Kiwa CMT

Version 046 - 06/03/2020

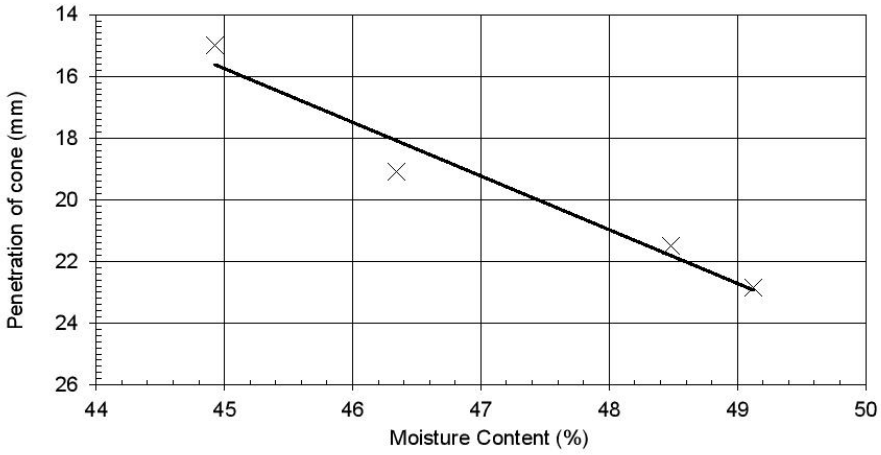
1220 - LLPL BH06 01.20 - C8650-391897.xls : Sample ID 391897

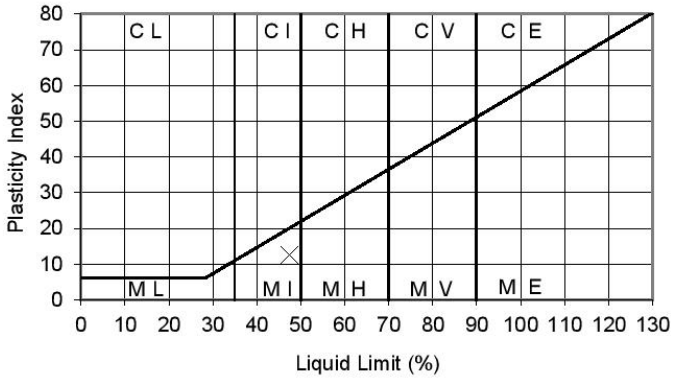
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No.	SC14907
Client	Kiwa CMT Ltd	Hole ID	BH06
Engineer		Depth (m)	1.20-1.45

Non Engineering Description : MADE GROUND (Very dark grey slightly silty very sandy fine to coarse gravel with much cobbles).

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	15	%
Percentage retained on 425µm sieve :	81	%
Liquid Limit :	47	%
Plastic Limit :	35	%
Plasticity Index :	12	
Equivalent moisture content of material passing 425µm sieve :	80	%
Liquidity Index :	3.75	

Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Tk
HW	19/12/2023 R.J.N.		Sheet 1 of 1

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Kiwa CMT

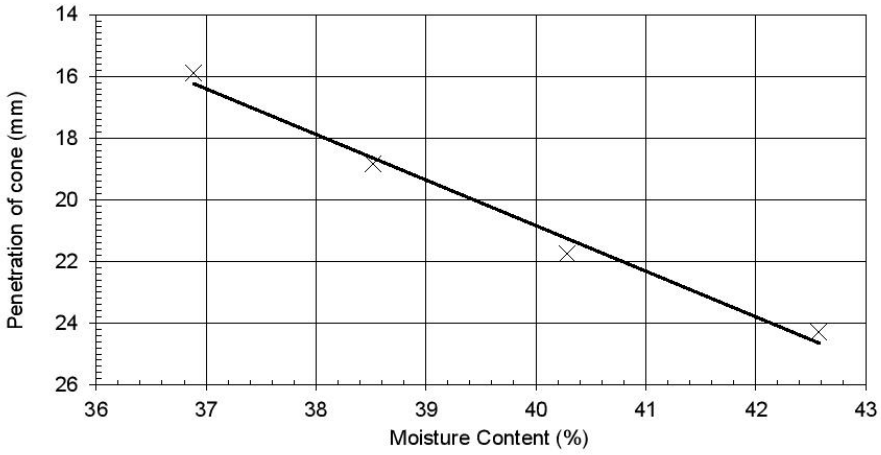
Version 046 - 06/03/2020 1220 - LLPL BH06 03.00 - C8650-391899.xls : Sample ID 391899

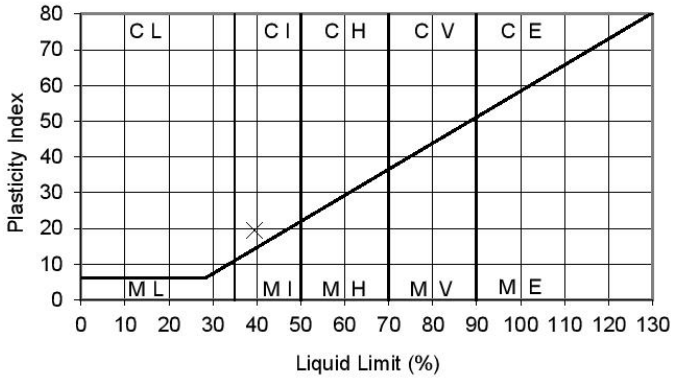
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No.	SC14907
Client	Kiwa CMT Ltd	Hole ID	BH06
Engineer		Depth (m)	3.00-3.45
		Sample Type	

Non Engineering Description : Light brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	38	%
Percentage retained on 425µm sieve :	6	%
Liquid Limit :	39	%
Plastic Limit :	20	%
Plasticity Index :	19	
Equivalent moisture content of material passing 425µm sieve :	41	%
Liquidity Index :	1.11	

Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Tk
HW	R.J.N. 19/12/2023		Sheet 1 of 1

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Kiwa CMT

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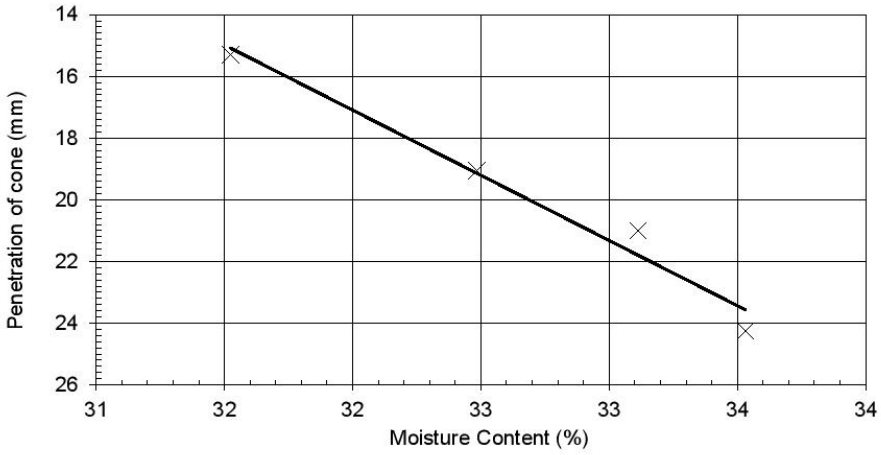
1220 - LLPL BH06 05.00 - C8650-391901.xls : Sample ID 391901

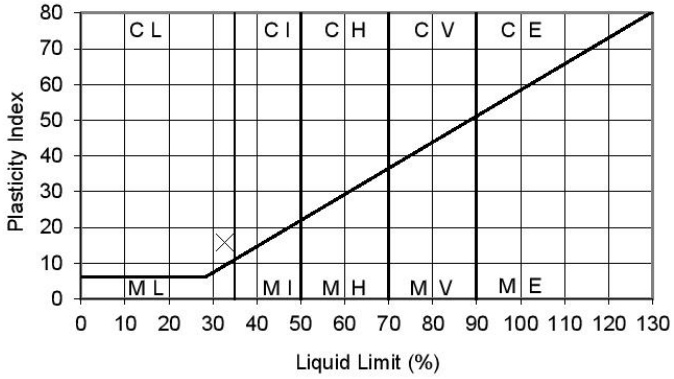
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No.	SC14907
Client	Kiwa CMT Ltd	Hole ID	BH06
Engineer		Depth (m)	5.00-5.45

Non Engineering Description : Grey/brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	38	%
Percentage retained on 425µm sieve :	14	%
Liquid Limit :	33	%
Plastic Limit :	17	%
Plasticity Index :	16	
Equivalent moisture content of material passing 425µm sieve :	44	%
Liquidity Index :	1.69	

Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Tk
HW	R.J.N. 19/12/2023		Sheet 1 of 1

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Kiwa CMT

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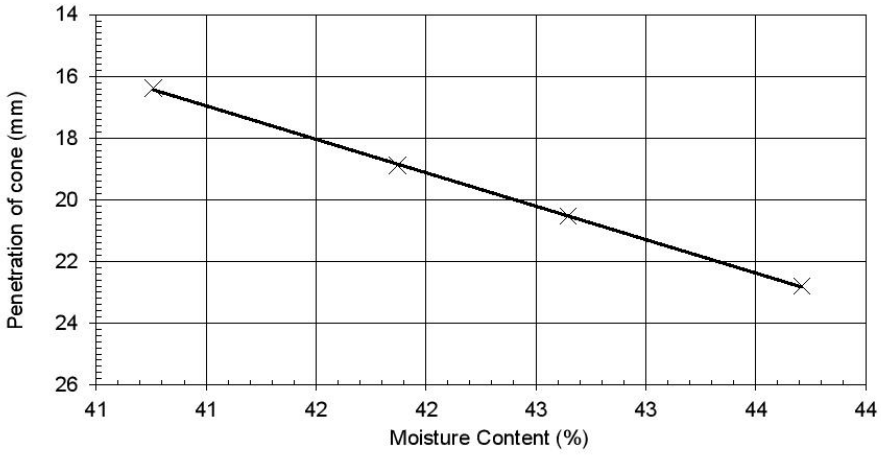
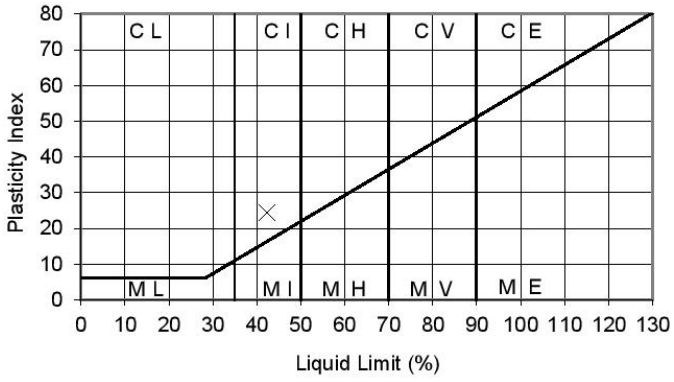
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No.	SC14907
Client	Kiwa CMT Ltd	Hole ID	BH06
Engineer		Depth (m)	9.00-9.45

Non Engineering Description : Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	44	%
Percentage retained on 425µm sieve :	13	%
Liquid Limit :	42	%
Plastic Limit :	18	%
Plasticity Index :	24	
Equivalent moisture content of material passing 425µm sieve :	50	%
Liquidity Index :	1.33	

Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Tk
HW	R.J.N. 19/12/2023		Sheet 1 of 1

