

2nd November 2016

Our Ref: 14.02.009a

Primus Ltd
Level 4
120-128 Moorgate
London
EC2 6UR

For the attention of Mr Fergal McCloskey

Dear Mr McCloskey

Post Remediation Verification – Willingham Close, Willingham Terrace, Camden, NW5 2UY

Introduction

A Post Remediation Verification Investigation has been undertaken for the residential re-development at Willingham Close, Willingham Terrace, Camden, London, NW5 2UY. The Ordnance Survey National Grid reference for the site is approximately 529350, 185250.

This report describes the site activities carried out by ListersGeo in order to provide verification of the remediation undertaken at the development. Instructions to undertake the investigation were received by Primus Ltd in their email instruction dated 16th March 2016.

This verification report follows a Desk Study and Ground Investigation report which was prepared by ListersGeo (reference number 14.02.009, dated November 2014). The Ground Investigation report presented a remedial strategy for the site.

This report has been prepared for the sole use of the client and their professional advisors. This report shall not be relied upon by third parties without the express written authority of ListersGeo. If an unauthorised third party comes into possession of this report they must not rely on it and the authors owe them no duty of care and skill.

Site Information and Walkover Survey

The site lies in a residential area on the southern margin of Kentish Town centred on Leighton Road and was until recently occupied by domestic garage structures. The site consists of an irregular shaped parcel of land measuring approximately 15m by 45m and the site extends to 0.08ha in area.

A walkover survey of the site and its immediate surrounds was undertaken on the 21st June 2016. A selection of site photographs is presented in Appendix B.

At the time of the walkover survey the new houses were under construction and a stockpile of imported Topsoil in 12no. bulk bags was located in the northern portion of the site.

A second walkover survey was conducted on the 26th October 2016 when the Topsoil had been placed in the soft landscaped areas.

Geology

The previous site investigation confirmed the published geology with the natural soils comprising the London Clay Formation. However variable and locally deep Made Ground was encountered across the site to depths of between 0.50m and 3.00m on the site. In addition, localised Possibly Reworked Ground was encountered beneath the Made Ground, particularly in the north of the site, to depths of between 1.20m and 3.90m.

Previous Work

The Ground Investigation report (dated November 2014) identified elevated concentrations of polyaromatic hydrocarbon compounds, lead and arsenic within the Made Ground at the site and considered that remediation was necessary to protect future end users of the site.

The report recommended that remediation of the site would be achieved by placing a layer of clean capping in garden areas, thus removing the pollutant linkage between the source of the contamination and the human health receptors.

Remedial measures

A clean soil cover system of 600mm in thickness was recommended to be implemented in any gardens and soft landscaped areas at the site as part of the previous report. The cover system was recommended to consist of 200mm of clean topsoil and 400mm of clean sub-soil.

As part of the site re-development works it was subsequently noted by the developer that a reduction of site levels of greater than 300mm was not possible in the landscaped areas adjacent to the existing retaining walls on the eastern and northern boundaries of the site due to structural concerns over the resulting stability of the walls. For clarity, these areas are shown in green on the Site Layout Plan presented in Appendix B. Due to these site constraints, it was considered acceptable by ListersGeo to reduce the required capping layer thicknesses, in these areas only, to 300mm.

Subsequent alterations to the design and layout of the site during construction is understood to have resulted in the only areas of planned soft landscaping to comprise a narrow strip along the northern and eastern boundaries of the site (where 300mm capping layer is considered suitable). It is further understood that the only garden area on the site will comprise an area of above ground allotment planters in the north-eastern corner of the site (where 600mm capping was originally required).

The remedial options within our original report recommended that any new soil imported to the site should have been tested for a range of contaminants. The levels of these contaminants should not exceed the appropriate S4ULs for the site and chemical testing certificates for the material should be provided for approval.

