

LAND CONTAMINATION RISK MANAGEMENT VALIDATION

at

**Sackville Street,
Ravensthorpe
WF13 3BX**



frontispiece - frontage May 2025

Planning reference: Kirklees Council 2020/62/92681/E

Project Number: 69 034

Status of Report: **FINAL**

Date of Issue: July 10, 2025

L-S&Co Project Number:	69 034
Report on:	Validation
Report at:	land opp. 33 Sackville Street, Ravensthorpe WF13 3BX
Report for:	Campbell Homes, 4 Hussar Court, Hillsborough Barracks, Sheffield S6 2GZ
Prepared by:	Redacted
Status:	T.S. Langdale-Smith MSc C.Geol FINAL
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1. INTRODUCTION

1.1 Location, description and proposed development

Ravensthorpe is a suburb of Dewsbury, located some 4 km southwest of the city centre and within the Calder Valley.

Sackville Street is located within a modern residential area within Ravensthorpe and 600 m north of the River Calder.

The development site comprises of a northeast-southwest aligned rectangular rough surfaced plot that fronts, on its northwest side, for 50 m onto Sackville Street and extends back, to the southeast, for 25 m.

There are new build residences, with gardens, on the north, west and south sides and a small shopping estate to the east.

It is proposed to erect 7 No. residences with gardens and hard-cover access at the site.

The information required to prepare this Validation report has been derived from:

- ARP Geotechnical 2020: Stage 1 Desk Study report at Sackville Street;
- Langdale-Smith and Co 2024: Phase 2 investigation at Sackville Street;
- Langdale-Smith and Co 2024: CMRA at Sackville Street; and
- Langdale-Smith and Co 2024: Remediation Strategy at Sackville Street.

1.2 Planning permission requirements

The Environment Agency Land Contamination: Risk Management (LCRM) guidance prescribes the following three step framework for managing land contamination in England:

LCRM Framework		Planning Condition
Stage 1	Risk Assessment	Site Characterisation
	Tier 1: Preliminary Risk Assessment (PRA)	
	Tier 2: Generic Quantitative Risk Assessment (GQnRA)	
	Tier 3: Detailed Quantitative Risk Assessment (DQnRA)	
Stage 2	Options Appraisal	Submission of Remediation Strategy
Stage 3	Remediation	Implementation of Approved Remediation Strategy
	Tier 1: Develop a Remediation Strategy (RS)	
	Tier 2: Remediation and Verification	
	Tier 3: Long term monitoring and maintenance (if required)	

Table 1 – Stages of risk assessment for contaminated land

This report satisfies Stage 3 Remediation – Tier 2 Validation of Remediation Strategy.

The purpose of this document is to confirm that the Remediation Strategy has been followed correctly and that none of the identified hazards remain at the site.

2. REMEDIATION REQUIREMENTS

The selection of the Remediation Strategy for this site is constrained by:

- the Made Ground, to 2 m depth, is contaminated with low levels of As, Pb and PAH;
- the absence of any ground gas;
- there is no risk from mining subsidence;
- the economic need for shallow foundations.

The CEM shows that, for Pollution Linkages 1 and 2, the generic pathways of Direct Exposure to the Made Ground apply for the Receptors and that these Pathways can be broken by installing a barrier between the Made Ground and the surface.

Any contamination at the site will be in the Made Ground so site operatives and ground workers should be advised of the risk of harm from contact with this ground (section 4).

Made Ground that will be removed from site will need to have WAC tests to ensure correct disposal.

Made Ground left at the site should be covered by a barrier that will prevent physical access and vapour intrusion to future residents.

Drinking water pipes that will come into contact with the Made Ground should be of the metalised barrier type.

There is no Topsoil at the site so any topsoil brought to site for the garden areas should be ensured to be suitable following BS3882:2015.

The site surface should be inspected for any 'hot spots' of contamination when the foundations are being excavated.

3. COAL MINING RISK ASSESSMENT

There is no risk from ground movement from underground mining.

Closure Form 27816 was submitted to the Coal Authority (appendix i/).

4. BARRIER SYSTEM

4.1 Requirement

The barrier system is to prevent physical access to and vapour intrusion from the Made Ground across the site to the surface and future site residents.

4.2 Design specifications

4.2.1 Site surface preparation

WAC tests proved the Made Ground to be classified as inert and was removed from site by Hague Plant, Sheffield (appendix v/).

The site surface was covered with a Terram membrane and then at least 300 mm of Type 1 aggregate, suitably compacted, to create a strong working surface and an impenetrable barrier (appendix iv/).

4.2.2 House foundations and services

It is proposed to use strip foundations for the development (appendix iii/).

This will provide:

- a reduced load from the buildings onto the Made Ground and stone layer; and
- provide an additional barrier to prevent exposure of the Made Ground.

Buried drinking water pipes should not be allowed to come into contact with the Made Ground.

4.2.3 Garden areas

In the garden areas the emplacement of 500 mm of Topsoil will provide an additional barrier to prevent exposure of the Made Ground.

The stone layer beneath the Topsoil will provide a hard-dig barrier as well.

