

Date: 9th June 2025

Reference: 15-719-V47

GARDEN VALIDATION – YORK STREET

Project Name:	York Street, Bury
Project Number:	15-719
Client:	Kellen Homes
Date:	23-05-2025
Project Manager:	M. Dyer
E3P Engineer:	S. Mulk
Plots:	109-120, 162-163

OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of plots 109-120, 162-163 at the site off York Street in Bury.

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

The trial pits were completed to highlight the required cover system of 600 mm (150 mm topsoil and 450 mm subsoil).

E3P can confirm that our independent validation demonstrates that the rear gardens have been installed with 150 mm of certified topsoil and at least 450 mm subsoil.





TOPSOIL

Topsoil was imported by Cheshire Soils from the greenfield site off Delph Lane, Daresbury, Warrington, WA4 4AN. E3P attended site on 18th March 2025 to obtain three samples from the stockpile of imported topsoil. Chemical analysis confirmed that these topsoil deposits were chemically suitable for use within the proposed garden areas. Chemical analysis results are included within lab report 25-09512 (attached to this letter).

Analysis for topsoil undertaken by Eurofins Chemtest Ltd using UKAS accredited methods where applicable.

The chemical analysis suite comprises heavy metals, sulphates, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAHs), speciated and total Petroleum Hydrocarbons (TPH) and asbestos. The sampling frequency follows the agreed Remediation Strategy.

SUBSOIL

Subsoil was imported by Cheshire Soils from the greenfield site off Dinting Road, Glossop, SK13 7UU. E3P attended site on 18th March 2025 to obtain three samples of the imported subsoil. Chemical analysis confirmed that these subsoil deposits were chemically suitable for use within the proposed garden areas. Chemical analysis results are included within lab report 25-09513 (attached to this letter).

Analysis for subsoil undertaken by Eurofins Chemtest Ltd using UKAS accredited methods where applicable.

The chemical analysis suite comprises heavy metals, sulphates, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAHs), speciated and total Petroleum Hydrocarbons (TPH) and asbestos. The sampling frequency follows the agreed Remediation Strategy.

CHEMICAL ANALYSIS

TOPSOIL/SUBSOIL	SOURCE	LAB REFERENCE	SAMPLE REFERENCE	PASS/FAIL
Topsoil	Delph Lane, Daresbury	25-09512	TS101-TS103	Pass
Subsoil	Dinting Road, Glossop	25-09513	SS101-SS103	Pass

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



Table 1 – Validation Letter Reference

PLOT NUMBER	DATE	REPORT REFERENCE
140-150	24th June 2024	V1
2-4, 7-10, 12-16	16th July 2024	V2
17-18, 21-22	24th July 2024	V3
5, 6, 11	20th August 2024	V4
1	16th September 2024	V5
19-20	4th October 2024	V6
25, 26, 28	30th September 2024	V7
23, 24, 27, 29	8th October 2024	V8
153	1st November 2024	V9
151, 152, 154	6th November 2024	V10
187-189, 191	1st November 2024	V11
30	6th November 2024	V12
31, 192-194	22nd November 2024	V13
190	27th November 2024	V14
195	3rd December 2024	V15
34, 196, 206-208, 211	3rd December 2024	V16
32-33, 35-36, 179	4th December 2024	V17
197-198	10th December 2024	V18
43-45	17th December 2024	V19
155-158	15th January 2025	V20
181-182, 185-186	15th January 2025	V21
159	27th January 2025	V22
37-38, 41, 180, 183, 201-202	17th January 2025	V23
39	22nd January 2025	V24
184, 199, 209-210	27th January 2025	V25
40, 203-205	30th January 2025	V26
178	25th February 2025	V27
200	14th March 2025	V28
97-103	11th March 2025	V29
104	14th March 2025	V30
105	24th March 2025	V31
106-107	24th March 2025	V32
108	24th March 2025	V33
47-50	28th March 2025	V34
42	4th April 2025	V35
46, 51-53	4th April 2025	V36
54	23rd April 2025	V37
55-58	23rd April 2025	V38
59, 61, 63-64	23rd April 2025	V39
68, 72, 74-82	24th/25th April 2025	V40
60, 62, 65-67, 69-71	6th May 2025	V41
73, 171-174	12th/14th May 2025	V42
91-92	16th May 2025	V43
83-89, 175-177	19th May 2025	V44
90, 93-96	22nd/23rd May 2025	V45
164-170	22nd/23rd May 2025	V46
109-120, 162-163	23rd May 2025	V47



