

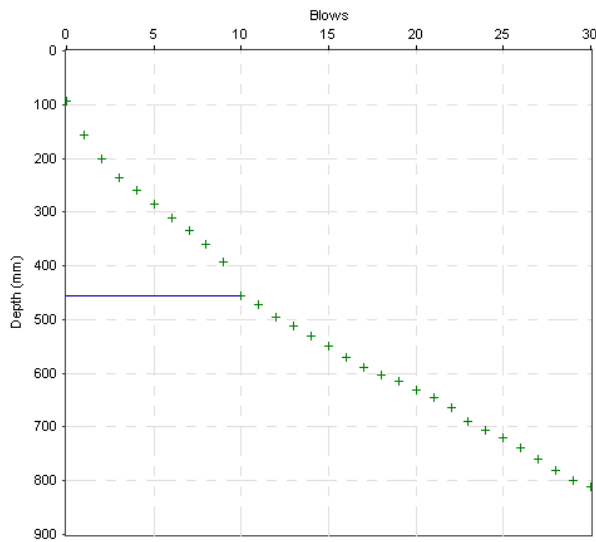
DCP Layer Strength Analysis Report

Project Name: TRL08

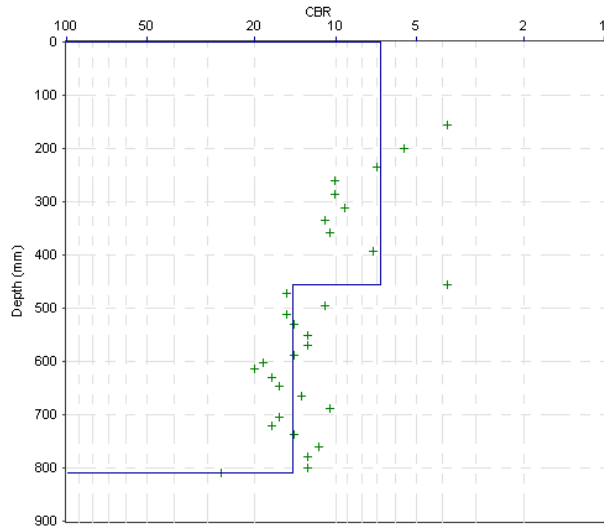
Chainage (km): 9.000
 Direction:
 Location/Offset: Lay-by / other
 Cone Angle: 60 degrees
 Zero Error (mm): 0
 Test Date: 26/10/2017

Surface Type: Unpaved
 Thickness (mm): 0
 Base Type:
 Thickness (mm):
 Surface Moisture: Moderate
 Moisture adjustment factor: Not adjusted

Layer Boundaries: Chainage 9.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	36.10	7	455	455
2	17.75	14	355	810

CBR Relationship:

TRL equation: $\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{Strength})$

Report produced by

Penetration Data Report

Project Name: TRL08

Chainage (km): 9.000

Direction:

Location/Offset: Lay-by / other

Cone Angle: 60 degrees

Zero Error (mm): 0

Test Date: 26/10/2017

Surface Type:

Unpaved

Thickness (mm):

0

Base Type:

Thickness (mm):

Surface Moisture:

Moderate

Moisture adjustment factor:

Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	94	0.00	26	1	25	720	15.00
2	1	1	156	62.00	27	1	26	738	18.00
3	1	2	200	44.00	28	1	27	760	22.00
4	1	3	235	35.00	29	1	28	780	20.00
5	1	4	260	25.00	30	1	29	800	20.00
6	1	5	285	25.00	31	1	30	810	10.00
7	1	6	312	27.00					
8	1	7	335	23.00					
9	1	8	359	24.00					
10	1	9	393	34.00					
11	1	10	455	62.00					
12	1	11	472	17.00					
13	1	12	495	23.00					
14	1	13	512	17.00					
15	1	14	530	18.00					
16	1	15	550	20.00					
17	1	16	570	20.00					
18	1	17	588	18.00					
19	1	18	602	14.00					
20	1	19	615	13.00					
21	1	20	630	15.00					
22	1	21	646	16.00					
23	1	22	665	19.00					
24	1	23	689	24.00					
25	1	24	705	16.00					



TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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



Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

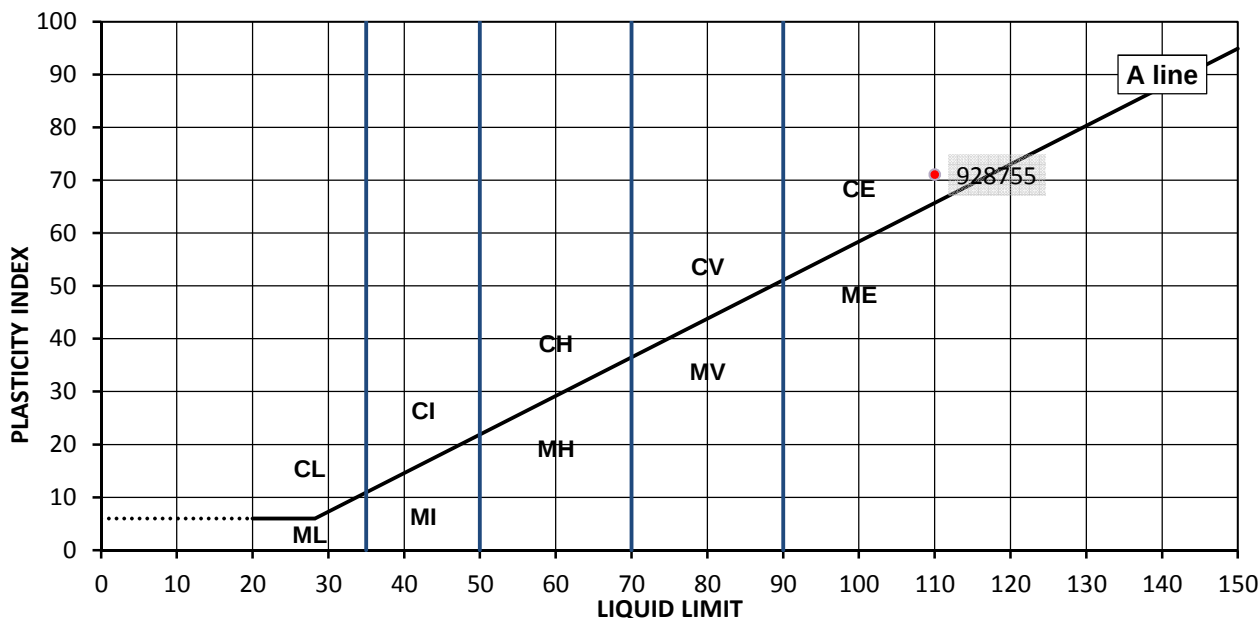
TEST RESULTS

Laboratory Reference: 928755
Sample Reference: Not Given

Description: Dark brown slightly organic slightly gravelly CLAY
Location: BH01
Sample Preparation: Tested after washing to remove >425um

Sample Type: B
Depth Top [m]: 1.80
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
59	110	39	71	82



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C Clay	L Low	below 35
M Silt	I Medium	35 to 50
	H High	50 to 70
	V Very high	70 to 90
	E Extremely high	exceeding 90
Organic	O	append to classification for organic material (eg CHO)

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory
Manager Geotechnical
Section
Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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Job Number: 18-79576
Date Sampled: 14/03/2018
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Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928756
Sample Reference: Not Given

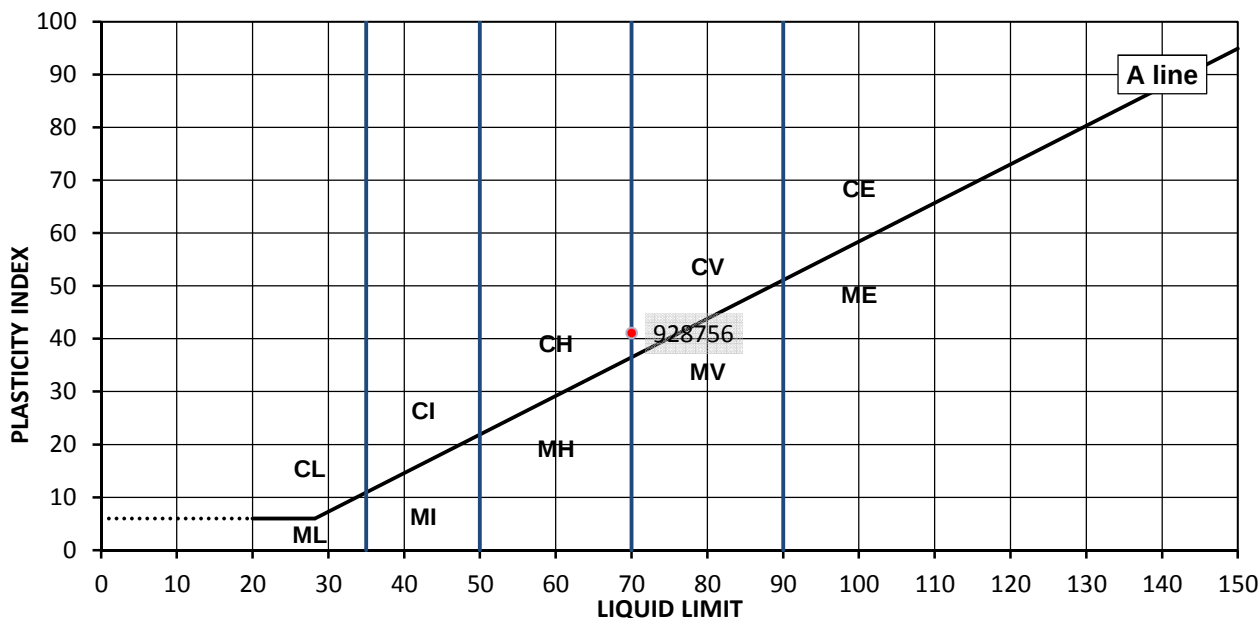
Description: Dark brown slightly gravelly CLAY

Location: BH01

Sample Preparation: Tested after >425um removed by hand

Sample Type: B
Depth Top [m]: 5.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
30	70	29	41	92



Legend, based on BS 5930:2015 Code of practice for site investigations

Plasticity		Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
L	Low	50 to 70
I	Medium	70 to 90
H	High	exceeding 90
V	Very high	
E	Extremely high	
Organic		O append to classification for organic material (eg CHO)

Remarks

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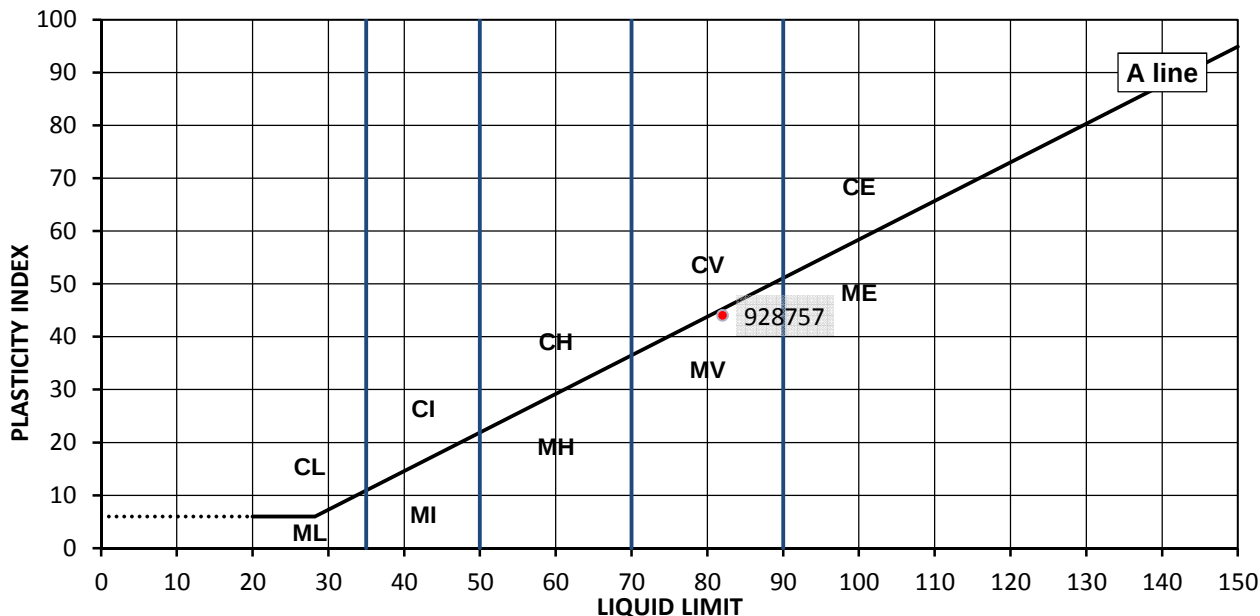
TEST RESULTS

Laboratory Reference: 928757
Sample Reference: Not Given

Description: Dark brown CLAY
Location: BH01
Sample Preparation: Tested in natural condition

Sample Type: B
Depth Top [m]: 9.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
31	82	38	44	100



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C Clay	L Low	below 35
M Silt	I Medium	35 to 50
	H High	50 to 70
	V Very high	70 to 90
	E Extremely high	exceeding 90
Organic	O	append to classification for organic material (eg CHO)

Remarks

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Signed:

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PL Laboratory
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Piotrowski

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D. Berrill

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Site Address: Not Given

Client Reference: STQ4343
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Date Sampled: 14/03/2018
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Date Tested: 26/03/2018
Sampled By: Not Given

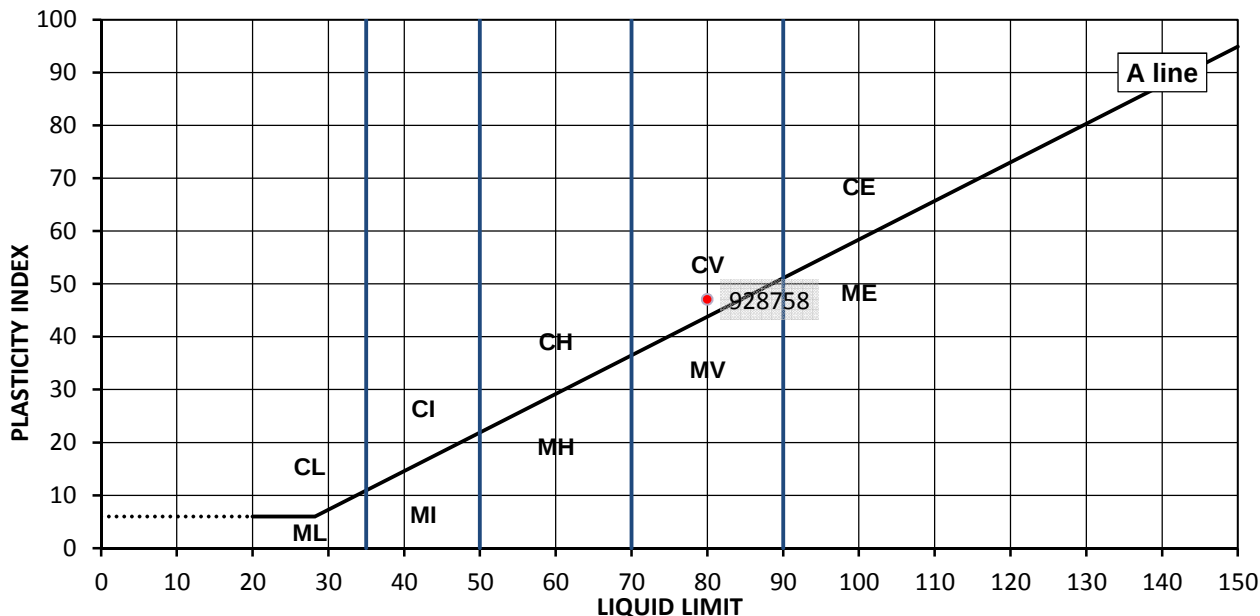
TEST RESULTS

Laboratory Reference: 928758
Sample Reference: Not Given

Description: Dark brown CLAY
Location: BH01
Sample Preparation: Tested in natural condition

Sample Type: B
Depth Top [m]: 17.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
28	80	33	47	100



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C Clay	L Low	below 35
M Silt	I Medium	35 to 50
	H High	50 to 70
	V Very high	70 to 90
	E Extremely high	exceeding 90
Organic	O	append to classification for organic material (eg CHO)

Remarks

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PL Laboratory
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Date Reported: 04/04/2018

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Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928759
Sample Reference: Not Given

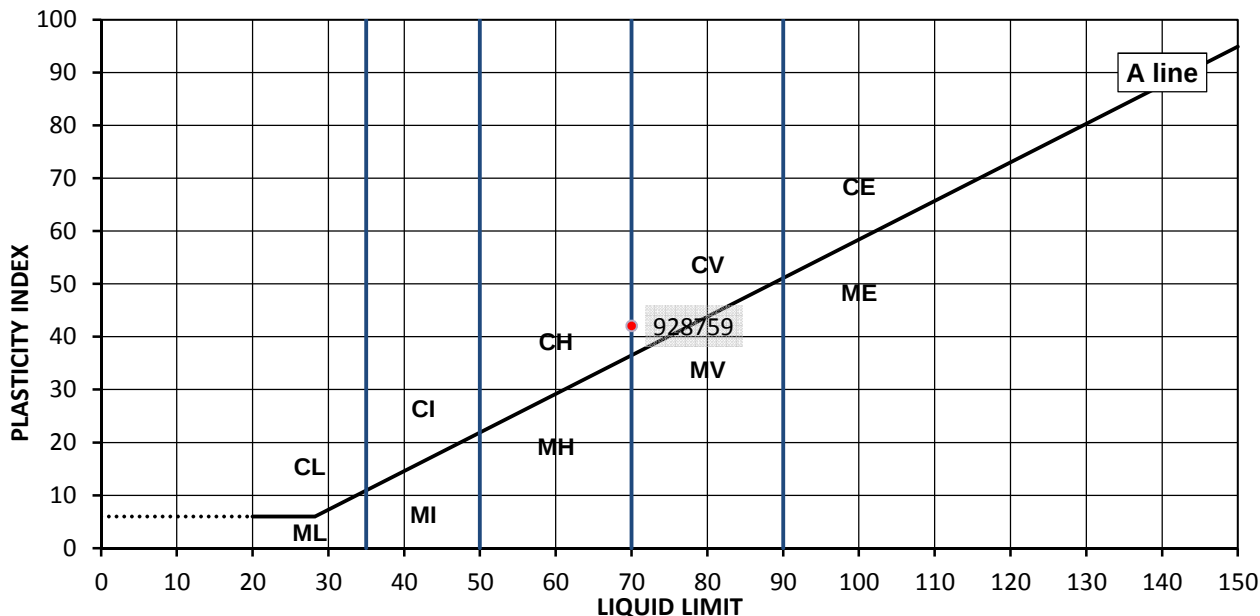
Description: Dark brown slightly gravelly CLAY

Location: BH03

Sample Preparation: Tested after >425um removed by hand

Sample Type: B
Depth Top [m]: 6.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
30	70	28	42	95



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity	Liquid Limit
C	Clay	L Low	below 35
M	Silt	I Medium	35 to 50
		H High	50 to 70
		V Very high	70 to 90
		E Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)

Remarks

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NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

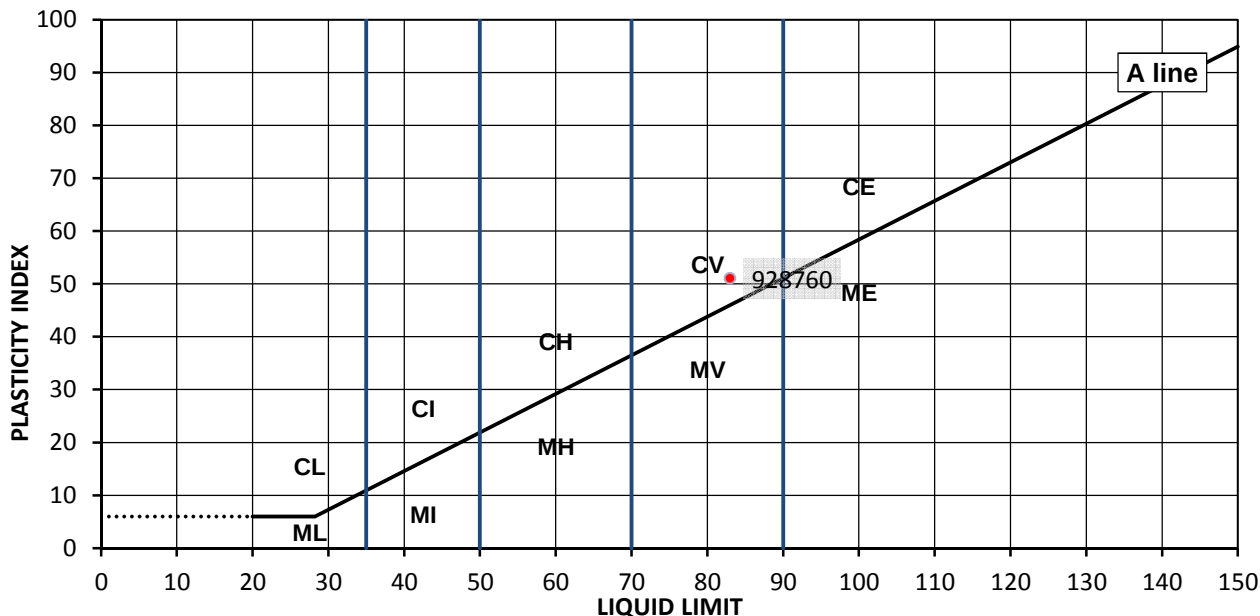
TEST RESULTS

Laboratory Reference: 928760
Sample Reference: Not Given

Description: Dark brown CLAY
Location: BH03
Sample Preparation: Tested in natural condition

Sample Type: B
Depth Top [m]: 12.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
28	83	32	51	100



Remarks

Approved:

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Manager Geotechnical
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Date Reported: 04/04/2018

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Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

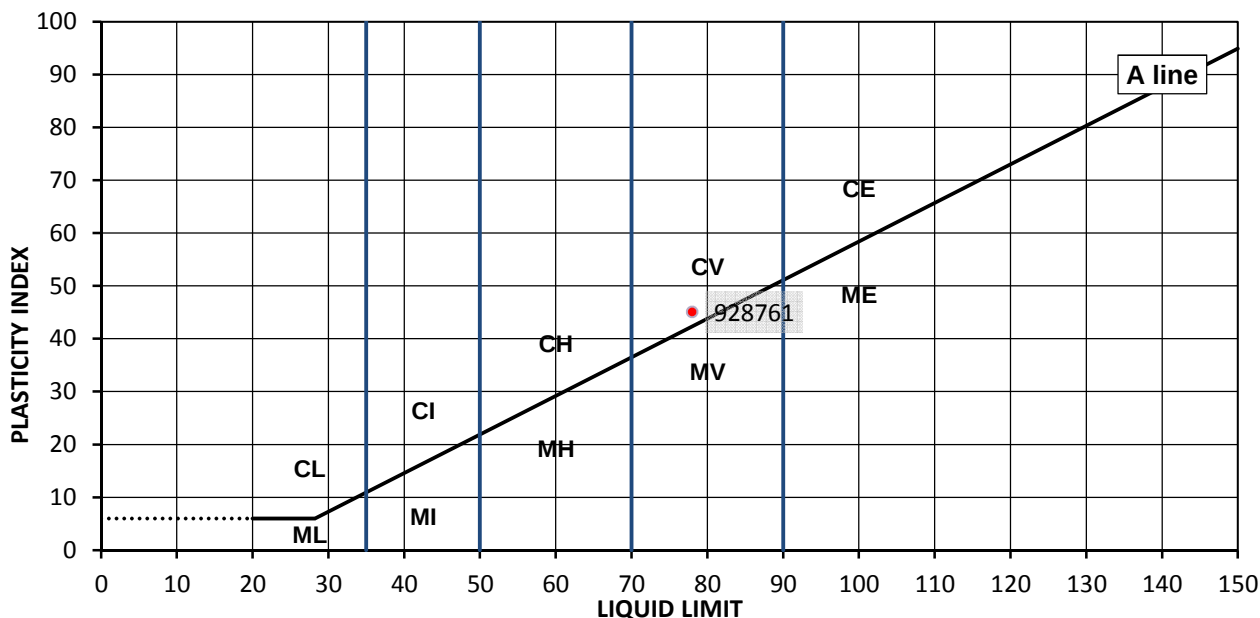
TEST RESULTS

Laboratory Reference: 928761
Sample Reference: Not Given

Description: Dark brown CLAY
Location: BH03
Sample Preparation: Tested in natural condition

Sample Type: B
Depth Top [m]: 20.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
27	78	33	45	100



Remarks

Approved:

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Date Reported: 04/04/2018

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Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928762
Sample Reference: Not Given