5. RISKS TO GROUNDWORKERS

There was a low risk of harm from the contamination detected in the Made Ground at this site and it was possible that there may be localised areas of high contamination (*i.e* hot spots) that would pose an increased risk of harm.

All site workers were advised to look out for areas of discolouration of strong odours and suitable PPS was used (*i.e.* face masks and gloves).

No unforeseen ground contamination was encountered.

6. SOIL RE-USE AND DISPOSAL

There is no Topsoil at the site so there is no potential for re-use.

The Made Ground at the site extends to 2 m depth and has low levels of Lead, Arsenic and PAH contamination.

Spoil was removed from site by Hague Plant, Sheffield (appendix v/ and vi/).

7. BURIED UTILITIES

7.1 Drinking water pipes

It is common practice for Yorkshire Water to insist on the installation of metal-coated drinking water pipes at any Brownfield Site, whether proven contaminated or not.

At this site it has been established that any contamination would be encountered in the existing Made Ground layer across the site.

The Made ground is contaminated with low levels of As, Pb and PAH.

Buried drinking water pipes of the metallised HDPE type were installed (appendix ii/).

8. IMPORTED TOPSOIL

8.1 Topsoil and sub-soil quality

Up to 0.5 m of Topsoil was laid in the garden areas at the site Appendix vii/).

There is no record of the source of the Topsoil so testing was done for each plot.

8.2 Sampling and analysis of imported soils

Representative samples of the emplaced Topsoil were taken from each of the seven plots on the site, typically at 0.3 m bgl., on April 22, 2025 (appendix ix/).

The samples were placed in plastic pots and amber glass jars, stored in a cooler box and shipped overnight to ChemTech, a well-established UKAS accredited laboratory.

The samples were analysed for:

- CLEA metals;
- TPH;
- PAH;
- Asbestos fibres; and
- Soil organic matter.

The suite is defined by BS3882:2015 Specification for Topsoil.

The results (25-03778) were compared to the SGV (derived by the LQM/CIEH) for residences with garden uptake.

No values exceeded the SGV and no asbestos fibres were encountered.

<< END >>



Permit Ref.	27816	Project / Site Location	Land at, Sackville Street, Ravensthorpe, Dewsbury, WF13 3BX
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Please supply all relevant documents, including this completed form within 3 months of the permitted works being completed.

Where relevant the report should include; borehole logs and details of mine or mine entry treatment works carried out (incl. engineering drawings, grout takes etc.) and a scaled site layout plan (correlated to O.S N' Grid) showing all relevant mine entry positions, coal seams, voids and broken ground proved by the works.

Summary of works Start date Finish date

Have any variations occurred? No Yes If so was the Authority notified? No Yes

Please describe;

Did if any of the following incidents occur?

Spontaneous combustion Water emission Gas emission (elevated or above action levels)
 Geotechnical instability Legal issues incl. damage or potential claims None
If yes, please detail each item;

Were any of the following encountered? Please give a brief summary of the works undertaken.

Intact coal only Broken ground Backfilled ground Voids
Description;

Will further works be necessary that require a Permit? No Yes

If yes, please describe, including any recommendations;

Name:	Email:
Company:	Tel:



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SUPPLIED BY
MKM B.S. (Sheff North) Ltd
 110 Rutland Road

SHEFFIELD

S3 9PJ

Tel: 0114 270 9140

Fax: 0114 270 9141

Invoice to:-

Campbell Homes Ltd
 4 Hussar Court
 Hillsborough Barracks
 Penistone Road
 Sheffield
 S6 2GZ

Invoice

Invoice Number
0023/30133924

Deliver to:-

Campbell Homes Ltd
 ## Sackville Street ##
 Sackville Street
 Ravensthorpe
 Dewsbury
 WF13 3BX

Account	Our Operator	Taxpoint Date	MKM Order Number
0042885	Mathew Freer	14/03/2025	943910
Your Contact	Your Reference	Page	
Mr Neil Milner	SS183	1 of 2	

Quantity	Product	Price	Total	V
Advice note: 0023/30133924 14/03/2025				
1 EA	UNDERGROUND HAZARD TAPE WATER 365MTR 1011370007 B004353	15.96 EA	15.96	S
1 EA	UNDERGROUND HAZARD TAPE GAS 365MTR 1011370004 B005197	15.49 EA	15.49	S
2 EA	PURITON BARRIER PIPE 25MM 50M XQ2528 B008111 /264154	368.00 EA	736.00	S
2 EA	BLUE PRINTED WATER DUCT COIL 63MMX50M RC63X50BL B008446	80.01 EA	160.02	S
2 EA	YELLOW PRINTED GAS DUCT COIL 63MMX50M RC63X50Y B008523	75.99 EA	151.98	S
1 EA	PASLODE 921591 F16X50MM BRAD GALV PACK 2000 + 2 FUEL CELLS B014240	37.26 EA	37.26	S
7 EA	TIMLOC HOCKEY STICK WHITE 1450MM LONG EC1002 31002 B050165	8.33 EA	58.31	S
4 EA	TIMLOC ELECTRICAL METER BOX RECESSED EB0011 30011 B050170	37.72 EA	150.88	S
3 EA	TIMLOC ELECTRICAL METER BOX RECESSED EB0011 30011 B050170	37.72 EA	113.16	S
12 EA	SODAL FIX ALL X-TREME POWER EXPRESS 280ML WHITE 154560 B060358	9.30 EA	111.60	S

Continued...

