

Date: 20th August 2025

Reference: 14-768-V2

GARDEN VALIDATION – HAWKS VIEW, CASTLETON

Project Name:	Hawks View, Castleton (formerly known as Castleton Sidings)
Project Number:	14-768
Client:	Kellen Homes Limited
Date:	20-08-2025
Project Manager & Qualifications:	J. Sheridan
E3P Engineer & Qualifications:	R. Webster
Plots:	185-191

OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of plots 185-191 at the site off Heywood Road in Castleton.

Seven hand excavated trial pits were advanced, with the resulting strata detailed at the rear of this letter.

All trial pits confirmed the required cover system of 600 mm (150 mm topsoil and 450 mm subsoil).

E3P can confirm that our independent validation demonstrates that all gardens have been installed with 150 mm of certified topsoil and at least 450 mm subsoil under the NHBC requirements for a site of this nature.

A list of plots requiring validation and their associated validation letters is presented in Table 1 for reference.

SOIL SAMPLING REQUIREMENTS

The development will comprise 191 residential houses and associated areas of POS.

An estimated 2898 m³ topsoil is required to complete the development (plots and POS) with c. 7132 m³ subsoil required (c. 5438 m³ in plots and 1695 m³ in POS and landscaping) to complete the development.

Topsoil and subsoil sampling and chemical analysis is to be undertaken in accordance with the approved E3P Remediation and Enabling Works Strategy (ref: 14-768-R4-3, September 2024).

A summary of the required testing frequencies for each material source is presented overleaf:



MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Site Won Subsoil	1 Sample per 250 m ³	A/B/C/D
Imported Subsoil – Greenfield Source	1 Sample per 250 m ³	A/B/C/D
Imported Subsoil – Brownfield Source	1 Sample per 250 m ³	A/B/C/D
Imported Topsoil – Greenfield Source	1 Sample per 250 m ³	A/B/C/D
Imported Topsoil – Brownfield Source	1 Sample per 50 m ³	A/B/C/D

Notes

Soils shall be tested at the above frequencies or minimum 3 samples per source, whichever is the greater number Suites of Analysis:

- A. Speciated PAH.
- B. Speciated TPH (C5-C35).
- C. Asbestos (ID).
- D. CLEA Inorganic Heavy Metals.

It is anticipated the garden cover system will be made up of predominantly imported soils.

TOPSOIL

Topsoil has been imported from the following sources:

-  Redrow – Gleaves View, Daresbury development (c. 150 m³).
-  Keepmoat – Waters Edge, Blackburn development (c. 150 m³ to date of 2000 m³ proposed).

E3P attended the site on 3 July 2025 and 28 July to obtain samples of the imported topsoils, which were analysed by Chemtest (Eurofins) laboratory using UKAS accredited methods. Chemical analysis confirmed that these topsoil deposits are chemically suitable for use within the proposed garden areas.

A summary of the sources, volumes and required sampling frequencies is presented below.

SOURCE	APPROX. VOLUME (M ³)	MATERIAL TYPE	REQUIRED NO. SAMPLES
Redrow – Daresbury	150	Imported Topsoil (Greenfield)	1 per 250 m ³ – Min. 3
Keepmoat – Blackburn	150 (to date) 2000 (proposed)	Imported Topsoil (Greenfield)	1 per 250 m ³ – Min. 3

Results are attached to this letter.

SUBSOIL

Subsoil has been imported from the following sources:

-  Kellen – Don Street, Middleton development (c. 200 m³).
-  Seddon – Dinting Road, Glossop development (c. 550 m³).



E3P attended the site on 18 October 2024 to obtain an initial three samples of the imported subsoil from Don St, which were analysed by Chemtest (Eurofins) laboratory using UKAS accredited methods.

Asbestos was detected in sample IMPSS101. Due to the material being from a brownfield source and the occurrence of asbestos in one sample, a further seven samples were obtained on 19 March 2025 from across the stockpile for characterization. PAH exceedances were encountered in sample IMPSS104.

