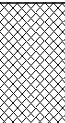
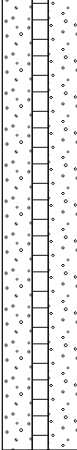


	Contract Name: St Columba's Close			Client: Gravesham Borough Council			Borehole ID: WS02A		
	Contract Number: JER9191	Start Date: 27/06/2022	End Date: 27/06/2022	Checked By: TC	Status: PRELIMINARY		Sheet 1 of 1		
Windowless Borehole Log	Easting: 565972.6	Northing: 172147.7	Ground Level: 26.15mOD	Plant Used: Dart 312	Logged By: NW	Scale: 1:25			
	Weather: Sunny			Termination: Refused at 2.00m bgl.		SPT Hammer: N/R, Energy Ratio: 69%			
Samples & In Situ Testing				Strata Details				Groundwater	
Depths	Type/ Ref	SPT	Testing	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20 0.30	ES1 D		PID 0.20m, 0.1ppm PID 0.30m, 0.1ppm		(0.90)		Grey gravelly silty fine to coarse SAND. Gravel is angular to subrounded fine to coarse of flint, brick and concrete fragments. MADE GROUND		
0.80	ES2		PID 0.80m, 0.0ppm	25.25	0.90		Dark brown slightly sandy gravelly SILT. Gravel is angular to subangular fine to medium of flint and chalk fragments. HEAD	1	
1.00	ES3	SPT(C) 1.00m, N=14 (2,2/2,2,2,8)			(0.50)				
				24.75	1.40		Structureless CHALK composed of sandy GRAVEL. Sand is fine to coarse. Clasts are off-white brown and cream with rare black specks rinded flints and orange staining very weak to weak low to medium density. (Grade Dc). SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED)		
		SPT(C) 2.00m, N=48 (4,16/12,12,12,12)		24.15	2.00		End of Borehole at 2.00m	2	
								3	
								4	
								5	
Start & End of Shift Observations				Installation				Remarks:	
Date	Time	Depth (m)	Casing (m)	Water (m)	Ref	Top (m)	Base (m)	Type	Diameter (mm)
					1	0.00	1.50	PLAIN	
					1	1.50	2.00	SLOTTED	
Windowless Sample Run Details				Casing				Water Strikes	
Test Number	Diameter (mm)	Depth Top (m)	Depth Base (m)	Recovery (%)	Depth (m)	Diameter (mm)	Strike (m)	Casing (m)	Sealed (m)
RPS WLS Template Issue Number: 2 Issue Date: 02/01/2018									

[illegible]

	Contract Name: St Columba's Close			Client: Gravesham Borough Council			Borehole ID: WS05A						
	Contract Number: JER9191		Start Date: 27/06/2022		End Date: 27/06/2022		Checked By: TC		Status: PRELIMINARY				
Windowless Borehole Log	Easting: 566022.8		Northing: 172150.8		Ground Level: 29.68mOD		Plant Used: Dart 312		Logged By: AA		Scale: 1:25		
	Weather: Sunny				Termination: Refused at 2.40m bgl.				SPT Hammer: N/R, Energy Ratio: 69%				
Samples & In Situ Testing						Strata Details						Groundwater	
Depths	Type/Ref	SPT	Testing	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description				Water Strike	Backfill/Installation	
0.30	ES1			29.28	(0.40)		Grey gravelly silty fine to coarse SAND. Gravel is angular to subangular fine to coarse of flint and chalk fragments. MADE GROUND						
0.55	ES2		PID 0.55m, 0.0ppm	28.98	(0.30)		Grey and off-white very gravelly silty fine to coarse SAND. Gravel is angular to subrounded fine to coarse flint and chalk fragments. MADE GROUND						
0.80	ES3				0.70		Structureless chalk composed of off-white and cream sandy angular to subrounded fine to coarse GRAVEL. Sand is fine to coarse. Clasts are weak to medium strong low to medium density. Low gravel content of flint. SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) <i>At 1.00m bgl: Chalk becoming extremely weak to weak.</i>				1		
1.00	ES4	SPT(C) 1.00m, N=26 (4,6/6,4,8,8)	PID 1.00m, 0.0ppm		(1.70)								
2.00	ES5	SPT(C) 2.00m, N=32 (8,8/8,8,8,8)		27.28	2.40		End of Borehole at 2.40m				2		
		SPT(C) 2.50m, N=50 (10,12/12,14,12,12)									3		
											4		
											5		
Start & End of Shift Observations						Installation				Remarks:			
Date	Time	Depth (m)	Casing (m)	Water (m)	Ref	Top (m)	Base (m)	Type	Diameter (mm)	1. No visual or olfactory signs of contamination. 2. No groundwater encountered.			
					1	0.00	0.90	PLAIN					
					1	0.90	2.40	SLOTTED					
Windowless Sample Run Details						Casing				Water Strikes			
Test Number	Diameter (mm)	Depth Top (m)	Depth Base (m)	Recovery (%)	Depth (m)	Diameter (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	
RPS WLS Template Issue Number: 2 Issue Date: 02/01/2018													



MAKING
COMPLEX
EASY

20 Farringdon Street
London, EC4A 4AB

T: 020 3691 0500 E: rpslon@rpsgroup.com

Client Gravesham Borough Council
Project St Columba's Close
Hand Pit No. FIP01A Section AA'

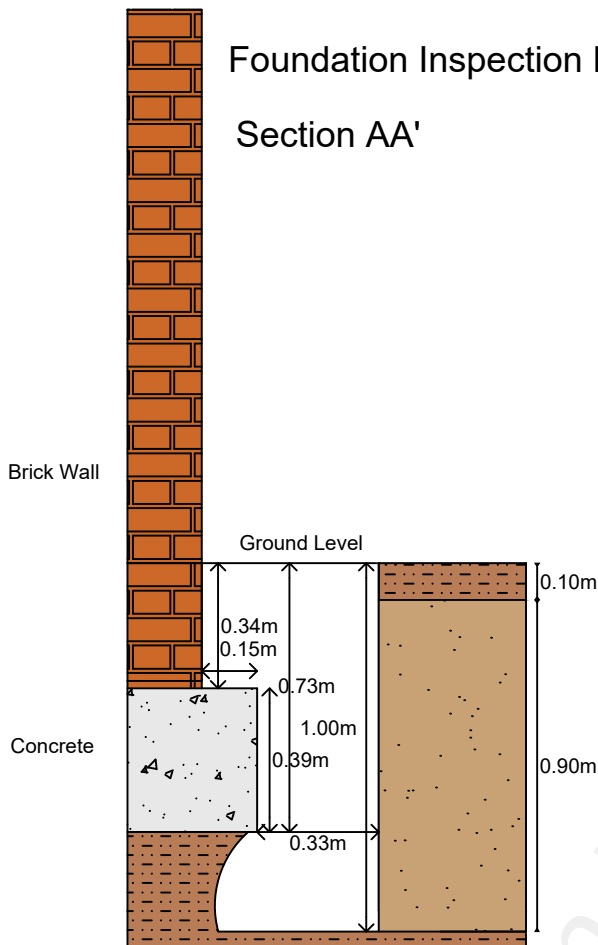
Job Ref JER9191 Date Pit Dug 07/07/2022
Status DRAFT Pit Logged by NW
Drawn By NW
PM/Checked by JL

Notes

1. Trial pit terminated at 1.00m bgl.
2. Trial pit was stable upon completion.
3. Trial pit was dry
4. Trial pit was backfilled with arisings

Foundation Inspection Pit 01A (FIP01A)

Section AA'



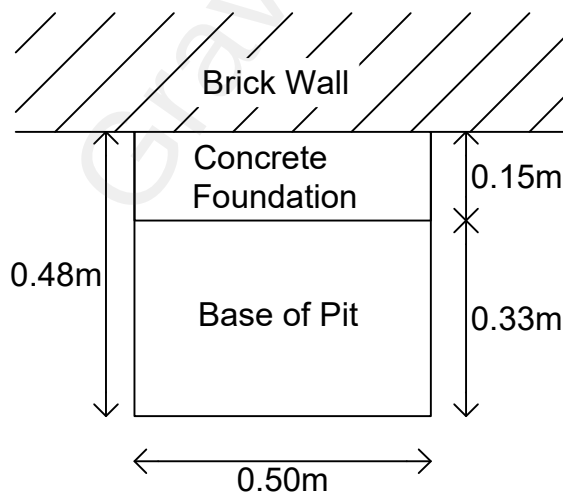
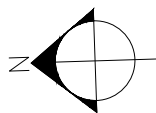
Soil Profile

Depth (m bgl) Description

0.00 - 0.10 - Grass over dessicated brown slightly gravelly silt with occasional rootlets. Gravel is angular to subrounded fine to coarse of flint, concrete, charcoal and wood. Low cobble content of concrete.

0.10 - 1.00 - Dessicated brown slightly gravelly silt with occasional rootlets. Gravel is angular to subrounded fine to coarse of flint, concrete, charcoal and wood.

Pit Dimensions

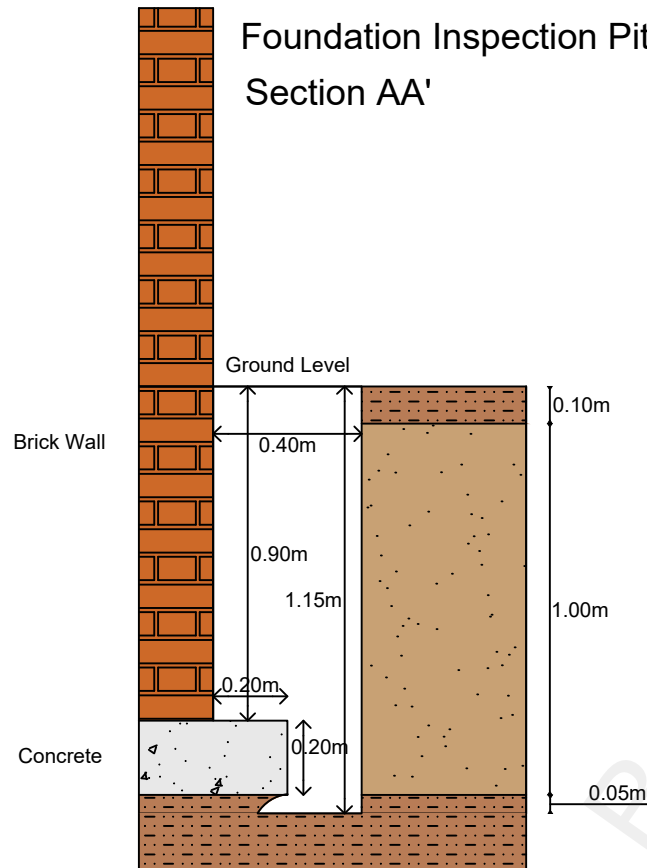


Client	Gravesham Borough Council		
Project	St Columba's Close		
Hand Pit No.	FIP02 Section AA'		
Job Ref	JER9191	Date Pit Dug	07/07/2022
Status	DRAFT	Pit Logged by	NW
Drawn By	NW		
PM/Checked by	JL		

Notes

1. Trial pit terminated at 1.15m bgl.
2. Trial pit was stable upon completion.
3. Trial pit was dry
4. Trial pit was backfilled with arisings

Foundation Inspection Pit 02 (FIP02) Section AA'

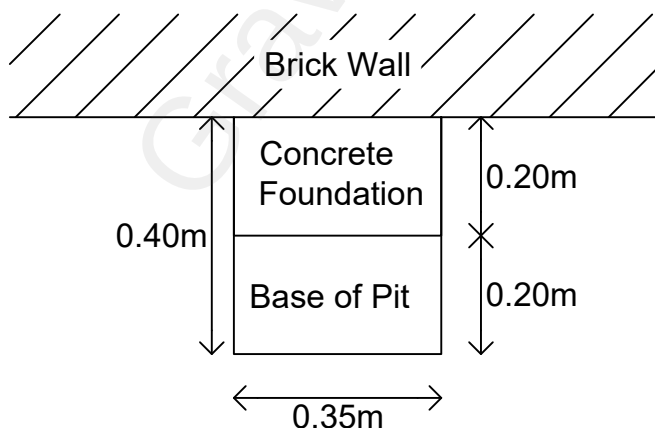


Soil Profile

Depth (m bgl) Description

- 0.00 - 0.10 - Grass over very light grey slightly sandy silty angular to subrounded fine to coarse gravel of flint, brick and chalk fragments with frequent rootlets throughout. Sand is fine to coarse.
- 0.10 - 1.15 - Greyish white slightly sandy silty angular to subrounded fine to coarse gravel of flint, brick and chalk fragments. Sand is fine to coarse.