Remediation Implementation

In June 2016, 12no bulk bags of Topsoil were imported from the SRC Aggregates site, Crown Quarry, Aldleigh, CO7 7QR direct to Willingham Close, Willingham Terrace, Camden, London, NW5 2UY. The imported Topsoil was subsequently placed within the soft landscaped areas and allotment planters in several phases between September and October 2016.

Chemical Validation of Imported Topsoil

A site visit was made on the 21st June 2016 to undertake chemical validation of the imported Topsoil prior to it being placed within the proposed soft landscaped areas around the site.

The imported Topsoil was accompanied by a certificate of chemical testing from Chemtest Ltd, a copy of which is provided in Appendix C. In addition, six soil samples were obtained at random from the 12no. bulk bags of imported Topsoil present on the site at the time of the visit by ListersGeo to further validate the material for the proposed end-use.

The suite of testing carried out on the samples was decided upon following consultation of R&D CLR Publications, published as part of the Contaminated Land Exposure Assessment (CLEA), a joint venture between the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency.

The test suite included a range of:

- Metals and inorganic substances.
- Speciated Polyaromatic Hydrocarbons (PAH).
- Total Petroleum Hydrocarbons (TPH), with eight-band split.
- Asbestos

The soil samples were tested to obtain 'Total' values within the soil and the results are included in Appendix D.

Human Health Risk Assessment

The human health risk assessment has been undertaken using the guidance provided in the Environment Agency's publication CLR11, Model Procedures for the Management of Contaminated Land, published in September 2004.

Human health assessment criteria used are based upon the proposed final land use of the site. The guidelines for 'Residential with home-grown produce' end use have been used.

Soil Assessment Criteria

The results of the Topsoil chemical testing have been compared to acceptable criteria for this specific site, being the published DEFRA Category 4 Screening Levels (C4SLs) and, where C4SLs are unavailable, the published LQM Suitable 4 Use Levels (S4ULs) appropriate for general residential end use.

Results of Total Soil Tests

The results of the testing for the Topsoil recorded levels of all contaminants tested well below the acceptable levels for a 'residential with home-grown produce' end use.

Cover System Thickness Verification

A further site visit was made on the 26th October 2016 to verify the thickness of the remedial capping layer once placed in the landscaped areas and the allotment planters. Five trial holes were excavated by hand down to a maximum depth of 0.65m. The location of the trial holes are recorded on the Site Layout Plan in Appendix A. The trial pit logs are presented in Appendix E whilst photographs of the trial pits are presented in Appendix F.

Topsoil

In the long strip of landscaping which runs along the northern and eastern boundaries of the site, the imported Topsoil was recorded down to between 0.31m and 0.65m depth. In the allotment garden planters in the north-eastern corner of the site, Topsoil was present down to 0.64m depth. In all verification trial pits, the Topsoil was found to be underlain by a fabric membrane which was left intact.

The Topsoil was represented by:

- Dark brown sandy gravelly silty clay with inclusions of organic materials. The gravel comprised subangular to subrounded flint gravel.

Conclusions

The total thickness of the new clean capping layer was between 0.31m and 0.65m, or between 310mm and 650mm and has been verified as being acceptable for residential end use at this site.

The imported Topsoil has been verified by independent laboratory test data provided by Chemtest Ltd to be suitable for the proposed 'residential with home-grown produce' end use.

Thus, it is considered that for this development, the thickness of the clean soil cover is acceptable and the source-pathway-receptor linkage has been removed.

Therefore, it is concluded that the remediation has been successfully implemented at this site. This report should be approved by the relevant regulatory authorities as soon as possible.