Under the supervision of E3P, the areas of the stockpile around IMPSS101 and IMPSS104 were segregated and removed (equating to c. 5 m³ at each location). Confirmatory testing of the residual soils at each location was undertaken on 4 April 2025 and confirmed no exceedances remained and that the unsuitable material had been suitably delineated and the remainder of the stockpile was confirmed to be chemically suitable for use within the proposed garden areas.

E3P attended the site on 24 March and 7 May to obtain samples of the imported subsoil from Dinting Road, Glossop. Chemical analysis confirmed these subsoil deposits to be chemically suitable for use within the proposed garden areas.

A summary of the sources, volumes and required sampling frequencies is presented below.

SOURCE	APPROX. VOLUME (M ³)	MATERIAL TYPE	REQUIRED NO. SAMPLES
Kellen – Don Street	200	Imported Subsoil (Brownfield)	1 per 50 m ³ – Min. 3
Seddon – Glossop	550	Imported Subsoil (Greenfield)	1 per 250 m ³ – Min. 3

Results are attached to this letter.

CHEMICAL ANALYSIS

TOPSOIL/ SUBSOIL	SOURCE	LAB REFERENCE	SAMPLE REFERENCE	PASS/FAIL
Topsoil	Redrow – Daresbury	25-22255	IMPTS101-103	PASS
	Keepmoat – Blackburn	25-25052	IMPTS201-203	PASS
Subsoil	Kellen – Don Street	25-10206	IMPSS101-103	IMPSS101 – FAIL IMPSS102-103 – PASS
		25-09805	IMPSS104-110	IMPSS104 – FAIL IMPSS105-110 – PASS
		25-11804	IMPSS101 N,W,S,E & IMPSS104 N,W,S,E	REMOVAL OF IMPSS101 AND IMPSS104 – PASS
	Seddon – Glossop	25-10206	IMPSS201-203	PASS
		25-15337	IMPSS204-205	PASS

The cover system validation photographs are attached to this letter. For information, the following table includes references and validation dates of plots validated to date.



The garden validation photographs are enclosed within this letter. For information, Table 1 includes references and validation dates of previously validated plots.

PLOT NUMBER	DATE	REPORT REFERENCE
11-15	12-08-2025	V1
185-191	20-08-2025	V2



Garden Cover System Validation

Complete

Score	35 / 35 (100%)
Site Name	Castleton sidings
Location	Heywood England OL10 United Kingdom (53.587855980254375, - 2.181859032383445)
Project Number	14768
Developer	Kellen
Project Manager	JS
Conducted By	Richard Webster
Date of visit	20 Aug 2025 1:26 PM BST
Subsoil/Topsoil Material Source (If the site manager can't supply you with detail of where the soil is sourced STOP THE INSPECTION and call the PM)	
Where has the Subsoil been sourced	Don St, Middleton
Where has the Topsoil been sourced	Gleaves View, Daresbury



Plot Validation	35 / 35 (100%)
Plot Validation	35 / 35 (100%)
Plot Validation 1	5 / 5 (100%)
Plot Number	191
Garden position	Rear
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photos down the hole)	600
	
Photo 1	
Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	
	
Photo 2	
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	
	
Photo 3	



Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.

Yes

If soil is unsuitable please add a FULL description and support with photos.

Na

Geotextile membrane present

N/A

Plot Validation 2

5 / 5 (100%)

Plot Number

190

Garden position

Rear

Is Plot Ready

Yes

Installation Standard

Pass

Depth of Cover System Materials (record the depth and support with Photos down the hole)

600



Photo 4

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)



Photo 5

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)



Photo 6

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.	Yes
If soil is unsuitable please add a FULL description and support with photos.	Na
Geotextile membrane present	N/A
Plot Validation 3	5 / 5 (100%)
Plot Number	189
Garden position	Rear
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photos down the hole)	600
	
Photo 7	
Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	



Photo 8

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)



Photo 9

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.