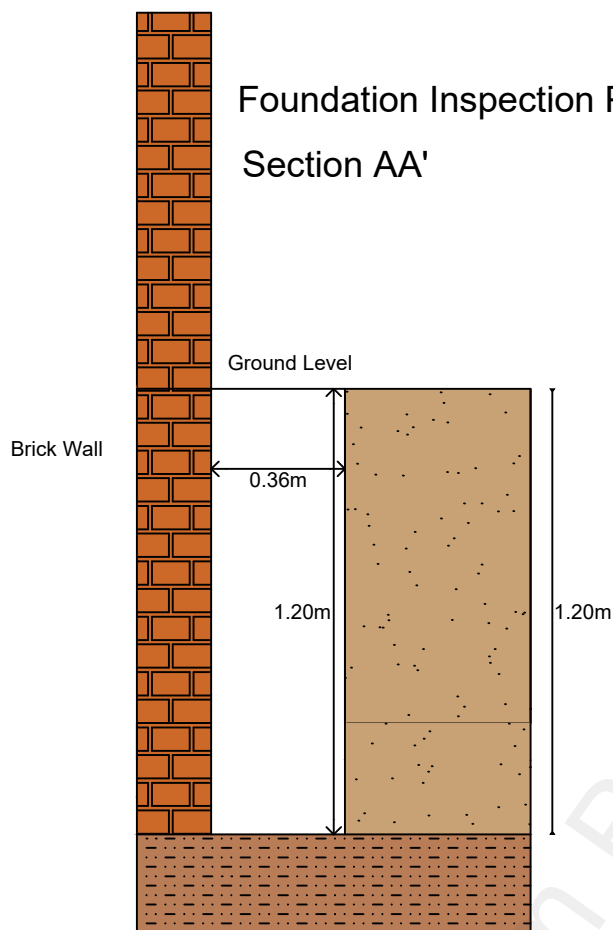
Pit Dimensions



Client	Gravesham Borough Council		
Project	St Columba's Close		
Hand Pit No.	FIP03 Section AA'		
Job Ref	JER9191	Date Pit Dug	07/07/2022
Status	DRAFT	Pit Logged by	NW
Drawn By	NW		
PM/Checked by	JL		

Notes

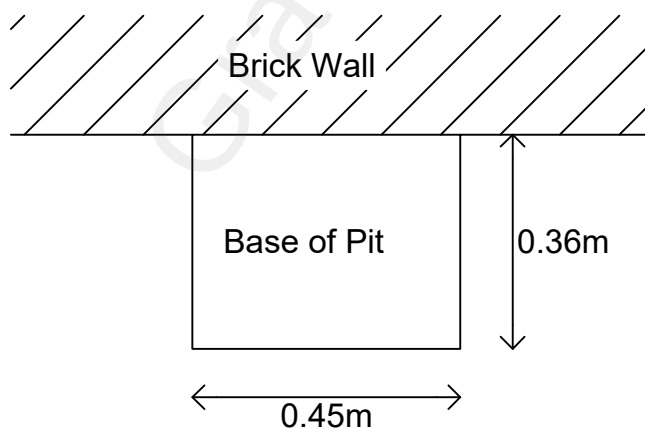
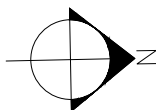
1. Trial pit terminated at 1.20m bgl.
2. Trial pit was stable upon completion.
3. Trial pit was dry
4. Trial pit was backfilled with arisings



Soil Profile

Depth (m bgl)	Description
0.00 - 1.20	Dessicated greyish white slightly sandy silt. Gravel is angular to subrounded fine to coarse of flint, chalk fragments and wood. Sand is fine to coarse.

Pit Dimensions



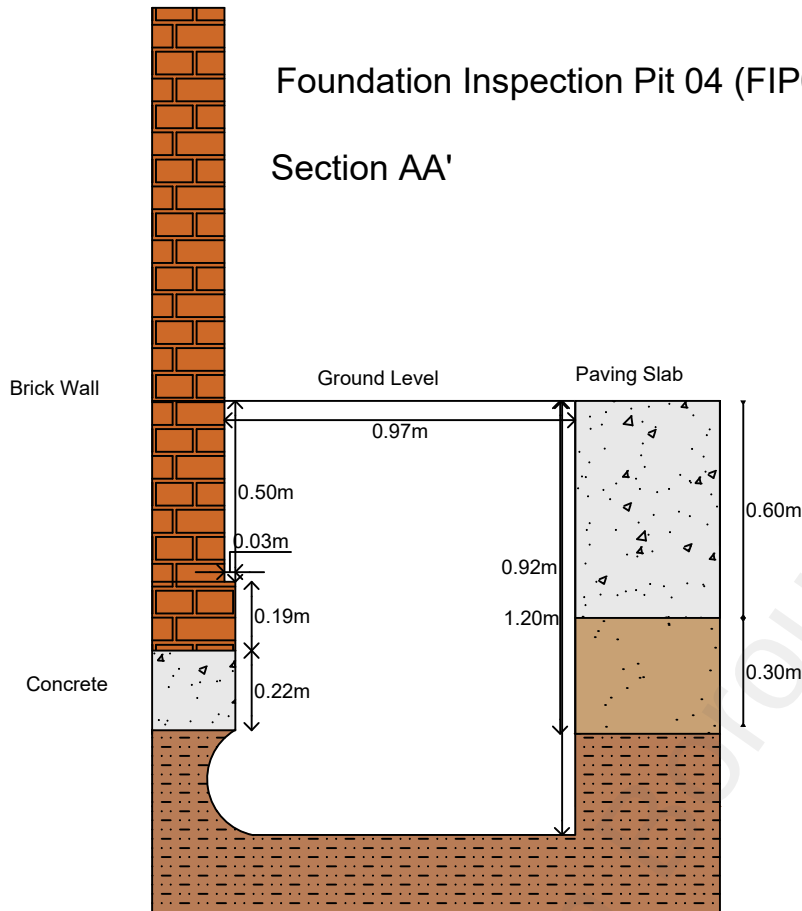
Client	Gravesham Borough Council		
Project	St Columba's Close		
Hand Pit No.	FIP04 Section AA'		
Job Ref	JER9191	Date Pit Dug	07/07/2022
Status	DRAFT	Pit Logged by	NW
Drawn By	NW		
PM/Checked by	JL		

Notes

1. Trial pit terminated at 1.20m bgl.
2. Trial pit was stable upon completion.
3. Trial pit was dry
4. Trial pit was backfilled with arisings

Foundation Inspection Pit 04 (FIP04)

Section AA'



Soil Profile

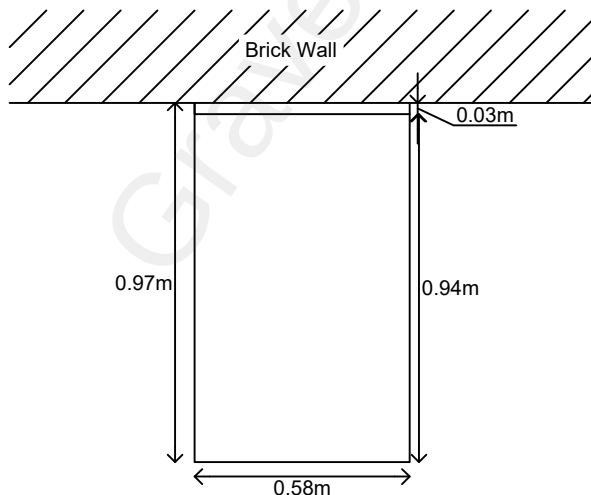
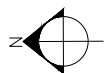
Depth (m bgl)

Description

0.00 - 0.60 - Light grey and brown sandy angular to rounded fine to coarse gravel of concrete, brick, metal, glass, plastic and flint. Frequent cobbles of concrete and concrete slab throughout.

0.60 - 0.90 - Structureless chalk composed of off-white and light brown silty angular to subangular gravel. Clasts are weak and medium density. Frequent cobbles of flint throughout.

Pit Dimensions



Appendix F

Geotechnical Laboratory Certificates

Gravesham Borough Council

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
CP01	0.50		D	Brown slightly sandy gravelly CLAY.	15.3														BRE Suite D
CP01	1.00		D	Brown slightly sandy gravelly CLAY.	16.9														
CP01	2.00		D	Brown slightly gravelly slightly sandy silty CLAY.	13.9	31	19	12	68										BRE Suite B
CP01	3.00		D	White structureless CHALK															Carbonate Content
CP01	3.00-9.00	D4-D9	amal	White structureless CHALK with some chalk gravel.															Particle Size Distribution
CP01	4.00		D	White structureless CHALK															Carbonate Content
CP01	6.75		D	White structureless CHALK															Carbonate Content
CP01	8.25		D	White structureless CHALK															Carbonate Content
CP02	0.50		D																BRE Suite B
CP02	1.00-5.00		amal	White structureless CHALK with some chalk gravel.															Particle Size Distribution

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by  J Sturges - Operations Manager 27/07/2022	Project Number: Project Name: GEO / 35889 ST COLUMBA'S CLOSE JER9191	
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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
CP02	1.00		D	Loose brown SAND and GRAVEL															Carbonate Content
CP02	2.00		D	White structureless CHALK.															Carbonate Content
CP02	5.25		D	White structureless CHALK.															Carbonate Content
CP02	6.75-9.00		amal	White structureless CHALK with some chalk gravel.															Particle Size Distribution
CP02	9.75		D	White structureless CHALK.															Carbonate Content
TP01A	2.60		D	Loose brown SAND and GRAVEL															Carbonate Content
TP02	0.50-1.00		B	White CHALK															SMC
TP02	1.50-2.00		B	White gravel and cobble sized CHALK.															Particle Size Distribution
TP03	1.50		B	White CHALK															SMC
TP03	2.00		B	White CHALK															SMC

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by  J Sturges - Operations Manager 27/07/2022	Project Number:	GEO / 35889 ST COLUMBA'S CLOSE JER9191	
	Project Name:		

Notes

J Sturges - Operations Manager
28/07/2022

ST COLUMBA'S CLOSE
JER9191



PARTICLE SIZE DISTRIBUTION

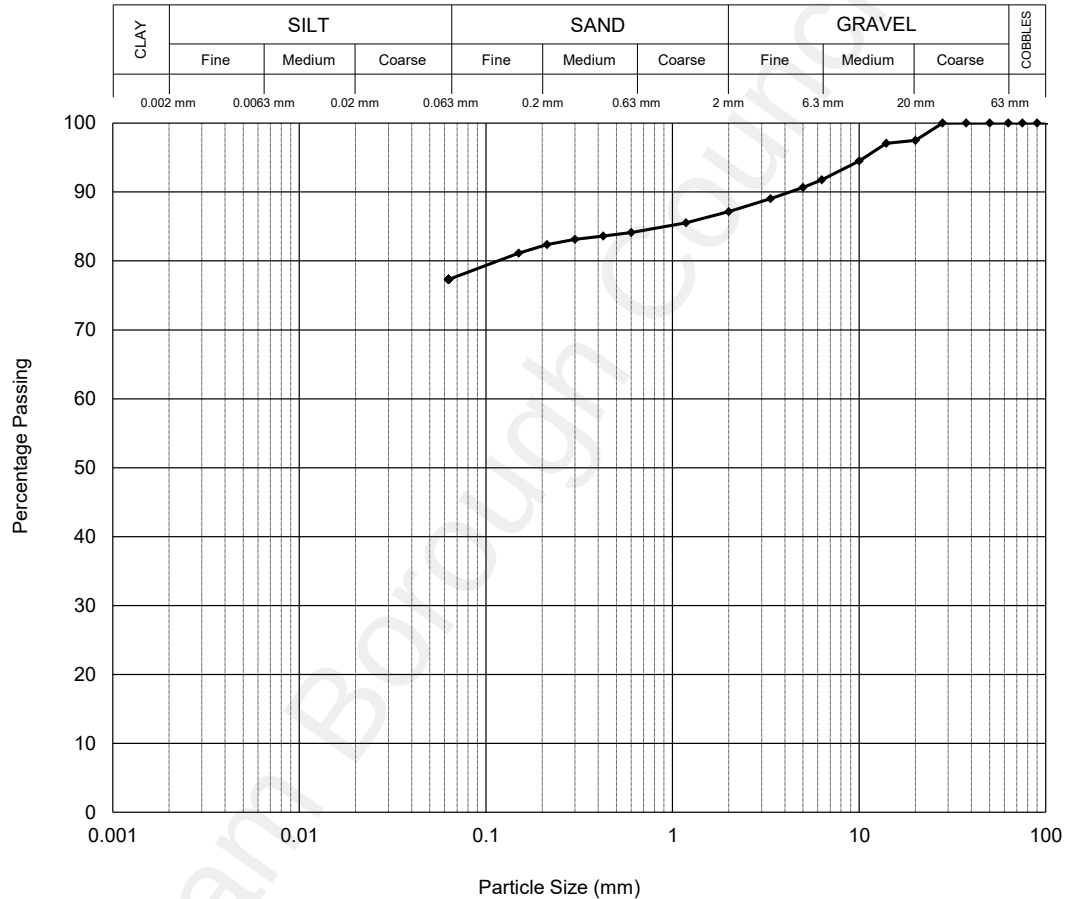
Location CP01
 Sample Ref D4-D9
 Depth (m) 3.00-9.00
 Sample Type amal

Description

White structureless CHALK with some chalk gravel.

