

Our Ref: SKT/JW/LDM/J14736

30 March 2021

Mr. S Taylor
154 Iverson Road
Camden
London
NW6 2HH

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By e-mail: stuart.taylor@microsoft.com

Dear Mr Taylor,

Re: Geoenvironmental Investigation at 154 Iverson Road, Camden, NW6 2HH
National Grid Reference: TQ 25221 84695
Geology: Head over London Clay

1 Authority

Our authority for carrying out this work is contained in email correspondence from Mr Stuart Taylor with a completed purchase order dated 22nd February 2021.

2 Background and Objectives

In order to satisfy the outstanding planning condition relating to contamination, of Planning Application Ref. 2016/2033/P for the deepening of an existing basement beneath the residential property at the above site, investigation of the potential risks to existing site users from potential contamination was required. Historical information held by the Local Planning Authority indicated that an above ground fuel storage tank (FST) was historically located to the immediate south of the site, associated with a former bakery. The region where the FST was located was redeveloped in 2003 with a two storey 'live work' block comprising ground floor work areas and residential apartments above.

The site has previously been the subject of an intrusive Ground Investigation by Ground and Water Limited (GWPR1660/GIR/June 2016) to establish the ground conditions and provide information to assist with the construction of the basement on the site. However, these works did not include the sampling and analysis of soils for potential contamination.



With the exception of the rear light well and stairs to access it from ground level, the rear garden has not been altered as part of the works to the existing basement.

The original concerns raised by Camden Council were the potential migration of hydrocarbons from the former industrial site located at 8A Medley Road, which is located to the immediate south of the site. However, following discussions with the Local Authority's Contaminated Land Officer it was advised that the scope of the investigation should include analysis for a wider range of potential contaminants.

Therefore, the aim of this intrusive work was to investigate the shallow soils within the rear garden area, including the risk from contamination arising from the historic off-site fuel storage tank, in order to assess the current state of the land and confirm that it is safe for its current use.

3 Scope

This letter report presents our exploratory hole logs and test results and our interpretation of these data. As with any site there may be differences in soil conditions between exploratory hole positions.

Any contamination screening values used are valid at the time of writing but may be subject to change and any such changes will have implications for the assessments based upon them.

The findings and opinions conveyed via this Site Investigation Report are based on information obtained from a variety of sources as detailed within this report, and which Southern Testing Laboratories Limited believes are reliable. Nevertheless, Southern Testing Laboratories Limited cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

The site investigation was conducted and this report has been prepared for the sole internal use and reliance of Mr S Taylor. This report shall not be relied upon or transferred to any other parties without the express written authorization of Southern Testing Laboratories Limited. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

4 Site Location

The site is located on the western edge of the London Borough of Camden, approximately 2km southwest of Hampstead Heath. The approximate National Grid Reference of the site is TQ 25221 84695. The site location is indicated on the enclosed Figure 1.

4.2 Geology

The British Geological Survey Map No. 256 North London (2006) indicates that the site geology consists of Head over London Clay.

Head

Head is a superficial deposit comprising a poorly sorted and poorly stratified material formed mostly by solifluction and/or hillwash and soil creep. This is a polymict deposit of gravel, sand and clay depending on the local upslope geology, from which it is derived.

London Clay

The London Clay mainly comprises blue-grey or grey-brown fissured clay and silty clay, which weathers to brown near the surface. It commonly contains thin courses of carbonate concretions ('cementstone nodules'), selenite crystals and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation.

4.3 Radon Risk

With reference to UK Radon¹ guidance less than 1% of properties are above the action level and therefore no radon protection is required on this site.

5 Site Walkover Survey

5.1 General Site Description and Boundaries

The site comprises a residential garden to the rear of number 154 Iverson Road, Camden. The rear garden is bounded to the south by a brick wall and to the east and west by timber fence panels over brick dwarf walls.

The garden area is laid to lawn which has reportedly recently been replaced with artificial grass. A circular patio with concrete slabs is located in the south east corner of the site, with landscaped flower and shrub borders surrounding it to the north and south. An irregular 'S' shaped border has been created in the northwest to northern region of the garden. These again are planted with semi-mature shrubs and flowers.

5.2 Topography and Drainage

The site is relatively flat, there is a slight fall towards the north, towards the property. The garden appears to have been cut into a terrace, to create a lower region around the property.

The property itself is located cut into the existing ground level to the front (north), with the rear access located some 0.7-1.1m above the ground level of the garden area to the rear. The garden itself is some 0.5m above the garden access/pathway to the rear of the property.

5.3 Vegetation

The site is predominantly laid to artificial lawn with borders with shrubs and flowers.

A large broadleaf (possible beech) tree is located in the garden area to the property to the immediate west, the canopy of which overhangs the garden of the subject site.

5.4 Buildings and Land Use on Site and Nearby

The investigation was targeted to the garden area of the site only. The site is bound to the north by number 154 Iverson Road, which is a mid-terrace Victorian property. The properties to the east and west have been the subject to much alteration and extension. To the immediate south of the site, a large two-storey residential block is located.