Yours sincerely,



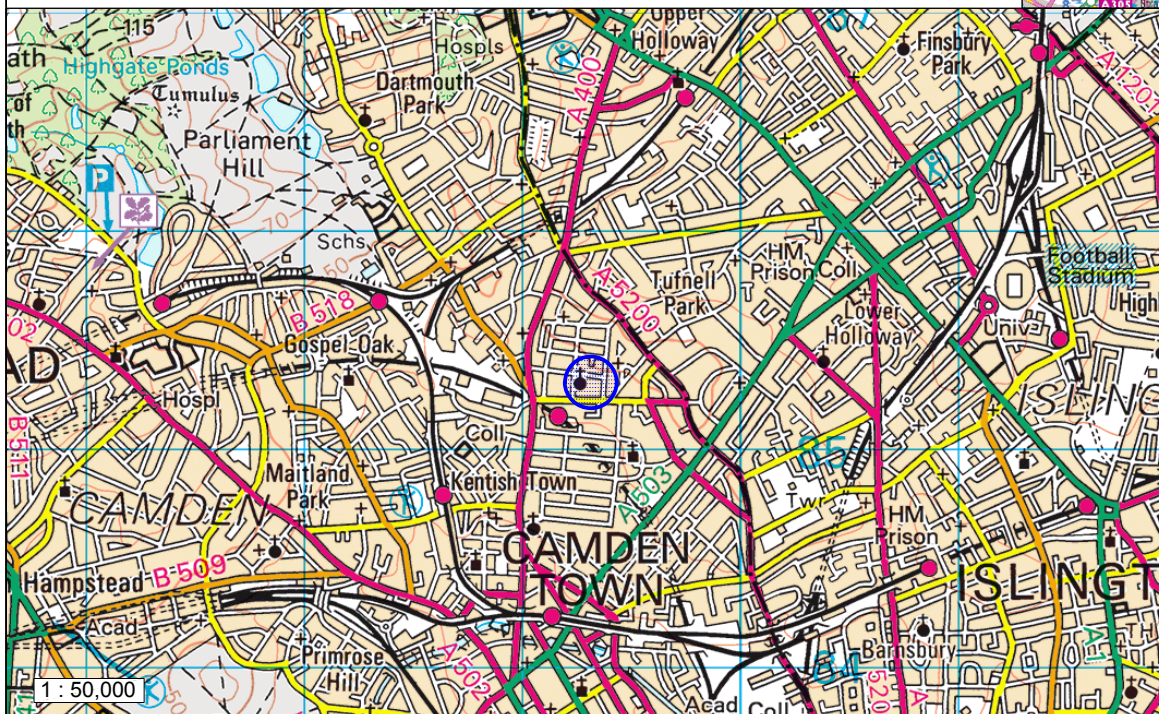
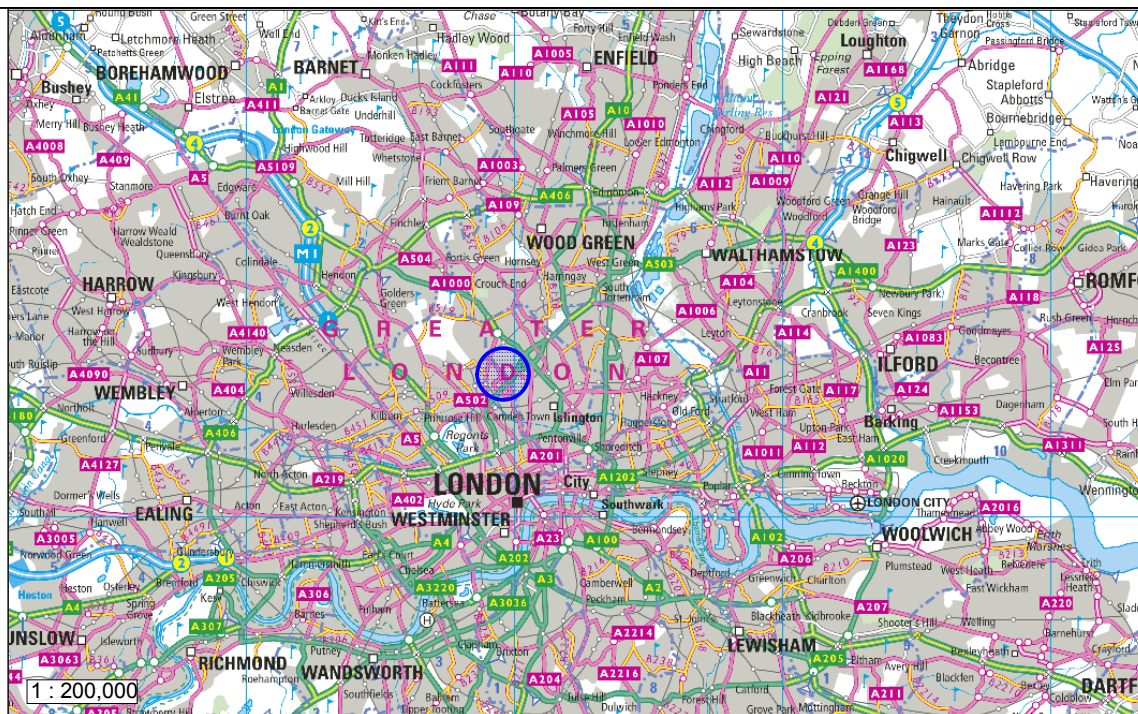
Mr David Webster
Senior Geotechnical Engineer

