

Date 10th February 2025  
Reference: 15-974 V10

## GARDEN VALIDATION – BENNETT STREET

|                         |                   |
|-------------------------|-------------------|
| <b>Project Name:</b>    | Bennett Street    |
| <b>Project Number:</b>  | 15-974            |
| <b>Client:</b>          | Kellen Homes Ltd  |
| <b>Date:</b>            | 04-02-2025        |
| <b>Project Manager:</b> | Matt Dee          |
| <b>E3P Engineer:</b>    | S. Mulk           |
| <b>Plots:</b>           | 112, 113, 117-121 |

### OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of plot 112, 113, 117-121 at Bennett Street, Manchester.

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

Trial pits in rear gardens were completed to highlight the required cover system of 600mm (150mm topsoil and 450mm subsoil) and the presence of a geotechnical break layer at the base of cover system.

E3P can confirm that our independent validation demonstrates that the rear garden has been installed with 150mm of certified topsoil and at least 450mm subsoil in line with the requirements of the build phase mitigation plan for this site. A geotechnical break layer was noted within all trial pits at the base of the cover system.

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





## TOPSOIL

E3P have obtained imported topsoil deposits from Donor Site 'Roman Way, Preston', 'Halewood Consortium' and 'Viking Way, Congleton' which were analysed in line with the E3P Remediation Strategy.

To date, a total of 16no. topsoil samples have been submitted for analysis from Roman Way, at a brownfield frequency of 1 per 50 m<sup>3</sup>. Five topsoil samples have been submitted for analysis from Halewood Consortium at a greenfield frequency of 1 per 200m<sup>3</sup>. Five topsoil samples have been submitted for analysis from Viking Way, Congleton at a greenfield frequency of 1 per 200m<sup>3</sup> in line with the E3P remediation strategy. Total samples obtained cover 2,800 m<sup>3</sup> of imported topsoil.

Analysis for subsoil undertaken by I2 Analytical Laboratories and Eurofins Laboratories 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. Laboratory analysis certificates are attached to this validation certificate.

Chemical analysis confirmed that these topsoil deposits were chemically suitable for use within the proposed garden areas.

Chemical analysis results are included within lab reports 24-12322-1, 24-77927-1, 24-13816-1, 24-29418-1 and 24-36526 (relevant sampling attached to this letter).

## SUBSOIL

E3P attended the site to obtain samples of the imported subsoil deposits from "The Mere Golf Club" and "Roman Way", which were tested in line with the E3P Remediation Strategy.

To date, a total of eight subsoil samples have been submitted for analysis, at a brownfield frequency of 1 per 50 m<sup>3</sup> in line with the E3P remediation strategy, covering 400 m<sup>3</sup> of imported subsoil.

Additionally, E3P have obtained samples of site won natural clay subsoils, won from civil excavations and cut/fill works across the development site. A total of 18no. site won subsoil samples have been obtained, two minor exceedances of generic screening values were identified (SW-CLAY-001 and SW-CLAY-011), unsuitable soils were segregated and used as bulk fill elsewhere on site with the remaining soils tested and confirming suitability for use in private gardens. To date, a total of 16no. suitable subsoil samples have been submitted for analysis, at a site won subsoil frequency of 1 per 250 m<sup>3</sup> in line with the E3P remediation strategy, covering 4,000 m<sup>3</sup> of site won subsoil.

Analysis for subsoil undertaken by I2 Analytical Laboratories and Eurofins Laboratories 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. Laboratory analysis certificates are attached to this validation certificate.

Chemical analysis confirmed that these subsoil deposits were chemically suitable for use within the proposed garden areas. Chemical analysis results are included within lab reports 24-008736-1, 24-010773-1, 24-77927-1, 24-25212-1, 24-25843-1, 24-27346-1 and 24-29407-1 (attached to this letter).



## CHEMICAL ANALYSIS

| TOPSOIL/SUBSOIL | SOURCE             | LAB REFERENCE | SAMPLE REFERENCE | PASS/FAIL                                   |
|-----------------|--------------------|---------------|------------------|---------------------------------------------|
| Topsoil         | Roman Way          | 24-77927-1    | TS001 – TS003    | Pass                                        |
|                 |                    | 24-12322-1    | TS101 – TS103    | Pass                                        |
|                 |                    | 24-13816-1    | TS104 – TS113    | Pass                                        |
|                 | Halewood           | 24-29418-1    | IMP-TS-101 - 105 | Pass                                        |
|                 | Viking Way         | 24-36526-1    | Cong TS 001-005  | Pass                                        |
| Subsoil         | The Mere Golf Club | 24-008736-1   | IMP-SS-101-104   | Pass                                        |
|                 |                    | 24-010773-1   | IMP-SS-105       | Pass                                        |
|                 | Roman Way          | 24-77927-1    | SS-001 – SS-003  | Pass                                        |
|                 | Site won           | 24-25212-1    | SW-CLAY-001-005  | Pass – Following segregation of SW-CLAY-001 |
|                 |                    | 24-25843-1    | SW-CLAY-006-010  | Pass                                        |
|                 |                    | 24-27346-1    | SW-CLAY-011-015  | Pass – Following segregation of SW-CLAY-011 |
|                 |                    | 24-29407-1    | SW-CLAY-016-018  | 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 |
|-------------------------------|--------------------------------|------------------|
| 9-12 & 14-17                  | 17th April 2024                | V1               |
| 13                            | 29th April 2024                | V2               |
| 17-19                         | 12 <sup>th</sup> August 2024   | V3               |
| 136, 137, 141-146             | 21st October 2024              | V4               |
| 138-140, 147, FG 18, 139, 145 | 14 <sup>th</sup> November 2024 | V5               |
| 123-124                       | 4th December 2024              | V6               |
| 125-127, 20-22                | 11th December 2024             | V7               |
| 132                           | 7th January 2025               | V8               |
| 133 and 135                   | 21 <sup>st</sup> January 2025  | V9               |
| 112, 113, 117-121             | 4th February 2025              | V10              |