¹ Public Health England, "UK Radon Maps," [Online]. Available: <http://www.ukradon.org/information/ukmaps>.

Much of the immediate surrounding area comprises Victorian terraced housing with private garden areas. To the south, behind the large two storey residential property, railway arches and the Jubilee Line run in an east to west direction.

5.5 Inaccessible Site Areas

No access was possible to the central lawn area of the site, this had been laid to artificial grass which we understand was nailed down and over a sand sub-base layer. The trial holes were restricted to the flower beds that had been created around the lawn.

5.6 Site Photographs

A series of photographs showing the private garden area to the residential property of 154 Iverson Road is enclosed.

6 Conceptual Site Model

In the context of this report, the conceptual model summarises the potential pollutant linkages identified for the site and forms the basis of the risk assessment for the site. The preliminary model comprises the potential sources of contamination, receptors that could be harmed and exposure pathways identified from the desk study and walkover survey. These potential linkages form the basis upon which the investigation is designed and reported.

6.1 Potential Sources of Contamination

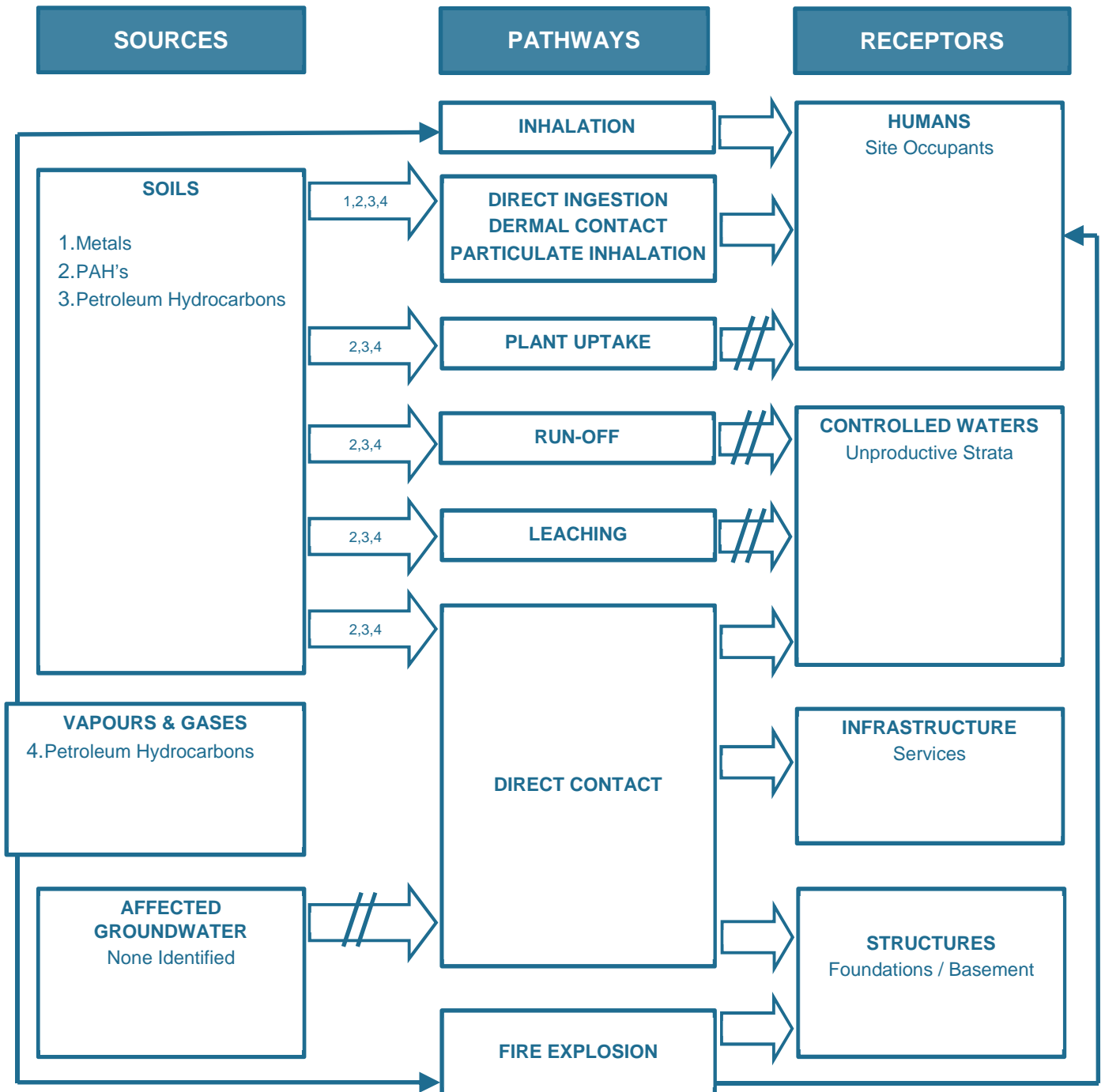
The site has a history of residential use and is located within a residential area.

There is a potential for some Made Ground from construction. There is also some potential for anthropogenic contamination such as Lead and Polyaromatic hydrocarbons (PAH's), typical of urban residential land use, such as coal burning.