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

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	97
14.0 mm	97
10.0 mm	94
6.30 mm	92
5.00 mm	91
3.35 mm	89
2.00 mm	87
1.18 mm	86
600 µm	84
425 µm	84
300 µm	83
212 µm	82
150 µm	81
63 µm	77



Particle Proportions	
Cobbles	0.0
Gravel	12.8
Sand	9.9
Silt & Clay	77.3

Tested by AW
 Checked and Approved by

J Sturges
 J Sturges - Operations Manager
 27/07/2022

Project Number:

GEO / 35889

Project Name:

**ST COLUMBA'S CLOSE
 JER9191**



PARTICLE SIZE DISTRIBUTION

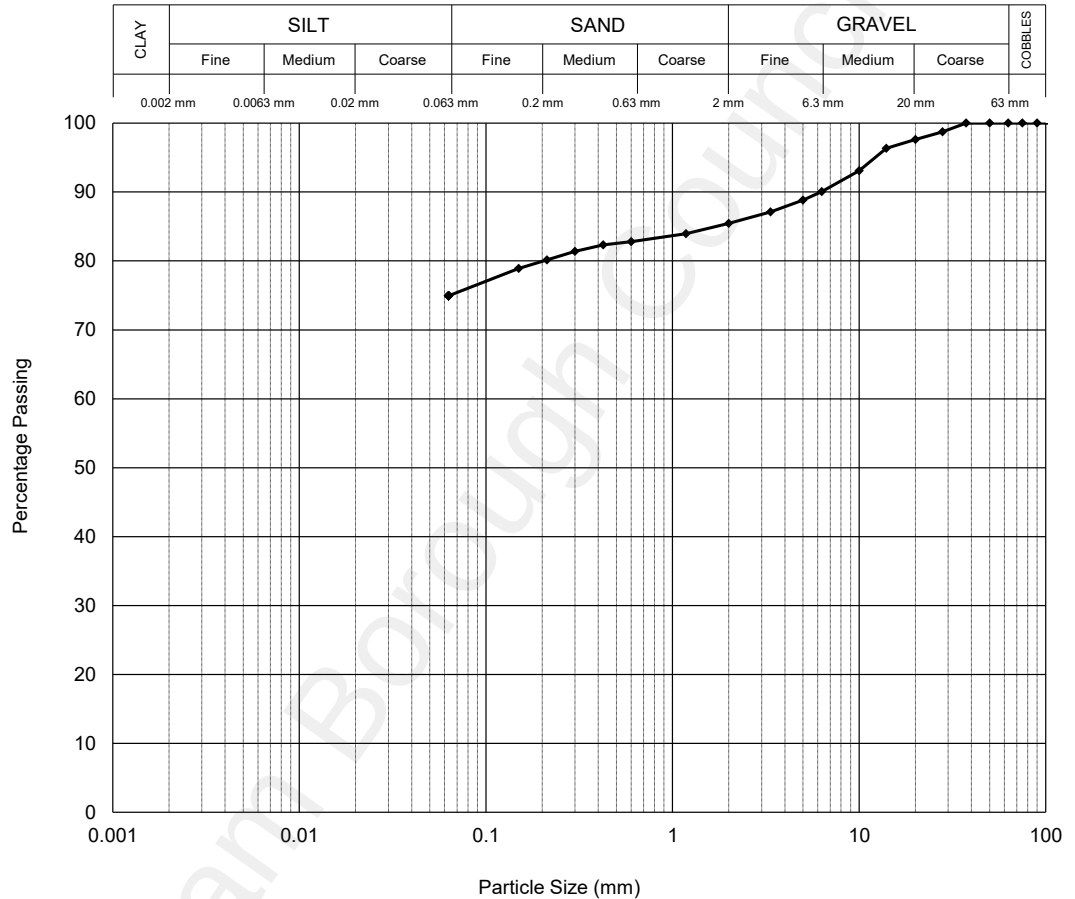
Location CP02
 Depth (m) 1.00-5.00
 Sample Type amal

Description

White structureless CHALK with some chalk gravel.

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

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	99
20.0 mm	98
14.0 mm	96
10.0 mm	93
6.30 mm	90
5.00 mm	89
3.35 mm	87
2.00 mm	85
1.18 mm	84
600 µm	83
425 µm	82
300 µm	81
212 µm	80
150 µm	79
63 µm	75



Particle Proportions	
Cobbles	0.0
Gravel	14.6
Sand	10.5
Silt & Clay	74.9

Tested by AW
 Checked and Approved by

J Sturges
 J Sturges - Operations Manager
 27/07/2022

Project Number:

GEO / 35889

Project Name:

**ST COLUMBA'S CLOSE
 JER9191**



PARTICLE SIZE DISTRIBUTION

Location
Depth (m)
Sample Type

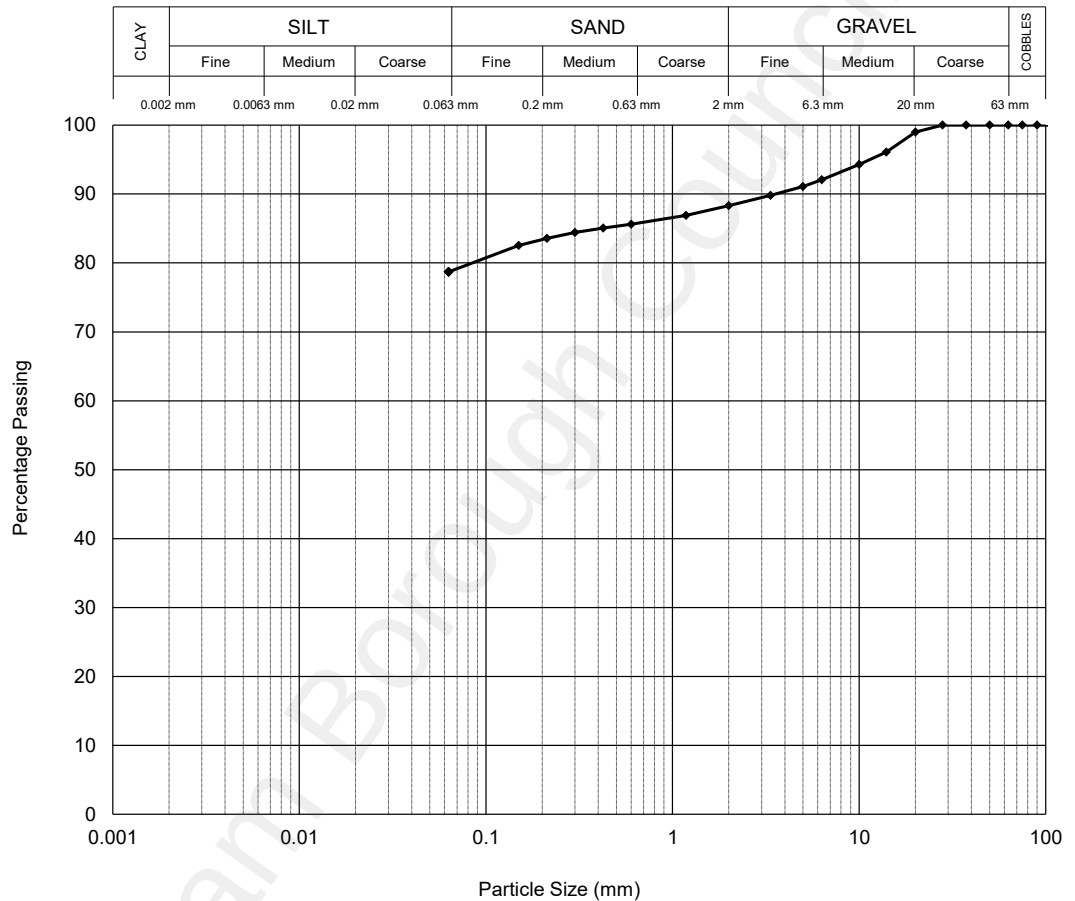
CP02
6.75-9.00
amal

Description

White structureless CHALK with some chalk gravel.

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

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	99
14.0 mm	96
10.0 mm	94
6.30 mm	92
5.00 mm	91
3.35 mm	90
2.00 mm	88
1.18 mm	87
600 µm	86
425 µm	85
300 µm	84
212 µm	84
150 µm	83
63 µm	79



Particle Proportions	
Cobbles	0.0
Gravel	11.7
Sand	9.6
Silt & Clay	78.7

Tested by AW
Checked and Approved by

[Signature]
J Sturges - Operations Manager
27/07/2022

Project Number:

GEO / 35889

Project Name:

**ST COLUMBA'S CLOSE
JER9191**



PARTICLE SIZE DISTRIBUTION

Location TP02
 Depth (m) 1.50-2.00
 Sample Type B

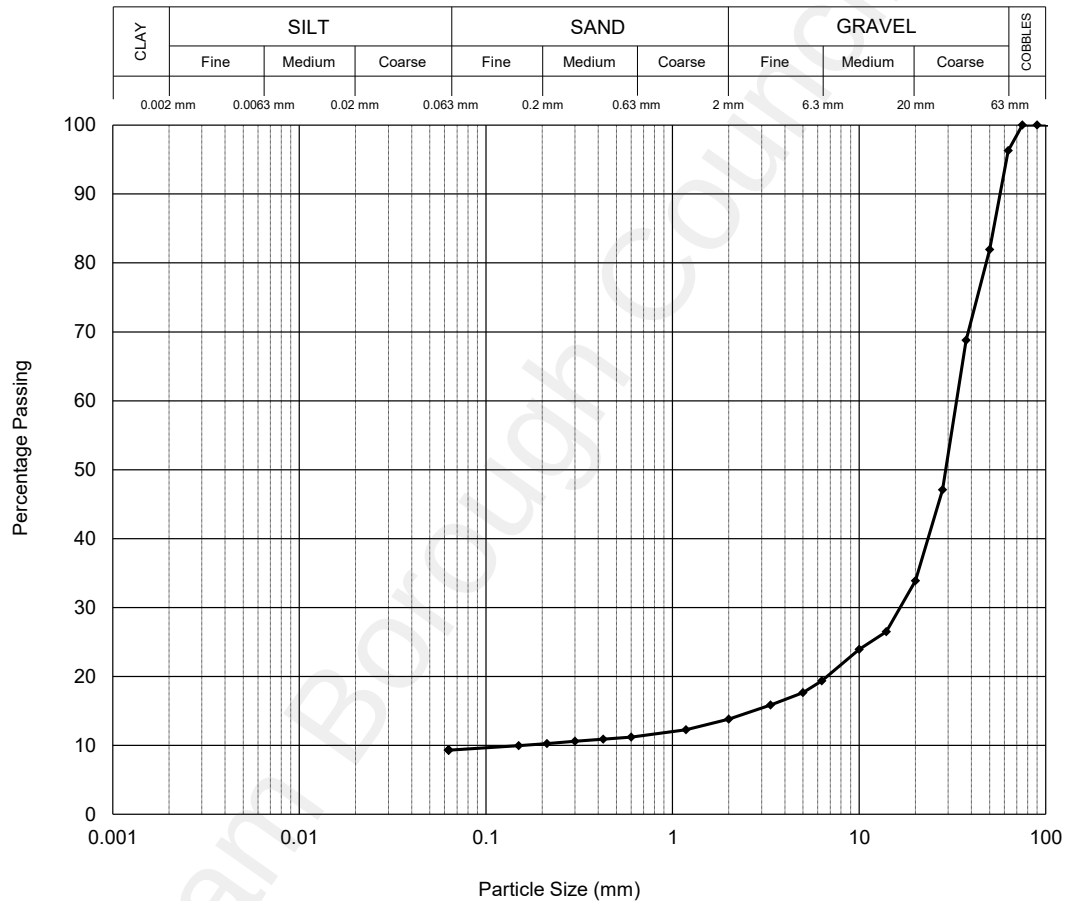
Description

White gravel and cobble sized CHALK.