## Garden Cover System Validation

Complete

|                 |                                                                                                                    |
|-----------------|--------------------------------------------------------------------------------------------------------------------|
| Score           | 28 / 28 (100%)                                                                                                     |
| Site Name       | Bennett street                                                                                                     |
| Location        | 70 Brick Kiln Road<br>Manchester<br>England<br>M12<br>United Kingdom<br>(53.4706207633582, -<br>2.212439732206059) |
| Project Number  | 15974                                                                                                              |
| Developer       | Kellen homes                                                                                                       |
| Project Manager | Matt Dee                                                                                                           |
| Conducted By    | Sufianne Mulk                                                                                                      |
| Date of visit   | 4 Feb 2025 10:29 AM GMT                                                                                            |



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

Site Won

Where has the Topsoil been sourced

Congleton



|                                                                                                                                                                                                                                     |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Plot Validation                                                                                                                                                                                                                     | 28 / 28 (100%) |
| Plot Validation                                                                                                                                                                                                                     | 28 / 28 (100%) |
| Plot Validation 1                                                                                                                                                                                                                   | 4 / 4 (100%)   |
| Plot Number                                                                                                                                                                                                                         | 112            |
| Is Plot Ready                                                                                                                                                                                                                       | Yes            |
| Installation Standard                                                                                                                                                                                                               | Pass           |
| Depth of Cover System Materials (record the depth and support with Photo down the hole)                                                                                                                                             | 600            |
| <div>   </div> <div> <div>Photo 1</div> <div>Photo 2</div> </div> |                |
| Depth of Topsoil (mm)                                                                                                                                                                                                               | 150            |
| Depth of Subsoil (mm)                                                                                                                                                                                                               | 450            |
| Depth of Cover System at Ground Level (Photo)                                                                                                                                                                                       | 600            |
|  <div>Photo 3</div>                                                                                                                              |                |
| Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)                                                                                                                                          | 600            |
|  <div>Photo 4</div>                                                                                                                              |                |
| 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                                                                                                                                                                                                         | Yes            |



Photo 5

Plot Validation 2

4 / 4 (100%)

Plot Number

113

Is Plot Ready

Yes

Installation Standard

Pass

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

600



Photo 6



Photo 7

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)

600



Photo 8

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

600



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.



Geotextile membrane present

Yes



Photo 10

Plot Validation 3

4 / 4 (100%)

Plot Number

117

Is Plot Ready

Yes

Installation Standard

Pass

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

600



Photo 11



Photo 12

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)

600

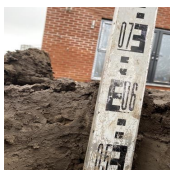


Photo 13

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

600



Photo 14

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

Yes



Photo 15

Plot Validation 4

4 / 4 (100%)

Plot Number

118

Is Plot Ready

Yes

Installation Standard

Pass

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

600



Photo 16



Photo 17

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)

600



Photo 18

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

600



Photo 19



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

Yes



Photo 20

Plot Validation 5

4 / 4 (100%)

Plot Number

119

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

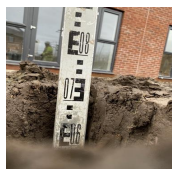


Photo 23

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

Yes



Photo 25

Plot Validation 6

4 / 4 (100%)

Plot Number

120

Is Plot Ready

Yes

Installation Standard

Pass

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

600



Photo 26



Photo 27

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)

600



Photo 28



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

600



Photo 29

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

Yes



Photo 30

Plot Validation 7

4 / 4 (100%)

Plot Number

121

Is Plot Ready

Yes

Installation Standard

Pass

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

600



Photo 31

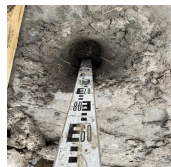


Photo 32

Depth of Topsoil (mm)

150

Depth of Subsoil (mm)

450

Depth of Cover System at Ground Level (Photo)

600



Photo 33

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

600



Photo 34

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

Yes



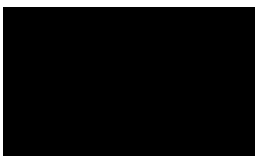
Photo 35

Site Manager or Representative

Name

Martin

Signature



Martin  
4 Feb 2025 11:50 AM GMT



## 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



# Final Report

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**Report No.:** 24-36526-1

**Initial Date of Issue:** 13-Nov-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

[REDACTED]

**Project** Bennett

**Quotation No.:** **Date Received:** 08-Nov-2024

**Order No.:** 009989 **Date Instructed:** 08-Nov-2024

**No. of Samples:** 5

**Turnaround (Wkdays):** 5 **Results Due:** 14-Nov-2024

**Date Approved:** 13-Nov-2024

**Approved By:**

[REDACTED]