Yes

If soil is unsuitable please add a FULL description and support with photos.

Na

Geotextile membrane present

N/A

Plot Validation 4

5 / 5 (100%)

Plot Number

188

Garden position

Rear

Is Plot Ready

Yes

Installation Standard

Pass

Depth of Cover System Materials (record the depth and support with Photos down the hole)

600



Photo 10

Depth of Topsoil (mm)

150



Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)



Photo 11

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)

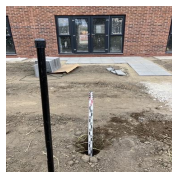


Photo 12

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.

Yes

If soil is unsuitable please add a FULL description and support with photos.

Na

Geotextile membrane present

N/A

Plot Validation 5

5 / 5 (100%)

Plot Number

187

Garden position

Rear

Is Plot Ready

Yes

Installation Standard

Pass

Depth of Cover System Materials (record the depth and support with Photos down the hole)

600



Photo 13



Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	
	
Photo 14	
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	
	
Photo 15	
Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.	Yes
If soil is unsuitable please add a FULL description and support with photos.	Na
Geotextile membrane present	N/A
Plot Validation 6	5 / 5 (100%)
Plot Number	186
Garden position	Rear
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photos down the hole)	600



Photo 16

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)



Photo 17

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)



Photo 18

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.	Yes
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If soil is unsuitable please add a FULL description and support with photos.	Na
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Geotextile membrane present	N/A
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Plot Validation 7	5 / 5 (100%)
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Plot Number	185
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Garden position	Rear
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photos down the hole)

600



Photo 19

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)



Photo 20

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)



Photo 21

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM.

Yes

If soil is unsuitable please add a FULL description and support with photos.

Na

Geotextile membrane present

N/A

Site Manager or Representative

Name

Paul

Signature

Paul
20 Aug 2025 1:56 PM BST



Media summary



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Final Report

Report No.: 24-33888-1

Initial Date of Issue: 23-Oct-2024

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): jsheridan@e3p.co.uk;
hmason@e3p.co.uk

Project Castleton Sidings - imp ss

Quotation No.: Q23-31421

Date Received: 18-Oct-2024

Order No.: 009791

Date Instructed: 18-Oct-2024

No. of Samples: 3

Turnaround (Wkdays): 5

Results Due: 24-Oct-2024

Date Approved: 23-Oct-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: Castleton Sidings - imp ss

Client: E3P		Chemtest Job No.: 24-33888						24-33888
Quotation No.: Q23-31421		Chemtest Sample ID.: 1882908						1882910
		Client Sample ID.: IMP SS 101						IMP SS 102
		Sample Location: SP 1						SP1
		Sample Type: SOIL						SOIL
		Date Sampled: 18-Oct-2024						18-Oct-2024
		Time Sampled: 12:00						12:00
		Asbestos Lab: DURHAM						DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		U	2192		N/A	Fibres/Clumps	-	-
Asbestos Identification		U	2192		N/A	Amosite Chrysotile	No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry		U	2192	%	0.001	<0.001		
Total Asbestos		U	2192	%	0.001	<0.001		
Moisture		N	2030	%	0.020	22	28	24
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Loam	Clay
pH at 20C		M	2010		4.0	9.0	8.6	8.5
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.23	< 0.010	0.055
Total Sulphur		U	2175	%	0.010	0.13	0.020	0.030
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	1.0
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.9	2.8	5.5
Sulphate (Total)		U	2430	%	0.010	0.20	0.058	0.15
Arsenic		M	2455	mg/kg	0.5	11	10	14
Cadmium		M	2455	mg/kg	0.10	0.30	0.20	0.30
Chromium		M	2455	mg/kg	0.5	19	22	27
Copper		M	2455	mg/kg	0.50	28	25	36
Mercury		M	2455	mg/kg	0.05	0.12	0.08	0.15
Nickel		M	2455	mg/kg	0.50	18	20	24
Lead		M	2455	mg/kg	0.50	46	34	52
Selenium		M	2455	mg/kg	0.25	1.1	0.81	1.0
Zinc		M	2455	mg/kg	0.50	85	67	95
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	2.2	1.5	2.8
Total Organic Carbon		M	2625	%	0.20	1.3	0.86	1.6
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	2.9
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	17	< 1.0	30
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	11	< 1.0	17
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	29	< 1.0	43
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	6.4	< 1.0	2.1
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	63	< 10	95
Naphthalene		M	2800	mg/kg	0.10	0.17	0.11	0.17

