 3.11×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK3/TP9

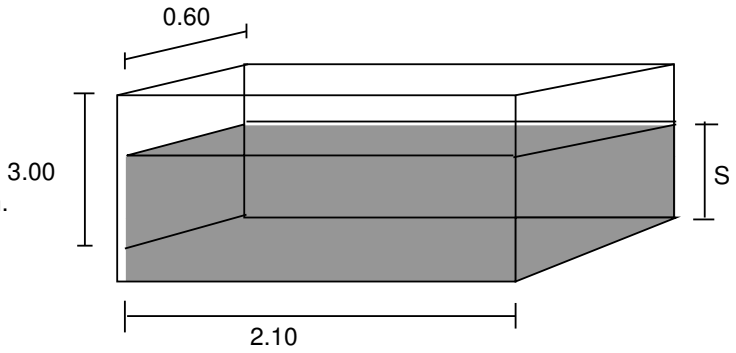
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.10	MADE GROUND - asphalt concrete.
0.10	0.40	MADE GROUND - Reddish sub base material.
0.40	1.90	MADE GROUND - Light yellow grey sandy gravelly clay.
1.90	2.50	CLAY - Soft to firm yellowish grey sandy gravelly clay.
2.50	3.00	CLAY - Firm dark grey slighlty sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

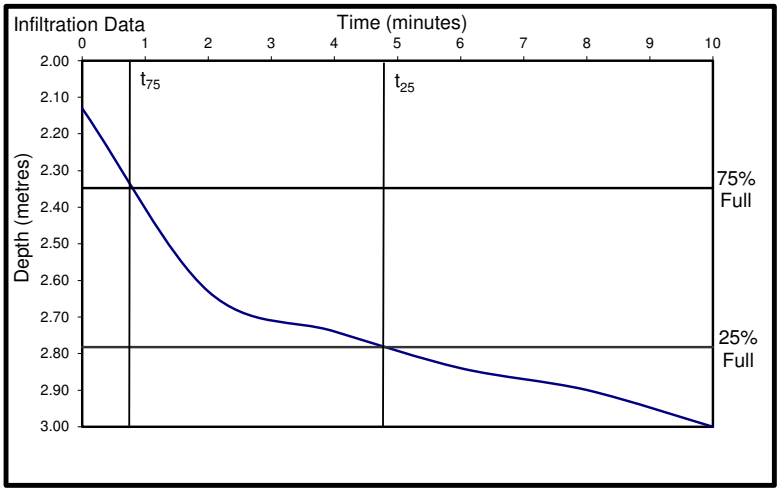
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.13 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	0.87	m
a_{p50}=	3.61	m^2
V_{p75-25}=	0.55	m^3

Soakaway Test Run 1 Test Date: 18/09/2023



Time (minutes)	Depth (m)
0	2.13
2	2.63
4	2.74
6	2.84
8	2.90
10	3.00

From the above graph,

t_{p25}= 1.8 (min) $t_{p75=}$ 4.8 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 3.54E-04 f_{run1}= 3.54×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK3/TP9

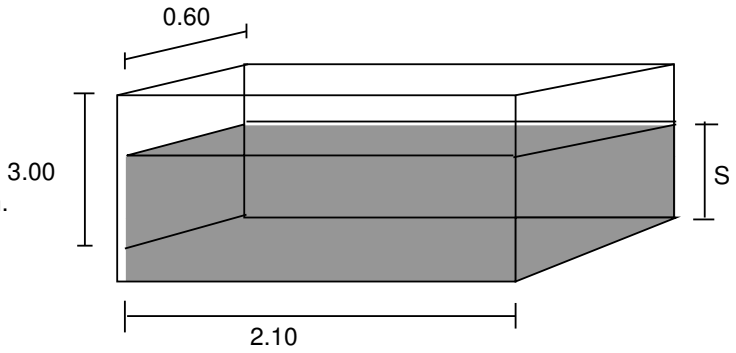
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.10	MADE GROUND - asphalt concrete.
0.10	0.40	MADE GROUND - Reddish sub base material.
0.40	1.90	MADE GROUND - Light yellow grey sandy gravelly clay.
1.90	2.50	CLAY - Soft to firm yellowish grey sandy gravelly clay.
2.50	3.00	CLAY - Firm dark grey slighlty sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

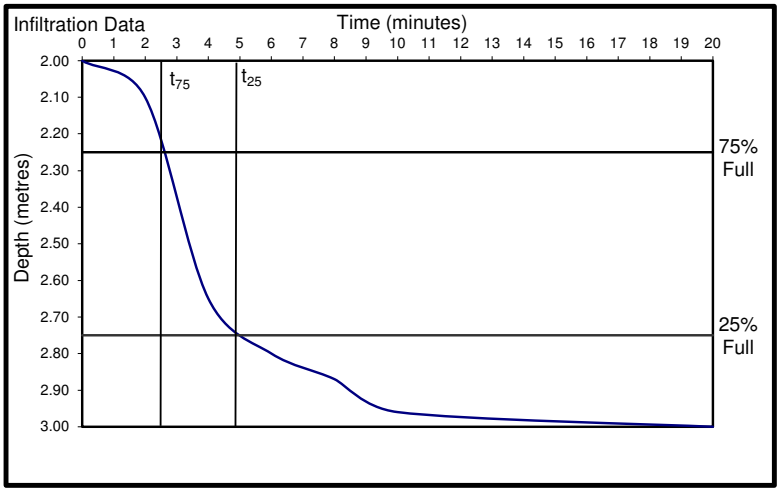
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.00 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	1.00	m
a_{p50}=	3.96	m^2
V_{p75-25}=	0.63	m^3

Soakaway Test Run 2 **Test Date: 19/09/2023**



Time (minutes)	Depth (m)
0	2.00
2	2.10
4	2.65
6	2.80
8	2.87
10	2.96
20	3.00

From the above graph,

t_{p25}= 2.6 (min) $t_{p75=}$ 5 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 4.64E-04 f_{run1}= 4.64×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK3/TP9

