

PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

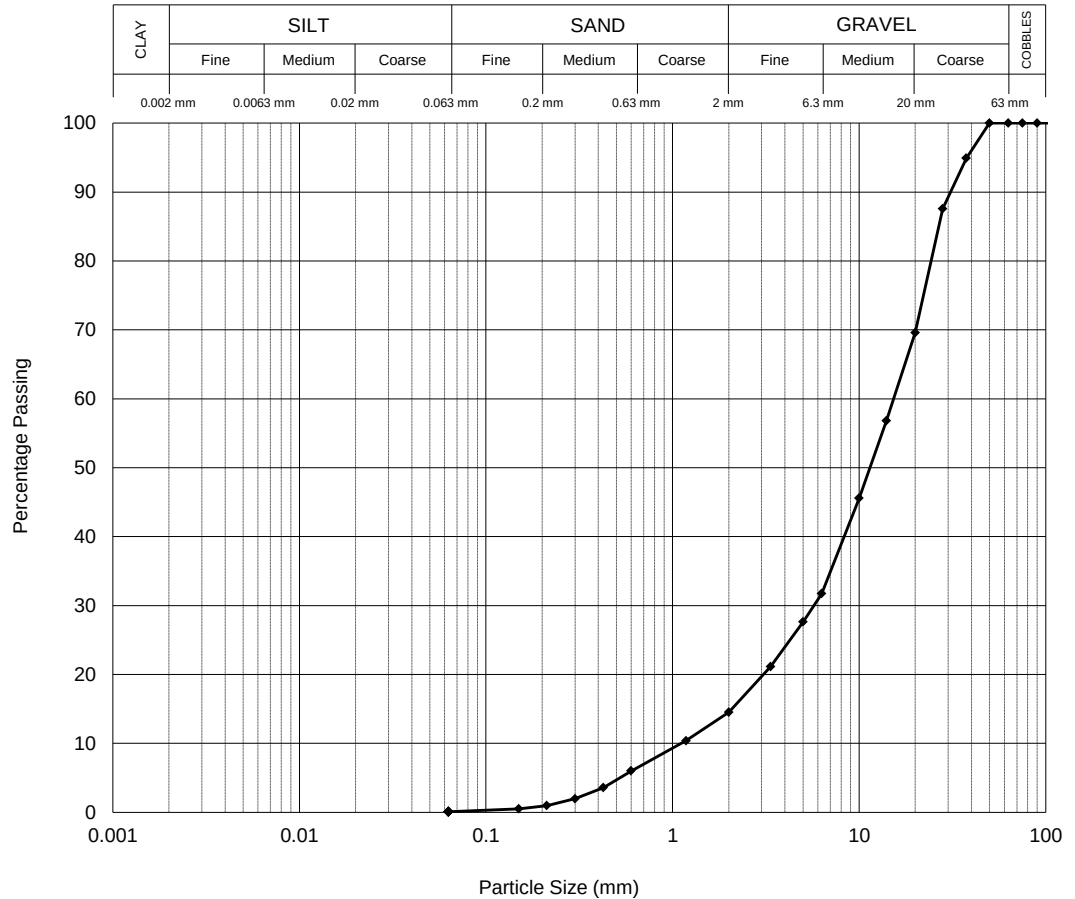
BH3
3.00
B

Description

Yellowish brown sandy GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Dry Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	95
28.0 mm	88
20.0 mm	70
14.0 mm	57
10.0 mm	46
6.30 mm	32
5.00 mm	28
3.35 mm	21
2.00 mm	15
1.18 mm	10
600 µm	6
425 µm	4
300 µm	2
212 µm	1
150 µm	0
63 µm	0



Particle Proportions	
Cobbles	0
Gravel	85
Sand	14
Silt & Clay	1

Checked and Approved by

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

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PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

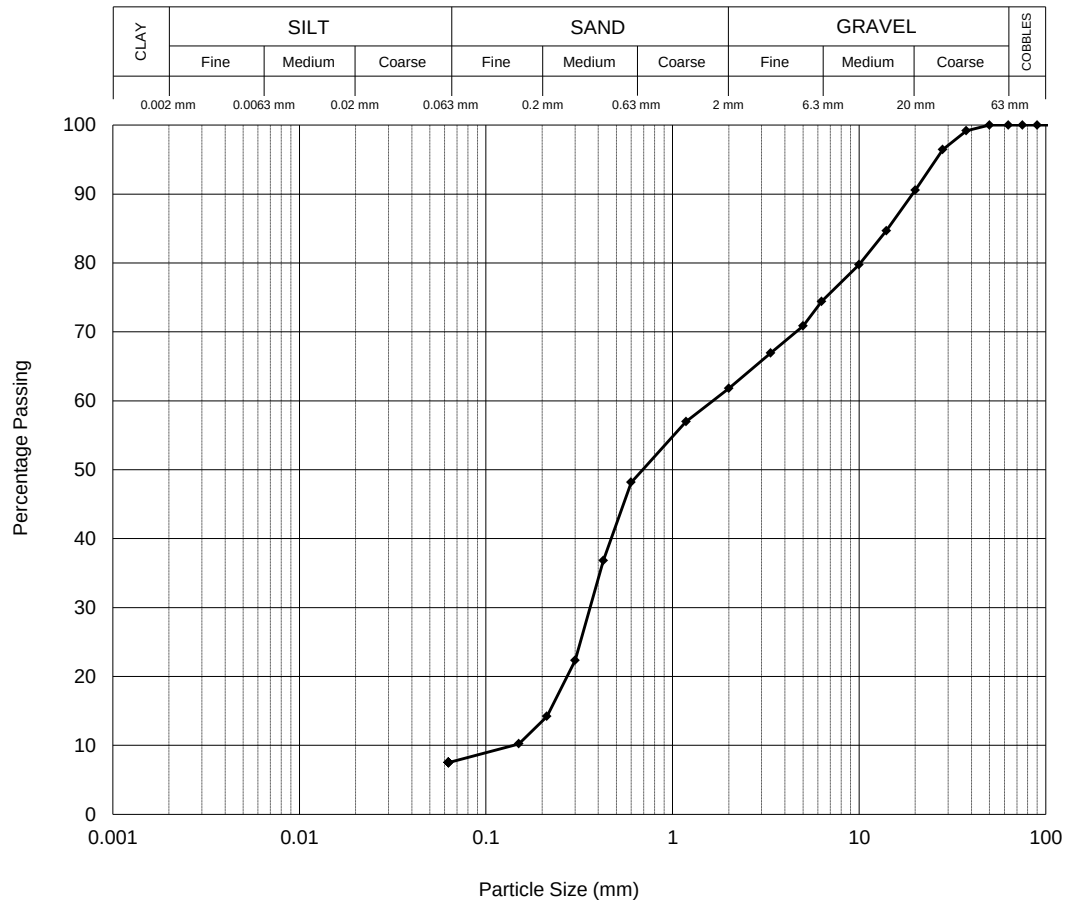
BH3
5.00
B

Description

Yellowish brown very gravelly SAND with rare lumps of brown clay. Gravel is flint.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	96
20.0 mm	91
14.0 mm	85
10.0 mm	80
6.30 mm	74
5.00 mm	71
3.35 mm	67
2.00 mm	62
1.18 mm	57
600 µm	48
425 µm	37
300 µm	22
212 µm	14
150 µm	10
63 µm	8



