

CONTAMINATION ASSESSMENT

**Fircroft Crescent, Rustington
West Sussex**

December 2025

Client:

M.J.H Property Developments Ltd
M.J.H. House
Unit S4, Rudford Estate
Ford Rise
Arundel, West Sussex
BN18 0BF

Geotechnical Engineer:

W K Elson
PhD, CEng, MICE
7 Finches Court
Hickmans Lane
Lindfield, Sussex
RH16 2PG

CONTAMINATION ASSESSMENT

Fircroft Crescent, Rustington West Sussex

1. Introduction

The site off Fircroft Crescent was formerly known as the Croft Works with access from Mill Lane, Rustington. The site is occupied by a number of ramshackled buildings that were used by small businesses including a carpentry workshop, an electrician and a cleaning business.

The area is to be redeveloped and three bungalows constructed. Drawing No. 2225.PO3 by LM Associates, Architects for the project, gives details of the site layout.

2. Walk-over Survey

A site visit was undertaken on 24th November 2025 and the area was inspected. The yard was in a derelict state and had not been used for a number of years. The open areas of the yard were surfaced with concrete and there was a container parked adjacent to a building. Where exposed, the concrete was clean with no evidence of staining by oil.

Various photographs show the present state of the yard:

Photograph 1: A general view looking north to the existing access.

Photograph 2: South west corner showing a building used as an office and for storage.

Overgrown builders' debris and a steel plate on the concrete.

Photograph 3: Carpentry workshop on the north side of the yard.

Photograph 4: Building on the east side of the yard used by an electrician, also part of the container.

Generally, there were piles of inert material, including hardcore in the yard. The carpenters building contained building materials, wood, cans of paint etc and the electricians building contained unused fittings and coils of wire. The remaining buildings were either empty or full of general rubbish. The container was not

inspected. There were no oil tanks or drums of liquids on the site and there was no visual evidence of pollution.

3. Intrusive Investigation

Four trial pits were opened on the site. Three shallow pits were to recover soil samples from below the concrete paving and a deeper pit to assess the character of the soil profile. All the trial pits were located in the rear gardens of the proposed dwellings. The 1/50,000 geological map, Sheet 317, indicates the area to be underlain by River Terrace Deposits, formerly known as Brickearth in (Grid Reference TQ 506 030). The deep trial pit proved orange brown silty clay, typical of the Brickearth to a depth of 1.85m. There were also large pockets of medium silty sand in the soil profile. The shallow trial pits showed the concrete paving to vary in thickness from 0.11 to 0.14m, with a total construction thickness of 0.12 to 0.45m.

Samples for contamination assays were recovered from the Brickearth exposed in Trial Pit No's 1 to 3. The samples were taken in new glass jars and plastic tubs, and were stored in a refrigerator prior to dispatch to the laboratory. The samples were assayed for a range of common contaminants, see Analytical Test Report 25-11698 by Chemtech Environmental (Appendix D). The concentrations of the various determinants were compared with published screening values for residential occupation with plant uptake (Table 1).

3.1 Metals

The concentration of each of the metals that were assayed was less than the corresponding screening value.

3.2 Poly-Aromatic Hydrocarbons

All of the compounds in this group were at concentrations less than the published screening values. In particular the concentrations of benzo-a-pyrene was in the range 0.025 to 0.085mg/kg; much less than the screening value for this compound of 2.5mg/kg.

4. Risk Assessment

The soils below the site have been protected to a large extent by the concrete hardstanding. Recent use of the site has been for office/storage activities and a carpentry workshop. These activities were unlikely to give rise to major pollution. No significant contamination was found in the soil samples assayed and the risk of pollution to the Brickearth below the site has been assessed to be low.

A conceptual model for the site has been prepared (Table 2) using the source-pathway-receptor model given in Contaminated Land Risk Management.

5. Conclusions

The site off Fircroft Crescent, formerly known as Croft Works with access from Mill Lane has been used by a number of small businesses for many years. Currently the site is derelict and the small buildings are in a state of dis-repair. The whole of the site has been surfaced with a concrete hardstanding effectively sealing the underlying soil. The proposed development comprises three bungalows with small rear gardens. Samples of soil from below the existing paving showed no evidence of contamination and the concentration of all the determinands was below published screening values for residential occupation with plant uptake. No significant risk to human health or to the general environment was identified.

No remediation of the site will be necessary, however the existing hardstanding, concrete and hardcore sub-base in the areas of the gardens should be removed and replaced with a minimum of 200mm of certified clean topsoil.