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Kiwa CMT

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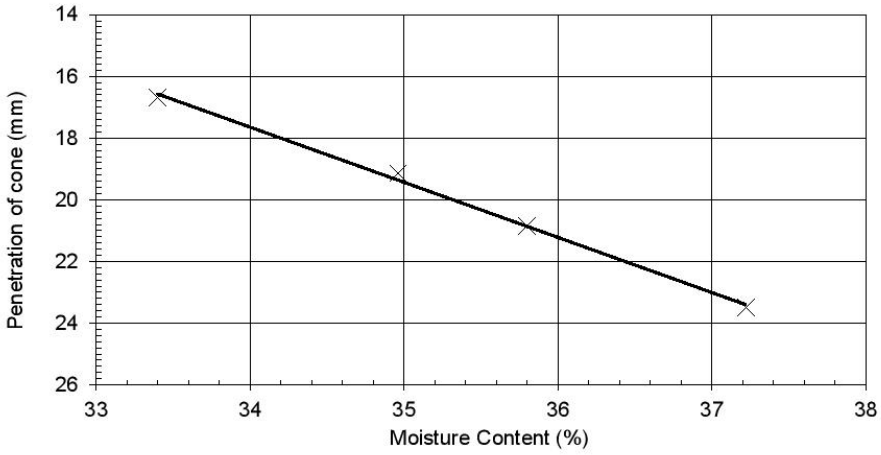
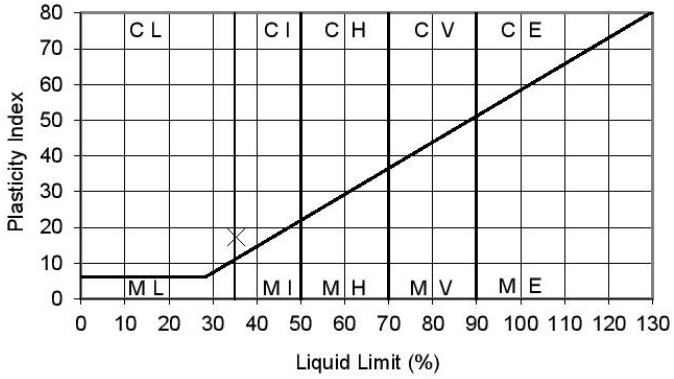
1220 - LLPL BH06 19.00 - C8650-391908.xls : Sample ID 391908

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES	Site	BARRY WATERFRONT COLLEGE	Contract No. SC14907
	Client	Kiwa CMT Ltd	Hole ID BH06
	Engineer		Depth (m) 19.00-19.45

Non Engineering Description : Grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	43	%
Percentage retained on 425µm sieve :	12	%
Liquid Limit :	35	%
Plastic Limit :	18	%
Plasticity Index :	17	
Equivalent moisture content of material passing 425µm sieve :	49	%
Liquidity Index :	1.82	

Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Tk
HW	R.J.N. 19/12/2023		Sheet 1 of 1

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Kiwa CMT

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	2.00-2.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	99
28.0 mm	89
20.0 mm	81
14.0 mm	75
10.0 mm	69
6.30 mm	62
5.00 mm	59
3.35 mm	55
2.00 mm	49
1.18 mm	43
630 µm	36
425 µm	32
300 µm	28
200 µm	23
150 µm	20
63 µm	15
20 µm	9
6 µm	5
2 µm	3

Non Engineering Description

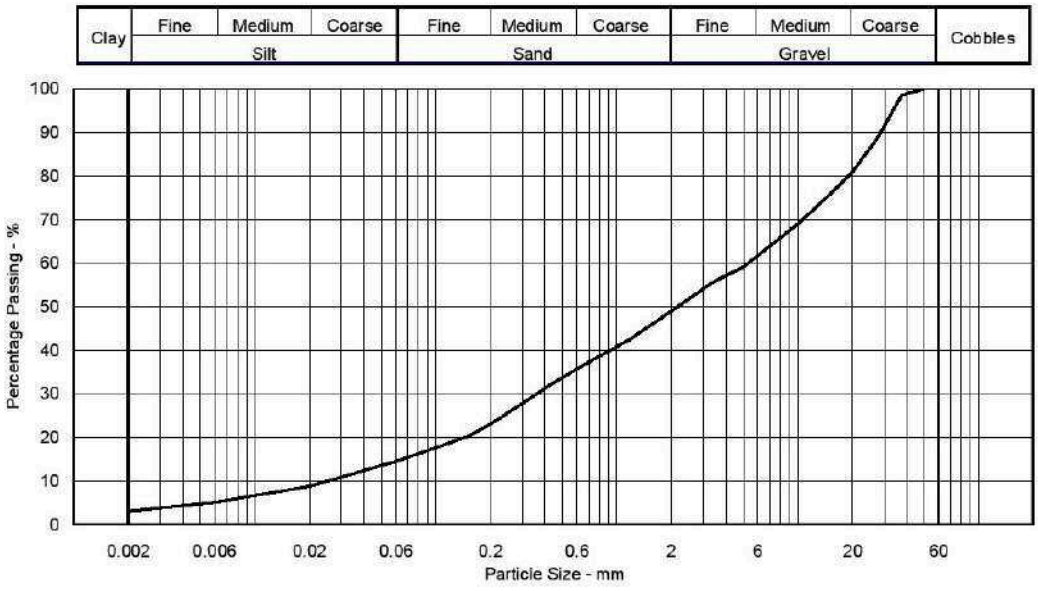
Very dark grey silty very sandy fine to coarse GRAVEL.

Sample Proportions - %	
Cobbles	0.0
Gravel	51.0
Sand	34.7
Silt	11.3
Clay	3.1
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	50
D60	5.3
D10	0.025
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	212.0

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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1283 - PSD - BS EN 17892 BH02 02.00 - C8650-391921.xls : Sample ID 391921
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Kiwa CMT

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	4.00-4.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	99
3.35 mm	98
2.00 mm	94
1.18 mm	89
630 µm	83
425 µm	78
300 µm	75
200 µm	72
150 µm	70
63 µm	68
20 µm	61
6 µm	46
2 µm	33

Non Engineering Description

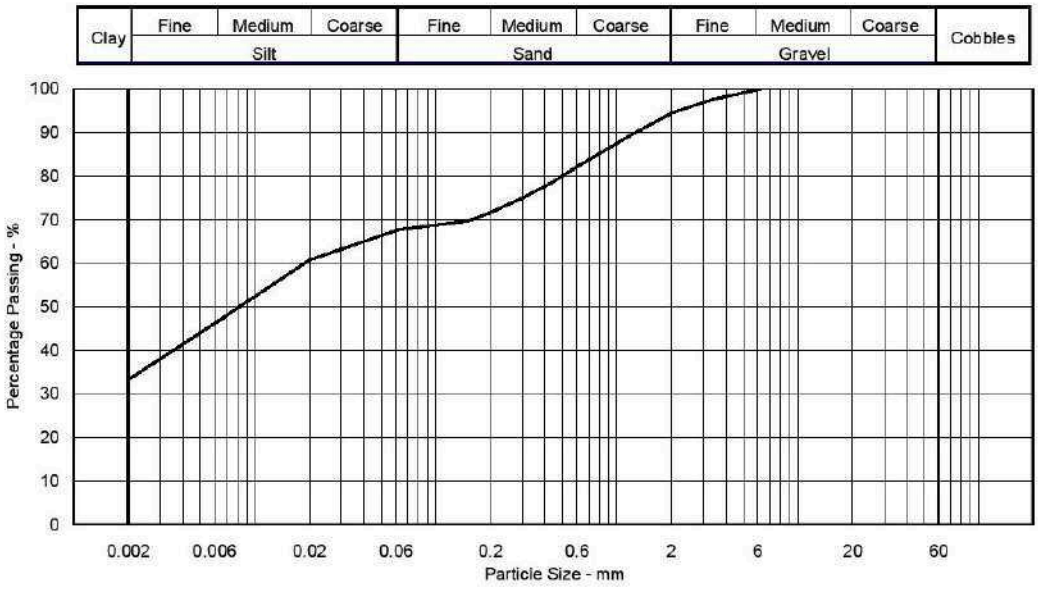
Brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is fine.

Sample Proportions - %	
Cobbles	0.0
Gravel	5.5
Sand	27.2
Silt	34.0
Clay	33.3
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	6.3
D60	0.019
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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1253 - PSD - BS EN 17892 BH02 04.00 - C8650-391923.xls : Sample ID 391923
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Kiwa CMT

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1293 - PSD - BS EN 17892 BH02 00.00 - C8650-391925.xls : Sample ID 391925

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	6.00-6.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	98
1.18 mm	96
630 µm	91
425 µm	86
300 µm	82
200 µm	79
150 µm	77
63 µm	72
20 µm	67
6 µm	47
2 µm	34

Non Engineering Description

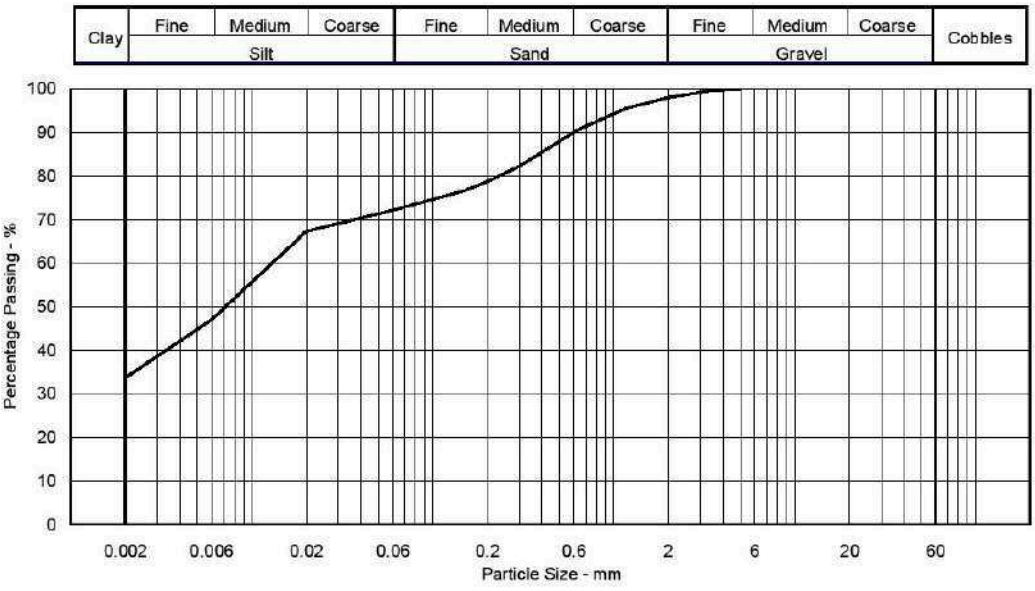
Brown slightly sandy CLAY with rare fine gravel.

Sample Proportions - %	
Cobbles	0.0
Gravel	1.9
Sand	26.0
Silt	38.3
Clay	33.7
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	5.0
D60	0.013
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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1293 - PSD - BS EN 17892 BH02 08.00 - C8650-391926.xls : Sample ID 391926

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	8.00-8.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	93
37.5 mm	87
28.0 mm	81
20.0 mm	76
14.0 mm	68
10.0 mm	60
6.30 mm	47
5.00 mm	42
3.35 mm	36
2.00 mm	28
1.18 mm	21
630 µm	18
425 µm	17
300 µm	16
200 µm	15
150 µm	15
63 µm	13

Non Engineering Description

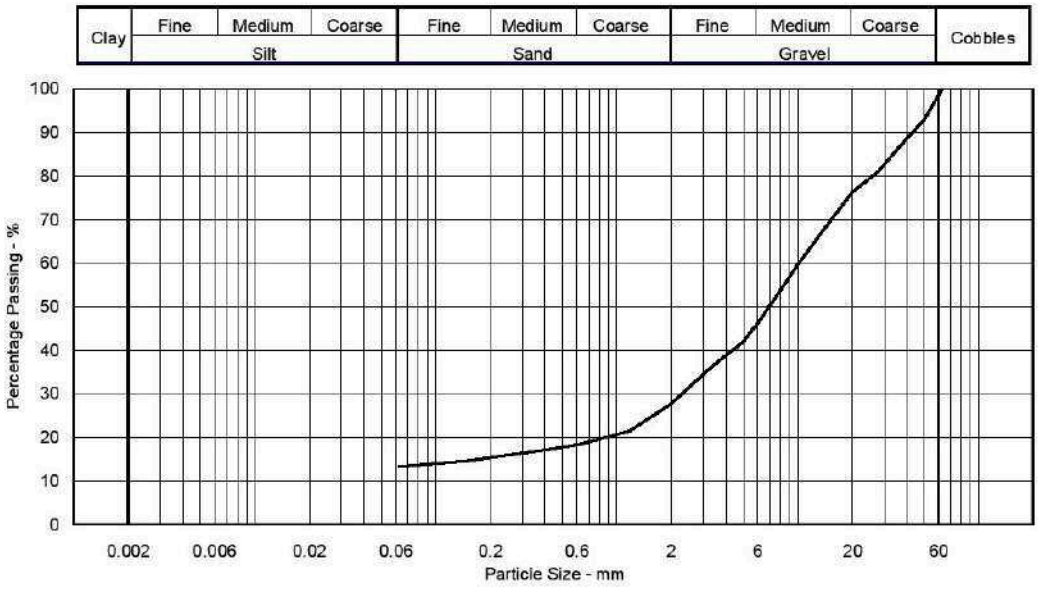
Light brown slightly silty sandy fine to coarse GRAVEL.