Results - Soil

Project: Castleton Sidings - imp ss

Client: E3P		Chemtest Job No.:				24-33888	24-33888	24-33888
Quotation No.: Q23-31421		Chemtest Sample ID.:				1882908	1882909	1882910
		Client Sample ID.:				IMP SS 101	IMP SS 102	IMP SS 103
		Sample Location:				SP 1	SP 1	SP1
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				18-Oct-2024	18-Oct-2024	18-Oct-2024
		Time Sampled:				12:00	12:00	12:00
		Asbestos Lab:				DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	0.12	< 0.10	0.12
Fluorene		M	2800	mg/kg	0.10	0.13	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.85	0.33	0.58
Anthracene		M	2800	mg/kg	0.10	0.23	< 0.10	0.17
Fluoranthene		M	2800	mg/kg	0.10	1.1	0.49	0.85
Pyrene		M	2800	mg/kg	0.10	1.0	0.45	0.76
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.57	0.23	0.35
Chrysene		M	2800	mg/kg	0.10	0.63	0.20	0.35
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.79	0.33	0.53
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.28	0.13	0.22
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.63	0.21	0.40
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.45	0.20	0.29
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.46	0.21	0.31
Total Of 16 PAH's		N	2800	mg/kg	2.0	7.4	2.9	5.1
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

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

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

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 - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-09805-1

Initial Date of Issue: 01-Apr-2025

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): jsheridan@e3p.co.uk;
hmason@e3p.co.uk

