



Ref: JB/19-230.02/SC-2

2 October 2019

Dharm Bhullar
Senior Technical Manager
Howarth Homes

By email only

Dear Dharm

**RE: SOIL CONTAMINATION TESTING
WESTCOMBE HOUSE, WINDSOR STREET, UXBRIDGE, UB8 1AB**

1 Introduction

Aviron Associates Limited (Aviron) was instructed by Howarth Homes (The Client) to attend site and complete the sampling and testing of the overlying shallow ground soils, principally the Made Ground, to determine soil chemistry and environmental risk potential.

This report follows a previously issued:

- 🌿 Phase I Geo-Environmental Risk Assessment (GERA), prepared by Aviron, dated September 2019, reference 19-230.01.

The Phase I GERA report broadly determined the absence of environmental risk on the basis of site history and current site presentation and proposed development plans involving the construction of permanent hardstanding across the entire site. However, it recommended to completed precautionary soil sampling and testing to confirm the perceived absence of risk.

2 Field Work

At the time of field works the site was presented Westcombe House, an L-shaped building occupying the majority of the site, with a car park in the north, and an undercroft car park beneath two-thirds of the building. Construction works in the form of refurbishment were on-going.

The Aviron investigation team attended site on 23 September 2019 to complete the excavation of hand dug trial pits (HP1 to HP3) to depths of up to 1.0m below ground level (bgl) in order assess shallow ground conditions and the presence or absence of soil contamination; principally within the Made Ground unit.

Figure 1 presents trial pit locations and table 1 provides a rationale of trial pit locations.

Aviron Associates Limited Head Office

Badgemore House – Badgemore Park – Gravel Hill – Henley on Thames – RG9 4NR

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Registered Office

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Company no. 06471253 - VAT no. 929 5083 96

Table 1 : Rationale of Pit Location and Soil Geochemical Testing

Location	Rationale	Strata Sampled	Analysis Scheduled
TH1	Spatial coverage in west of car park (external area)	Made Ground (0.2m) Made Ground (0.8m)	ES-1 ES-1
TH2	Spatial coverage within centre of car park and by area of raised planting.	Gravel (0.5m) Gravel (1.0m)	ES-1 ES-1
TH3	Spatial coverage in east of car park (external area)	Made Ground (0.2m) Made Ground (0.7m)	ES-1 ES-1

Trial pit logs are **appended** and in general ground conditions were encountered as follows:

-  Block pavers with sharp sand bedding or tarmac; over
-  MADE GROUND proven to 1.0m within TH1, 0.42m in TH2 and 0.9m in TH3;
-  Brown, sandy, clayey GRAVEL in TH2 only and proven to 1.0m.

Groundwater was not encountered within investigation locations.

Environmental soil samples were collected within each of the trial holes, which are summarised within table 1. The sampling schedule targeted both overlying Made Ground and directly underlying natural Gravel. By testing the underlying Gravel the leaching affect of the overlying Made Ground can be examined.

All soil samples were collected from excavated/augered arisings using latex gloves and a clean stainless-steel trowel. Samples were placed into pre-labeled amber jars. All soil samples were collected in accordance with Aviron's standard sampling protocols. Environmental soil samples were submitted for the following analysis:

-  Aviron's '**ES-1**' includes the following parameters; arsenic, barium, cadmium, total chromium, copper, nickel, zinc, lead, mercury, selenium, water soluble boron, total cyanide, total sulphate, water soluble sulphate (SO₄), total sulphur, speciated PAH, total phenols, pH, TPH CWG (Total Petrol Hydrocarbon Criteria Working Group), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Methyl Tert-Butyl Ether (MTBE), asbestos and organic matter. Completed to provide both asbestos analysis and also assist waste soil classification with a full chemical test.

Samples were submitted to i2 Analytical Limited on 23 September 2019, being held within ice-packed cool boxes in the interim.

3 Laboratory Results

Laboratory certificates of analysis are **appended** to this report along with an appraisal of the human health guidance criteria applied by Aviron for soil chemical appraisal.

Given the intended residential apartments end use a 'residential without plant up-take' end use has been applied. The 1% SOM guidance shall be selected given the average SOM is 0.9%.

The results of the laboratory are summarised in Table 2, presenting results where geochemical exceedances have been reported.



Table 2: Summary of Geochemical Results

Location (Depth)	Strata Type	Comments
TH1	Made Ground (0.2m) Made Ground (0.8m)	All concentrations of determinants in both samples analysed below the residential end use criteria applied.
TH2	Gravel (0.5m) Gravel (1.0m)	All concentrations of determinants in both samples analysed below the residential end use criteria applied.
TH3	Made Ground (0.2m) Made Ground (0.7m)	All concentrations of determinants in both samples analysed below the residential end use criteria applied.