Particle Proportions	
Cobbles	0
Gravel	38
Sand	54
Silt & Clay	8

Checked and Approved by

S Burke

S Burke - Senior Technician
23/05/2019

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PARTICLE SIZE DISTRIBUTION

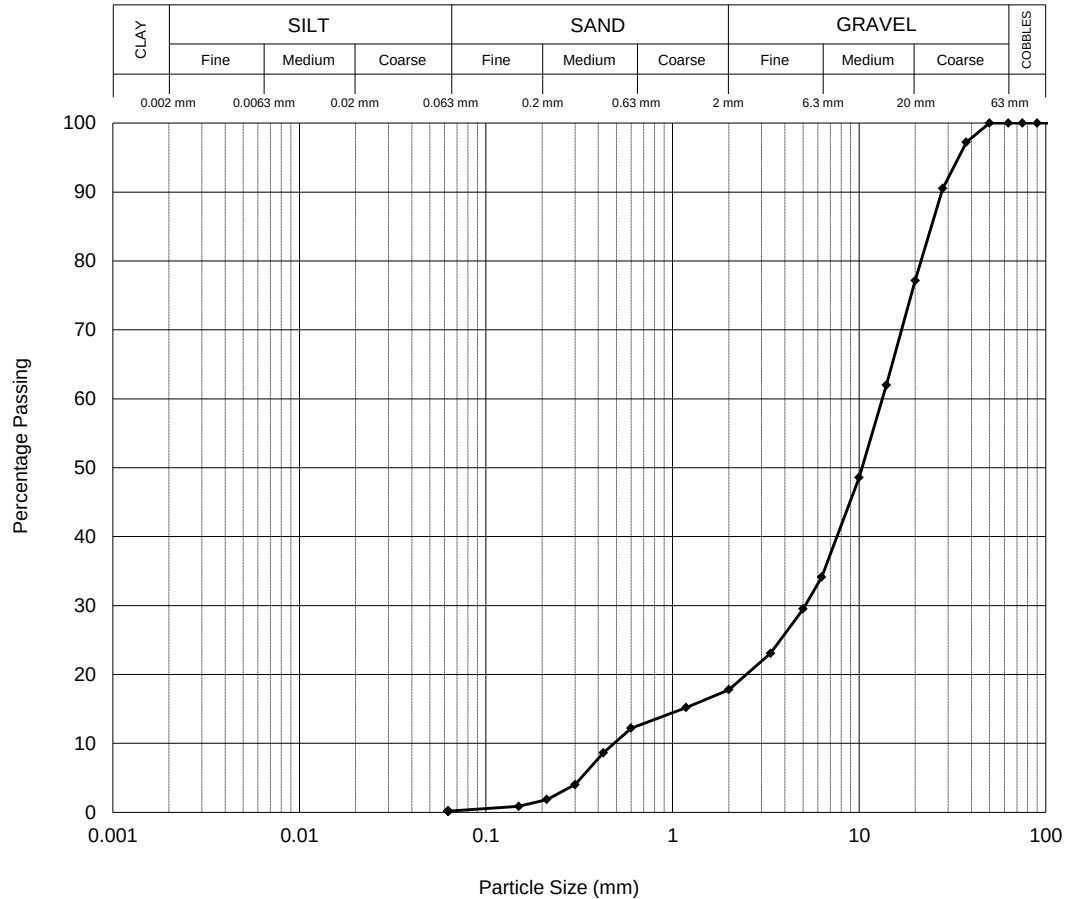
BH / TP No. BH4
 Depth (m) 3.00
 Sample Type B

Description

Yellowish brown sandy GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Dry Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	97
28.0 mm	91
20.0 mm	77
14.0 mm	62
10.0 mm	49
6.30 mm	34
5.00 mm	29
3.35 mm	23
2.00 mm	18
1.18 mm	15
600 µm	12
425 µm	9
300 µm	4
212 µm	2
150 µm	1
63 µm	0



Particle Proportions	
Cobbles	0
Gravel	82
Sand	18
Silt & Clay	0

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S Burke

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PARTICLE SIZE DISTRIBUTION

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Depth (m)
Sample Type

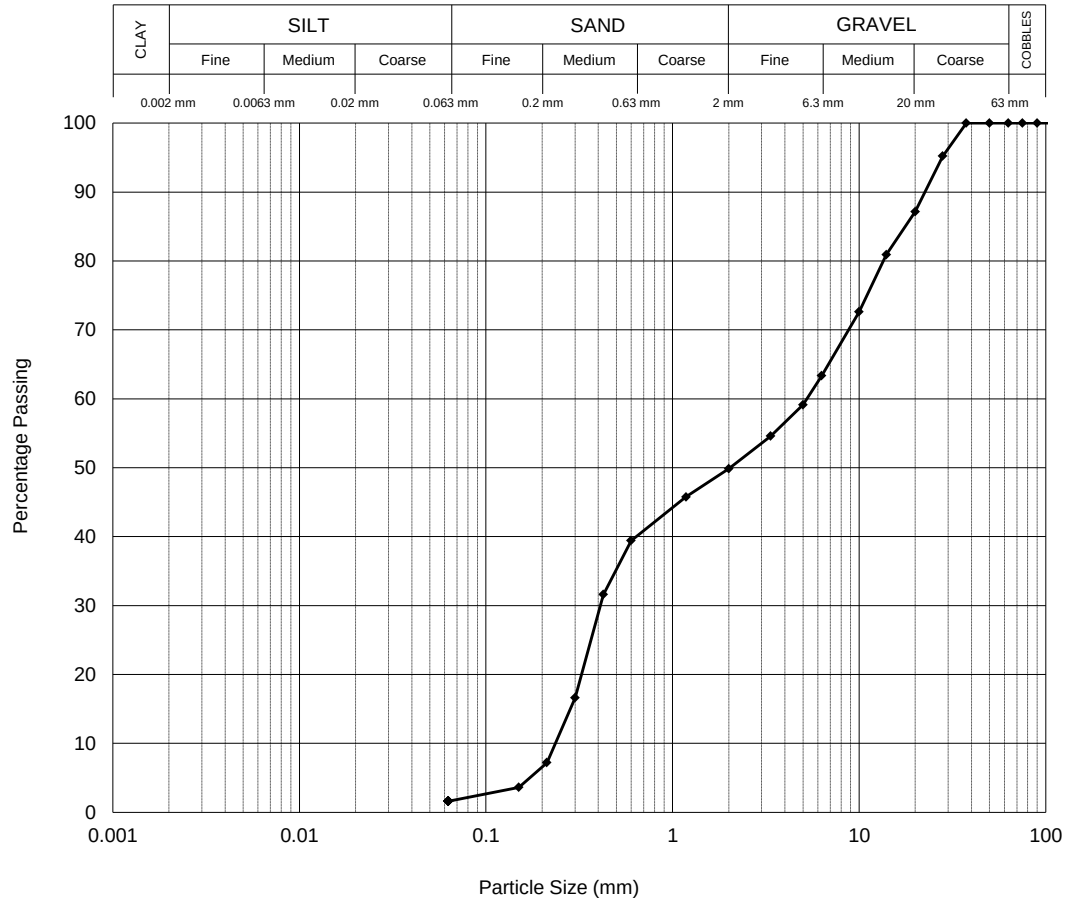
BH4
5.00
B

Description

Yellowish brown SAND and flint GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Dry Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	95
20.0 mm	87
14.0 mm	81
10.0 mm	73
6.30 mm	63
5.00 mm	59
3.35 mm	55
2.00 mm	50
1.18 mm	46
600 µm	39
425 µm	32
300 µm	17
212 µm	7
150 µm	4
63 µm	2



Particle Proportions	
Cobbles	0
Gravel	50
Sand	48
Silt & Clay	2

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S Burke

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23/05/2019

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Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client: Geotechnical & Environmental Associates Limited, Widbury Barn, Widbury Hill, Ware, Hertfordshire, SG12 7QE

(Ref 1558618848)

PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

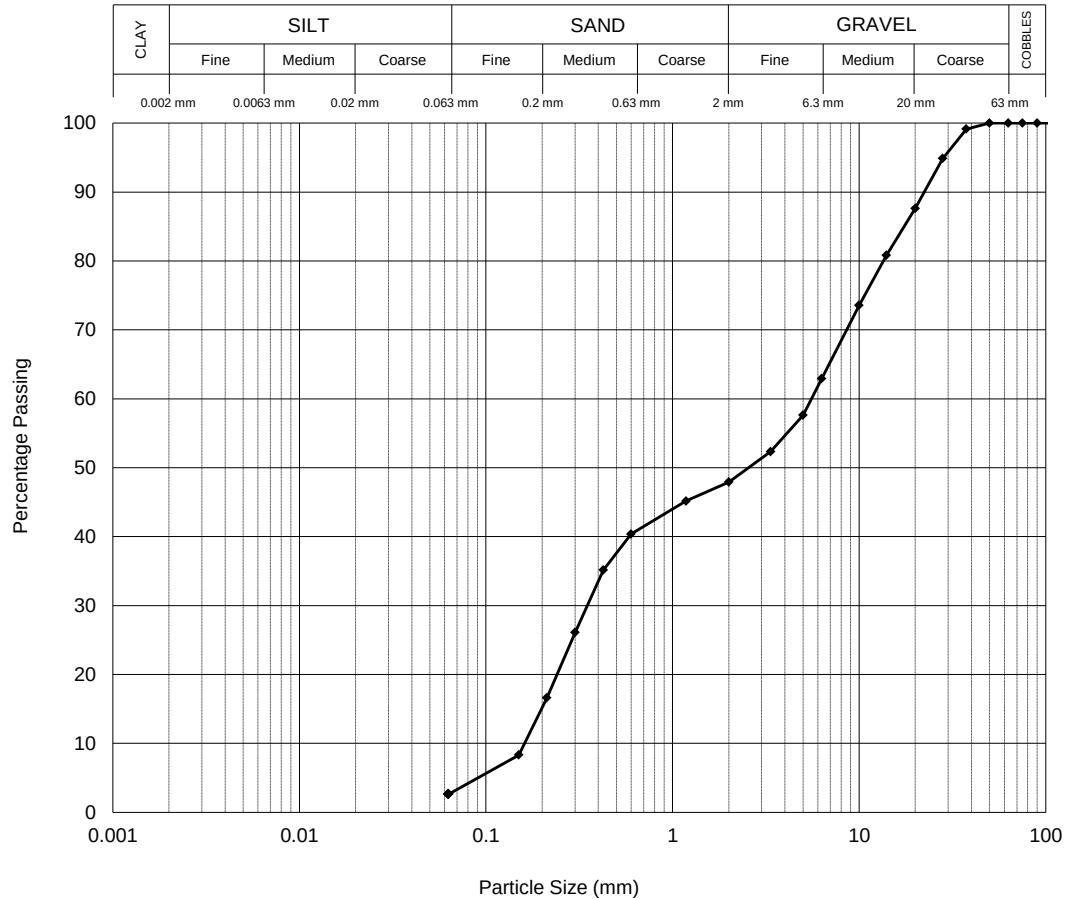
BH5
2.00
B

Description

Yellowish brown SAND and GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Dry Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	95
20.0 mm	88
14.0 mm	81
10.0 mm	74
6.30 mm	63
5.00 mm	58
3.35 mm	52
2.00 mm	48
1.18 mm	45
600 µm	40
425 µm	35
300 µm	26
212 µm	17
150 µm	8
63 µm	3



Particle Proportions	
Cobbles	0
Gravel	52
Sand	45
Silt & Clay	3

Checked and Approved by

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

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Project Name:

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Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client: Geotechnical & Environmental Associates Limited, Widbury Barn, Widbury Hill, Ware, Hertfordshire, SG12 7QE

(Ref 1558618851)

PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

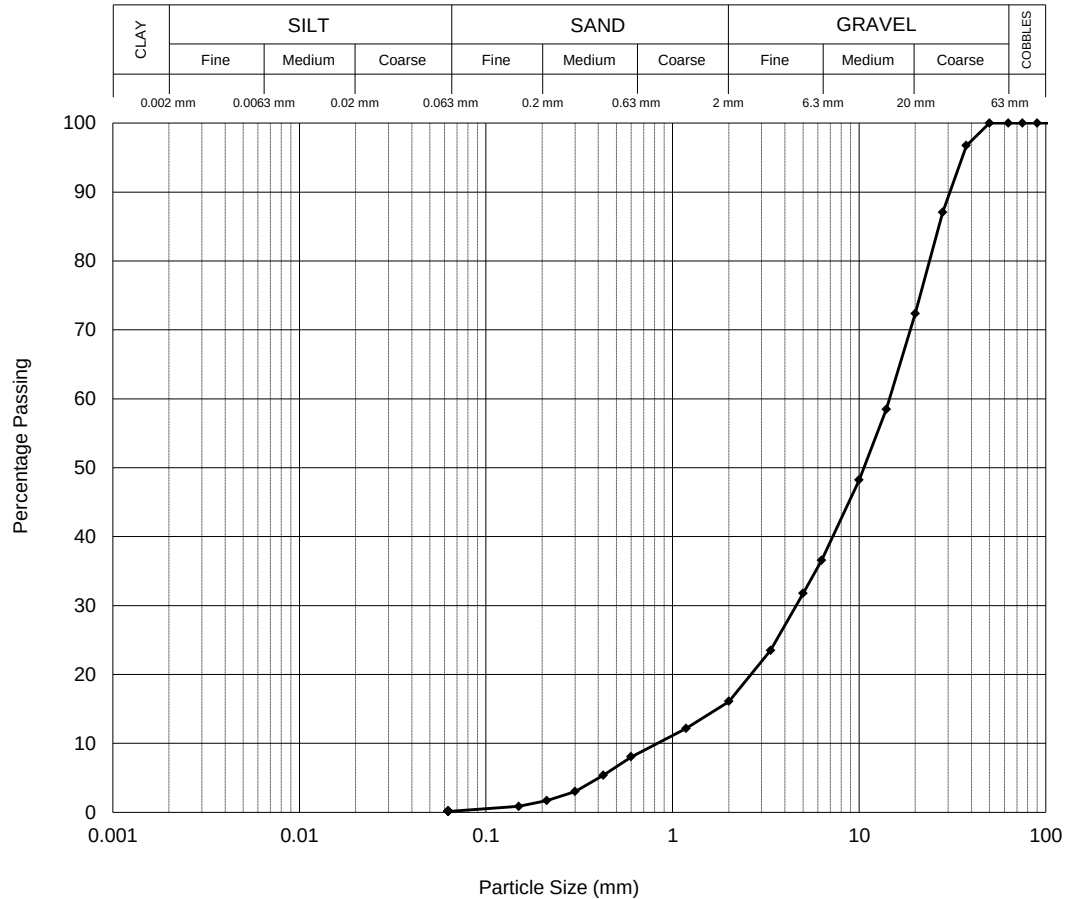
BH6
4.00
B

Description

Yellowish brown sandy GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Dry Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	97
28.0 mm	87
20.0 mm	72
14.0 mm	58
10.0 mm	48
6.30 mm	37
5.00 mm	32
3.35 mm	23
2.00 mm	16
1.18 mm	12
600 µm	8
425 µm	5
300 µm	3
212 µm	2
150 µm	1
63 µm	0



Particle Proportions	
Cobbles	0
Gravel	84
Sand	16
Silt & Clay	0

Checked and Approved by

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

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Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client: Geotechnical & Environmental Associates Limited, Widbury Barn, Widbury Hill, Ware, Hertfordshire, SG12 7QE

(Ref 1558618855)

PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

BH13
1.60
D

Description

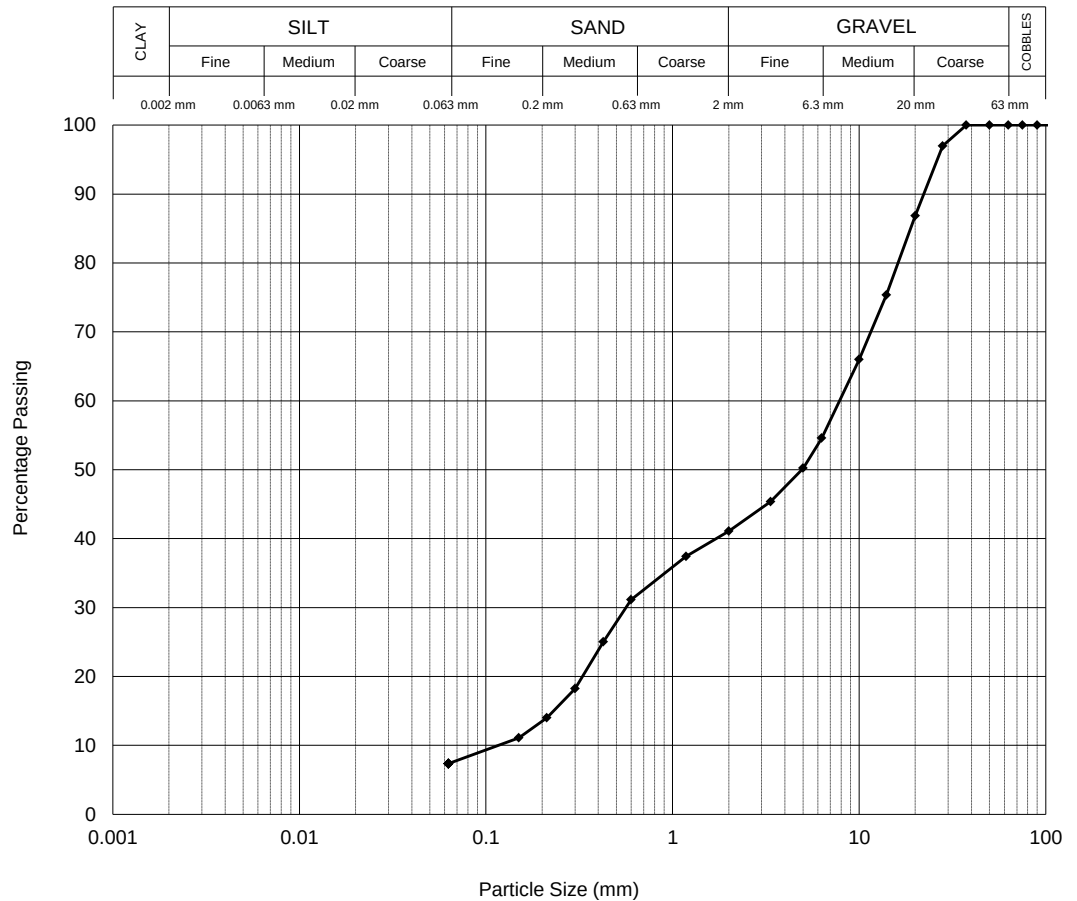
Yellowish brown slightly clayey sandy GRAVEL

Remarks

Insufficient sample supplied to comply with BS EN ISO 17892-4 : 2016 minimum mass requirements

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	97
20.0 mm	87
14.0 mm	75
10.0 mm	66
6.30 mm	55
5.00 mm	50
3.35 mm	45
2.00 mm	41
1.18 mm	37
600 µm	31
425 µm	25
300 µm	18
212 µm	14
150 µm	11
63 µm	7



Particle Proportions	
Cobbles	0
Gravel	59
Sand	34
Silt & Clay	7

Checked and Approved by

S Burke

S Burke - Senior Technician
23/05/2019

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PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

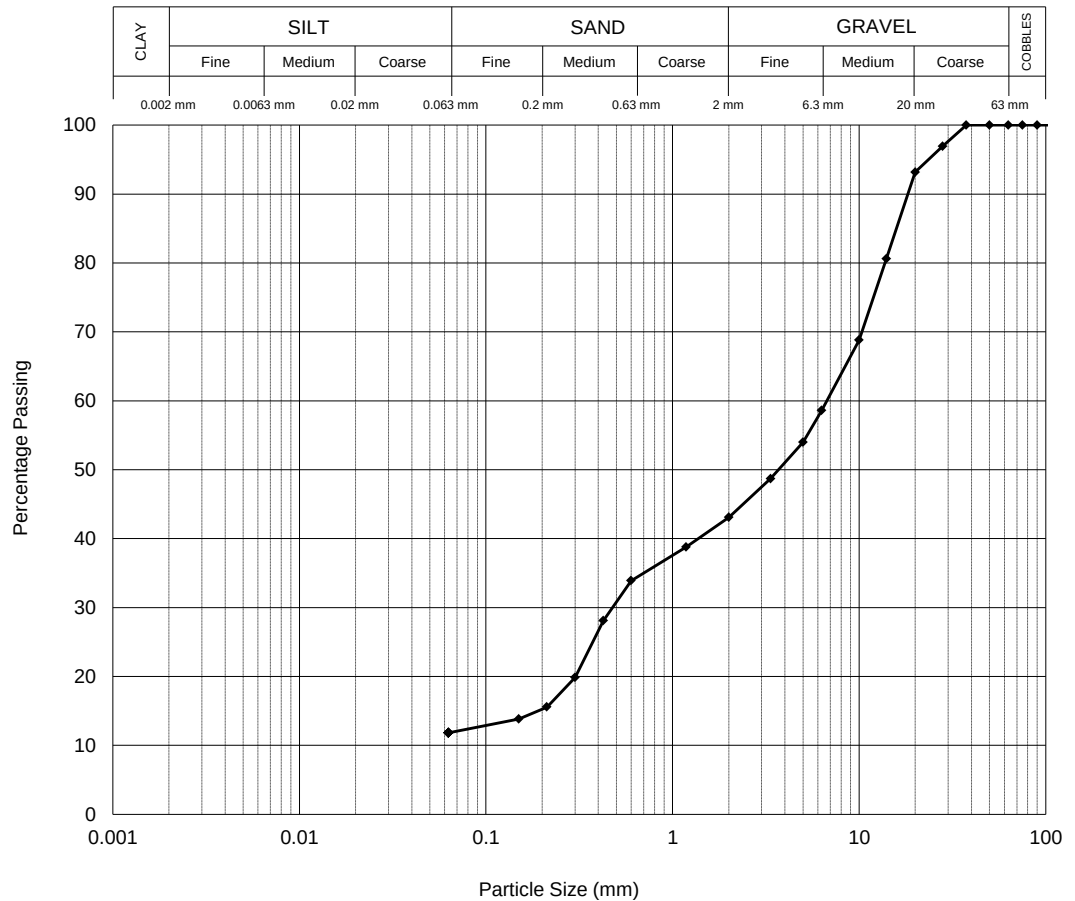
BH19
0.80
D

Description

Brown clayey sandy GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	97
20.0 mm	93
14.0 mm	81
10.0 mm	69
6.30 mm	59
5.00 mm	54
3.35 mm	49
2.00 mm	43
1.18 mm	39
600 µm	34
425 µm	28
300 µm	20
212 µm	16
150 µm	14
63 µm	12