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

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

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	96
50.0 mm	82
37.5 mm	69
28.0 mm	47
20.0 mm	34
14.0 mm	26
10.0 mm	24
6.30 mm	19
5.00 mm	18
3.35 mm	16
2.00 mm	14
1.18 mm	12
600 µm	11
425 µm	11
300 µm	11
212 µm	10
150 µm	10
63 µm	9



Particle Proportions	
Cobbles	3.7
Gravel	82.5
Sand	4.5
Silt & Clay	9.3

Tested by AW
 Checked and Approved by

[Signature]
 J Sturges - Operations Manager
 27/07/2022

Project Number:

GEO / 35889

Project Name:

**ST COLUMBA'S CLOSE
 JER9191**



SUMMARY OF CHEMICAL TESTS ON SOIL

Location	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO ₄ %	Water Soluble Sulphate as SO ₄ 2:1 Water:Soil Extract g/l	Total Sulphur %	Water Soluble Chloride g/l	Water Soluble Nitrate g/l	Magnesium g/l	Organic Content %	Mass Loss on Ignition %	Calcium Carbonate Content %
CP01	0.50		D	8.6	0.037	0.010	0.012	< 0.010	< 0.010	< 0.010	-	-	-
CP01	2.00		D	8.7	0.014	< 0.010	< 0.010	-	-	-	-	-	-
CP01	3.00		D	-	-	-	-	-	-	-	-	-	83
CP01	4.00		D	-	-	-	-	-	-	-	-	-	95
CP01	6.75		D	-	-	-	-	-	-	-	-	-	80
CP01	8.25		D	-	-	-	-	-	-	-	-	-	99
CP02	0.50		D	8.2	0.022	0.010	0.029	-	-	-	-	-	-
CP02	1.00		D	-	-	-	-	-	-	-	-	-	74
CP02	2.00		D	-	-	-	-	-	-	-	-	-	97
CP02	5.25		D	-	-	-	-	-	-	-	-	-	99
CP02	9.75		D	-	-	-	-	-	-	-	-	-	97
TP01A	2.60		D	-	-	-	-	-	-	-	-	-	49

Tested by Chemtest Ltd : MCERTS / UKAS No 2183

Checked and Approved by:



J Sturges - Operations Manager
02/08/2022

Project Number:

GEO / 35889

Project Name:

**ST COLUMBA'S CLOSE
JER9191**

GEOLABS®

Appendix G

Field Monitoring Data

Gravesham Borough Council



Client:
Project:
Job ref:

Gravesham Borough Council
St Columba's Close
JER9191

Monitored by: NW
Weather conditions: N/A
Atmospheric pressure: N/A

BH	Date	Response zone stratum	Response zone (m)	Depth m		Atmospheric Pressure (mbar)	Flow Rate (q l/h)		Methane CH ₄ (% v/v)		Carbon dioxide CO ₂ (% v/v)		Oxygen % v/v (Low)	PID ppm	Carbon monoxide CO ppm (Peak)	Hydrogen sulphide H ₂ S ppm (Peak)	Gas Screening Values				Comments
				Water	Base		Initial	Steady	Peak	Steady	Peak	Steady					CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	
WS01	08/07/22	Head Deposits	0.70 to 1.70														N/A	N/A	N/A	N/A	BH cover rusted. Unable to open.
	21/07/22															N/A	N/A	N/A	N/A	BH cover rusted. Unable to open.	
	28/07/22															N/A	N/A	N/A	N/A	BH cover rusted. Unable to open.	
WS02A	08/07/22	Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	1.50 to 2.00	Dry	2.14	1030	0.1	0.1	0.1	0.1	0.9	0.9	20.1	1.3	0	0	0.0001	0.0001	0.0009	0.0009	
	21/07/22			Dry	2.14	1019	0.1	0.1	0.1	0.1	2.1	2.1	19.4	2.2	0	0	0.0001	0.0001	0.0021	0.0021	
	28/07/22			Dry	2.16	1015	0.1	0.1	0.1	0.1	0.9	0.9	20.3	0.8	0	0	0.0001	0.0001	0.0009	0.0009	
WS05A	08/07/22	Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	0.90 to 2.40	Dry	2.52	1029	0.1	0.1	0.1	0.1	0.4	0.4	20.6	1.0	0	0	0.0001	0.0001	0.0004	0.0004	
	21/07/22			Dry	2.52	1018	0.1	0.1	0.1	0.1	0.5	0.5	20.7	1.1	0	0	0.0001	0.0001	0.0005	0.0005	
	28/07/22			Dry	2.53	1014	0.1	0.1	0.1	0.1	0.2	0.2	20.9	0.5	0	0	0.0001	0.0001	0.0002	0.0002	
CP01	08/07/22	Head Deposits, and Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	2.00 to 10.00	Dry	10.40												N/A	N/A	N/A	0.0000	No bung and tap. Now installed.
	21/07/22			Dry	10.49	1019	0.1	0.1	0.1	0.1	0.3	0.3	20.8	0.9	0	0	0.0001	0.0001	0.0003	0.0003	
	28/07/22			Dry	10.38	1015	0.1	0.1	0.1	0.1	0.9	0.9	20.1	0.5	0	0	0.0001	0.0001	0.0009	0.0009	
CP02	08/07/22	Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	1.00 to 10.00	Dry	9.75												N/A	N/A	N/A	0.0000	No bung and tap. Now installed.
	21/07/22			Dry	9.73	1018	0.1	0.1	0.1	0.1	0.1	0.1	21.0	6.7	0	0	0.0001	0.0001	0.0001	0.0001	
	28/07/22			Dry	9.80	1014	0.1	0.1	0.1	0.1	0.1	0.1	20.9	4.7	0	0	0.0001	0.0001	0.0001	0.0001	

Negative flow rates converted to positive for GSV assessment
0.1 less than machine detection limit

Appendix H

Comparison of Analytical Data to Assessment Criteria

Gravesham Borough Council

	Project Name	St Columbas Close		Soil type	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Chalk	Made Ground	Made Ground	Made Ground	Chalk	Chalk
	Project Number	JER9191		Sample Reference	TP03	TP02	WS01	WS02A	WS02	WS04	WS04	CP01	CP01	WS05A	WS02A	CP02	CP02	WS04
	Date	18/07/2022		Depth (m)	0.30	0.30	0.25	0.80	0.30	0.20	0.70	0.50	3.00	0.30	0.20	0.40	4.00	1.60
	Assessment Criteria	Residential with homegrown (SOM 1%)		Date Sampled	28/06/2022	28/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	44739	44741	44741	44739

Chemical Of Concern	Units	Limit of detection	Number of samples	min	max	mean	GAC	Number exceed GAC															
Asbestos																							
Asbestos Fibres	Type	N/A	14	N/A	N/A	N/A	If Present	0	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos ACM	Type	N/A	14	N/A	N/A	N/A	-	-	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos Type	Type	N/A	14	N/A	N/A	N/A	-	-	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos Level Screen	Type	N/A	0	N/A	N/A	N/A	-	-															
Natural Moisture Content	%	0.1	14	6.60	26.30	13.07	-	-	8	6.6	8.5	15.6	10.8	14.1	12.9	10.1	14.4	9.4	8.8	12	26.3	25.5	
pH - Automated	pH Units	0.01	14	7.62	9.03	8.29	-	-	7.62	8.02	7.84	8.13	8.33	8.26	8.9	8.04	8.89	8.02	8.11	7.93	8.98	9.03	
Total Cyanide	mg/kg	0.5	14	0.50	0.50	0.50	53	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Hexavalent Chromium	mg/kg	0.3	14	0.30	0.30	0.30	6	0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Total Sulphate as SO ₄	mg/kg	1.50	0	0.00	0.00	#DIV/0!	-	-															
Sulphide	mg/kg	10	14	10.00	10.00	10.00	-	-	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Organic Matter	%	0.2	14	0.20	5.80	3.06	-	-	5.8	4.4	2.9	3.4	4.6	5.1	0.2	3.7	0.2	5.5	2.9	3.7	0.2	0.2	
Total Phenols (monohydric)	mg/kg	0.15	14	0.15	0.15	0.15	120	0	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
Metals																							
Arsenic	mg/kg	0.5	14	0.50	16.30	9.24	37	0	14.3	10.6	12.4	11.8	9.3	12.8	3.9	16.3	3.8	10.5	9.4	13.2	0.5	0.5	
Cadmium	mg/kg	0.1	14	0.10	0.20	0.12	11	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	
Chromium	mg/kg	0.3	14	3.40	56.40	35.39	910	0	47.7	42.8	46.7	40.9	41.9	36.1	24.4	56.4	24	35.5	48.5	36.5	10.7	3.4	
Copper	mg/kg	1	14	2.00	66.00	25.43	2400	0	33	43	33	26	26	27	6	66	6	26	21	39	2	2	
Lead	mg/kg	5	14	5.00	180.00	75.50	200	0	84	100	126	113	62	125	5	180	5	88	56	103	5	5	
Mercury	mg/kg	0.1	14	0.10	0.90	0.19	1.2	0	0.1	0.1	0.4	0.2	0.1	0.2	0.1	0.9	0.1	0.1	0.1	0.1	0.1	0.1	
Nickel	mg/kg	0.7	14	1.40	26.10	15.29	130	0	15.1	16.5	22.9	18.2	20.2	17.7	8.4	26.1	8.8	19.1	19	19	1.4	1.7	
Selenium	mg/kg	1	14	1.00	1.00	1.00	250	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Zinc	mg/kg	5	14	10.00	153.00	79.50	3700	0	135	153	106	66	94	70	19	150	22	82	67	128	10	11	
PAH MS																							
Naphthalene	mg/kg	0.04	14	0.04	0.22	0.07	2.3	0	0.22	0.09	0.08	0.04	0.04	0.04	0.04	0.14	0.04	0.04	0.04	0.04	0.04	0.04	
Acenaphthylene	mg/kg	0.03	14	0.03	0.33	0.08	170	0	0.11	0.09	0.16	0.03	0.03	0.03	0.03	0.33	0.03	0.05	0.04	0.07	0.03	0.03	
Acenaphthene	mg/kg	0.05	14	0.05	1.63	0.16	210	0	1.63	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Fluorene	mg/kg	0.04	14	0.04	1.21	0.12	170	0	1.21	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Phenanthrene	mg/kg	0.03	14	0.03	12.64	1.08	95	0	12.64	0.53	0.31	0.07	0.18	0.07	0.03	0.75	0.03	0.14	0.18	0.15	0.03	0.03	
Anthracene	mg/kg	0.04	14	0.04	3.88	0.36	2400	0	3.88	0.11	0.12	0.04	0.08	0.04	0.04	0.33	0.04	0.08	0.05	0.09	0.04	0.04	
Fluoranthene	mg/kg	0.03	14	0.03	11.83	1.36	280	0	11.83	0.82	1.31	0.14	0.44	0.14	0.03	3.09	0.03	0.42	0.45	0.32	0.03	0.03	
Pyrene	mg/kg	0.03	14	0.03	9.62	1.16	620	0	9.62	0.69	1.27	0.12	0.41	0.13	0.03	2.77	0.03	0.38	0.37	0.32	0.03	0.03	
Benzo(a)anthracene	mg/kg	0.06	14	0.06	5.88	0.88	7.2	0	5.88	0.69	1.24	0.18	0.25	0.16	0.06	2.68	0.06	0.47	0.27	0.29	0.06	0.06	
Chrysene	mg/kg	0.02	14	0.02	4.59	0.66	15	0	4.59	0.59	0.88	0.12	0.28	0.1	0.02	1.71	0.02	0.37	0.27	0.22	0.02	0.02	
Benzo(bk)fluoranthene	mg/kg	0.07	14	0.07	6.76	1.22	-	-	6.76	1.28	1.91	0.22	0.51	0.19	0.07	4.28	0.07	0.75	0.48	0.45	0.07	0.07	
Benzo(a)pyrene	mg/kg	0.04	14	0.04	3.69	0.65	2.2	2	3.69	0.61	1.06	0.12	0.24	0.1	0.04	2.27	0.04	0.35	0.24	0.25	0.04	0.04	
Indeno(1,2,3-cd)pyrene	mg/kg	0.04	14	0.04	2.87	0.56	27	0	2.87	0.52	1.02	0.08	0.23	0.08	0.04	2.06	0.04	0.33	0.23	0.2	0.04	0.04	
Dibenz(a,h)anthracene	mg/kg	0.04	14	0.04	0.49	0.10	0.24	2	0.49	0.12	0.1	0.04	0.04	0.04	0.04	0.28	0.04	0.08	0.04	0.04	0.04	0.04	
Benzo(ghi)perylene	mg/kg	0.04	14	0.04	2.08	0.45	320	0	2.08	0.44	0.77	0.07	0.24	0.08	0.04	1.77	0.04	0.27	0.22	0.19	0.04	0.04	
Benzo(b)fluoranthene	mg/kg	0.05	14	0.05	4.87	0.88	2.6	2	4.87	0.92	1.38	0.16	0.37	0.14	0.05	3.08	0.05	0.54	0.35	0.32	0.05	0.05	
Benzo(k)fluoranthene	mg/kg	0.02	14	0.02	1.89	0.34	77	0	1.89	0.36	0.53	0.06	0.14	0.05	0.02	1.2	0.02	0.21	0.13	0.13	0.02	0.02	
TPH CWG																							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	14	0.10	0.10	0.10	42	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	14	0.10	0.10	0.10	100	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	14	0.10	0.10	0.10	27	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	0.2	14	0.20	0.20	0.20	130	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	4	14	4.00	4.00	4.00	1100	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	7	14	7.00	27.00	8.43	65000	0	7	7	7	7	27	7	7	7	7	7	7	7	7	7	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	7	14	7.00	43.00	9.57	65000	0	7	7	7	7	7	7	7	7	7	7	7	43	7	7	
Total aliphatics C5-35	mg/kg	19	14	19.00	43.00	21.57	-	-	19	19	19	19	31	19	19	19	19	19	19	43	19	19	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	14	0.10	0.10	0.10	70	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	14	0.10	0.10	0.10	130	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	14	0.10	0.10	0.10	34	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	0.2	14	0.20	0.20	0.20	74	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	4	14	4.00	4.00	4.00	140	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	7	14	7.00	53.00	10.43	260	0	9	7	7	7	7	7	7	53	7	7	7	7	7	7	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	7	14	7.00	138.00	30.79	1100	0	69	35	23	15	7	7	7	138	7	53	7	49	7	7	
Total aromatics C5-35	mg/kg	19	14	19.00	191.00	41.50	-	-	78	35	23	19	19	19	19	191	19	53	19	49	19	19	
Total TPH	mg/kg	38	14	38.00	191.00	56.71	-	-	78	38	38	38	38	38	38	191	38	53	38	92	38	38	
MTBE	ug/kg	5	14	5.00	5.00	5.00	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Benzene	ug/kg	5	14	5.00	5.00	5.00	87	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Toluene	µg/kg	5	14	5.00	5.00	5.00	130000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Ethylbenzene	µg/kg	5	14	5.00	5.00	5.00	47000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
p & m-xylene	µg/kg	5	14	5.00	5.00	5.00	56000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
o-xylene	µg/kg	5	14	5.00	5.00	5.00	60000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Greater than LOD with no AC