4 Conclusions

The results of the precautionary ground investigation concur with the initial site conceptualisation which was presented within the aforementioned Phase I GERA report.

The Made Ground beneath the site is not considered to be contaminated and thus is not considered to present a risk to human health, controlled waters are the wider environmental. Accordingly the overall risk classification is reduced to **VERY LOW** on account of the absence of soil contamination.

Remediation works are not considered necessary.

We trust this meets your approval. Any questions please contact the undersigned.

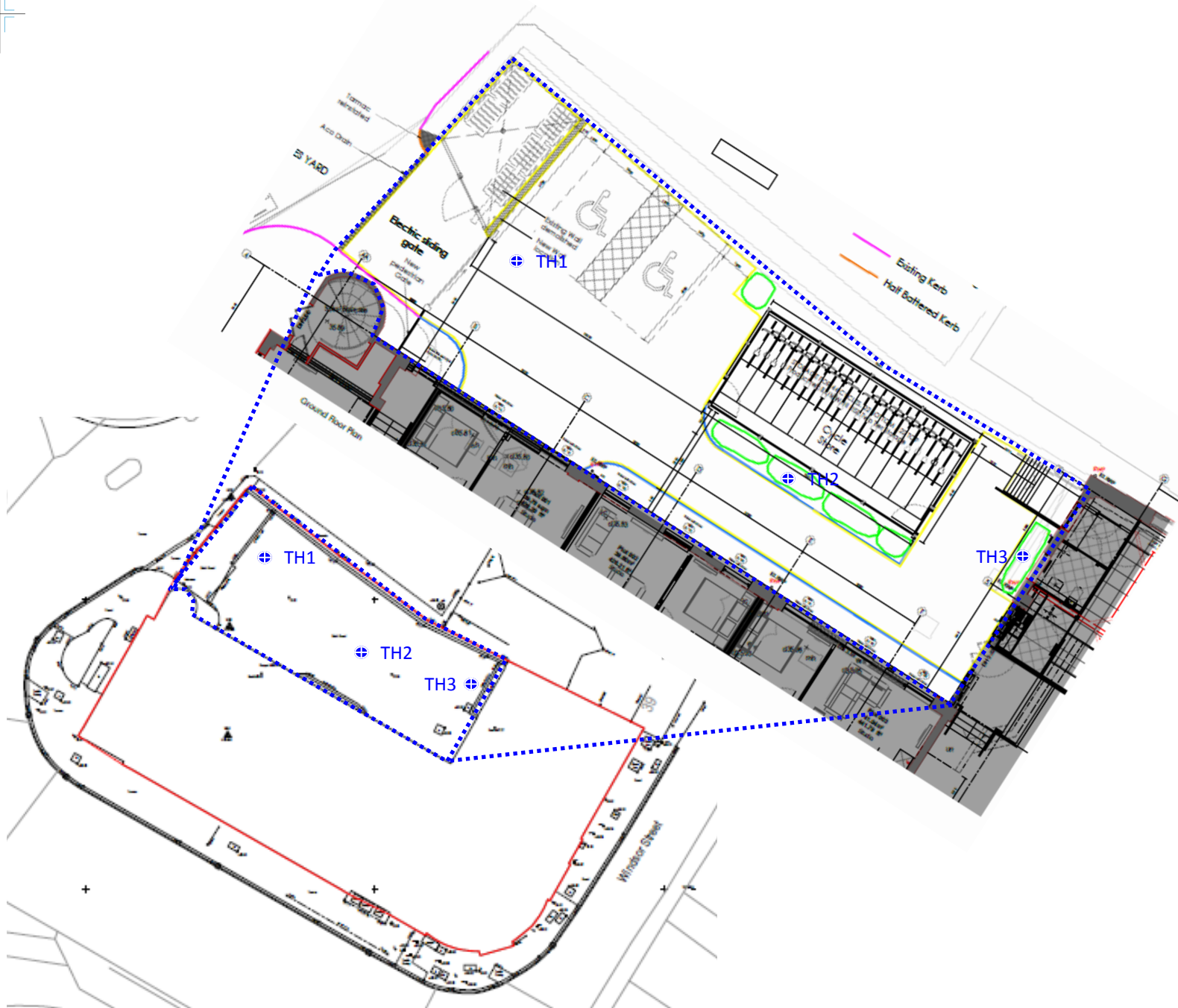
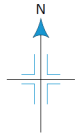
Yours sincerely



James Burkitt BEng (Hons) CEnv MRICS
Managing Director
Aviron Associates Limited

Encl. Figure 1
 Trial Pit Logs and Photographs
 Laboratory Certificates of Analysis