Project 14-768 Castleton Sidings, Rochdale

Quotation No.: **Date Received:** 21-Mar-2025

Order No.: 010773 **Date Instructed:** 21-Mar-2025

No. of Samples: 7

Turnaround (Wkdays): 5 **Results Due:** 27-Mar-2025

Date Approved: 01-Apr-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:						25-09805	25-09805	25-09805	25-09805	25-09805	25-09805	25-09805
Quotation No.:		Chemtest Sample ID.:						1950705	1950706	1950707	1950708	1950709	1950710	1950711
		Client Sample ID.:						IMP SS 104	IMP SS 105	IMP SS 106	IMP SS 107	IMP SS 108	IMP SS 109	IMP SS 110
		Sample Type:						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:						19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025
		Time Sampled:						12:00	12:00	12:00	12:00	12:00	12:00	12:00
		Asbestos Lab:						DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD									
ACM Type		N	2192		N/A	-	-	-	-	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	8.8	11	8.5	15	8.8	9.7	8.6		
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown		
Other Material		N	2040		N/A	Stones, Roots and	Stones and	Stones and	Stones and	Stones and	Stones, and Glass	Stones and		
Soil Texture		N	2040		N/A	Sand	Loam	Sand	Clay	Loam	Loam	Sand		
pH at 20C		M	2010		4.0	8.3	7.9	7.5	8.1	8.3	8.2	8.4		
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.033	0.012	0.034	< 0.010	0.028	0.018	< 0.010		
Total Sulphur		U	2175	%	0.010	0.030	0.020	0.020	0.020	0.020	0.020	0.020		
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	5.6	11	3.5	2.4	5.3	3.5	2.0		
Sulphate (Total)		U	2430	%	0.010	0.048	0.051	0.10	0.037	0.14	0.027	0.050		
Arsenic		M	2455	mg/kg	0.5	6.3	8.6	10	6.9	9.0	3.5	9.9		
Cadmium		M	2455	mg/kg	0.10	0.21	0.20	0.23	0.19	0.31	< 0.10	0.41		
Chromium		M	2455	mg/kg	0.5	16	20	20	14	20	6.8	19		
Copper		M	2455	mg/kg	0.50	18	28	26	19	26	11	24		
Mercury		M	2455	mg/kg	0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.06		
Nickel		M	2455	mg/kg	0.50	16	22	21	15	19	8.0	20		
Lead		M	2455	mg/kg	0.50	27	25	42	24	36	19	35		
Selenium		M	2455	mg/kg	0.25	0.54	0.75	0.77	0.55	0.68	0.28	0.74		
Zinc		M	2455	mg/kg	0.50	50	58	63	45	59	31	71		
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Organic Matter		M	2625	%	0.40	1.9	1.9	2.1	1.2	3.5	1.5	1.6		
Total Organic Carbon		M	2625	%	0.20	1.1	1.1	1.2	0.72	2.0	0.88	0.93		
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	4.3	< 1.0	< 1.0	4.7	7.6	1.1	4.0		
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	5.9	< 1.0	< 1.0	3.2	13	1.0	2.7		
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	7.8	130	< 1.0	6.2		
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	21	< 1.0	< 1.0		
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	10	< 10	< 10	16	180	< 10	13		
Naphthalene		M	2800	mg/kg	0.10	0.19	< 0.10	< 0.10	< 0.10	0.62	< 0.10	< 0.10		
Acenaphthylene		N	2800	mg/kg	0.10	0.90	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthene		M	2800	mg/kg	0.10	38	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluorene		M	2800	mg/kg	0.10	25	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:		25-09805	25-09805	25-09805	25-09805	25-09805	25-09805	25-09805	25-09805	
Quotation No.:		Chemtest Sample ID.:		1950705	1950706	1950707	1950708	1950709	1950710	1950711		
		Client Sample ID.:		IMP SS 104	IMP SS 105	IMP SS 106	IMP SS 107	IMP SS 108	IMP SS 109	IMP SS 110		
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
		Date Sampled:		19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025	19-Mar-2025		
		Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00		
		Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
Phenanthrene		M	2800	mg/kg	0.10	99	0.76	< 0.10	0.16	0.44	0.21	0.23
Anthracene		M	2800	mg/kg	0.10	31	0.13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	80	0.81	< 0.10	0.27	0.54	0.27	0.43
Pyrene		M	2800	mg/kg	0.10	54	0.67	< 0.10	0.28	0.53	0.29	0.37
Benzo[a]anthracene		M	2800	mg/kg	0.10	26	< 0.10	< 0.10	< 0.10	0.24	< 0.10	0.18
Chrysene		M	2800	mg/kg	0.10	21	< 0.10	< 0.10	< 0.10	0.29	< 0.10	0.18
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	24	< 0.10	< 0.10	< 0.10	0.37	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	9.1	< 0.10	< 0.10	< 0.10	0.13	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	19	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	1.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	8.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	450	2.4	< 2.0	< 2.0	3.2	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

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

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

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 - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-11804-1

Initial Date of Issue: 15-Apr-2025

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): jsheridan@e3p.co.uk;
hmason@e3p.co.uk