During demolition / ground works the exposed soils should be inspected for evidence of localised pollution. Any such areas should be investigated and an appropriate remedial action implemented if required.

(W K Elson)
PhD, CEng, MICE

12th December 2025

TABLE 1**Site Screening Values for Soils****Residential with Plant Uptake****Metals**

Determinand	Screening Value	Reference
Antimony	500 mg/kg	DEFRA SP1010 (2014) ¹
Arsenic	37 mg/kg	DEFRA SP1010 (2014) ¹
Barium	1300 mg/kg	DEFRA SP1010 (2014) ¹
Beryllium	1.7 mg/kg	LQM/CIEH ²
Boron (water soluble)	3 mg/kg 290 mg/kg	MAFF (1998) ³ LQM/CIEH ²
Cadmium	17 mg/kg	DEFRA SP1010 (2014) ¹
Chromium	910 mg/kg	LQM/CIEH ²
Copper	130 mg/kg 2400 mg/kg	MAFF (1998) ³ LQM/CIEH ²
Lead	200 mg/kg	DEFRA SP1010 (2014) ¹
Mercury (inorganic)	40 mg/kg	LQM/CIEH ²
Nickel	130 mg/kg	LQM/CIEH ²
Selenium	250 mg/kg	LQM/CIEH ²
Vanadium	410 mg/kg	LQM/CIEH ²
Zinc	300 mg/kg 3700 mg/kg	MAFF (1998) ³ LQM/CIEH ²

cont.....

Site Screening Values for Soils

Residential with Plant Uptake

Organic Compounds

Determinand	Screening Value	Reference
Total PAH	50 mg/kg	WRAS Paper 9-04-03 ⁴
Benzo- α -pyrene	2.5 mg/kg	DEFRA SP1010 (2014) ¹
Fluorene	400 mg/kg	LQM/CIEH ²
Dibenzo (a,h) Anthracene	0.3 mg/kg	LQM/CIEH ²
Naphthalene	5.6 mg/kg	LQM/CIEH ²

¹ DEFRA Category 4 Screening Values SP1010 July 2014

² Generic Assessment Criteria for Human Health Assessment by Land Quality Management and Chartered Institute of Environmental Health, 2015 (S4UL).

³ The Soil Code MAFF 1998. Phyto-toxic criteria for plant growth.

⁴ Selection of Materials for Water Supply Pipes to be Laid in Contaminated Lane, WRSA Paper 9-04-03, October 2002.

TABLE 2
Conceptual Model of Pollution Linkages

**Fircroft Crescent, Rustington,
West Sussex.**

Pollution Linkage	Metals	Poly -aromatic Hydrocarbons
Human Health • Ingestion of soil/dust • Ingestion of contaminated food • Dermal contact • Inhalation of VOC's • Risk of explosion or asphyxiation	L L L X X	L L L X X
Water Environment • Uncontained surface run-off • Migration of mobile constituents into ground/surface water	L L	L L
Flora and Fauna • Potential impact on landscape or plants • Potential impact on water plants and fauna	L X	X X
Building Materials • Direct contact with foundations • Permeation through water pipes	X X	X X