Legend

-  Soft Landscaping/Remediation Area
-  Trial Hole Location

Notes

Plan provided by client

Figure 1

Drawing Title

Proposed Development and Trial Hole Location Plan

Project Number 19-230.02

Project Title

Westcombe House, Windsor Street, Uxbridge, UB8 1AB

Drawn by OB

Checked by JB

Scale NTS





TRAIL HOLE/HAND AUGER LOG

Project: Westcombe House, Windsor Street, Uxbridge, UB8 1AB				Project No. 19-230.02	Trial Hole: TH1
Client: Howarth Homes			Start: 23.09.2019	End: 23.09.2019	Sheet: 1 of 1
Method/Plant Used: Shovel-Holers + Hand Auger		Co-ordinates: NT		Ground Level: NT	

Description of Strata	Legend	Depth (m bgl) (thickness)	Well Cnstr.	Samples/Tests			SPT Results						N' Value	Laboratory Test Details
				Depth	No	Type	75mm	75mm	75mm	75mm	75mm	75mm		
TARMAC (MADE GROUND)		0.06		0.2	1	ES								
CONCRETE (MADE GROUND)		0.18												
Brown sandy clayey GRAVEL. Gravel is fine to coarse angular to sub rounded of brick and flint. (MADE GROUND)		(0.82)		0.8	2	ES								
		1.0												



Casing record			Chiselling records			Water level observations (depths in metres below gl)					
Date	Diameter (mm)	Depth (m)	Time	From (m)	To (m)	Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks
						23.09.2019	No			Dry	
Remarks No groundwater encountered. No visual or olfactory evidence of contamination.									By	Date	
									Logged	JD	23.09.2019
									Checked	JB	02.10.2019
											Scale 01:25



TRAIL HOLE/HAND AUGER LOG

Project: Westcombe House, Windsor Street, Uxbridge, UB8 1AB				Project No. 19-230.02	Trial Hole: TH2
Client: Howarth Homes			Start: 23.09.2019	End: 23.09.2019	Sheet: 1 of 1
Method/Plant Used: Shovel-Holers + Hand Auger		Co-ordinates: NT		Ground Level: NT	

Description of Strata	Legend	Depth (m bgl) (thickness)	Well Cnstr.	Samples/Tests			SPT Results						Laboratory Test Details
				Depth	No	Type	75mm	75mm	75mm	75mm	75mm	75mm	
Block paving with sharp sand bedding (MADE GROUND)		0.2 (0.2)											
Grey purple clayey GRAVEL (type 1). Gravel is fine to coarse sub angular to angular of limestone (MADE GROUND)		(0.22) 0.42											
Brown sandy clayey GRAVEL. Gravel is fine to coarse angular to sub rounded flint.		(0.58)		0.5	1	ES							
		1.0		1.0	2	ES							



Casing record			Chiselling records			Water level observations (depths in metres below gl)					
Date	Diameter (mm)	Depth (m)	Time	From (m)	To (m)	Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks
						23.09.2019	No			Dry	
Remarks									By	Date	
No groundwater encountered. No visual or olfactory evidence of contamination.									Logged	JD	23.09.2019
									Checked	JB	02.10.2019
											Scale 01:25



TRAIL HOLE/HAND AUGER LOG

Project: Westcombe House, Windsor Street, Uxbridge, UB8 1AB				Project No. 19-230.02	Trial Hole: TH3
Client: Howarth Homes			Start: 23.09.2019	End: 23.09.2019	Sheet: 1 of 1
Method/Plant Used: Shovel-Holers + Hand Auger		Co-ordinates: NT		Ground Level: NT	

Description of Strata	Legend	Depth (m bgl) (thickness)	Well Constr.	Samples/Tests			SPT Results						N' Value	Laboratory Test Details
				Depth	No	Type	75mm	75mm	75mm	75mm	75mm	75mm		
Block paving with sharp sand bedding (MADE GROUND)		0.18 (0.18)		0.2	1	ES								
Compacted brown sandy clayey GRAVEL. Gravel is fine to coarse angular to sub rounded of flint and brick (MADE GROUND)		(0.72)		0.7	2	ES								
		0.9												



Casing record			Chiselling records			Water level observations (depths in metres below gl)					
Date	Diameter (mm)	Depth (m)	Time	From (m)	To (m)	Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks
						23.09.2019	No			Dry	
Remarks									By	Date	
No groundwater encountered. No visual or olfactory evidence of contamination.									Logged	JD	23.09.2019
									Checked	JB	02.10.2019
											Scale 01:25



James Burkitt

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e: Aviron -

Analytical Report Number : 19-62064

Project / Site name: Westcombe House, Windsor St,
Uxbridge UB8 1AB

Samples received on: 23/09/2019

Your job number:

Samples instructed on: 23/09/2019

Your order number: 19-230.02

Analysis completed by: 30/09/2019

Report Issue Number: 1

Report issued on: 30/09/2019

Samples Analysed: 6 soil samples

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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

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

Iss No 19-62064-1 Westcombe House, Windsor St, Uxbridge UB8 1AB

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

The results included within the report are representative of the samples submitted for analysis.