**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**

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## Results - Soil

**Project: Bennett**

|                                     |                  |                             |            |              |             |                      |                      |                      |
|-------------------------------------|------------------|-----------------------------|------------|--------------|-------------|----------------------|----------------------|----------------------|
| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b>    |            | 24-36526     | 24-36526    | 24-36526             | 24-36526             | 24-36526             |
| <b>Quotation No.:</b>               |                  | <b>Chemtest Sample ID.:</b> |            | 1892694      | 1892695     | 1892696              | 1892697              | 1892698              |
|                                     |                  | Client Sample ID.:          |            | CONG TS 001  | CONG TS 002 | CONG TS 003          | CONG TS 004          | CONG TS 005          |
|                                     |                  | Sample Location:            |            | IMP          | IMP         | IMP                  | IMP                  | IMP                  |
|                                     |                  | Sample Type:                |            | SOIL         | SOIL        | SOIL                 | SOIL                 | SOIL                 |
|                                     |                  | Date Sampled:               |            | 05-Nov-2024  | 05-Nov-2024 | 05-Nov-2024          | 05-Nov-2024          | 05-Nov-2024          |
|                                     |                  | Time Sampled:               |            | 0:00         | 0:00        | 0:00                 | 0:00                 | 0:00                 |
|                                     |                  | Asbestos Lab:               |            | DURHAM       | DURHAM      | DURHAM               | DURHAM               | DURHAM               |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b>  |                      |                      |                      |
| ACM Type                            |                  | U                           | 2192       |              | N/A         | -                    | -                    | -                    |
| Asbestos Identification             |                  | U                           | 2192       |              | N/A         | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture                            |                  | N                           | 2030       | %            | 0.020       | 12                   | 11                   | 13                   |
| Soil Colour                         |                  | N                           | 2040       |              | N/A         | Brown                | Brown                | Brown                |
| Other Material                      |                  | N                           | 2040       |              | N/A         | Stones               | Stones               | Stones               |
| Soil Texture                        |                  | N                           | 2040       |              | N/A         | Loam                 | Loam                 | Loam                 |
| pH at 20C                           |                  | M                           | 2010       |              | 4.0         | 7.7                  | 7.8                  | 7.6                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                           | 2120       | g/l          | 0.010       | 0.089                | 0.098                | 0.078                |
| Total Sulphur                       |                  | U                           | 2175       | %            | 0.010       | 0.030                | 0.040                | 0.080                |
| 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                  | 3.1                  | 2.1                  |
| Sulphate (Total)                    |                  | U                           | 2430       | %            | 0.010       | 0.068                | 0.040                | 0.031                |
| Arsenic                             |                  | M                           | 2455       | mg/kg        | 0.5         | 6.1                  | 6.0                  | 4.5                  |
| Cadmium                             |                  | M                           | 2455       | mg/kg        | 0.10        | 0.18                 | 0.26                 | 0.17                 |
| Chromium                            |                  | M                           | 2455       | mg/kg        | 0.5         | 6.4                  | 5.8                  | 4.6                  |
| Copper                              |                  | M                           | 2455       | mg/kg        | 0.50        | 20                   | 22                   | 14                   |
| Mercury                             |                  | M                           | 2455       | mg/kg        | 0.05        | 0.13                 | 0.11                 | 0.08                 |
| Nickel                              |                  | M                           | 2455       | mg/kg        | 0.50        | 7.6                  | 7.5                  | 5.4                  |
| Lead                                |                  | M                           | 2455       | mg/kg        | 0.50        | 37                   | 42                   | 24                   |
| Selenium                            |                  | M                           | 2455       | mg/kg        | 0.25        | 0.48                 | 0.42                 | 0.34                 |
| Zinc                                |                  | M                           | 2455       | mg/kg        | 0.50        | 39                   | 46                   | 25                   |
| Chromium (Hexavalent)               |                  | N                           | 2490       | mg/kg        | 0.50        | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |                  | M                           | 2625       | %            | 0.40        | 3.5                  | 2.9                  | 4.0                  |
| Total Organic Carbon                |                  | M                           | 2625       | %            | 0.20        | 2.0                  | 1.7                  | 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         | 7.8                  | 3.8                  | 3.8                  |
| TPH >C21-C25                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | 18                   | 6.0                  | 6.2                  |
| TPH >C25-C35                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | 31                   | 15                   | 19                   |
| TPH >C35-C40                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | 5.3                  | 3.4                  | 3.2                  |
| Total TPH >C6-C40                   | EH_1D_Total      | U                           | 2670       | mg/kg        | 10          | 62                   | 28                   | 32                   |
| Naphthalene                         |                  | M                           | 2800       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |
| Acenaphthylene                      |                  | N                           | 2800       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |
| Acenaphthene                        |                  | M                           | 2800       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |

## Results - Soil

**Project: Bennett**

|                         |                  |                             |            |              |            |        |             |             |             |             |             |
|-------------------------|------------------|-----------------------------|------------|--------------|------------|--------|-------------|-------------|-------------|-------------|-------------|
| <b>Client: E3P</b>      |                  | <b>Chemtest Job No.:</b>    |            |              |            |        | 24-36526    | 24-36526    | 24-36526    | 24-36526    | 24-36526    |
| <b>Quotation No.:</b>   |                  | <b>Chemtest Sample ID.:</b> |            |              |            |        | 1892694     | 1892695     | 1892696     | 1892697     | 1892698     |
|                         |                  | <b>Client Sample ID.:</b>   |            |              |            |        | CONG TS 001 | CONG TS 002 | CONG TS 003 | CONG TS 004 | CONG TS 005 |
|                         |                  | <b>Sample Location:</b>     |            |              |            |        | IMP         | IMP         | IMP         | IMP         | IMP         |
|                         |                  | <b>Sample Type:</b>         |            |              |            |        | SOIL        | SOIL        | SOIL        | SOIL        | SOIL        |
|                         |                  | <b>Date Sampled:</b>        |            |              |            |        | 05-Nov-2024 | 05-Nov-2024 | 05-Nov-2024 | 05-Nov-2024 | 05-Nov-2024 |
|                         |                  | <b>Time Sampled:</b>        |            |              |            |        | 0:00        | 0:00        | 0:00        | 0:00        | 0:00        |
|                         |                  | <b>Asbestos Lab:</b>        |            |              |            |        | DURHAM      | DURHAM      | DURHAM      | DURHAM      | DURHAM      |
| <b>Determinand</b>      | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b> |        |             |             |             |             |             |
| Fluorene                |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | < 0.10      | < 0.10      | < 0.10      |
| Phenanthrene            |                  | M                           | 2800       | mg/kg        | 0.10       | 0.28   | 0.28        | 0.24        | 0.37        | 0.36        |             |
| Anthracene              |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.13        | < 0.10      |             |
| Fluoranthene            |                  | M                           | 2800       | mg/kg        | 0.10       | 0.40   | 0.41        | 0.37        | 0.75        | 0.58        |             |
| Pyrene                  |                  | M                           | 2800       | mg/kg        | 0.10       | 0.37   | 0.40        | 0.39        | 0.85        | 0.52        |             |
| Benzo[a]anthracene      |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | 0.21        | < 0.10      | 0.53        | < 0.10      |             |
| Chrysene                |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | 0.20        | < 0.10      | 0.49        | < 0.10      |             |
| Benzo[b]fluoranthene    |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.68        | < 0.10      |             |
| Benzo[k]fluoranthene    |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.45        | < 0.10      |             |
| Benzo[a]pyrene          |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.49        | < 0.10      |             |
| Indeno(1,2,3-c,d)Pyrene |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.44        | < 0.10      |             |
| Dibenz(a,h)Anthracene   |                  | N                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.33        | < 0.10      |             |
| Benzo[g,h,i]perylene    |                  | M                           | 2800       | mg/kg        | 0.10       | < 0.10 | < 0.10      | < 0.10      | 0.49        | < 0.10      |             |
| Total Of 16 PAH's       |                  | N                           | 2800       | mg/kg        | 2.0        | < 2.0  | < 2.0       | < 2.0       | 6.0         | < 2.0       |             |
| Total Phenols           |                  | M                           | 2920       | mg/kg        | 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**

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|     |                                                                                                               |
|-----|---------------------------------------------------------------------------------------------------------------|
| 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                                                                                            |

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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.