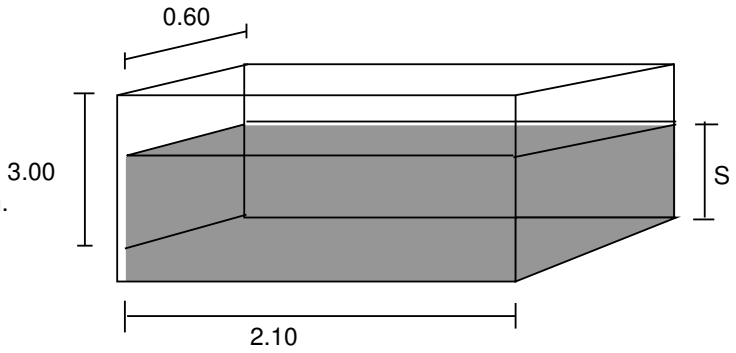
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.10	MADE GROUND - asphalt concrete.
0.10	0.40	MADE GROUND - Reddish sub base material.
0.40	1.90	MADE GROUND - Light yellow grey sandy gravelly clay.
1.90	2.50	CLAY - Soft to firm yellowish grey sandy gravelly clay.
2.50	3.00	CLAY - Firm dark grey slighlty sandy gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

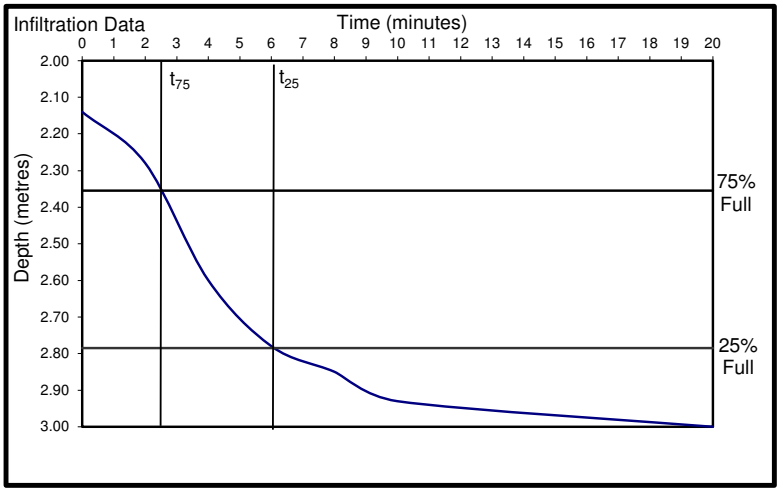
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.14 to 3.00m.
No Groundwater was encountered



Gives the Figures

S=	0.86	m
a_{p50}=	3.58	m^2
V_{p75-25}=	0.54	m^3

Soakaway Test Run 3 **Test Date: 19/09/2023**



Time (minutes)	Depth (m)
0	2.14
2	2.28
4	2.60
6	2.78
8	2.85
10	2.93
20	3.00

From the above graph,

t_{p25}= 2.5 (min) $t_{p75=}$ 6.1 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 2.94E-04 f_{run1}= 2.94×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C3297
Site: Barry Waterfront College
Client: Arup

hsp consulting

Appendix VIII

Apex Testing Solutions
Sturmi Way
Village Farm Industrial Estate
Pyle
Bridgend
CF33 6BZ
Telephone :01656 746762
Facsimile :01656 749096
Email andrew.grogan@apex-drilling.com

REPORT No.	:	**D23409 19.09.2023**
CLIENT	:	HSP Consulting
SITE	:	Barry Waterfront
MATERIAL DESCRIPTION	:	See Individual Tests Results
DATE TESTED	:	19 September 2023
TESTING REQUIRED	:	4 No. Plate Load Bearing Tests
RELEVANT SPECIFICATION	:	BS 1377 : Part 9 : 1990 In House Method / Clients Specification CD 225 Rev 1 (Supersedes IAN 73/06 rev 1)
TEST METHOD	:	Clause 4.1.6.4.2
TEST RESULTS	:	See Pages 3 – 6

Apex Testing Solutions
Sturmi Way
Village Farm Industrial Estate
Pyle
Bridgend
CF33 6BZ
Telephone :01656 746762
Facsimile :01656 749096
Email : andrew.grogan@apex-drilling.com