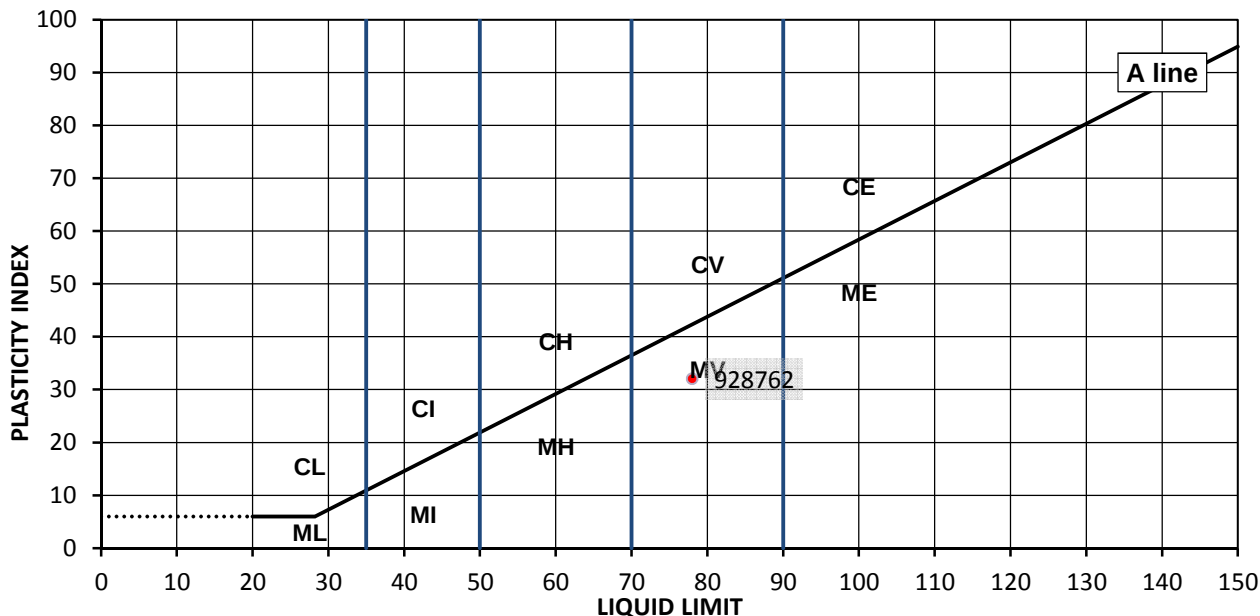
Description: Dark brown slightly gravelly CLAY

Location: BH06

Sample Preparation: Tested after washing to remove >425um

Sample Type: B
Depth Top [m]: 1.20
Depth Base [m]: 1.65

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
18	78	46	32	71



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C Clay	L Low	below 35
M Silt	I Medium	35 to 50
	H High	50 to 70
	V Very high	70 to 90
	E Extremely high	exceeding 90
Organic	O	append to classification for organic material (eg CHO)

Remarks

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Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928763
Sample Reference: Not Given

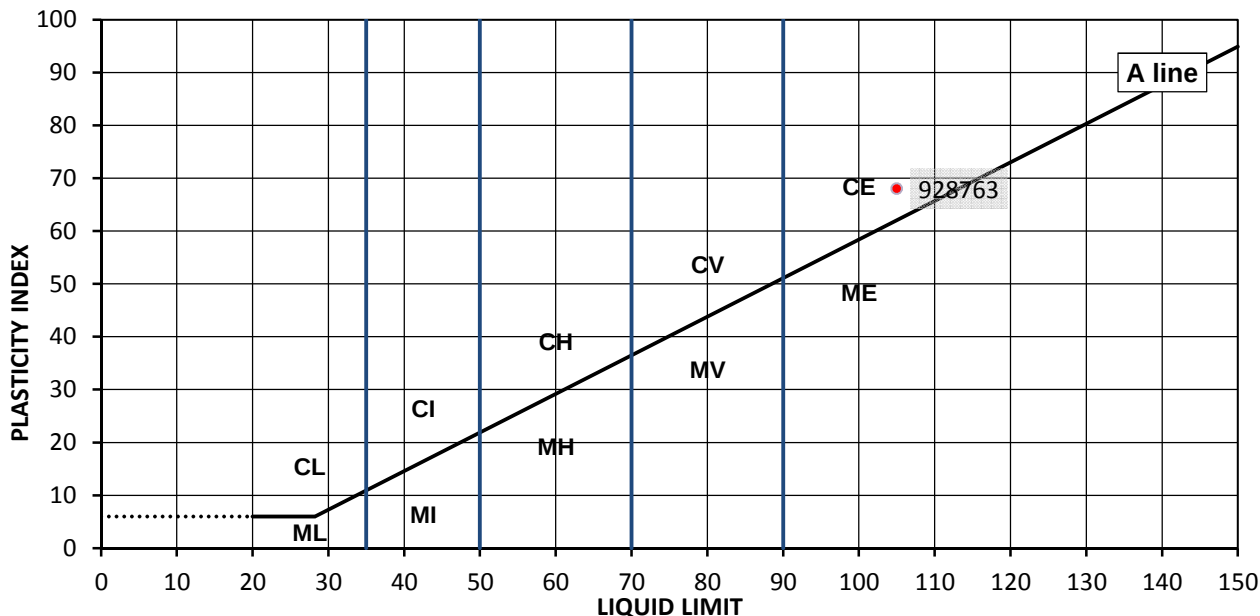
Description: Dark brown slightly organic CLAY

Location: BH06

Sample Preparation: Tested after >425um removed by hand

Sample Type: B
Depth Top [m]: 3.00
Depth Base [m]: 3.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
55	105	37	68	95



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
	L	Low
	I	Medium
	H	High
	V	Very high
	E	Extremely high
Organic	O	append to classification for organic material (eg CHO)

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Northampton
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Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928764
Sample Reference: Not Given

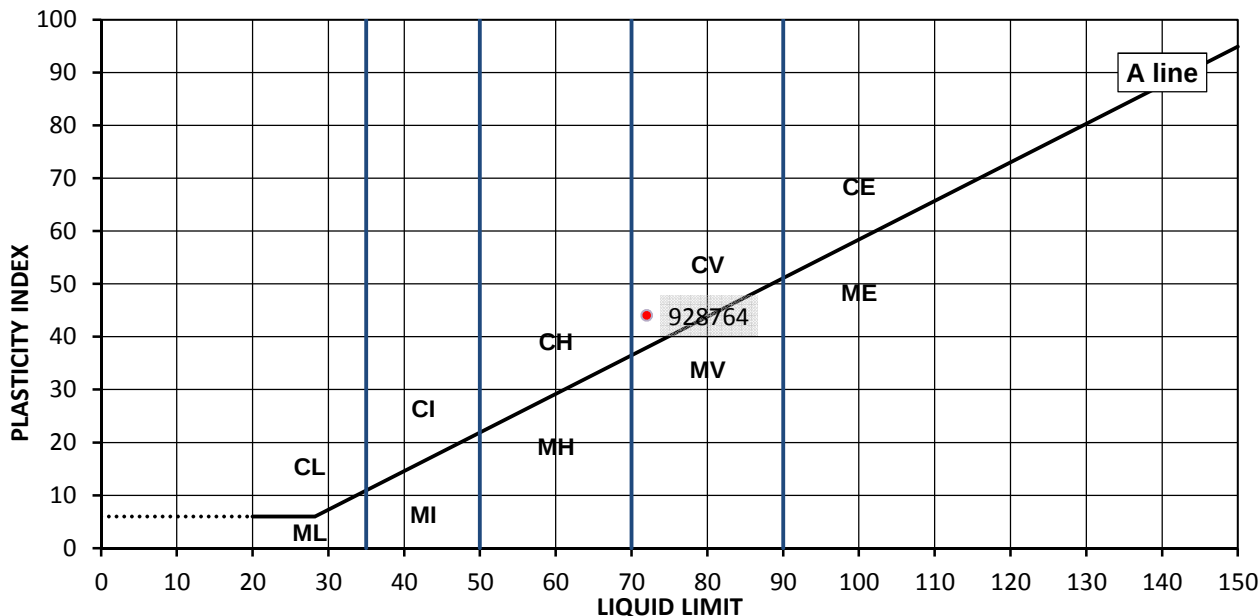
Description: Dark brown slightly gravelly CLAY

Location: BH06

Sample Preparation: Tested after washing to remove >425um

Sample Type: B
Depth Top [m]: 6.50
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
27	72	28	44	93



Legend, based on BS 5930:2015 Code of practice for site investigations

Plasticity		Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
L	Low	50 to 70
I	Medium	70 to 90
H	High	exceeding 90
V	Very high	
E	Extremely high	
Organic		O append to classification for organic material (eg CHO)

Remarks

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Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928765
Sample Reference: Not Given

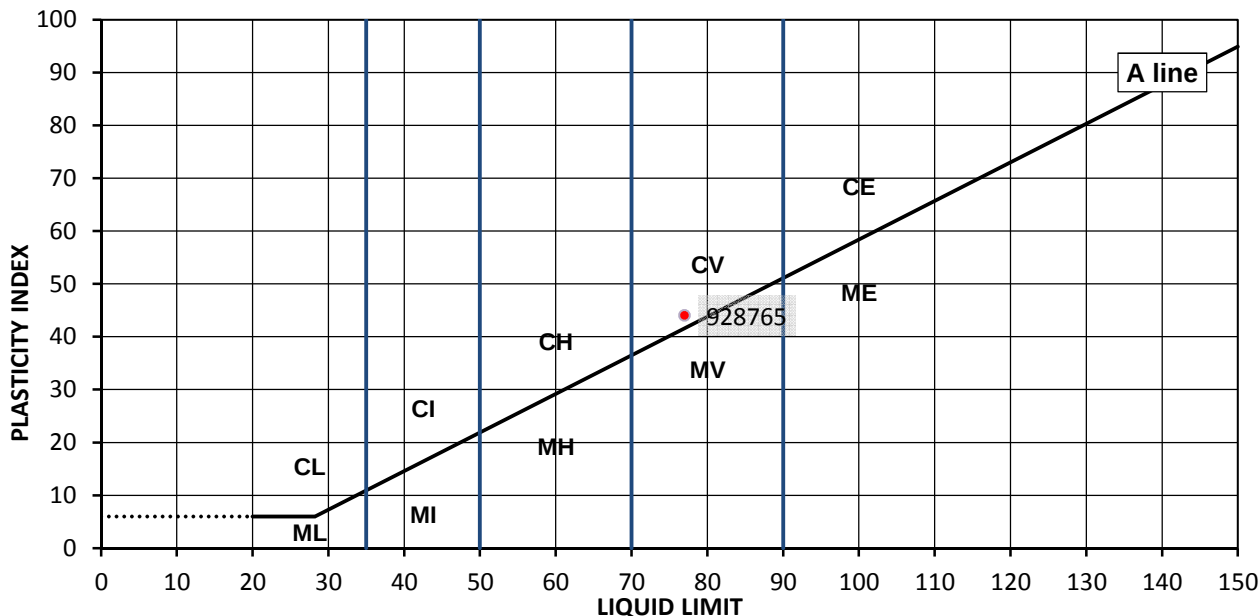
Description: Greyish brown gravelly CLAY

Location: BH07

Sample Preparation: Tested after washing to remove >425um

Sample Type: B
Depth Top [m]: 0.80
Depth Base [m]: 1.10

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
38	77	33	44	65



Legend, based on BS 5930:2015 Code of practice for site investigations

Plasticity		Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
L	Low	50 to 70
I	Medium	70 to 90
H	High	exceeding 90
V	Very high	
E	Extremely high	
Organic		O append to classification for organic material (eg CHO)

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory
Manager Geotechnical
Section
Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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



Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 929111
Sample Reference: Not Given

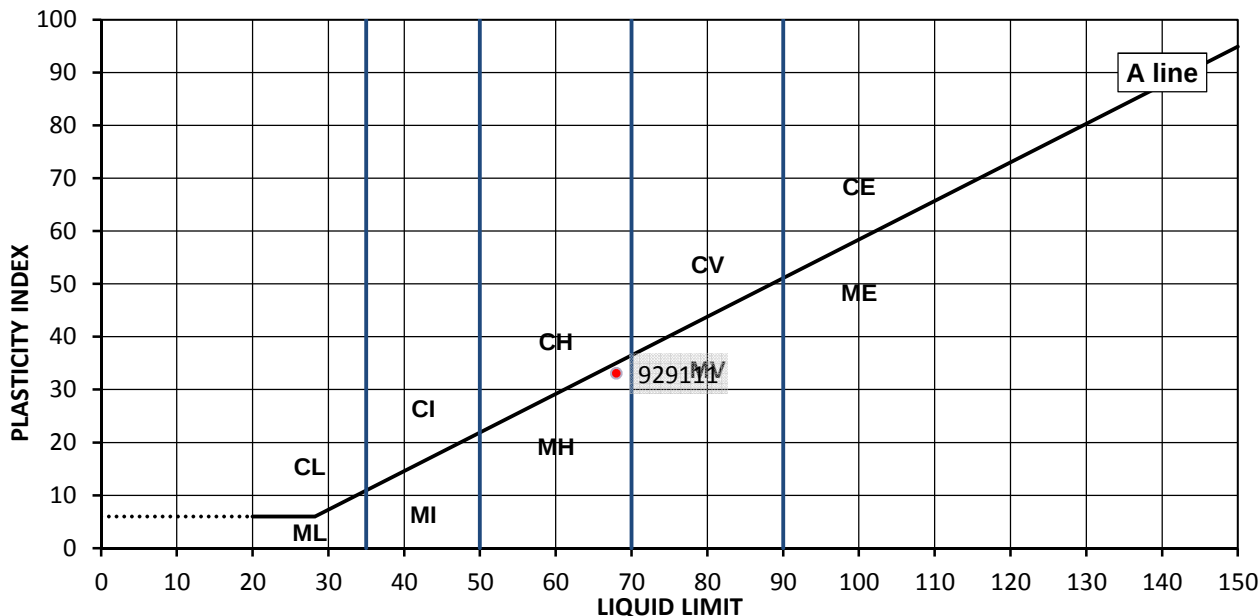
Description: Dark brown gravelly CLAY

Location: BH05

Sample Preparation: Tested after washing to remove >425um

Sample Type: D
Depth Top [m]: 1.40
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
21	68	35	33	55



Legend, based on BS 5930:2015 Code of practice for site investigations

Plasticity		Liquid Limit	
C	Clay	L	Low
M	Silt	I	Medium
		H	High
		V	Very high
		E	Extremely high
Organic	O	append to classification for organic material (eg CHO)	

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory
Manager Geotechnical
Section
Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Summary of Classification Test Results

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



Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03 - 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Soil Description	Density		M/C	Atterberg				PD
		Reference	Top depth [m]	Base depth [m]	Type		bulk	dry		% Passing 425um	LL	PL	PI	
							Mg/m3	Mg/m3		%	%	%	%	
928755	BH01	Not Given	1.80	Not Given	B	Dark brown slightly organic slightly gravelly CLAY			59	82	110	39	71	
928756	BH01	Not Given	5.00	Not Given	B	Dark brown slightly gravelly CLAY			30	92	70	29	41	
928757	BH01	Not Given	9.00	Not Given	B	Dark brown CLAY			31	100	82	38	44	
928758	BH01	Not Given	17.00	Not Given	B	Dark brown CLAY			28	100	80	33	47	
928759	BH03	Not Given	6.00	Not Given	B	Dark brown slightly gravelly CLAY			30	95	70	28	42	
928760	BH03	Not Given	12.00	Not Given	B	Dark brown CLAY			28	100	83	32	51	
928761	BH03	Not Given	20.00	Not Given	B	Dark brown CLAY			27	100	78	33	45	
929111	BH05	Not Given	1.40	Not Given	D	Dark brown gravelly CLAY			21	55	68	35	33	
928762	BH06	Not Given	1.20	1.65	B	Dark brown slightly gravelly CLAY			18	71	78	46	32	
928763	BH06	Not Given	3.00	3.45	B	Dark brown slightly organic CLAY			55	95	105	37	68	

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General Manager

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Summary of Classification Test Results

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



Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03 - 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Soil Description	Density		M/C	Atterberg				PD
		Reference	Top depth [m]	Base depth [m]	Type		bulk	dry		% Passing 425um	LL	PL	PI	
							Mg/m3	Mg/m3		%	%	%	%	%
928764	BH06	Not Given	6.50	Not Given	B	Dark brown slightly gravelly CLAY			27	93	72	28	44	
928765	BH07	Not Given	0.80	1.10	B	Greyish brown gravelly CLAY			38	65	77	33	44	

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General Manager

for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**Determination of Particle Size Distribution**

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



Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

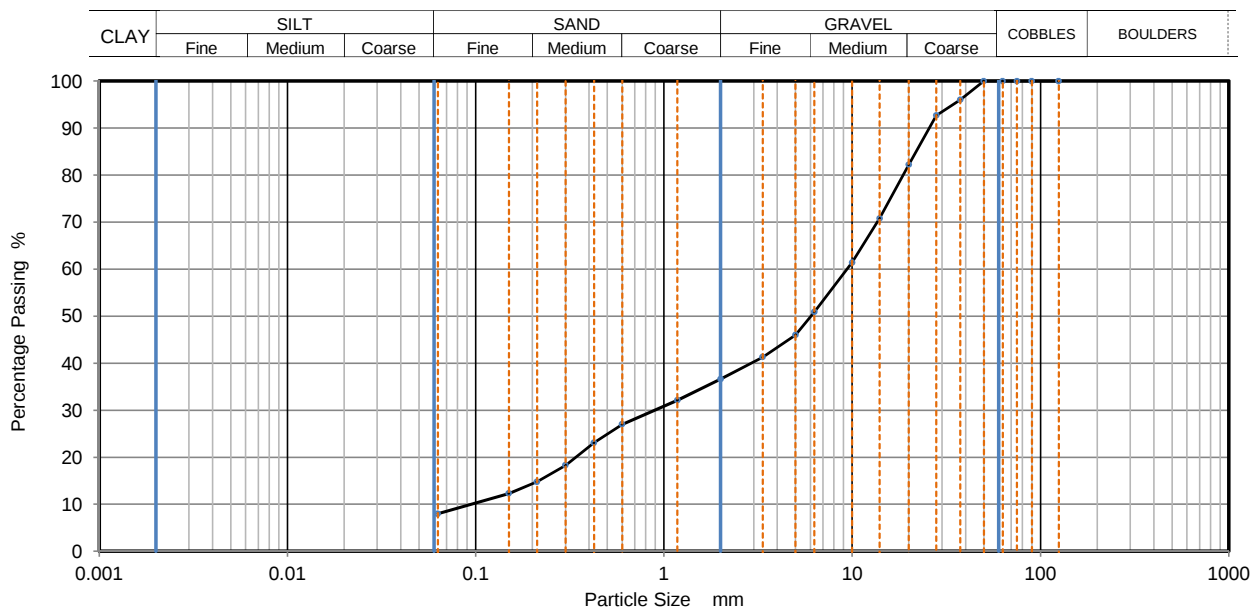
TEST RESULTS

Laboratory Reference: 928766

Sample Reference: Not Given

Sample description: Dark brown clayey very sandy GRAVEL
Location: BH01
Supplier: Not Given

Sample Type: B
Depth Top [m]: 0.50
Depth Base [m]: 1.00



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	96		
28	93		
20	82		
14	71		
10	61		
6.3	51		
5	46		
3.35	41		
2	37		
1.18	32		
0.6	27		
0.425	23		
0.3	18		
0.212	15		
0.15	12		
0.063	9		

Dry Mass of sample [g]: 4930

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	63.40
Sand	27.80
Fines <0.063mm	8.80

Grading Analysis	
D100	mm 50
D60	mm 9.41
D30	mm 0.893
D10	mm 0.0848
Uniformity Coefficient	110
Curvature Coefficient	1

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 04/04/2018

for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**Determination of Particle Size Distribution**

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



Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928767

Sample Reference: Not Given

Sample description: Yellowish brown very sandy GRAVEL

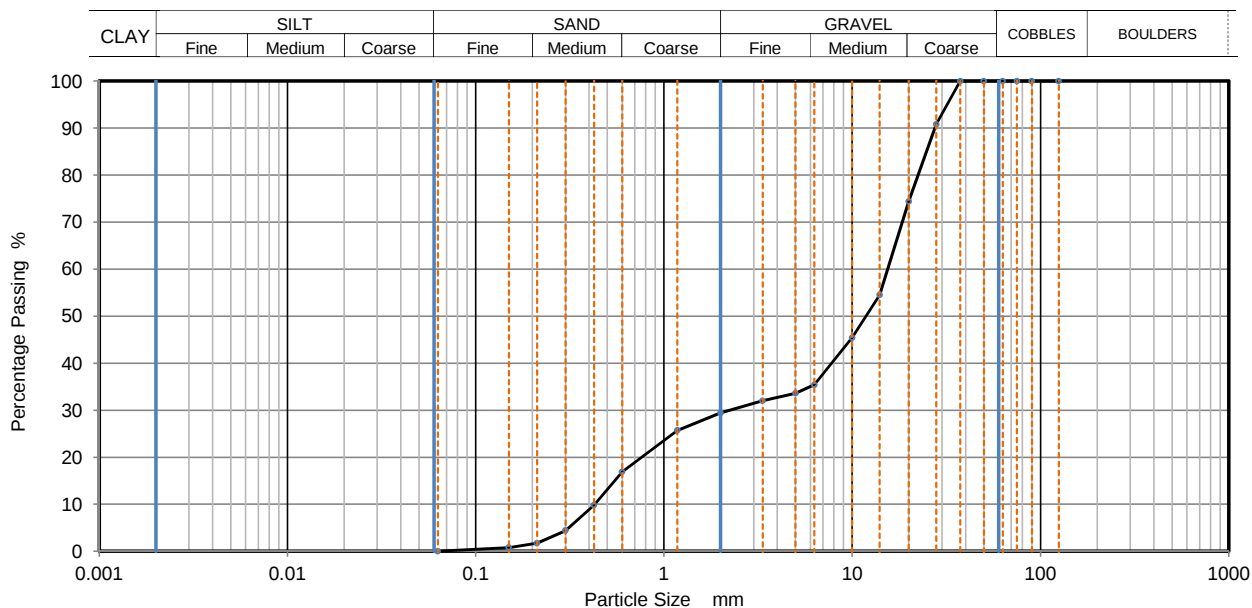
Sample Type: B

Location: BH01

Depth Top [m]: 3.00

Supplier: Not Given

Depth Base [m]: 3.50



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	91		
20	74		
14	55		
10	45		
6.3	35		
5	34		
3.35	32		
2	29		
1.18	26		
0.6	17		
0.425	10		
0.3	4		
0.212	2		
0.15	1		
0.063	0		

Dry Mass of sample [g]: 8455

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	70.60
Sand	29.20
Fines <0.063mm	0.20

Grading Analysis	
D100	mm 37.5
D60	mm 15.5
D30	mm 2.24
D10	mm 0.429
Uniformity Coefficient	36
Curvature Coefficient	0.76

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 04/04/2018

for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**Determination of Particle Size Distribution**

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



Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928768

Sample Reference: Not Given

Sample description: Dark brown sandy GRAVEL

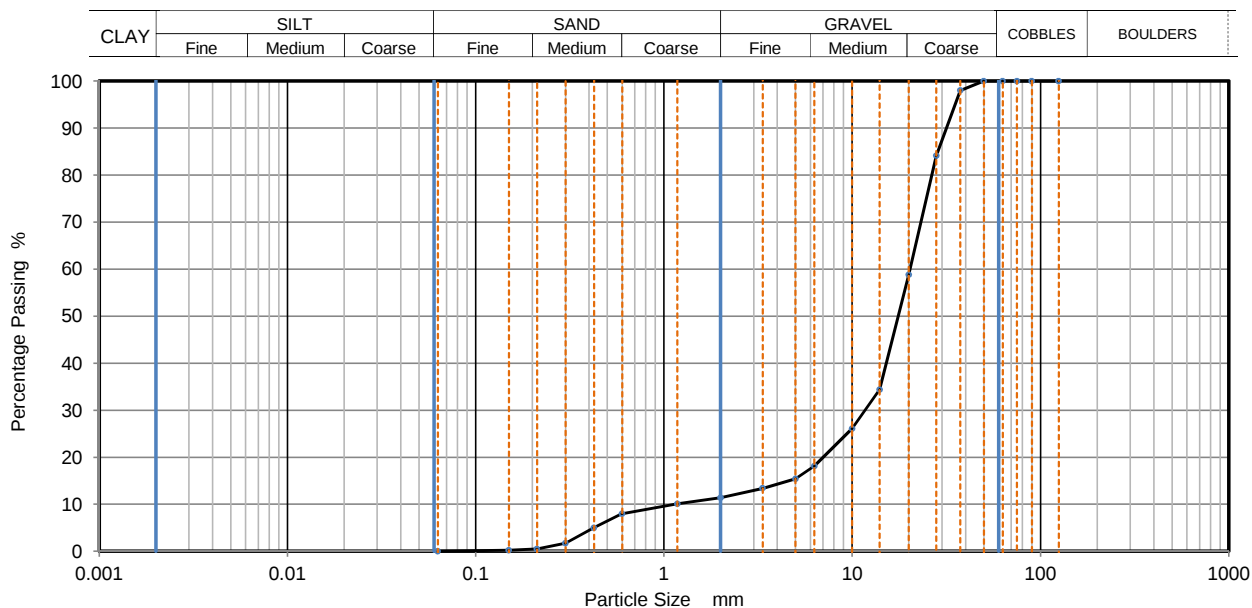
Sample Type: B

Location: BH03

Depth Top [m]: 3.00

Supplier: Not Given

Depth Base [m]: 3.50



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	98		
28	84		
20	59		
14	34		
10	26		
6.3	18		
5	15		
3.35	13		
2	11		
1.18	10		
0.6	8		
0.425	5		
0.3	2		
0.212	1		
0.15	0		
0.063	0		

Dry Mass of sample [g]: 9015

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	88.60
Sand	11.30
Fines <0.063mm	0.20

Grading Analysis	
D100	mm 50
D60	mm 20.3
D30	mm 11.7
D10	mm 1.14
Uniformity Coefficient	18
Curvature Coefficient	6

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 04/04/2018

for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**Determination of Particle Size Distribution**