Mail Ref : 1 of 3

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Freeland Horticulture Ltd
Rosedale Nursery
College Road
Hextable
Kent BR8 7LT

Attention: Philippa Lambourne

Our Ref: SLC-1257-SA

19 March 2024

Dear Philippa

Topsoil Analysis Report: Doncaster, South Yorkshire Topsoil – March 2024

We have completed the analysis of the topsoil sample recently taken from the above site and it has been forwarded to an approved laboratory for analysis and have the pleasure of reporting our findings. The purpose of the analysis was to determine the suitability of the topsoil for general landscaping purposes and its compliance with the current British Standard for topsoil (BS3882).

SOIL SAMPLING & EXAMINATION

At the time of our sampling visit the topsoil was stored in a stockpile. A series of 10 hand augered trial holes were constructed across the stockpile for the purpose of soil examination and sample collection. As the soil examination confirmed a consistent topsoil composition, the ten samples were combined together to form one composite sample for analysis purposes. The soil was described as dark brown, slightly moist and friable with a well-developed, fine to medium granular structure. The soil contained a low fraction of small stones and no deleterious materials (eg. building waste materials, glass, roots or rhizomes of pernicious weeds) or unusual odours (eg. hydrocarbons) were recorded.

LABORATORY ANALYSIS

The topsoil sample was submitted to a UKAS and MCERTS accredited laboratory for routine physical and chemical parameters to confirm the composition and fertility of the soil. The following parameters were determined:

- ⊕ pH & electrical conductivity values;
- ⊕ major plant nutrients (N, P, K, Mg) & organic matter content;
- ⊕ particle size distribution and stone content;
- ⊕ heavy metals & potentially toxic elements (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- ⊕ sulphate, sulphur, sulphide;
- ⊕ total cyanide and total (mono) phenols;
- ⊕ speciated PAHs (US EPA16)
- ⊕ banded aromatic and aliphatic petroleum hydrocarbons (C₅-C₃₅).
- ⊕ Asbestos

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

COMMENTS***pH & Electrical Conductivity (salinity) Values***

The sample was alkaline in nature (pH 7.8) with a pH value that would be considered suitable for general landscaping purposes.

The electrical conductivity (salinity) value using the soil:water extract was (1311 μ S/cm) indicating that soluble salts are not present at levels that would be harmful to plants.

The electrical conductivity values by CaSO₄ extract (BS3882 requirement) fell below the maximum specified value (3300 μ S/cm) given in BS3882:2015.

Organic Matter & Nutrient Status

The sample was rich in organic matter and all major plant nutrients. No further additions of compost or fertiliser are required, or indeed recommended, for at least the first growing season.

The C:N ratio of the sample was acceptable for general landscape purposes

Particle Size Distribution & Stone Content

The sample contained 83% sand and fell into the sandy loam texture class. This particle size distribution is considered suitable for a broad range of landscape applications, including tree and shrub planting, turfing and seeding.

The sample was Virtually free from stones of 50 mm and upwards in diameter and only contained a slight fraction of smaller stones (0.4%). As such, stones will not restrict the use of the soil for landscaping purposes.

Potential Contaminants

We are not aware of any specified contaminant levels set for the proposed end-use of this topsoil. This includes human health, environmental protection and metals considered toxic to plants. In the absence of any site-specific assessment criteria, the concentrations that affect human health have been compared with the 'residential with homegrown produce' land use in the Suitable For Use Levels presented in 'The LQM/CIEH S4UIs' for Human Health Risk Assessment (2015) and DEFRA SP1010: 'Development of Category 4 Screening Levels' for Assessment of Land Affected by Contamination – Policy Companion Document (2014).

Of the potential contaminants determined, none was found at levels that would exceed their respective guideline values.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil for general landscaping purposes. From the soil examination and laboratory analysis, the soil is described as an alkaline, non-saline, sandy loam. The organic matter and nutrient levels are acceptable, and no significant contamination was found with respect to the parameters determined. This soil would adhere to the current BS3882 specification for 'multipurpose grade'.

To conclude, based on our findings, the topsoil would be considered well-suited to general landscaping purposes provided the physical condition of the soil is maintained.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if you have any queries or comments.

George Longmuir MSc Soil Sci. M.I Soil Sci.