Sample Proportions - %	
Cobbles	1.6
Gravel	70.6
Sand	14.5
Silt & Clay	13.2

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	10
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

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Kiwa CMT

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1283 - PSD - BS EN 17892 BH02 10.00 - C8650-391928.xls : Sample ID 391928

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	10.00-10.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	98
20.0 mm	98
14.0 mm	97
10.0 mm	96
6.30 mm	94
5.00 mm	94
3.35 mm	93
2.00 mm	91
1.18 mm	89
630 µm	85
425 µm	83
300 µm	81
200 µm	75
150 µm	70
63 µm	60
20 µm	50
6 µm	34
2 µm	23

Non Engineering Description

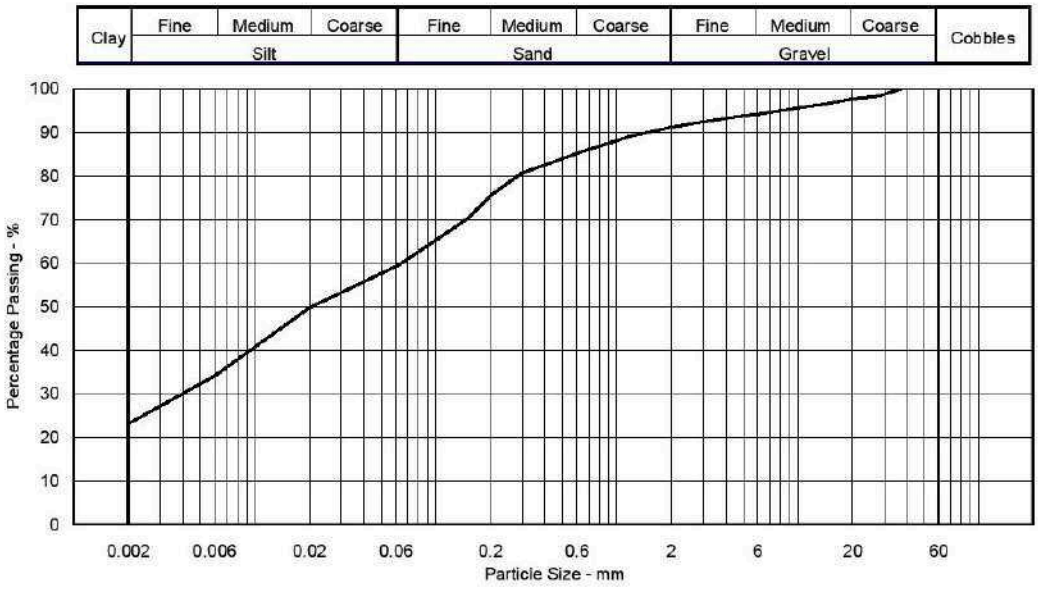
Grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	8.7
Sand	32.3
Silt	35.8
Clay	23.2
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	38
D60	0.065
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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1293 - PSD - BS EN 17892 BH02 14.00 - C8650-391931.xls : Sample ID 391931

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	14.00-14.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	98
5.00 mm	96
3.35 mm	93
2.00 mm	88
1.18 mm	79
630 µm	70
425 µm	65
300 µm	60
200 µm	55
150 µm	50
63 µm	41
20 µm	39
6 µm	30
2 µm	21

Non Engineering Description

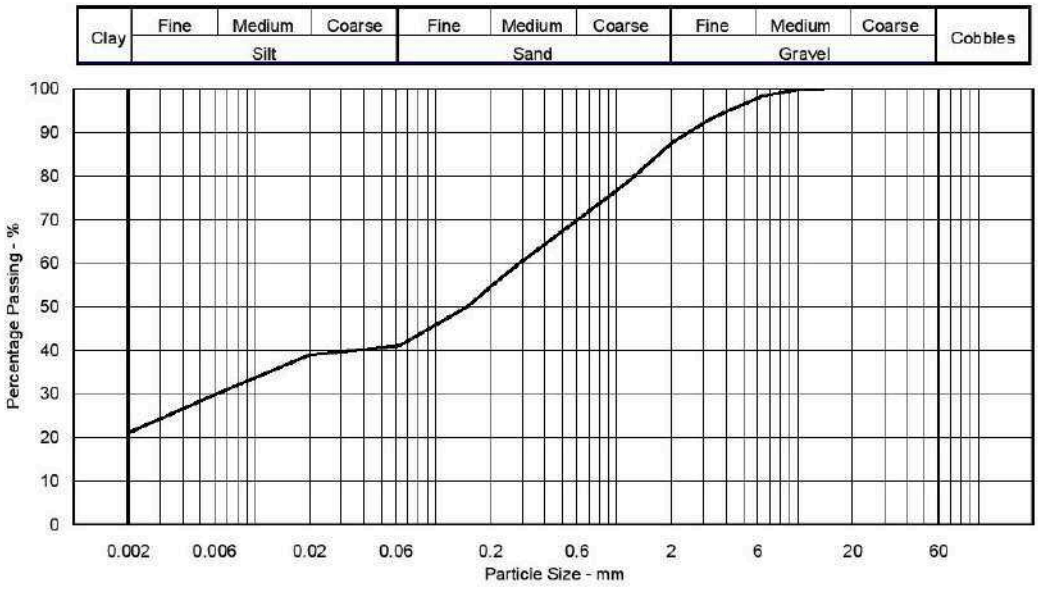
Light grey slightly gravelly sandy CLAY. Gravel is fine to medium.

Sample Proportions - %	
Cobbles	0.0
Gravel	12.5
Sand	46.6
Silt	19.9
Clay	21.1
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	14
D60	0.29
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:27:51

Kiwa CMT

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH02
Engineer		Depth (m)	16.00-16.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	92
28.0 mm	89
20.0 mm	86
14.0 mm	84
10.0 mm	82
6.30 mm	80
5.00 mm	78
3.35 mm	77
2.00 mm	74
1.18 mm	72
630 µm	69
425 µm	67
300 µm	65
200 µm	63
150 µm	61
63 µm	57
20 µm	36
6 µm	25
2 µm	17

Non Engineering Description

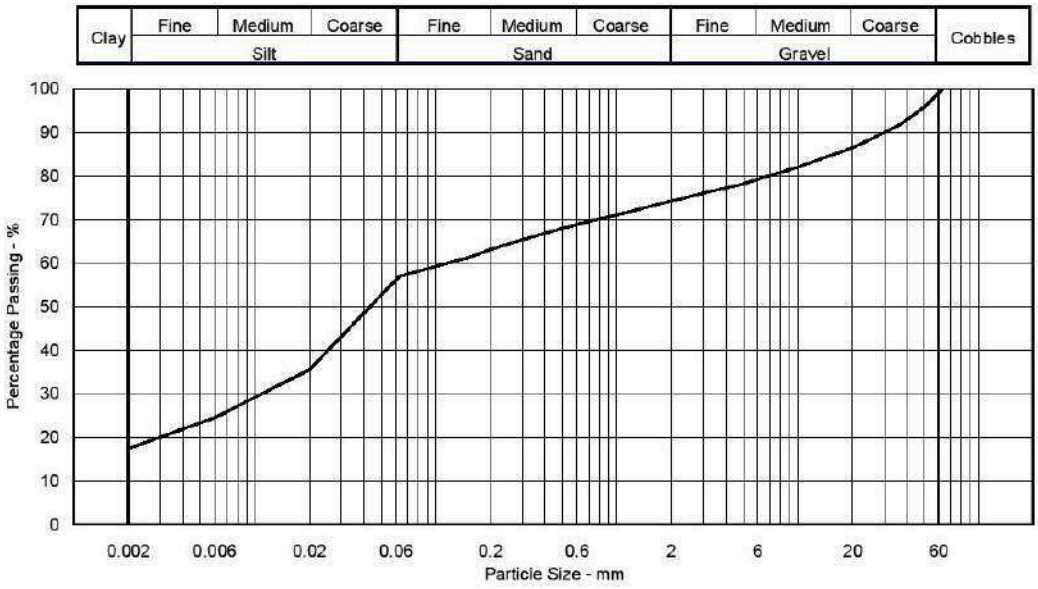
Light grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.9
Gravel	24.8
Sand	18.7
Silt	38.1
Clay	17.5
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	0.12
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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1253 - PSD - BS EN 17892 BH02 16.00 - C8650-391933.xls : Sample ID 391933

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Lab Project No C8650 : 19/12/2023 14:27:57

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH03 01.20 - C8650-391910.xls : Sample ID 391910

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH03
Engineer		Depth (m)	1.20-1.65

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	95
37.5 mm	91
28.0 mm	84
20.0 mm	75
14.0 mm	71
10.0 mm	66
6.30 mm	59
5.00 mm	57
3.35 mm	53
2.00 mm	46
1.18 mm	41
630 µm	36
425 µm	33
300 µm	30
200 µm	27
150 µm	24
63 µm	20
20 µm	12
6 µm	9
2 µm	6

Non Engineering Description

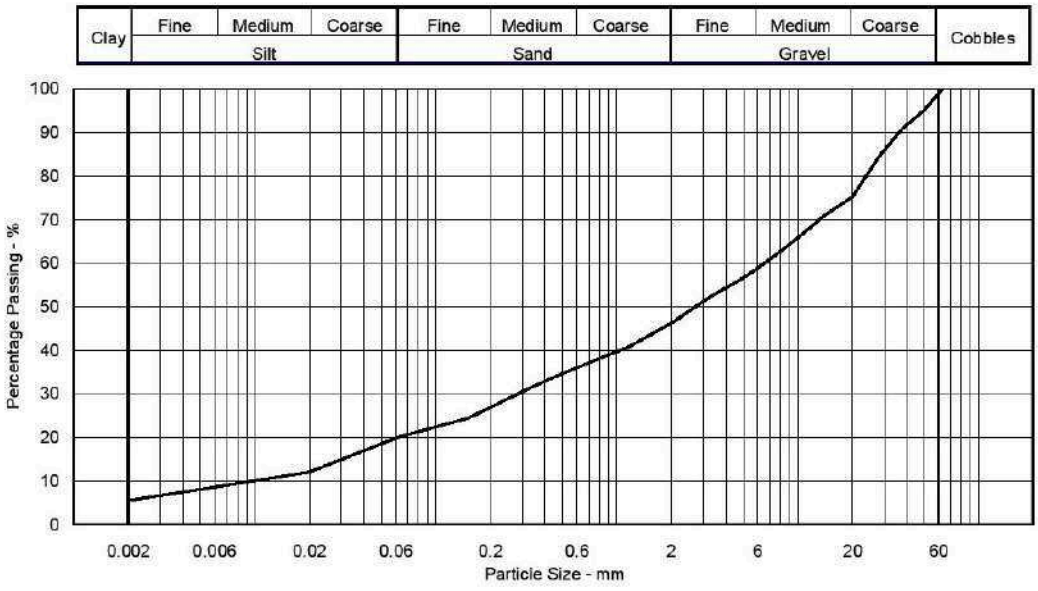
MADE GROUND (Very dark grey clayey very sandy fine to coarse gravel).