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



Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928769

Sample Reference: Not Given

Sample description: Black clayey very sandy GRAVEL

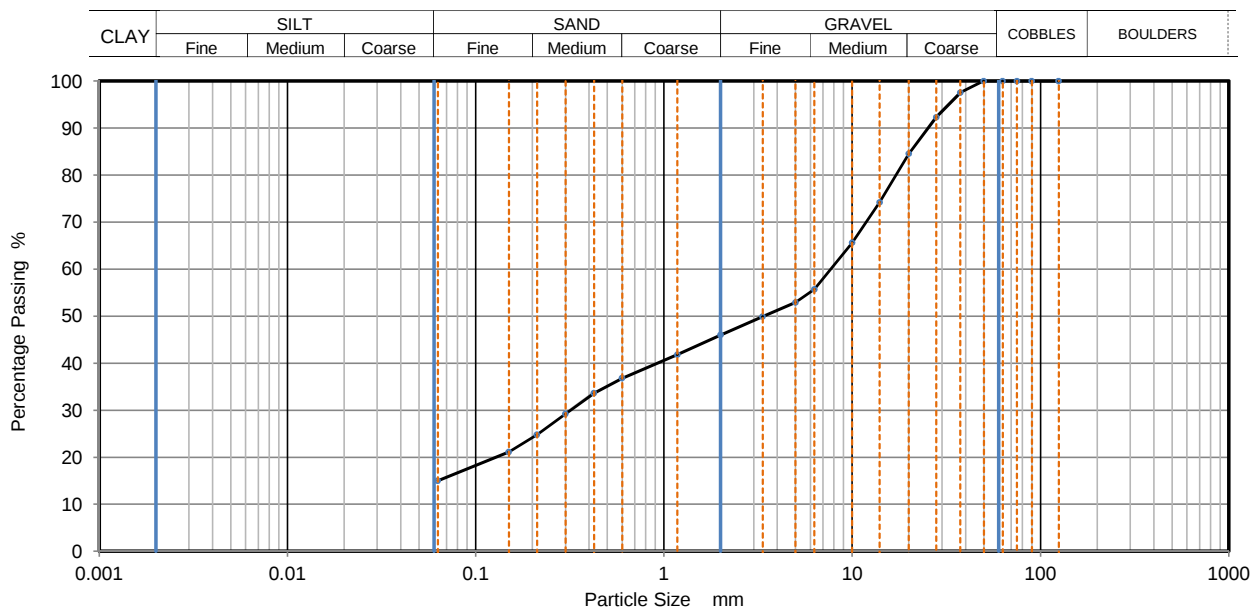
Sample Type: B

Location: BH06

Depth Top [m]: 0.30

Supplier: Not Given

Depth Base [m]: 0.80



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	98		
28	92		
20	85		
14	74		
10	66		
6.3	56		
5	53		
3.35	50		
2	46		
1.18	42		
0.6	37		
0.425	34		
0.3	29		
0.212	25		
0.15	21		
0.063	15		

Dry Mass of sample [g]: 7146

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	54.00
Sand	30.60
Fines <0.063mm	15.30

Grading Analysis	
D100 mm	50
D60 mm	7.7
D30 mm	0.321
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 04/04/2018

for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**Determination of Particle Size Distribution**

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

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



Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 928770

Sample Reference: Not Given

Sample description: Yellowish brown very gravelly SAND

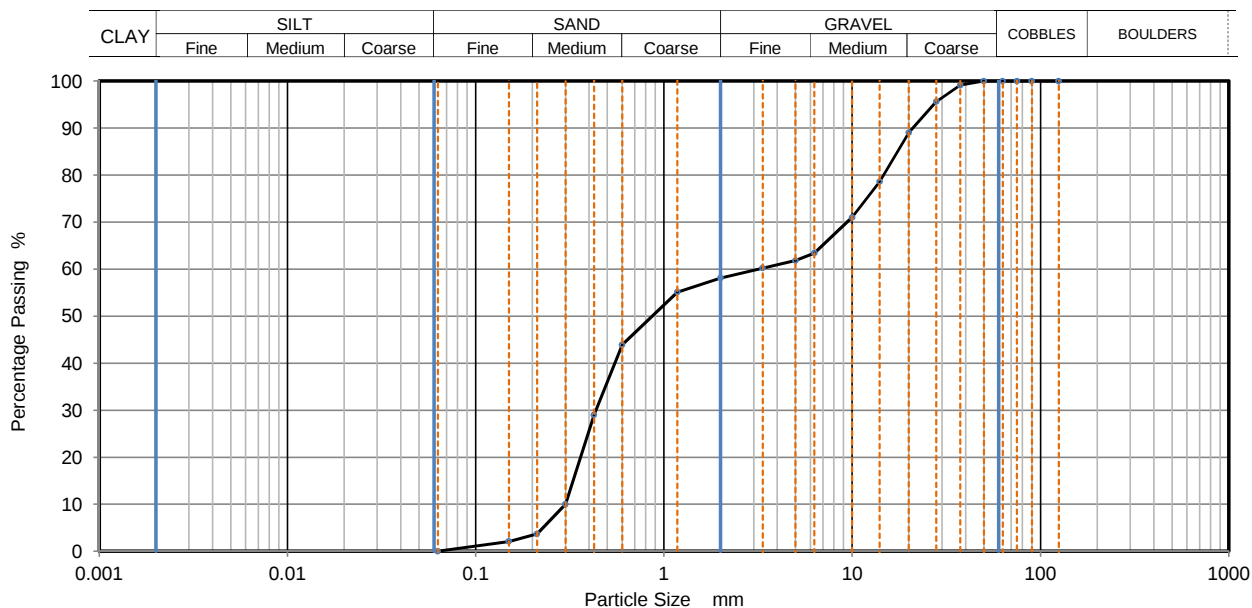
Sample Type: B

Location: BH06

Depth Top [m]: 5.50

Supplier: Not Given

Depth Base [m]: 5.45



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	96		
20	89		
14	79		
10	71		
6.3	63		
5	62		
3.35	60		
2	58		
1.18	55		
0.6	44		
0.425	29		
0.3	10		
0.212	4		
0.15	2		
0.063	1		

Dry Mass of sample [g]: 8531

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	41.90
Sand	57.30
Fines <0.063mm	0.90

Grading Analysis	
D100	mm 50
D60	mm 3.2
D30	mm 0.435
D10	mm 0.3
Uniformity Coefficient	11
Curvature Coefficient	0.2

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 04/04/2018

for and on behalf of i2 Analytical Ltd

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One Dimensional Consolidation Test

Tested in Accordance with BS1377: Part 5: 1990 Clause 3

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



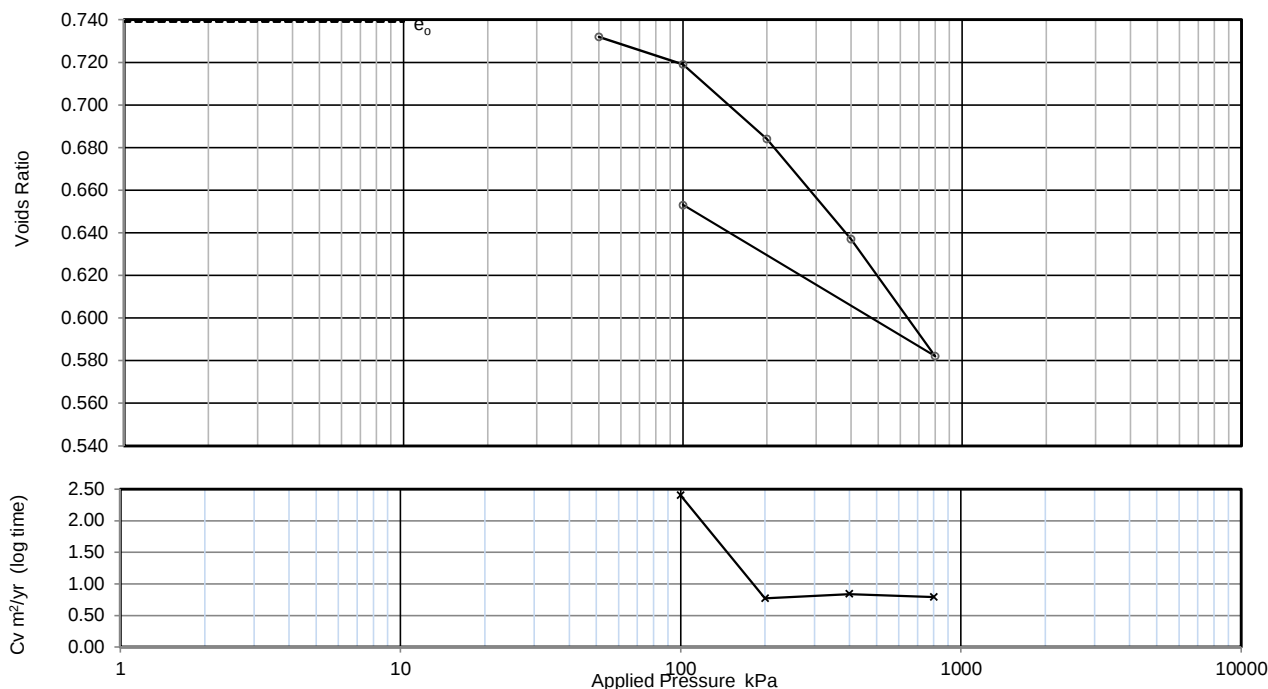
Client:	Soiltechnics Limited
Client Address:	Cedar Barn White Lodge Walgrave Northampton NN6 9PY
Contact:	Georgina Everest
Site Name:	Melliss Avenue, Richmond
Site Address:	Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Results

Laboratory Reference:	928771
Hole No.:	BH01
Sample Reference:	Not Given
Sample Description:	Grevish brown CLAY

Depth Top [m]: 5.00
Depth Base [m]: Not Given
Sample Type: U

[illegible]

Preparation

Index tests	Liquid limit:	N/A	%	Plastic limit:	N/A	%
Orientation of the sample				Vertical		
Particle density		assumed		2.65		Mg/m3

Specimen details

Initial	Final	
50.03	-	mm
20.00	19.01	mm
28.0	31.0	%
1.95	2.10	Mg/m3
1.52	1.60	Mg/m3
0.739	0.653	
101	125	%
22.0		°C
Not measured		kPa
		%

Remarks	stage 1 - swelling
---------	--------------------

Note: C_v corrected to 20°C

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General Manager

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

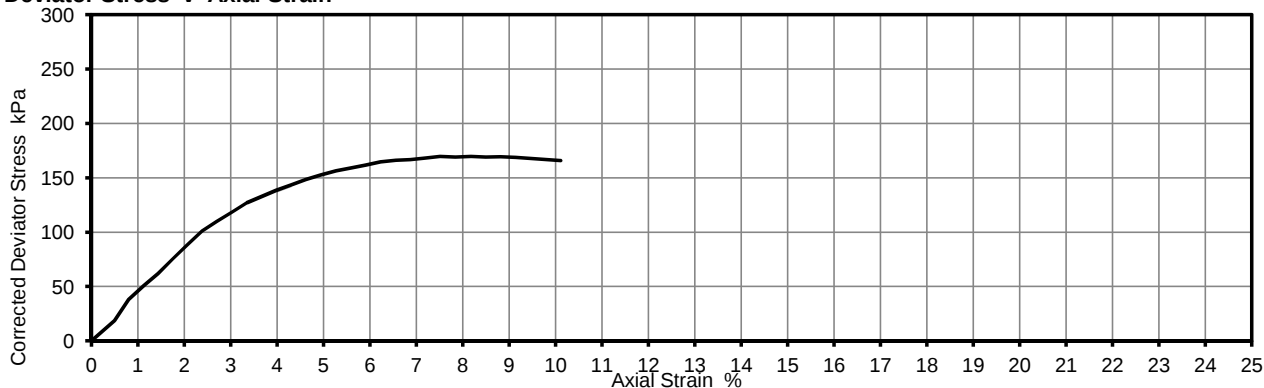
Test Result

Laboratory Reference: 928771
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Greyish brown CLAY
Test Number: 1
Length: 204.36 mm
Diameter: 104.55 mm
Bulk Density: 1.93 Mg/m³
Moisture Content: 28 %
Dry Density: 1.51 Mg/m³
Membrane Correction: 0.40 kPa

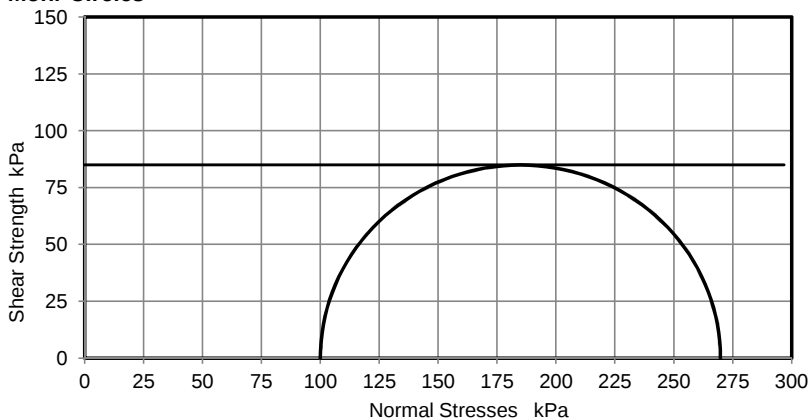
Rate of Strain: 1.96 %/min
Cell Pressure: 100 kPa
Axial Strain at failure: 7.5 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$: 170 kPa
Undrained Shear Strength, c_u : 85 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure: Brittle
Membrane thickness: 0.23 mm

Depth Top [m]: 5.00
Depth Base [m]: Not Given
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

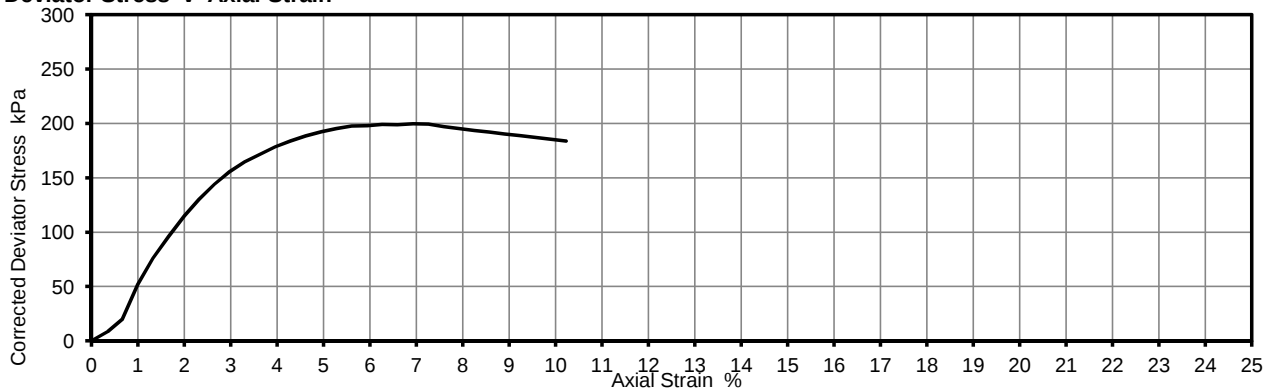
Test Result

Laboratory Reference: 928772
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Brown CLAY

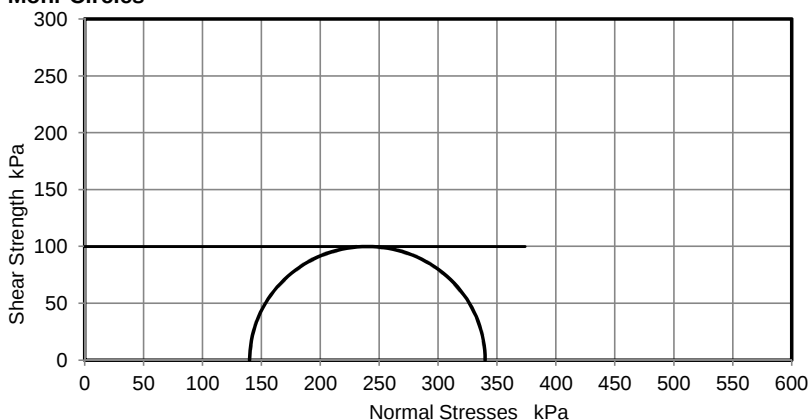
Test Number	1
Length	195.38 mm
Diameter	101.40 mm
Bulk Density	2.03 Mg/m ³
Moisture Content	31 %
Dry Density	1.55 Mg/m ³
Membrane Correction	0.44 kPa

Rate of Strain	2.00 %/min
Cell Pressure	140 kPa
Axial Strain at failure	6.9 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	200 kPa
Undrained Shear Strength, c_u	100 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.26 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

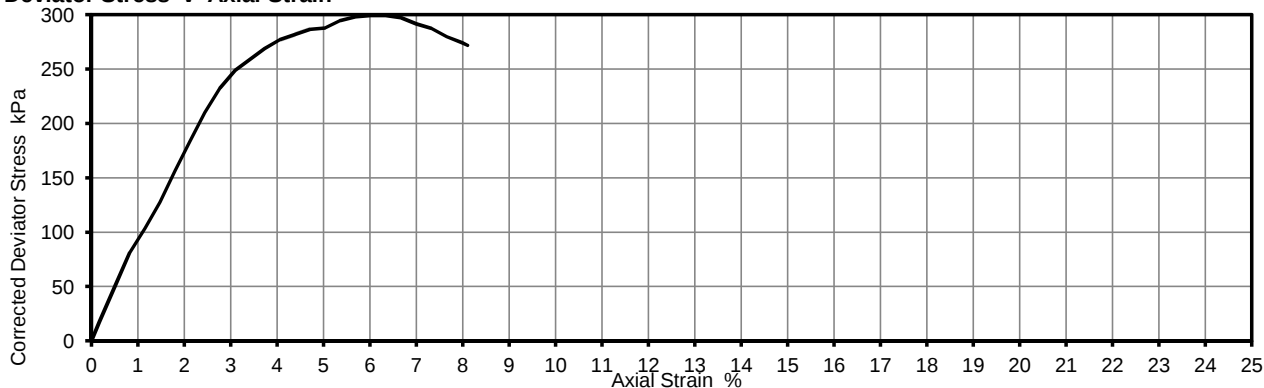
Laboratory Reference: 928773
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 13.00
Depth Base [m]: Not Given
Sample Type: U

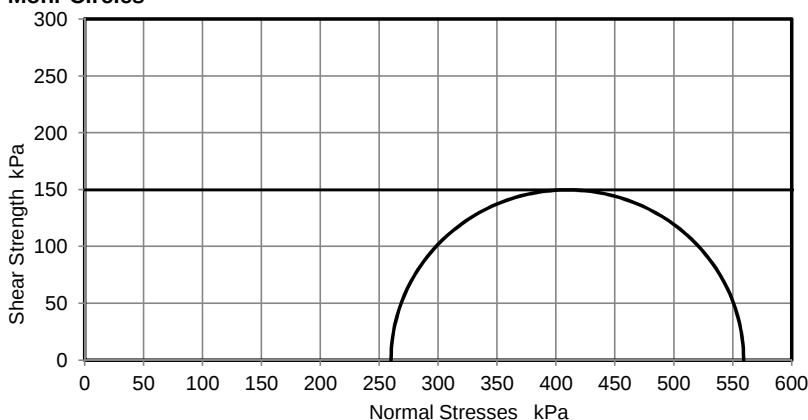
Test Number	1
Length	200.32 mm
Diameter	103.46 mm
Bulk Density	2.01 Mg/m ³
Moisture Content	32 %
Dry Density	1.52 Mg/m ³
Membrane Correction	0.33 kPa

Rate of Strain	2.00 %/min
Cell Pressure	260 kPa
Axial Strain at failure	6.3 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	299 kPa
Undrained Shear Strength, c_u	150 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.21 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

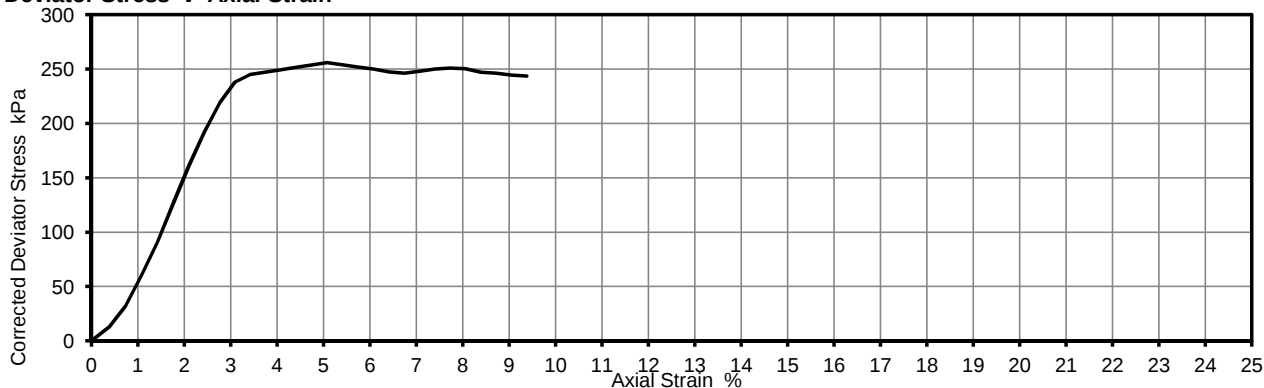
Laboratory Reference: 928774
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Brown CLAY

Test Number	1
Length	198.27 mm
Diameter	103.62 mm
Bulk Density	1.97 Mg/m ³
Moisture Content	28 %
Dry Density	1.54 Mg/m ³
Membrane Correction	0.30 kPa

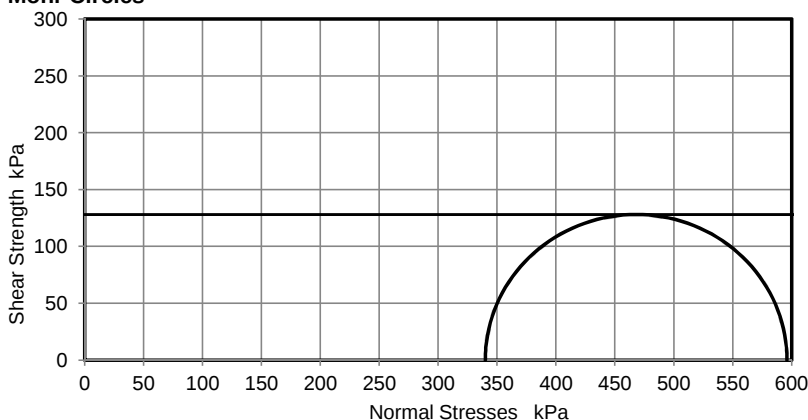
Rate of Strain	2.00 %/min
Cell Pressure	340 kPa
Axial Strain at failure	5.1 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	256 kPa
Undrained Shear Strength, c_u	128 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.22 mm

Depth Top [m]: 17.00
Depth Base [m]: Not Given
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 14/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

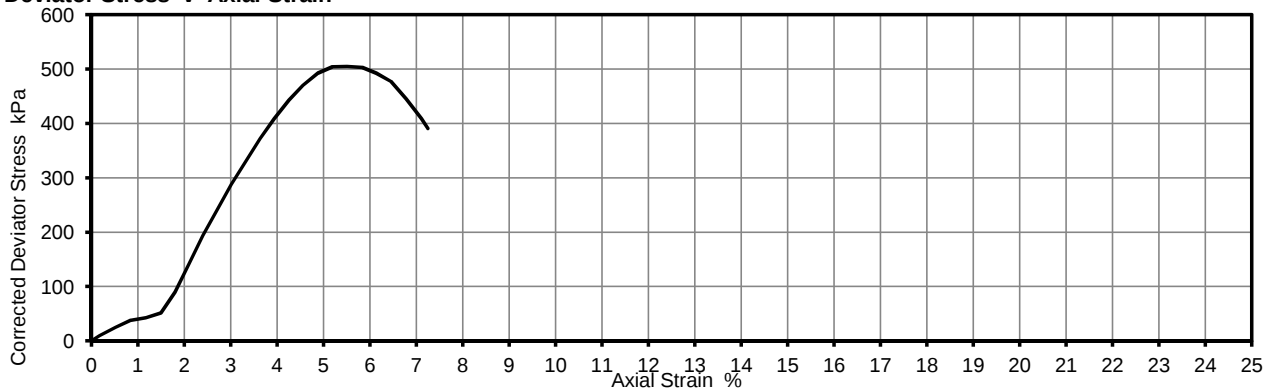
Laboratory Reference: 928775
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Test Number	1
Length	207.63 mm
Diameter	103.43 mm
Bulk Density	2.01 Mg/m ³
Moisture Content	24 %
Dry Density	1.62 Mg/m ³
Membrane Correction	0.30 kPa

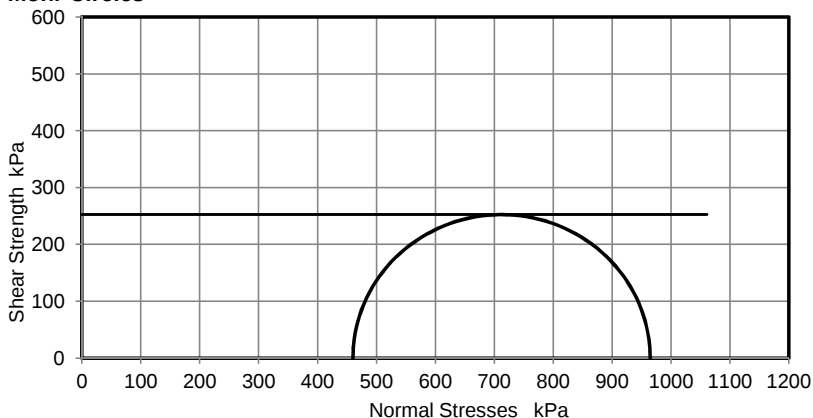
Rate of Strain	1.93 %/min
Cell Pressure	460 kPa
Axial Strain at failure	5.5 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	505 kPa
Undrained Shear Strength, c_u	252 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.21 mm