Client	Freeland Horticulture Ltd
Job Name	Topsoil Analysis
Site	Doncaster, S. Yorkshire
Month/Year	March 24
Our Ref	1257-SA
Date	19 March 2024

Composite sample

pH Value & Salinity

pH value (1:2.5 soil/water ext)	units	7.8
Electrical Conductivity (1:2.5 soil/water ext)	µS/cm	1311
Electrical Conductivity (1:2.5 soil/CaSO4 ext)	µS/cm	2988

Organic Matter & Nutrient Status

Organic Matter (LOI)	%	5.5
Organic Carbon (Derived)	%	3.2
Total Nitrogen	%	0.273
Carbon:Nitrogen Ratio	:1	11.7
Available Phosphorus	mg/l	56.0
Available Potassium	mg/l	1156
Available Magnesium	mg/l	188

Particle Size Analysis & Stones

Clay (<0.002mm)	%	6
Silt (0.063-0.002mm)	%	11
Sand (2.0-0.063mm)	%	83
Texture Class	UK Class	Sandy Loam

Stones 2-20mm	% by DW	0.0
Stones 20-50mm	% by DW	0.0
Stones >50mm	% by DW	0.0

Potential Contaminants

Total Arsenic (As)	mg/kg	4.9
Total Cadmium (Cd)	mg/kg	0.13
Total Chromium (Cr)	mg/kg	21.7
Hexavalent Chromium (CR ^{VI})	mg/kg	0.8
Total Copper (Cu)	mg/kg	13.5
Total Lead (Pb)	mg/kg	30.7
Total Mercury (Hg)	mg/kg	<0.2
Total Nickel (Ni)	mg/kg	13.1
Total Selenium (Se)	mg/kg	<0.09
Total Zinc (Zn)	mg/kg	152
Total Beryllium (Be)	mg/kg	<1
Total Barium (Ba)	mg/kg	50.1
Total Vanadium (V)	mg/kg	10.2
Hot Water Soluble Boron (B)	mg/kg	1.3
Total Cyanide (CN)	mg/kg	<1
Elemental Sulphur (S)	mg/kg	6.9
Easily Liberated Sulphide (S ⁻²)	mg/kg	<1
Water Soluble Sulphate (SO ₄ ²⁻)	mg/l	120
Total Phenols Index	mg/kg	<1
Asbestos Screen	-	N.D.

Chain of Custody requires Freeland Ticket 01322 619161

Client	Freeland Horticulture Ltd
Job Name	Topsoil Analysis
Site	Doncaster, S. Yorkshire
Month/Year	March 24
Our Ref	1257-SA
Date	19 March 2024

Polyaromatic Hydrocarbons

Naphthalene	mg/kg	<0.05
Acenaphthylene	mg/kg	<0.05
Acenaphthene	mg/kg	<0.05
Fluorene	mg/kg	<0.05
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.05
Fluoranthene	mg/kg	0.1
Pyrene	mg/kg	<0.1
Benzo[a]anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo[b]fluoranthene	mg/kg	<0.1
Benzo[k]fluoranthene	mg/kg	<0.1
Benzo[a]pyrene	mg/kg	<0.1
Indeno[1,2,3-cd]pyrene	mg/kg	<0.1
Dibenzo[a,h]anthracene	mg/kg	<0.1
Benzo[g,h,i]perylene	mg/kg	<0.1
Total PAHs sum US EPA 16	mg/kg	<1

Banded Petroleum Hydrocarbons

Aliphatic TPH >C ₅ -C ₆	mg/kg	<0.05
Aliphatic TPH >C ₆ -C ₈	mg/kg	<0.05
Aliphatic TPH >C ₈ -C ₁₀	mg/kg	<0.05
Aliphatic TPH >C ₁₀ -C ₁₂	mg/kg	<10
Aliphatic TPH >C ₁₂ -C ₁₆	mg/kg	<10
Aliphatic TPH >C ₁₆ -C ₂₁	mg/kg	<10
Aliphatic TPH >C ₂₁ -C ₃₅	mg/kg	29.0
Aliphatic TPH >C ₃₅ -C ₄₄	mg/kg	<12

Aromatic TPH >C ₅ -C ₇	mg/kg	<0.05
Aromatic TPH >C ₇ -C ₈	mg/kg	<0.05
Aromatic TPH >C ₈ -C ₁₀	mg/kg	<0.05
Aromatic TPH >C ₁₀ -C ₁₂	mg/kg	<10
Aromatic TPH >C ₁₂ -C ₁₆	mg/kg	<10
Aromatic TPH >C ₁₆ -C ₂₁	mg/kg	<10
Aromatic TPH >C ₂₁ -C ₃₅	mg/kg	34.0
Aromatic TPH >C ₃₅ -C ₄₄	mg/kg	27.0

Total Petroleum Hydrocarbons (C ₅ -C ₄₄)	mg/kg	90.0
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BTEX

Benzene	mg/kg	<0.02
Toluene	mg/kg	<0.2
Ethyl Benzene	mg/kg	<0.04
m- & p- Xylene	mg/kg	<0.2
o-Xylene	mg/kg	<0.1

Chain of Custody requires Freeland Ticket 01322 619161



ANALYTICAL TEST REPORT

Report Number 25-03778, issue number 1

Contract name: Sackville Street Dewsbury, WF13 3BX (Freeland Horticulture Ltd)

Client reference: Not Supplied

Clients name: Campbell Homes Ltd

Clients address: Campbell Homes
4 Hussah Court
Hillsborough Barracks
Sheffield
S6 4BE

Samples received: 23/04/2025

Analysis started: 24/04/2025

Analysis completed: 01/05/2025

Report issued: 01/05/2025

Key

- U UKAS accredited test
- M MCERTS & UKAS accredited test
- \$ Test carried out by an approved subcontractor
- I/S Insufficient sample to carry out test
- U/S Sample not suitable for testing
- NAD No Asbestos Detected



Approved by: Sam Rogerson
Manager

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.