### **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**

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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**

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- 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**

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

### **HWOL Acronym System**

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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](mailto:customerservices@chemtest.com)



# Final Report

**Report No.:** 24-29418-1

**Initial Date of Issue:** 19-Sep-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

**Project** Bennett Street

**Quotation No.:** Q23-31421

**Date Received:** 13-Sep-2024

**Order No.:** 009437

**Date Instructed:** 13-Sep-2024

**No. of Samples:** 5

**Turnaround (Wkdays):** 5

**Results Due:** 19-Sep-2024

**Date Approved:** 19-Sep-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: Bennett Street**

|                                     |                  |                                                                           |            |              |            |                      |                      |                      |                      |                      |
|-------------------------------------|------------------|---------------------------------------------------------------------------|------------|--------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b> 24-29418 24-29418 24-29418 24-29418 24-29418     |            |              |            |                      |                      |                      |                      |                      |
| Quotation No.: Q23-31421            |                  | <b>Chemtest Sample ID.:</b> 1865612 1865613 1865614 1865615 1865616       |            |              |            |                      |                      |                      |                      |                      |
|                                     |                  | Client Sample ID.: TS IMP 101 TS IMP 102 TS IMP 103 TS IMP 104 TS IMP 105 |            |              |            |                      |                      |                      |                      |                      |
|                                     |                  | Sample Type: SOIL SOIL SOIL SOIL SOIL                                     |            |              |            |                      |                      |                      |                      |                      |
|                                     |                  | Date Sampled: 11-Sep-2024 11-Sep-2024 11-Sep-2024 11-Sep-2024 11-Sep-2024 |            |              |            |                      |                      |                      |                      |                      |
|                                     |                  | Time Sampled: 12:00 12:00 12:00 12:00 12:00                               |            |              |            |                      |                      |                      |                      |                      |
|                                     |                  | Asbestos Lab: DURHAM DURHAM DURHAM DURHAM DURHAM                          |            |              |            |                      |                      |                      |                      |                      |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>                                                            | <b>SOP</b> | <b>Units</b> | <b>LOD</b> |                      |                      |                      |                      |                      |
| ACM Type                            |                  | U                                                                         | 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      | 18                   | 17                   | 17                   | 14                   | 15                   |
| Soil Colour                         |                  | N                                                                         | 2040       |              | N/A        | Brown                | Brown                | Brown                | Brown                | Brown                |
| Other Material                      |                  | N                                                                         | 2040       |              | N/A        | Stones and Roots     | Stones and Roots     | Stones and Roots     | Roots and Stones     | Stones and Roots     |
| Soil Texture                        |                  | N                                                                         | 2040       |              | N/A        | Loam                 | Loam                 | Loam                 | Sand                 | Sand                 |
| pH at 20C                           |                  | M                                                                         | 2010       |              | 4.0        | 7.6                  | 7.5                  | 7.3                  | 7.2                  | 7.2                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                                                                         | 2120       | g/l          | 0.010      | < 0.010              | < 0.010              | 0.035                | 0.011                | 0.017                |
| Total Sulphur                       |                  | U                                                                         | 2175       | %            | 0.010      | 0.050                | 0.030                | 0.040                | 0.030                | 0.040                |
| 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       | 13                   | 4.1                  | 4.0                  | 4.2                  | 4.2                  |
| Sulphate (Total)                    |                  | U                                                                         | 2430       | %            | 0.010      | 0.075                | 0.065                | 0.061                | 0.034                | 0.031                |
| Arsenic                             |                  | M                                                                         | 2455       | mg/kg        | 0.5        | 16                   | 14                   | 11                   | 11                   | 11                   |
| Cadmium                             |                  | M                                                                         | 2455       | mg/kg        | 0.10       | 0.43                 | 0.19                 | 0.15                 | 0.16                 | 0.17                 |
| Chromium                            |                  | M                                                                         | 2455       | mg/kg        | 0.5        | 25                   | 24                   | 17                   | 18                   | 17                   |
| Copper                              |                  | M                                                                         | 2455       | mg/kg        | 0.50       | 48                   | 46                   | 41                   | 43                   | 43                   |
| Mercury                             |                  | M                                                                         | 2455       | mg/kg        | 0.05       | 0.14                 | 0.13                 | 0.11                 | 0.11                 | 0.14                 |
| Nickel                              |                  | M                                                                         | 2455       | mg/kg        | 0.50       | 19                   | 19                   | 15                   | 14                   | 13                   |
| Lead                                |                  | M                                                                         | 2455       | mg/kg        | 0.50       | 57                   | 62                   | 49                   | 48                   | 52                   |
| Selenium                            |                  | M                                                                         | 2455       | mg/kg        | 0.25       | 0.75                 | 0.69                 | 0.55                 | 0.47                 | 0.36                 |
| Zinc                                |                  | M                                                                         | 2455       | mg/kg        | 0.50       | 88                   | 87                   | 75                   | 75                   | 79                   |
| Chromium (Hexavalent)               |                  | N                                                                         | 2490       | mg/kg        | 0.50       | < 0.50               | < 0.50               | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |                  | M                                                                         | 2625       | %            | 0.40       | 3.5                  | 2.9                  | 3.1                  | 2.8                  | 2.6                  |
| Total Organic Carbon                |                  | M                                                                         | 2625       | %            | 0.20       | 2.0                  | 1.7                  | 1.8                  | 1.6                  | 1.5                  |
| 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        | 2.4                  | 3.2                  | 1.8                  | 2.9                  | 3.5                  |
| TPH >C21-C25                        | EH_1D_Total      | N                                                                         | 2670       | mg/kg        | 1.0        | 1.2                  | 2.4                  | 2.4                  | 2.2                  | 2.3                  |
| TPH >C25-C35                        | EH_1D_Total      | N                                                                         | 2670       | mg/kg        | 1.0        | 7.4                  | 13                   | 12                   | 8.8                  | 8.2                  |
| TPH >C35-C40                        | EH_1D_Total      | N                                                                         | 2670       | mg/kg        | 1.0        | < 1.0                | 1.2                  | 1.1                  | < 1.0                | < 1.0                |
| Total TPH >C6-C40                   | EH_1D_Total      | U                                                                         | 2670       | mg/kg        | 10         | 11                   | 19                   | 18                   | 14                   | 14                   |
| Naphthalene                         |                  | M                                                                         | 2800       | mg/kg        | 0.10       | < 0.10               | < 0.10               | < 0.10               | < 0.10               | 0.12                 |
| 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               | 0.26                 |
| Fluorene                            |                  | M                                                                         | 2800       | mg/kg        | 0.10       | < 0.10               | < 0.10               | < 0.10               | < 0.10               | 0.16                 |