LISTERSGEO

Enc.

- Appendix 'A' - Site Location Plan and Site Layout Plan
- Appendix 'B' - Site Photographs
- Appendix 'C' - Supplier Source Material Testing Certificate – Chemtest Ltd
- Appendix 'D' - On-site Topsoil and Sub-soil Testing Certificates – Chemtest Ltd
- Appendix 'E' - Hand Dug Verification Trial Pit Logs
- Appendix 'F' - Hand Dug Verification Trial Pit Photographs

APPENDIX A
SITE LOCATION PLAN AND SITE LAYOUT PLAN



Key:

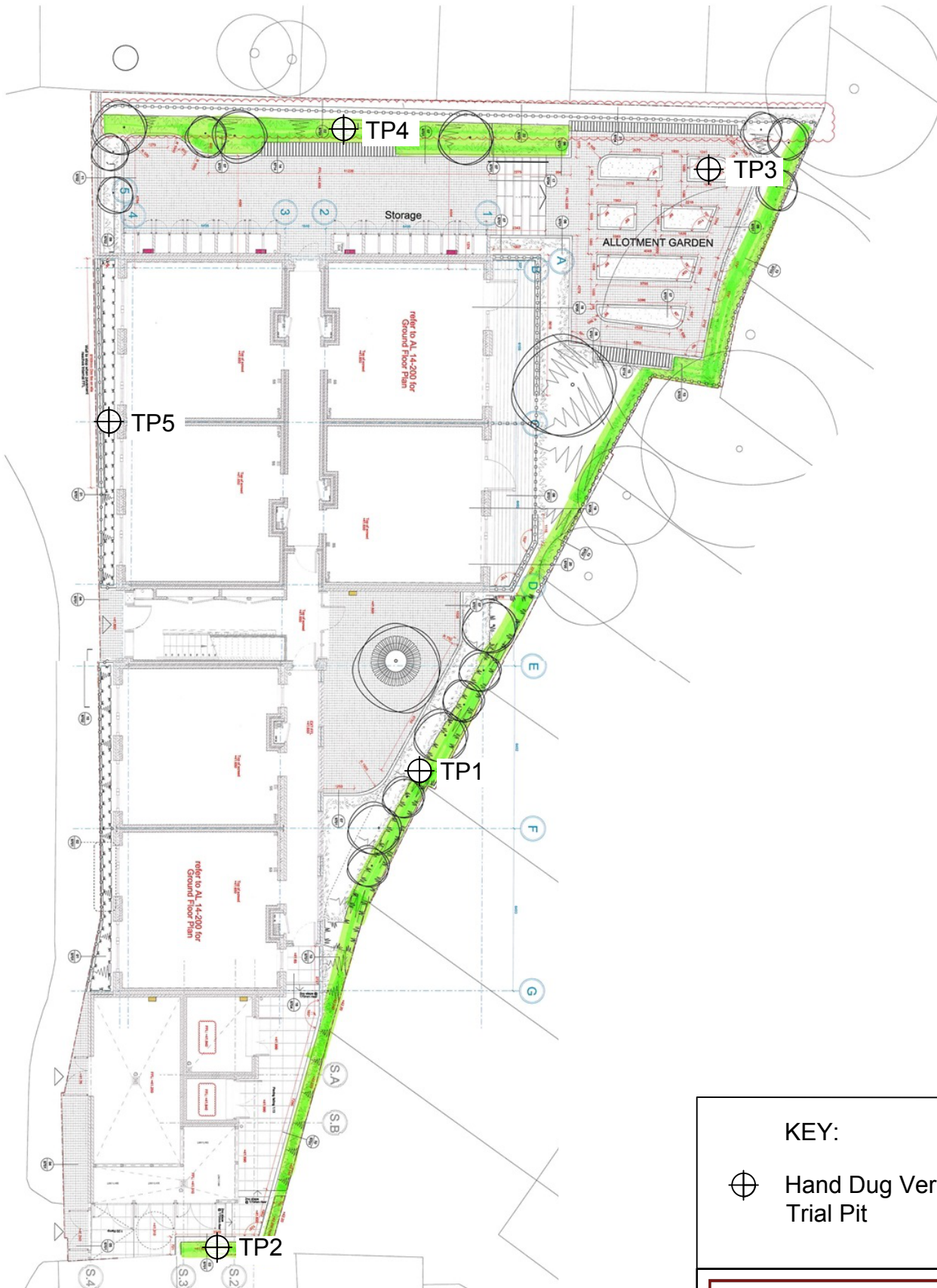


Approximate Site Location



Listers Geotechnical Consultants Ltd www.listersgeotechnics.co.uk Tel: 01327 860060

Title: Site Location Plan		
Site: Willingham Close, Willingham Terrace, Camden, NW5 2UY		
Scale: NTS	Job No: 14.02.009a	Drawn By: BL



Green highlighting denotes area where reduced capping depth of 300mm is agreed

KEY:



Hand Dug Verification
Trial Pit



Listers Geotechnical Consultants Ltd www.listersgeotechnics.co.uk Tel: 01327 860060

Title: Plan Showing Existing Site Layout

Site: Willingham Close, Willingham Terrace, Camden, NW5 2UY

Scale: NTS

Job No: 14.02.009a

Drawn By: MG

APPENDIX B SITE PHOTOGRAPHS



Photograph A– View south along the eastern boundary.



Photograph B – View north along the western boundary.



Photograph C– View north towards the northern boundary.



Photograph D – View of stockpiled imported Topsoil.

APPENDIX C
SUPPLIER SOURCE MATERIAL TESTING CERTIFICATE – CHEMTEST LTD



Final Report

Report No.:	16-02437-1		
Initial Date of Issue:	05-Feb-2016		
Client	SRC Aggregates		
Client Address:	B Lodge Highwood Quarry Takeley CM6 1SL		
Contact(s):	Matthew Yeates		
Project	Crown Quarry, Ardleigh, CO7 7QR		
Quotation No.:		Date Received:	03-Feb-2016
Order No.:		Date Instructed:	03-Feb-2016
No. of Samples:	1	Target Date:	05-Feb-2016
Turnaround (Wkdays):	3	Results Due:	05-Feb-2016
Date Approved:	05-Feb-2016		
Approved By:			
Details:	Robert Monk, Technical Development Chemist		