Depth Top [m]: 23.00
Depth Base [m]: Not Given
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 15/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

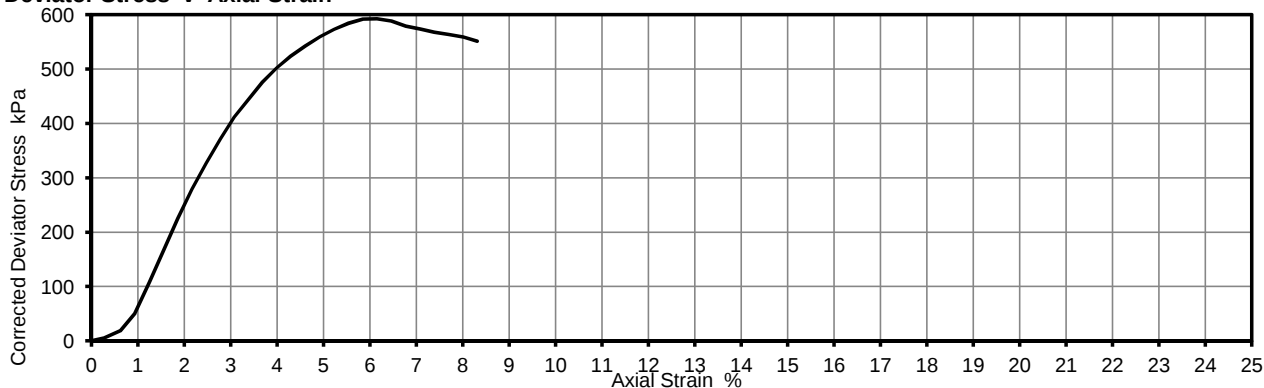
Laboratory Reference: 928776
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 27.00
Depth Base [m]: Not Given
Sample Type: U

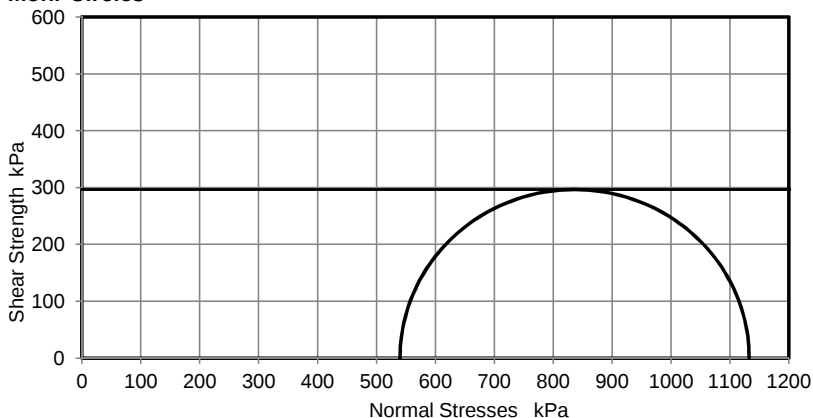
Test Number	1
Length	214.55 mm
Diameter	104.50 mm
Bulk Density	1.98 Mg/m ³
Moisture Content	24 %
Dry Density	1.59 Mg/m ³
Membrane Correction	0.40 kPa

Rate of Strain	1.86 %/min
Cell Pressure	540 kPa
Axial Strain at failure	6.2 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	593 kPa
Undrained Shear Strength, c_u	296 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.26 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

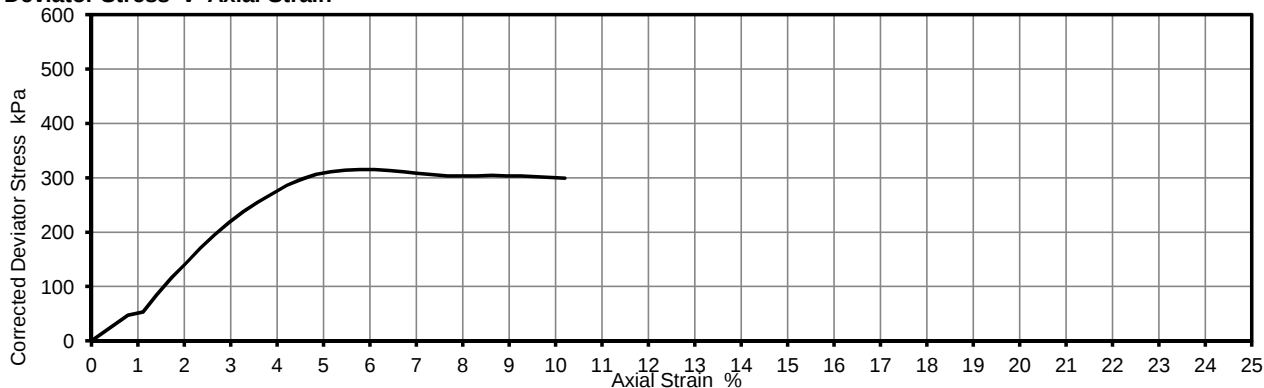
Laboratory Reference: 928777
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Dark brown CLAY

Depth Top [m]: 10.00
Depth Base [m]: Not Given
Sample Type: U

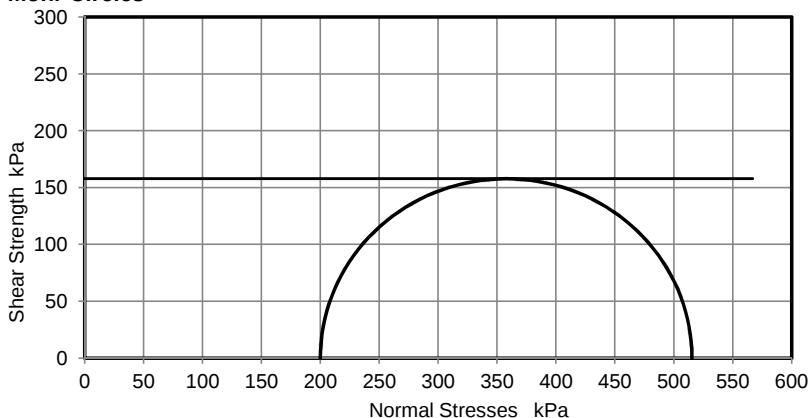
Test Number	1
Length	208.69 mm
Diameter	104.42 mm
Bulk Density	1.94 Mg/m ³
Moisture Content	29 %
Dry Density	1.50 Mg/m ³
Membrane Correction	0.34 kPa

Rate of Strain	1.92 %/min
Cell Pressure	200 kPa
Axial Strain at failure	6.1 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	315 kPa
Undrained Shear Strength, c_u	158 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.22 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd



4041

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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



Environmental Science

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

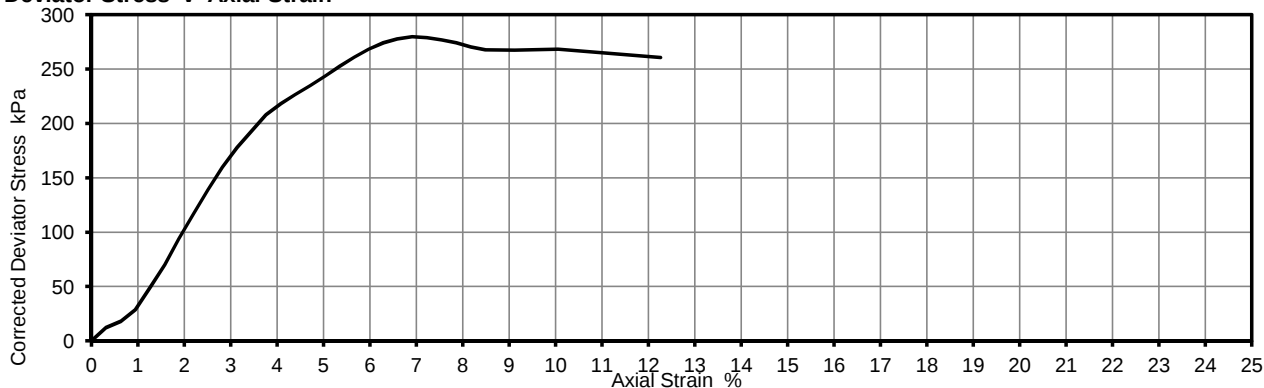
Laboratory Reference: 928778
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 13.00
Depth Base [m]: Not Given
Sample Type: U

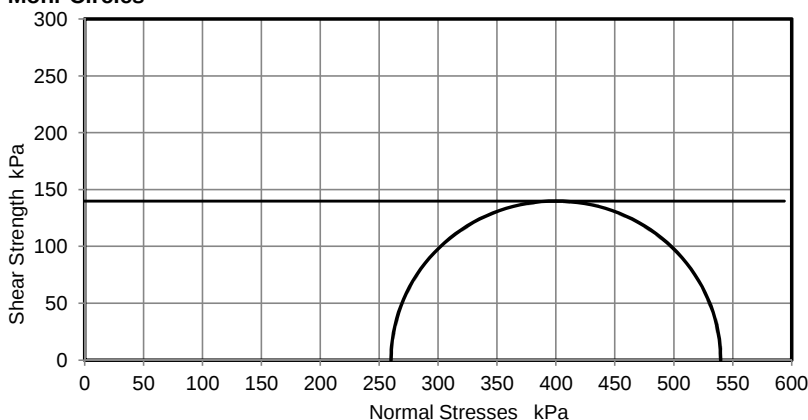
Test Number	1
Length	210.52 mm
Diameter	102.38 mm
Bulk Density	2.01 Mg/m ³
Moisture Content	26 %
Dry Density	1.59 Mg/m ³
Membrane Correction	0.37 kPa

Rate of Strain	1.90 %/min
Cell Pressure	260 kPa
Axial Strain at failure	6.9 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	280 kPa
Undrained Shear Strength, c_u	140 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.22 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

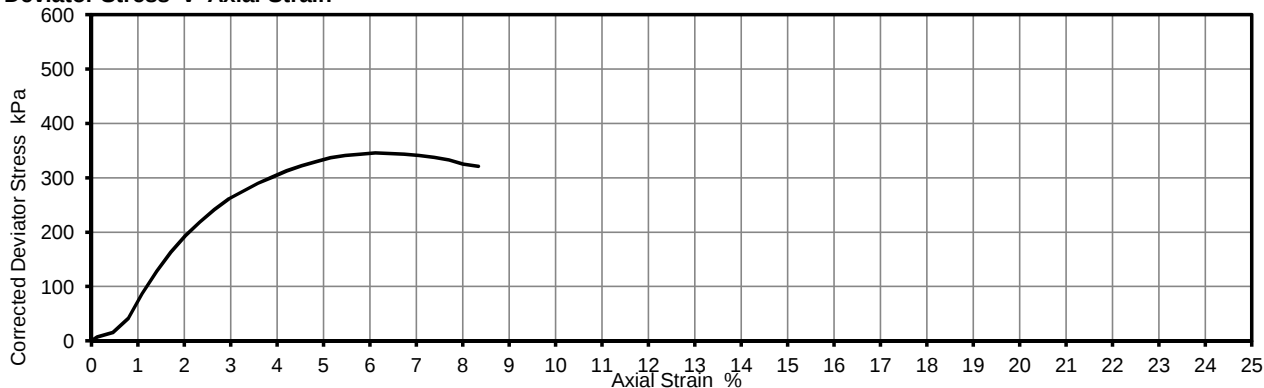
Laboratory Reference: 928779
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 16.00
Depth Base [m]: Not Given
Sample Type: U

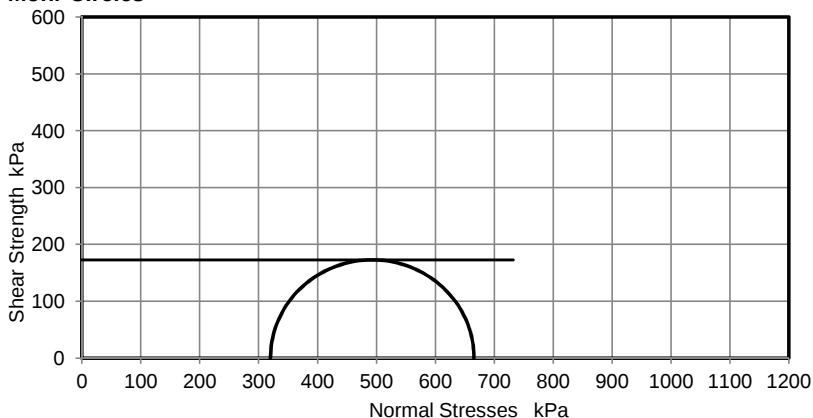
Test Number	1
Length	207.43 mm
Diameter	103.49 mm
Bulk Density	1.98 Mg/m ³
Moisture Content	28 %
Dry Density	1.55 Mg/m ³
Membrane Correction	0.39 kPa

Rate of Strain	1.93 %/min
Cell Pressure	320 kPa
Axial Strain at failure	6.1 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	346 kPa
Undrained Shear Strength, cu	173 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

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Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
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Client: Soiltechnics Limited
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Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

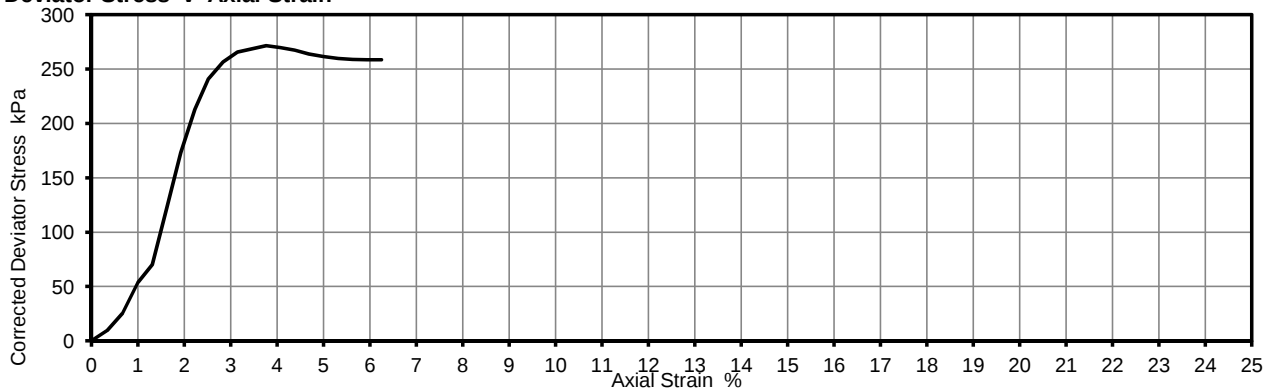
Laboratory Reference: 928780
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 20.00
Depth Base [m]: Not Given
Sample Type: U

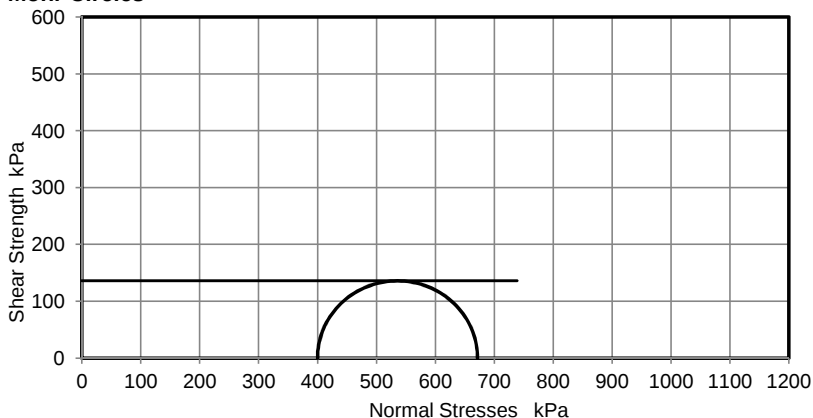
Test Number	1
Length	214.50 mm
Diameter	104.39 mm
Bulk Density	1.94 Mg/m ³
Moisture Content	28 %
Dry Density	1.52 Mg/m ³
Membrane Correction	0.27 kPa

Rate of Strain	1.86 %/min
Cell Pressure	400 kPa
Axial Strain at failure	3.8 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	272 kPa
Undrained Shear Strength, c_u	136 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.27 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

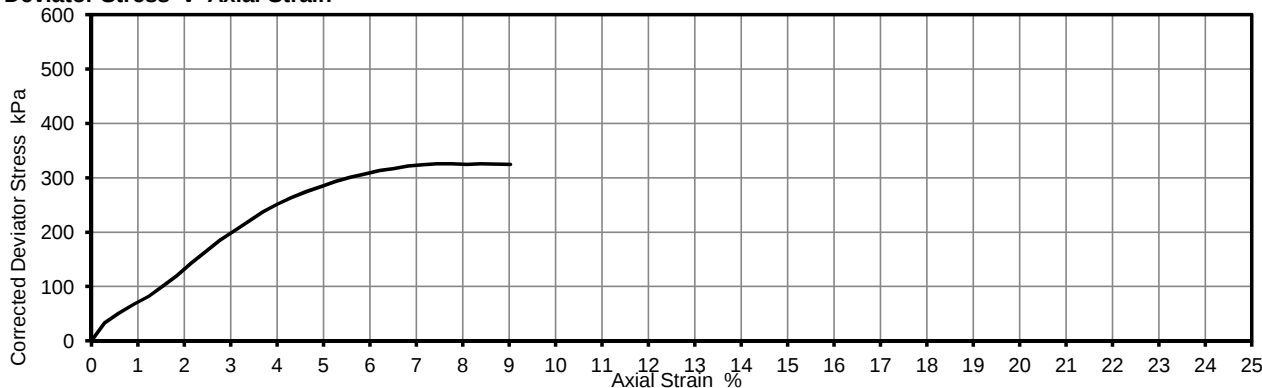
Laboratory Reference: 928781
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 26.00
Depth Base [m]: Not Given
Sample Type: U

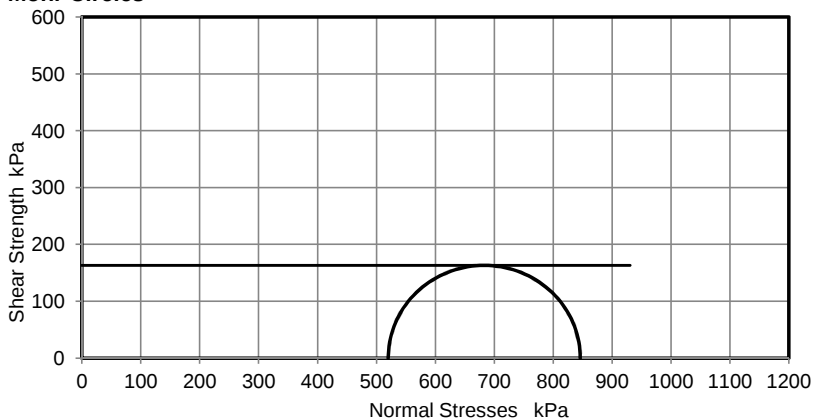
Test Number	1
Length	209.29 mm
Diameter	103.37 mm
Bulk Density	1.86 Mg/m ³
Moisture Content	26 %
Dry Density	1.48 Mg/m ³
Membrane Correction	0.40 kPa

Rate of Strain	1.91 %/min
Cell Pressure	520 kPa
Axial Strain at failure	7.4 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	326 kPa
Undrained Shear Strength, c_u	163 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.23 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 12/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

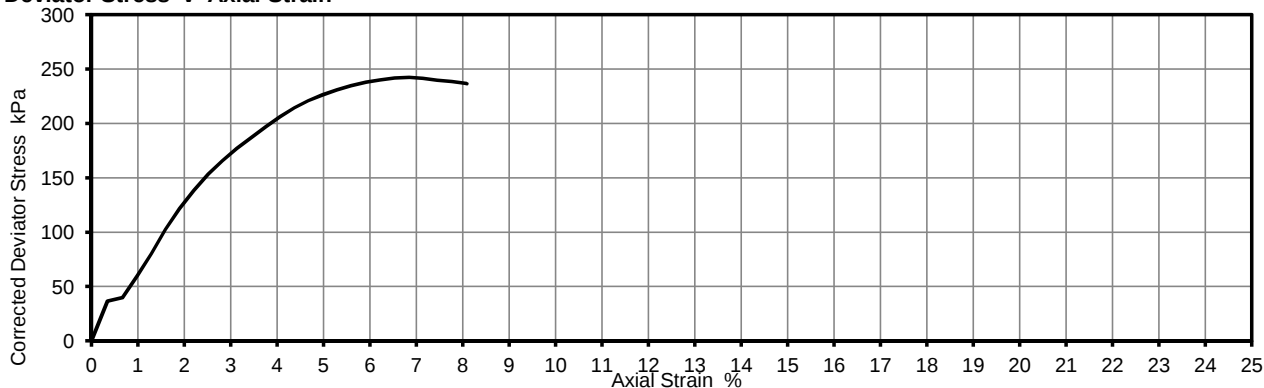
Laboratory Reference: 928782
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Test Number	1
Length	213.56 mm
Diameter	101.56 mm
Bulk Density	2.04 Mg/m ³
Moisture Content	28 %
Dry Density	1.60 Mg/m ³
Membrane Correction	0.41 kPa

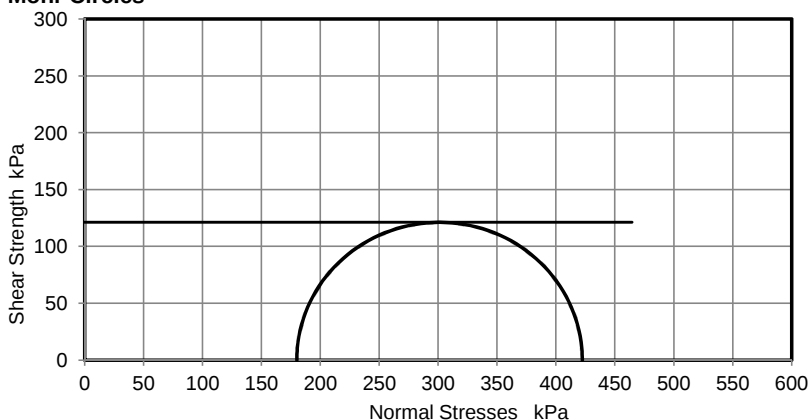
Rate of Strain	1.87 %/min
Cell Pressure	180 kPa
Axial Strain at failure	6.8 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	242 kPa
Undrained Shear Strength, c_u	121 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.24 mm

Depth Top [m]: 9.00
Depth Base [m]: 9.45
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

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Client: Soiltechnics Limited
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NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

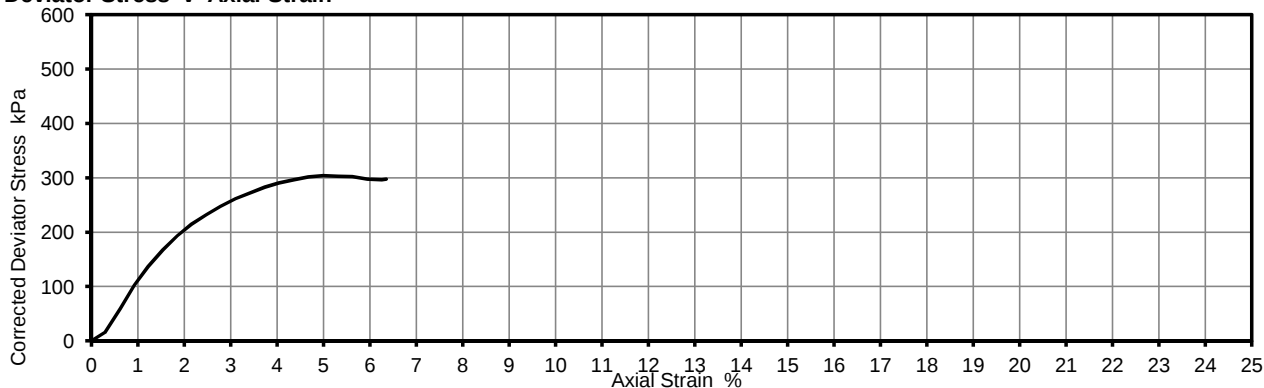
Laboratory Reference: 928783
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 14.00
Depth Base [m]: 14.45
Sample Type: U

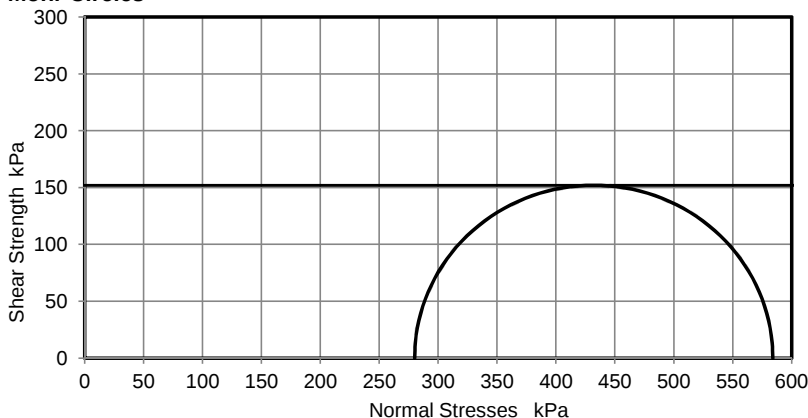
Test Number	1
Length	208.56 mm
Diameter	100.46 mm
Bulk Density	2.08 Mg/m ³
Moisture Content	29 %
Dry Density	1.62 Mg/m ³
Membrane Correction	0.34 kPa

Rate of Strain	1.92 %/min
Cell Pressure	280 kPa
Axial Strain at failure	5.0 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	304 kPa
Undrained Shear Strength, c_u	152 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

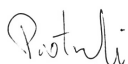
Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