## Results - Soil

**Project: Bennett Street**

| <b>Client: E3P</b>       |           | <b>Chemtest Job No.:</b> 24-29418 24-29418 24-29418 24-29418 24-29418     |      |       |      |        |        |        |        |        |
|--------------------------|-----------|---------------------------------------------------------------------------|------|-------|------|--------|--------|--------|--------|--------|
| Quotation No.: Q23-31421 |           | <b>Chemtest Sample ID.:</b> 1865612 1865613 1865614 1865615 1865616       |      |       |      |        |        |        |        |        |
|                          |           | Client Sample ID.: TS IMP 101 TS IMP 102 TS IMP 103 TS IMP 104 TS IMP 105 |      |       |      |        |        |        |        |        |
|                          |           | Sample Type: SOIL SOIL SOIL SOIL SOIL                                     |      |       |      |        |        |        |        |        |
|                          |           | Date Sampled: 11-Sep-2024 11-Sep-2024 11-Sep-2024 11-Sep-2024 11-Sep-2024 |      |       |      |        |        |        |        |        |
|                          |           | Time Sampled: 12:00 12:00 12:00 12:00 12:00                               |      |       |      |        |        |        |        |        |
|                          |           | Asbestos Lab: DURHAM DURHAM DURHAM DURHAM DURHAM                          |      |       |      |        |        |        |        |        |
| Determinand              | HWOL Code | Accred.                                                                   | SOP  | Units | LOD  |        |        |        |        |        |
| Phenanthrene             |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.27   | 1.3    |
| Anthracene               |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.32   |
| Fluoranthene             |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.34   | 1.6    |
| Pyrene                   |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.29   | 1.3    |
| Benzo[a]anthracene       |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.56   |
| Chrysene                 |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.66   |
| Benzo[b]fluoranthene     |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.73   |
| Benzo[k]fluoranthene     |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.24   |
| Benzo[a]pyrene           |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.55   |
| Indeno(1,2,3-c,d)Pyrene  |           | M                                                                         | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | 0.35   |
| Dibenz(a,h)Anthracene    |           | N                                                                         | 2800 | mg/kg | 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 | 0.34   |
| Total Of 16 PAH's        |           | N                                                                         | 2800 | mg/kg | 2.0  | < 2.0  | < 2.0  | < 2.0  | < 2.0  | 8.5    |
| Total Phenols            |           | M                                                                         | 2920 | mg/kg | 0.10 | < 0.10 | 0.13   | < 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**

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|     |                                                                                                               |
|-----|---------------------------------------------------------------------------------------------------------------|
| U   | UKAS accredited                                                                                               |
| M   | MCERTS and UKAS accredited                                                                                    |
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| 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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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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### **Sample Deviation Codes**

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- 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**

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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](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 24-25212-1