Assessed degree of risk : H - high, M - moderate, L – low, X – no risk

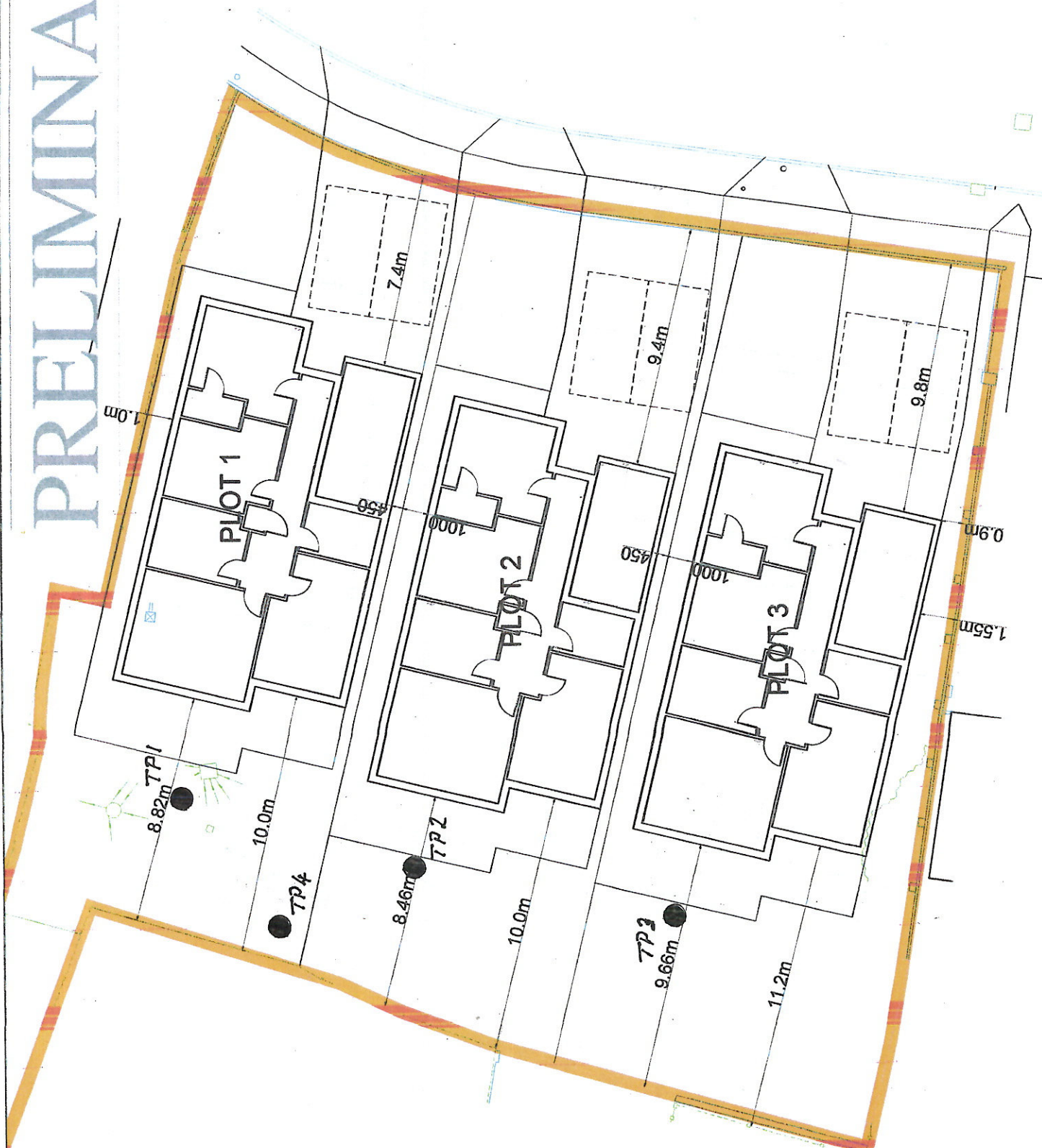
CONTAMINATION ASSESSMENT

**Fircroft Crescent, Rustington
West Sussex**

Appendix A

Site Plan

PRELIMINARY



Project
Proposed Residential Development
Former Clock Works
Mill Lane
Bishopston
West Sussex

Drawing
Proposed Site Development Layout

Architects & Planning Consultants
Clock Tower House, Lewes
Lindfield, West Sussex, RH10 1AA
Telephone 01444 484711
associates

Client
WJH Developments Limited

Drawing no.	date	scale	area
002/100	24.12	1:1000	
revisions			

© THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS AND LOCATIONS OF BUILDINGS AND SERVICES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLY WITH BUILDING REGULATIONS.

CONTAMINATION ASSESSMENT

**Fircroft Crescent, Rustington
West Sussex**

Appendix B

Trial Pit Logs

Project Title : <i>FIRCROFT CRESCENT RUSTINGTON</i>						Project No.:	
TRIAL PIT RESULTS						Pit No. & Location	
Date : <i>25 - 11 - 2025</i>		Engineer [REDACTED]				<i>TP1 TP2</i> <i>TP3</i>	
Ground Level							
Description	Legend	water Level	Depth	Reduced Level	Samples	Insitu Tests	Remarks
<i>Concrete</i>			0m 0.14				
<i>Fill, hardcore soil</i>			0.45				
<i>Brown silty CLAY</i>			0.65		D		
<i>(Brickearth)</i>							
<u><i>TP1</i></u>			1m				
<i>Concrete</i>			0m 0.11				
<i>Fill, rubble / topsoil</i>			0.27				
<i>Brown silty CLAY</i>			0.40		D		
<i>(Brickearth)</i>							
<u><i>TP 2</i></u>							
			3m				
<i>Thin tarmac on Concrete</i>			0m 0.12				
<i>Brown silty CLAY</i>			0.35		D		
<i>(Brickearth)</i>							
<u><i>TP 3</i></u>							