Particle Proportions	
Cobbles	0
Gravel	57
Sand	31
Silt & Clay	12

Checked and Approved by

S Burke

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23/05/2019

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PARTICLE SIZE DISTRIBUTION

BH / TP No.
Depth (m)
Sample Type

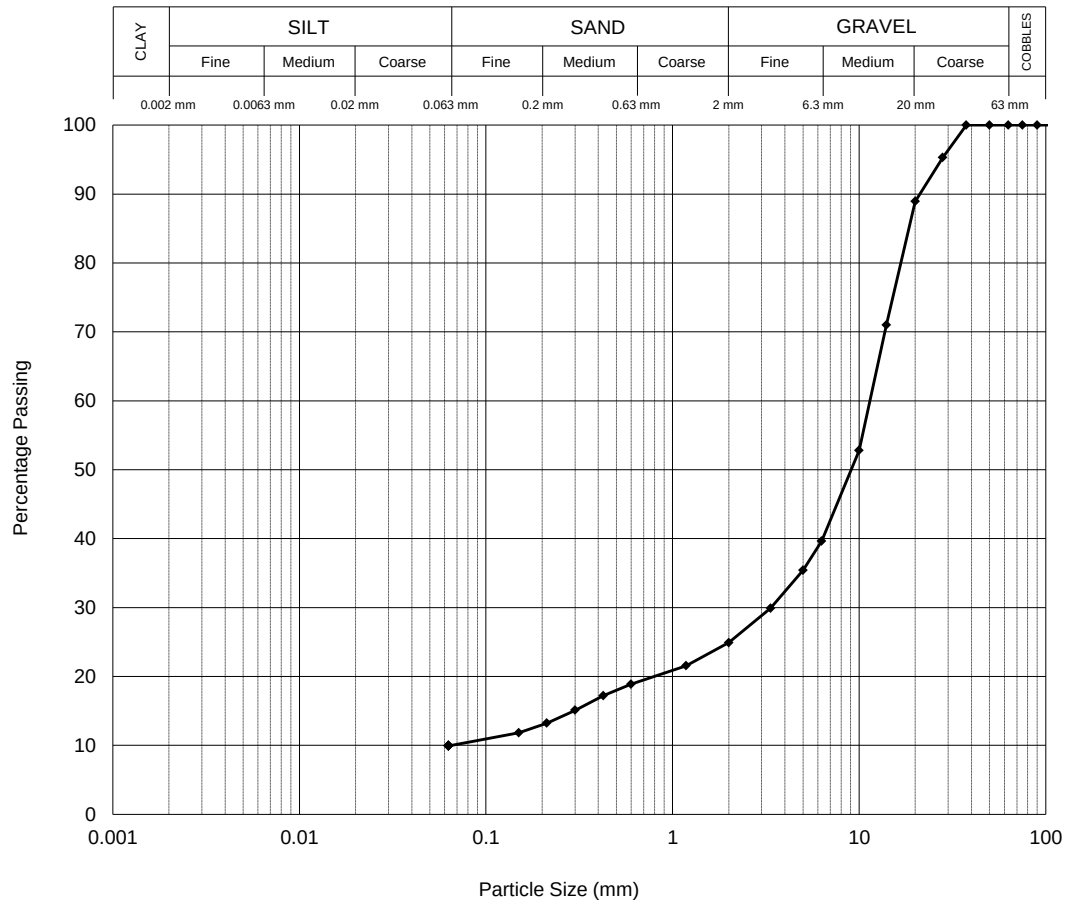
BH20
0.70
D

Description

Brown clayey sandy GRAVEL

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
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	95
20.0 mm	89
14.0 mm	71
10.0 mm	53
6.30 mm	40
5.00 mm	35
3.35 mm	30
2.00 mm	25
1.18 mm	22
600 µm	19
425 µm	17
300 µm	15
212 µm	13
150 µm	12
63 µm	10



Particle Proportions	
Cobbles	0
Gravel	75
Sand	15
Silt & Clay	10

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S Burke

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

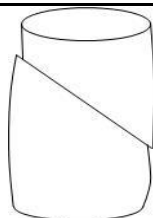
BH/TP No BH1
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	104.5
Moisture Content	(%)	26.9
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	130
Strain at failure	(%)	6.9
Maximum Deviator Stress	(kPa)	213
Shear Stress Cu	(kPa)	106

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	65

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH1
 Depth (m) 9.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	177.2
Diameter	(mm)	103.2
Moisture Content	(%)	25.5
Bulk Density	(Mg/m ³)	1.99
Dry Density	(Mg/m ³)	1.59
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.1
Cell pressure	(kPa)	190
Strain at failure	(%)	5.1
Maximum Deviator Stress	(kPa)	330
Shear Stress Cu	(kPa)	165

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	220

Checked and Approved by:

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 23/05/2019

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

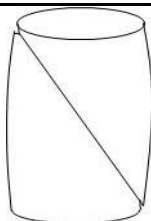
BH/TP No BH1
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	105.3
Moisture Content	(%)	25.4
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	8.4
Maximum Deviator Stress	(kPa)	366
Shear Stress Cu	(kPa)	183

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

50

Checked and Approved by:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

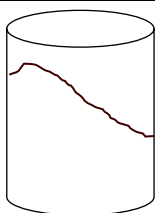
BH/TP No BH1
 Depth (m) 15.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	104.6
Moisture Content	(%)	24.9
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.63
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	310
Strain at failure	(%)	7.4
Maximum Deviator Stress	(kPa)	441
Shear Stress Cu	(kPa)	220

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	110

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

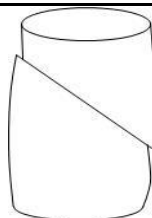
BH/TP No BH1
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY with rare pyrite

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.5
Diameter	(mm)	104.7
Moisture Content	(%)	26.4
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	3.7
Maximum Deviator Stress	(kPa)	317
Shear Stress Cu	(kPa)	159

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	125

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

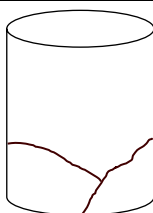
BH/TP No BH1
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.6
Diameter	(mm)	104.5
Moisture Content	(%)	26.3
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.60
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	6.0
Maximum Deviator Stress	(kPa)	539
Shear Stress Cu	(kPa)	269

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	190

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

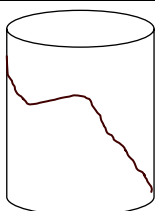
BH/TP No BH1
 Depth (m) 24.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.9
Diameter	(mm)	103.5
Moisture Content	(%)	26.7
Bulk Density	(Mg/m ³)	2.01
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	3.0
Maximum Deviator Stress	(kPa)	351
Shear Stress Cu	(kPa)	175

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	200

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 23/05/2019

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

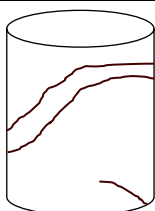
BH/TP No BH2
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.4
Diameter	(mm)	103.7
Moisture Content	(%)	26.3
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	130
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	179
Shear Stress Cu	(kPa)	90

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	85

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S Burke - Senior Technician
 23/05/2019

Project Number:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

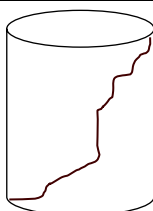
BH/TP No BH2
 Depth (m) 9.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	103.3
Moisture Content	(%)	27.6
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.59
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	190
Strain at failure	(%)	2.7
Maximum Deviator Stress	(kPa)	231
Shear Stress Cu	(kPa)	115

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	110

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

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NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

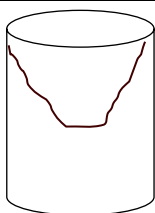
BH/TP No BH2
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	102.4
Moisture Content	(%)	24.6
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	4.9
Maximum Deviator Stress	(kPa)	320
Shear Stress Cu	(kPa)	160