Results - Soil

Client: SRC Aggregates	Chemtest Job No.:				16-02437
Quotation No.:	Chemtest Sample ID.:				249339
Order No.:	Client Sample Ref.:				Stockpile
	Client Sample ID.:				Topsoil
	Sample Type:				SOIL
	Date Sampled:				01-Feb-2016
Determinand	Accred.	SOP	Units	LOD	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected
Moisture	N	2030	%	0.020	9.1
Stones	N	2030	%	0.020	< 0.020
pH	U	2010		N/A	7.8
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.74
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.071
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50
Thiocyanate	U	2300	mg/kg	5.0	< 5.0
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50	1.4
Sulphate (Total)	U	2430	%	0.010	0.070
Arsenic	U	2450	mg/kg	1.0	6.2
Cadmium	U	2450	mg/kg	0.10	0.10
Chromium	U	2450	mg/kg	1.0	9.3
Copper	U	2450	mg/kg	0.50	11
Mercury	U	2450	mg/kg	0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	5.6
Lead	U	2450	mg/kg	0.50	20
Selenium	U	2450	mg/kg	0.20	< 0.20
Vanadium	U	2450	mg/kg	5.0	19
Zinc	U	2450	mg/kg	0.50	27
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Organic Matter	U	2625	%	0.40	1.3
Total TPH >C6-C40	U	2670	mg/kg	10	[C] < 10
Naphthalene	U	2700	mg/kg	0.10	< 0.10
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10
Acenaphthene	U	2700	mg/kg	0.10	< 0.10
Fluorene	U	2700	mg/kg	0.10	< 0.10
Phenanthrene	U	2700	mg/kg	0.10	< 0.10
Anthracene	U	2700	mg/kg	0.10	< 0.10
Fluoranthene	U	2700	mg/kg	0.10	0.18
Pyrene	U	2700	mg/kg	0.10	0.19
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10
Chrysene	U	2700	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10

Results - Soil

Client: SRC Aggregates	Chemtest Job No.:				16-02437
Quotation No.:	Chemtest Sample ID.:				249339
Order No.:	Client Sample Ref.:				Stockpile
	Client Sample ID.:				Topsoil
	Sample Type:				SOIL
	Date Sampled:				01-Feb-2016
Determinand	Accred.	SOP	Units	LOD	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0
Benzene	U	2760	µg/kg	1.0	[C] < 1.0
Toluene	U	2760	µg/kg	1.0	[C] < 1.0
Ethylbenzene	U	2760	µg/kg	1.0	[C] < 1.0
m & p-Xylene	U	2760	µg/kg	1.0	[C] < 1.0
o-Xylene	U	2760	µg/kg	1.0	[C] < 1.0
Total Phenols	U	2920	mg/kg	0.30	< 0.30

Deviations

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

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
249339	Stockpile	Topsoil	01-Feb-2016	C	Plastic Tub 500g

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at our Coventry laboratory

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk

**APPENDIX D
ON-SITE TOPSOIL AND SUB-SOIL TESTING CERTIFICATES –
CHEMTEST LTD**



2183

Final Report

Report No.: 16-14999-1

Initial Date of Issue: 01-Jul-2016

Client Listers Geotechnical Consultants

Client Address: Slapton Hill Barn, Blakesley Road
Slapton
Towcester
Northamptonshire
NN12 8QD

Contact(s): Dave Webster

Project 14.02.009a Camden

Quotation No.: **Date Received:** 24-Jun-2016

Order No.: 14.02.009a/332 **Date Instructed:** 24-Jun-2016

No. of Samples: 6

Turnaround (Wkdays): 5 **Results Due:** 30-Jun-2016

Date Approved: 01-Jul-2016

Approved By:



Details: Robert Monk, Technical Development
Chemist

Results - Soil

Project: 14.02.009a Camden

Client: Listers Geotechnical Consultants	Chemtest Job No.:					16-14999	16-14999	16-14999	16-14999	16-14999	16-14999
Quotation No.:	Chemtest Sample ID.:					314244	314245	314246	314247	314248	314249
	Client Sample ID.:					Bag 1	Bag 2	Bag 3	Bag 4	Bag 5	Bag 6
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Date Sampled:					21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016
	Asbestos Lab:					COVENTRY		COVENTRY			
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-			-			
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected			No Asbestos Detected			
Moisture	N	2030	%	0.020	13	14	15	14	15	15	
Stones	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
pH	U	2010		N/A	8.2	8.2	8.1	8.1	8.1	8.0	
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.53	0.62	0.81	0.85	0.74	0.78	
Arsenic	U	2450	mg/kg	1.0	7.6	5.7	5.6	6.2	7.0	13	
Cadmium	U	2450	mg/kg	0.10	0.16	0.10	0.10	0.10	0.11	0.21	
Chromium	U	2450	mg/kg	1.0	16	12	18	15	14	26	
Copper	U	2450	mg/kg	0.50	15	12	11	12	14	23	
Mercury	U	2450	mg/kg	0.10	0.12	0.11	0.12	0.12	0.12	0.22	
Nickel	U	2450	mg/kg	0.50	11	7.9	7.7	8.1	8.5	14	
Lead	U	2450	mg/kg	0.50	35	30	29	33	39	58	
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.26	
Zinc	U	2450	mg/kg	0.50	40	27	26	29	32	51	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
TPH >C5-C6	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH >C6-C7	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH >C7-C8	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH >C8-C10	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH >C10-C12	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.9	
TPH >C12-C16	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.2	
TPH >C16-C21	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	28	
TPH >C21-C35	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	47	
Total TPH >C5-C35	N	2670	mg/kg	10	< 10	< 10	< 10	< 10	< 10	85	
Naphthalene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	0.22	0.46	0.31	0.58	
Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	0.24	0.39	0.36	0.59	
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
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Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	

Results - Soil

Project: 14.02.009a Camden

Client: Listers Geotechnical Consultants	Chemtest Job No.:					16-14999	16-14999	16-14999	16-14999	16-14999	16-14999
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	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Date Sampled:					21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016	21-Jun-2016
	Asbestos Lab:					COVENTRY		COVENTRY			
Determinand	Accred.	SOP	Units	LOD							
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

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- D - Broken Container

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk

APPENDIX E

HAND DUG VERIFICATION TRIAL PIT LOGS

Trial Pit Log

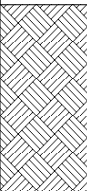
Trial Pit No.
TP 1
Project Location: Land off Willingham Close, Willingham Terrace, Camden, London, NW5 2UY

Co-ords: 529360E - 185241N

Project Number:
14.02.009a

Level:
Logged By:
Dates: 26/10/2016

 David Webster
to BS 5930:2015

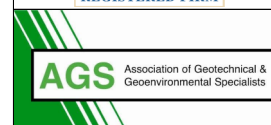
Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth (m)	Type	(kPa)					
				0.31		 TOPSOIL Soft brown slightly gravelly sandy CLAY with abundant organic matter. Gravel is fine to medium sub-angular to sub-rounded flint. Sand is fine, medium to coarse sub-angular to sub-rounded flint		
							End of Trial Pit at 0.31m	

Method of excavation: Hand excavated

Stability: Sides Stable

Groundwater: None encountered

Trial Pit Dimensions: 0.3m x 0.3m x 0.31m

Remarks: Trial pit terminated on membrane


Trial Pit Log

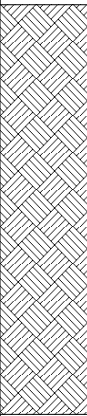
Trial Pit No.
TP 2
Project Location: Land off Willingham Close, Willingham Terrace, Camden, London, NW5 2UY