 MAKING COMPLEX EASY	Project Name	St Columbas Close	Soil type	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Chalk	Made Ground	Made Ground	Made Ground	Chalk	Chalk
	Project Number	JER9191	Sample Reference	TP03	TP02	WS01	WS02A	WS02	WS04	WS04	CP01	CP01	WS05A	WS02A	CP02	CP02	WS04
	Date	18/07/2022	Depth (m)	0.30	0.30	0.25	0.80	0.30	0.20	0.70	0.50	3.00	0.30	0.20	0.40	4.00	1.60
	Assessment Criteria	Residential with homegrown (SOM 1%)	Date Sampled	28/06/2022	28/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	44739	44741	44741

Chemical Of Concern	Units	Limit of detection	Number of samples	min	max	mean	GAC	Number exceed GAC															
Asbestos																							
Asbestos Fibres	Type	N/A	14	N/A	N/A	N/A	If Present	0	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos ACM	Type	N/A	14	N/A	N/A	N/A	-	-	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos Type	Type	N/A	14	N/A	N/A	N/A	-	-	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NAD	NA	NAD	NA	NA	
Asbestos Level Screen	Type	N/A	0	N/A	N/A	N/A	-	-															
Natural Moisture Content	%	0.1	14	6.60	26.30	13.07	-	-	8	6.6	8.5	15.6	10.8	14.1	12.9	10.1	14.4	9.4	8.8	12	26.3	25.5	
pH - Automated	pH Units	0.01	14	7.62	9.03	8.29	-	-	7.62	8.02	7.84	8.13	8.33	8.26	8.9	8.04	8.89	8.02	8.11	7.93	8.98	9.03	
Total Cyanide	mg/kg	0.5	14	0.50	0.50	0.50	53	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Hexavalent Chromium	mg/kg	0.3	14	0.30	0.30	0.30	6	0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Total Sulphate as SO ₄	mg/kg	1.50	0	0.00	0.00	#DIV/0!	-	-															
Sulphide	mg/kg	10	14	10.00	10.00	10.00	-	-	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Organic Matter	%	0.2	14	0.20	5.80	3.06	-	-	5.8	4.4	2.9	3.4	4.6	5.1	0.2	3.7	0.2	5.5	2.9	3.7	0.2	0.2	
Total Phenols (monohydric)	mg/kg	0.15	14	0.15	0.15	0.15	120	0	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
Metals																							
Arsenic	mg/kg	0.5	14	0.50	16.30	9.24	37	0	14.3	10.6	12.4	11.8	9.3	12.8	3.9	16.3	3.8	10.5	9.4	13.2	0.5	0.5	
Cadmium	mg/kg	0.1	14	0.10	0.20	0.12	11	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
Chromium	mg/kg	0.3	14	3.40	56.40	35.39	910	0	47.7	42.8	46.7	40.9	41.9	36.1	24.4	56.4	24	35.5	48.5	36.5	10.7	3.4	
Copper	mg/kg	1	14	2.00	66.00	25.43	2400	0	33	43	33	26	26	27	6	66	6	26	21	39	2	2	
Lead	mg/kg	5	14	5.00	180.00	75.50	200	0	84	100	126	113	62	125	5	180	5	88	56	103	5	5	
Mercury	mg/kg	0.1	14	0.10	0.90	0.19	1.2	0	0.1	0.1	0.4	0.2	0.1	0.2	0.1	0.9	0.1	0.1	0.1	0.1	0.1	0.1	
Nickel	mg/kg	0.7	14	1.40	26.10	15.29	130	0	15.1	16.5	22.9	18.2	20.2	17.7	8.4	26.1	8.8	19.1	19	19	1.4	1.7	
Selenium	mg/kg	1	14	1.00	1.00	1.00	250	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Zinc	mg/kg	5	14	10.00	153.00	79.50	3700	0	135	153	106	66	94	70	19	150	22	82	67	128	10	11	
PAH MS																							
Naphthalene	mg/kg	0.04	14	0.04	0.22	0.07	2.3	0	0.22	0.09	0.08	0.04	0.04	0.04	0.04	0.14	0.04	0.04	0.04	0.04	0.04	0.04	
Acenaphthylene	mg/kg	0.03	14	0.03	0.33	0.08	170	0	0.11	0.09	0.16	0.03	0.03	0.03	0.03	0.33	0.03	0.05	0.04	0.07	0.03	0.03	
Acenaphthene	mg/kg	0.05	14	0.05	1.63	0.16	210	0	1.63	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Fluorene	mg/kg	0.04	14	0.04	1.21	0.12	170	0	1.21	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Phenanthrene	mg/kg	0.03	14	0.03	12.64	1.08	95	0	12.64	0.53	0.31	0.07	0.18	0.07	0.03	0.75	0.03	0.14	0.18	0.15	0.03	0.03	
Anthracene	mg/kg	0.04	14	0.04	3.88	0.36	2400	0	3.88	0.11	0.12	0.04	0.08	0.04	0.04	0.33	0.04	0.08	0.05	0.09	0.04	0.04	
Fluoranthene	mg/kg	0.03	14	0.03	11.83	1.36	280	0	11.83	0.82	1.31	0.14	0.44	0.14	0.03	3.09	0.03	0.42	0.45	0.32	0.03	0.03	
Pyrene	mg/kg	0.03	14	0.03	9.62	1.16	620	0	9.62	0.69	1.27	0.12	0.41	0.13	0.03	2.77	0.03	0.38	0.37	0.32	0.03	0.03	
Benzo(a)anthracene	mg/kg	0.06	14	0.06	5.88	0.88	7.2	0	5.88	0.69	1.24	0.18	0.25	0.16	0.06	2.68	0.06	0.47	0.27	0.29	0.06	0.06	
Chrysene	mg/kg	0.02	14	0.02	4.59	0.66	15	0	4.59	0.59	0.88	0.12	0.28	0.1	0.02	1.71	0.02	0.37	0.27	0.22	0.02	0.02	
Benzo(bk)fluoranthene	mg/kg	0.07	14	0.07	6.76	1.22	-	-	6.76	1.28	1.91	0.22	0.51	0.19	0.07	4.28	0.07	0.75	0.48	0.45	0.07	0.07	
Benzo(a)pyrene	mg/kg	0.04	14	0.04	3.69	0.65	2.2	2	3.69	0.61	1.06	0.12	0.24	0.1	0.04	2.27	0.04	0.35	0.24	0.25	0.04	0.04	
Indeno(1,2,3-cd)pyrene	mg/kg	0.04	14	0.04	2.87	0.56	27	0	2.87	0.52	1.02	0.08	0.23	0.08	0.04	2.08	0.04	0.33	0.23	0.2	0.04	0.04	
Dibenz(a,h)anthracene	mg/kg	0.04	14	0.04	0.49	0.10	0.24	2	0.49	0.12	0.1	0.04	0.04	0.04	0.04	0.28	0.04	0.08	0.04	0.04	0.04	0.04	
Benzo(ghi)perylene	mg/kg	0.04	14	0.04	2.08	0.45	320	0	2.08	0.44	0.77	0.07	0.24	0.08	0.04	1.77	0.04	0.27	0.22	0.19	0.04	0.04	
Benzo(b)fluoranthene	mg/kg	0.05	14	0.05	4.87	0.88	2.6	2	4.87	0.92	1.38	0.16	0.37	0.14	0.05	3.08	0.05	0.54	0.35	0.32	0.05	0.05	
Benzo(k)fluoranthene	mg/kg	0.02	14	0.02	1.89	0.34	77	0	1.89	0.36	0.53	0.06	0.14	0.05	0.02	1.2	0.02	0.21	0.13	0.13	0.02	0.02	
TPH CWG																							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	14	0.10	0.10	0.10	42	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	14	0.10	0.10	0.10	100	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	14	0.10	0.10	0.10	27	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	0.2	14	0.20	0.20	0.20	130	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	4	14	4.00	4.00	4.00	1100	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	7	14	7.00	27.00	8.43	65000	0	7	7	7	7	27	7	7	7	7	7	7	7	7	7	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	7	14	7.00	43.00	9.57	65000	0	7	7	7	7	7	7	7	7	7	7	43	7	7	7	
Total aliphatics C5-35	mg/kg	19	14	19.00	43.00	21.57	-	-	19	19	19	19	31	19	19	19	19	19	43	19	19	19	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	14	0.10	0.10	0.10	70	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	14	0.10	0.10	0.10	130	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	14	0.10	0.10	0.10	34	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	0.2	14	0.20	0.20	0.20	74	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	4	14	4.00	4.00	4.00	140	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	7	14	7.00	53.00	10.43	260	0	9	7	7	7	7	7	7	53	7	7	7	7	7	7	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	7	14	7.00	138.00	30.79	1100	0	69	35	23	15	7	7	7	138	7	53	7	49	7	7	
Total aromatics C5-35	mg/kg	19	14	19.00	191.00	41.50	-	-	78	35	23	19	19	19	19	191	19	53	19	49	19	19	
Total TPH	mg/kg	38	14	38.00	191.00	56.71	-	-	78	38	38	38	38	38	38	191	38	53	38	92	38	38	
MTBE	ug/kg	5	14	5.00	5.00	5.00	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Benzene	ug/kg	5	14	5.00	5.00	5.00	87	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Toluene	ug/kg	5	14	5.00	5.00	5.00	130000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Ethylbenzene	ug/kg	5	14	5.00	5.00	5.00	47000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
p & m-xylene	ug/kg	5	14	5.00	5.00	5.00	56000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
o-xylene	ug/kg	5	14	5.00	5.00	5.00	60000	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Greater than LOD with no AC