REPORT No. : **D23409 19.09.2023**

CLIENT : HSP Consulting

SITE : Barry Waterfront

TEST LOCATION : 4 No. Locations as instructed by Client

DEPTH (m) : See Individual Test Results

Reaction Load : 8T Excavator

Plate Diameter : 300 mm

TEST RESULTS

Test No.	**1**	**2**	**3**	**4**						
CBR%	20	7.8	37	22						

Test No.										
CBR%										

COMMENTS

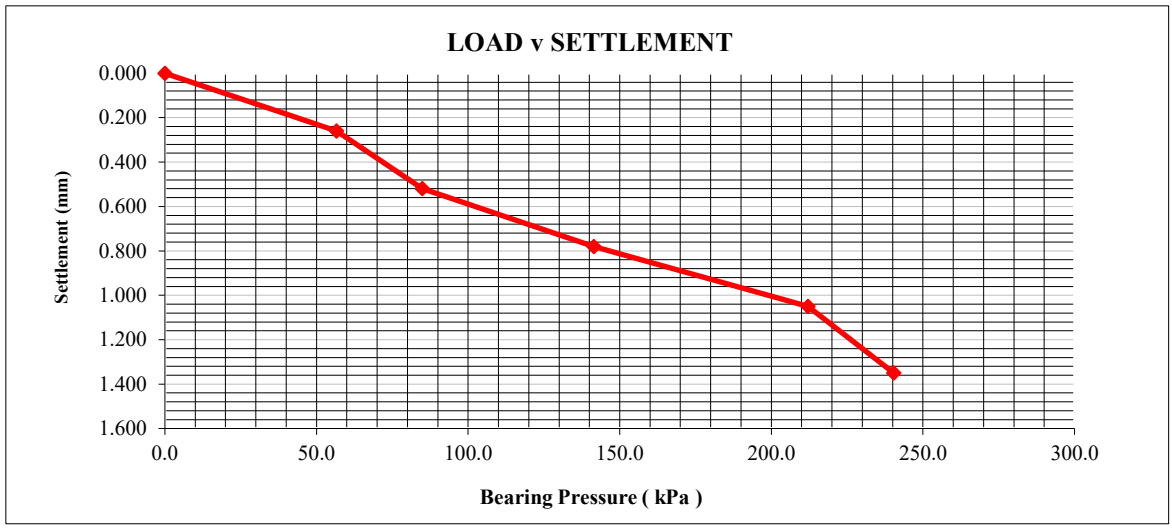
Weather - Rain

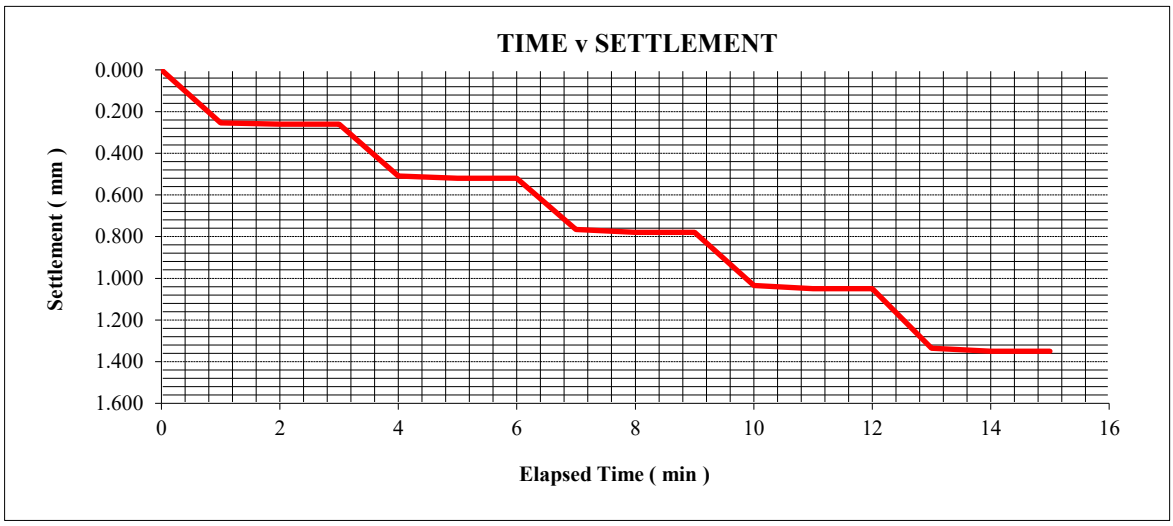
CHECKED BY: **A Grogan** **DATE :** **20/09/2023**

REPORT No : D23409 19.09.2023
CLIENT : HSP Consulting
SITE : Barry Waterfront

TEST RESULTS

TEST No.	: **1**		
DATE TESTED	: 19 September 2023		
SAMPLE TYPE	: Natural		
DEPTH (m)	: EGL		
SAMPLE DESCRIPTION	: Brown gravelly CLAY		
LOCATION	: **Trial Pit 10**		
Plate Size	: 300 mm		
LOAD TO ACHIEVE 1.25mm SETTLEMENT >		:	**230.95 kN/m^2**
MODULUS OF SUBGRADE REACTION (k_{762}) >		:	**81610 kN/m2/m**
Equivalent CBR VALUE >		:	**20 %**