The area surrounding the site has a similar history of use to the site itself. It is understood that the site to the immediate south of the subject site (8A Medley Road) was formerly a bakery, which has since been redeveloped for a mixed commercial and residential use. It is understood that during intrusive geoenvironmental investigation works undertaken on that site fuel hydrocarbon contamination was encountered. Therefore, there were concerns that this potential contamination may have migrated below the subject site.

6.2 Pollutant Linkages and Conceptual Site Model Summary

The following diagram shows the potential pollutant linkages identified for the site and summarises the preliminary conceptual model:



// Denotes potential pollutant linkage not complete.

7 Ground Investigation

The strategy adopted for the intrusive investigation comprised the following:

Activity / Method	Purpose	Max Depth Range (mbgl)
HA 1 – 4	Shallow hand augured boreholes.	1.9

Exploratory hole locations are shown on the enclosed Figure 2.

The presence of newly installed artificial grass in the former lawn areas restricted the fieldwork to within the landscaped border areas of the garden only.

7.1 Weather Conditions

The fieldwork was carried out on Thursday 25th February 2021 at which time the weather was generally overcast becoming wet with light showers mid-morning but dryer by the afternoon.

7.2 Soils as Found

The soils encountered in HA01-HA04 are described in detail in the attached exploratory hole logs, with a summary is given in the table below.

Depth	Thickness	Soil Type	Description
GL – 0.35/0.55m	0.35 – 0.55m	TOPSOIL	Medium brown silty clay with occasional fine to medium limestone, brick, concrete and fine rootlets.
0.35/0.55m – 0.75/1.15m	0.2 – 0.65m	MADE GROUND	Orange-brown/brown/grey-brown silty plastic clay with occasional to rare brick, ash, charcoal, flint gravel, clinker and fine rootlets.
0.75/1.15m – 1.90m	0.75 – 1.15m	CLAY	Firm to stiff orange-brown mottled brown and buff-grey silty plastic CLAY.

8 Analytical Framework

There is no single methodology that covers all the various aspects of the assessment of potentially contaminated land and groundwater. Therefore, the analytical framework adopted for this investigation is made up of a number of procedures, which are outlined below. All of these are based on a Risk Assessment methodology centred on the identification and analysis of Source – Pathway – Receptor linkages.

The CLEA model² provides a methodology for quantitative assessment of the long term risks posed to human health by exposure to contaminated soils. Toxicological data is used to calculate a Soil Guideline Value (SGV) for an individual contaminant, based on the proposed site use; these represent minimal risk concentrations and may be used as screening values.

In the absence of any published SGVs for certain substances, Southern Testing have derived or adopted Tier 1 screening values for initial assessment of the soil, based on available current UK guidance including the LQM/CIEH³ S4UL's and CL:AIRE⁴ generic assessment criteria. In addition, in March 2014, DEFRA⁵ published the results of a research programme to develop screening values to assist decision making under Part 2A of the Environmental Protection Act. Category 4 screening levels were published for 6 substances, with reference to human health risk only. This guidance includes revisions of the CLEA exposure parameters, presenting parameters for public open space land use scenarios, and also of the toxicological approach. The screening levels represent a low risk scenario, based on a 'Low Level of Toxicological Concern' rather than the 'Minimal Risk' of CLEA, and the analytical results of this investigation may be considered relative to these levels.

The values used are valid at the time of writing but may be subject to change and any such changes will have implications for the assessments based upon them. Their validity should be confirmed at the time of site development.

CLEA requires a statistical treatment of the test results to take into account the normal variations in concentration of potential contaminants in the soil and allow comparisons to be made with published guidance.

9 Site Investigation – Soil

9.1 Sampling Regime

The number of sample locations was targeted to provide general coverage of the site's garden area.

Access was restricted by the presence of newly laid artificial grass that had been placed in the garden area.

Test Suite	Number of Samples	Soil Tested
STL Key Contaminant Suite	5	3 No. Topsoil 2 No. Made Ground
Asbestos Identification	5	2 No. Topsoil 1 No. Made Ground 1 No. Natural Ground
Extractable Petroleum Hydrocarbons C6-C10	6	2 No. Made Ground 4 No. Natural Ground
Total Petroleum Hydrocarbons with aromatic and aliphatic split	1	Natural Ground
Volatile Organic Compounds (VOCs)	2	1 No. Made Ground 1 No. Natural Ground

² Environment Agency Publication SC050021/SR3 'Updated technical background to the CLEA Model' (2009).

³ The LQM/CIEH S4ULs for Human Health Risk Assessment. (2014).

⁴ The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment (2009).

⁵ SP1010 Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. DEFRA, 2014.

The test results are presented in full in Appendix D. A summary and discussion of the significance of the results and identified contamination sources is given below.