Greater than GAC

Appendix I

Laboratory Analytical Certificates

Gravesham Borough Council

RPS
6th Floor
20 Farringdon Street
London
EC4A 4AB



Attention : Jim Lightbown
Date : 18th July, 2022
Your reference : JER9191
Our reference : Test Report 22/10836 Batch 1
Location : St Columbas Close
Date samples received : 1st July, 2022
Status : Final Report
Issue : 1

Thirty six samples were received for analysis on 1st July, 2022 of which fourteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: RPS
Reference: JER9191
Location: St Columbas Close
Contact: Jim Lightbown
EMT Job No: 22/10836

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	21-23	24-27	33-36	54-55,97-98	56-59	60-63	69-72	73-76	85-88	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP03	TP02	WS01	WS02A	WS02	WS04	WS04	CP01	CP01	WS05A			
Depth	0.30	0.30	0.25	0.80	0.30	0.20	0.70	0.50	3.00	0.30			
COC No / misc													
Containers	V J T B	V J B	V J T B	V J B	V B J T	V J B	V J B	V J T B	V J B	V J T B			
Sample Date	28/06/2022	28/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	LOD/LOR	Units	Method No.
Arsenic #	14.3	10.6	12.4	11.8	9.3	12.8	3.9	16.3	3.8	10.5	<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Chromium #	47.7	42.8	46.7	40.9	41.9	36.1	24.4	56.4	24.0	35.5	<0.5	mg/kg	TM30/PM15
Copper #	33	43	33	26	26	27	6	66	6	26	<1	mg/kg	TM30/PM15
Lead #	84	100	126	113	62	125	<5	180	<5	88	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.1	0.4	0.2	<0.1	0.2	<0.1	0.9	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Nickel #	15.1	16.5	22.9	18.2	20.2	17.7	8.4	26.1	8.8	19.1	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	1	<1	1	<1	1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	135	153	106	66	94	70	19	150	22	82	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.22	0.09	0.08	<0.04	<0.04	<0.04	<0.04	0.14	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.11	0.09	0.16	<0.03	0.03	<0.03	<0.03	0.33	<0.03	0.05	<0.03	mg/kg	TM4/PM8
Acenaphthene #	1.63	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	1.21	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	12.64	0.53	0.31	0.07	0.18	0.07	<0.03	0.75	<0.03	0.14	<0.03	mg/kg	TM4/PM8
Anthracene #	3.88	0.11	0.12	<0.04	0.08	<0.04	<0.04	0.33	<0.04	0.08	<0.04	mg/kg	TM4/PM8
Fluoranthene #	11.83	0.82	1.31	0.14	0.44	0.14	<0.03	3.09	<0.03	0.42	<0.03	mg/kg	TM4/PM8
Pyrene #	9.62	0.69	1.27	0.12	0.41	0.13	<0.03	2.77	<0.03	0.38	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	5.88	0.69	1.24	0.18	0.25	0.16	<0.06	2.68	<0.06	0.47	<0.06	mg/kg	TM4/PM8
Chrysene #	4.59	0.59	0.88	0.12	0.28	0.10	<0.02	1.71	<0.02	0.37	<0.02	mg/kg	TM4/PM8
Benzo(k)fluoranthene #	6.76	1.28	1.91	0.22	0.51	0.19	<0.07	4.28	<0.07	0.75	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	3.69	0.61	1.06	0.12	0.24	0.10	<0.04	2.27	<0.04	0.35	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	2.87	0.52	1.02	0.08	0.23	0.08	<0.04	2.08	<0.04	0.33	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.49	0.12	0.10	<0.04	0.04	<0.04	<0.04	0.28	<0.04	0.08	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	2.08	0.44	0.77	0.07	0.24	0.08	<0.04	1.77	<0.04	0.27	<0.04	mg/kg	TM4/PM8
PAH 16 Total	67.5	6.6	10.2	1.1	2.9	1.1	<0.6	22.5	<0.6	3.7	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	4.87	0.92	1.38	0.16	0.37	0.14	<0.05	3.08	<0.05	0.54	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	1.89	0.36	0.53	0.06	0.14	0.05	<0.02	1.20	<0.02	0.21	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	107	106	105	103	114	105	108	112	110	104	<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	27	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19	<19	<19	31	<19	<19	<19	<19	<19	<19	mg/kg	TM5/PM8/PM16/PM18

Element Materials Technology

Client Name: RPS
Reference: JER9191
Location: St Columbas Close
Contact: Jim Lightbown
EMT Job No: 22/10836

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	21-23	24-27	33-36	54-55,97-98	56-59	60-63	69-72	73-76	85-88	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP03	TP02	WS01	WS02A	WS02	WS04	WS04	CP01	CP01	WS05A			
Depth	0.30	0.30	0.25	0.80	0.30	0.20	0.70	0.50	3.00	0.30			
COC No / misc													
Containers	V J T B	V J B	V J T B	V J B	V B J T	V J B	V J B	V J T B	V J B	V J T B			
Sample Date	28/06/2022	28/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	01/07/2022	LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	9	<7	<7	<7	<7	<7	<7	53	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	69	35	23	15	<7	<7	<7	138	<7	53	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	78	35	23	<19	<19	<19	<19	191	<19	53	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	78	<38	<38	<38	<38	<38	<38	191	<38	53	<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	8.0	6.6	8.5	15.6	10.8	14.1	12.9	10.1	14.4	9.4	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0759	0.0996	0.3738	<0.0015	0.0867	<0.0015	0.0068	0.0656	0.0081	<0.0015	<0.0015	g/l	TM38/PM20
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Organic Matter	5.8	4.4	2.9	3.4	4.6	5.1	<0.2	3.7	<0.2	5.5	<0.2	%	TM21/PM24
Sulphide	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM107/PM45
pH #	7.62	8.02	7.84	8.13	8.33	8.26	8.90	8.04	8.89	8.02	<0.01	pH units	TM73/PM11

Element Materials Technology

Client Name: RPS
Reference: JER9191
Location: St Columbas Close
Contact: Jim Lightbown
EMT Job No: 22/10836

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	94-96,124	99-102	111-114	115-118									
Sample ID	WS02A	CP02	CP02	WS04									
Depth	0.20	0.40	4.00	1.60									
COC No / misc													
Containers	V J B	V J T B	V J T B	V J B									
Sample Date	27/06/2022	29/06/2022	29/06/2022	27/06/2022									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	01/07/2022	01/07/2022	01/07/2022	01/07/2022									
											LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	49	<7	<7							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	49	<19	<19							<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	92	<38	<38							<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15							<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	8.8	12.0	26.3	25.5							<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0195	0.0510	0.0645	0.0121							<0.0015	g/l	TM38/PM20
Total Cyanide #	<0.5	<0.5	<0.5	<0.5							<0.5	mg/kg	TM89/PM45
Organic Matter	2.9	3.7	<0.2	<0.2							<0.2	%	TM21/PM24
Sulphide	<10	<10	<10	<10							<10	mg/kg	TM107/PM45
pH #	8.11	7.93	8.98	9.03							<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: RPS
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Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/10836	1	TP03	0.30	3	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	TP02	0.30	23	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	WS01	0.25	26	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	WS02A	0.80	35	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	WS02	0.30	55	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	WS04	0.20	58	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown soil and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	WS04	0.70	62	Andrew Alker	13/07/2022	General Description (Bulk Analysis)	brown clay and stone
					Andrew Alker	13/07/2022	Asbestos Fibres	NAD
					Andrew Alker	13/07/2022	Asbestos ACM	NAD
					Andrew Alker	13/07/2022	Asbestos Type	NAD
22/10836	1	CP01	0.50	71	Remigiusz Blichowski	13/07/2022	General Description (Bulk Analysis)	Brown Sand and stone
					Remigiusz Blichowski	13/07/2022	Asbestos Fibres	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos ACM	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos Type	NAD

Client Name: RPS
Reference: JER9191
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Contact: Jim Lightbown

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/10836	1	WS05A	0.30	87	Remigiusz Blichowski	13/07/2022	General Description (Bulk Analysis)	Brown Sand
					Remigiusz Blichowski	13/07/2022	Asbestos Fibres	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos ACM	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos Type	NAD
22/10836	1	CP02	0.40	101	Remigiusz Blichowski	13/07/2022	General Description (Bulk Analysis)	Pale chalk like dust
					Remigiusz Blichowski	13/07/2022	Asbestos Fibres	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos ACM	NAD
					Remigiusz Blichowski	13/07/2022	Asbestos Type	NAD

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Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
22/10836	1	WS02	0.30	54-55,97-98	Cyanide, PAH	Sample holding time exceeded

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/10836

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 22/10836

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC-FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO ₂ generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.			AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 22/10836

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes

Appendix J

Soakaway Test Results

Gravesham Borough Council

Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title	St Columba's Close						
Project No	JER9191		By	AA	Chkd	Date	02/08/2022

Test Details

Trial Pit : 1
Test No: 1
Date of Test:

Trial Pit Details

Length of Pit 1.85 m
Width of Pit 0.50 m
Depth of Pit 2.80 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	2.03
1	2.04
2	2.05
3	2.05
4	2.05
5	2.06
10	2.06
15	2.06
20	2.06
30	2.08
45	2.10
60	2.11
90	2.11
120	2.13
180	2.16
210	2.18
240	2.2

Conditions of Test Zone

Depth to water at start 2.03 m bgl
Effective storage depth 0.77 m
Depth to water 75% full 2.22 m bgl
Depth to water 25% full 2.61 m bgl
Volume 75% to 25% depth 0.36 m³
Mean surface area of outflow 2.73 m²

Soil Infiltration Rate

- by extrapolation

Time 75% full 274 min
Time 25% full 851 min
Time for outflow 578 min

Soil Infiltration Rate 3.76E-06 m/s

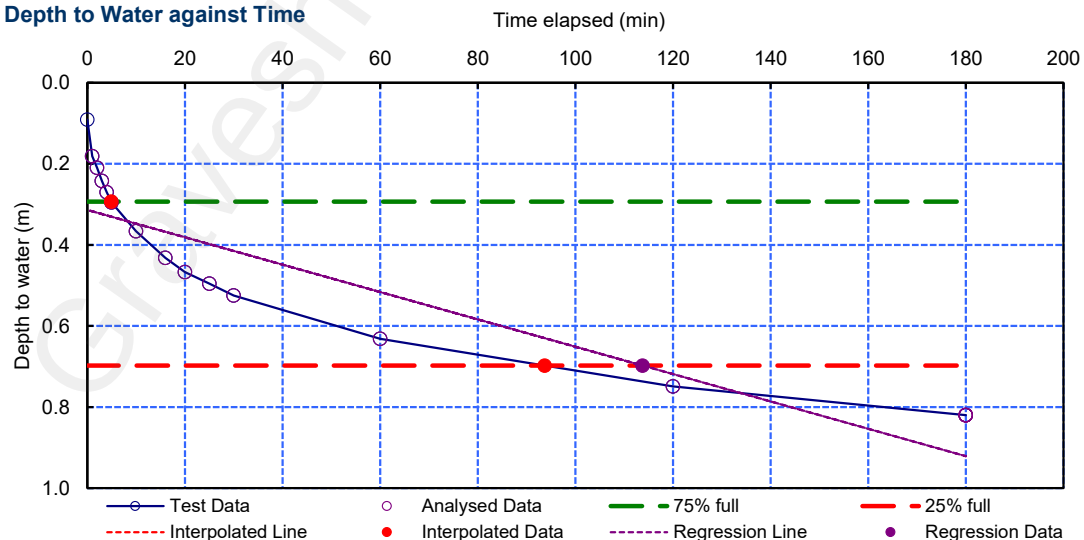
- by regression analysis

Analysed data T1 0 mins
to T2 240 mins
Time 75% full 273 min
Time 25% full 894 min
Time for outflow 622 min