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	60

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

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J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH2
 Depth (m) 15.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	102.4
Moisture Content	(%)	24.6
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	310
Strain at failure	(%)	7.4
Maximum Deviator Stress	(kPa)	379
Shear Stress Cu	(kPa)	189

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	65

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

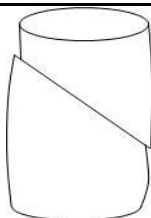
BH/TP No BH2
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	104.3
Moisture Content	(%)	26.5
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.60
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	6.4
Maximum Deviator Stress	(kPa)	442
Shear Stress Cu	(kPa)	221

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

150

Checked and Approved by:

S Burke

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
 J19090**

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

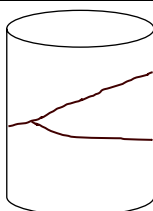
BH/TP No BH2
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	104.9
Moisture Content	(%)	27.7
Bulk Density	(Mg/m ³)	2.01
Dry Density	(Mg/m ³)	1.57
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	4.9
Maximum Deviator Stress	(kPa)	382
Shear Stress Cu	(kPa)	191

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	130

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

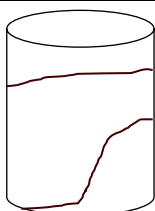
BH/TP No BH2
 Depth (m) 24.95
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	103.0
Moisture Content	(%)	25.2
Bulk Density	(Mg/m ³)	1.99
Dry Density	(Mg/m ³)	1.59
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	6.4
Maximum Deviator Stress	(kPa)	450
Shear Stress Cu	(kPa)	225

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	120

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S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

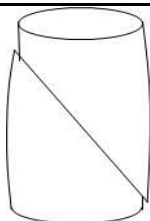
BH/TP No BH2
 Depth (m) 27.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	102.2
Moisture Content	(%)	25.1
Bulk Density	(Mg/m ³)	1.98
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	550
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	325
Shear Stress Cu	(kPa)	162

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	100

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S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH3
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured drk brown silty CLAY with rare siltstone

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	177.9
Diameter	(mm)	104.7
Moisture Content	(%)	24.3
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.63
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.1
Cell pressure	(kPa)	130
Strain at failure	(%)	9.6
Maximum Deviator Stress	(kPa)	247
Shear Stress Cu	(kPa)	124

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	115

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

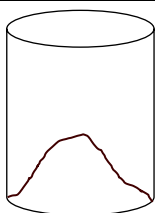
BH/TP No BH3
Depth (m) 9.50
Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	104.7
Moisture Content	(%)	24.3
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	190
Strain at failure	(%)	7.4
Maximum Deviator Stress	(kPa)	399
Shear Stress Cu	(kPa)	199

Mode of failure**Orientation of the sample**

Vertical

Distance from top of tube mm

50

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

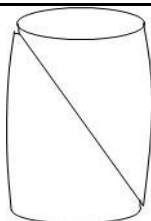
BH/TP No BH3
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	104.6
Moisture Content	(%)	24.7
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.65
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	291
Shear Stress Cu	(kPa)	146

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

70

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

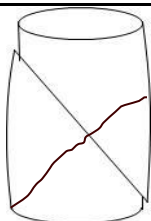
BH/TP No BH3
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.4
Diameter	(mm)	104.9
Moisture Content	(%)	26.5
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	4.9
Maximum Deviator Stress	(kPa)	378
Shear Stress Cu	(kPa)	189

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

105

Checked and Approved by:

S Burke

S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

**NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

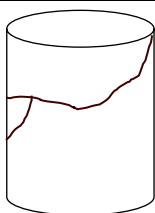
BH/TP No BH3
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	105.5
Moisture Content	(%)	26.9
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	6.4
Maximum Deviator Stress	(kPa)	346
Shear Stress Cu	(kPa)	173

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	140

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

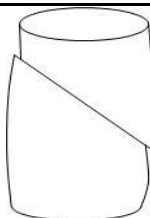
BH/TP No BH3
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.0
Diameter	(mm)	103.2
Moisture Content	(%)	16.0
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.75
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	2.7
Maximum Deviator Stress	(kPa)	448
Shear Stress Cu	(kPa)	224

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	210

Checked and Approved by:

S Burke - Senior Technician
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Project Number:

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Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

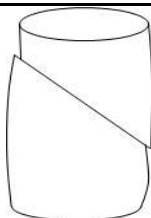
BH/TP No BH3
 Depth (m) 24.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.0
Diameter	(mm)	102.7
Moisture Content	(%)	26.1
Bulk Density	(Mg/m ³)	1.98
Dry Density	(Mg/m ³)	1.57
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	3.5
Maximum Deviator Stress	(kPa)	360
Shear Stress Cu	(kPa)	180

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	125

Checked and Approved by:

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 23/05/2019

Project Number:

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Project Name:

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

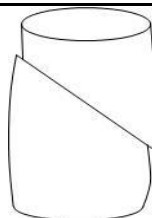
BH/TP No BH3
 Depth (m) 27.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	192.3
Diameter	(mm)	102.6
Moisture Content	(%)	25.5
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.62
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	550
Strain at failure	(%)	2.3
Maximum Deviator Stress	(kPa)	260
Shear Stress Cu	(kPa)	130

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	165

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

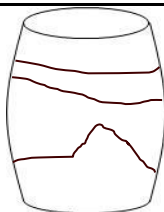
BH/TP No BH4
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.4
Diameter	(mm)	102.9
Moisture Content	(%)	26.5
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	130
Strain at failure	(%)	8.9
Maximum Deviator Stress	(kPa)	266
Shear Stress Cu	(kPa)	133

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

70

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

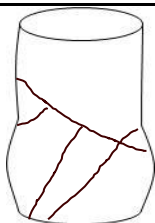
BH/TP No BH4
 Depth (m) 9.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY with rare siltstone.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	102.6
Moisture Content	(%)	21.4
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.67
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	190
Strain at failure	(%)	9.4
Maximum Deviator Stress	(kPa)	296
Shear Stress Cu	(kPa)	148

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

90

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

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Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

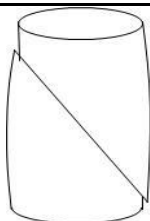
BH/TP No BH4
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY with rare shell fragments.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	103.3
Moisture Content	(%)	24.9
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.63
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	3.7
Maximum Deviator Stress	(kPa)	249
Shear Stress Cu	(kPa)	124

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	80

Checked and Approved by:

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

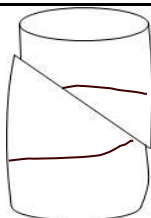
BH/TP No BH4
 Depth (m) 15.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY with rare siltstone.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	192.3
Diameter	(mm)	103.0
Moisture Content	(%)	27.4
Bulk Density	(Mg/m ³)	1.97
Dry Density	(Mg/m ³)	1.54
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.9
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	310
Strain at failure	(%)	15.1
Maximum Deviator Stress	(kPa)	307
Shear Stress Cu	(kPa)	154

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	80

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH4
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	103.3
Moisture Content	(%)	27.6
Bulk Density	(Mg/m ³)	1.98
Dry Density	(Mg/m ³)	1.55
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.9
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	15.3
Maximum Deviator Stress	(kPa)	258
Shear Stress Cu	(kPa)	129

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	50

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH4
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.5
Diameter	(mm)	102.5
Moisture Content	(%)	25.9
Bulk Density	(Mg/m ³)	1.95
Dry Density	(Mg/m ³)	1.55
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.8
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	12.8
Maximum Deviator Stress	(kPa)	190
Shear Stress Cu	(kPa)	95

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

50

Checked and Approved by:

S Burke

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
 J19090**

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH4
 Depth (m) 24.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	102.9
Moisture Content	(%)	18.5
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.73
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	6.4
Maximum Deviator Stress	(kPa)	476
Shear Stress Cu	(kPa)	238