9.1.1 General Contaminants

The results of the key contaminant tests have been analysed in accordance with the CLEA methodology. The samples have been grouped into three populations comprising Topsoil, Made Ground and Natural Soil. For each parameter in each population the sample mean is calculated and compared to a Tier 1 screening value. If the sample mean exceeds the screening value, the soil may be regarded as contaminated and further assessment may be required. If neither the sample mean nor any single value exceeds the screening value, the soil may be regarded as not contaminated, though further confirmatory assessment may be required. Where any single parameter value exceeds the screening value but the sample mean does not, further statistical analysis may be applied to that parameter if the available data is suitable. Such analysis would include an assessment of the Normality of the distribution of the data, consideration of the presence of outliers, and the calculation of a UCL estimate of the mean.

Summary data is presented in the tables below and the laboratory certificates of analysis are enclosed, along with the screening values and source notes are presented which are presented in Table 1 "Tier 1 Screening Values".

Soil Type: Topsoil

Contaminants	Units	HA1 @ 0.3m	HA2 @ 0.3m	HA4 @ 0.25m	Residential without homegrown produce consumption
Arsenic (As)	mg/kg	16	15	30	40
Cadmium (Cd)	mg/kg	<0.2	<0.2	<0.2	85
Total Chromium (Cr)	mg/kg	56	39	39	910
Hexavalent Chromium (CrVI)	mg/kg	<4.0	<4.0	<4.0	6
Lead (Pb)	mg/kg	21	37	710	310
Mercury (Hg)	mg/kg	<0.3	<0.3	3.4	9.2-15
Selenium (Se)	mg/kg	<1.0	<1.0	<1.0	430
Nickel (Ni)	mg/kg	47	17	31	180
Copper (Cu)	mg/kg	40	31	110	7,100
Zinc (Zn)	mg/kg	91	69	420	40,000
Phenol	mg/kg	<1.0	<1.0	<1.0	440-1200
Benzo[a]pyrene	mg/kg	<0.05	<0.05	0.93	2.6
Naphthalene	mg/kg	<0.05	<0.05	<0.05	2.3-13
Total Cyanide (CN)	mg/kg	<1	<1	<1	/
Acidity (pH value)	Units	8	7.8	9.5	/
Soil Organic Matter (SOM)	%	0.2	1.6	4.7	/

With the exception of an elevated concentration of Lead in HA4@0.25m the existing topsoil on site would be considered uncontaminated when compared to a residential land use without homegrown produce consumption.

Soil Type: Made Ground

Contaminants	Units	HA2 @ 0.70m	HA3 @ 0.45m	Residential without homegrown produce consumption
Arsenic (As)	mg/kg	15	34	40
Cadmium (Cd)	mg/kg	<0.2	<0.2	85
Total Chromium (Cr)	mg/kg	48	41	910
Hexavalent Chromium (CrVI)	mg/kg	<4.0	<4.0	6
Lead (Pb)	mg/kg	54	500	310
Mercury (Hg)	mg/kg	<0.3	2.3	9.2-15
Selenium (Se)	mg/kg	<1.0	<1.0	430
Nickel (Ni)	mg/kg	20	30	180
Copper (Cu)	mg/kg	35	120	7,100
Zinc (Zn)	mg/kg	94	430	40,000
Phenol	mg/kg	<1.0	<1.0	440-1200
Benzo[a]pyrene	mg/kg	<0.05	<0.05	2.6
Naphthalene	mg/kg	<0.05	<0.05	2.3-13
Total Cyanide (CN)	mg/kg	<1	<1	/
Acidity (pH value)	Units	7.7	9.5	/
Soil Organic Matter (SOM)	%	1.4	5.2	/

With the exception of an elevated concentration of Lead in HA3@0.45m the Made Ground on site would be considered uncontaminated when compared to a residential land use without homegrown produce consumption.

9.1.2 Asbestos

Three samples of topsoil and two samples of the underlying Made Ground were subject to analysis for the presence and identification of asbestos.

No asbestos containing materials were observed during the site works, or detected in the samples analysed. However the samples obtained may not reflect the full composition of the soils on the site. Therefore, there is always the potential for pockets of asbestos or for asbestos containing materials to be present, which have not been detected in the sampling.

9.1.3 Petroleum hydrocarbons

The following tables summarise the results of the analysis for TPH between carbon ranges C6-C40.

Sample (Location & Depth)	Total Petroleum Hydrocarbons (mg/kg)
HA1 @ 1m	35
HA1 @ 1.7m	<10
HA2 @ 0.8m	39

None of the above recorded concentrations would be considered significant.

Hydrocarbon substance or Fraction		Measured Concentration in mg/kg HA1 @ 1.4m
Aliphatic	>EC5-EC6	<0.001
	>EC6-EC8	<0.001
	>EC8-EC10	<0.001
	>EC10-EC12	<1.0
	>EC12-EC16	<2.0
	>EC16-EC21	<8.0
	>EC21-EC35	<8.0
	>EC35-EC40	<10
Aromatic	>EC5-EC7	<0.001
	>EC7-EC8	<0.001
	>EC8-EC10	<0.001
	>EC10-EC12	<1.0
	>EC12-EC16	2.1
	>EC16-EC21	<10
	>EC21-EC35	20
	>EC35-EC40	30
Hazard index		0.095*

*Calculated using the most conservative Soil Organic Matter (SOM) of 1%.