Garden Cover System Validation

Complete

Score	(100%)
Site Name	York street
Location	1 Candle Grove Manchester England M26 2GL United Kingdom (53.57244888938279, - 2.305399281863974)
Project Number	15719
Developer	Kellen homes
Project Manager	Nicola Sellars
Conducted By	Sufianne Mulk
Date of visit	23 May 2025 10:30 AM 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	Cheshire soils
Where has the Topsoil been sourced	Cheshire soils



Plot Validation 1		5 / 5 (100%)
Plot Number		109
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
  Photo 1 Photo 2		
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
 Photo 3		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
 Photo 4		
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.		-
Geotextile membrane present		N/A



Plot Validation 2		5 / 5 (100%)
Plot Number		110
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
  Photo 5 Photo 6		
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
 Photo 7		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
 Photo 8		
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.		-
Geotextile membrane present		N/A



Plot Validation 3		5 / 5 (100%)
Plot Number		111
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
  Photo 9 Photo 10		
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
 Photo 11		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
 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.		-
Geotextile membrane present		N/A



Plot Validation 4		5 / 5 (100%)
Plot Number		112
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 13		Photo 14
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 15		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 16		
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.		-
Geotextile membrane present		N/A



Plot Validation 5		5 / 5 (100%)
Plot Number		113
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 17		Photo 18
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 19		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 20		
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.		-
Geotextile membrane present		N/A



Plot Validation 6		5 / 5 (100%)
Plot Number		114
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 21		Photo 22
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 23		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 24		
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.		-
Geotextile membrane present		N/A



Plot Validation 7		5 / 5 (100%)
Plot Number		115
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 25		Photo 26
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 27		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 28		
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.		-
Geotextile membrane present		N/A



Plot Validation 8		5 / 5 (100%)
Plot Number		116
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 29 Photo 30		
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 31		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 32		
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.		-
Geotextile membrane present		N/A



Plot Validation 9		5 / 5 (100%)
Plot Number		117
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 33		Photo 34
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 35		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 36		
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.		-
Geotextile membrane present		N/A



Plot Validation 10		5 / 5 (100%)
Plot Number		118
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 37		Photo 38
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 39		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 40		
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.		-
Geotextile membrane present		N/A



Plot Validation 11		5 / 5 (100%)
Plot Number		119
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 41		Photo 42
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 43		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 44		
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.		-
Geotextile membrane present		N/A



Plot Validation 12		5 / 5 (100%)
Plot Number		120
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 45		Photo 46
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 47		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 48		
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.		-
Geotextile membrane present		N/A



Plot Validation 13		5 / 5 (100%)
Plot Number		162
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 49		Photo 50
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 51		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 52		
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.		-
Geotextile membrane present		N/A



Plot Validation 14		5 / 5 (100%)
Plot Number		163
Garden position		Rear
Is Plot Ready		Yes
Installation Standard		Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)		600
 		
Photo 53		Photo 54
Depth of Topsoil (mm)		150
Depth of Subsoil (mm)		450
Depth of Cover System at Ground Level (Photo)		600
		
Photo 55		
Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)		600
		
Photo 56		
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.		-
Geotextile membrane present		N/A



Site Manager or Representative

Name

Joe salkeld

Signature

Joe salkeld
23 May 2025 1:04 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



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31



Photo 32



Photo 33



Photo 34



Photo 35



Photo 36



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42



Photo 43



Photo 44



Photo 45



Photo 46



Photo 47



Photo 48



Photo 49



Photo 50



Photo 51



Photo 52



Photo 53



Photo 54



Photo 55



Photo 56



Final Report

Report No.: 25-09512-1

Initial Date of Issue: 28-Mar-2025

Re-Issue Details:

Client E3P

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

Contact(s):

Project 15-719 York Street - Topsoil (Cheshire Soils)

Quotation No.: Q23-31421

Date Received: 20-Mar-2025

Order No.: 010805

Date Instructed: 20-Mar-2025

No. of Samples: 3

Turnaround (Wkdays): 5

Results Due: 26-Mar-2025

Date Approved: 28-Mar-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: 15-719 York Street - Topsoil (Cheshire Soils)