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	115

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

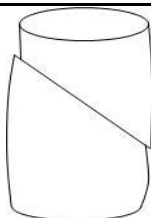
BH/TP No BH4
 Depth (m) 27.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	102.9
Moisture Content	(%)	23.7
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	550
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	368
Shear Stress Cu	(kPa)	184

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090

GEOLABS

QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

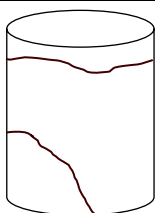
BH/TP No BH5
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	102.5
Moisture Content	(%)	25.3
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.63
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	130
Strain at failure	(%)	7.9
Maximum Deviator Stress	(kPa)	291
Shear Stress Cu	(kPa)	145

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	80

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090

GEOLABS

QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

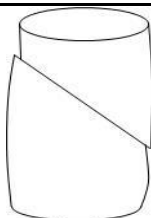
BH/TP No BH5
 Depth (m) 9.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	103.2
Moisture Content	(%)	24.1
Bulk Density	(Mg/m ³)	2.04
Dry Density	(Mg/m ³)	1.65
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	190
Strain at failure	(%)	6.9
Maximum Deviator Stress	(kPa)	383
Shear Stress Cu	(kPa)	192

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

80

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

GEOLABS



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

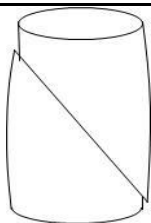
BH/TP No BH5
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	102.9
Moisture Content	(%)	25.4
Bulk Density	(Mg/m ³)	2.03
Dry Density	(Mg/m ³)	1.62
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	223
Shear Stress Cu	(kPa)	112

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

70

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

GEOLABS



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

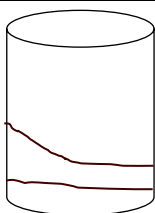
BH/TP No BH5
 Depth (m) 15.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.9
Diameter	(mm)	102.7
Moisture Content	(%)	26.8
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	310
Strain at failure	(%)	5.9
Maximum Deviator Stress	(kPa)	321
Shear Stress Cu	(kPa)	161

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	35

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

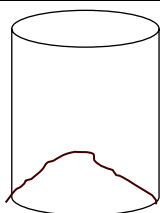
BH/TP No BH5
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	102.9
Moisture Content	(%)	26.9
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	4.2
Maximum Deviator Stress	(kPa)	442
Shear Stress Cu	(kPa)	221

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	165

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

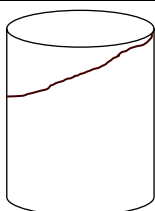
BH/TP No BH5
 Depth (m) 24.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.9
Diameter	(mm)	102.4
Moisture Content	(%)	25.9
Bulk Density	(Mg/m ³)	1.99
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	7.9
Maximum Deviator Stress	(kPa)	339
Shear Stress Cu	(kPa)	169

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	200

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

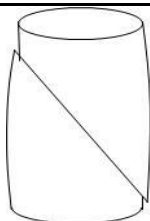
BH/TP No BH5
 Depth (m) 27.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	103.1
Moisture Content	(%)	24.3
Bulk Density	(Mg/m ³)	2.06
Dry Density	(Mg/m ³)	1.66
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	550
Strain at failure	(%)	5.9
Maximum Deviator Stress	(kPa)	693
Shear Stress Cu	(kPa)	347

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	50

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH6
 Depth (m) 6.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	102.5
Moisture Content	(%)	25.0
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.62
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	130
Strain at failure	(%)	5.9
Maximum Deviator Stress	(kPa)	237
Shear Stress Cu	(kPa)	118

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	155

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

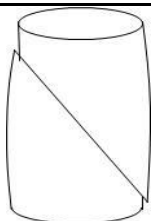
BH/TP No BH6
 Depth (m) 9.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	102.9
Moisture Content	(%)	24.6
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	190
Strain at failure	(%)	4.9
Maximum Deviator Stress	(kPa)	311
Shear Stress Cu	(kPa)	155

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

45

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

GEOLABS



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

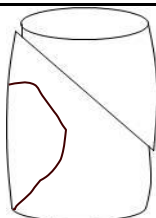
BH/TP No BH6
 Depth (m) 12.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.4
Diameter	(mm)	102.7
Moisture Content	(%)	24.2
Bulk Density	(Mg/m ³)	2.05
Dry Density	(Mg/m ³)	1.65
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	250
Strain at failure	(%)	8.9
Maximum Deviator Stress	(kPa)	394
Shear Stress Cu	(kPa)	197

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	40

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

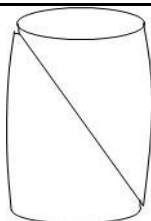
BH/TP No BH6
 Depth (m) 15.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.5
Diameter	(mm)	103.1
Moisture Content	(%)	26.3
Bulk Density	(Mg/m ³)	2.02
Dry Density	(Mg/m ³)	1.60
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	310
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	190
Shear Stress Cu	(kPa)	95

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

103

Checked and Approved by:

S Burke

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
 J19090**

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QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

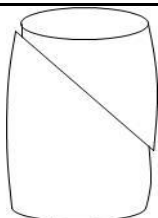
BH/TP No BH6
 Depth (m) 18.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.3
Diameter	(mm)	103.1
Moisture Content	(%)	26.1
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	370
Strain at failure	(%)	5.4
Maximum Deviator Stress	(kPa)	342
Shear Stress Cu	(kPa)	171

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No BH6
 Depth (m) 21.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY with rare pyrite

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.0
Diameter	(mm)	103.2
Moisture Content	(%)	28.0
Bulk Density	(Mg/m ³)	2.00
Dry Density	(Mg/m ³)	1.56
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	430
Strain at failure	(%)	7.4
Maximum Deviator Stress	(kPa)	396
Shear Stress Cu	(kPa)	198

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	65

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

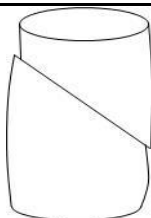
BH/TP No BH6
 Depth (m) 24.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.2
Diameter	(mm)	102.8
Moisture Content	(%)	26.1
Bulk Density	(Mg/m ³)	2.01
Dry Density	(Mg/m ³)	1.59
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	490
Strain at failure	(%)	7.9
Maximum Deviator Stress	(kPa)	434
Shear Stress Cu	(kPa)	217

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	110

Checked and Approved by:

S Burke - Senior Technician
 23/05/2019

Project Number:

GEO / 29251

Project Name:

NESTLES AVENUE, LONDON
J19090



QUICK UNDRAINED TRIAXIAL COMPRESSION TEST

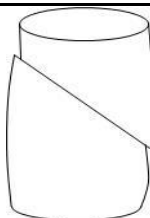
BH/TP No BH6
 Depth (m) 27.50
 Sample Type U

Description:

Very stiff fissured dark brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.1
Diameter	(mm)	103.4
Moisture Content	(%)	25.3
Bulk Density	(Mg/m ³)	2.01
Dry Density	(Mg/m ³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.7
Axial displacement rate	(%/min)	1.0
Cell pressure	(kPa)	550
Strain at failure	(%)	9.9
Maximum Deviator Stress	(kPa)	516
Shear Stress Cu	(kPa)	258

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

90

Checked and Approved by:

S Burke

S Burke - Senior Technician
23/05/2019

Project Number:

GEO / 29251

Project Name:

**NESTLES AVENUE, LONDON
J19090**

GEOLABS





Client	Geotechnical & Environmental Associates Limited	TEST RESTRICTION
Project No.	29251	
Project Name	NESTLES AVENUE, LONDON	

The following tests have been scheduled on the above project and **CANNOT** be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.