Petroleum hydrocarbon mixtures are assessed using the Hazard Index approach. The calculated Hazard Index values the above sample is less than 1, indicating that the recorded concentrations are below tolerable limits for long term exposure with regards to human health.

9.1.4 Volatile Organic Compounds (VOC's)

Two samples, HA1@1.40m (natural ground) and HA2@0.70m (Made Ground), were subject to analysis for VOCs. No concentrations of the individual compounds were recorded above the laboratory limit of detection.

10 Discussion and Conclusions

On the basis of the above results two of the five samples of shallow soil would be considered contaminated with Lead (500mg/kg in HA3@0.45m and 710 mg/kg in HA4@0.25m bgl.), when compared to the tier 1 screening value for a residential land use, without homegrown produce consumption, of 310 mg/kg. However, background concentrations of lead are often elevated in urban areas, due to historical anthropogenic sources such as the disposal of ash from open fires, lead based paints and emissions from leaded petrol vehicles.

The British Geological Survey has published information on the soil geochemistry of Great London, under their London Earth project.⁶ For the western edge of the London Borough of Camden, where the site is situated, the background concentrations of Lead in the topsoil (samples taken from 0.05 – 0.2m bgl.) was found to be between 600 – 800 mg/kg.

Therefore, whilst the elevated concentrations found within the shallow soils are above the tier 1 screening values for the current land use, they appear to be typical of the background concentrations found within the wider area of the Borough of Camden. On this basis, and given the majority of the garden area is either covered with artificial turf or planted with shrubs, which will further limit direct exposure and the generation of dust, backtracking of soil into the property, etc. the site is considered suitable for its current use.

No evidence of any potential contamination from the historical off-site fuel storage tank has been encountered on the site.

On the basis of the above, no further work is considered to be required in terms of potential contamination.

Yours faithfully,



Sarah Toms MSc MEnvSc PIEMA

For and on behalf of

Southern Testing Laboratories Limited

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Email: stoms@southerntesting.co.uk

⁶ British Geological Survey, 2011. London Earth: Pb in Topsoils. G-BASE summary interpretation, Keyworth, Nottingham, UK.