Sample Proportions - %	
Cobbles	1.1
Gravel	52.7
Sand	26.6
Silt	14.1
Clay	5.5
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	6.6
D10	0.0098
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	673.5

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 19/12/2023 14:28:02

Kiwa CMT

Version 066 - 16/07/2023

1293 - PSD - BS EN 17892 BH03 03.00 - C8650-391912.xls : Sample ID 391912

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH03
Engineer		Depth (m)	3.00-3.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	99
2.00 mm	97
1.18 mm	93
630 µm	88
425 µm	84
300 µm	82
200 µm	80
150 µm	79
63 µm	76
20 µm	62
6 µm	43
2 µm	31

Non Engineering Description

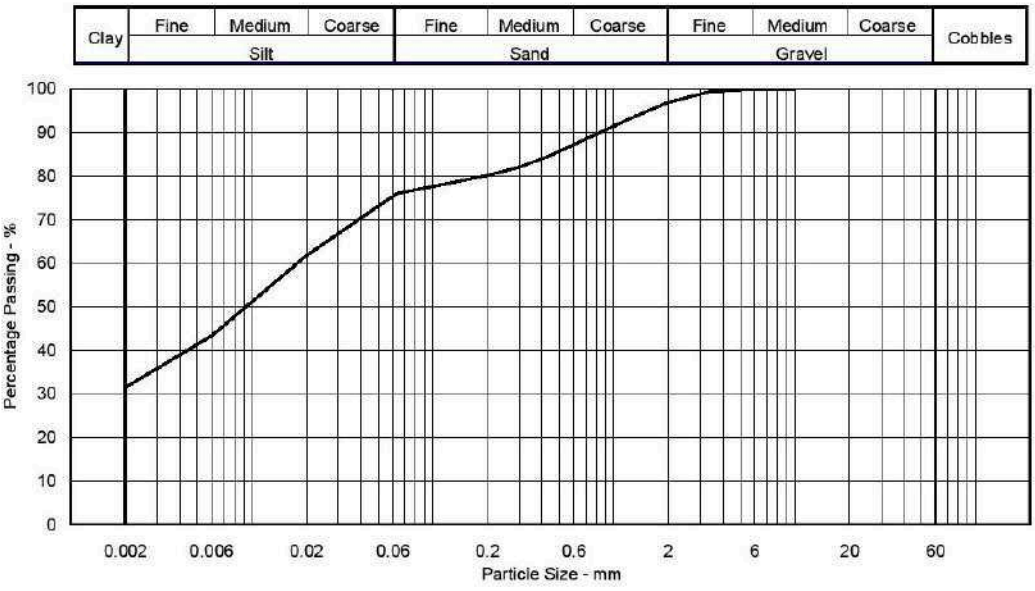
Brown slightly gravelly slightly sandy CLAY.

Sample Proportions - %	
Cobbles	0.0
Gravel	3.0
Sand	22.0
Silt	43.5
Clay	31.5
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	10
D60	0.018
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:28:08

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH03 07.00 - C8650-391915.xls - Sample ID 391915

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH03
Engineer		Depth (m)	7.00-7.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	99
630 µm	99
425 µm	99
300 µm	99
200 µm	98
150 µm	98
63 µm	86
20 µm	74
6 µm	58
2 µm	49

Non Engineering Description

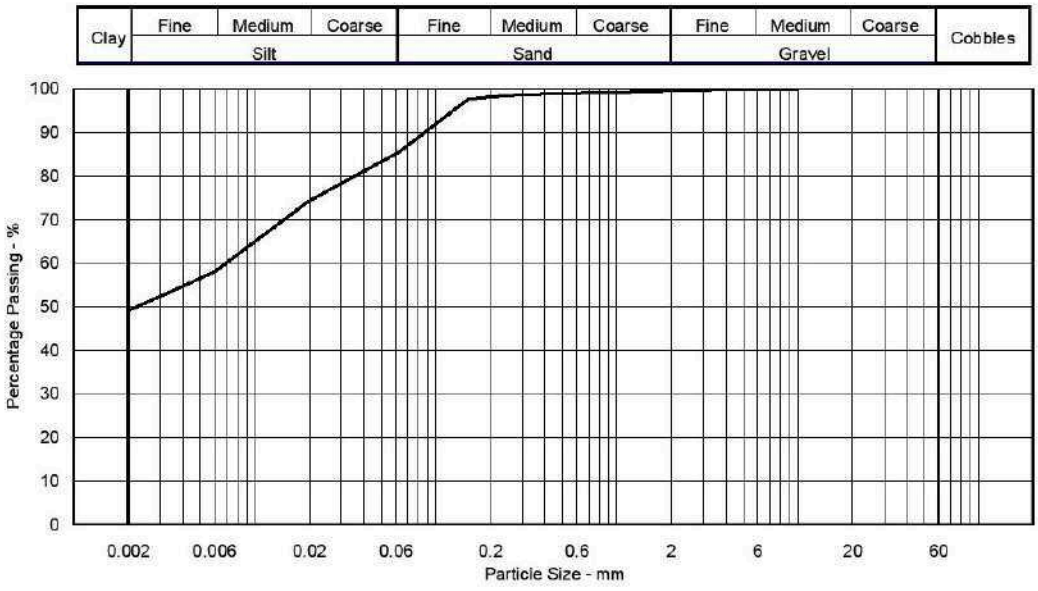
Brown slightly sandy CLAY. Rare fine gravel.

Sample Proportions - %	
Cobbles	0.0
Gravel	0.4
Sand	14.8
Silt	35.7
Clay	49.1
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	10
D60	0.0069
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
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BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Kiwa CMT

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1293 - PSD - BS EN 17892 BH03 11.00 - C8650-391917.xls : Sample ID 391917

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH03
Engineer		Depth (m)	11.00-11.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	85
37.5 mm	72
28.0 mm	59
20.0 mm	51
14.0 mm	44
10.0 mm	33
6.30 mm	22
5.00 mm	17
3.35 mm	13
2.00 mm	9
1.18 mm	7
630 µm	6
425 µm	6
300 µm	5
200 µm	5
150 µm	5
63 µm	4

Non Engineering Description

Light brown slightly silty slightly sandy fine to coarse GRAVEL.

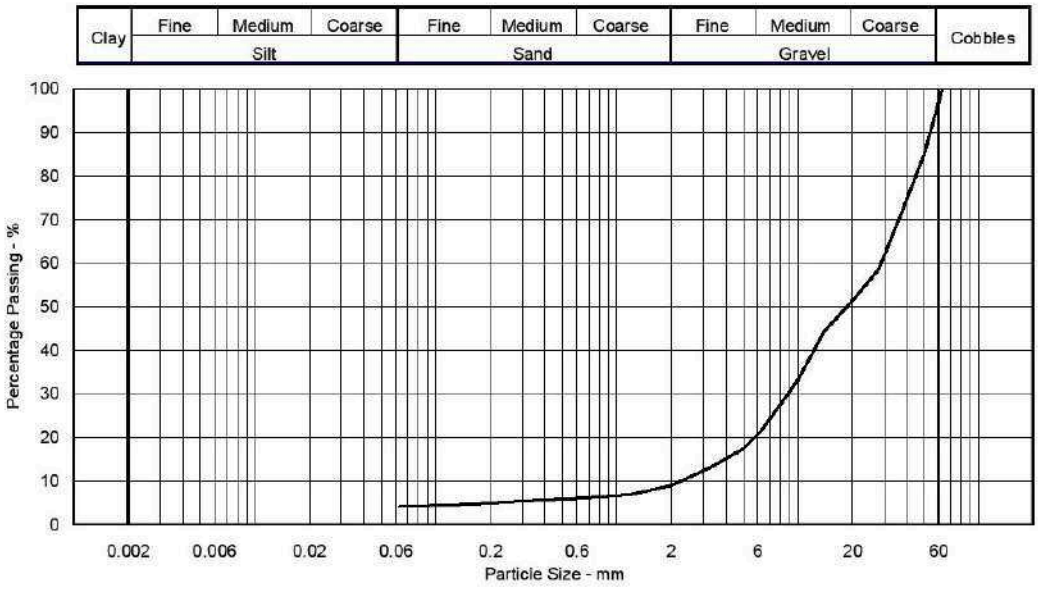
Sample Proportions - %	
Cobbles	3.4
Gravel	87.6
Sand	4.9
Silt & Clay	4.1

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	29
D10	2.3
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	12.6

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
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Kiwa CMT

Version 066 - 16/07/2023

1293 - PSD - BS EN 17892 BH03 15.00 - C8650-391919.xls : Sample ID 391919

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH03
Engineer		Depth (m)	15.00-15.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	98
37.5 mm	87
28.0 mm	82
20.0 mm	74
14.0 mm	69
10.0 mm	66
6.30 mm	60
5.00 mm	55
3.35 mm	47
2.00 mm	34
1.18 mm	26
630 µm	22
425 µm	20
300 µm	19
200 µm	18
150 µm	18
63 µm	16

Non Engineering Description

Light brown clayey sandy fine to coarse GRAVEL.

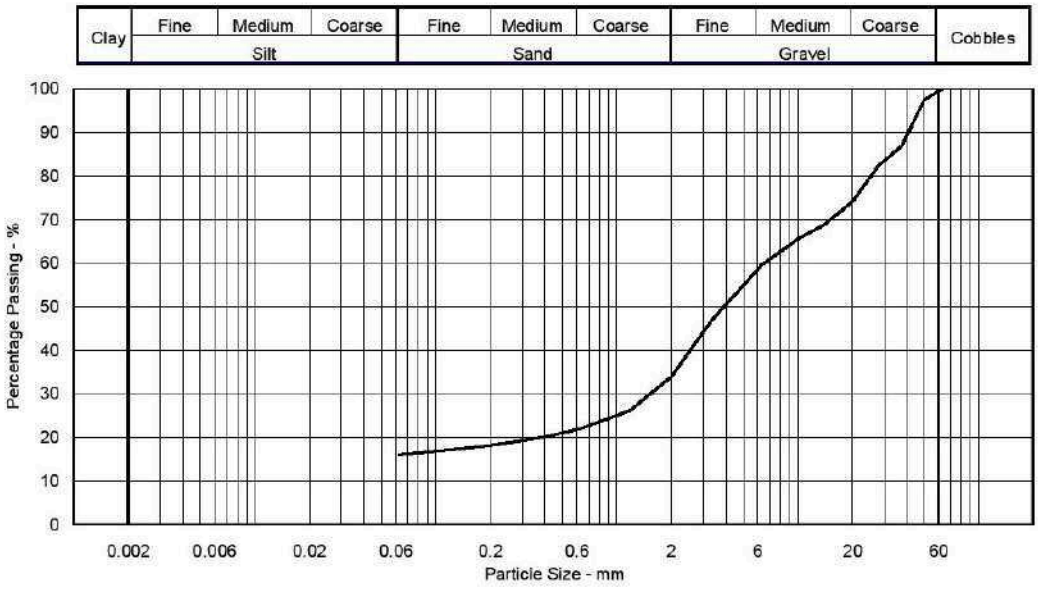
Sample Proportions - %	
Cobbles	0.6
Gravel	65.5
Sand	17.9
Silt & Clay	16.1

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	6.5
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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Lab Project No C8650 : 19/12/2023 14:28:26

Kiwa CMT

Version 066 - 16/07/2023

1253 - PSD - BS EN 17892 BH04 03.00 - C8650-391936.xls : Sample ID 391936

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH04
Engineer		Depth (m)	3.00-3.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	95
37.5 mm	95
28.0 mm	95
20.0 mm	94
14.0 mm	90
10.0 mm	86
6.30 mm	81
5.00 mm	78
3.35 mm	75
2.00 mm	71
1.18 mm	67
630 µm	62
425 µm	58
300 µm	55
200 µm	52
150 µm	50
63 µm	44
20 µm	42
6 µm	28
2 µm	19