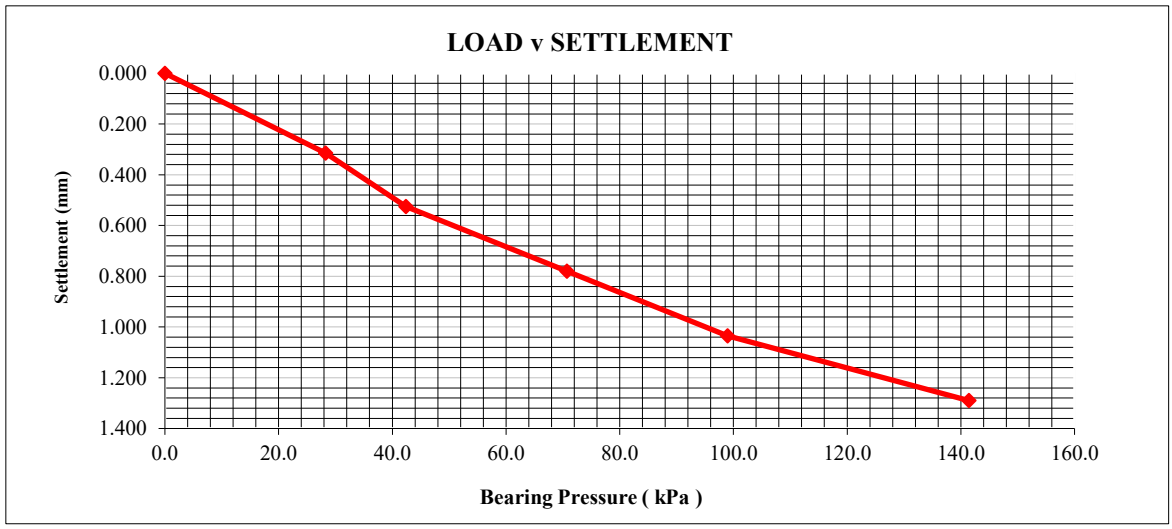


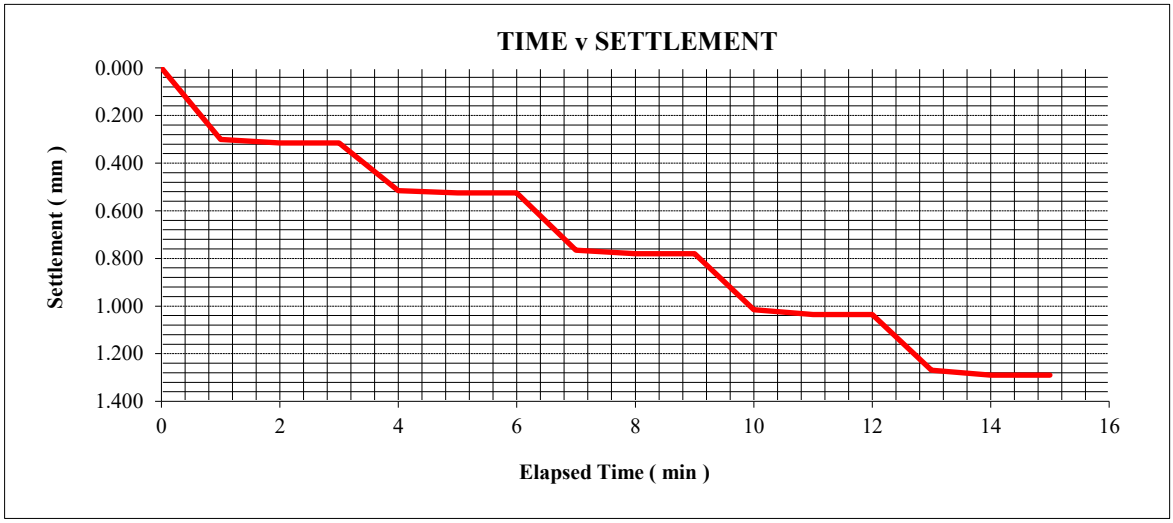


REPORT No : D23409 19.09.2023
CLIENT : HSP Consulting
SITE : Barry Waterfront

TEST RESULTS

TEST No.	: **2**	
DATE TESTED	: 19 September 2023	
SAMPLE TYPE	: Natural	
DEPTH (m)	: EGL	
SAMPLE DESCRIPTION	: Brown gravelly SILT	
LOCATION	: **Trial Pit 7**	
Plate Size	: 300 mm	
LOAD TO ACHIEVE 1.25mm SETTLEMENT >	:	**134.75 kN/m^2**
MODULUS OF SUBGRADE REACTION (k_{762}) >	:	**47614 kN/m2/m**
Equivalent CBR VALUE >	:	**7.8 %**

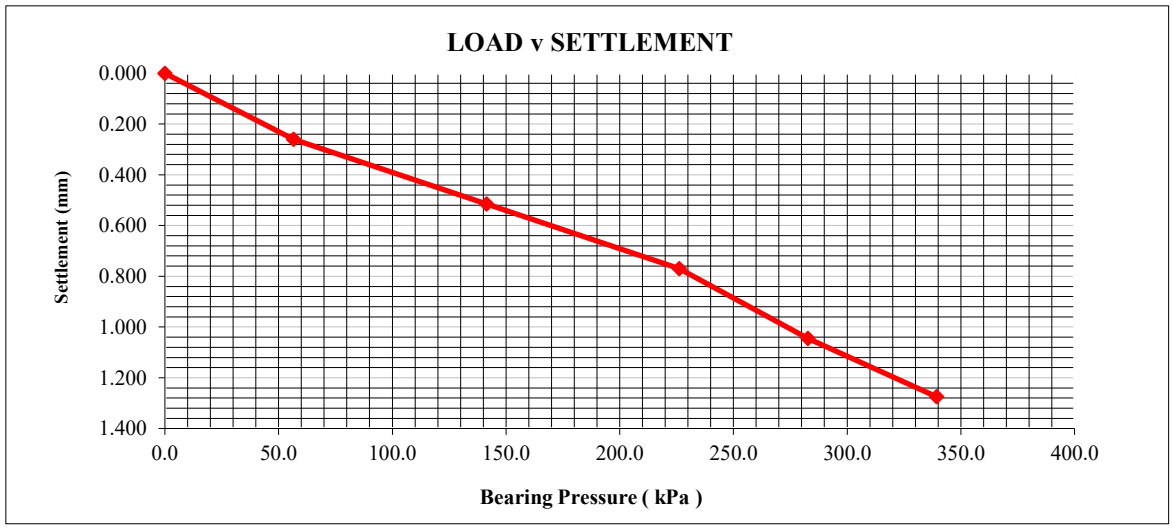


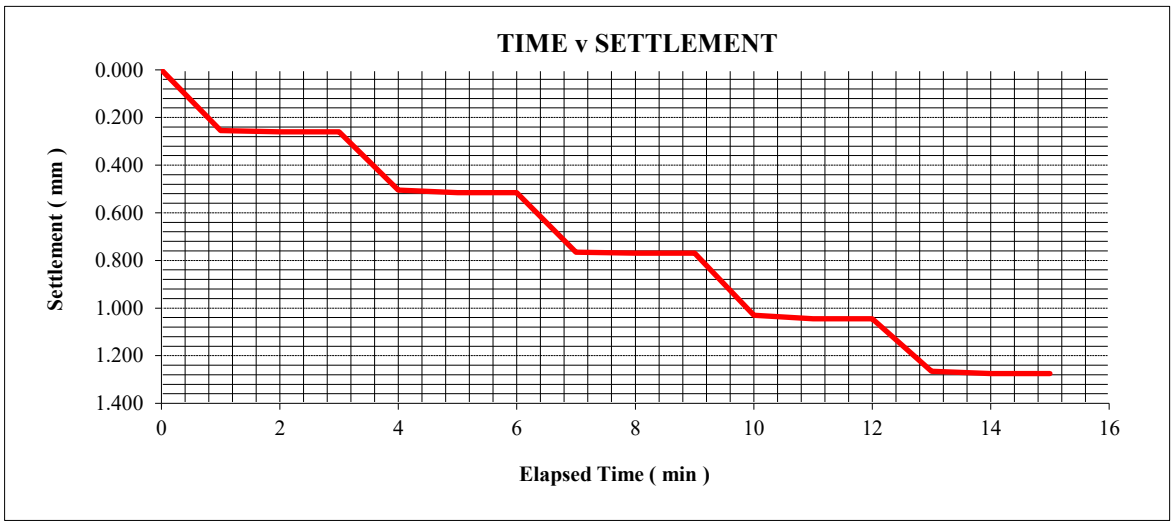


REPORT No : D23409 19.09.2023
CLIENT : HSP Consulting
SITE : Barry Waterfront

TEST RESULTS

TEST No.	: **3**		
DATE TESTED	: 19 September 2023		
SAMPLE TYPE	: Natural		
DEPTH (m)	: EGL		
SAMPLE DESCRIPTION	: Brownish grey gravelly CLAY		
LOCATION	: **Trial Pit 8**		
Plate Size	: 300 mm		
LOAD TO ACHIEVE 1.25mm SETTLEMENT >		:	**333.21 kN/m^2**
MODULUS OF SUBGRADE REACTION (k_{762}) >		:	**117744 kN/m2/m**
Equivalent CBR VALUE >		:	**37 %**