Encs

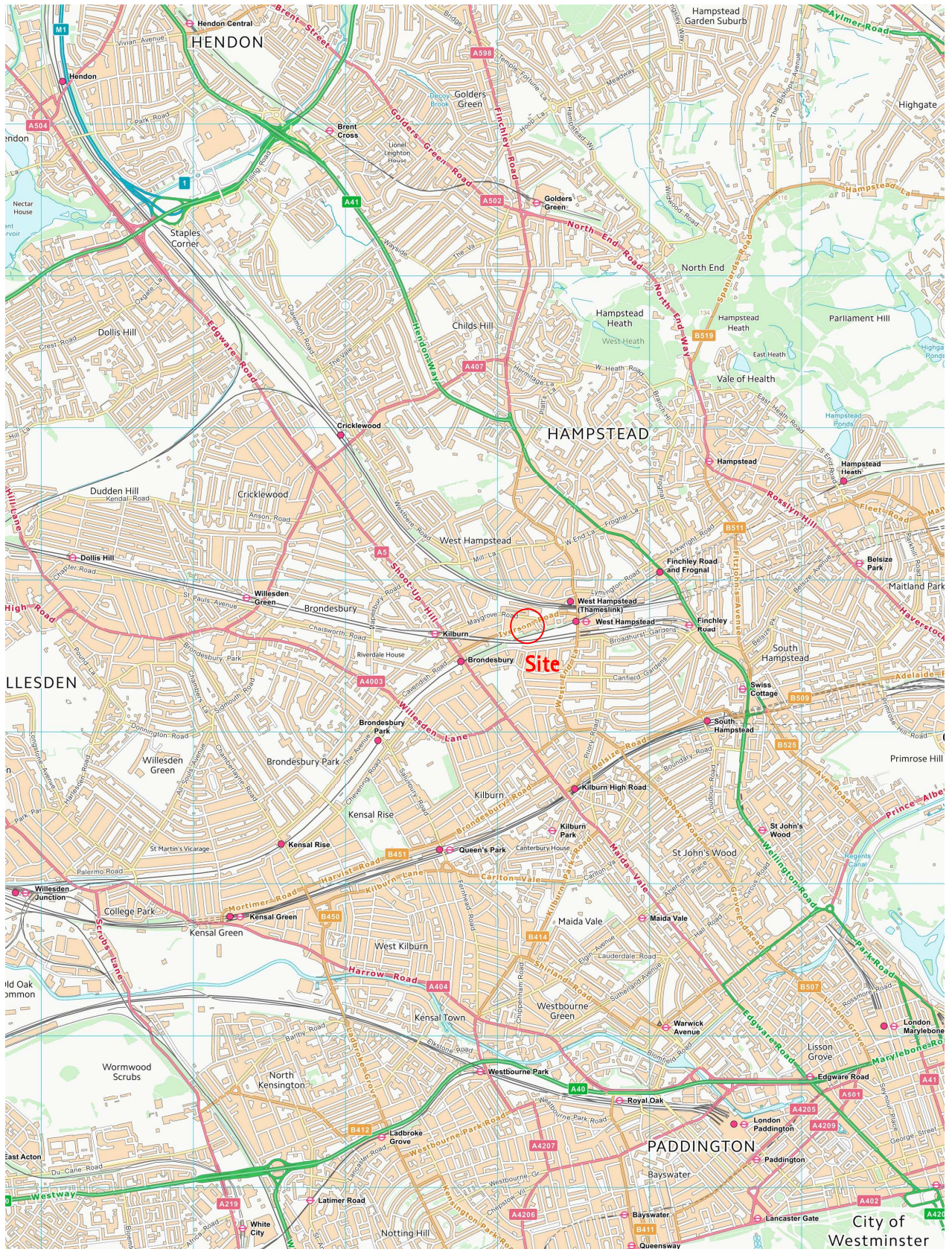
Site location plan

Site Plan

Photographs

Trial Hole Logs

Laboratory Certificate of Analysis



Contains Ordnance Survey Data © Crown Copyright and Database Right 2019

Site: 154 Iverson Road, Camden, NW6 2HH	STL: J14736	Fig No: 1
Date: 30 March 2021	Site location plan	



Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creton, Northampton NN6 8NN





— APPROXIMATE SITE BOUNDARY

NOTE: NOT TO SCALE

NB: Positions are only indicative unless dimensioned.

Site: 154 Iverson Road, Camden, NW6 2HH

STL: J14736

Fig No: 2

Date: 25th February 2021

Trial hole locations.

 Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creton, Northampton NN6 8NN

 ST Consult

154 Iverson Road, Camden



Plate 1: HA1, closest to the offsite source of potential hydrocarbon contamination (located to the south of the garden).



Plate 2: HA2, region in between patio and artificial grass.

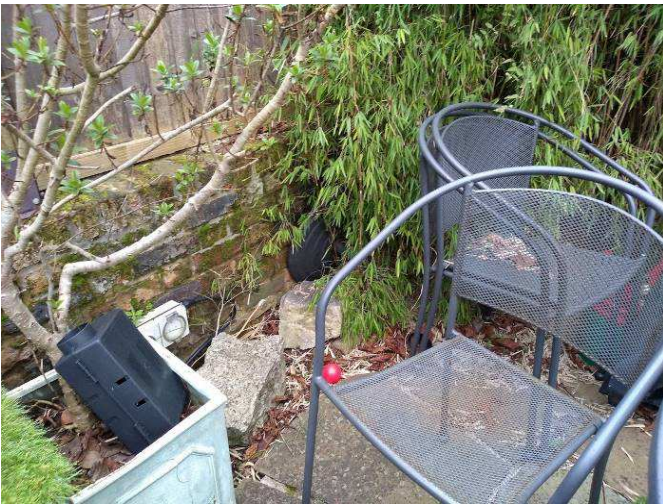


Plate 3: Landscape boarders to the garden area.



Plate 4: Location of HA3, landscaped borders on the westerly side of the garden.

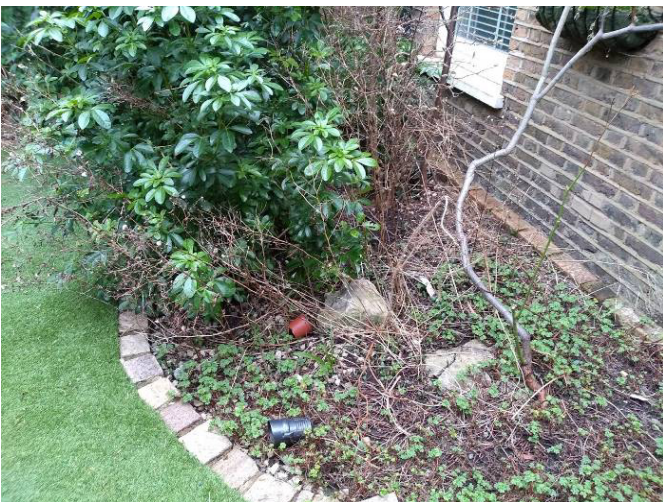


Plate 5: Soft landscaping boarder to the immediate south of the property, most northerly position from the offsite source.



Plate 6: Garden access from the rear of the property.



Plate 7: HA4, looking south west across the garden.



Plate 8: Looking southwards across the garden.



Plate 9: HA2, soft landscaping in between the patio and artificial grass area.



Plate 10: Topsoilly Made Ground encountered.



Plate 11: Made Ground soils with brick and rare charcoal/ash pieces.



Plate 12: Looking south westwards across the garden area.



Plate 13: Near surface soils comprised topsoilly Made Ground.



Plate 14: Garden area looking southwards



Plate 15: As plate 14.



Plate 16: Looking south west across the garden.



Plate 17: The garden area looking southwards towards the offsite source of potential contamination.