KEY:- D Disturbed sample B Bulk sample W Water sample U U100 Undisturbed	INSITU TESTS :- Shear strength in K Pa P Penetrometer v Vane test
---	---

[illegible]

CONTAMINATION ASSESSMENT

**Fircroft Crescent, Rustington
West Sussex**

Appendix C

Photographs



Photograph 1



Photograph 2



Photograph 3



Photograph 4

CONTAMINATION ASSESSMENT

**Fircroft Crescent, Rustington
West Sussex**

Appendix D

Contamination Assays

A

ANALYTICAL TEST REPORT

Report Number 25-11698, issue number 1

Contract name: Fircroft Cresent Rustington West Sussex

Client reference: Not Supplied

Clients name: WK Elson

Clients address: WK Elson
Orchard End
7 Finches Court
Sussex
RH16 2PG

Samples received: 28/11/2025

Analysis started: 28/11/2025

Analysis completed: 03/12/2025

Report issued: 03/12/2025

Key

U UKAS accredited test

M MCERTS & UKAS accredited test

(B) Analysis performed at Southampton Site

I/S Insufficient sample to carry out test

U/S Sample not suitable for testing

NAD No Asbestos Detected

Full key available on Information page

Approved by: 
Georgia Hunter
Senior Reporting Administrator

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78355	TP1	0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	17.2
78356	TP2	0.40	Brown Clayey Sand with Gravel and Vegetation.	-	-	16.5
78357	TP3	0.35	Brown Clayey Sand with Gravel and Vegetation.	-	-	15.8

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- a Sampling date not provided
- b Sampling time not provided (waters only)
- c Sample not received in appropriate containers
- d Storage Temperature
- e Headspace present in sample container
- f Sample exceeded sampling to receipt
- g Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
78355	TP1	0.60	N	
78356	TP2	0.40	N	
78357	TP3	0.35	N	

SOILS

Lab Number					78355	78356	78357
Client Reference					SOIL	SOIL	SOIL
Sample ID					TP1	TP2	TP3
Depth (m)					0.60	0.40	0.35
Sampling Date					25/11/2025	25/11/2025	25/11/2025
Test	Method	Accred	LoD	Units			
Metals							
Water Soluble Boron	CE063	N	0.5	mg/kg	0.61	< 0.50	0.76
Arsenic	CE264	U	1.8	mg/kg	9.3	8.8	12.8
Cadmium	CE264	M	1.6	mg/kg	< 1.6	< 1.6	< 1.6
Chromium	CE264	U	2	mg/kg	23.3	20.2	21.1
Copper	CE264	U	1.6	mg/kg	21.5	16.7	20.5
Lead	CE264	U	2.3	mg/kg	35.1	32.1	33.2
Mercury	CE264	U	0.7	mg/kg	< 0.7	< 0.7	< 0.7
Nickel	CE264	M	2.1	mg/kg	13.8	12.4	15.2
Selenium	CE264	U	3	mg/kg	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	4	mg/kg	58.9	44.2	46.2
Colourimetric							
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040
Combustion							
Moisture Content	CE001	N	0.1	%	17.2	16.5	15.8
Polyaromatic hydrocarbons							
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	0.018	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.014	0.045	< 0.014
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	0.036	0.107	0.026
Pyrene	CE087	M	0.016	mg/kg	0.033	0.098	0.026
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.024	0.080	0.032
Chrysene	CE087	M	0.028	mg/kg	< 0.028	0.069	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.030	0.107	0.057
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	0.043	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.025	0.085	0.041
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.029	0.101	0.053
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	0.020	< 0.017

SOILS

Lab Number					78355	78356	78357
Client Reference					SOIL	SOIL	SOIL
Sample ID					TP1	TP2	TP3
Depth (m)					0.60	0.40	0.35
Sampling Date					25/11/2025	25/11/2025	25/11/2025
Test	Method	Accred	LoD	Units			
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.021	0.089	0.039
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280	0.861	< 0.280
Wet Chem							
pH	CE004	M	0.1	pH units	7.8	7.7	7.5

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE004	pH of Soil	Potentiometric	As submitted sample
CE063	Water soluble boron	ICPOES	Air dried sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE263	ChromiumVI by Discrete Analyser in Soil	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample

REPORT INFORMATION

Report No.:25-11698, issue number 1

Key	
U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

This report shall not be reproduced except in full, without prior written approval.

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

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

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

Vat Reg No. 772 5703 18 Registered in England number 4284013