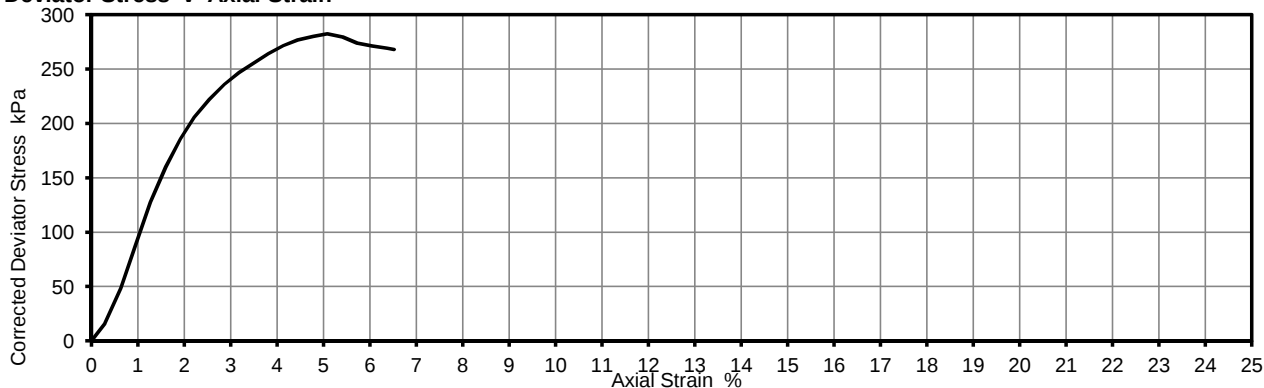
Test Result

Laboratory Reference: 928784
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Dark grey CLAY
Test Number: 1
Length: 208.51 mm
Diameter: 103.55 mm
Bulk Density: 1.98 Mg/m³
Moisture Content: 26 %
Dry Density: 1.57 Mg/m³
Membrane Correction: 0.33 kPa

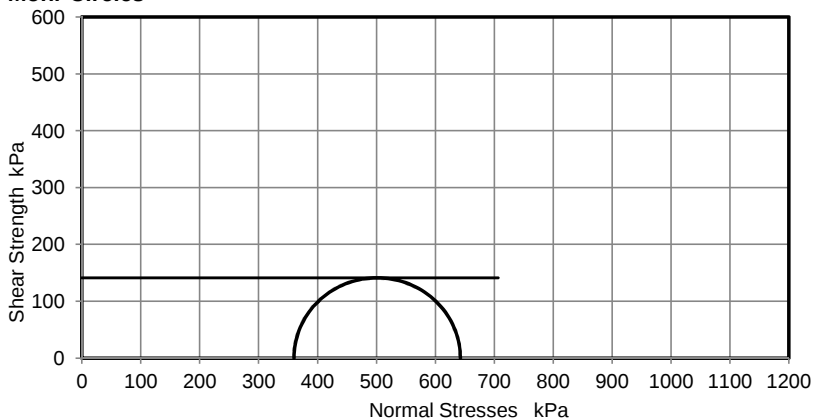
Rate of Strain: 1.92 %/min
Cell Pressure: 360 kPa
Axial Strain at failure: 5.1 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$: 282 kPa
Undrained Shear Strength, c_u : 141 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure: Brittle
Membrane thickness: 0.24 mm

Depth Top [m]: 18.00
Depth Base [m]: 18.45
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

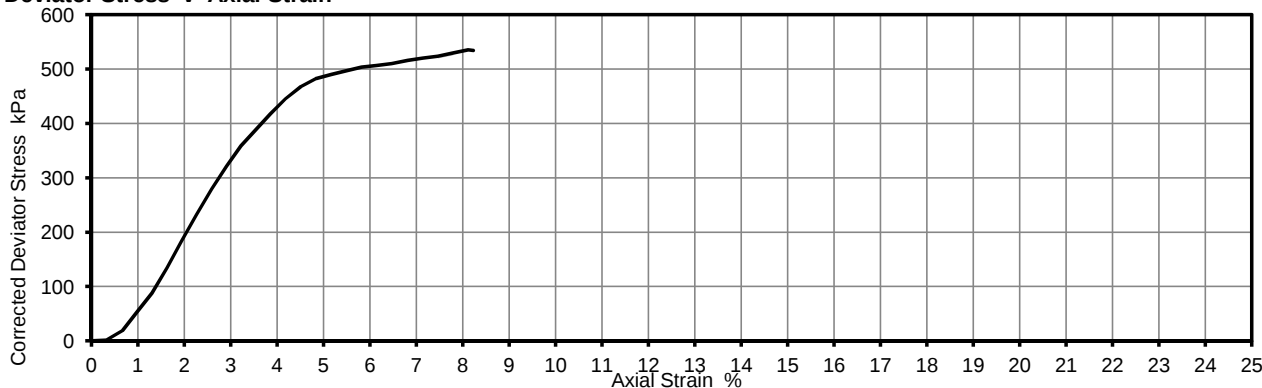
Laboratory Reference: 928785
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Depth Top [m]: 24.00
Depth Base [m]: 24.45
Sample Type: U

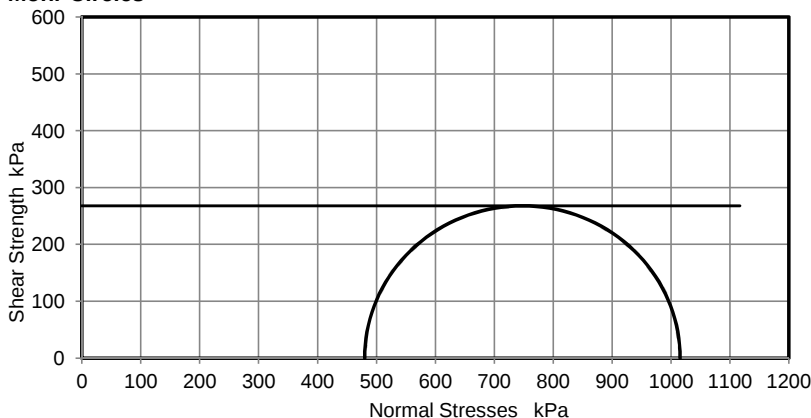
Test Number	1
Length	195.39 mm
Diameter	102.67 mm
Bulk Density	2.04 Mg/m ³
Moisture Content	25 %
Dry Density	1.63 Mg/m ³
Membrane Correction	0.47 kPa

Rate of Strain	2.00 %/min
Cell Pressure	480 kPa
Axial Strain at failure	8.1 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	536 kPa
Undrained Shear Strength, c_u	268 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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

Client: Soiltechnics Limited
Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY
Contact: Georgina Everest
Site Name: Melliss Avenue, Richmond
Site Address: Not Given

Client Reference: STQ4343
Job Number: 18-79576
Date Sampled: 13/03/2018
Date Received: 19/03/2018
Date Tested: 26/03/2018
Sampled By: Not Given

Test Result

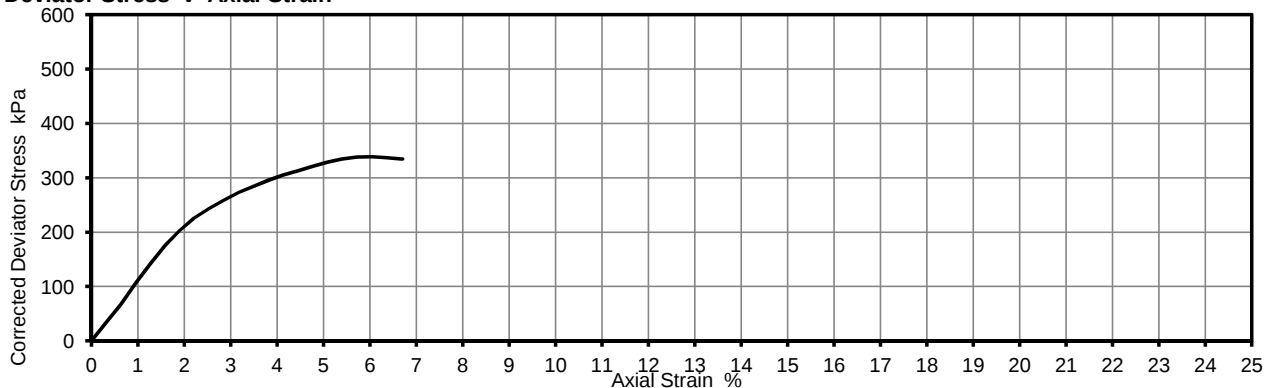
Laboratory Reference: 928786
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Dark grey CLAY

Test Number	1
Length	207.51 mm
Diameter	103.51 mm
Bulk Density	2.01 Mg/m3
Moisture Content	26 %
Dry Density	1.60 Mg/m3
Membrane Correction	0.40 kPa

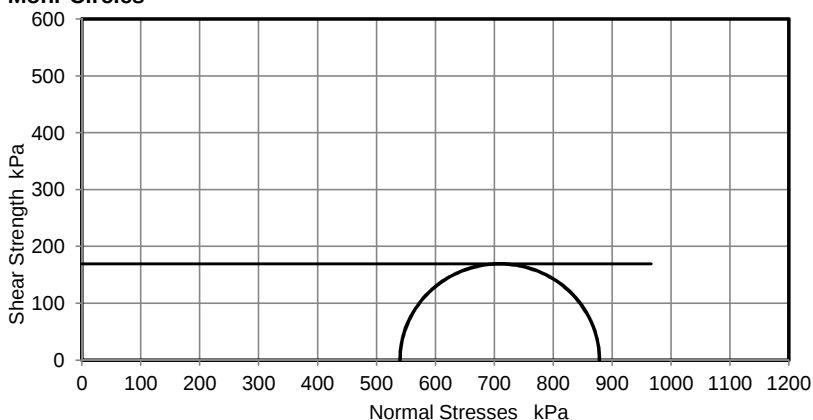
Rate of Strain	1.93 %/min
Cell Pressure	540 kPa
Axial Strain at failure	6.0 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	339 kPa
Undrained Shear Strength, c_u	169 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane thickness	0.26 mm

Depth Top [m]: 27.00
Depth Base [m]: 27.45
Sample Type: U

Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section



Date Reported: 04/04/2018

Signed:

Darren Berrill
Geotechnical General
Manager



for and on behalf of i2 Analytical Ltd



Final Report

Report No.: 18-07732-1

Initial Date of Issue: 26-Mar-2018

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Lauren Wenham
Tia Wray

Project STQ4343

Quotation No.: **Date Received:** 20-Mar-2018

Order No.: POR002636 **Date Instructed:** 20-Mar-2018

No. of Samples: 27

Turnaround (Wkdays): 5 **Results Due:** 26-Mar-2018

Date Approved: 26-Mar-2018

Approved By:

Details: Martin Dyer, Laboratory Manager

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594735	594742
Order No.: POR002636	Client Sample Ref.:				BH04	BH07
	Client Sample ID.:				BH042.601-018	BH070.801-033
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.60	0.80
	Bottom Depth (m):				2.80	1.10
	Date Sampled:				12-Mar-2018	12-Mar-2018
Determinand	Accred.	SOP	Units	LOD		
pH	U	1010		N/A	7.4	7.9
Nitrate	U	1220	mg/l	0.50	34	4.7
Sulphate	U	1220	mg/l	1.0	6.7	2.0
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Complex)	U	1300	mg/l	0.050	< 0.050	< 0.050
Sulphide	U	1325	mg/l	0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Boron (Dissolved)	U	1450	µg/l	20	340	36
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080	0.13
Chromium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	2.7	4.2
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	< 1.0	2.1
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0	7.7
Selenium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Vanadium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	3.0	13
Chromium (Hexavalent)	U	1490	µg/l	20	[B] < 20	[B] < 20
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594735	594742
Order No.: POR002636	Client Sample Ref.:				BH04	BH07
	Client Sample ID.:				BH042.601-018	BH070.801-033
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.60	0.80
	Bottom Depth (m):				2.80	1.10
	Date Sampled:				12-Mar-2018	12-Mar-2018
Determinand	Accred.	SOP	Units	LOD		
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0	< 1.0
Bromomethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Chloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Trichloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0	< 1.0
Dibromomethane	U	1760	µg/l	10	< 10	< 10
Bromodichloromethane	U	1760	µg/l	5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10	< 10
1,2-Dibromoethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Chlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0	< 1.0

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594735	594742
Order No.: POR002636	Client Sample Ref.:				BH04	BH07
	Client Sample ID.:				BH042.601-018	BH070.801-033
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.60	0.80
	Bottom Depth (m):				2.80	1.10
	Date Sampled:				12-Mar-2018	12-Mar-2018
Determinand	Accred.	SOP	Units	LOD		
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2 Trifluoroethane	N	1760	µg/l	2.0	< 2.0	< 2.0
Bromoform	N	1760	µg/l	10	< 10	< 10
Carbon Tetrachloride	N	1760	µg/l	10	< 10	< 10
Chloroform	N	1760	µg/l	10	< 10	< 10
2,2-Dichloropropane	N	1760	µg/l	10	< 10	< 10
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594735	594742
Order No.: POR002636	Client Sample Ref.:				BH04	BH07
	Client Sample ID.:				BH042.601-018	BH070.801-033
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.60	0.80
	Bottom Depth (m):				2.80	1.10
	Date Sampled:				12-Mar-2018	12-Mar-2018
Determinand	Accred.	SOP	Units	LOD		
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594735	594742
Order No.: POR002636	Client Sample Ref.:				BH04	BH07
	Client Sample ID.:				BH042.601-018	BH070.801-033
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.60	0.80
	Bottom Depth (m):				2.80	1.10
	Date Sampled:				12-Mar-2018	12-Mar-2018
Determinand	Accred.	SOP	Units	LOD		
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594726	594727	594728	594729	594730	594731	594732	594733	594734
Order No.: POR002636	Client Sample Ref.:				BH01	BH01	BH01	BH01	BH02	BH03	BH03	BH03	BH04
	Client Sample ID.:				BH010.501-006	BH010.801-007	BH011.001-048	BH014.701-055	BH020.301-008	BH030.501-088	BH0316.001-111	BH033.001-093	BH040.101-014
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.50	0.80	1.00	4.70	0.30	0.50	16.00	3.00	0.10
	Bottom Depth (m):									1.00			
	Date Sampled:				14-Mar-2018	14-Mar-2018	14-Mar-2018	14-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:				COVENTRY				COVENTRY	COVENTRY			COVENTRY
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-				-	-			-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected				No Asbestos Detected	No Asbestos Detected			No Asbestos Detected
Moisture	N	2030	%	0.020		9.5	13	22			0.92	20	12
Soil Colour	N	2040		N/A			Brown	Brown			Brown	Brown	
Other Material	N	2040		N/A			Stones	NONE			NONE	NONE	
Soil Texture	N	2040		N/A			Sand	Clay			Sand	Clay	
pH	M	2010		N/A		9.5	10.0	8.2			9.0	8.6	9.4
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40		1.1							0.71
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		0.98	0.76	0.062			0.019	0.053	0.21
Total Sulphur	M	2175	%	0.010			0.17	0.081			0.015	0.30	
Nitrate (Water Soluble)	N	2220	g/l	0.010		< 0.010							< 0.010
Cyanide (Complex)	M	2300	mg/kg	0.50		< 0.50							< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50		< 0.50							< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50		< 0.50							< 0.50
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50		97							7.2
Sulphate (Acid Soluble)	M	2430	%	0.010			0.33	0.017			< 0.010	0.034	
Arsenic	M	2450	mg/kg	1.0		18							25
Beryllium	U	2450	mg/kg	1.0		1.2							< 1.0
Cadmium	M	2450	mg/kg	0.10		0.28							0.42
Chromium	M	2450	mg/kg	1.0		30							26
Copper	M	2450	mg/kg	0.50		41							1000
Mercury	M	2450	mg/kg	0.10		0.45							0.62
Nickel	M	2450	mg/kg	0.50		27							36
Lead	M	2450	mg/kg	0.50		110							170
Selenium	M	2450	mg/kg	0.20		< 0.20							< 0.20
Vanadium	U	2450	mg/kg	5.0		43							38
Zinc	M	2450	mg/kg	0.50		130							240
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50							< 0.50
Organic Matter	M	2625	%	0.40		2.2							4.7
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0		< 1.0							< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0		< 1.0							< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0		< 1.0							< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0		< 1.0							< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0		3.9							< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0		16							< 1.0

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:					18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:					594726	594727	594728	594729	594730	594731	594732	594733	594734	594734
Order No.: POR002636	Client Sample Ref.:					BH01	BH01	BH01	BH01	BH02	BH03	BH03	BH03	BH03	BH04
	Client Sample ID.:					BH010.501-006	BH010.801-007	BH011.001-048	BH014.701-055	BH020.301-008	BH030.501-088	BH0316.001-111	BH033.001-093	BH040.101-014	
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.50	0.80	1.00	4.70	0.30	0.50	16.00	3.00	0.10	
	Bottom Depth (m):										1.00				
	Date Sampled:					14-Mar-2018	14-Mar-2018	14-Mar-2018	14-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:					COVENTRY				COVENTRY	COVENTRY				COVENTRY
Determinand	Accred.	SOP	Units	LOD											
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0			100								36
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0								< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0			120								36
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0			< 1.0								< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0			< 1.0								< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0			< 1.0								< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0			< 1.0								< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0			10								< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0			83								14
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0			480								150
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0								< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0			570								160
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0			700								200
Dibutyl Tin	N	2730	µg/kg	10											
Tetrabutyl Tin	N	2730	µg/kg	10											
Tributyl Tin	N	2730	µg/kg	10											
Triphenyl Tin	N	2730	µg/kg	10											
Tetraethyl Lead	N	2760	µg/kg	10											
Tetramethyl Lead	N	2760	µg/kg	10											
Dichlorodifluoromethane	N	2760	µg/kg	1.0			< 1.0								< 1.0
Chloromethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
Vinyl Chloride	M	2760	µg/kg	1.0			< 1.0								< 1.0
Bromomethane	M	2760	µg/kg	20			< 20								< 20
Chloroethane	N	2760	µg/kg	2.0			< 2.0								< 2.0
Trichlorofluoromethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
1,1-Dichloroethene	M	2760	µg/kg	1.0			< 1.0								< 1.0
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0			< 1.0								< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0			< 1.0								< 1.0
Bromochloromethane	N	2760	µg/kg	5.0			< 5.0								< 5.0
Trichloromethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0			< 1.0								< 1.0
1,1-Dichloropropene	N	2760	µg/kg	1.0			< 1.0								< 1.0
Benzene	M	2760	µg/kg	1.0			< 1.0								< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0			< 2.0								< 2.0

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594726	594727	594728	594729	594730	594731	594732	594733
Order No.: POR002636	Client Sample Ref.:		BH01	BH01	BH01	BH01	BH02	BH03	BH03	BH03
	Client Sample ID.:		BH010.501-006	BH010.801-007	BH011.001-048	BH014.701-055	BH020.301-008	BH030.501-088	BH0316.001-111	BH033.001-093
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.50	0.80	1.00	4.70	0.30	0.50	16.00	3.00
	Bottom Depth (m):						1.00			
	Date Sampled:		14-Mar-2018	14-Mar-2018	14-Mar-2018	14-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:		COVENTRY				COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD						
Trichloroethene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0		< 1.0				< 1.0
Dibromomethane	M	2760	µg/kg	1.0		< 1.0				< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0		< 5.0				< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10		< 10				< 10
Toluene	M	2760	µg/kg	1.0		< 1.0				< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10		< 10				< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10		< 10				< 10
Tetrachloroethene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,3-Dichloropropane	N	2760	µg/kg	2.0		< 2.0				< 2.0
Dibromochloromethane	N	2760	µg/kg	10		< 10				< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0		< 5.0				< 5.0
Chlorobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0		< 2.0				< 2.0
Ethylbenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
m & p-Xylene	M	2760	µg/kg	1.0		< 1.0				< 1.0
o-Xylene	M	2760	µg/kg	1.0		< 1.0				< 1.0
Styrene	M	2760	µg/kg	1.0		< 1.0				< 1.0
Tribromomethane	N	2760	µg/kg	1.0		< 1.0				< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
Bromobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50		< 50				< 50
N-Propylbenzene	N	2760	µg/kg	1.0		< 1.0				< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
4-Chlorotoluene	N	2760	µg/kg	1.0		< 1.0				< 1.0
Tert-Butylbenzene	N	2760	µg/kg	1.0		< 1.0				< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
Sec-Butylbenzene	N	2760	µg/kg	1.0		< 1.0				< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
4-Isopropyltoluene	N	2760	µg/kg	1.0		< 1.0				< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
N-Butylbenzene	N	2760	µg/kg	1.0		< 1.0				< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	50		< 50				< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0		< 1.0				< 1.0

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594726	594727	594728	594729	594730	594731	594732	594733	594734	594734
Order No.: POR002636	Client Sample Ref.:				BH01	BH01	BH01	BH01	BH02	BH03	BH03	BH03	BH03	BH04
	Client Sample ID.:				BH010.501-006	BH010.801-007	BH011.001-048	BH014.701-055	BH020.301-008	BH030.501-088	BH0316.001-111	BH033.001-093	BH040.101-014	BH040.101-014
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.50	0.80	1.00	4.70	0.30	0.50	16.00	3.00	0.10	0.10
	Bottom Depth (m):									1.00				
	Date Sampled:				14-Mar-2018	14-Mar-2018	14-Mar-2018	14-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:				COVENTRY				COVENTRY	COVENTRY				COVENTRY
Determinand	Accred.	SOP	Units	LOD										
Hexachlorobutadiene	N	2760	µg/kg	1.0		< 1.0								< 1.0
1,2,3-Trichlorobenzene	N	2760	µg/kg	2.0		< 2.0								< 2.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0		< 1.0								< 1.0
N-Nitrosodimethylamine	N	2790	mg/kg	0.050		< 0.050								< 0.050
Phenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Chlorophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050		< 0.050								< 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Methylphenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050		< 0.050								< 0.050
Hexachloroethane	N	2790	mg/kg	0.050		< 0.050								< 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050		< 0.050								< 0.050
4-Methylphenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
Nitrobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050
Isophorone	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Nitrophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050		< 0.050								< 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050
Naphthalene	N	2790	mg/kg	0.050		0.11								< 0.050
4-Chloroaniline	N	2790	mg/kg	0.050		< 0.050								< 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050		< 0.050								< 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050		0.088								< 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050		< 0.050								< 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050		< 0.050								< 0.050
2-Nitroaniline	N	2790	mg/kg	0.050		< 0.050								< 0.050
Acenaphthylene	N	2790	mg/kg	0.050		0.84								0.29
Dimethylphthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050		< 0.050								< 0.050
Acenaphthene	N	2790	mg/kg	0.050		0.49								< 0.050

Results - Soil

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594726	594727	594728	594729	594730	594731	594732	594733	594734	594735	594736
Order No.: POR002636	Client Sample Ref.:				BH01	BH01	BH01	BH01	BH02	BH03	BH03	BH03	BH03	BH04	BH04
	Client Sample ID.:				BH010.501-006	BH010.801-007	BH011.001-048	BH014.701-055	BH020.301-008	BH030.501-088	BH0316.001-111	BH033.001-093	BH040.101-014	BH040.101-014	BH040.101-014
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.50	0.80	1.00	4.70	0.30	0.50	16.00	3.00	0.10	0.10	0.10
	Bottom Depth (m):									1.00					
	Date Sampled:				14-Mar-2018	14-Mar-2018	14-Mar-2018	14-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:				COVENTRY				COVENTRY	COVENTRY				COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD											
3-Nitroaniline	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Dibenzofuran	N	2790	mg/kg	0.050		0.22								< 0.050	< 0.050
4-Chlorophenylphenylether	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
2,4-Dinitrotoluene	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Fluorene	N	2790	mg/kg	0.050		0.48								< 0.050	< 0.050
Diethyl Phthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
4-Nitroaniline	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Azobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Hexachlorobenzene	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Pentachlorophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Phenanthrene	N	2790	mg/kg	0.050		4.0								0.84	0.84
Anthracene	N	2790	mg/kg	0.050		1.7								0.49	0.49
Carbazole	N	2790	mg/kg	0.050		0.54								< 0.050	< 0.050
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Fluoranthene	N	2790	mg/kg	0.050		8.8								3.6	3.6
Pyrene	N	2790	mg/kg	0.050		8.5								4.0	4.0
Butylbenzyl Phthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Benzo[a]anthracene	N	2790	mg/kg	0.050		5.9								3.1	3.1
Chrysene	N	2790	mg/kg	0.050		5.8								2.7	2.7
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Benzo[b]fluoranthene	N	2790	mg/kg	0.050		9.1								5.2	5.2
Benzo[k]fluoranthene	N	2790	mg/kg	0.050		3.4								1.9	1.9
Benzo[a]pyrene	N	2790	mg/kg	0.050		7.4								3.8	3.8
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050		5.8								2.9	2.9
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050		1.9								1.1	1.1
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050		6.8								3.3	3.3
4-Nitrophenol	N	2790	mg/kg	0.050		< 0.050								< 0.050	< 0.050
Total Phenols	M	2920	mg/kg	0.30		< 0.30								< 0.30	< 0.30