**Initial Date of Issue:** 14-Aug-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

**Project** Bennett Street (15-974)

**Quotation No.:** **Date Received:** 07-Aug-2024

**Order No.:** 9019 **Date Instructed:** 07-Aug-2024

**No. of Samples:** 5

**Turnaround (Wkdays):** 5 **Results Due:** 13-Aug-2024

**Date Approved:** 14-Aug-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**

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## Results - Soil

### Project: Bennett Street (15-974)

| Client: E3P                         |             | Chemtest Job No.: 24-25212 24-25212 24-25212 24-25212 24-25212            |      |       |       |                      |                      |                      |                      |                      |
|-------------------------------------|-------------|---------------------------------------------------------------------------|------|-------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Quotation No.:                      |             | Chemtest Sample ID.: 1847257 1847258 1847259 1847260 1847261              |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Client Sample ID.: 001 002 003 004 005                                    |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Sample Location: SW-CLAY SW-CLAY SW-CLAY SW-CLAY SW-CLAY                  |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Sample Type: SOIL SOIL SOIL SOIL SOIL                                     |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Date Sampled: 02-Aug-2024 02-Aug-2024 02-Aug-2024 02-Aug-2024 02-Aug-2024 |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Time Sampled: 0:00 0:00 0:00 0:00 0:00                                    |      |       |       |                      |                      |                      |                      |                      |
|                                     |             | Asbestos Lab: DURHAM DURHAM DURHAM DURHAM DURHAM                          |      |       |       |                      |                      |                      |                      |                      |
| Determinand                         | HWOL Code   | Accred.                                                                   | SOP  | Units | LOD   |                      |                      |                      |                      |                      |
| ACM Type                            |             | U                                                                         | 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 | 10                   | 13                   | 11                   | 12                   | 9.6                  |
| Soil Colour                         |             | N                                                                         | 2040 |       | N/A   | Brown                | Brown                | Brown                | Brown                | Brown                |
| Other Material                      |             | N                                                                         | 2040 |       | N/A   | Stones               | Stones               | Stones               | Stones               | Stones               |
| Soil Texture                        |             | N                                                                         | 2040 |       | N/A   | Gravel               | Sand                 | Clay                 | Clay                 | Clay                 |
| pH at 20C                           |             | M                                                                         | 2010 |       | 4.0   | 8.7                  | 8.7                  | 8.7                  | 8.6                  | 8.5                  |
| Sulphate (2:1 Water Soluble) as SO4 |             | M                                                                         | 2120 | g/l   | 0.010 | 0.24                 | 0.16                 | < 0.010              | 0.023                | 0.052                |
| Total Sulphur                       |             | U                                                                         | 2175 | %     | 0.010 | 0.080                | 0.080                | 0.020                | 0.060                | 0.12                 |
| 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  | 11                   | 4.0                  | 3.4                  | 8.1                  | 4.9                  |
| Sulphate (Total)                    |             | U                                                                         | 2430 | %     | 0.010 | 0.31                 | 0.42                 | 0.067                | 0.30                 | 1.7                  |
| Arsenic                             |             | M                                                                         | 2455 | mg/kg | 0.5   | 12                   | 5.4                  | 5.9                  | 5.0                  | 7.0                  |
| Cadmium                             |             | M                                                                         | 2455 | mg/kg | 0.10  | < 0.10               | < 0.10               | < 0.10               | < 0.10               | < 0.10               |
| Chromium                            |             | M                                                                         | 2455 | mg/kg | 0.5   | 22                   | 20                   | 14                   | 18                   | 19                   |
| Copper                              |             | M                                                                         | 2455 | mg/kg | 0.50  | 32                   | 23                   | 15                   | 20                   | 22                   |
| Mercury                             |             | M                                                                         | 2455 | mg/kg | 0.05  | 0.09                 | < 0.05               | 0.06                 | < 0.05               | < 0.05               |
| Nickel                              |             | M                                                                         | 2455 | mg/kg | 0.50  | 15                   | 30                   | 16                   | 27                   | 29                   |
| Lead                                |             | M                                                                         | 2455 | mg/kg | 0.50  | 65                   | 17                   | 26                   | 11                   | 15                   |
| Selenium                            |             | M                                                                         | 2455 | mg/kg | 0.25  | < 0.25               | < 0.25               | < 0.25               | < 0.25               | < 0.25               |
| Zinc                                |             | M                                                                         | 2455 | mg/kg | 0.50  | 200                  | 68                   | 53                   | 51                   | 56                   |
| Chromium (Hexavalent)               |             | N                                                                         | 2490 | mg/kg | 0.50  | < 0.50               | < 0.50               | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |             | M                                                                         | 2625 | %     | 0.40  | 5.2                  | 29                   | 1.2                  | 2.9                  | 1.3                  |
| Total Organic Carbon                |             | M                                                                         | 2625 | %     | 0.20  | 3.0                  | 17                   | 0.69                 | 1.7                  | 0.76                 |
| 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                | 13                   | < 1.0                | < 1.0                | < 1.0                |
| TPH >C21-C25                        | EH_1D_Total | N                                                                         | 2670 | mg/kg | 1.0   | < 1.0                | 5.1                  | < 1.0                | < 1.0                | < 1.0                |
| TPH >C25-C35                        | EH_1D_Total | N                                                                         | 2670 | mg/kg | 1.0   | < 1.0                | 15                   | < 1.0                | < 1.0                | < 1.0                |
| TPH >C35-C40                        | EH_1D_Total | N                                                                         | 2670 | mg/kg | 1.0   | < 1.0                | 1.1                  | < 1.0                | < 1.0                | < 1.0                |
| Total TPH >C6-C40                   | EH_1D_Total | M                                                                         | 2670 | mg/kg | 10    | < 10                 | 33                   | < 10                 | < 10                 | < 10                 |
| Naphthalene                         |             | M                                                                         | 2800 | mg/kg | 0.10  | 0.13                 | 0.20                 | < 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               | 0.36                 | < 0.10               | < 0.10               | < 0.10               |
| Fluorene                            |             | M                                                                         | 2800 | mg/kg | 0.10  | < 0.10               | 0.28                 | < 0.10               | < 0.10               | < 0.10               |

## Results - Soil

**Project: Bennett Street (15-974)**

|                         |                  |                             |            |              |            |        |             |             |             |             |             |
|-------------------------|------------------|-----------------------------|------------|--------------|------------|--------|-------------|-------------|-------------|-------------|-------------|
| <b>Client: E3P</b>      |                  | <b>Chemtest Job No.:</b>    |            |              |            |        | 24-25212    | 24-25212    | 24-25212    | 24-25212    | 24-25212    |
| <b>Quotation No.:</b>   |                  | <b>Chemtest Sample ID.:</b> |            |              |            |        | 1847257     | 1847258     | 1847259     | 1847260     | 1847261     |
|                         |                  | <b>Client Sample ID.:</b>   |            |              |            |        | 001         | 002         | 003         | 004         | 005         |
|                         |                  | <b>Sample Location:</b>     |            |              |            |        | SW-CLAY     | SW-CLAY     | SW-CLAY     | SW-CLAY     | SW-CLAY     |
|                         |                  | <b>Sample Type:</b>         |            |              |            |        | SOIL        | SOIL        | SOIL        | SOIL        | SOIL        |
|                         |                  | <b>Date Sampled:</b>        |            |              |            |        | 02-Aug-2024 | 02-Aug-2024 | 02-Aug-2024 | 02-Aug-2024 | 02-Aug-2024 |
|                         |                  | <b>Time Sampled:</b>        |            |              |            |        | 0:00        | 0:00        | 0:00        | 0:00        | 0:00        |
|                         |                  | <b>Asbestos Lab:</b>        |            |              |            |        | DURHAM      | DURHAM      | DURHAM      | DURHAM      | DURHAM      |
| <b>Determinand</b>      | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b> |        |             |             |             |             |             |
| Phenanthrene            |                  | M                           | 2800       | mg/kg        | 0.10       | 4.1    | 1.7         | 0.19        | 0.34        | 0.50        |             |
| Anthracene              |                  | M                           | 2800       | mg/kg        | 0.10       | 1.0    | 0.44        | < 0.10      | < 0.10      | < 0.10      |             |
| Fluoranthene            |                  | M                           | 2800       | mg/kg        | 0.10       | 8.1    | 2.7         | 0.38        | 0.36        | 0.45        |             |
| Pyrene                  |                  | M                           | 2800       | mg/kg        | 0.10       | 6.2    | 2.3         | 0.36        | 0.33        | 0.41        |             |
| Benzo[a]anthracene      |                  | M                           | 2800       | mg/kg        | 0.10       | 3.7    | 1.1         | < 0.10      | < 0.10      | < 0.10      |             |
| Chrysene                |                  | M                           | 2800       | mg/kg        | 0.10       | 3.8    | 1.2         | < 0.10      | < 0.10      | < 0.10      |             |
| Benzo[b]fluoranthene    |                  | M                           | 2800       | mg/kg        | 0.10       | 4.9    | 1.4         | < 0.10      | < 0.10      | < 0.10      |             |
| Benzo[k]fluoranthene    |                  | M                           | 2800       | mg/kg        | 0.10       | 1.7    | 0.45        | < 0.10      | < 0.10      | < 0.10      |             |
| Benzo[a]pyrene          |                  | M                           | 2800       | mg/kg        | 0.10       | 3.7    | 1.0         | < 0.10      | < 0.10      | < 0.10      |             |
| Indeno(1,2,3-c,d)Pyrene |                  | M                           | 2800       | mg/kg        | 0.10       | 2.3    | 0.60        | < 0.10      | < 0.10      | < 0.10      |             |
| Dibenz(a,h)Anthracene   |                  | N                           | 2800       | mg/kg        | 0.10       | 0.49   | < 0.10      | < 0.10      | < 0.10      | < 0.10      |             |
| Benzo[g,h,i]perylene    |                  | M                           | 2800       | mg/kg        | 0.10       | 2.2    | 0.67        | < 0.10      | < 0.10      | < 0.10      |             |
| Total Of 16 PAH's       |                  | N                           | 2800       | mg/kg        | 2.0        | 42     | 14          | < 2.0       | < 2.0       | < 2.0       |             |
| Total Phenols           |                  | M                           | 2920       | mg/kg        | 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**