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
45674	Plot 1	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	19.1
45675	Plot 2	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	19.2
45676	Plot 3	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	18.4
45677	Plot 4	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	18.6
45678	Plot 5	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	14.6
45679	Plot 6	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	16.5
45680	Plot 7	-	Brown Sandy Loam with Gravel and Vegetation.	-	-	20.7

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)
45674	Plot 1	-	Y	a
45675	Plot 2	-	Y	a
45676	Plot 3	-	Y	a
45677	Plot 4	-	Y	a
45678	Plot 5	-	Y	a
45679	Plot 6	-	Y	a
45680	Plot 7	-	Y	a

SOILS

Lab Number					45674	45675	45676	45677	45678
Sample ID					Plot 1	Plot 2	Plot 3	Plot 4	Plot 5
Sampling Date					Not Supplied				
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	NAD	NAD	NAD	NAD	NAD
Soil sample preparation parameters									
Stones Content	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Metals									
Water Soluble Boron	CE063	N	0.5	mg/kg	a 1.14	a 1.13	a 1.06	a 1.03	a 0.94
Arsenic	CE264	U	1.8	mg/kg	a 7.8	a 6.8	a 6.1	a 5.4	a 6.3
Cadmium	CE264	M	1.6	mg/kg	a < 1.6				
Chromium	CE264	U	2	mg/kg	a 23.2	a 12.2	a 9.0	a 12.0	a 12.9
Copper	CE264	M	1.6	mg/kg	a 22.2	a 12.5	a 9.8	a 11.5	a 8.8
Lead	CE264	U	2.3	mg/kg	a 49.6	a 26.2	a 20.8	a 19.3	a 18.3
Magnesium	CE264	U	15	mg/kg	a 3050	a 3060	a 2370	a 2660	a 1880
Mercury	CE264	U	0.7	mg/kg	a < 0.7				
Nickel	CE264	M	2.1	mg/kg	a 13.1	a 10.4	a 8.3	a 8.9	a 7.9
Phosphorus	CE264	N	4	mg/kg	a 622	a 551	a 446	a 484	a 406
Potassium	CE264	U	60	mg/kg	a 1710	a 1510	a 1110	a 1330	a 1020
Selenium	CE264	U	3	mg/kg	a < 3.0				
Sulphur	CE264	N	32	mg/kg	a 1550	a 501	a 270	a 270	a 137
Zinc	CE264	M	4	mg/kg	a 83.8	a 56.4	a 46.1	a 43.9	a 40.6
Colourimetric									
Water Soluble Sulphate	CE261	U	1.8	mg/l	a 344	a 330	a 226	a 210	a 161
Total Monohydric Phenols	CE078	N	0.5	mg/kg	a < 0.50				
Total Cyanide	CE077	N	1	mg/kg	a < 1.0				
Combustion									
Moisture Content	CE001	N	0.1	%	19.1	19.2	18.4	18.6	14.6
Soil Organic Matter	CE192	N	0.1	%	8.34	8.43	8.38	7.41	5.55
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	a < 0.016				
Acenaphthylene	CE087	M	0.015	mg/kg	a < 0.015				
Acenaphthene	CE087	M	0.013	mg/kg	a 0.013	a < 0.013	a < 0.013	a < 0.013	a < 0.013
Fluorene	CE087	U	0.013	mg/kg	a < 0.013				
Phenanthrene	CE087	M	0.014	mg/kg	a 0.115	a 0.100	a 0.082	a 0.088	a 0.066

SOILS

Lab Number					45674	45675	45676	45677	45678
Sample ID					Plot 1	Plot 2	Plot 3	Plot 4	Plot 5
Sampling Date					Not Supplied				
Test	Method	Accred	LoD	Units					
Anthracene	CE087	U	0.017	mg/kg	a 0.026	a 0.022	a 0.037	a 0.024	a 0.019
Fluoranthene	CE087	M	0.017	mg/kg	a 0.232	a 0.214	a 0.229	a 0.204	a 0.162
Pyrene	CE087	M	0.016	mg/kg	a 0.174	a 0.175	a 0.189	a 0.163	a 0.140
Benzo(a)anthracene	CE087	U	0.012	mg/kg	a 0.109	a 0.102	a 0.113	a 0.100	a 0.092
Chrysene	CE087	M	0.028	mg/kg	a 0.103	a 0.101	a 0.105	a 0.102	a 0.088
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	a 0.128	a 0.120	a 0.140	a 0.132	a 0.119
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	a 0.057	a 0.057	a 0.056	a 0.056	a 0.049
Benzo(a)pyrene	CE087	U	0.019	mg/kg	a 0.098	a 0.093	a 0.108	a 0.100	a 0.089
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	a 0.088	a 0.086	a 0.092	a 0.076	a 0.076
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	a 0.019	a 0.023	a 0.024	a 0.018	a 0.018
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	a 0.076	a 0.076	a 0.085	a 0.068	a 0.070
Total PAH(16)	CE087	N	0.28	mg/kg	a 1.24	a 1.17	a 1.26	a 1.13	a 0.989
Total Petroleum Hydrocarbons									
>C5-C6 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.10				
>C6-C8 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.10				
>C8-C10 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.100				
>C10-C12 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a < 6.0				
>C12-C16 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a 7.0	a 7.7	a 7.7	a 11.6	a 9.5
>C16-C21 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a 20.4	a 20.4	a 21.4	a 39.4	a 29.2
>C21-C35 Soil (EH_1D_Total)	CE033	M	15	mg/kg	a 154	a 182	a 185	a 269	a 221
>C35-C44 Soil (EH_1D_Total)	CE033	U	10	mg/kg	a 64.1	a 70.0	a 75.4	a 102	a 94.0
Wet Chem									
Electrical Conductivity	CE007	U	10	µS/cm	a 1120	a 1020	a 899	a 1060	a 813
pH	CE004	M	0.1	pH units	a 8.5	a 8.6	a 8.6	a 8.6	a 8.6