Co-ords: 529349E - 185223N

Project Number:
14.02.009a

Level:
Logged By:
Dates: 26/10/2016

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to BS 5930:2015

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth (m)	Type	(kPa)					
				0.65			TOPSOIL Soft brown slightly gravelly sandy CLAY with abundant organic matter. Gravel is fine to medium sub-angular to sub-rounded flint. Sand is fine, medium to coarse sub-angular to sub-rounded flint	
							End of Trial Pit at 0.65m	

Method of excavation: Hand excavated

Stability: Sides Stable

Groundwater: None encountered

Trial Pit Dimensions: 0.3m x 0.3m x 0.65m

Remarks: Trial pit terminated on membrane


Trial Pit Log

Trial Pit No.

TP 3
Project Location: Land off Willingham Close, Willingham Terrace, Camden, London, NW5 2UY

Co-ords: 529370E - 185262N

Project Number:
14.02.009a

Level:
Logged By:
Dates: 26/10/2016

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Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth (m)	Type	(kPa)					
				0.64			TOPSOIL Soft brown slightly gravelly sandy CLAY with abundant organic matter. Gravel is fine to medium sub-angular to sub-rounded flint. Sand is fine, medium to coarse sub-angular to sub-rounded flint	
							End of Trial Pit at 0.64m	

1

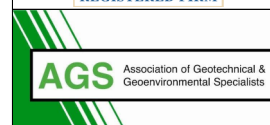
2

Method of excavation: Hand excavated

Stability: Sides Stable

Groundwater: None encountered

Trial Pit Dimensions: 0.3m x 0.3m x 0.64m

Remarks: Trial pit terminated on membrane/concrete


Trial Pit Log

Trial Pit No.
TP 4
Project Location: Land off Willingham Close, Willingham Terrace, Camden, London, NW5 2UY

Co-ords: 529359E - 185265N

Project Number:
14.02.009a

Level:
Logged By:
Dates: 26/10/2016

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to BS 5930:2015

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth (m)	Type	(kPa)					
				0.40		 TOPSOIL Soft brown slightly gravelly sandy CLAY with organic matter. Gravel is fine to medium sub-angular to sub-rounded flint. Sand is fine, medium to coarse sub-angular to sub-rounded flint		
							End of Trial Pit at 0.40m	

Method of excavation: Hand excavated

Stability: Sides Stable

Groundwater: None encountered

Trial Pit Dimensions: 0.3m x 0.3m x 0.4m

Remarks: Trial pit terminated on membrane


Trial Pit Log

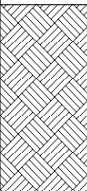
Trial Pit No.
TP 5
Project Location: Land off Willingham Close, Willingham Terrace, Camden, London, NW5 2UY

Co-ords: 529348E - 185260N

Project Number:
14.02.009a

Level:
Logged By:
Dates: 26/10/2016

 David Webster
to BS 5930:2015

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth (m)	Type	(kPa)					
				0.31		 TOPSOIL Soft brown slightly gravelly sandy CLAY with abundant organic matter. Gravel is fine to medium sub-angular to sub-rounded flint. Sand is fine, medium to coarse sub-angular to sub-rounded flint		
							End of Trial Pit at 0.31m	

Method of excavation: Hand excavated

Stability: Sides Stable

Groundwater: None encountered

Trial Pit Dimensions: 0.3m x 0.3m x 0.31m

Remarks: Trial pit terminated on membrane


APPENDIX F
HAND DUG VERIFICATION TRIAL PIT PHOTOGRAPHS



Photograph 1 – View north along the eastern boundary towards TP1.



Photograph 2 – View of TP1.



Photograph 3 – View southeast along the southern boundary towards TP2.



Photograph 4 – View of TP2.



Photograph 5 – View west along the northern boundary towards TP3.



Photograph 6 – View of TP3.



Photograph 7 – View west along the northern boundary towards TP4.



Photograph 8 – View of TP4.



Photograph 9 – View south along the western boundary towards TP5.



Photograph 10 – View of TP5.