Project 14-768 Castleton Sidings, Rochdale

Quotation No.: **Date Received:** 08-Apr-2025

Order No.: 010903 **Date Instructed:** 08-Apr-2025

No. of Samples: 6

Turnaround (Wkdays): 5 **Results Due:** 14-Apr-2025

Date Approved: 15-Apr-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:		25-11804	25-11804	25-11804	25-11804	25-11804	25-11804	25-11804
Quotation No.:		Chemtest Sample ID.:		1957694	1957695	1957696	1957697	1957698	1957699	
		Client Sample ID.:		IMPSS104W	IMPSS104N	IMPSS104E	IMPSS101W	IMPSS101N	IMPSS101E	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025	
		Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	
		Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
ACM Type		N	2192		N/A	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	15	13	15	12	12
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Loam
pH at 20C		M	2010		4.0	7.8	7.4	7.4	7.8	7.6
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.026	< 0.010	< 0.010	0.032	0.028
Total Sulphur		U	2175	%	0.010	0.030	0.030	0.030	0.040	0.030
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.5	8.3	3.5	2.6	5.0
Sulphate (Total)		U	2430	%	0.010	0.062	0.050	0.045	0.088	0.067
Arsenic		M	2455	mg/kg	0.5	10	8.5	9.2	12	10
Cadmium		M	2455	mg/kg	0.10	0.26	0.18	0.33	0.35	3.5
Chromium		M	2455	mg/kg	0.5	21	16	18	20	19
Copper		M	2455	mg/kg	0.50	27	20	23	29	25
Mercury		M	2455	mg/kg	0.05	0.07	0.05	0.06	0.10	0.08
Nickel		M	2455	mg/kg	0.50	24	18	21	22	21
Lead		M	2455	mg/kg	0.50	33	22	26	41	42
Selenium		M	2455	mg/kg	0.25	0.80	0.55	0.62	0.77	0.61
Zinc		M	2455	mg/kg	0.50	63	48	54	75	75
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	1.3	0.90	1.5	3.6	1.2
Total Organic Carbon		M	2625	%	0.20	0.77	0.52	0.85	2.1	0.71
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	9.9	< 1.0	< 1.0	11
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	10	< 1.0	< 1.0	10
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	18	< 1.0	< 1.0	15
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	4.6	< 1.0	< 1.0	1.4
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	< 10	42	< 10	< 10	39
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:						25-11804	25-11804	25-11804	25-11804	25-11804	25-11804
Quotation No.:		Chemtest Sample ID.:						1957694	1957695	1957696	1957697	1957698	1957699
		Client Sample ID.:						IMPSS104W	IMPSS104N	IMPSS104E	IMPSS101W	IMPSS101N	IMPSS101E
		Sample Type:						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:						04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025	04-Apr-2025
		Time Sampled:						12:00	12:00	12:00	12:00	12:00	12:00
		Asbestos Lab:						NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
Phenanthrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.51	0.48	
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16	
Fluoranthene		M	2800	mg/kg	0.10	0.29	< 0.10	0.24	0.55	0.74	0.78		
Pyrene		M	2800	mg/kg	0.10	0.32	< 0.10	0.25	0.50	0.65	0.73		
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.29	0.37	
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.28	0.32	
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.47	0.53	
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.42	0.49	
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.4	3.9	
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.4	

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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Key

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

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Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

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

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

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 - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-10206-1

Initial Date of Issue: 01-Apr-2025

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): jsheridan@e3p.co.uk;
hmason@e3p.co.uk