SOILS

Lab Number					45679	45680
Sample ID					Plot 6	Plot 7
Sampling Date					Not Supplied	Not Supplied
Test	Method	Accred	LoD	Units		
Asbestos						
Asbestos Identification	SUBCO N	SU	0	-	NAD	NAD
Soil sample preparation parameters						
Stones Content	CE001	N	0.1	%	< 0.1	< 0.1
Metals						
Water Soluble Boron	CE063	N	0.5	mg/kg	a 1.13	a 1.09
Arsenic	CE264	U	1.8	mg/kg	a 5.5	a 5.8
Cadmium	CE264	M	1.6	mg/kg	a < 1.6	a < 1.6
Chromium	CE264	U	2	mg/kg	a 17.5	a 9.1
Copper	CE264	M	1.6	mg/kg	a 10.2	a 12.0
Lead	CE264	U	2.3	mg/kg	a 17.8	a 21.5
Magnesium	CE264	U	15	mg/kg	a 3360	a 3020
Mercury	CE264	U	0.7	mg/kg	a < 0.7	a < 0.7
Nickel	CE264	M	2.1	mg/kg	a 8.7	a 8.9
Phosphorus	CE264	N	4	mg/kg	a 402	a 518
Potassium	CE264	U	60	mg/kg	a 977	a 1240
Selenium	CE264	U	3	mg/kg	a < 3.0	a < 3.0
Sulphur	CE264	N	32	mg/kg	a 164	a 302
Zinc	CE264	M	4	mg/kg	a 41.9	a 97.5
Colourimetric						
Water Soluble Sulphate	CE261	U	1.8	mg/l	a 170	a 190
Total Monohydric Phenols	CE078	N	0.5	mg/kg	a < 0.50	a < 0.50
Total Cyanide	CE077	N	1	mg/kg	a < 1.0	a < 1.0
Combustion						
Moisture Content	CE001	N	0.1	%	16.5	20.7
Soil Organic Matter	CE192	N	0.1	%	6.86	9.22
Polyaromatic hydrocarbons						
Naphthalene	CE087	M	0.016	mg/kg	a < 0.016	a < 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	a < 0.015	a < 0.015
Acenaphthene	CE087	M	0.013	mg/kg	a < 0.013	a 0.026
Fluorene	CE087	U	0.013	mg/kg	a < 0.013	a 0.023
Phenanthrene	CE087	M	0.014	mg/kg	a 0.096	a 0.236

SOILS

Lab Number					45679	45680
Sample ID					Plot 6	Plot 7
Sampling Date					Not Supplied	Not Supplied
Test	Method	Accred	LoD	Units		
Anthracene	CE087	U	0.017	mg/kg	a 0.019	a 0.052
Fluoranthene	CE087	M	0.017	mg/kg	a 0.210	a 0.543
Pyrene	CE087	M	0.016	mg/kg	a 0.168	a 0.447
Benzo(a)anthracene	CE087	U	0.012	mg/kg	a 0.102	a 0.228
Chrysene	CE087	M	0.028	mg/kg	a 0.098	a 0.207
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	a 0.125	a 0.280
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	a 0.054	a 0.108
Benzo(a)pyrene	CE087	U	0.019	mg/kg	a 0.104	a 0.237
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	a 0.098	a 0.189
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	a 0.023	a 0.043
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	a 0.091	a 0.169
Total PAH(16)	CE087	N	0.28	mg/kg	a 1.19	a 2.79
Total Petroleum Hydrocarbons						
>C5-C6 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.10	a < 0.10
>C6-C8 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.10	a < 0.10
>C8-C10 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	a < 0.100	a < 0.100
>C10-C12 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a < 6.0	a < 6.0
>C12-C16 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a 11.3	a 9.8
>C16-C21 Soil (EH_1D_Total)	CE033	M	6	mg/kg	a 22.1	a 44.4
>C21-C35 Soil (EH_1D_Total)	CE033	M	15	mg/kg	a 191	a 318
>C35-C44 Soil (EH_1D_Total)	CE033	U	10	mg/kg	a 85.4	a 119
Wet Chem						
Electrical Conductivity	CE007	U	10	µS/cm	a 1050	a 1020
pH	CE004	M	0.1	pH units	a 8.6	a 8.6