Project Name:	Flat 1, 154 Iverson Road	Remarks:	Co-ordinates:	Level:	Logger:

Location:	Camden
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Client:	Mr Stuart Taylor
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Well	Water Strikes	Samples and Insitu Testing			Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description
		Depth (m bgl)	Type	Results					
		0.30	ES		(0.50)		0.50	Medium brown to brown, silty, clayey TOPSOIL with occasional fine to medium limestone gravels, and brick fragments. MADE GROUND	
		0.35	ES						
		0.60	ES		(0.30)		0.80	Orange brown to light brown, silty, plastic clayey MADE GROUND with very occasional brick, rare ash and charcoal pieces. Fine rootlets. MADE GROUND	
		0.85	HP	UCS(kPa)=100	(0.10)			0.90	Firm, orange with grey brown mottling, silty, plastic clayey MADE GROUND with very rare brick fragments, slate pieces and well rounded flint gravels. MADE GROUND
	▼	1.00	ES		(0.25)		1.15	Firm, dark brown to dark grey, silty, slightly gravelly clayey MADE GROUND with very occasional brick fragments and calcareous fragments (possibly reworked soils). MADE GROUND	
		1.20	HP	UCS(kPa)=110					<i>Soils recovered wet.</i>
		1.40	ES HP	UCS(kPa)=80	(0.75)			Firm, orange brown, silty plastic CLAY with some minor polished surfaces visible LONDON CLAY	
		1.70	ES HP	UCS(kPa)=120					
							1.90	End of Borehole at 1.90m	

Hole Details		Casing Details		Waterstrike (m bgl)						Standing/Chiselling (m bgl)			
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks
				25-02-2021	0.90				0				



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Analytical Report Number : 21-59293

Project / Site name:	154 Iverson Road, Camden	Samples received on:	26/02/2021
Your job number:	J14736	Samples instructed on/ Analysis started on:	26/02/2021
Your order number:	J14736 1	Analysis completed by:	09/03/2021
Report Issue Number:	1	Report issued on:	09/03/2021
Samples Analysed:	9 soil samples		

Signed: 

Zina Abdul Razzak
Senior Quality Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number				1785027	1785028	1785029	1785030	1785031	1785032
Sample Reference				HA1	HA1	HA1	HA1	HA2	HA2
Sample Number				ES	ES	ES	ES	ES	ES
Depth (m)				0.30	1.00	1.40	1.70	0.30	0.70
Date Sampled				25/02/2021	25/02/2021	25/02/2021	25/02/2021	25/02/2021	25/02/2021
Time Taken				0945	1000	1025	1030	1200	1145
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	22	21	24	25	21
Total mass of sample received	kg	0.001	NONE	0.9	0.5	0.5	0.5	1	0.5

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

pH - Automated	pH Units	N/A	MCERTS	8	-	-	-	7.8	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1	-	-	-	< 1	< 1
Water Soluble SO4 16hr extraction (2:1 Leachate Equivale	g/l	0.00125	MCERTS	0.65	-	-	-	0.027	0.052
Sulphide	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0	< 1.0
Organic Matter	%	0.1	MCERTS	0.2	-	-	-	1.6	1.4

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	-	-	-	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	-	-	-	15	15
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	-	-	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	56	-	-	-	39	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	-	-	-	31	35
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	-	-	-	37	54
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	47	-	-	-	17	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	91	-	-	-	69	94

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	-	35	-	< 10	-	-
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Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number	1785027		1785028		1785029		1785030		1785031		1785032	
Sample Reference	HA1		HA1		HA1		HA1		HA2		HA2	
Sample Number	ES		ES		ES		ES		ES		ES	
Depth (m)	0.30		1.00		1.40		1.70		0.30		0.70	
Date Sampled	25/02/2021		25/02/2021		25/02/2021		25/02/2021		25/02/2021		25/02/2021	
Time Taken	0945		1000		1025		1030		1200		1145	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-	-	-	-	-

TPH C6 - C40	mg/kg	10	NONE	-	35	-	< 10	-	-	-	-	-
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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	-	-	< 2.0	-	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	< 8.0	-	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	< 8.0	-	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	< 10	-	-	-	-	-	-

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	-	-	< 1.0	-	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	2.1	-	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	< 10	-	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	20	-	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	30	-	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
1,1,2-Trichloro 1,1,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	-	< 1.0

Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number				1785027	1785028	1785029	1785030	1785031	1785032
Sample Reference				HA1	HA1	HA1	HA1	HA2	HA2
Sample Number				ES	ES	ES	ES	ES	ES
Depth (m)				0.30	1.00	1.40	1.70	0.30	0.70
Date Sampled				25/02/2021	25/02/2021	25/02/2021	25/02/2021	25/02/2021	25/02/2021
Time Taken				0945	1000	1025	1030	1200	1145
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-	< 1.0

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

Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number				1785033	1785034	1785035
Sample Reference				HA2	HA3	HA4
Sample Number				ES	ES	ES
Depth (m)				0.80	0.45	0.25
Date Sampled				25/02/2021	25/02/2021	25/02/2021
Time Taken				1200	1255	1200
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	18	18
Total mass of sample received	kg	0.001	NONE	1.2	0.8	0.8