Client: E3P		Chemtest Job No.:				25-09512	25-09512	25-09512
Quotation No.: Q23-31421		Chemtest Sample ID.:				1949798	1949799	1949800
		Client Sample ID.:				TS101	TS102	TS103
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				19-Mar-2025	19-Mar-2025	19-Mar-2025
		Time Sampled:				0:00	0:00	0:00
		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	16	15	16
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Roots	Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.4	8.1	7.9
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.15	0.024	0.058
Total Sulphur		U	2175	%	0.010	0.040	0.030	0.030
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.0	2.3	5.3
Sulphate (Total)		U	2430	%	0.010	0.11	0.065	0.13
Arsenic		M	2455	mg/kg	0.5	11	8.7	18
Cadmium		M	2455	mg/kg	0.10	0.25	0.20	0.40
Chromium		M	2455	mg/kg	0.5	13	21	30
Copper		M	2455	mg/kg	0.50	30	25	52
Mercury		M	2455	mg/kg	0.05	0.13	0.09	0.19
Nickel		M	2455	mg/kg	0.50	11	8.7	18
Lead		M	2455	mg/kg	0.50	50	40	100
Selenium		M	2455	mg/kg	0.25	0.41	0.32	0.70
Zinc		M	2455	mg/kg	0.50	56	46	89
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	2.6	1.7	1.7
Total Organic Carbon		M	2625	%	0.20	1.5	0.98	1.0
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	1.1	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	7.1	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	6.3	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	8.5	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	11	< 1.0	< 1.0
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	46	< 1.0	< 1.0
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	29	< 1.0	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	5.7	< 1.0	< 1.0
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	110	< 10	< 10
Naphthalene		M	2800	mg/kg	0.10	0.48	0.45	0.45
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 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: 15-719 York Street - Topsoil (Cheshire Soils)

Client: E3P		Chemtest Job No.:		25-09512	25-09512	25-09512
Quotation No.: Q23-31421		Chemtest Sample ID.:		1949798	1949799	1949800
		Client Sample ID.:		TS101	TS102	TS103
		Sample Type:		SOIL	SOIL	SOIL
		Date Sampled:		19-Mar-2025	19-Mar-2025	19-Mar-2025
		Time Sampled:		0:00	0:00	0:00
		Asbestos Lab:		DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Phenanthrene		M	2800	mg/kg	0.10	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	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

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M	MCERTS and UKAS accredited
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S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
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U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
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LOD	Limit of 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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Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
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#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.: 25-09513-1

Initial Date of Issue: 28-Mar-2025

Re-Issue Details:

Client E3P

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

Contact(s): [REDACTED]

Project 15-719 York Street - Subsoil (Cheshire Soils)

Quotation No.: Q23-31421

Date Received: 20-Mar-2025

Order No.: 010805

Date Instructed: 20-Mar-2025

No. of Samples: 3

Turnaround (Wkdays): 5

Results Due: 26-Mar-2025

Date Approved: 28-Mar-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: 15-719 York Street - Subsoil (Cheshire Soils)

Client: E3P		Chemtest Job No.:				25-09513	25-09513	25-09513
Quotation No.: Q23-31421		Chemtest Sample ID.:				1949801	1949802	1949803
		Client Sample ID.:				SS101	SS102	SS103
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				19-Mar-2025	19-Mar-2025	19-Mar-2025
		Time Sampled:				0:00	0:00	0:00
		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	18	17	17
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Roots	Stones and Roots	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.1	8.2	8.4
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.055	0.086	0.23
Total Sulphur		U	2175	%	0.010	0.030	0.040	0.050
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	3.3	2.9
Sulphate (Total)		U	2430	%	0.010	0.070	0.073	0.14
Arsenic		M	2455	mg/kg	0.5	11	8.4	9.5
Cadmium		M	2455	mg/kg	0.10	0.14	0.19	0.28
Chromium		M	2455	mg/kg	0.5	40	27	29
Copper		M	2455	mg/kg	0.50	20	21	27
Mercury		M	2455	mg/kg	0.05	0.06	0.05	0.07
Nickel		M	2455	mg/kg	0.50	31	29	33
Lead		M	2455	mg/kg	0.50	28	23	32
Selenium		M	2455	mg/kg	0.25	0.63	0.66	0.83
Zinc		M	2455	mg/kg	0.50	62	53	73
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	0.98	1.0	1.6
Total Organic Carbon		M	2625	%	0.20	0.57	0.60	0.92
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	0.58	0.65	0.38
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.15
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.13

Results - Soil

Project: 15-719 York Street - Subsoil (Cheshire Soils)

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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
Anthracene		M	2800	mg/kg	0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	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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