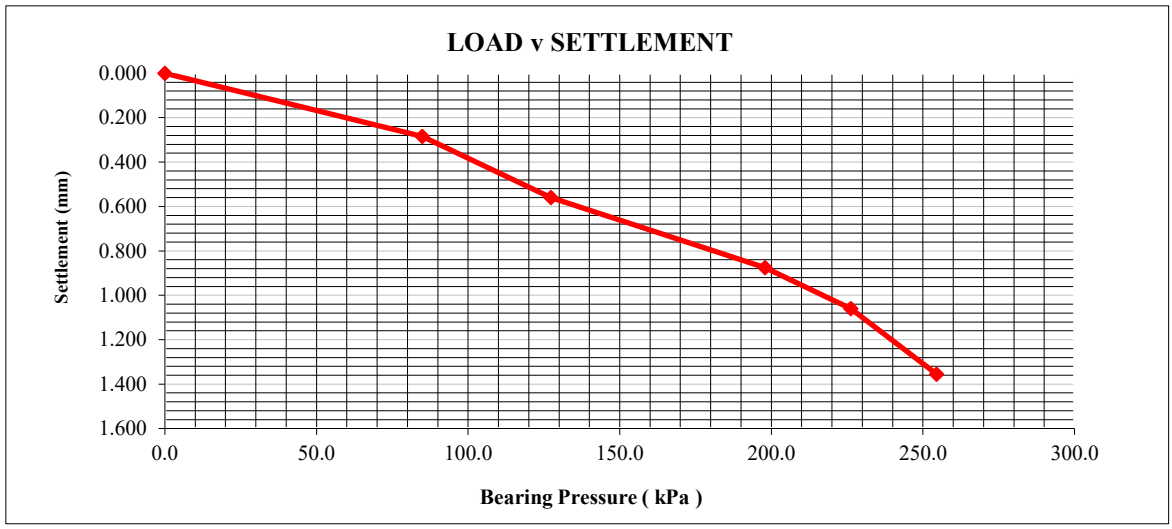


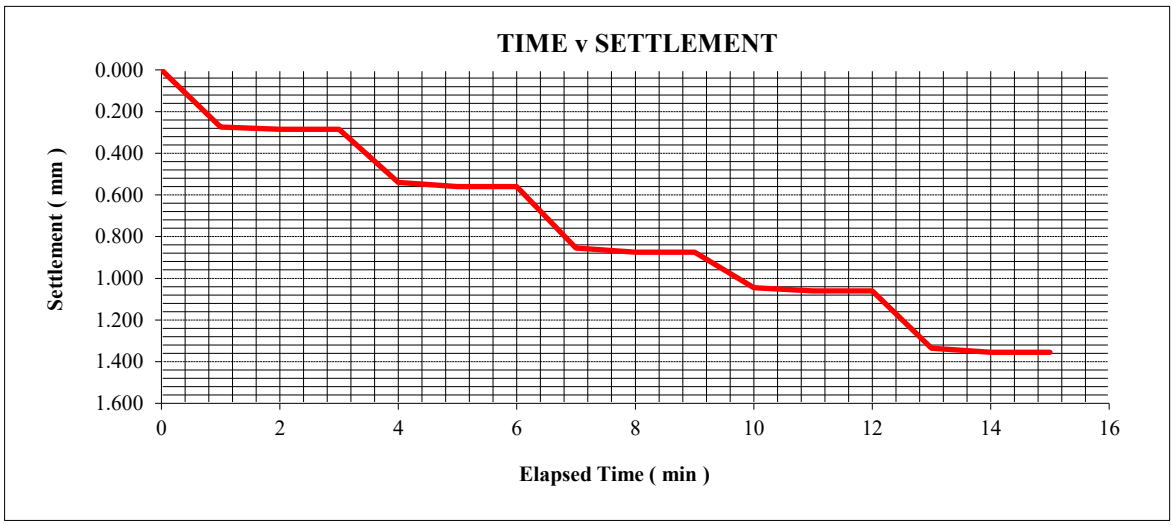


REPORT No : D23409 19.09.2023
CLIENT : HSP Consulting
SITE : Barry Waterfront

TEST RESULTS

TEST No.	: **4**		
DATE TESTED	: 19 September 2023		
SAMPLE TYPE	: Natural		
DEPTH (m)	: EGL		
SAMPLE DESCRIPTION	: Greyish green CLAY		
LOCATION	: **Trial Pit 9**		
Plate Size	: 300 mm		
LOAD TO ACHIEVE 1.25mm SETTLEMENT >		:	**244.45 kN/m^2**
MODULUS OF SUBGRADE REACTION (k_{762}) >		:	**86380 kN/m2/m**
Equivalent CBR VALUE >		:	**22 %**





Appendix IX

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH04

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	18.9	0.2	<1	<1		4.65	1.80
00:15	0.1	<0.1	<0.1	19.2	0.2	<1	<1			
00:30	0.1	<0.1	<0.1	18.9	0.2	<1	<1			
00:45	0.1	<0.1	<0.1	18.9	0.2	<1	<1			
01:00	0.1	<0.1	<0.1	18.7	0.2	<1	<1			
01:15	0.1	<0.1	<0.1	18.7	0.3	<1	<1			
01:30	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
01:45	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
02:00	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
02:15	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
02:30	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
02:45	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
03:00	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
03:15	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
03:30	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
03:45	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
04:00	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
04:15	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
04:30	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
04:45	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
05:00	0.1	<0.1	<0.1	18.6	0.3	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**18.6**	**0.3**	**<1**	**<1**	**#####**	**4.65**	**1.80**
Peak	**0.1**	**0.0**	**0.0**	**19.2**	**0.3**	**0.0**	**0.0**	**0.0**	**4.65**	**1.80**

Date	Notes:			
06/11/2023	Engineer	NC	Barometric Pressure, mbar	1001
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	10

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH02

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	19.3	0	<1	<1		9.75	3.12
00:15	0.1	<0.1	<0.1	18.1	0.7	<1	<1			
00:30	0.1	<0.1	<0.1	17.5	0.8	<1	<1			
00:45	0.1	<0.1	<0.1	17.4	0.8	<1	<1			
01:00	0.1	<0.1	<0.1	17.2	0.8	<1	<1			
01:15	0.1	<0.1	<0.1	17.1	0.8	<1	<1			
01:30	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
01:45	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
02:00	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
02:15	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
02:30	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
02:45	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
03:00	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
03:15	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
03:30	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
03:45	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
04:00	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
04:15	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
04:30	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
04:45	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
05:00	0.1	<0.1	<0.1	17.0	0.8	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**17.0**	**0.8**	**<1**	**<1**	#####	**9.75**	**3.12**
Peak	**0.1**	**0.0**	**0.0**	**19.3**	**0.8**	**0.0**	**0.0**	**0.0**	**9.75**	**3.12**