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594736	594737	594738	594739	594740	594741	594743	594744	594745
Order No.: POR002636	Client Sample Ref.:				BH05	BH05	BH06	BH06	BH06	BH07	CS01	CS02	CS03
	Client Sample ID.:				BH050.301-023	BH050.501-024	BH060.301-129	BH064.001-134	BH069.451-141	BH070.201-031	CS010.001-001	CS020.001-002	CS030.001-003
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.30	0.50	0.30	4.00	9.45	0.20	0.00	0.00	0.00
	Bottom Depth (m):					1.00	0.80	4.45	9.55		0.25	0.22	0.24
	Date Sampled:				12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:				COVENTRY		COVENTRY			COVENTRY			
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-		-			-			
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected		No Asbestos Detected			No Asbestos Detected			
Moisture	N	2030	%	0.020	13	12		9.4	23	7.3	2.9	3.3	2.3
Soil Colour	N	2040		N/A		Brown		Brown	Brown				
Other Material	N	2040		N/A		Stones		Stones	NONE				
Soil Texture	N	2040		N/A		Sand		Sand	Clay				
pH	M	2010		N/A	8.2	9.1		8.6	8.4	8.7	11.9	12.0	11.7
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.3					0.44	0.83	1.1	1.5
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.011	0.19		< 0.010	0.12	0.012	0.22	0.31	0.70
Total Sulphur	M	2175	%	0.010		0.056		0.035	0.68				
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010					< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50					< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50					< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50					< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50	16					6.1	6.1	3.0	5.1
Sulphate (Acid Soluble)	M	2430	%	0.010		0.088		< 0.010	0.032				
Arsenic	M	2450	mg/kg	1.0	18					28	20	20	25
Beryllium	U	2450	mg/kg	1.0	1.1					< 1.0	< 1.0	< 1.0	1.0
Cadmium	M	2450	mg/kg	0.10	0.38					0.60	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	26					28	26	29	31
Copper	M	2450	mg/kg	0.50	110					160	18	17	22
Mercury	M	2450	mg/kg	0.10	3.4					0.31	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	28					27	28	28	32
Lead	M	2450	mg/kg	0.50	210					160	16	12	15
Selenium	M	2450	mg/kg	0.20	< 0.20					< 0.20	< 0.20	< 0.20	< 0.20
Vanadium	U	2450	mg/kg	5.0	38					29	48	46	56
Zinc	M	2450	mg/kg	0.50	240					210	31	28	29
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50					< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	3.8					2.1	< 0.40	< 0.40	< 0.40
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0					< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:					18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:					594736	594737	594738	594739	594740	594741	594743	594744	594745	
Order No.: POR002636	Client Sample Ref.:					BH05	BH05	BH06	BH06	BH06	BH07	CS01	CS02	CS03	
	Client Sample ID.:					BH050.301-023	BH050.501-024	BH060.301-129	BH064.001-134	BH069.451-141	BH070.201-031	CS010.001-001	CS020.001-002	CS030.001-003	
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):					0.30	0.50	0.30	4.00	9.45	0.20	0.00	0.00	0.00	
	Bottom Depth (m):						1.00	0.80	4.45	9.55		0.25	0.22	0.24	
	Date Sampled:					12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	
	Asbestos Lab:					COVENTRY		COVENTRY			COVENTRY				
Determinand	Accred.	SOP	Units	LOD											
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	68						28	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	68						28	[C] < 5.0	[C] < 5.0	[C] < 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	1.6						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	4.3						1.6	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	92						56	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	98						58	[C] < 5.0	[C] < 5.0	[C] < 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	170						86	[C] < 10	[C] < 10	[C] < 10	
Dibutyl Tin	N	2730	µg/kg	10											< 10
Tetrabutyl Tin	N	2730	µg/kg	10											< 10
Tributyl Tin	N	2730	µg/kg	10											< 10
Triphenyl Tin	N	2730	µg/kg	10											< 10
Tetraethyl Lead	N	2760	µg/kg	10											< 10
Tetramethyl Lead	N	2760	µg/kg	10											< 10
Dichlorodifluoromethane	N	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Chloromethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Bromomethane	M	2760	µg/kg	20	< 20						< 20	[C] < 20	[C] < 20	[C] < 20	
Chloroethane	N	2760	µg/kg	2.0	< 2.0						< 2.0	[C] < 2.0	[C] < 2.0	[C] < 2.0	
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Bromochloromethane	N	2760	µg/kg	5.0	< 5.0						< 5.0	[C] < 5.0	[C] < 5.0	[C] < 5.0	
Trichloromethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
1,1-Dichloropropene	N	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
Benzene	M	2760	µg/kg	1.0	< 1.0						< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0						< 2.0	[C] < 2.0	[C] < 2.0	[C] < 2.0	

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594736	594737	594738	594739	594740	594741	594743	594744	594745
Order No.: POR002636	Client Sample Ref.:		BH05	BH05	BH06	BH06	BH06	BH07	CS01	CS02	CS03
	Client Sample ID.:		BH050.301-023	BH050.501-024	BH060.301-129	BH064.001-134	BH069.451-141	BH070.201-031	CS010.001-001	CS020.001-002	CS030.001-003
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.30	0.50	0.30	4.00	9.45	0.20	0.00	0.00	0.00
	Bottom Depth (m):			1.00	0.80	4.45	9.55		0.25	0.22	0.24
	Date Sampled:		12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:		COVENTRY		COVENTRY			COVENTRY			
Determinand	Accred.	SOP	Units	LOD							
Trichloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0			< 5.0	[C] < 5.0	[C] < 5.0	[C] < 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10			< 10	[C] < 10	[C] < 10	[C] < 10
Toluene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10			< 10	[C] < 10	[C] < 10	[C] < 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10			< 10	[C] < 10	[C] < 10	[C] < 10
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,3-Dichloropropane	N	2760	µg/kg	2.0	< 2.0			< 2.0	[C] < 2.0	[C] < 2.0	[C] < 2.0
Dibromochloromethane	N	2760	µg/kg	10	< 10			< 10	[C] < 10	[C] < 10	[C] < 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0			< 5.0	[C] < 5.0	[C] < 5.0	[C] < 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0			< 2.0	[C] < 2.0	[C] < 2.0	[C] < 2.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Tribromomethane	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50			< 50	[C] < 50	[C] < 50	[C] < 50
N-Propylbenzene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
4-Chlorotoluene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Tert-Butylbenzene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Sec-Butylbenzene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
4-Isopropyltoluene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
N-Butylbenzene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	50	< 50			< 50	[C] < 50	[C] < 50	[C] < 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594736	594737	594738	594739	594740	594741	594743	594744	594745
Order No.: POR002636	Client Sample Ref.:		BH05	BH05	BH06	BH06	BH06	BH07	CS01	CS02	CS03
	Client Sample ID.:		BH050.301-023	BH050.501-024	BH060.301-129	BH064.001-134	BH069.451-141	BH070.201-031	CS010.001-001	CS020.001-002	CS030.001-003
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.30	0.50	0.30	4.00	9.45	0.20	0.00	0.00	0.00
	Bottom Depth (m):			1.00	0.80	4.45	9.55		0.25	0.22	0.24
	Date Sampled:		12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:		COVENTRY		COVENTRY			COVENTRY			
Determinand	Accred.	SOP	Units	LOD							
Hexachlorobutadiene	N	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
1,2,3-Trichlorobenzene	N	2760	µg/kg	2.0	< 2.0			< 2.0	[C] < 2.0	[C] < 2.0	[C] < 2.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0			< 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Phenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Isophorone	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Naphthalene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Acenaphthylene	N	2790	mg/kg	0.050	0.092			0.13	[C] < 0.050	[C] < 0.050	[C] < 0.050
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050			< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050
Acenaphthene	N	2790	mg/kg	0.050	< 0.050			0.065	[C] < 0.050	[C] < 0.050	[C] < 0.050

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:					18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:					594736	594737	594738	594739	594740	594741	594743	594744	594745	
Order No.: POR002636	Client Sample Ref.:					BH05	BH05	BH06	BH06	BH06	BH07	CS01	CS02	CS03	
	Client Sample ID.:					BH050.301-023	BH050.501-024	BH060.301-129	BH064.001-134	BH069.451-141	BH070.201-031	CS010.001-001	CS020.001-002	CS030.001-003	
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):					0.30	0.50	0.30	4.00	9.45	0.20	0.00	0.00	0.00	
	Bottom Depth (m):						1.00	0.80	4.45	9.55		0.25	0.22	0.24	
	Date Sampled:					12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018	
	Asbestos Lab:					COVENTRY		COVENTRY			COVENTRY				
Determinand	Accred.	SOP	Units	LOD											
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Fluorene	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Azobenzene	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Phenanthrene	N	2790	mg/kg	0.050	0.78						1.0	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Anthracene	N	2790	mg/kg	0.050	0.13						0.33	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Carbazole	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Fluoranthene	N	2790	mg/kg	0.050	1.6						2.8	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Pyrene	N	2790	mg/kg	0.050	1.7						2.7	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Benzo[a]anthracene	N	2790	mg/kg	0.050	1.1						1.8	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Chrysene	N	2790	mg/kg	0.050	0.89						1.7	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	1.5						2.6	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	0.48						0.92	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Benzo[a]pyrene	N	2790	mg/kg	0.050	1.1						2.3	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	0.80						1.5	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	0.28						0.54	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	0.94						2.1	[C] < 0.050	[C] < 0.050	[C] < 0.050	
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050						< 0.050	[C] < 0.050	[C] < 0.050	[C] < 0.050	
Total Phenols	M	2920	mg/kg	0.30	< 0.30						< 0.30	< 0.30	< 0.30	< 0.30	

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Client: Soiltechnics Limited	Chemtest Job No.:				18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:				594746	594747	594748	594749	594750	594751	594752
Order No.: POR002636	Client Sample Ref.:				CS04	TP01	TP02	TP03	TP05	TP06	TP07
	Client Sample ID.:				CS040.001-004	TP010.301-041	TP020.201-042	TP031.102-003	TP050.201-040	TP060.101-039	TP070.601-046
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.00	0.30	0.20	1.10	0.20	0.10	0.60
	Bottom Depth (m):				0.22						
	Date Sampled:				12-Mar-2018	12-Mar-2018	12-Mar-2018	13-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:					COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A		-	Fibres/Clumps		-	-	-
Asbestos Identification	U	2192	%	0.001		No Asbestos Detected	Chrysotile		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	2.1			10			
Soil Colour	N	2040		N/A				Brown			
Other Material	N	2040		N/A				Stones			
Soil Texture	N	2040		N/A				Sand			
pH	M	2010		N/A	11.8			10.3			
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.3						
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.56			0.82			
Total Sulphur	M	2175	%	0.010				0.21			
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010						
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50						
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50						
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50						
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50	6.9						
Sulphate (Acid Soluble)	M	2430	%	0.010				0.29			
Arsenic	M	2450	mg/kg	1.0	24						
Beryllium	U	2450	mg/kg	1.0	< 1.0						
Cadmium	M	2450	mg/kg	0.10	< 0.10						
Chromium	M	2450	mg/kg	1.0	26						
Copper	M	2450	mg/kg	0.50	15						
Mercury	M	2450	mg/kg	0.10	< 0.10						
Nickel	M	2450	mg/kg	0.50	26						
Lead	M	2450	mg/kg	0.50	10						
Selenium	M	2450	mg/kg	0.20	< 0.20						
Vanadium	U	2450	mg/kg	5.0	43						
Zinc	M	2450	mg/kg	0.50	38						
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50						
Organic Matter	M	2625	%	0.40	0.59						
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[C] < 1.0						
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[C] < 1.0						
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	[C] < 1.0						
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	[C] < 1.0						
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	[C] < 1.0						
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	[C] < 1.0						

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:			18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:			594746	594747	594748	594749	594750	594751	594752
Order No.: POR002636	Client Sample Ref.:			CS04	TP01	TP02	TP03	TP05	TP06	TP07
	Client Sample ID.:			CS040.001-004	TP010.301-041	TP020.201-042	TP031.102-003	TP050.201-040	TP060.101-039	TP070.601-046
	Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):			0.00	0.30	0.20	1.10	0.20	0.10	0.60
	Bottom Depth (m):			0.22						
	Date Sampled:			12-Mar-2018	12-Mar-2018	12-Mar-2018	13-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:				COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD						
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	[C] < 1.0					
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[C] < 1.0					
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[C] < 5.0					
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	[C] < 1.0					
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	[C] < 1.0					
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	[C] < 5.0					
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	[C] < 10					
Dibutyl Tin	N	2730	µg/kg	10						
Tetrabutyl Tin	N	2730	µg/kg	10						
Tributyl Tin	N	2730	µg/kg	10						
Triphenyl Tin	N	2730	µg/kg	10						
Tetraethyl Lead	N	2760	µg/kg	10						
Tetramethyl Lead	N	2760	µg/kg	10						
Dichlorodifluoromethane	N	2760	µg/kg	1.0	[C] < 1.0					
Chloromethane	M	2760	µg/kg	1.0	[C] < 1.0					
Vinyl Chloride	M	2760	µg/kg	1.0	[C] < 1.0					
Bromomethane	M	2760	µg/kg	20	[C] < 20					
Chloroethane	N	2760	µg/kg	2.0	[C] < 2.0					
Trichlorofluoromethane	M	2760	µg/kg	1.0	[C] < 1.0					
1,1-Dichloroethene	M	2760	µg/kg	1.0	[C] < 1.0					
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	[C] < 1.0					
1,1-Dichloroethane	M	2760	µg/kg	1.0	[C] < 1.0					
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	[C] < 1.0					
Bromochloromethane	N	2760	µg/kg	5.0	[C] < 5.0					
Trichloromethane	M	2760	µg/kg	1.0	[C] < 1.0					
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	[C] < 1.0					
Tetrachloromethane	M	2760	µg/kg	1.0	[C] < 1.0					
1,1-Dichloropropene	N	2760	µg/kg	1.0	[C] < 1.0					
Benzene	M	2760	µg/kg	1.0	[C] < 1.0					
1,2-Dichloroethane	M	2760	µg/kg	2.0	[C] < 2.0					

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Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594746	594747	594748	594749	594750	594751	594752
Order No.: POR002636	Client Sample Ref.:		CS04	TP01	TP02	TP03	TP05	TP06	TP07
	Client Sample ID.:		CS040.001-004	TP010.301-041	TP020.201-042	TP031.102-003	TP050.201-040	TP060.101-039	TP070.601-046
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.00	0.30	0.20	1.10	0.20	0.10	0.60
	Bottom Depth (m):		0.22						
	Date Sampled:		12-Mar-2018	12-Mar-2018	12-Mar-2018	13-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:			COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Trichloroethene	M	2760	µg/kg	1.0	[C] < 1.0				
1,2-Dichloropropane	M	2760	µg/kg	1.0	[C] < 1.0				
Dibromomethane	M	2760	µg/kg	1.0	[C] < 1.0				
Bromodichloromethane	M	2760	µg/kg	5.0	[C] < 5.0				
cis-1,3-Dichloropropene	N	2760	µg/kg	10	[C] < 10				
Toluene	M	2760	µg/kg	1.0	[C] < 1.0				
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	[C] < 10				
1,1,2-Trichloroethane	M	2760	µg/kg	10	[C] < 10				
Tetrachloroethene	M	2760	µg/kg	1.0	[C] < 1.0				
1,3-Dichloropropane	N	2760	µg/kg	2.0	[C] < 2.0				
Dibromochloromethane	N	2760	µg/kg	10	[C] < 10				
1,2-Dibromoethane	M	2760	µg/kg	5.0	[C] < 5.0				
Chlorobenzene	M	2760	µg/kg	1.0	[C] < 1.0				
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	[C] < 2.0				
Ethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0				
m & p-Xylene	M	2760	µg/kg	1.0	[C] < 1.0				
o-Xylene	M	2760	µg/kg	1.0	[C] < 1.0				
Styrene	M	2760	µg/kg	1.0	[C] < 1.0				
Tribromomethane	N	2760	µg/kg	1.0	[C] < 1.0				
Isopropylbenzene	M	2760	µg/kg	1.0	[C] < 1.0				
Bromobenzene	M	2760	µg/kg	1.0	[C] < 1.0				
1,2,3-Trichloropropane	N	2760	µg/kg	50	[C] < 50				
N-Propylbenzene	N	2760	µg/kg	1.0	[C] < 1.0				
2-Chlorotoluene	M	2760	µg/kg	1.0	[C] < 1.0				
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0				
4-Chlorotoluene	N	2760	µg/kg	1.0	[C] < 1.0				
Tert-Butylbenzene	N	2760	µg/kg	1.0	[C] < 1.0				
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0				
Sec-Butylbenzene	N	2760	µg/kg	1.0	[C] < 1.0				
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	[C] < 1.0				
4-Isopropyltoluene	N	2760	µg/kg	1.0	[C] < 1.0				
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	[C] < 1.0				
N-Butylbenzene	N	2760	µg/kg	1.0	[C] < 1.0				
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	[C] < 1.0				
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	50	[C] < 50				
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	[C] < 1.0				

Results - Soil

Project: STQ4343

Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594746	594747	594748	594749	594750	594751	594752
Order No.: POR002636	Client Sample Ref.:		CS04	TP01	TP02	TP03	TP05	TP06	TP07
	Client Sample ID.:		CS040.001-004	TP010.301-041	TP020.201-042	TP031.102-003	TP050.201-040	TP060.101-039	TP070.601-046
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.00	0.30	0.20	1.10	0.20	0.10	0.60
	Bottom Depth (m):		0.22						
	Date Sampled:		12-Mar-2018	12-Mar-2018	12-Mar-2018	13-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:			COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Hexachlorobutadiene	N	2760	µg/kg	1.0	[C] < 1.0				
1,2,3-Trichlorobenzene	N	2760	µg/kg	2.0	[C] < 2.0				
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	[C] < 1.0				
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	[C] < 0.050				
Phenol	N	2790	mg/kg	0.050	[C] < 0.050				
2-Chlorophenol	N	2790	mg/kg	0.050	[C] < 0.050				
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	[C] < 0.050				
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
2-Methylphenol	N	2790	mg/kg	0.050	[C] < 0.050				
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	[C] < 0.050				
Hexachloroethane	N	2790	mg/kg	0.050	[C] < 0.050				
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	[C] < 0.050				
4-Methylphenol	N	2790	mg/kg	0.050	[C] < 0.050				
Nitrobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
Isophorone	N	2790	mg/kg	0.050	[C] < 0.050				
2-Nitrophenol	N	2790	mg/kg	0.050	[C] < 0.050				
2,4-Dimethylphenol	N	2790	mg/kg	0.050	[C] < 0.050				
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	[C] < 0.050				
2,4-Dichlorophenol	N	2790	mg/kg	0.050	[C] < 0.050				
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
Naphthalene	N	2790	mg/kg	0.050	[C] < 0.050				
4-Chloroaniline	N	2790	mg/kg	0.050	[C] < 0.050				
Hexachlorobutadiene	N	2790	mg/kg	0.050	[C] < 0.050				
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	[C] < 0.050				
2-Methylnaphthalene	N	2790	mg/kg	0.050	[C] < 0.050				
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	[C] < 0.050				
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	[C] < 0.050				
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	[C] < 0.050				
2-Chloronaphthalene	N	2790	mg/kg	0.050	[C] < 0.050				
2-Nitroaniline	N	2790	mg/kg	0.050	[C] < 0.050				
Acenaphthylene	N	2790	mg/kg	0.050	[C] < 0.050				
Dimethylphthalate	N	2790	mg/kg	0.050	[C] < 0.050				
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	[C] < 0.050				
Acenaphthene	N	2790	mg/kg	0.050	[C] < 0.050				

Results - Soil

Project: **STQ4343**

Client: Soiltechnics Limited	Chemtest Job No.:		18-07732	18-07732	18-07732	18-07732	18-07732	18-07732	18-07732
Quotation No.:	Chemtest Sample ID.:		594746	594747	594748	594749	594750	594751	594752
Order No.: POR002636	Client Sample Ref.:		CS04	TP01	TP02	TP03	TP05	TP06	TP07
	Client Sample ID.:		CS040.001-004	TP010.301-041	TP020.201-042	TP031.102-003	TP050.201-040	TP060.101-039	TP070.601-046
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.00	0.30	0.20	1.10	0.20	0.10	0.60
	Bottom Depth (m):		0.22						
	Date Sampled:		12-Mar-2018	12-Mar-2018	12-Mar-2018	13-Mar-2018	12-Mar-2018	12-Mar-2018	12-Mar-2018
	Asbestos Lab:			COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
3-Nitroaniline	N	2790	mg/kg	0.050	[C] < 0.050				
Dibenzofuran	N	2790	mg/kg	0.050	[C] < 0.050				
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	[C] < 0.050				
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	[C] < 0.050				
Fluorene	N	2790	mg/kg	0.050	[C] < 0.050				
Diethyl Phthalate	N	2790	mg/kg	0.050	[C] < 0.050				
4-Nitroaniline	N	2790	mg/kg	0.050	[C] < 0.050				
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	[C] < 0.050				
Azobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	[C] < 0.050				
Hexachlorobenzene	N	2790	mg/kg	0.050	[C] < 0.050				
Pentachlorophenol	N	2790	mg/kg	0.050	[C] < 0.050				
Phenanthrene	N	2790	mg/kg	0.050	[C] < 0.050				
Anthracene	N	2790	mg/kg	0.050	[C] < 0.050				
Carbazole	N	2790	mg/kg	0.050	[C] < 0.050				
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	[C] < 0.050				
Fluoranthene	N	2790	mg/kg	0.050	[C] < 0.050				
Pyrene	N	2790	mg/kg	0.050	[C] < 0.050				
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	[C] < 0.050				
Benzo[a]anthracene	N	2790	mg/kg	0.050	[C] < 0.050				
Chrysene	N	2790	mg/kg	0.050	[C] < 0.050				
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	[C] < 0.050				
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	[C] < 0.050				
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	[C] < 0.050				
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	[C] < 0.050				
Benzo[a]pyrene	N	2790	mg/kg	0.050	[C] < 0.050				
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	[C] < 0.050				
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	[C] < 0.050				
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	[C] < 0.050				
4-Nitrophenol	N	2790	mg/kg	0.050	[C] < 0.050				
Total Phenols	M	2920	mg/kg	0.30	< 0.30				

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
594735	BH04	BH042.601-018	12-Mar-2018	B	Amber Glass 250ml
594735	BH04	BH042.601-018	12-Mar-2018	B	Plastic Tub 500g
594742	BH07	BH070.801-033	12-Mar-2018	B	Amber Glass 250ml
594742	BH07	BH070.801-033	12-Mar-2018	B	Plastic Tub 500g
594743	CS01	CS010.001-001	12-Mar-2018	C	Miscellaneous
594744	CS02	CS020.001-002	12-Mar-2018	C	Miscellaneous
594745	CS03	CS030.001-003	12-Mar-2018	C	Miscellaneous
594746	CS04	CS040.001-004	12-Mar-2018	C	Miscellaneous

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-p-phenylenediamine.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44 Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.