Non Engineering Description

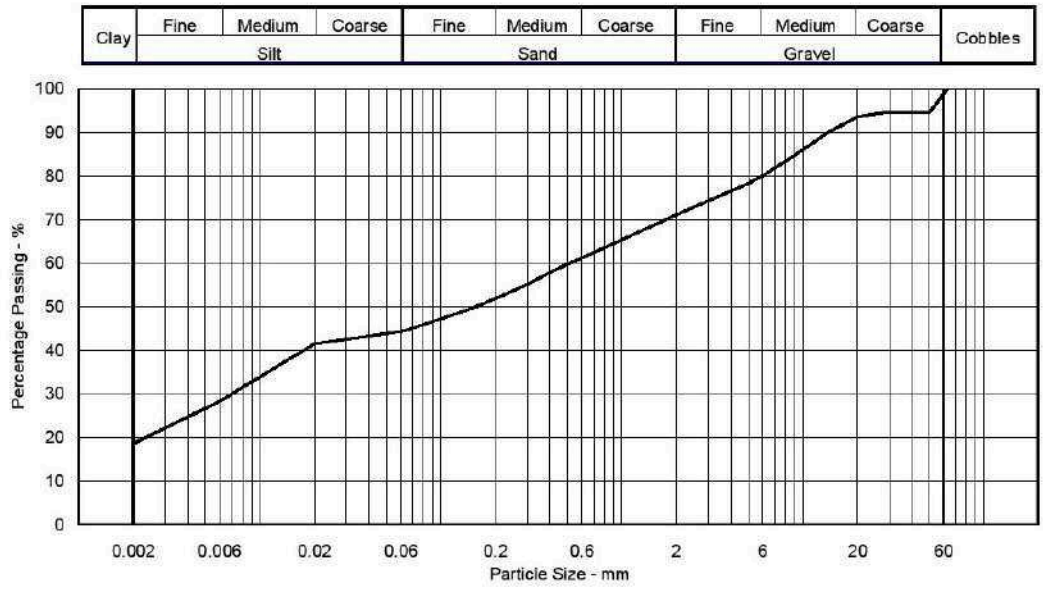
Dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	1.3
Gravel	27.6
Sand	26.9
Silt	25.7
Clay	18.6
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	0.52
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

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BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:28:31

Kiwa CMT

Version 066 - 16/07/2023

1283 - PSD - BS EN 17892 BH04 05.00 - C8650-391938.xls : Sample ID 391938

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH04
Engineer		Depth (m)	5.00-5.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	94
20.0 mm	94
14.0 mm	94
10.0 mm	93
6.30 mm	93
5.00 mm	93
3.35 mm	93
2.00 mm	92
1.18 mm	90
630 µm	86
425 µm	84
300 µm	82
200 µm	81
150 µm	80
63 µm	71
20 µm	54
6 µm	37
2 µm	28

Non Engineering Description

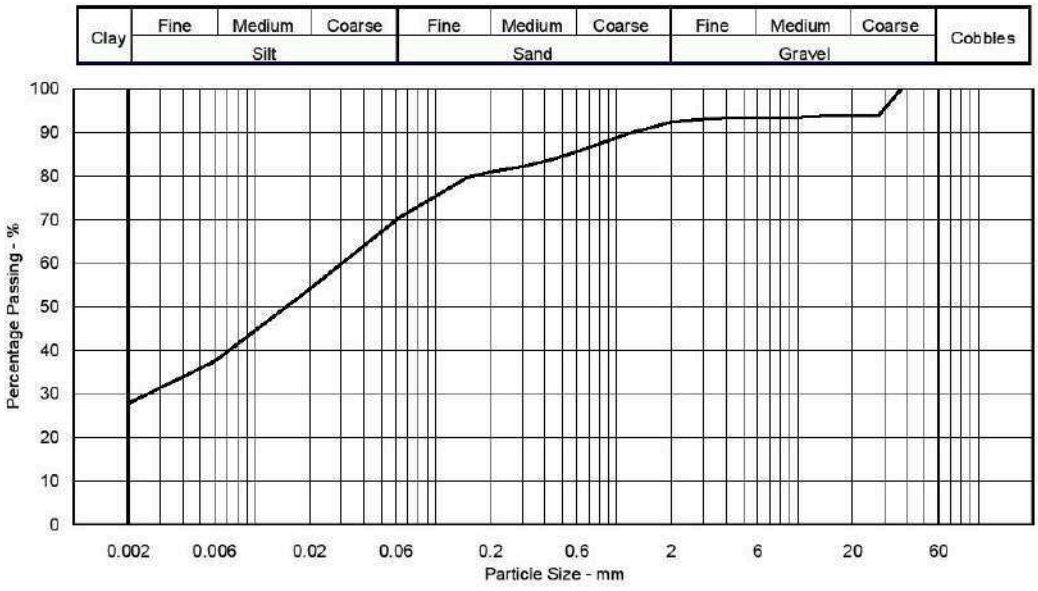
Dark grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	7.6
Sand	23.0
Silt	41.5
Clay	27.9
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	38
D60	0.030
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:28:38

Kiwa CMT

Version 066 - 16/07/2023
1283 - PSD - BS EN 17892 BH04 07.00 - C8650-391940.xls : Sample ID 391940

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

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

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	99
6.30 mm	99
5.00 mm	99
3.35 mm	99
2.00 mm	96
1.18 mm	93
630 µm	89
425 µm	87
300 µm	86
200 µm	85
150 µm	85
63 µm	82

Non Engineering Description

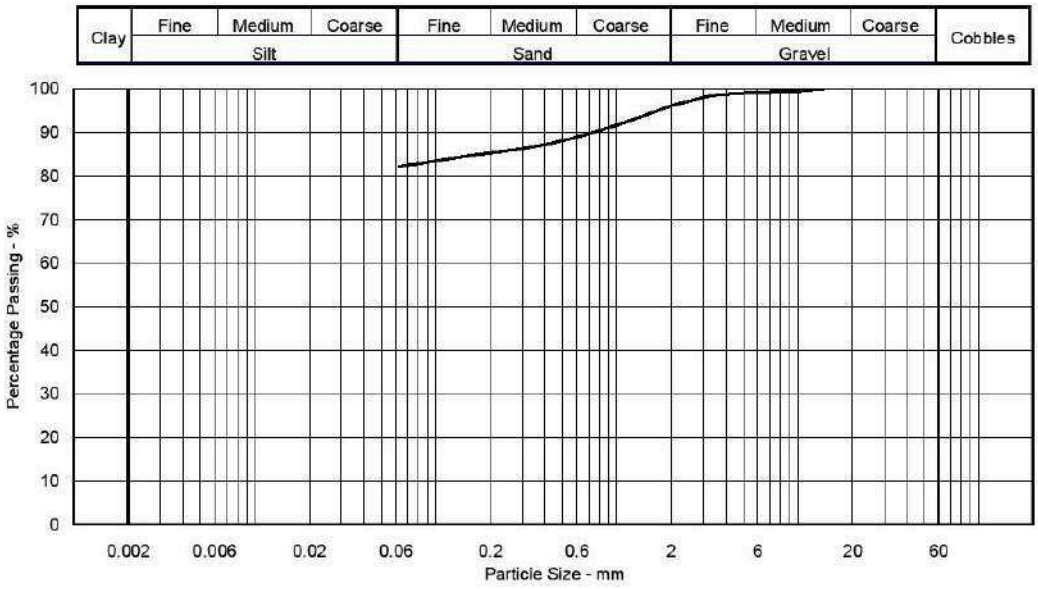
Grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	3.8
Sand	14.0
Silt & Clay	82.2

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	14
D60	
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
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Lab Project No C8650 : 19/12/2023 14:28:44

Kiwa CMT

Version 066 - 16/07/2023

1283 - PSD - BS EN 17892 BH06 02.00 - C8650-391898.xls : Sample ID 391898

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	2.00-2.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	77
37.5 mm	74
28.0 mm	70
20.0 mm	65
14.0 mm	61
10.0 mm	56
6.30 mm	50
5.00 mm	48
3.35 mm	45
2.00 mm	40
1.18 mm	37
630 µm	32
425 µm	28
300 µm	25
200 µm	22
150 µm	19
63 µm	15
20 µm	10
6 µm	6
2 µm	3

Non Engineering Description

MADE GROUND (Dark brown silty very sandy fine to coarse gravel with some construction debris).

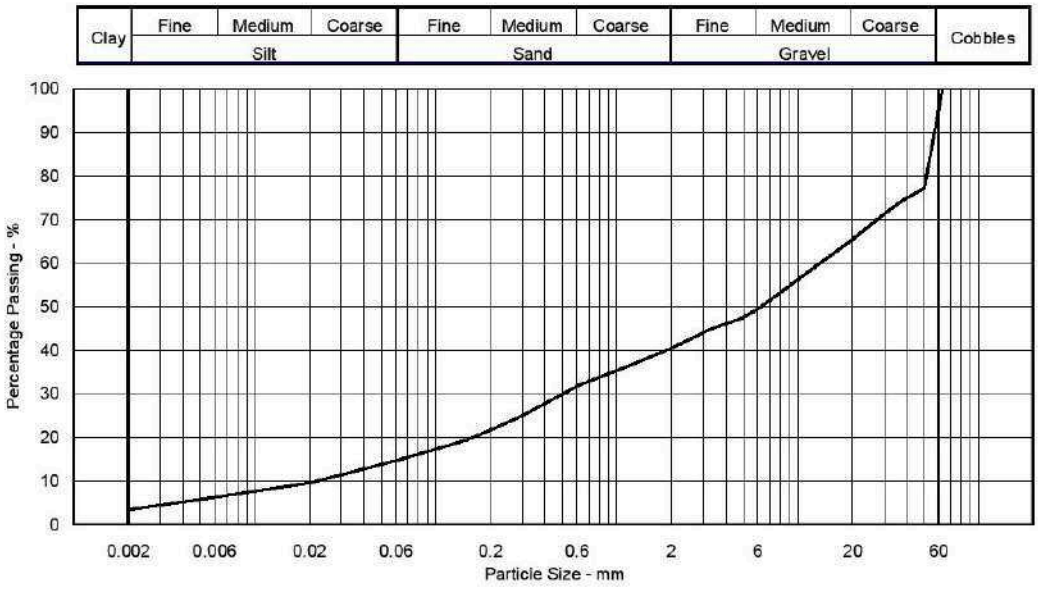
Sample Proportions - %	
Cobbles	5.3
Gravel	54.3
Sand	26.0
Silt	11.0
Clay	3.5
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	13
D10	0.022
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	590.9

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

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Lab Project No C8650 : 19/12/2023 14:28:50

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH06 04.00 - C8650-391900.xls : Sample ID 391900

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	4.00-4.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	95
6.30 mm	92
5.00 mm	91
3.35 mm	90
2.00 mm	89
1.18 mm	88
630 µm	86
425 µm	85
300 µm	84
200 µm	80
150 µm	73
63 µm	61
20 µm	38
6 µm	23
2 µm	16

Non Engineering Description

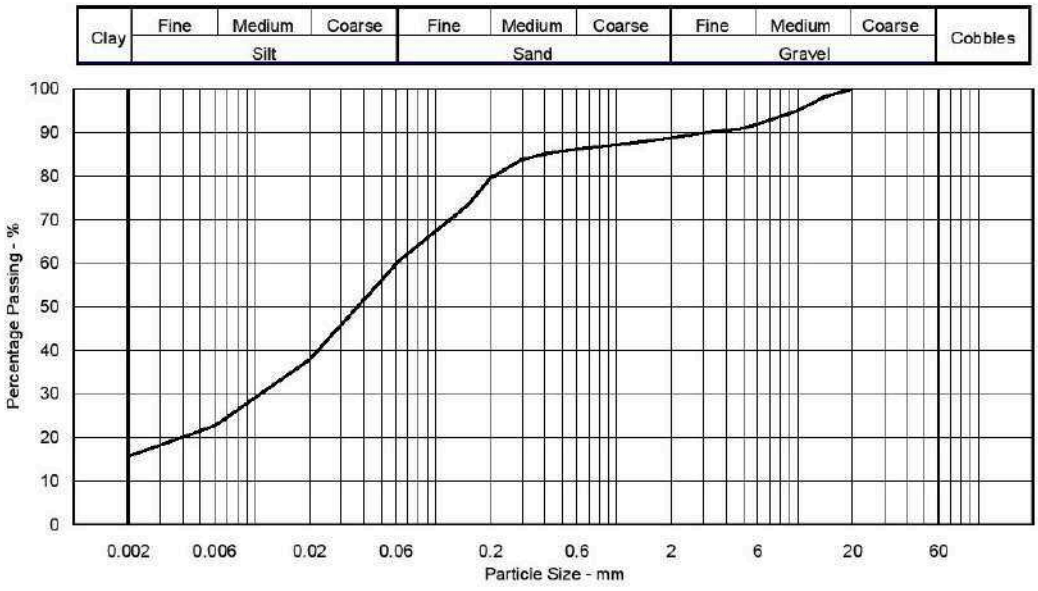
Grey slightly gravelly slightly sandy CLAY. Gravel is fine to medium.