Date	Notes:			
06/11/2023	Engineer	NC	Barometric Pressure, mbar	1001
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	10

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(A)

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	19.4	0.1	<1	<1		6.00	2.21
00:15	0.1	<0.1	<0.1	20.2	0.1	<1	<1			
00:30	0.1	<0.1	<0.1	20.1	0.1	<1	<1			
00:45	0.1	<0.1	<0.1	20.1	0.1	<1	<1			
01:00	0.1	<0.1	<0.1	20.1	0.1	<1	<1			
01:15	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
01:30	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
01:45	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
02:00	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
02:15	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
02:30	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
02:45	0.1	<0.1	<0.1	20.0	0.2	<1	<1			
03:00	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
03:15	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
03:30	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
03:45	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
04:00	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
04:15	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
04:30	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
04:45	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
05:00	0.1	<0.1	<0.1	20.1	0.2	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**20.1**	**0.2**	**<1**	**<1**	#####	**6.00**	**2.21**
Peak	**0.1**	**0.0**	**0.0**	**20.2**	**0.2**	**0.0**	**0.0**	**0.0**	**6.00**	**2.21**

Date	Notes:			
06/11/2023	Engineer	NC	Barometric Pressure, mbar	1001
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	10

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(B)

Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
Detection Limit		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
00:00										
00:15										
00:30										
00:45										
01:00										
01:15										
01:30										
01:45										
02:00										
02:15										
02:30										
02:45										
03:00										
03:15										
03:30										
03:45										
04:00										
04:15										
04:30										
04:45										
05:00										
Steady	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Peak	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.00**	**0.00**

Date	Notes:			
06/11/2023	Engineer	NC	Barometric Pressure, mbar	1001
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	10

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH04

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	19.6	0	<1	<1		4.65	1.97
00:15	0.1	<0.1	<0.1	20.1	0.1	<1	<1			
00:30	0.1	<0.1	<0.1	20.0	0.1	<1	<1			
00:45	0.1	<0.1	<0.1	19.9	0.1	<1	<1			
01:00	0.1	<0.1	<0.1	19.9	0.1	<1	<1			
01:15	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
01:30	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
01:45	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
02:00	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
02:15	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
02:30	0.1	<0.1	<0.1	19.9	0.2	<1	<1			
02:45	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
03:00	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
03:15	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
03:30	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
03:45	0.1	<0.1	<0.1	19.8	0.1	<1	<1			
04:00	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
04:15	0.1	<0.1	<0.1	19.9	0.2	<1	<1			
04:30	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
04:45	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
05:00	0.1	<0.1	<0.1	19.8	0.2	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**19.8**	**0.2**	**<1**	**<1**	**#####**	**4.65**	**1.97**
Peak	**0.1**	**0.0**	**0.0**	**20.1**	**0.2**	**0.0**	**0.0**	**0.0**	**4.65**	**1.97**

Date	Notes:			
21/11/2021	Engineer	NC	Barometric Pressure, mbar	1033
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	12

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH02

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	20.2	0.1	<1	<1		9.69	3.48
00:15	0.1	<0.1	<0.1	19.4	0.6	<1	<1			
00:30	0.1	<0.1	<0.1	19.3	0.6	<1	<1			
00:45	0.1	<0.1	<0.1	19.2	0.6	<1	<1			
01:00	0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:15	0.1	<0.1	<0.1	19.0	0.6	<1	<1			
01:30	0.1	<0.1	<0.1	18.9	0.7	<1	<1			
01:45	0.1	<0.1	<0.1	18.9	0.7	<1	<1			
02:00	0.1	<0.1	<0.1	18.8	0.8	<1	<1			
02:15	0.1	<0.1	<0.1	18.6	0.8	<1	<1			
02:30	0.1	<0.1	<0.1	18.3	1.0	<1	<1			
02:45	0.1	<0.1	<0.1	17.9	1.3	<1	<1			
03:00	0.1	<0.1	<0.1	17.4	1.5	<1	<1			
03:15	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
03:30	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
03:45	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
04:00	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
04:15	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
04:30	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
04:45	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
05:00	0.1	<0.1	<0.1	17.0	1.6	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**17.0**	**1.6**	**<1**	**<1**	#####	**9.69**	**3.48**
Peak	**0.1**	**0.0**	**0.0**	**20.2**	**1.6**	**0.0**	**0.0**	**0.0**	**9.69**	**3.48**

Date	Notes:			
21/11/2021	Engineer	NC	Barometric Pressure, mbar	1033
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	12

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(A)

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	19.7	0.1	<1	<1		6.00	2.43
00:15	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
00:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
00:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:00	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:15	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:00	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:15	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
03:00	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
03:15	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
03:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
03:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
04:00	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
04:15	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
04:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
04:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
05:00	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**19.6**	**0.8**	**<1**	**<1**	#####	**6.00**	**2.43**
Peak	**0.1**	**0.0**	**0.0**	**19.7**	**0.8**	**0.0**	**0.0**	**0.0**	**6.00**	**2.43**

Date	Notes:			
21/11/2021	Engineer	NC	Barometric Pressure, mbar	1033
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	12

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(B)

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	19.4	0.8	<1	<1		2.05	1.95
00:15	0.1	<0.1	<0.1	4.0	2.5	<1	<1			
00:30	0.1	<0.1	<0.1	1.1	2.6	<1	<1			
00:45	0.1	<0.1	<0.1	0.8	2.6	<1	<1			
01:00	0.1	<0.1	<0.1	0.7	2.6	<1	<1			
01:15	0.1	<0.1	<0.1	0.7	2.6	<1	<1			
01:30	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
01:45	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
02:00	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
02:15	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
02:30	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
02:45	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
03:00	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
03:15	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
03:30	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
03:45	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
04:00	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
04:15	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
04:30	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
04:45	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
05:00	0.1	<0.1	<0.1	0.6	2.6	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**0.6**	**2.6**	**<1**	**<1**	**#####**	**2.05**	**1.95**
Peak	**0.1**	**0.0**	**0.0**	**19.4**	**2.6**	**0.0**	**0.0**	**0.0**	**2.05**	**1.95**