Page 1 of 7

Analytical Report Number: 19-62064

Project / Site name: Westcombe House, Windsor St, Uxbridge UB8 1AB

Your Order No: 19-230.02

Lab Sample Number				11464	11465	11466	11467	11468
Sample Reference				TH1	TH2	TH3	TH1	TH2
Sample Number				MG	NAT	MG	MG	NAT
Depth (m)				0.20	0.50	0.20	0.80	1.00
Date Sampled				23/09/2019	23/09/2019	23/09/2019	23/09/2019	23/09/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
SOILS								
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	5.9	4.9	7.1	7.6	5.9
Total mass of sample received	kg	0.001	NONE	1.4	1.4	1.3	1.3	1.4

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

pH - Automated	pH Units	N/A	MCERTS	10.1	8.9	9.5	9.3	8.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1300	160	1000	620	300
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.16	0.028	0.31	0.084	0.077
Total Sulphur	mg/kg	50	MCERTS	670	110	750	270	130
Organic Matter	%	0.1	MCERTS	1.0	0.4	1.4	0.6	0.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 19-62064

Project / Site name: Westcombe House, Windsor St, Uxbridge UB8 1AB

Your Order No: 19-230.02

Lab Sample Number	11464	11465	11466	11467	11468
Sample Reference	TH1	TH2	TH3	TH1	TH2
Sample Number	MG	NAT	MG	MG	NAT
Depth (m)	0.20	0.50	0.20	0.80	1.00
Date Sampled	23/09/2019	23/09/2019	23/09/2019	23/09/2019	23/09/2019
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	3.4	4.9	4.5	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	99	50	96	73	98
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.2	1.9	0.7	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	23	15	26	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	13	14	23	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	65	11	28	43	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	18	13	21	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	67	38	46	68	40

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	1.2	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	16	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	40	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	71	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	130	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	19	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	13	< 10	46	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	29	< 10	44	15	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	42	< 10	110	21	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 19-62064

Project / Site name: Westcombe House, Windsor St, Uxbridge UB8 1AB

Your Order No: 19-230.02

Lab Sample Number				11469				
Sample Reference				TH3				
Sample Number				MG				
Depth (m)				0.70				
Date Sampled				23/09/2019				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SOILS								
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	7.9				
Total mass of sample received	kg	0.001	NONE	1.3				

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

pH - Automated	pH Units	N/A	MCERTS	10.8				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Total Sulphate as SO ₄	mg/kg	50	MCERTS	5400				
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.24				
Total Sulphur	mg/kg	50	MCERTS	2200				
Organic Matter	%	0.1	MCERTS	1.2				

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	0.54				
Anthracene	mg/kg	0.05	MCERTS	0.20				
Fluoranthene	mg/kg	0.05	MCERTS	1.2				
Pyrene	mg/kg	0.05	MCERTS	1.3				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.84				
Chrysene	mg/kg	0.05	MCERTS	0.53				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.88				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.45				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.91				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.31				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3				

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	9.64				
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Analytical Report Number: 19-62064

Project / Site name: Westcombe House, Windsor St, Uxbridge UB8 1AB

Your Order No: 19-230.02

Lab Sample Number				11469				
Sample Reference				TH3				
Sample Number				MG				
Depth (m)				0.70				
Date Sampled				23/09/2019				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.7				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	200				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	57				

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	7.8				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	55				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	83				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	150				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	1.7				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	18				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	130				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	190				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	340				

U/S = Unsuitable Sample I/S = Insufficient Sample



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Project / Site name: Westcombe House, Windsor St, Uxbridge UB8 1AB

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
11464	TH1	MG	0.20	Brown sandy topsoil with gravel.
11465	TH2	NAT	0.50	Brown sandy topsoil with gravel.
11466	TH3	MG	0.20	Brown topsoil and sand with gravel.
11467	TH1	MG	0.80	Brown sandy topsoil with gravel and brick.
11468	TH2	NAT	1.00	Brown sandy topsoil with gravel.
11469	TH3	MG	0.70	Brown topsoil and sand with gravel and brick.

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Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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The results included within the report are representative of the samples submitted for analysis.

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