Sample Proportions - %	
Cobbles	0.0
Gravel	11.2
Sand	29.7
Silt	43.4
Clay	15.7
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	20
D60	0.061
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:28:56

Kiwa CMT

Version 066 - 16/07/2023
1283 - PSD - BS EN 17892 BH06 00.00 - C8650-391902.xls : Sample ID 391902

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	6.00-6.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	97
6.30 mm	96
5.00 mm	95
3.35 mm	95
2.00 mm	93
1.18 mm	92
630 µm	91
425 µm	91
300 µm	90
200 µm	84
150 µm	78
63 µm	62
20 µm	46
6 µm	30
2 µm	22

Non Engineering Description

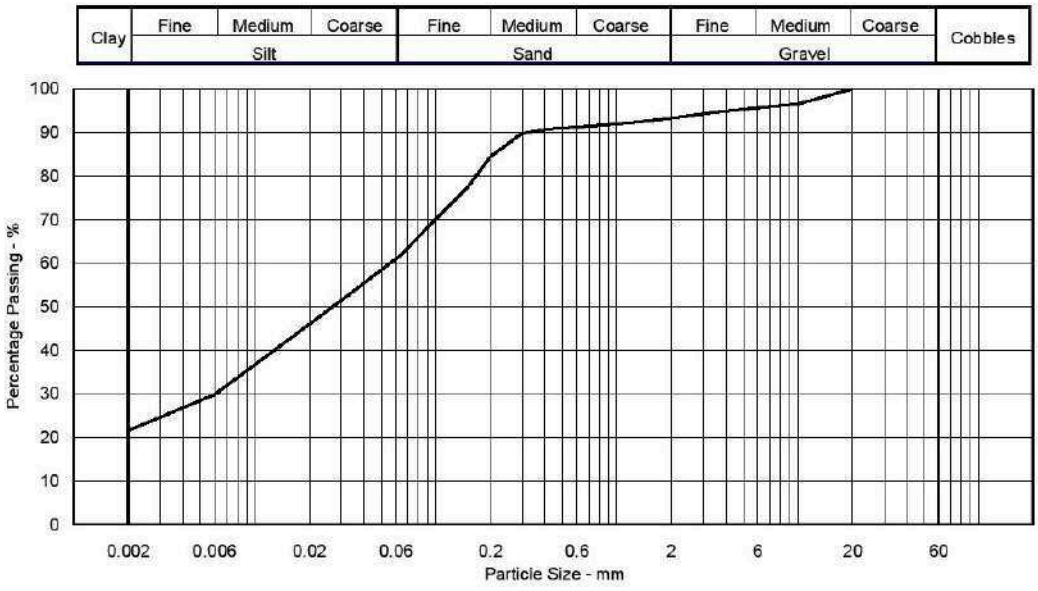
Grey brown slightly gravelly slightly sandy CLAY. Gravel is fine to medium.

Sample Proportions - %	
Cobbles	0.0
Gravel	6.7
Sand	32.8
Silt	38.9
Clay	21.6
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	20
D60	0.056
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



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HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

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Lab Project No C8650 : 19/12/2023 14:29:02

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH06 10.00 - C8650-391904.xls : Sample ID 391904

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	10.00-10.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	96
6.30 mm	93
5.00 mm	90
3.35 mm	87
2.00 mm	81
1.18 mm	74
630 µm	72
425 µm	71
300 µm	70
200 µm	68
150 µm	67
63 µm	59
20 µm	43
6 µm	28
2 µm	21

Non Engineering Description

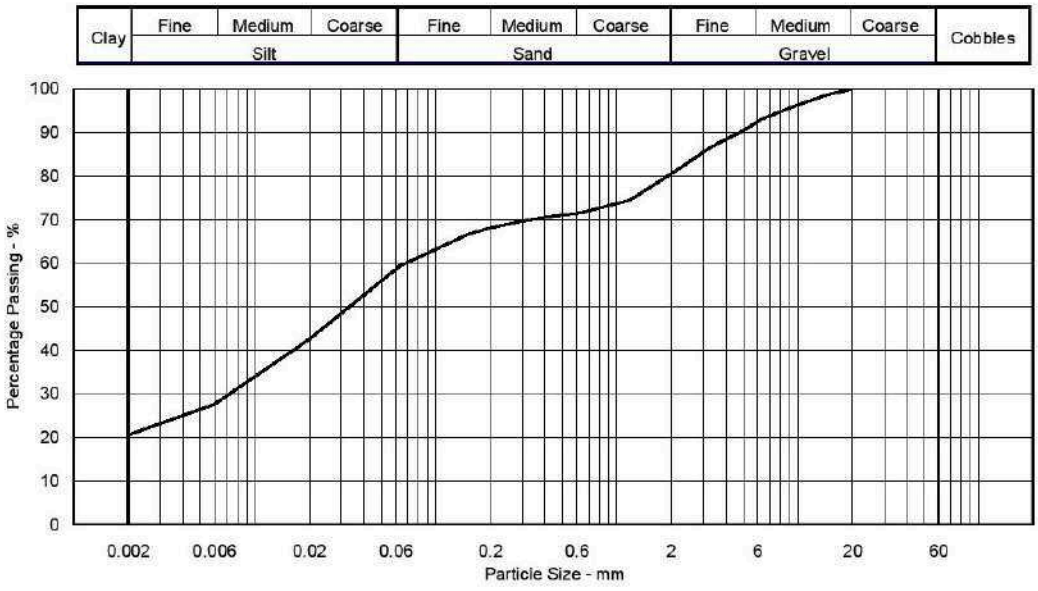
Dark grey slightly gravelly slightly sandy CLAY. Gravel is fine to medium.

Sample Proportions - %	
Cobbles	0.0
Gravel	19.5
Sand	22.4
Silt	37.5
Clay	20.6
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	20
D60	0.068
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Sheet 1 of 1

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 19/12/2023 14:29:08

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH06 12.00 - C8650-391905.xls : Sample ID 391905

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	12.00-12.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	98
20.0 mm	95
14.0 mm	95
10.0 mm	93
6.30 mm	90
5.00 mm	87
3.35 mm	82
2.00 mm	73
1.18 mm	65
630 µm	60
425 µm	58
300 µm	55
200 µm	50
150 µm	46
63 µm	38

Non Engineering Description

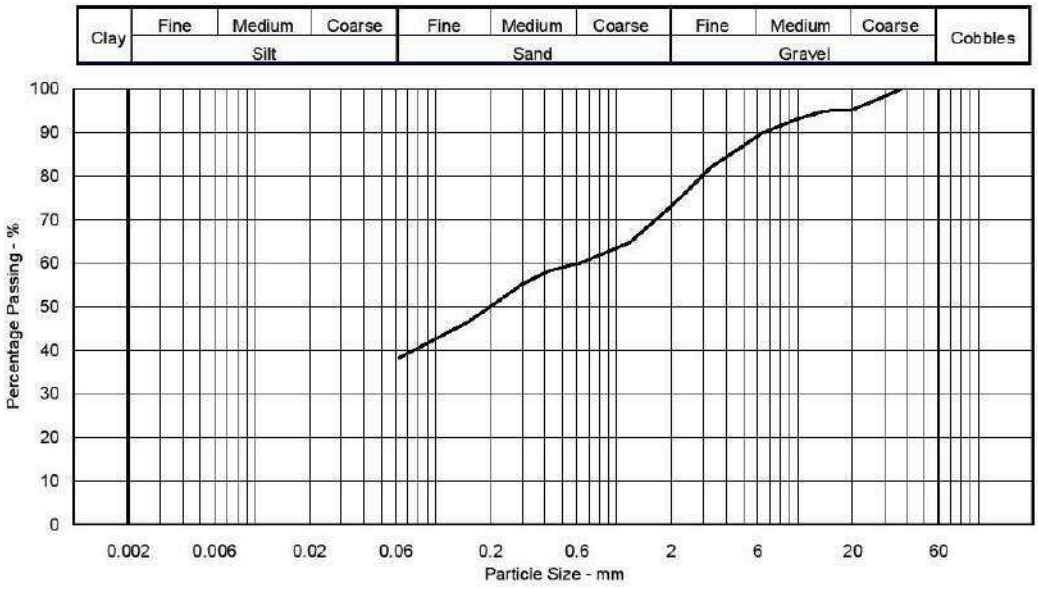
Dark grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	26.9
Sand	34.8
Silt & Clay	38.3

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	38
D60	0.63
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Sheet 1 of 1

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 19/12/2023 14:29:14

Kiwa CMT

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	14.00-14.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	98
28.0 mm	97
20.0 mm	93
14.0 mm	90
10.0 mm	88
6.30 mm	85
5.00 mm	83
3.35 mm	80
2.00 mm	74
1.18 mm	69
630 µm	66
425 µm	64
300 µm	53
200 µm	24
150 µm	13
63 µm	9

Non Engineering Description

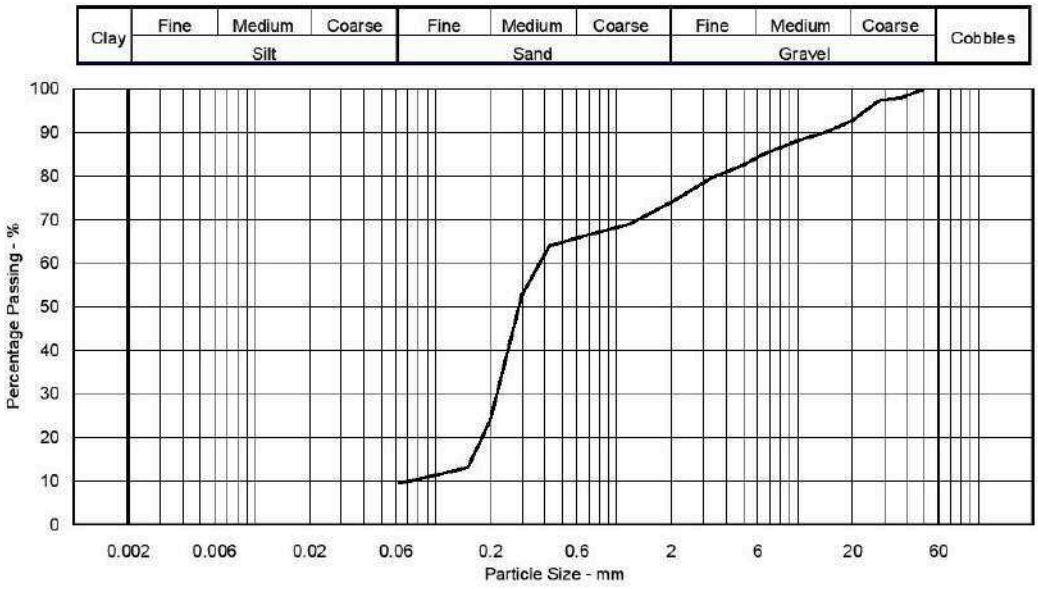
Brown clayey very gravelly SAND. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	26.0
Sand	64.6
Silt & Clay	9.4

Particle Density - Assumed 2.70 Mg/m³

Particle Diameter - mm	
D100	50
D60	0.38
D10	0.072
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	5.3

Notes



Originator	Checked & Approved
HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Sheet 1 of 1

Version 066 - 16/07/2023
1283 - PSD - BS EN 17892 BH06 14.00 - C8650-391906.xls : Sample ID 391906
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 19/12/2023 14:29:20