Date	Notes:			
21/11/2021	Engineer	NC	Barometric Pressure, mbar	1033
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	12

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH04

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	20.3	0.0	<1	<1		3.60	1.93
00:15	0.1	<0.1	<0.1	20.1	0.6	<1	<1			
00:30	0.1	<0.1	<0.1	20.0	0.6	<1	<1			
00:45	0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:00	0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:15	0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:30	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
01:45	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:00	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:15	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:30	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:45	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:00	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:15	0.1	<0.1	<0.1	19.8	0.6	<1	<1			
03:30	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:45	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:00	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:15	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:30	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:45	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
05:00	0.1	<0.1	<0.1	19.7	0.7	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**19.7**	**0.7**	**<1**	**<1**	**#####**	**3.60**	**1.93**
Peak	**0.1**	**0.0**	**0.0**	**20.3**	**0.7**	**0.0**	**0.0**	**0.0**	**3.60**	**1.93**

Date	Notes:			
12/12/2023	Engineer	NC	Barometric Pressure, mbar	994
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	11

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH02

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	0.1	<0.1	<0.1	20.0	0.0	<1	<1		9.70	3.91
00:15	0.1	<0.1	<0.1	19.2	0.9	<1	<1			
00:30	0.1	<0.1	<0.1	18.6	0.9	<1	<1			
00:45	0.1	<0.1	<0.1	18.4	1.0	<1	<1			
01:00	0.1	<0.1	<0.1	18.2	1.1	<1	<1			
01:15	0.1	<0.1	<0.1	17.9	1.4	<1	<1			
01:30	0.1	<0.1	<0.1	17.4	1.7	<1	<1			
01:45	0.1	<0.1	<0.1	16.9	1.9	<1	<1			
02:00	0.1	<0.1	<0.1	16.2	2.2	<1	<1			
02:15	0.1	<0.1	<0.1	15.7	2.4	<1	<1			
02:30	0.1	<0.1	<0.1	15.4	2.5	<1	<1			
02:45	0.1	<0.1	<0.1	15.2	2.6	<1	<1			
03:00	0.1	<0.1	<0.1	15.1	2.7	<1	<1			
03:15	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
03:30	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
03:45	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
04:00	0.1	<0.1	<0.1	15.1	2.7	<1	<1			
04:15	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
04:30	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
04:45	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
05:00	0.1	<0.1	<0.1	15.0	2.7	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**15.0**	**2.7**	**<1**	**<1**	#####	**9.70**	**3.91**
Peak	**0.1**	**0.0**	**0.0**	**20.0**	**2.7**	**0.0**	**0.0**	**0.0**	**9.70**	**3.91**

Date	Notes:			
12/12/2023	Engineer	NC	Barometric Pressure, mbar	994
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	11

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(A)

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	19.7	0.2	<1	<1		6.00	2.55
00:15	0.1	<0.1	<0.1	19.3	2.2	<1	<1			
00:30	0.1	<0.1	<0.1	18.9	2.4	<1	<1			
00:45	0.1	<0.1	<0.1	18.8	2.6	<1	<1			
01:00	0.1	<0.1	<0.1	18.7	2.7	<1	<1			
01:15	0.1	<0.1	<0.1	18.6	2.8	<1	<1			
01:30	0.1	<0.1	<0.1	18.5	2.9	<1	<1			
01:45	0.1	<0.1	<0.1	18.5	3.0	<1	<1			
02:00	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
02:15	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
02:30	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
02:45	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
03:00	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
03:15	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
03:30	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
03:45	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
04:00	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
04:15	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
04:30	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
04:45	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
05:00	0.1	<0.1	<0.1	18.4	3.1	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**18.4**	**3.1**	**<1**	**<1**	#####	**6.00**	**2.55**
Peak	**0.1**	**0.0**	**0.0**	**19.7**	**3.1**	**0.0**	**0.0**	**0.0**	**6.00**	**2.55**

Date	Notes:			
12/12/2023	Engineer	NC	Barometric Pressure, mbar	994
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	11

Gas Monitoring Certificate

Project Number C3297
Project Name Barry Waterfront
Client WEPCo

BH03(B)

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	20.0	0.1	<1	<1		2.05	2.05
00:15	0.1	<0.1	<0.1	4.0	1.9	<1	<1			
00:30	0.1	<0.1	<0.1	1.0	2.0	<1	<1			
00:45	0.1	<0.1	<0.1	0.4	2.0	<1	<1			
01:00	0.1	<0.1	<0.1	0.2	2.1	<1	<1			
01:15	0.1	<0.1	<0.1	0.1	2.1	<1	<1			
01:30	0.1	<0.1	<0.1	0.1	2.1	<1	<1			
01:45	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
02:00	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
02:15	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
02:30	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
02:45	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
03:00	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
03:15	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
03:30	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
03:45	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
04:00	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
04:15	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
04:30	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
04:45	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
05:00	0.1	<0.1	<0.1	0.0	2.1	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**0.0**	**2.1**	**<1**	**<1**	#####	**2.05**	**2.05**
Peak	**0.1**	**0.0**	**0.0**	**20.0**	**2.1**	**0.0**	**0.0**	**0.0**	**2.05**	**2.05**

Date	Notes:			
12/12/2023	Engineer	NC	Barometric Pressure, mbar	994
			Pressure Trend	STEADY
	Equipment	GFM436	Air Temp (˚C)	11

Gas Testing Summary

Project Number	C3297
Project Name	Barry Waterfront
Client	WEPCo

Methane. (%LEL)						
BH04	<0.1	<0.1	<0.1			
BH02	<0.1	<0.1	<0.1			
BH03(A)	<0.1	<0.1	<0.1			
BH03(B)		<0.1	<0.1			

Methane. (%vol)						
BH04	<0.1	<0.1	<0.1			
BH02	<0.1	<0.1	<0.1			
BH03(A)	<0.1	<0.1	<0.1			
BH03(B)		<0.1	<0.1			

Oxygen. (%vol)						
BH04	18.6	19.8	19.7			
BH02	17	17	15			
BH03(A)	20.1	19.6	18.4			
BH03(B)		0.6	0			