SOP	Title	Parameters included	Method summary
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2730	Organo-Leads	Organo-Leads	Solvent extraction / GCMS detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



2183

Final Report

Report No.: 18-07739-1

Initial Date of Issue: 28-Mar-2018

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Lauren Wenham
Tia Wray

Project STQ4343 Melliss Avenue, Richmond

Quotation No.:		Date Received:	20-Mar-2018
Order No.:	POR002635	Date Instructed:	20-Mar-2018
No. of Samples:	1		
Turnaround (Wkdays):	7	Results Due:	28-Mar-2018
Date Approved:	28-Mar-2018		

Approved By:



Details: Glynn Harvey, Laboratory Manager

Results - Soil

Client: Soiltechnics Limited	Chemtest Job No.:		18-07739		
Quotation No.:	Chemtest Sample ID.:		594802		
Order No.: POR002635	Client Sample Ref.:		CS1		
	Client Sample ID.:		CS10.002-005		
	Sample Type:		SOIL		
	Top Depth (m):		0.00		
	Date Sampled:		14-Mar-2018		
Determinand	Accred.	SOP	Units	LOD	
Moisture	N	2030	%	0.020	11
Dibutyl Tin	N	2730	µg/kg	10	< 10
Tetrabutyl Tin	N	2730	µg/kg	10	< 10
Tributyl Tin	N	2730	µg/kg	10	< 10
Triphenyl Tin	N	2730	µg/kg	10	< 10
Tetraethyl Lead	N	2760	µg/kg	10	< 10
Tetramethyl Lead	N	2760	µg/kg	10	< 10

Results - 2 Stage WAC

Project: STQ4343 Melliss Avenue, Richmond

Chemtest Job No: 18-07739							Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 594802							Limits		
Sample Ref: CS1							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID: CS10.002-005									
Top Depth(m): 0.00									
Bottom Depth(m):									
Sampling Date: 14-Mar-2018									
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	U	%				1.5	3	5
Loss On Ignition	2610	U	%				3.7	--	10
Total BTEX	2760	U	mg/kg				< 0.010	6	--
Total PCBs (7 Congeners)	2815	U	mg/kg				< 0.10	1	--
TPH Total WAC (Mineral Oil)	2670	U	mg/kg				100	500	--
Total (Of 17) PAH's	2700	N	mg/kg				13	100	--
pH	2010	U					10.0	--	>6
Acid Neutralisation Capacity	2015	N	mol/kg				0.081	--	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1450	U	0.0073	0.0071	< 0.050	0.071	0.5	2	25
Barium	1450	U	0.021	0.0068	< 0.50	< 0.50	20	100	300
Cadmium	1450	U	< 0.00010	0.00017	< 0.010	< 0.010	0.04	1	5
Chromium	1450	U	0.0040	< 0.0010	< 0.050	< 0.050	0.5	10	70
Copper	1450	U	0.012	0.012	< 0.050	< 0.050	2	50	100
Mercury	1450	U	< 0.00050	< 0.00050	< 0.0010	< 0.0050	0.01	0.2	2
Molybdenum	1450	U	0.012	0.0063	< 0.050	0.072	0.5	10	30
Nickel	1450	U	0.0029	0.0020	< 0.050	< 0.050	0.4	10	40
Lead	1450	U	0.015	0.0024	0.030	0.043	0.5	10	50
Antimony	1450	U	0.0087	0.0085	0.017	0.085	0.06	0.7	5
Selenium	1450	U	< 0.0010	< 0.0010	< 0.010	< 0.010	0.1	0.5	7
Zinc	1450	U	0.021	0.011	< 0.50	< 0.50	4	50	200
Chloride	1220	U	13	5.1	26	63	800	15000	25000
Fluoride	1220	U	0.14	0.21	< 1.0	2.0	10	150	500
Sulphate	1220	U	74	25	150	320	1000	20000	50000
Total Dissolved Solids	1020	N	86	91	170	900	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	22	14	< 50	150	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	11

Leachate Test Information	
Leachant volume 1st extract/l	0.329
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.265

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID
2730	Organo-Leads	Organo-Leads	Solvent extraction / GCMS detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS

Report Information

Key

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- N Unaccredited
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- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



2183

Final Report

Report No.: 18-09987-1

Initial Date of Issue: 19-Apr-2018

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Lauren Wenham
Tia Wray

Project STQ4343 Melliss Avenue, Richmond

Quotation No.:		Date Received:	12-Apr-2018
Order No.:	POR002770	Date Instructed:	12-Apr-2018
No. of Samples:	2		
Turnaround (Wkdays):	5	Results Due:	18-Apr-2018
Date Approved:	19-Apr-2018		

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.:				18-09987	18-09987
Quotation No.:	Chemtest Sample ID.:				605770	605772
Order No.: POR002770	Client Sample Ref.:				BH01	BH06
	Client Sample ID.:				BH013.611-202	BH067.391-200
	Sample Type:				WATER	WATER
	Top Depth (m):				3.61	7.39
	Date Sampled:				10-Apr-2018	10-Apr-2018
Determinand	Accred.	SOP	Units	LOD		
pH	U	1010		N/A	8.0	8.0
Ammoniacal Nitrogen	U	1220	mg/l	0.050		0.093
Nitrate	U	1220	mg/l	0.50	3.0	22
Sulphate	U	1220	mg/l	1.0	120	100
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Complex)	U	1300	mg/l	0.050	< 0.050	< 0.050
Sulphide	U	1325	mg/l	0.050	< 0.050	< 0.050
Magnesium	U	1415	mg/l	0.50		13
Arsenic (Dissolved)	U	1450	µg/l	1.0	1.4	2.2
Boron (Dissolved)	U	1450	µg/l	20	62	260
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	< 1.0	6.3
Copper (Dissolved)	U	1450	µg/l	1.0	3.5	2.7
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	2.7	4.0
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	2.6	2.7
Vanadium (Dissolved)	U	1450	µg/l	1.0	< 1.0	2.6
Zinc (Dissolved)	U	1450	µg/l	1.0	5.7	9.2
Chromium (Hexavalent)	U	1490	µg/l	20	< 20	< 20
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10

Client: Soiltechnics Limited	Chemtest Job No.:				18-09987	18-09987
Quotation No.:	Chemtest Sample ID.:				605770	605772
Order No.: POR002770	Client Sample Ref.:				BH01	BH06
	Client Sample ID.:				BH013.611-202	BH067.391-200
	Sample Type:				WATER	WATER
	Top Depth (m):				3.61	7.39
	Date Sampled:				10-Apr-2018	10-Apr-2018
Determinand	Accred.	SOP	Units	LOD		
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0	< 1.0
Bromomethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Chloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Trichloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0	< 1.0
Dibromomethane	U	1760	µg/l	10	< 10	< 10
Bromodichloromethane	U	1760	µg/l	5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10	< 10
1,2-Dibromoethane	U	1760	µg/l	5.0	< 5.0	< 5.0
Chlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0	< 1.0

Client: Soiltechnics Limited	Chemtest Job No.:				18-09987	18-09987
Quotation No.:	Chemtest Sample ID.:				605770	605772
Order No.: POR002770	Client Sample Ref.:				BH01	BH06
	Client Sample ID.:				BH013.611-202	BH067.391-200
	Sample Type:				WATER	WATER
	Top Depth (m):				3.61	7.39
	Date Sampled:				10-Apr-2018	10-Apr-2018
Determinand	Accred.	SOP	Units	LOD		
Tribromomethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2 Trifluoroethane	N	1760	µg/l	2.0	< 2.0	< 2.0
Bromoform	N	1760	µg/l	10	< 10	< 10
Carbon Tetrachloride	N	1760	µg/l	10	< 10	< 10
Chloroform	N	1760	µg/l	10	< 10	< 10
2,2-Dichloropropane	N	1760	µg/l	10	< 10	< 10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50

Client: Soiltechnics Limited	Chemtest Job No.:				18-09987	18-09987
Quotation No.:	Chemtest Sample ID.:				605770	605772
Order No.: POR002770	Client Sample Ref.:				BH01	BH06
	Client Sample ID.:				BH013.611-202	BH067.391-200
	Sample Type:				WATER	WATER
	Top Depth (m):				3.61	7.39
	Date Sampled:				10-Apr-2018	10-Apr-2018
Determinand	Accred.	SOP	Units	LOD		
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.:				18-09987	18-09987
Quotation No.:	Chemtest Sample ID.:				605770	605772
Order No.: POR002770	Client Sample Ref.:				BH01	BH06
	Client Sample ID.:				BH013.611-202	BH067.391-200
	Sample Type:				WATER	WATER
	Top Depth (m):				3.61	7.39
	Date Sampled:				10-Apr-2018	10-Apr-2018
Determinand	Accred.	SOP	Units	LOD		
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

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- N/E not evaluated
- < "less than"
- > "greater than"

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None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

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Sample Deviation Codes

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All soil samples will be retained for a period of 45 days from the date of receipt

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Charges may apply to extended sample storage

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customerservices@chemtest.co.uk



2183

Final Report

Report No.: 18-10422-1

Initial Date of Issue: 23-Apr-2018

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Lauren Wenham
Tia Wray

Project STQ4343 Mellis Avenue, Richmond

Quotation No.:	Date Received:	17-Apr-2018
Order No.:	Date Instructed:	17-Apr-2018
No. of Samples:		1
Turnaround (Wkdays):	Results Due:	23-Apr-2018
Date Approved:		23-Apr-2018

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.:				18-10422
Quotation No.:	Chemtest Sample ID.:				607964
Order No.:	Client Sample Ref.:				BH04
	Client Sample ID.:				BH043.211-300
	Sample Type:				WATER
	Top Depth (m):				3.21
	Date Sampled:				10-Apr-2018
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	9.1
Nitrate	U	1220	mg/l	0.50	7.1
Sulphate	U	1220	mg/l	1.0	110
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050
Cyanide (Complex)	U	1300	mg/l	0.050	< 0.050
Sulphide	U	1325	mg/l	0.050	[B] < 0.050
Arsenic (Dissolved)	U	1450	µg/l	1.0	13
Boron (Dissolved)	U	1450	µg/l	20	120
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	270
Copper (Dissolved)	U	1450	µg/l	1.0	4.7
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	1.9
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	6.1
Vanadium (Dissolved)	U	1450	µg/l	1.0	25
Zinc (Dissolved)	U	1450	µg/l	1.0	2.8
Chromium (Hexavalent)	U	1490	µg/l	20	110
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.: 18-10422			
Quotation No.:	Chemtest Sample ID.: 607964			
Order No.:	Client Sample Ref.: BH04			
	Client Sample ID.: BH043.211-300			
	Sample Type: WATER			
	Top Depth (m): 3.21			
	Date Sampled: 10-Apr-2018			
Determinand	Accred.	SOP	Units	LOD
Total Petroleum Hydrocarbons	N	1675	µg/l	10
Dichlorodifluoromethane	U	1760	µg/l	1.0
Chloromethane	U	1760	µg/l	1.0
Vinyl Chloride	N	1760	µg/l	1.0
Bromomethane	U	1760	µg/l	5.0
Chloroethane	U	1760	µg/l	2.0
Trichlorofluoromethane	U	1760	µg/l	1.0
1,1-Dichloroethene	U	1760	µg/l	1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0
1,1-Dichloroethane	U	1760	µg/l	1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0
Bromochloromethane	U	1760	µg/l	5.0
Trichloromethane	U	1760	µg/l	1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0
Tetrachloromethane	U	1760	µg/l	1.0
1,1-Dichloropropene	U	1760	µg/l	1.0
Benzene	U	1760	µg/l	1.0
1,2-Dichloroethane	U	1760	µg/l	2.0
Trichloroethene	N	1760	µg/l	1.0
1,2-Dichloropropane	U	1760	µg/l	1.0
Dibromomethane	U	1760	µg/l	10
Bromodichloromethane	U	1760	µg/l	5.0
cis-1,3-Dichloropropene	N	1760	µg/l	10
Toluene	U	1760	µg/l	1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10
1,1,2-Trichloroethane	U	1760	µg/l	10
Tetrachloroethene	U	1760	µg/l	1.0
1,3-Dichloropropane	U	1760	µg/l	2.0
Dibromochloromethane	U	1760	µg/l	10
1,2-Dibromoethane	U	1760	µg/l	5.0
Chlorobenzene	N	1760	µg/l	1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0
Ethylbenzene	U	1760	µg/l	1.0
m & p-Xylene	U	1760	µg/l	1.0
o-Xylene	U	1760	µg/l	1.0
Styrene	U	1760	µg/l	1.0
Tribromomethane	U	1760	µg/l	1.0
Isopropylbenzene	U	1760	µg/l	1.0

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.:				18-10422
Quotation No.:	Chemtest Sample ID.:				607964
Order No.:	Client Sample Ref.:				BH04
	Client Sample ID.:				BH043.211-300
	Sample Type:				WATER
	Top Depth (m):				3.21
	Date Sampled:				10-Apr-2018
Determinand	Accred.	SOP	Units	LOD	
Bromobenzene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloro 1,2,2 Trifluoroethane	N	1760	µg/l	2.0	< 2.0
Bromoform	N	1760	µg/l	10	< 10
Carbon Tetrachloride	N	1760	µg/l	10	< 10
Chloroform	N	1760	µg/l	10	< 10
2,2-Dichloropropane	N	1760	µg/l	10	< 10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50

Results - Water

Client: Soiltechnics Limited	Chemtest Job No.: 18-10422			
Quotation No.:	Chemtest Sample ID.: 607964			
Order No.:	Client Sample Ref.: BH04			
	Client Sample ID.: BH043.211-300			
	Sample Type: WATER			
	Top Depth (m): 3.21			
	Date Sampled: 10-Apr-2018			
Determinand	Accred.	SOP	Units	LOD
2-Nitrophenol	N	1790	µg/l	0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50
Naphthalene	N	1790	µg/l	0.50
4-Chloroaniline	N	1790	µg/l	0.50
Hexachlorobutadiene	N	1790	µg/l	0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50
2-Methylnaphthalene	N	1790	µg/l	0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50
2-Chloronaphthalene	N	1790	µg/l	0.50
2-Nitroaniline	N	1790	µg/l	0.50
Acenaphthylene	N	1790	µg/l	0.50
Dimethylphthalate	N	1790	µg/l	0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50
Acenaphthene	N	1790	µg/l	0.50
3-Nitroaniline	N	1790	µg/l	0.50
Dibenzofuran	N	1790	µg/l	0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50
Fluorene	N	1790	µg/l	0.50
Diethyl Phthalate	N	1790	µg/l	0.50
4-Nitroaniline	N	1790	µg/l	0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50
Azobenzene	N	1790	µg/l	0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50
Hexachlorobenzene	N	1790	µg/l	0.50
Pentachlorophenol	N	1790	µg/l	0.50
Phenanthrene	N	1790	µg/l	0.50
Anthracene	N	1790	µg/l	0.50
Carbazole	N	1790	µg/l	0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50
Fluoranthene	N	1790	µg/l	0.50
Pyrene	N	1790	µg/l	0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50

Results - Water

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Order No.:	Client Sample Ref.:		BH04		
	Client Sample ID.:		BH043.211-300		
	Sample Type:		WATER		
	Top Depth (m):		3.21		
	Date Sampled:		10-Apr-2018		
Determinand	Accred.	SOP	Units	LOD	
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
Total Phenols	U	1920	mg/l	0.030	< 0.030

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
607964	BH04	BH043.211-300	10-Apr-2018	B	Coloured Winchester 1000ml
607964	BH04	BH043.211-300	10-Apr-2018	B	EPA Vial 40ml
607964	BH04	BH043.211-300	10-Apr-2018	B	Plastic Bottle 1000ml

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44 Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

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Analysis of test data in relation to concentrations of **inorganic** chemical contaminants (soils)

Adopted Model: **Residential**
Receptor: **Proposed site user**

Test procedure		Summary of test data						Initial comparison
Contaminant	Guideline source	Guideline value mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Arsenic	S4UL	37	4	18.0	28.0	22.3	0	Mean value below guideline
Beryllium	S4UL	1.7	4	1.0	1.2	1.1	0	Mean value below guideline
Boron	S4UL	290	4	0.4	1.3	0.9	0	Mean value below guideline
Cadmium	S4UL	11	4	0.3	0.6	0.4	0	Mean value below guideline
Chromium (III)	S4UL	910	4	26.0	30.0	27.5	0	Mean value below guideline
Copper	S4UL	2400	4	41.0	1000.0	327.8	0	Mean value below guideline
Cyanide (total)	ATK	34	4	0.5	0.5	0.5	0	Mean value below guideline
Lead	C4SL (I)	82	4	110.0	210.0	162.5	4	All samples above guideline
Mercury#	S4UL	1.2	4	0.3	3.4	1.2	1	Mean value below guideline
Nickel	S4UL	180	4	27.0	36.0	29.5	0	Mean value below guideline
Selenium	S4UL	250	4	0.2	0.2	0.2	0	Mean value below guideline
Vanadium	S4UL	410	4	29.0	43.0	37.0	0	Mean value below guideline
Zinc	S4UL	3700	4	130.0	240.0	205.0	0	Mean value below guideline

S4UL	Suitable for Use Level as published by LQM/CIEH
C4SL	Category 4 Screening Level
C4SL (lower) (upper)	Category 4 Screening Level for Lead at lower or upper bound of range
ATK	Soil Screening Value derived by Atkins
BPG5	Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title
Analysis of test data in relation to concentrations of
inorganic chemical contaminants.

Table number
1

Analysis of test data in relation to concentrations of **organic** chemical contaminants (soils)

Adopted model: **Residential**
Receptor: **Proposed site user**

Test procedure		Summary of test data					Initial Screening	
Contaminant	Guideline source	Guideline value* mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Acenaphthene	S4UL	210	4	0.1	0.5	0.2	0	Mean value below guideline
Acenaphthylene	S4UL	170	4	0.1	0.8	0.3	0	Mean value below guideline
Anthracene	S4UL	2400	4	0.1	1.7	0.7	0	Mean value below guideline
Benzo(a)anthracene	S4UL	7.2	4	1.1	5.9	3.0	0	Mean value below guideline
Benzo(a)pyrene	S4UL	2.2	4	1.1	7.4	3.7	3	Mean value above guideline
Benzo(b)fluoranthene	S4UL	2.6	4	1.5	9.1	4.6	2	Mean value above guideline
Benzo(g,h,i)perylene	S4UL	320	4	0.9	6.8	3.3	0	Mean value below guideline
Benzo(k)fluoranthene	S4UL	77	4	0.5	3.4	1.7	0	Mean value below guideline
Chrysene	S4UL	15	4	0.9	5.8	2.8	0	Mean value below guideline
Dibenzo(a,h)anthracene	S4UL	0.24	4	0.3	1.9	1.0	4	All samples above guideline
Fluoranthene	S4UL	280	4	1.6	8.8	4.2	0	Mean value below guideline
Fluorene	S4UL	170	4	0.1	0.5	0.2	0	Mean value below guideline
Indeno(1,2,3-cd)pyrene	S4UL	27	4	0.8	5.8	2.8	0	Mean value below guideline
Naphthalene	S4UL	2.3	4	0.1	0.1	0.1	0	Mean value below guideline
Phenanthrene	S4UL	95	4	0.8	4.0	1.7	0	Mean value below guideline
Phenols	S4UL	280	4	0.3	0.3	0.3	0	Mean value below guideline
Pyrene	S4UL	620	4	1.7	8.5	4.2	0	Mean value below guideline

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title
Analysis of test data in relation to concentrations of organic chemical contaminants.

Table number
2

Analysis of test data in relation to concentrations of **inorganic** chemical contaminants (soils)

Adopted Model: **Industrial/Commercial**
Receptor: **Construction operative**

Test procedure		Summary of test data					Initial comparison	
Contaminant	Guideline source	Guideline value mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Arsenic	S4UL	640	4	18.0	28.0	22.3	0	Mean value below guideline
Beryllium	S4UL	12	4	1.0	1.2	1.1	0	Mean value below guideline
Boron	S4UL	240000	4	0.4	1.3	0.9	0	Mean value below guideline
Cadmium	S4UL	190	4	0.3	0.6	0.4	0	Mean value below guideline
Chromium (III)	S4UL	8600	4	26.0	30.0	27.5	0	Mean value below guideline
Copper	S4UL	68000	4	41.0	1000.0	327.8	0	Mean value below guideline
Cyanide (total)	ATK	34	4	0.5	0.5	0.5	0	Mean value below guideline
Lead	C4SL (I)	1100	4	110.0	210.0	162.5	0	Mean value below guideline
Mercury#	S4UL	58	4	0.3	3.4	1.2	0	Mean value below guideline
Nickel	S4UL	980	4	27.0	36.0	29.5	0	Mean value below guideline
Selenium	S4UL	12000	4	0.2	0.2	0.2	0	Mean value below guideline
Vanadium	S4UL	9000	4	29.0	43.0	37.0	0	Mean value below guideline
Zinc	S4UL	730000	4	130.0	240.0	205.0	0	Mean value below guideline

S4UL	Suitable for Use Level as published by LQM/CIEH
C4SL	Category 4 Screening Level
C4SL (lower) (upper)	Category 4 Screening Level for Lead at lower or upper bound of range
ATK	Soil Screening Value derived by Atkins
BPG5	Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title
Analysis of test data in relation to concentrations of
inorganic chemical contaminants.

Table number
3

Analysis of test data in relation to concentrations of **organic** chemical contaminants (soils)

Adopted model: **Industrial/Commercial**
Receptor: **Construction operative and vegetation**

Test procedure			Summary of test data				Initial Screening	
Contaminant	Guideline source	Guideline value* mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Acenaphthene	S4UL	84000	4	0.1	0.5	0.2	0	Mean value below guideline
Acenaphthylene	S4UL	83000	4	0.1	0.8	0.3	0	Mean value below guideline
Anthracene	S4UL	520000	4	0.1	1.7	0.7	0	Mean value below guideline
Benzo(a)anthracene	S4UL	170	4	1.1	5.9	3.0	0	Mean value below guideline
Benzo(a)pyrene	S4UL	35	4	1.1	7.4	3.7	0	Mean value below guideline
Benzo(b)fluoranthene	S4UL	44	4	1.5	9.1	4.6	0	Mean value below guideline
Benzo(g,h,i)perylene	S4UL	3900	4	0.9	6.8	3.3	0	Mean value below guideline
Benzo(k)fluoranthene	S4UL	1200	4	0.5	3.4	1.7	0	Mean value below guideline
Chrysene	S4UL	350	4	0.9	5.8	2.8	0	Mean value below guideline
Dibenzo(a,h)anthracene	S4UL	3.5	4	0.3	1.9	1.0	0	Mean value below guideline
Fluoranthene	S4UL	23000	4	1.6	8.8	4.2	0	Mean value below guideline
Fluorene	S4UL	63000	4	0.1	0.5	0.2	0	Mean value below guideline
Indeno(1,2,3-cd)pyrene	S4UL	500	4	0.8	5.8	2.8	0	Mean value below guideline
Naphthalene	S4UL	190	4	0.1	0.1	0.1	0	Mean value below guideline
Phenanthrene	S4UL	22000	4	0.8	4.0	1.7	0	Mean value below guideline
Phenols	S4UL	760	4	0.3	0.3	0.3	0	Mean value below guideline
Pyrene	S4UL	54000	4	1.7	8.5	4.2	0	Mean value below guideline

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title
Analysis of test data in relation to concentrations of organic chemical contaminants.

Table number
4

Analysis of test data in relation to concentrations of **inorganic** chemical contaminants (soils)

Adopted Model: **Industrial/Commercial and BPG5**
Receptor: **Vegetation**

Test procedure		Summary of test data					Initial comparison	
Contaminant	Guideline source	Guideline value mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Arsenic	S4UL	640	4	18.0	28.0	22.3	0	Mean value below guideline
Beryllium	S4UL	12	4	1.0	1.2	1.1	0	Mean value below guideline
Boron	S4UL	240000	4	0.4	1.3	0.9	0	Mean value below guideline
Cadmium	S4UL	190	4	0.3	0.6	0.4	0	Mean value below guideline
Chromium (III)	S4UL	8600	4	26.0	30.0	27.5	0	Mean value below guideline
Copper	BPG5	130	4	41.0	1000.0	327.8	2	Mean value above guideline
Cyanide (total)	ATK	34	4	0.5	0.5	0.5	0	Mean value below guideline
Lead	C4SL (I)	1100	4	110.0	210.0	162.5	0	Mean value below guideline
Mercury#	S4UL	58	4	0.3	3.4	1.2	0	Mean value below guideline
Nickel	S4UL	980	4	27.0	36.0	29.5	0	Mean value below guideline
Selenium	S4UL	12000	4	0.2	0.2	0.2	0	Mean value below guideline
Vanadium	S4UL	9000	4	29.0	43.0	37.0	0	Mean value below guideline
Zinc	BPG5	300	4	130.0	240.0	205.0	0	Mean value below guideline

S4UL	Suitable for Use Level as published by LQM/CIEH
C4SL	Category 4 Screening Level
C4SL (lower) (upper)	Category 4 Screening Level for Lead at lower or upper bound of range
ATK	Soil Screening Value derived by Atkins
BPG5	Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title
Analysis of test data in relation to concentrations of
inorganic chemical contaminants.

Table number
5

Summary of petroleum hydrocarbon test results

Model: Residential

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration			
			BH01	BH04	BH05	BH07
Benzene	mg/kg	0.087	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	130	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	47	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	60	< 0.001	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	56	< 0.001	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration			
			BH01	BH04	BH05	BH07
Aliphatic						
EC 5 - 6	mg/kg	42	< 1.0	< 1.0	< 1.0	< 1.0
EC >6 - 8	mg/kg	100	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	27	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	130	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	1100	3.9	< 1.0	< 1.0	< 1.0
EC >16 - 35	mg/kg	65000	< 1.0	< 1.0	< 1.0	< 1.0
EC >35 - 44	mg/kg	65000	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic						
EC 5 - 7 (benzene)	mg/kg	70	< 1.0	< 1.0	< 1.0	< 1.0
EC >7 - 8 (toluene)	mg/kg	13	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	34	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	74	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	140	10	< 1.0	1.6	< 1.0
EC >16 - 21	mg/kg	260	83	14	4.3	1.6
EC >21 - 35	mg/kg	1100	480	150	92	56
EC >35 - 44	mg/kg	1100	< 1.0	< 1.0	< 1.0	< 1.0

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
6

Summary of petroleum hydrocarbon test results

Model: Industrial/Commercial

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration			
			BH01	BH04	BH05	BH07
Benzene	mg/kg	27	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	56000	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	5700	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	6600	< 0.001	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	5900	< 0.001	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration			
			BH01	BH04	BH05	BH07
Aliphatic						
EC 5 - 6	mg/kg	3200	< 1.0	< 1.0	< 1.0	< 1.0
EC >6 - 8	mg/kg	7800	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	2000	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	9700	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	59000	3.9	< 1.0	< 1.0	< 1.0
EC >16 - 35	mg/kg	1600000	< 1.0	< 1.0	< 1.0	< 1.0
EC >35 - 44	mg/kg	1600000	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic						
EC 5 - 7 (benzene)	mg/kg	26000	< 1.0	< 1.0	< 1.0	< 1.0
EC >7 - 8 (toluene)	mg/kg	56000	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	3500	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	16000	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	36000	10	< 1.0	1.6	< 1.0
EC >16 - 21	mg/kg	28000	83	14	4.3	1.6
EC >21 - 35	mg/kg	28000	480	150	92	56
EC >35 - 44	mg/kg	28000	< 1.0	< 1.0	< 1.0	< 1.0

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
7

Summary of leachate test results

Receptor **Groundwater**
Water type **Freshwater**
Fish type **Cyprinid**
Water hardness **>250** **mg/l** **Recorded as 263mg/l on the Thames Water website**

Contaminant	Guideline value (µg/l)	Guideline source	Location Depth (m)	BH04 2.6	BH07 0.8
Inorganics (µg/l)					
Arsenic	50	EQS (f)		< 1.0	< 1.0
Boron	2000	EQS (f)		340	36
Cadmium	5	EQS (f)		< 0.080	0.13
Chromium	250	EQS (f)		< 1.0	< 1.0
Copper	28	EQS (f)		2.7	4.2
Lead	250	EQS (f)		< 1.0	7.7
Mercury	1	EQS (f)		< 0.50	< 0.50
Nickel	200	EQS (f)		< 1.0	2.1
Selenium ¹	10	UKDWS		< 1.0	< 1.0
Vanadium ²	60	EQS (f)		< 1.0	< 1.0
Zinc	500	EQS (f)		3.0	13.0
Free Cyanide ¹	50	UKDWS		<50	<50
Nitrate as N	50000	UKDWS		34000	4700
Sulphate as SO4	400000	EQS(f)		6700	2000
PAH (µg/l)					
Benzo(a)pyrene ^{1,4}	0.01	UKDWS		< 0.50	< 0.50
Naphthalene ²	10	EQS (f)		< 0.50	< 0.50
Sum of 4 PAH ¹	0.1	UKDWS		<0.1*	<0.1*
TPH (µg/l)					
Hydrocarbons ¹	10	UKDWS		<10*	<10*
Benzene	30	EQS (f)		< 1.0	< 1.0
Toluene ²	50	EQS (f)		< 1.0	< 1.0
Ethyl benzene ³	300	WHO		< 1.0	< 1.0
Xylene ²	30	EQS (f)		< 1.0	< 1.0

Notes

1 EQS values not available

2 UKDWS not available

3 Lower detectable limit above UKDWS. Concentrations below detectable limits are not considered further.

* Taken as lower detection limit

Taken as lower detection limit of a single compound

\$ Hardness data presented by the Environment Agency

UKDWS UK Drinking Water Standard Guideline taken from "The Water Supply (Water Quality) Regulations 2000"

EQS (f) Environmental Quality Standard for freshwater published by the Environment Agency

EQS (s) Environmental Quality Standard for saltwater published by the Environment Agency

Title

Comparison of measured concentrations with
guideline values for water receptors.