Project 14-768 Castleton Sidings, Rochdale

Quotation No.: **Date Received:** 25-Mar-2025

Order No.: 010827 **Date Instructed:** 25-Mar-2025

No. of Samples: 3

Turnaround (Wkdays): 5 **Results Due:** 31-Mar-2025

Date Approved: 01-Apr-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:				25-10206	25-10206	25-10206
Quotation No.:		Chemtest Sample ID.:				1952034	1952035	1952036
		Client Sample ID.:				IMPSS201	IMPSS202	IMPSS203
		Sample Location:				Dinting Lane	Dinting Lane	Dinting Lane
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				24-Mar-2025	24-Mar-2025	24-Mar-2025
		Time Sampled:				12:00	12:00	12:00
		Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		N	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	20	19	15
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Roots	Roots	Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH at 20C		M	2010		4.0	7.6	7.5	7.9
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.028	< 0.010	0.039
Total Sulphur		U	2175	%	0.010	0.020	0.020	0.010
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.5	2.4	3.0
Sulphate (Total)		U	2430	%	0.010	0.079	0.053	0.032
Arsenic		M	2455	mg/kg	0.5	11	10	8.3
Cadmium		M	2455	mg/kg	0.10	0.33	0.27	0.23
Chromium		M	2455	mg/kg	0.5	44	42	30
Copper		M	2455	mg/kg	0.50	32	30	24
Mercury		M	2455	mg/kg	0.05	0.05	0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	52	46	40
Lead		M	2455	mg/kg	0.50	33	31	19
Selenium		M	2455	mg/kg	0.25	0.79	0.76	0.55
Zinc		M	2455	mg/kg	0.50	84	76	58
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	1.3	1.3	0.97
Total Organic Carbon		M	2625	%	0.20	0.74	0.74	0.56
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	7.6	9.1	< 1.0
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	14	13	< 1.0
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	8.4	8.2	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	1.4	1.5	< 1.0
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	31	32	< 10
Naphthalene		M	2800	mg/kg	0.10	0.15	0.21	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	0.13	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:						25-10206	25-10206	25-10206
Quotation No.:		Chemtest Sample ID.:						1952034	1952035	1952036
		Client Sample ID.:						IMPSS201	IMPSS202	IMPSS203
		Sample Location:						Dinting Lane	Dinting Lane	Dinting Lane
		Sample Type:						SOIL	SOIL	SOIL
		Date Sampled:						24-Mar-2025	24-Mar-2025	24-Mar-2025
		Time Sampled:						12:00	12:00	12:00
		Asbestos Lab:						NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Phenanthrene		M	2800	mg/kg	0.10	< 0.10		0.37		< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10		0.12		< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10		0.36		< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10		0.38		< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10		0.15		< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10		0.16		< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0		< 2.0		< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10		< 0.10		< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

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C - Sample not received in appropriate containers

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HWOL Acronym System

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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 - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-15337-1

Initial Date of Issue: 16-May-2025

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): jsheridan@e3p.co.uk;
hmason@e3p.co.uk

Project 14-768 Castleton Sidings, Rochdale

Quotation No.: **Date Received:** 08-May-2025

Order No.: 011092 **Date Instructed:** 08-May-2025

No. of Samples: 2

Turnaround (Wkdays): 5 **Results Due:** 14-May-2025

Date Approved: 16-May-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:				25-15337	25-15337
Quotation No.:		Chemtest Sample ID.:				1970444	1970445
Order No.: 011092		Client Sample Ref.:				DINTING LANE	DINTING LANE
		Client Sample ID.:				IMPSS204	IMPSS205
		Sample Type:				SOIL	SOIL
		Date Sampled:				07-May-2025	07-May-2025
		Time Sampled:				12:00	12:00
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		N	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	3.2	12
Soil Colour		N	2040		N/A	Black	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Loam	Clay
pH at 20C		M	2010		4.0	7.2	7.3
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.035	0.061
Total Sulphur		U	2175	%	0.010	0.020	0.030
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	2.4	8.8
Sulphate (Total)		U	2430	%	0.010	0.13	0.066
Arsenic		M	2455	mg/kg	0.5	4.2	2.5
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	7.9	4.8
Copper		M	2455	mg/kg	0.50	7.0	5.2
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	7.8	4.7
Lead		M	2455	mg/kg	0.50	12	8.2
Selenium		M	2455	mg/kg	0.25	< 0.25	< 0.25
Zinc		M	2455	mg/kg	0.50	21	16
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	0.69	0.90
Total Organic Carbon		M	2625	%	0.20	0.40	0.52
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	5.9
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	16
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	3.8
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	< 10	26
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10

Results - Soil

Project: 14-768 Castleton Sidings, Rochdale

Client: E3P		Chemtest Job No.:				25-15337	25-15337
Quotation No.:		Chemtest Sample ID.:				1970444	1970445
Order No.: 011092		Client Sample Ref.:				DINTING LANE	DINTING LANE
		Client Sample ID.:				IMPSS204	IMPSS205
		Sample Type:				SOIL	SOIL
		Date Sampled:				07-May-2025	07-May-2025
		Time Sampled:				12:00	12:00
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
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2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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Text example All items indicated in italic font represent customer-supplied information that may not be independently verified by the laboratory