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|     |                                                                                                               |
|-----|---------------------------------------------------------------------------------------------------------------|
| 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](mailto:customerservices@chemtest.com)



# Final Report

---

**Report No.:** 24-25843-1

**Initial Date of Issue:** 19-Aug-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

[REDACTED]

**Project** Bennett Street

**Quotation No.:** **Date Received:** 13-Aug-2024

**Order No.:** 9075 **Date Instructed:** 13-Aug-2024

**No. of Samples:** 5

**Turnaround (Wkdays):** 5 **Results Due:** 19-Aug-2024

**Date Approved:** 19-Aug-2024

**Approved By:**

[REDACTED]

**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**

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## Results - Soil

**Project: Bennett Street**

|                                     |                  |                             |            |              |             |                      |                      |                      |
|-------------------------------------|------------------|-----------------------------|------------|--------------|-------------|----------------------|----------------------|----------------------|
| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b>    |            | 24-25843     | 24-25843    | 24-25843             | 24-25843             | 24-25843             |
| <b>Quotation No.:</b>               |                  | <b>Chemtest Sample ID.:</b> |            | 1850124      | 1850125     | 1850126              | 1850127              | 1850128              |
|                                     |                  | Client Sample ID.:          |            | SW-CLAY-006  | SW-CLAY-007 | SW-CLAY-008          | SW-CLAY-009          | SW-CLAY-010          |
|                                     |                  | Sample Type:                |            | SOIL         | SOIL        | SOIL                 | SOIL                 | SOIL                 |
|                                     |                  | Date Sampled:               |            | 09-Aug-2024  | 09-Aug-2024 | 09-Aug-2024          | 09-Aug-2024          | 09-Aug-2024          |
|                                     |                  | Time Sampled:               |            | 0:00         | 0:00        | 0:00                 | 0:00                 | 0:00                 |
|                                     |                  | Asbestos Lab:               |            | NEW-ASB      | NEW-ASB     | NEW-ASB              | NEW-ASB              | NEW-ASB              |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b>  |                      |                      |                      |
| ACM Type                            |                  | U                           | 2192       |              | N/A         | -                    | -                    | -                    |
| Asbestos Identification             |                  | U                           | 2192       |              | N/A         | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture                            |                  | N                           | 2030       | %            | 0.020       | 8.4                  | 0.91                 | 9.2                  |
| 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         | 7.7                  | 7.6                  | 8.4                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                           | 2120       | g/l          | 0.010       | < 0.010              | 0.033                | 0.036                |
| Total Sulphur                       |                  | U                           | 2175       | %            | 0.010       | 0.040                | 0.020                | 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        | 2.3                  | 2.7                  | 2.6                  |
| Sulphate (Total)                    |                  | U                           | 2430       | %            | 0.010       | 0.076                | 0.060                | 0.070                |
| Arsenic                             |                  | M                           | 2455       | mg/kg        | 0.5         | 5.9                  | 11                   | 8.4                  |
| Cadmium                             |                  | M                           | 2455       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |
| Chromium                            |                  | M                           | 2455       | mg/kg        | 0.5         | 19                   | 44                   | 33                   |
| Copper                              |                  | M                           | 2455       | mg/kg        | 0.50        | 21                   | 37                   | 30                   |
| Mercury                             |                  | M                           | 2455       | mg/kg        | 0.05        | < 0.05               | < 0.05               | 0.24                 |
| Nickel                              |                  | M                           | 2455       | mg/kg        | 0.50        | 25                   | 56                   | 40                   |
| Lead                                |                  | M                           | 2455       | mg/kg        | 0.50        | 27                   | 22                   | 32                   |
| Selenium                            |                  | M                           | 2455       | mg/kg        | 0.25        | 0.38                 | 0.99                 | 0.74                 |
| Zinc                                |                  | M                           | 2455       | mg/kg        | 0.50        | 52                   | 94                   | 72                   |
| Chromium (Hexavalent)               |                  | N                           | 2490       | mg/kg        | 0.50        | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |                  | M                           | 2625       | %            | 0.40        | 2.8                  | 2.8                  | 4.1                  |
| Total Organic Carbon                |                  | M                           | 2625       | %            | 0.20        | 1.6                  | 1.6                  | 2.4                  |
| 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                | 6.6                  | < 1.0                |
| TPH >C16-C21                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | < 1.0                | 19                   | < 1.0                |
| TPH >C21-C25                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | < 1.0                | 12                   | < 1.0                |
| TPH >C25-C35                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | < 1.0                | 25                   | < 1.0                |
| TPH >C35-C40                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0         | < 1.0                | 3.2                  | < 1.0                |
| Total TPH >C6-C40                   | EH_1D_Total      | M                           | 2670       | mg/kg        | 10          | < 10                 | 65                   | < 10                 |
| Naphthalene                         |                  | M                           | 2800       | mg/kg        | 0.10        | < 0.10               | < 0.10               | 0.17                 |
| 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               |