Table number

8

Analysis of test data in relation to concentrations of inorganic chemical contaminants (concrete)

Adopted

Model:

Residential

Receptor:

Proposed site user

Test procedure		Summary of test data					Initial comparison	
Contaminant	Guideline source	Guideline value mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline value	Initial screening
Arsenic	S4UL	37	4	20.0	25.0	22.3	0	Mean value below guideline
Beryllium	S4UL	1.7	4	1.0	1.0	1.0	0	Mean value below guideline
Boron	S4UL	290	4	0.8	1.5	1.2	0	Mean value below guideline
Cadmium	S4UL	11	4	0.1	0.1	0.1	0	Mean value below guideline
Chromium (III)	S4UL	910	4	26.0	31.0	28.0	0	Mean value below guideline
Copper	S4UL	2400	4	15.0	22.0	18.0	0	Mean value below guideline
Cyanide (total)	ATK	34	4	0.5	0.5	0.5	0	Mean value below guideline
Lead	C4SL (I)	82	4	10.0	16.0	13.3	0	Mean value below guideline
Mercury#	S4UL	1.2	4	0.1	0.1	0.1	0	Mean value below guideline
Nickel	S4UL	180	4	26.0	32.0	28.5	0	Mean value below guideline
Selenium	S4UL	250	4	0.2	0.2	0.2	0	Mean value below guideline
Vanadium	S4UL	410	4	43.0	56.0	48.3	0	Mean value below guideline
Zinc	S4UL	3700	4	28.0	38.0	31.5	0	Mean value below guideline

S4UL

Suitable for Use Level as published by LQM/CIEH

C4SL

Category 4 Screening Level

C4SL (lower) (upper)

Category 4 Screening Level for Lead at lower or upper bound of range

ATK

Soil Screening Value derived by Atkins

BPG5

Guideline from BPG Note 5 as published by Forest Research

#

Assumed to be elemental mercury as initial screening value

Title

Analysis of test data in relation to concentrations of inorganic chemical contaminants in concrete

Table number

1

Analysis of test data in relation to concentrations of organic chemical contaminants (concrete)

Adopted model: **Residential**
Receptor: **Proposed site user**

Test procedure			Summary of test data				Initial Screening	
Contaminant	Guideline source	Guideline value* mg/kg	No. of tests	Min. mg/kg	Max. mg/kg	Mean mg/kg	No. of tests above guideline	Initial screening
Acenaphthene	S4UL	210	4	0.1	0.1	0.1	0	Mean value below guideline
Acenaphthylene	S4UL	170	4	0.1	0.1	0.1	0	Mean value below guideline
Anthracene	S4UL	2400	4	0.1	0.1	0.1	0	Mean value below guideline
Benzo(a)anthracene	S4UL	7.2	4	0.1	0.1	0.1	0	Mean value below guideline
Benzo(a)pyrene	S4UL	2.2	4	0.1	0.1	0.1	0	Mean value below guideline
Benzo(b)fluoranthene	S4UL	2.6	4	0.1	0.1	0.1	0	Mean value below guideline
Benzo(g,h,i)perylene	S4UL	320	4	0.1	0.1	0.1	0	Mean value below guideline
Benzo(k)fluoranthene	S4UL	77	4	0.1	0.1	0.1	0	Mean value below guideline
Chrysene	S4UL	15	4	0.1	0.1	0.1	0	Mean value below guideline
Dibenzo(a,h)anthracene	S4UL	0.24	4	0.1	0.1	0.1	0	Mean value below guideline
Fluoranthene	S4UL	280	4	0.1	0.1	0.1	0	Mean value below guideline
Fluorene	S4UL	170	4	0.1	0.1	0.1	0	Mean value below guideline
Indeno(1,2,3-cd)pyrene	S4UL	27	4	0.1	0.1	0.1	0	Mean value below guideline
Naphthalene	S4UL	2.3	4	0.1	0.1	0.1	0	Mean value below guideline
Phenanthrene	S4UL	95	4	0.1	0.1	0.1	0	Mean value below guideline
Phenols	S4UL	280	4	0.3	0.3	0.3	0	Mean value below guideline
Pyrene	S4UL	620	4	0.1	0.1	0.1	0	Mean value below guideline

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title
Analysis of test data in relation to concentrations of organic chemical contaminants.

Table number
2

Summary of petroleum hydrocarbon test results (concrete)

Model: Residential

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration			
			CS01	CS02	CS03	CS04
Benzene	mg/kg	0.087	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	130	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	47	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	60	< 0.001	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	56	< 0.001	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration			
			CS01	CS02	CS03	CS04
Aliphatic						
EC 5 - 6	mg/kg	42	< 1.0	< 1.0	< 1.0	< 1.0
EC >6 - 8	mg/kg	100	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	27	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	130	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	1100	< 1.0	< 1.0	< 1.0	< 1.0
EC >16 - 35	mg/kg	65000	< 1.0	< 1.0	< 1.0	< 1.0
EC >35 - 44	mg/kg	65000	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic						
EC 5 - 7 (benzene)	mg/kg	70	< 1.0	< 1.0	< 1.0	< 1.0
EC >7 - 8 (toluene)	mg/kg	13	< 1.0	< 1.0	< 1.0	< 1.0
EC >8 - 10	mg/kg	34	< 1.0	< 1.0	< 1.0	< 1.0
EC >10 - 12	mg/kg	74	< 1.0	< 1.0	< 1.0	< 1.0
EC >12 - 16	mg/kg	140	< 1.0	< 1.0	< 1.0	< 1.0
EC >16 - 21	mg/kg	260	< 1.0	< 1.0	< 1.0	< 1.0
EC >21 - 35	mg/kg	1100	< 1.0	< 1.0	< 1.0	< 1.0
EC >35 - 44	mg/kg	1100	< 1.0	< 1.0	< 1.0	< 1.0

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
03

Initial Conceptual Model (based on source-pathway-receptor model)

Proposed site use residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans						Vegetation	Water				Consequence of risk occurring via most likely pathway		
	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Root uptake, deposition to shoots and foliage contact	Percolation of water through contaminated soils	Near-surface water run-off through contaminated	Saturation of contaminated soils by flood waters				
On site														
Former sewage works/drainage works	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Medium	Low/moderate
Former biothane plant	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Medium	Low/moderate
Made Ground	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Medium	Low/moderate
Hydrocarbon odour in BH01	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Medium	Low/moderate
Off site														
Adjacent sewage works/drainage works	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Proposed site users	Child	Minor	Very low
	Low-likelihood	Low-likelihood	Unlikely	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Construction operatives	Adult	Minor	Very low
	-	-	-	-	-	-	Low-likelihood	-	-	-	Vegetation (current and proposed)	-	Minor	Very low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current)	-	Medium	Low/moderate

Title	Table number
Initial Conceptual Site Model	1

Updated Conceptual Model (based on laboratory testing)

Proposed site use residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans						Vegetation	Water				Consequence of risk occurring via most likely pathway	Risk	
	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Root uptake, deposition to shoots and foliage contact	Percolation of water through contaminated soils	Near-surface water run-off through contaminated	Saturation of contaminated soils by flood waters				
On site														
Former sewage works/drainage works	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Former biothane plant	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Made Ground	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Hydrocarbon odour at BH01	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Mild	Low/moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Off site														
Former sewage works/drainage works	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Proposed site users	Child	Minor	Very low
	Low-likelihood	Low-likelihood	Unlikely	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Construction operatives	Adult	Minor	Very low
	-	-	-	-	-	-	Low-likelihood	-	-	-	Vegetation (current and proposed)	-	Minor	Very low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current)	-	Minor	Very low

Title	Table number
Updated Conceptual Site Model	2

Final Conceptual Model (following remediation)

Proposed site use residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans						Vegetation	Water				Consequence of risk occurring via most likely pathway	Risk	
	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Root uptake, deposition to shoots and foliage contact	Percolation of water through contaminated soils	Near-surface water run-off through contaminated	Saturation of contaminated soils by flood waters				
On site														
Former sewage works/drainage works	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Former biothane plant	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Made Ground	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Hydrocarbon odour at BH01	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current and proposed)	-	Minor	Very low
Off site														
Former sewage works/drainage works	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Proposed site users	Child	Minor	Very low
	Low-likelihood	Low-likelihood	Unlikely	Low-likelihood	Low-likelihood	Low-likelihood	-	-	-	-	Construction operatives	Adult	Minor	Very low
	-	-	-	-	-	-	Low-likelihood	-	-	-	Vegetation (current and proposed)	-	Minor	Very low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (current)	-	Minor	Very low

Title	Table number
Final Conceptual Site Model	3

Record of in-situ gas and water level monitoring results

Date / Time	Instrument Used	Location	Atmospheric pressure (mB)	Temperature (°C)	Methane, CH ₄ (%v/v) Chg		Carbon Dioxide, CO ₂ (%v/v) Chg		Oxygen, O ₂ (%v/v)		Balance	Lower Explosive Limit	Gas Flow (q)	Peak hazardous gas flow rate Qhgs		Steady hazardous gas flow rate Qhgs		NHBC Guideline	NHBC Guideline	Characteristic gas situation	Potentially Explosive	Water Level (m)
					Peak	Steady	Peak	Steady	Minimum	Average	(%v/v)	(% LEL)	(l/Hr)	CH ₄	CO ₂	CH ₄	CO ₂	(Peak)	(Steady)			
28/03/2018 10:23	GA5000	BH01	1009	6.0	0.0	0.0	0.9	0.6	14.3	17.0	82.4	0.0	-0.1	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.77
10/04/2018 08:19	GA5000	BH01	1007	9.0	0.1	0.1	0.9	0.8	3.3	3.3	95.8	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.58
25/04/2018 08:39	GA2000+	BH01	1011	10.0	0.0	0.0	2.5	2.5	4.3	4.3	93.2	0.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.64
09/05/2018 08:53	GA2000+	BH01	1010	11.0	0.2	0.1	0.0	0.0	14.6	19.2	80.7	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.69
22/05/2018 10:34	GA2000+	BH01	1017	13.0	0.2	0.2	2.6	2.5	8.9	9.0	88.3	4.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	4.19
06/06/2018 10:37	GA2000+	BH01	1017	14.0	0.4	0.4	3.0	2.9	6.2	6.3	90.4	8.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	4.19
28/03/2018 10:10	GA5000	BH03	1009	6.0	0.2	0.2	0.2	0.1	15.1	15.1	84.6	4.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.62
10/04/2018 08:09	GA5000	BH03	1007	9.0	1.0	0.9	0.2	0.1	1.0	1.0	98.0	18.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	TWO	NO	2.53
25/04/2018 08:47	GA2000+	BH03	1011	10.0	0.0	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.1	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.7
09/05/2018 08:42	GA2000+	BH03	1010	11.0	0.6	0.6	0.0	0.0	1.1	1.1	98.3	12.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.88
22/05/2018 10:24	GA2000+	BH03	1016	13.0	0.5	0.5	0.1	0.1	1.0	1.1	98.3	10.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.58
06/06/2018 10:26	GA2000+	BH03	1017	14.0	0.9	0.9	0.0	0.0	1.2	1.2	97.9	18.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	3.92
28/03/2018 09:59	GA5000	BH04	1010	6.0	0.0	0.0	0.2	0.2	20.3	20.5	79.3	0.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	2.41
10/04/2018 08:00	GA5000	BH04	1006	9.0	0.1	0.1	0.5	0.4	19.5	19.5	80.0	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	2.34
25/04/2018 09:01	GA2000+	BH04	1011	10.0	0.1	0.0	0.3	0.3	19.9	20.8	78.9	0.0	-1.8	0.00	0.01	0.00	0.01	GREEN	GREEN	ONE	NO	Dry
09/05/2018 08:32	GA2000+	BH04	1010	11.0	0.1	0.1	0.2	0.2	18.8	19.1	80.6	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	Dry
22/05/2018 10:14	GA2000+	BH04	1016	13.0	0.1	0.1	1.8	0.1	16.4	18.5	81.3	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	Dry
06/06/2018 10:14	GA2000+	BH04	1017	14.0	0.3	0.3	0.4	0.4	18.3	19.1	80.2	6.0	0.3	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	Dry
28/03/2018 09:43	GA5000	BH06 (deep)	1003	6.0	0.0	0.0	1.5	1.5	18.9	18.9	79.6	0.0	0.1	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	4.95
10/04/2018 07:41	GA5000	BH06 (deep)	1000	9.0	0.1	0.1	2.6	2.5	16.6	16.6	80.8	2.0	0.1	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	4.67
25/04/2018 08:20	GA2000+	BH06 (deep)	1011	10.0	0.0	0.0	2.3	2.3	17.3	17.3	80.4	0.0	0.4	0.00	0.01	0.00	0.01	GREEN	GREEN	ONE	NO	Dry
09/05/2018 08:15	GA2000+	BH06 (deep)	1010	11.0	0.1	0.0	2.7	2.7	16.0	16.0	81.3	0.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	5.1
22/05/2018 09:55	GA2000+	BH06 (deep)	1015	13.0	0.0	0.0	3.0	2.8	15.6	15.6	81.6	0.0	-0.5	0.00	0.02	0.00	0.01	GREEN	GREEN	ONE	NO	Dry
06/06/2018 10:02	GA2000+	BH06 (deep)	1016	14.0	0.3	0.3	3.4	3.3	13.8	13.8	82.6	6.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	Dry

Title	Revision
Record of in-situ gas monitoring results	Final

Record of in-situ gas and water level monitoring results

Date / Time		Instrument Used	Location	Atmospheric pressure (mB)	Temperature (°C)	Methane, CH ₄ (%v/v) <i>Chg</i>		Carbon Dioxide, CO ₂ (%v/v) <i>Chg</i>		Oxygen, O ₂ (%v/v)		Balance	Lower Explosive Limit	Gas Flow (q)	Peak hazardous gas flow rate <i>Qhgs</i>		Steady hazardous gas flow rate <i>Qhgs</i>		NHBC Guideline	NHBC Guideline	Characteristic gas situation	Potentially Explosive	Water Level (m)
						Peak	Steady	Peak	Steady	Minimum	Average	(%v/v)	(% LEL)	(l/Hr)	CH ₄	CO ₂	CH ₄	CO ₂	(Peak)	(Steady)			
28/03/2018	09:50	GA5000	BH06 (shallow)	1010	6.0	0.0	0.0	3.7	2.6	16.0	17.4	80.0	0.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	4.74
10/04/2018	07:50	GA5000	BH06 (shallow)	1006	9.0	0.1	0.1	8.5	8.3	8.0	8.0	83.6	2.0	0.0	0.00	0.01	0.00	0.01	AMBER 1	AMBER 1	TWO	NO	4.66
25/04/2018	08:28	GA2000+	BH06 (shallow)	1011	10.0	0.0	0.0	7.8	7.8	8.9	8.9	83.3	0.0	0.0	0.00	0.01	0.00	0.01	AMBER 1	AMBER 1	TWO	NO	5.06
09/05/2018	08:23	GA2000+	BH06 (shallow)	1010	11.0	0.1	0.1	0.5	0.4	19.3	20.4	79.1	2.0	0.0	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	NO	5.09
22/05/2018	10:03	GA2000+	BH06 (shallow)	1016	13.0	0.1	0.1	7.8	7.6	10.0	10.0	82.3	2.0	0.0	0.00	0.01	0.00	0.01	AMBER 1	AMBER 1	TWO	NO	Dry
06/06/2018	09:53	GA2000+	BH06 (shallow)	1016	14.0	0.3	0.2	8.5	8.5	9.0	9.0	82.3	4.0	0.0	0.00	0.01	0.00	0.01	AMBER 1	AMBER 1	TWO	NO	Dry
						1.0	0.9	8.5	8.5	0.0	1.0	98.3	18.0	1.80	0.02	0.15	0.02	0.15	AMBER 1	AMBER 1	TWO	Worst case scenario	
						0.2	0.2	2.2	2.1	11.8	13.0	84.8	3.6	0.19	0.00	0.00	0.00	0.00	GREEN	GREEN	ONE	Average site scenario	

Additional considerations:

Notes:

- 1) Gas Screening Value (GSV) derived by multiplying the peak gas concentration (%) by the peak flow rate (l/h).
- 2) The gas analyser is capable of measuring flow to an accuracy of 0.1l/h. Below this value the analyser records zero flow. Adopting a precautionary approach we have used a flow rate of 0.1l/h when the analyser records zero with this flow rate used to determine the gas screening value.

Title	Revision
Record of in-situ gas monitoring results	Final

Table comparing cumulative compound concentrations with hazardous waste threshold values

Category of danger		Irritant	Harmful	Toxic		Carcinogenic		Corrosive	Toxic for reproduction		Mutagenic		Ecotoxic			
														ΣN : R50-53/0.25	ΣN : 50-53	ΣN : 50-53
														+ΣN : R51-53/2.5	+ΣN : R50	+ΣN : 51-53
														+ΣN : R52-53/25		+ΣN : 52-53
Risk Phrase		Xi	Xn	T+	T	Carc Cat 1 or 2	Carc Cat 3	C R34	C R35	Repr Cat 1 or 2	Repr Cat 3	Muta Cat 2	Muta Cat 3			
Contaminant	Highest concentration	H4 (%)	H5 (%)	H6 (%)	H6 (%)	H7 (%)	H7 (%)	H8 (%)	H8 (%)	H10 (%)	H10 (%)	H11 (%)	H11 (%)	H14	H14	H14
Metals																
Arsenic	28.00			0.0037	0.0043	0.0043								1.8844	0.0043	0.0043
Beryllium	1.20	0.0003		0.0003	0.0003	0.0003										0.0003
Copper	1000.00	0.2500	0.2500												0.2500	0.2500
Cadmium	0.60		0.0001		0.0001	0.0001										
Chromium	30.00					0.0048									0.0048	0.0048
Lead	210.00		0.0226							0.0226	0.0226				0.0226	0.0226
Mercury	3.40			0.0004											0.0004	0.0004
Nickel	36.00		0.0046				0.0046				0.0046				0.0046	0.0046
Selenium	0.20				0.0000										0.0000	0.0000
Zinc	240.00	0.1740	0.1740			0.0665		0.0500					0.1128		0.1740	0.1740
Vanadium	43.00	0.0063			0.0063						0.0063		0.0063			0.0063
PAH																
Naphthalene	0.11		0.0000												0.0000	0.0000
Benzo(a)anthracene	5.90				0.0006	0.0006									0.0006	0.0006
Chrysene	5.80				0.0006	0.0006							0.0006		0.0006	0.0006
Benzo(b)fluoranthene	9.10				0.0009	0.0009									0.0009	0.0009
Benzo(k)fluoranthene	3.40				0.0003	0.0003									0.0003	0.0003
Benzo(a)pyrene	7.40					0.0007				0.0007		0.0007			0.0007	0.0007
Dibenzo(a,h)anthracene	1.90				0.0002	0.0002									0.0002	0.0002
TPH																
Benzene	1.00				0.0001	0.0001										
1,2,4-trimethylbenzene	1.00	0.0001	0.0001													0.0001
Hydrocarbon (C6 to C35)	693.00		0.0693			0.0693					0.0000	0.0693				0.0693
Total (or greatest)																
		0.4308	0.5207	0.0044	0.0137	(0.0693)	(0.0046)	0.0500	0.0000	(0.0226)	(0.0226)	(0.0693)	(0.1128)	1.8844	0.4641	0.5401
Threshold		1%	1%	0.10%	3%	0.10%	1%	5%	1%	0.50%	3%	0.10%	1%	1	25%	25%
Exceeded Y/N		N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N

Title

Hazard assessment spreadsheet

Table number

1 of 1

Landfill Waste Acceptance Criteria				Laboratory test data
Parameter	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill	CS1
Parameters determined on the waste				
Total organic carbon (w/w %)	3%	5%	6%*	1.5
Loss on ignition			10%*	3.7
BTEX (mg kg ⁻¹)	6			< 0.010
PCBs (7 congeners) (mg kg ⁻¹)	1			< 0.10
Mineral oil C ₁₀ - C ₄₀ (mg kg ⁻¹)	500			100
PAH (17 congeners)	100			13
pH		>6		10
Acid neutralisation capacity pH 6 (mol kg ⁻¹)		To be evaluated	To be evaluated	0.081
Acid neutralisation capacity pH 4 (mol kg ⁻¹)		To be evaluated	To be evaluated	
Limit values (mg kg⁻¹) for compliance test using BN 12457-3 at L/S 10 l kg⁻¹				
As (arsenic)	0.5	2	25	0.071
Ba (barium)	20	100	300	< 0.50
Cd (cadmium)	0.04	1	5	< 0.010
Cr (chromium (total))	0.5	10	70	< 0.050
Cu (Copper)	2	50	100	< 0.050
Hg (mercury)	0.01	0.2	2	< 0.0050
Mo (molybdenum)	0.5	10	30	0.072
Ni (nickel)	0.4	10	40	< 0.050
Pb (lead)	0.5	10	50	0.043
Sb (antimony)	0.06	0.7	5	0.085
Se (selenium)	0.1	0.5	7	< 0.010
Zn (zinc)	4	50	200	< 0.50
Cl (chloride)	800	15,000	25,000	63
F (fluoride)	10	150	500	2
SO ₄ (sulphate)	1000#	20,000	50,000	320
Total Dissolved Solids (TDS) ⁺	4,000	60,000	100,000	900
Phenol index	1			< 0.50
Dissolved organic carbon at own pH or pH 7.5-8.0 [@]	500	800	1000	150

Notes

- * Either TOC or LOI must be used for hazardous waste
- # If an inert waste does not meet the SO₄ L/S10 limit, alternative limit values of 1500 mg l⁻¹ SO₄ at Co (initial eluate from the percolation test (prCEN/TS 14405:2003)) AND 6000 mg kg⁻¹ SO₄ at L/S10 (either from the percolation test or batch test BS EN 12457-3), can be used to demonstrate compliance with the acceptable criteria for inert wastes.
- + The value for TDS can be used instead of the values for Cl and SO₄
- @ DOC at pH 7.5-8.0 abd L/S10 can be determined or eluate derived from a modified version of the pH dependence Test, prEN 14429, if the limit value at own pH (BS EN 12457 eluate) is not met.

PRIMARY CLASSIFICATION	HAZARDOUS
SECONDARY CLASSIFICATION	STABLE NON-REACTIVE HAZARDOUS WASTE IN NON- HAZARDOUS LANDFILL

Title

Comparison of test data to landfill waste acceptance criteria (table 5.1) (Secondary classification)

Table number

1 of 1

Basic categorisation schedule for Alluvium

Produced following the requirements of The Landfill (England and Wales) (Amendment)
Regulations 2004 Part 2 (5)

(a) *Source and origin of waste*

Proposed development off Melliss Avenue, Richmond

(b) *Process producing the waste*

Foundation and service trench excavations/general site clearance

(c) *Statement on waste treatment*

Refer to pre-treatment confirmation form

(d) *Composition of the waste*

Grey brown slightly gravelly clay. Gravel consists of flint.

(e) *Appearance of the waste*

As above

(f) *European waste catalogue code*

17-05-04 (for non-hazardous waste)

(g) *Hazardous waste properties*

None

(h) *Is the waste prohibited under regulation 9?*

No

(i) *Landfill class*

Inert based on soils being of natural origin and unlikely to be affected by artificial contamination

(j) *Additional precautions required at landfill*

None

(k) *Can waste be recycled or recovered?*

Yes

(l) *Name and address of waste producer*

To be confirmed

(m) *Name and address of consultant*

Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.

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Schedule Date:

signed

May 2018



Soiltechnics reference:

Karen Boothby B.Sc (Hons) (Open), MEnvSc.

STP4343-G01

Senior Geo-environmental Engineer, Soiltechnics Limited

Basic categorisation schedule for Kempton Park Gravel

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a) *Source and origin of waste*

Proposed development off Melliss Avenue, Richmond

(b) *Process producing the waste*

Foundation and service trench excavations/general site clearance

(c) *Statement on waste treatment*

Refer to pre-treatment confirmation form

(d) *Composition of the waste*

Grey and orange brown sand and gravel

(e) *Appearance of the waste*

As above

(f) *European waste catalogue code*

17-05-04 (for non-hazardous waste)

(g) *Hazardous waste properties*

None

(h) *Is the waste prohibited under regulation 9?*

No

(i) *Landfill class*

Inert based on soils being of natural origin and unlikely to be affected by artificial contamination

(j) *Additional precautions required at landfill*

None

(k) *Can waste be recycled or recovered?*

Yes

(l) *Name and address of waste producer*

To be confirmed

(m) *Name and address of consultant*

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Schedule Date:

signed

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