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
SUBCON	Asbestos Solid	HSG248	Air Dried Sample
CE033	EPH in Solids	Acetone:Hexane Extraction and GCFID	As submitted sample
CE007	Electrical conductivity of Solids	Potentiometric	As submitted sample
CE063	Water soluble boron	ICPOES	Air dried sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE261	Anions by Discrete Analyser in Solids	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE078	Phenols in Solids	Continuous Flow Analyser	As submitted sample
CE077	Cyanides in Solids	Continuous Flow Analyser	As submitted sample

REPORT INFORMATION

Report No.:25-03778, 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

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

Sampling was undertaken by Chemtech Environmental Limited and 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. Samples dried at no more than 30°C in a drying

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

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



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Certificate of Analysis

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 24-53014

Issue: 1

Date of Issue: 04/04/2024

Contact: Gary Campbell

Customer Details: Campbell Homes Limited
4 Hussar Court
Hillsborough Barracks
Sheffield
S6 4BE

Quotation No: Q24-04611

Order No: Not Supplied

Customer Reference: Not Supplied

Date Received: 26/03/2024

Date Approved: 04/04/2024

Details: Campbell Homes Limited

Approved by:

Ben Rees, Customer Services Assistant



Sample Summary

Report No.: 24-53014, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
356548	Soil 1	22/03/2024	26/03/2024	Sandy silty loam	
356549	Soil 2	22/03/2024	26/03/2024	Sandy silty loam	
356550	Soil 3	22/03/2024	26/03/2024	Sandy silty loam	



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Results Summary

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ELAB Reference	356548	356549	356550
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	Soil 1	Soil 2	Soil 3
Sample Depth (m)			
Sampling Date	22/03/2024	22/03/2024	22/03/2024

Determinand	Codes	Units	LOD			
Soil sample preparation parameters						
Moisture Content	N	%	0.1	17.1	21.9	23.8
Material removed	N	%	0.1	10.6	11.0	21.1
Description of Inert material removed	N		0	Stones	Stones	Stones
Miscellaneous						
Acid Neutralisation Capacity	N	mol/kg	0.1	< 0.1	< 0.1	< 0.1
Loss on Ignition	M	%	0.01	7.16	10.5	9.61
pH	M	pH units	0.1	8.1	7.9	8.1
Total Organic Carbon	N	%	0.01	4.7	6.9	8.3
Polyaromatic hydrocarbons						
Total (of 17) PAHs	N	mg/kg	2	69	75	67
BTEX						
Total BTEX	M	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Total Petroleum Hydrocarbons						
Mineral Oil w Florisil (EH_CU_1D_Total)	N	mg/kg	5	53	51	21
PCB (ICES 7 congeners)						
Total PCBs (7 congeners)	N	mg/kg	0.03	< 0.03	< 0.03	< 0.03

Results Summary

Report No.: 24-53014, issue number 1

WAC Analysis							
Elab Ref:	356550				Landfill Waste Acceptance Criteria Limits*		
Sample Date:	22/03/2024				Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	Soil 3						
Depth (m)							
Site:	Campbell Homes Limited						
Determinand		Code	Units				
Total Organic Carbon		N	%	8.30	3	5	6
Loss on Ignition		M	%	9.6	--	--	10
Total BTEX		M	mg/kg	< 0.01	6	--	--
Total PCBs (7 congeners)		N	mg/kg	< 0.03	1	--	--
TPH Total WAC (EH_CU_1D_Total)		N	mg/kg	21	500	--	--
Total (of 17) PAHs		N	mg/kg	67.0	100	--	--
pH		M		8.1	--	>6	--
Acid Neutralisation Capacity		N	mol/kg	< 0.1	--	To evaluate	To evaluate
Eluate Analysis				10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	0.011	0.11	0.5	2	25
Barium		N	0.029	0.29	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	0.006	0.06	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	0.009	0.09	0.5	10	30
Nickel		N	< 0.001	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	0.005	0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	< 0.005	< 0.05	4	50	200
Chloride		N	2	< 50	800	15000	25000
Fluoride		N	< 1	< 10	10	150	500
Sulphate		N	7	67.00	1000	20000	50000
Total Dissolved Solids		N	225	2250.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	9.300	93.00	500	800	1000
Leach Test Information							
pH		N	7.8				
Conductivity (uS/cm)		N	336				
Dry mass of test portion (g)			102.000				
Dry Matter (%)			72				
Moisture (%)			39				
Eluent Volume (ml)			976				

Results are expressed on a dry weight basis, after correction for moisture content where applicable
 * Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 24-53014, issue number 1