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Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

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NEW_ASB Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL

DURHAM Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

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- A - Date of sampling not supplied
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- H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

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

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
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PL - Prepared Leachate
PW - Processed Water
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NC - No Clean Up
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FC - Florisil Clean Up

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 - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-22255-1

Initial Date of Issue: 14-Jul-2025

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): hmason@e3p.co.uk;
jsheridan@e3p.co.uk

Project 14-768 Castleton Sidings

Quotation No.: Q23-31421

Date Received: 05-Jul-2025

Order No.: 011637

Date Instructed: 05-Jul-2025

No. of Samples: 3

Turnaround (Wkdays): 5

Results Due: 10-Jul-2025

Date Approved: 14-Jul-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 14-768 Castleton Sidings

Client: E3P		Chemtest Job No.:				25-22255	25-22255	25-22255
Quotation No.: Q23-31421		Chemtest Sample ID.:				1995906	1995907	1995908
		Client Sample ID.:				IMP TS 101	IMP TS 102	IMP TS 103
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				03-Jul-2025	03-Jul-2025	03-Jul-2025
		Time Sampled:				12:00	12:00	12:00
		Asbestos Lab:				DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		N	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	19	16	12
Soil Colour		N	2030		N/A	Brown	Brown	Brown
Other Material		N	2030		N/A	Stones and Roots	Roots	Stones and Roots
Soil Texture		N	2030		N/A	Clay	Loam	Loam
pH at 20C		M	2010		4.0	6.5	6.5	6.7
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.19	0.027	0.029
Total Sulphur		U	2175	%	0.010	0.040	0.060	0.040
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	2.4	3.7	5.2
Sulphate (Total)		U	2430	%	0.010	0.023	0.082	0.048
Arsenic		M	2455	mg/kg	0.5	2.0	10	4.9
Cadmium		M	2455	mg/kg	0.10	< 0.10	0.15	0.14
Chromium		M	2455	mg/kg	0.5	5.9	18	13
Copper		M	2455	mg/kg	0.50	6.5	25	17
Mercury		M	2455	mg/kg	0.05	< 0.05	0.09	0.07
Nickel		M	2455	mg/kg	0.50	4.4	15	9.8
Lead		M	2455	mg/kg	0.50	12	42	25
Selenium		M	2455	mg/kg	0.25	< 0.25	0.56	0.35
Zinc		M	2455	mg/kg	0.50	13	64	31
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	5.3	4.5	4.0
Total Organic Carbon		M	2625	%	0.20	3.1	2.6	2.3
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	< 10	< 10	< 10
Naphthalene		M	2800	mg/kg	0.10	< 0.10	0.25	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	0.20	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	0.21	< 0.10

Results - Soil

Project: 14-768 Castleton Sidings

Client: E3P		Chemtest Job No.:						25-22255	25-22255	25-22255
Quotation No.: Q23-31421		Chemtest Sample ID.:						1995906	1995907	1995908
		Client Sample ID.:						IMP TS 101	IMP TS 102	IMP TS 103
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		Asbestos Lab:						DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Phenanthrene		M	2800	mg/kg	0.10	< 0.10		1.0		0.16
Anthracene		M	2800	mg/kg	0.10	< 0.10		0.26		< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.27		0.80		0.32
Pyrene		M	2800	mg/kg	0.10	0.27		0.72		0.28
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10		0.40		0.25
Chrysene		M	2800	mg/kg	0.10	< 0.10		0.46		0.28
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10		0.42		0.43
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10		0.43		0.15
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10		0.39		0.26
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10		0.25		0.18
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10		< 0.10		< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10		0.21		< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0		6.0		2.3
Total Phenols		M	2920	mg/kg	0.10	< 0.10		< 0.10		< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
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