Gas Testing Summary

Project Number	C3297
Project Name	Barry Waterfront
Client	WEPCo

Carbon Dioxide. (%vol)						
BH04	0.3	0.2	0.7			
BH02	0.8	1.6	2.7			
BH03(A)	0.2	0.8	3.1			
BH03(B)		2.6	2.1			

Hydrogen Sulphide. (ppm)						
BH04	<1	<1	<1			
BH02	<1	<1	<1			
BH03(A)	<1	<1	<1			
BH03(B)		<1	<1			

Carbon Monoxide. (ppm)						
BH04	<1	<1	<1			
BH02	<1	<1	<1			
BH03(A)	<1	<1	<1			
BH03(B)		<1	<1			

Gas Testing Summary

Project Number	C3297
Project Name	Barry Waterfront
Client	WEPCo

Gas Flow Rate (l/hr)						
BH04	0.1	0.1	0.1			
BH02	0.1	0.1	0.1			
BH03(A)	0.1	0.1	0.1			
BH03(B)		0.1	0.1			

Volatile Organic Carbons (ppm)						

Atmospheric Pressure Range						
	1001	1033	994			

Max Methane Concentration (%vol)	0
Max Carbon Dioxide Concentration (%vol)	3.1
Max Carbon Monoxide Concentration (ppm)	0
Max Hydrogen Sulphide Concentration (ppm)	0
Max Flow Rate (l/hr)	0.1
Max Volatile Organic Carbon Concentration (ppm)	0
Methane Gas Screening Value	0
Carbon Dioxide Gas Screening Value	0.0031

Carbon Monoxide Gas Screening Value	0
Hydrogen Sulphide Gas Screening Value	0
Maximum Gas Screening Value	0.0031
Characteristic Situation 1	PASS
Characteristic Situation 2	PASS
Characteristic Situation 3	PASS
Characteristic Situation 4	PASS
Characteristic Situation 5	PASS
Characteristic Situation 6	PASS
Hydrocarbon Vapour Barrier Required?	NO

Appendix X

CORE PHOTOGRAPHS - BARRY

BH01: 18.00m – 21.00m

BH01: 21.00 – 24.00m

CORE PHOTOGRAPHS - BARRY

BH01: 24.00m – 27.00m

BH01: 27.0m – 30.00m

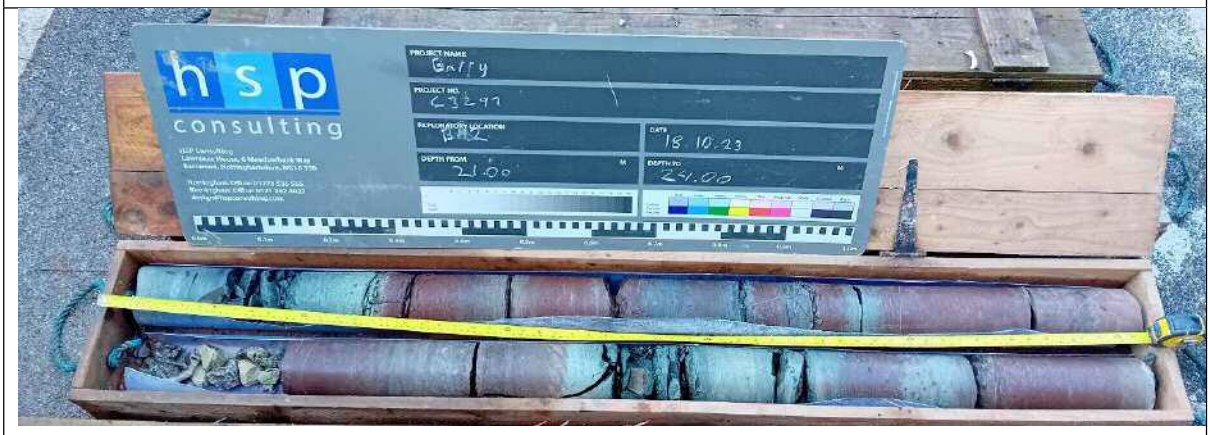
CORE PHOTOGRAPHS - BARRY

BH01: 30.00m – 33.00m

BH01: 33.00m – 34.50m

CORE PHOTOGRAPHS - BARRY

BH02: 18.00m – 21.00m



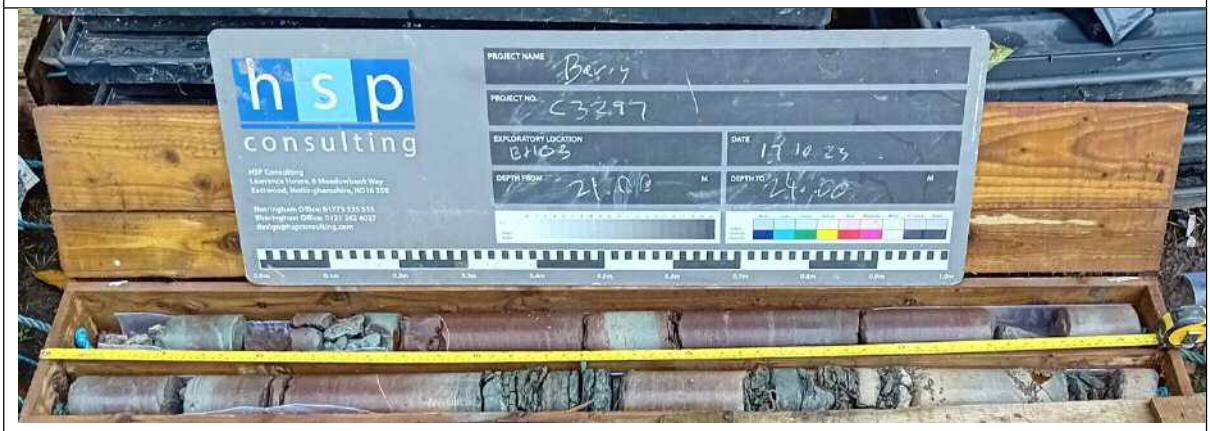
BH02: 21.00m – 24.00m

CORE PHOTOGRAPHS - BARRY

BH02: 24.00m – 25.50m

BH03: 15.50m – 18.00m

CORE PHOTOGRAPHS - BARRY

BH03: 18.00m – 21.00m

BH03: 21.00m – 24.00m

CORE PHOTOGRAPHS - BARRY

BH03: 24.00m – 25.50m

BH04: 09.00m – 12.00m