WAC Analysis

Elab Ref:	356549				Landfill Waste Acceptance Criteria Limits*		
Sample Date:	22/03/2024				Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	Soil 2						
Depth (m)							
Site:	Campbell Homes Limited						
Determinand		Code	Units				
Total Organic Carbon		N	%	6.90	3	5	6
Loss on Ignition		M	%	10.5	--	--	10
Total BTEX		M	mg/kg	< 0.01	6	--	--
Total PCBs (7 congeners)		N	mg/kg	< 0.03	1	--	--
TPH Total WAC (EH_CU_1D_Total)		N	mg/kg	51	500	--	--
Total (of 17) PAHs		N	mg/kg	75.0	100	--	--
pH		M		7.9	--	>6	--
Acid Neutralisation Capacity		N	mol/kg	< 0.1	--	To evaluate	To evaluate

Eluate Analysis

			10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	0.009	0.09	0.5	2	25
Barium		N	0.036	0.36	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	0.006	0.06	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	0.007	0.07	0.5	10	30
Nickel		N	0.002	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	0.005	0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	< 0.005	< 0.05	4	50	200
Chloride		N	2	< 50	800	15000	25000
Fluoride		N	< 1	< 10	10	150	500
Sulphate		N	5	53.80	1000	20000	50000
Total Dissolved Solids		N	247	2470.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	8.600	86.00	500	800	1000

Leach Test Information

pH		N	7.6				
Conductivity (uS/cm)		N	368				
Dry mass of test portion (g)			102.000				
Dry Matter (%)			76				
Moisture (%)			31				
Eluent Volume (ml)			983				

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 24-53014, issue number 1

WAC Analysis

Elab Ref:	356548				Landfill Waste Acceptance Criteria Limits*		
Sample Date:	22/03/2024				Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	Soil 1						
Depth (m)							
Site:	Campbell Homes Limited						
Determinand		Code	Units				
Total Organic Carbon		N	%	4.70	3	5	6
Loss on Ignition		M	%	7.2	--	--	10
Total BTEX		M	mg/kg	< 0.01	6	--	--
Total PCBs (7 congeners)		N	mg/kg	< 0.03	1	--	--
TPH Total WAC (EH_CU_1D_Total)		N	mg/kg	53	500	--	--
Total (of 17) PAHs		N	mg/kg	69.0	100	--	--
pH		M		8.1	--	>6	--
Acid Neutralisation Capacity		N	mol/kg	< 0.1	--	To evaluate	To evaluate

Eluate Analysis

			10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	0.006	0.06	0.5	2	25
Barium		N	0.013	0.13	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	0.005	0.05	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	0.007	0.07	0.5	10	30
Nickel		N	< 0.001	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	< 0.005	< 0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	< 0.005	< 0.05	4	50	200
Chloride		N	1	< 50	800	15000	25000
Fluoride		N	< 1	< 10	10	150	500
Sulphate		N	4	40.60	1000	20000	50000
Total Dissolved Solids		N	140	1400.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	5.600	56.00	500	800	1000

Leach Test Information

pH		N	7.5				
Conductivity (uS/cm)		N	209				
Dry mass of test portion (g)			101.000				
Dry Matter (%)			82				
Moisture (%)			23				
Eluent Volume (ml)			981				

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

Method Summary

Report No.: 24-53014, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Leachate					
Arsenic	N		03/04/2024	301	ICPMS
Cadmium	N		03/04/2024	301	ICPMS
Chromium	N		03/04/2024	301	ICPMS
Lead	N		03/04/2024	301	ICPMS
Nickel	N		03/04/2024	301	ICPMS
Copper	N		03/04/2024	301	ICPMS
Zinc	N		03/04/2024	301	ICPMS
Mercury	N		03/04/2024	301	ICPMS
Selenium	N		03/04/2024	301	ICPMS
Antimony	N		03/04/2024	301	ICPMS
Barium	N		03/04/2024	301	ICPMS
Molybdenum	N		03/04/2024	301	ICPMS
pH Value	N		03/04/2024	113	Electrometric
Electrical Conductivity	N		03/04/2024	136	Probe
Dissolved Organic Carbon	N		03/04/2024	102	TOC analyser
Chloride	N		03/04/2024	270	Ion Chromatography
Fluoride	N		03/04/2024	270	Ion Chromatography
Sulphate	N		03/04/2024	270	Ion Chromatography
Total Dissolved Solids	N		03/04/2024	144	Gravimetric
Phenol index	N		03/04/2024	121	HPLC
WAC Solids analysis	N				
pH	M	Air dried sample	28/03/2024	113	Electrometric
Total Organic Carbon	N	Air dried sample	02/04/2024	210	IR
Loss on Ignition	M	Air dried sample	28/03/2024	129	Gravimetric
Acid Neutralisation Capacity	N	Air dried sample	28/03/2024	NEN 737	Electrometric
Total BTEX	M	As submitted sample	31/03/2024	181	GCMS
Mineral Oil (EH_CU_1D_Total)	N	As submitted sample	28/03/2024	117	GCFID
Total PCBs (7 congeners)	N	Air dried sample	02/04/2024	120	GCMS
Total (of 17) PAHs	N	As submitted sample	01/04/2024	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 24-53014, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

LOD LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.
Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.
ELAB are unable to provide an interpretation or opinion on the content of this report.
The results relate only to the sample received.
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request
Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
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

End of Report