Laboratory ID	BH / TP No.	Sample Ref.	Depth (m)		Type	Test(s) Scheduled			Reason for Restriction	Description
327841	BH1		27.50		U	TRIAXIAL			Insufficient material. Only around 120mm in the tube	Very stiff fissured dark brown silty CLAY.
Comments / remarks										



GEA

www.gea-ltd.co.uk

Herts | 01727 824666 Notts | 01509 674888

**SPT & Cohesion /
Depth Graph**

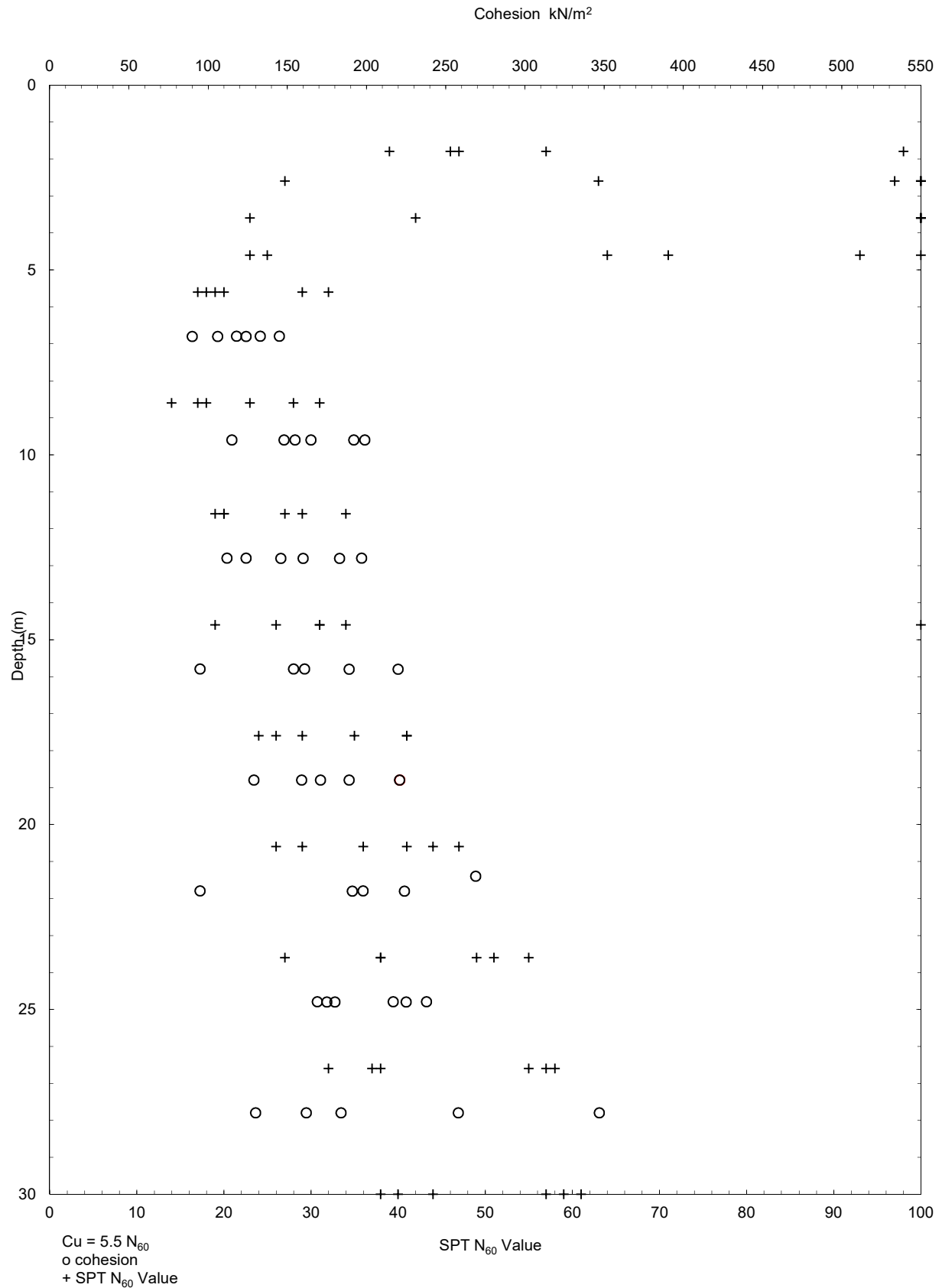
Site 233-236 Nestles Avenue, Hayes & Harlington, London UB3 4SH

Client Buccleuch Property

Agent Gardiner and Theobald

Job Number
J19090

Sheet
1 / 1





Alex Taylor
Geotechnical & Environmental Associates
Widbury Barn
Widbury Hill
Ware
Hertfordshire
SG127QE

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: AlexTaylor@gea-ltd.co.uk

Analytical Report Number : 19-39051

Project / Site name:	Nestles Avenue, Hayes and Harlington, London	Samples received on:	25/04/2019
Your job number:	J19090	Samples instructed on:	26/04/2019
Your order number:	J19090	Analysis completed by:	07/05/2019
Report Issue Number:	1	Report issued on:	07/05/2019
Samples Analysed:	13 soil samples - 1 bulk sample		

Signed:

Zina Abdul Razzak
Assistant Quality/Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 19-39051

Project / Site name: Nestles Avenue, Hayes and Harlington, London

Your Order No: J19090

Lab Sample Number				1210377	1210378	1210379	1210380	1210381
Sample Reference				BH13	BH15	BH7	BH10	BH16
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.40	0.40	0.30	0.30
Date Sampled				18/04/2019	23/04/2019	18/04/2019	18/04/2019	18/04/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	13	13	11	17
Total mass of sample received	kg	0.001	NONE	1.6	1.8	1.4	1.5	1.1

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.0	7.8	11.0	8.1	8.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1100	910	2700	680	2000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.15	0.13	0.15	0.047	0.37
Sulphide	mg/kg	1	MCERTS	68	1.0	1.2	2.2	40
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	35	13	20	21	32
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.2	1.7	0.9	1.7	3.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.96	0.61	0.93	0.71	1.5
Anthracene	mg/kg	0.05	MCERTS	0.19	0.14	0.22	0.19	0.32
Fluoranthene	mg/kg	0.05	MCERTS	2.1	1.4	2.7	2.1	3.4
Pyrene	mg/kg	0.05	MCERTS	1.9	1.4	2.4	1.9	3.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.96	0.91	1.4	1.1	1.9
Chrysene	mg/kg	0.05	MCERTS	0.96	0.71	1.1	0.96	1.6
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.1	1.0	1.6	1.6	2.6
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.83	0.59	0.74	0.57	0.91
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.99	0.78	1.3	0.96	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.43	0.43	0.53	0.53	0.48
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.72	0.58	0.83	0.67	1.0

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	11.1	8.54	13.6	11.3	18.8
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Analytical Report Number: 19-39051

Project / Site name: Nestles Avenue, Hayes and Harlington, London

Your Order No: J19090

Lab Sample Number	1210377	1210378	1210379	1210380	1210381
Sample Reference	BH13	BH15	BH7	BH10	BH16
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.40	0.40	0.40	0.30	0.30
Date Sampled	18/04/2019	23/04/2019	18/04/2019	18/04/2019	18/04/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	30	18	16	19
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.4	0.7
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	24	30	30	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	70	99	74	85	150
Lead (aqua regia extractable)	mg/kg	1	MCERTS	210	240	190	200	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	1.4	0.9	3.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	25	24	30	52
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.4	2.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	87	150	140	190	320

Monoaromatics & Oxygenates

Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	130	45	45	13	54
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	5.4	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	13	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	33	12	14	4.8	14
TPH (C21 - C35)	mg/kg	1	MCERTS	71	30	30	7.7	38