Soil Infiltration Rate 3.49E-06 m/s

Note: Values in blue denote input data

Depth to Water against Time



Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title	St Columba's Close						
Project No	JER9191		By	AA	Chkd	Date	02/08/2022

Test Details

Trial Pit : 2
Test No: 1
Date of Test:

Trial Pit Details

Length of Pit 1.85 m
Width of Pit 0.50 m
Depth of Pit 2.60 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.60
1	1.65
2	1.71
3	1.78
4	1.81
5	1.82
6	1.85
7	1.89
8	1.91
9	1.93
10	1.95
15	2.05
20	2.10
25	2.18
30	2.25
40	2.32
48	2.38

Conditions of Test Zone

Depth to water at start 1.60 m bgl
Effective storage depth 1.00 m
Depth to water 75% full 1.85 m bgl
Depth to water 25% full 2.35 m bgl
Volume 75% to 25% depth 0.46 m³
Mean surface area of outflow 3.28 m²

Soil Infiltration Rate

- by interpolation

Time 75% full 6 min
Time 25% full 44 min
Time for outflow 38 min

Soil Infiltration Rate 6.19E-05 m/s

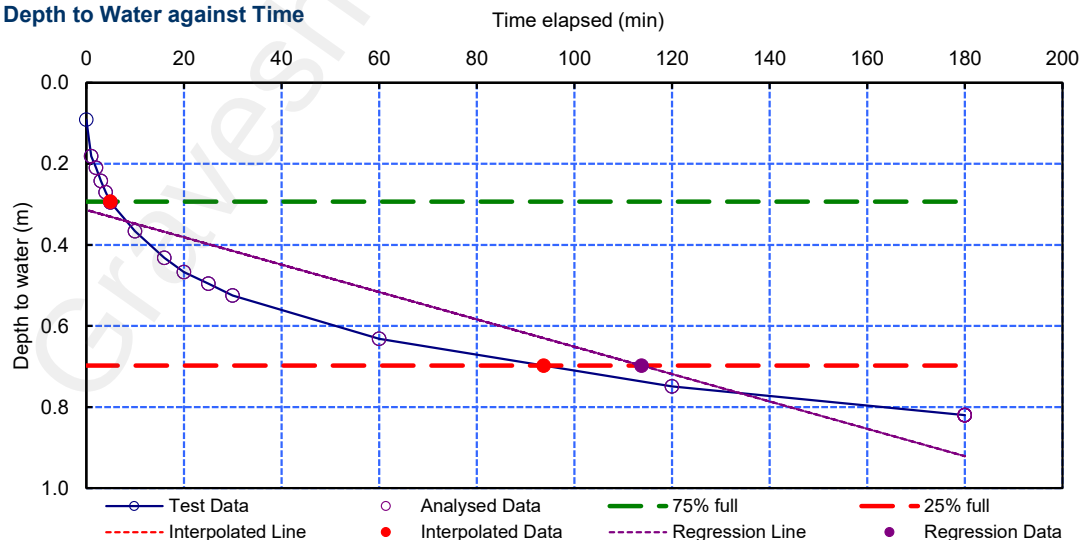
- by regression analysis

Analysed data T1 0 mins
to T2 48 mins
Time 75% full 6 min
Time 25% full 40 min
Time for outflow 34 min

Soil Infiltration Rate 6.98E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title St Columba's Close

Project No JER9191 By AA Chkd Date 02/08/2022

Test Details

Trial Pit : 2
Test No: 2
Date of Test:

Trial Pit Details

Length of Pit 1.85 m
Width of Pit 0.50 m
Depth of Pit 2.60 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.60
1	1.66
2	1.68
3	1.70
4	1.72
5	1.77
6	1.79
7	1.82
8	1.83
9	1.86
10	1.87
15	1.94
20	2.01
25	2.06
30	2.12
40	2.2
50	2.26
60	2.32
70	2.35

Conditions of Test Zone

Depth to water at start 1.60 m bgl
Effective storage depth 1.00 m
Depth to water 75% full 1.85 m bgl
Depth to water 25% full 2.35 m bgl
Volume 75% to 25% depth 0.46 m³
Mean surface area of outflow 3.28 m²

Soil Infiltration Rate

- by extrapolation

Time 75% full 9 min
Time 25% full 70 min
Time for outflow 61 min

Soil Infiltration Rate 3.84E-05 m/s

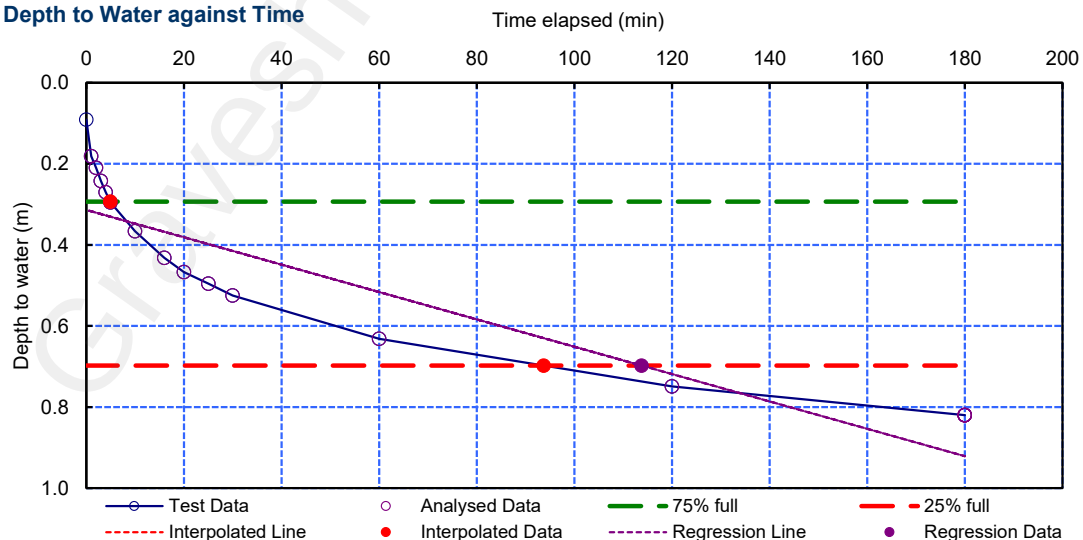
- by regression analysis

Analysed data T1 0 mins
to T2 70 mins
Time 75% full 11 min
Time 25% full 60 min
Time for outflow 49 min

Soil Infiltration Rate 4.85E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Sheet 01 of 01

\\bris-aw-fs-01\Projects\JER9191 - St Columba's Close\3. Data\8. Geotechnics\Soakage\BRE365 Soakage Testing TP02.xlsx\2nd Test

Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title St Columba's Close

Project No JER9191

By

AA

Chkd

Date

02/08/2022

Test Details

Trial Pit : 2
Test No: 3
Date of Test:

Trial Pit Details

Length of Pit 1.85 m
Width of Pit 0.50 m
Depth of Pit 2.60 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.52
1	1.60
2	1.63
3	1.65
4	1.69
5	1.71
6	1.74
7	1.77
8	1.79
9	1.80
10	1.82
15	1.91
20	1.97
25	2.05
30	2.11
40	2.19
50	2.26
60	2.3
75	2.35

Conditions of Test Zone

Depth to water at start 1.52 m bgl
Effective storage depth 1.08 m
Depth to water 75% full 1.79 m bgl
Depth to water 25% full 2.33 m bgl
Volume 75% to 25% depth 0.50 m³
Mean surface area of outflow 3.46 m²

Soil Infiltration Rate

- by interpolation

Time 75% full 8 min
Time 25% full 69 min
Time for outflow 61 min

Soil Infiltration Rate 3.94E-05 m/s

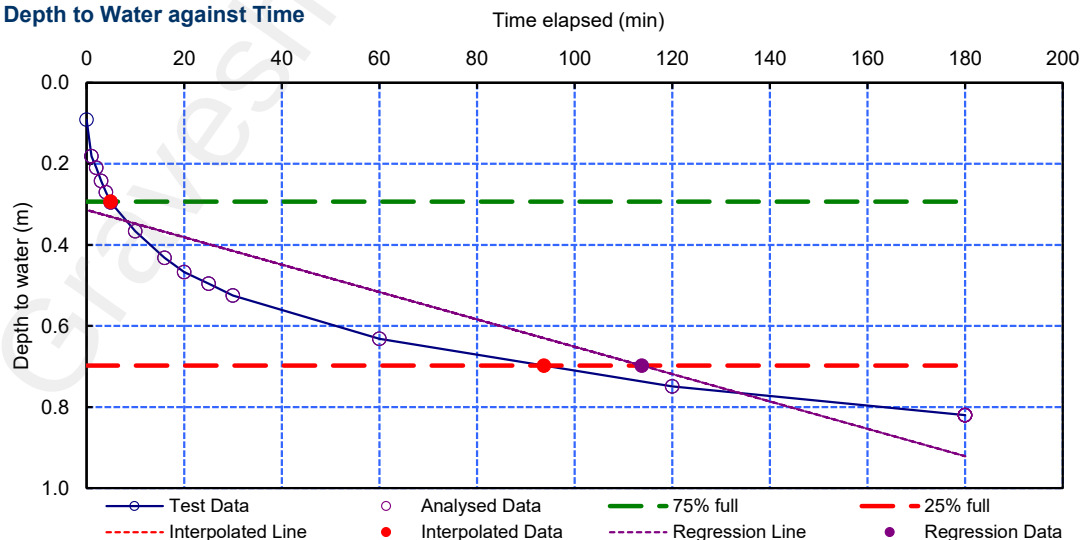
- by regression analysis

Analysed data T1 0 mins
to T2 75 mins
Time 75% full 10 min
Time 25% full 60 min
Time for outflow 51 min

Soil Infiltration Rate 4.76E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Sheet 01 of 01

\\bris-aw-fs-01\Projects\JER9191 - St Columba's Close\3. Data\8. Geotechnics\Soakage\BRE365 Soakage Testing TP02.xlsx\3rd Test

Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title	St Columba's Close						
Project No	JER9191		By	AA	Chkd	Date	02/08/2022

Test Details

Trial Pit : 3
Test No: 1
Date of Test:

Trial Pit Details

Length of Pit 2.15 m
Width of Pit 0.50 m
Depth of Pit 2.00 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.02
1	1.13
2	1.19
3	1.22
4	1.25
5	1.28
10	1.41
15	1.48
20	1.54
30	1.64
45	1.76

Conditions of Test Zone

Depth to water at start 1.02 m bgl
Effective storage depth 0.98 m
Depth to water 75% full 1.27 m bgl
Depth to water 25% full 1.76 m bgl
Volume 75% to 25% depth 0.53 m³
Mean surface area of outflow 3.67 m²