Kiwa CMT

Version 066 - 16/07/2023

1283 - PSD - BS EN 17892 BH06 16.00 - C8650-391907.xls : Sample ID 391907

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	16.00-16.45

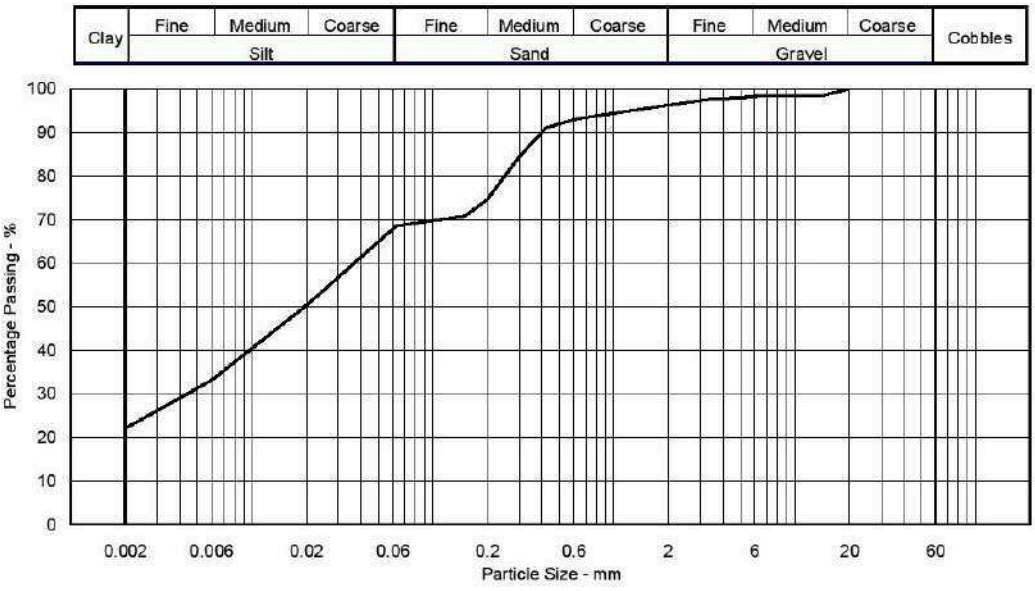
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	98
6.30 mm	98
5.00 mm	98
3.35 mm	98
2.00 mm	96
1.18 mm	95
630 µm	93
425 µm	91
300 µm	84
200 µm	75
150 µm	71
63 µm	69
20 µm	50
6 µm	33
2 µm	22

Non Engineering Description
Grey slightly gravelly slightly sandy CLAY. Gravel is fine to medium.

Sample Proportions - %	
Cobbles	0.0
Gravel	3.7
Sand	28.9
Silt	45.3
Clay	22.1
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	20
D60	0.037
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Sheet 1 of 1

College Road North, Aston Clinton, Bucks, HP22 5EZ

Lab Project No C8650 : 19/12/2023 14:29:26

Kiwa CMT

Version 066 - 16/07/2023
1293 - PSD - BS EN 17892 BH06 20.00 - C8650-391909.xls : Sample ID 391909

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
Client	Kiwa CMT Ltd	Hole	BH06
Engineer		Depth (m)	20.00-20.45

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	85
37.5 mm	73
28.0 mm	61
20.0 mm	54
14.0 mm	47
10.0 mm	44
6.30 mm	40
5.00 mm	37
3.35 mm	33
2.00 mm	28
1.18 mm	24
630 µm	22
425 µm	21
300 µm	20
200 µm	18
150 µm	17
63 µm	15
20 µm	9
6 µm	6
2 µm	3

Non Engineering Description

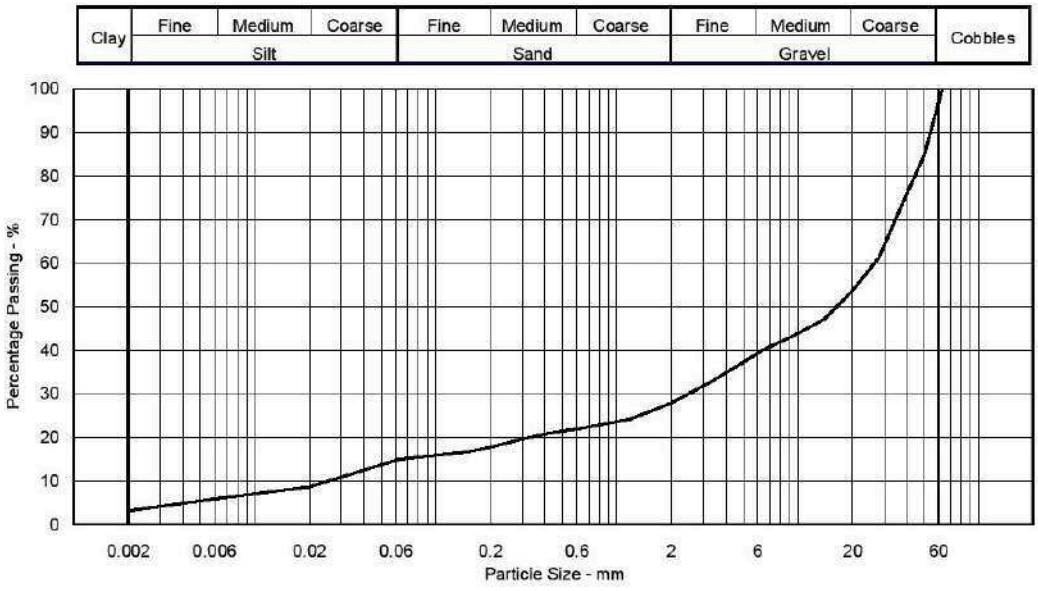
Light brown sandy very clayey fine to coarse GRAVEL.

Sample Proportions - %	
Cobbles	3.5
Gravel	68.6
Sand	13.4
Silt	11.3
Clay	3.2
Particle Density - Assumed	2.70 Mg/m³

Particle Diameter - mm	
D100	63
D60	27
D10	0.026
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	1038.5

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements
Sedimentation sample not pre-treated



Originator	Checked & Approved
HW HW	R.J.N. 19/12/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Sheet 1 of 1

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 19/12/2023 14:29:33

Kiwa CMT

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES	Site	BARRY WATERFRONT COLLEGE	Contract No	SC14907
			Hole ID	BH04
	Client	Kiwa CMT Ltd	Depth (m)	1.20-1.45
	Engineer			

Version 026 - 11/02/2014 1440 - CBR BH04 01.20 - C8650-391934.xls : Sample ID 391934

Non Engineering Description: MADE GROUND (Dark grey brown slightly sandy slightly gravelly clay. Gravel is fine to coarse with occasional cobbles and construction debris).

Preparation Details:

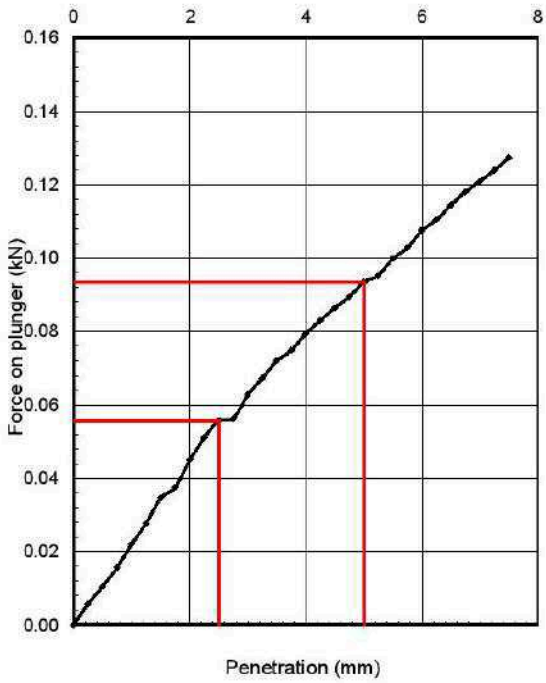
Specimen was prepared at natural moisture content
Compaction using 2.5kg compactive effort

Specimen Bulk Density	1.85	Mg/m³
Specimen Dry Density	1.43	Mg/m³
Mass of sample > 20 mm	26.2	%

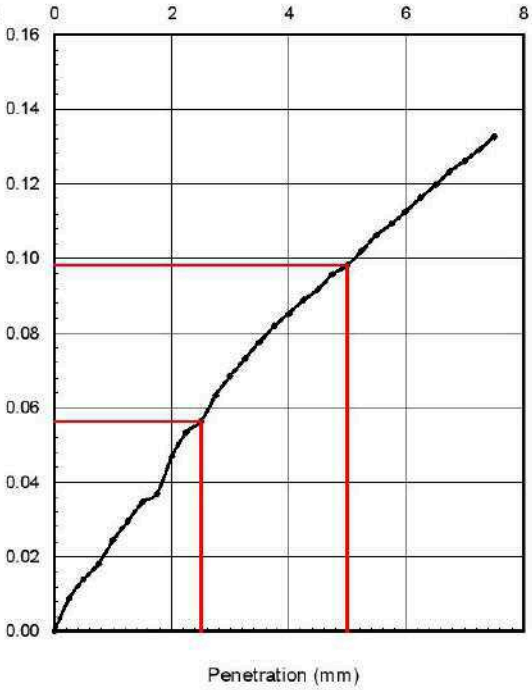
Specimen Unsoaked

Test Details:	**Top**		**Base**	
Surcharge:	12.0	kg	12.0	kg
Seating Load:	10	N	10	N
Moisture Content:	29	%	30	%
CBR Value:	0.47	%	0.49	%

Top of Specimen Penetration (mm)



Base of Specimen Penetration (mm)



Originator	Checked & Approved	CALIFORNIA BEARING RATIO BS1377 : Part 4 : Clause 7 : 1990	
HW	R.J.N. 19/12/2023		Sheet 1 of 1

College Road North, Aston Clinton, Bucks, HP22 5EZ Lab Project No C8650 : 19/12/2023 14:29:41

Kiwa CMT

SOCOTEC
Environmental Chemistry

Certificate of Analysis

Client: Igne

Project: 23121429

Quote: BEC231132538 V1.1

Project Ref: C8650

Site: Barry Waterfront College

Contact: Julie Hopkins

Address: College Road North
Aston Clinton
Buckinghamshire
HP22 5EZ

E-Mail: julie.hopkins@igne.com

Phone: 07799 838103

No. Samples Received: 1

Date Received: 13/12/2023

Analysis Date: 19/12/2023

Date Issued: 19/12/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Samantha Edwards

Kiwa CMT

SOCOTEC

Client: Igne
Project Name: C8650-Barry Waterfront College
Project No: 23121429
Date Issued: 19/12/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23121429-001	391897 -0-ES-1.20-1.45		SOLID	Soil Sample

Kiwa CMT

SOCOTEC

Client: Igne
Project Name: C8650-Barry Waterfront College
Project No: 23121429
Date Issued: 19/12/2023

Analysis Results

					Sample ID	001
					Customer ID	391897-0-ES-1.20-1.45
					Sample Type	SOLID
					Sampling Date	
Analysis	Method Code	MDL	Units	Accred.		
Organic Matter	ORGMAT	0.2	% m/m	N		10.1
Total Moisture at 35°C	CLANDPREP	0.1	%	N		17.0
Colour of Material	CLANDPREP		-	N		Black/Brown
Major Constituents	CLANDPREP		-	N		SILT
Minor Constituents	CLANDPREP		-	N		Gravel
Miscellaneous Constituents	CLANDPREP		-	N		na

Kiwa CMT

Client: Igne
Project Name: C8650-Barry Waterfront College
Project No: 23121429
Date Issued: 19/12/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
391897-0-ES-1.20-1.45	23121429-001	CLANDPREP					✓	✓
391897-0-ES-1.20-1.45	23121429-001	ORGMAT					✓	✓

Analysis Method

Method Code	Method Description	Analysis Method
CLANDPREP	CLand Prep Dry Weight Content @ 35°C	As Received
CLANDPREP	Solid Material Description	As Received
ORGMAT	Organic Matter Content by Colorimetry	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

Kiwa CMT

SOCOTEC

Client: Igne
Project Name: C8650-Barry Waterfront College
Project No: 23121429
Date Issued: 19/12/2023

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:
U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105°C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35°C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

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 02

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	10/01/2024

Please find enclosed the results as summarised below

Item No	Test Quantity	Description	ISO 17025 Accredited
7.14	1	Set of 3 x 60mm shear box	Yes