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

pH - Automated	pH Units	N/A	MCERTS	-	7.8	9.5
Total Cyanide	mg/kg	1	MCERTS	-	< 1	< 1
Water Soluble SO4 16hr extraction (2:1 Leachate Equivale	g/l	0.00125	MCERTS	-	0.018	0.27
Sulphide	mg/kg	1	MCERTS	-	< 1.0	1.8
Organic Matter	%	0.1	MCERTS	-	5.2	4.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.53	0.77
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	1.7	1.8
Pyrene	mg/kg	0.05	MCERTS	-	1.3	1.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.86	1.1
Chrysene	mg/kg	0.05	MCERTS	-	0.69	0.85
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.89	1.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.48	0.79
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.67	0.93
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	0.47
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	0.57

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	7.11	10.2
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	34	30
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	-	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	41	39
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	120	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	500	710
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	2.3	3.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	30	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	430	420

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	39	-	-
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Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number				1785033	1785034	1785035
Sample Reference				HA2	HA3	HA4
Sample Number				ES	ES	ES
Depth (m)				0.80	0.45	0.25
Date Sampled				25/02/2021	25/02/2021	25/02/2021
Time Taken				1200	1255	1200
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	-	-

TPH C6 - C40	mg/kg	10	NONE	39	-	-
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TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-

VOCS

Chloromethane	µg/kg	1	ISO 17025	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-

Analytical Report Number: 21-59293
 Project / Site name: 154 Iverson Road, Camden
 Your Order No: J14736_1

Lab Sample Number				1785033	1785034	1785035
Sample Reference				HA2	HA3	HA4
Sample Number				ES	ES	ES
Depth (m)				0.80	0.45	0.25
Date Sampled				25/02/2021	25/02/2021	25/02/2021
Time Taken				1200	1255	1200
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Chlorobenzene	µg/kg	1	MCERTS	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-

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

Analytical Report Number : 21-59293

Project / Site name: 154 Iverson Road, Camden

* 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 *
1785027	HA1	ES	0.3	Brown loam and clay with gravel and brick.
1785028	HA1	ES	1	Brown clay with gravel and brick.
1785029	HA1	ES	1.4	Brown clay.
1785030	HA1	ES	1.7	Brown clay.
1785031	HA2	ES	0.3	Brown clay with gravel and vegetation.
1785032	HA2	ES	0.7	Light brown clay.
1785033	HA2	ES	0.8	Light brown clay.
1785034	HA3	ES	0.45	Brown loam and clay with brick and vegetation.
1785035	HA4	ES	0.25	Brown loam and clay with brick and vegetation.

Analytical Report Number : 21-59293

Project / Site name: 154 Iverson Road, Camden

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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.	L038-PL	D	MCERTS
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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperin staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	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.	In house method.	L009-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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-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
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	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
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method.	L076-PL	W	NONE



Analytical Report Number : 21-59293
Project / Site name: 154 Iverson Road, Camden

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-59293
Project / Site name: 154 Iverson Road, Camden

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HA1	ES	S	1785027	b	Monohydric phenols in soil	L080-PL	b
HA1	ES	S	1785027	b	Speciated EPA-16 PAHs in soil	L064-PL	b
HA1	ES	S	1785028	b	TPH2 (Soil)	L088-PL	b
HA1	ES	S	1785030	b	TPH2 (Soil)	L088-PL	b
HA2	ES	S	1785031	b	Monohydric phenols in soil	L080-PL	b
HA2	ES	S	1785031	b	Speciated EPA-16 PAHs in soil	L064-PL	b
HA2	ES	S	1785033	b	TPH C6 - C40 (soil)	L076-PL	b
HA2	ES	S	1785033	b	TPH2 (Soil)	L088-PL	b
HA3	ES	S	1785034	b	Monohydric phenols in soil	L080-PL	b
HA3	ES	S	1785034	b	Speciated EPA-16 PAHs in soil	L064-PL	b
HA4	ES	S	1785035	b	Monohydric phenols in soil	L080-PL	b
HA4	ES	S	1785035	b	Speciated EPA-16 PAHs in soil	L064-PL	b



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Analytical Report Number : 21-59551

Project / Site name:	154 Iverson Road Camden	Samples received on:	01/03/2021
Your job number:	J14736	Samples instructed on/ Analysis started on:	01/03/2021
Your order number:	J14736 2	Analysis completed by:	10/03/2021
Report Issue Number:	1	Report issued on:	10/03/2021
Samples Analysed:	1 soil sample		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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

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



Analytical Report Number: 21-59551
 Project / Site name: 154 Iverson Road Camden
 Your Order No: J14736 2

Lab Sample Number				1786571
Sample Reference				HA2
Sample Number				None Supplied
Depth (m)				1.30
Date Sampled				25/02/2021
Time Taken				1210
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	1.2

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	< 10
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10

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



Analytical Report Number : 21-59551

Project / Site name: 154 Iverson Road Camden

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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 *
1786571	HA2	None Supplied	1.3	Brown clay.

Analytical Report Number : 21-59551
Project / Site name: 154 Iverson Road Camden

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method.	L076-PL	W	NONE

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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-59551
Project / Site name: 154 Iverson Road Camden

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HA2	None Supplied	S	1786571	b	TPH2 (Soil)	L088-PL	b