Soil Infiltration Rate

- by interpolation

Time 75% full 5 min
Time 25% full 44 min
Time for outflow 40 min

Soil Infiltration Rate 6.00E-05 m/s

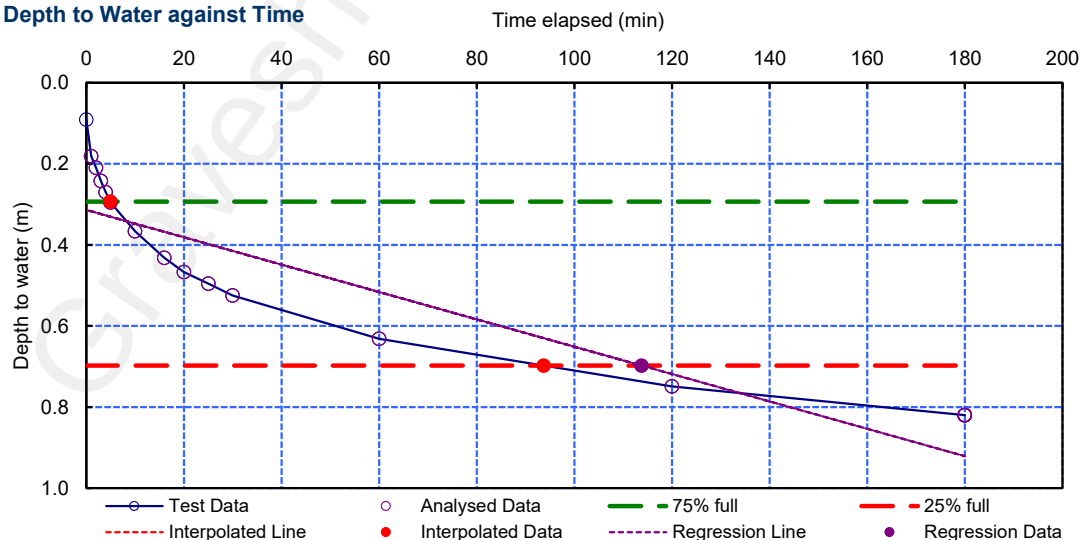
- by regression analysis

Analysed data T1 0 mins
to T2 45 mins
Time 75% full 5 min
Time 25% full 40 min
Time for outflow 35 min

Soil Infiltration Rate 6.85E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title St Columba's Close

Project No JER9191 By AA Chkd Date 02/08/2022

Test Details

Trial Pit : 3
Test No: 2
Date of Test:

Trial Pit Details

Length of Pit 2.15 m
Width of Pit 0.50 m
Depth of Pit 2.00 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.00
1	1.11
2	1.16
3	1.18
4	1.22
5	1.24
10	1.33
15	1.40
20	1.47
30	1.60
45	1.69
60	1.76

Conditions of Test Zone

Depth to water at start 1.00 m bgl
Effective storage depth 1.00 m
Depth to water 75% full 1.25 m bgl
Depth to water 25% full 1.75 m bgl
Volume 75% to 25% depth 0.54 m³
Mean surface area of outflow 3.73 m²

Soil Infiltration Rate

- by interpolation

Time 75% full 6 min
Time 25% full 58 min
Time for outflow 52 min

Soil Infiltration Rate 4.60E-05 m/s

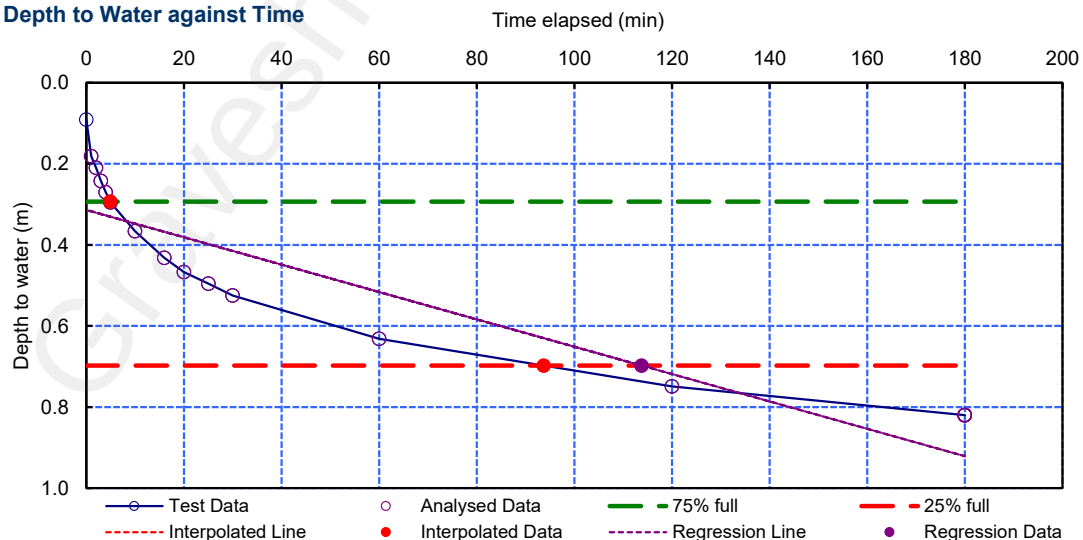
- by regression analysis

Analysed data T1 0 mins
to T2 60 mins
Time 75% full 6 min
Time 25% full 51 min
Time for outflow 45 min

Soil Infiltration Rate 5.33E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Sheet 01 of 01

\\bris-aw-fs-01\Projects\JER9191 - St Columba's Close\3. Data\8. Geotechnics\Soakage\BRE365 Soakage Testing TP03.xlsx\2nd Test

Record Sheet



DETERMINATION OF SOIL INFILTRATION RATE

Project Title St Columba's Close

Project No JER9191 By AA Chkd Date 02/08/2022

Test Details

Trial Pit : 3
Test No: 3
Date of Test:

Trial Pit Details

Length of Pit 2.15 m
Width of Pit 0.50 m
Depth of Pit 2.00 m

Test Data

Elapsed Time (mins)	Depth to Water (m)
0	1.00
1	1.09
2	1.11
3	1.15
4	1.17
5	1.20
10	1.28
15	1.36
20	1.46
30	1.57
40	1.63
50	1.71
60	1.77

Conditions of Test Zone

Depth to water at start 1.00 m bgl
Effective storage depth 1.00 m
Depth to water 75% full 1.25 m bgl
Depth to water 25% full 1.75 m bgl
Volume 75% to 25% depth 0.54 m³
Mean surface area of outflow 3.73 m²

Soil Infiltration Rate

- by interpolation

Time 75% full 8 min
Time 25% full 57 min
Time for outflow 49 min

Soil Infiltration Rate 4.95E-05 m/s

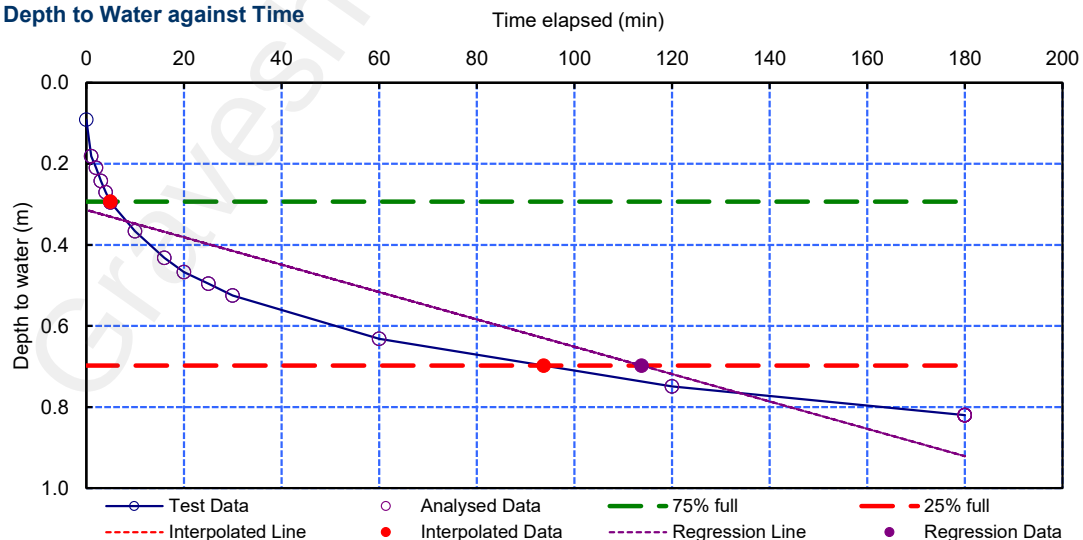
- by regression analysis

Analysed data T1 0 mins
to T2 60 mins
Time 75% full 9 min
Time 25% full 52 min
Time for outflow 43 min

Soil Infiltration Rate 5.65E-05 m/s

Note: Values in blue denote input data

Depth to Water against Time



Sheet 01 of 01

\\bris-aw-fs-01\Projects\JER9191 - St Columba's Close\3. Data\8. Geotechnics\Soakage\BRE365 Soakage Testing TP03.xlsx\3rd Test

Appendix K

DCP Results

Gravesham Borough Council

		DCP02				DCP03				DCP04				DCP05				DCP06				DCP07				DCP08				DCP09				DCP10				DCP11							
		40				40				40				40				40				40				40				40				40				40				40			
Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR	Blows	Corr. Depth Cumulative CBR												
0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
1	180	1	0.11	1	0.13	1	0.13	1	0.17	1	0.16	1	0.17	1	0.19	1	0.16	1	0.17	1	0.16	1	0.17	1	0.16	1	0.17	1	0.16	1	0.17	1	0.16												
2	200	21	0.38	2	0.38	2	0.38	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42	2	0.42												
3	214	3	0.53	3	0.53	3	0.53	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58	3	0.58												
4	231	4	0.63	4	0.63	4	0.63	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68	4	0.68												
5	250	5	0.70	5	0.70	5	0.70	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75												
6	267	6	0.75	6	0.75	6	0.75	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80	6	0.80												
7	295	7	0.77	7	0.77	7	0.77	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82	7	0.82												
8	324	8	0.79	8	0.79	8	0.79	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84	8	0.84												
9	356	9	0.80	9	0.80	9	0.80	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85	9	0.85												
10	388	10	0.80	10	0.80	10	0.80	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85	10	0.85												
11	440	11	0.88	11	0.88	11	0.88	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93	11	0.93												
12	474	12	0.88	12	0.88	12	0.88	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93	12	0.93												
13	500	13	0.82	13	0.82	13	0.82	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87	13	0.87												
14	521	14	0.83	14	0.83	14	0.83	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88	14	0.88												
15	546	15	0.85	15	0.85	15	0.85	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90	15	0.90												
16	551	16	0.87	16	0.87	16	0.87	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92	16	0.92												
17	565	17	0.88	17	0.88	17	0.88	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93	17	0.93												
18	580	18	0.90	18	0.90	18	0.90	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95	18	0.95												
19	592	19	0.91	19	0.91	19	0.91	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96	19	0.96												
20	604	20	0.93	20	0.93	20	0.93	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98	20	0.98												
21	621	21	0.94	21	0.94	21	0.94	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99	21	0.99												
22	624	22	0.95	22	0.95	22	0.95	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00	22	1.00												
23	633	23	0.97	23	0.97	23	0.97	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02	23	1.02												
24	642	24	0.98	24	0.98	24	0.98	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03	24	1.03												
25	650	25	0.99	25	0.99	25	0.99	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04	25	1.04												
26	662	26	1.00	26	1.00	26	1.00	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05	26	1.05												
27	680	27	1.01	27	1.01	27	1.01	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06	27	1.06												
28	697	28	1.02	28	1.02	28	1.02	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07	28	1.07												
29	694	29	1.03	29	1.03	29	1.03	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08	29	1.08												
30	711	30	1.04	30	1.04	30	1.04	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09	30	1.09												
31	725	31	1.04	31	1.04	31	1.04	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10	31	1.10												
32	740	32	1.05	32	1.05	32	1.05	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11	32	1.11												
33	755	33	1.05	33	1.05	33	1.05	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12	33	1.12												
34	776	34	1.06	34	1.06	34	1.06	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13	34	1.13												
35	782	35	1.06	35	1.06	35	1.06	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14	35	1.14												
36	795	36	1.07	36	1.07	36	1.07	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15	36	1.15												
37	807	37	1.07	37	1.07	37	1.07	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16	37	1.16												
38	826	38	1.08	38	1.08	38	1.08	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17	38	1.17												
39	880	39	1.06	39	1.06	39	1.06	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18	39	1.18												
40	892	40	1.07	40	1.07	40	1.07	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19	40	1.19												
41	910	41	1.07	41	1.07	41	1.07	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20	41	1.20												
42	930	42	1.07	42	1.07	42	1.07	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21	42	1.21												
43	945	43	1.07	43	1.07	43	1.07	43	1.22	43	1.22	43	1.22	43	1.22	43	1.22	43	1.22	43	1.22	43																							