Remarks :

Issued by : Hollie Ward [redacted] Date of Issue : 15/01/2024

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 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 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 to coarse with occasional rootlets.
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	60.2	60.0	59.9
Width	mm	60.8	60.1	60.0
Height	mm	20.0	20.0	20.0
Initial water content	%	37.7	37.7	37.7
Initial bulk density	Mg/m³	1.82	1.82	1.82
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	-0.8	-1.1	-2.2
Duration	day(s)	1	1	1
Shearing Stage				
Normal stress	kPa	50	100	200
Peak Conditions:				
Rate of horizontal displacement	mm/min	0.048	0.048	0.048
Maximum shear stress	kPa	23	49	85
Horizontal displacement	mm	2.8	3.9	4.2
Height change	mm	0.0	-0.2	-0.4
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	%	38.5	37.4	34.4
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	5
Effective Angle of Shearing Resistance	degrees	22

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 15/01/2024	BS EN ISO 17892-10:2018	Sheet 1 of 5

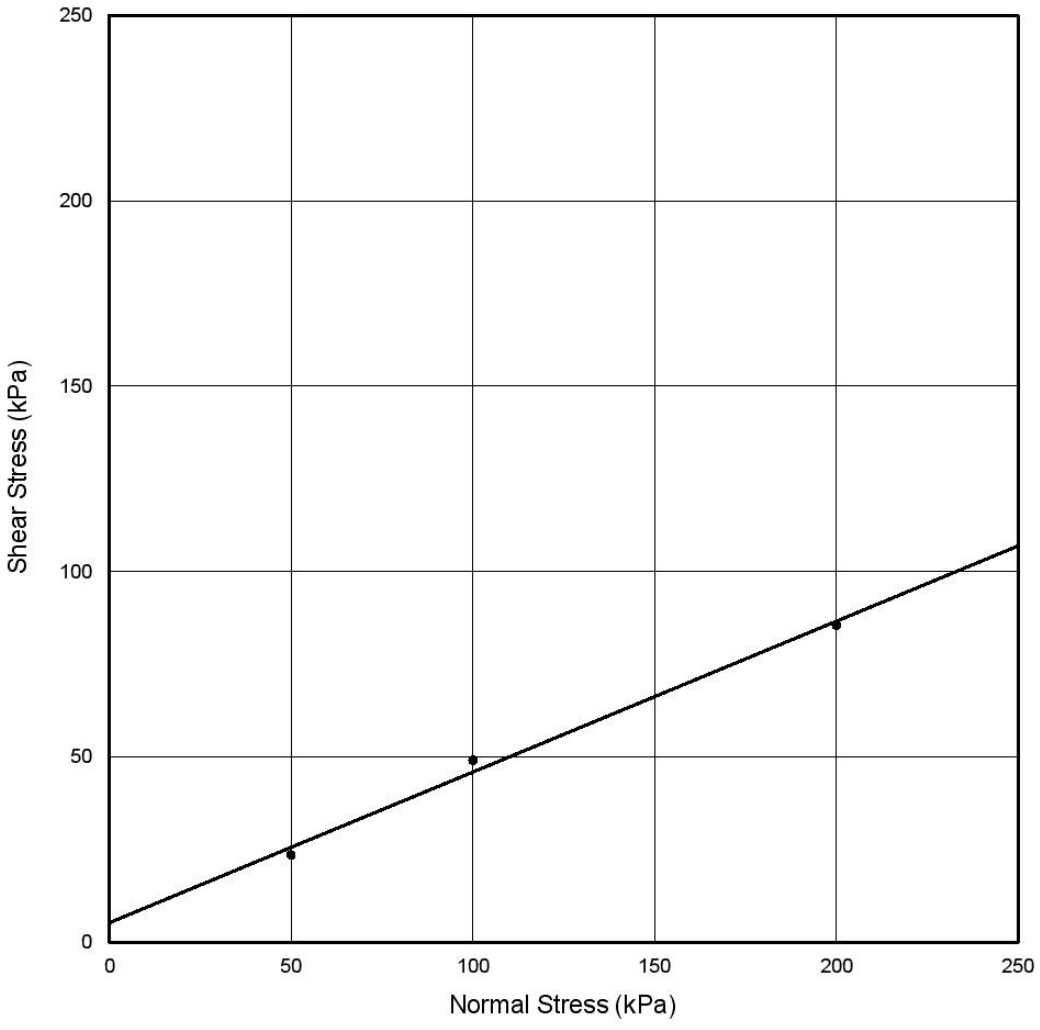
College Road North, Aston Clinton, Bucks, HP22 5EZ

Lab Project No C8650 : 15/01/2024 09:51:43

Kiwa CMT

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

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 5 kPa
Ø' = 22 °

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 15/01/2024	BS EN ISO 17892-10:2018	Sheet 2 of 5

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

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No C8650 : 15/01/2024 09:51:43

Kiwa CMT

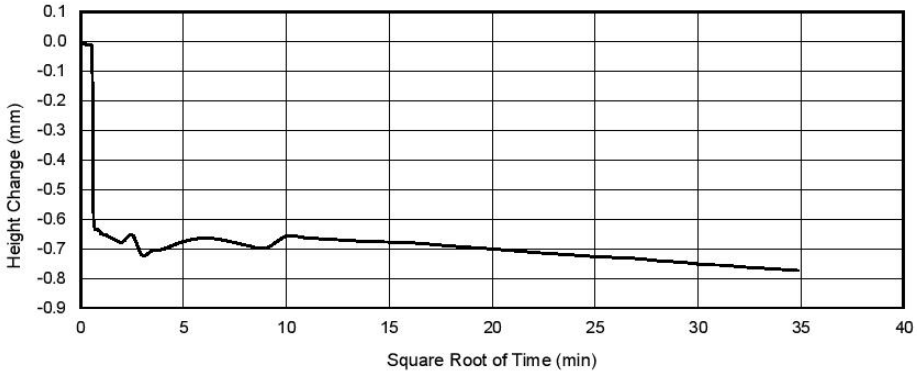
Shearbox BH02 03.00 - C8650-391922.xls : Sample ID 391922

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

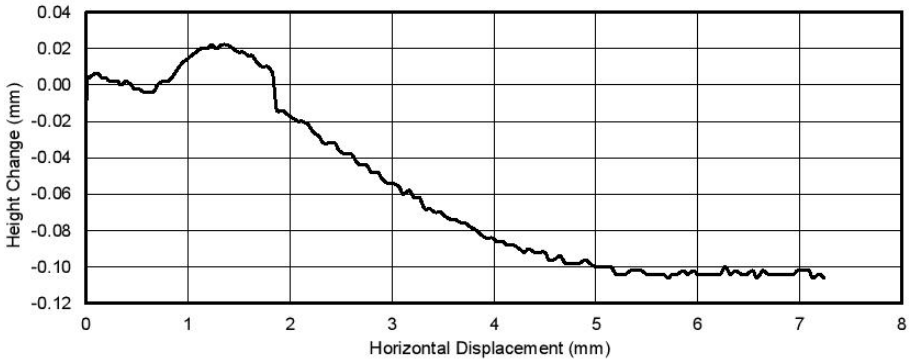
Specimen No. 1

Normal Pressure = 50 kPa

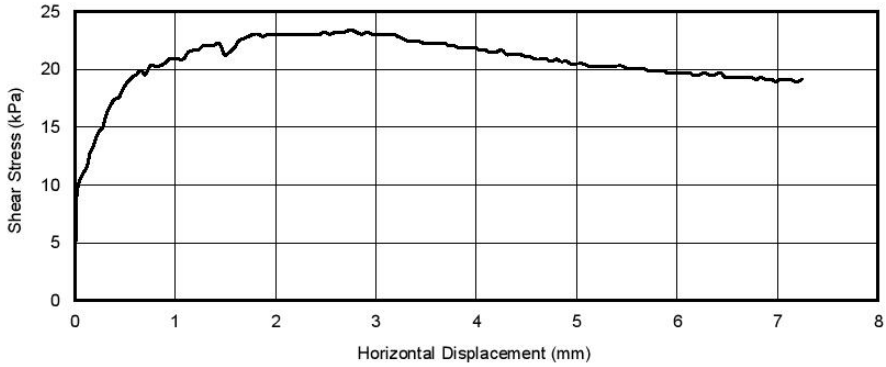
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 15/01/2024	BS EN ISO 17892-10:2018	Sheet 3 of 5

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Lab Project No C8650 : 15/01/2024 09:51:43

Kiwa CMT

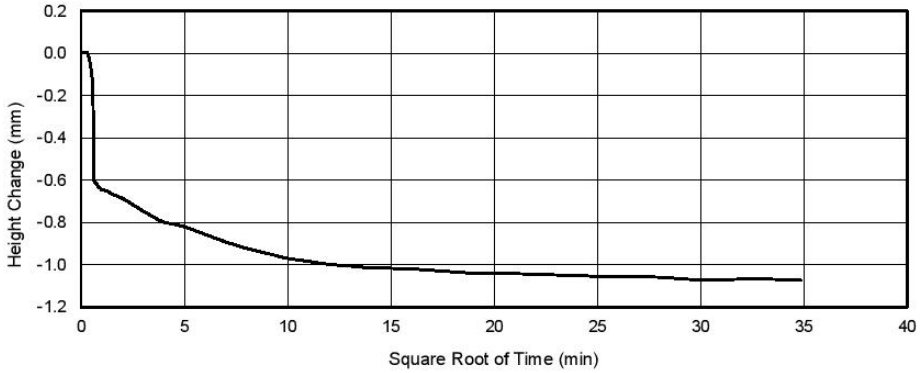
Shearbox BH02 03.00 - C8650-391922.xls : Sample ID 391922

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

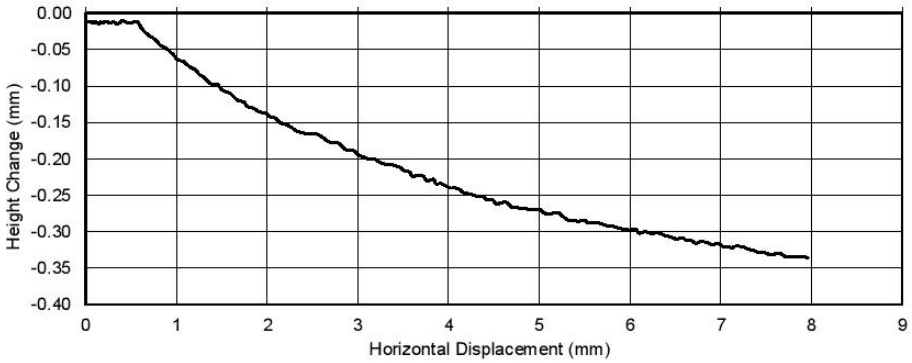
Specimen No. 2

Normal Pressure = 100 kPa

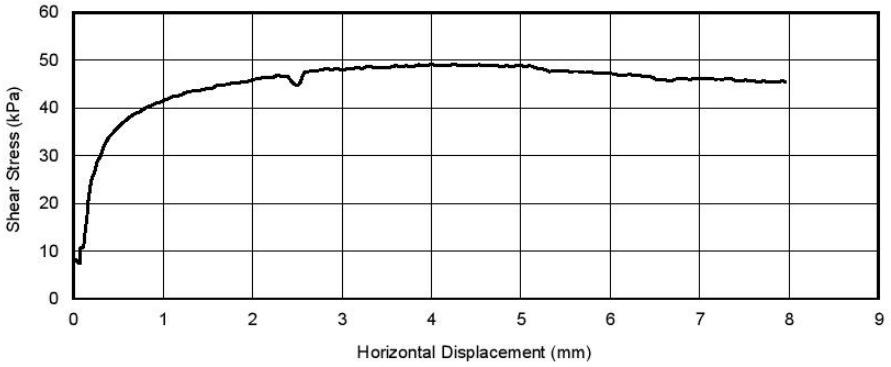
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	
JP	M.D.B 15/01/2024	BS EN ISO 17892-10:2018	Sheet 4 of 5

College Road North, Aston Clinton, Bucks, HP22 5EZ

Lab Project No C8650 : 15/01/2024 09:51:43