## Results - Soil

**Project: Bennett Street**

|                         |                  |                             |             |              |             |             |             |
|-------------------------|------------------|-----------------------------|-------------|--------------|-------------|-------------|-------------|
| <b>Client: E3P</b>      |                  | <b>Chemtest Job No.:</b>    | 24-25843    | 24-25843     | 24-25843    | 24-25843    | 24-25843    |
| <b>Quotation No.:</b>   |                  | <b>Chemtest Sample ID.:</b> | 1850124     | 1850125      | 1850126     | 1850127     | 1850128     |
|                         |                  | <b>Client Sample ID.:</b>   | SW-CLAY-006 | SW-CLAY-007  | SW-CLAY-008 | SW-CLAY-009 | SW-CLAY-010 |
|                         |                  | <b>Sample Type:</b>         | SOIL        | SOIL         | SOIL        | SOIL        | SOIL        |
|                         |                  | <b>Date Sampled:</b>        | 09-Aug-2024 | 09-Aug-2024  | 09-Aug-2024 | 09-Aug-2024 | 09-Aug-2024 |
|                         |                  | <b>Time Sampled:</b>        | 0:00        | 0:00         | 0:00        | 0:00        | 0:00        |
|                         |                  | <b>Asbestos Lab:</b>        | NEW-ASB     | NEW-ASB      | NEW-ASB     | NEW-ASB     | NEW-ASB     |
| <b>Determinand</b>      | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b>  | <b>Units</b> | <b>LOD</b>  |             |             |
| Fluorene                |                  | M                           | 2800        | mg/kg        | 0.10        | < 0.10      | < 0.10      |
| Phenanthrene            |                  | M                           | 2800        | mg/kg        | 0.10        | 0.72        | < 0.10      |
| Anthracene              |                  | M                           | 2800        | mg/kg        | 0.10        | 0.19        | < 0.10      |
| Fluoranthene            |                  | M                           | 2800        | mg/kg        | 0.10        | 0.61        | < 0.10      |
| Pyrene                  |                  | M                           | 2800        | mg/kg        | 0.10        | 0.65        | < 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         | 2.2         | < 2.0       |
| Total Phenols           |                  | M                           | 2920        | mg/kg        | 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**

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|     |                                                                                                               |
|-----|---------------------------------------------------------------------------------------------------------------|
| 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**

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- 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**

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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**

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- 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**

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

### **HWOL Acronym System**

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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](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 24-27346-1

**Initial Date of Issue:** 02-Sep-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

**Project** Bennett Street CLAY

**Quotation No.:** Q23-31421

**Date Received:** 27-Aug-2024

**Order No.:** 009230

**Date Instructed:** 27-Aug-2024

**No. of Samples:** 5

**Turnaround (Wkdays):** 5

**Results Due:** 02-Sep-2024

**Date Approved:** 02-Sep-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**

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## Results - Soil

**Project: Bennett Street CLAY**

|                                     |                  |                             |            |              |             |                      |                      |                      |
|-------------------------------------|------------------|-----------------------------|------------|--------------|-------------|----------------------|----------------------|----------------------|
| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b>    |            | 24-27346     | 24-27346    | 24-27346             | 24-27346             | 24-27346             |
| Quotation No.: Q23-31421            |                  | <b>Chemtest Sample ID.:</b> |            | 1856420      | 1856421     | 1856422              | 1856423              | 1856424              |
|                                     |                  | Client Sample ID.:          |            | SW-CLAY 011  | SW-CLAY 012 | SW-CLAY 013          | SW-CLAY 014          | SW-CLAY 015          |
|                                     |                  | Sample Type:                |            | SOIL         | SOIL        | SOIL                 | SOIL                 | SOIL                 |
|                                     |                  | Date Sampled:               |            | 22-Aug-2024  | 22-Aug-2024 | 22-Aug-2024          | 22-Aug-2024          | 22-Aug-2024          |
|                                     |                  | Time Sampled:               |            | 12:00        | 12:00       | 12:00                | 12:00                | 12:00                |
|                                     |                  | Asbestos Lab:               |            | NEW-ASB      | NEW-ASB     | NEW-ASB              | NEW-ASB              | NEW-ASB              |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b>  |                      |                      |                      |
| ACM Type                            |                  | U                           | 2192       |              | N/A         | -                    | -                    | -                    |
| Asbestos Identification             |                  | U                           | 2192       |              | N/A         | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture                            |                  | N                           | 2030       | %            | 0.020       | 6.3                  | 5.3                  | 5.0                  |
| Soil Colour                         |                  | N                           | 2040       |              | N/A         | Brown                | Grey                 | Grey                 |
| Other Material                      |                  | N                           | 2040       |              | N/A         | Stones               | Stones               | Stones               |
| Soil Texture                        |                  | N                           | 2040       |              | N/A         | Loam                 | Loam                 | Loam                 |
| pH at 20C                           |                  | M                           | 2010       |              | 4.0         | 8.8                  | 8.7                  | 8.6                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                           | 2120       | g/l          | 0.010       | < 0.010              | 0.027                | 0.023                |
| Total Sulphur                       |                  | U                           | 2175       | %            | 0.010       | 0.040                | 0.030                | 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        | 2.9                  | 3.9                  | 4.6                  |
| Sulphate (Total)                    |                  | U                           | 2430       | %            | 0.010       | 0.12                 | 0.031                | 0.055                |
| Arsenic                             |                  | M                           | 2455       | mg/kg        | 0.5         | 6.0                  | 8.7                  | 8.7                  |
| Cadmium                             |                  | M                           | 2455       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |
| Chromium                            |                  | M                           | 2455       | mg/kg        | 0.5         | 25                   | 25                   | 31                   |
| Copper                              |                  | M                           | 2455       | mg/kg        | 0.50        | 20                   | 24                   | 32                   |
| Mercury                             |                  | M                           | 2455       | mg/kg        | 0.05        | 0.05                 | < 0.05               | < 0.05               |
| Nickel                              |                  | M                           | 2455       | mg/kg        | 0.50        | 29                   | 34                   | 40                   |
| Lead                                |                  | M                           | 2455       | mg/kg        | 0.50        | 11                   | 13                   | 23                   |
| Selenium                            |                  | M                           | 2455       | mg/kg        | 0.25        | < 0.25               | 0.39                 | 0.50                 |
| Zinc                                |                  | M                           | 2455       | mg/kg        | 0.50        | 47                   | 62                   | 70                   |
| Chromium (Hexavalent)               |                  | N                           | 2490       | mg/kg        | 0.50        | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |                  | M                           | 2625       | %            | 0.40        | 1.7                  | 1.5                  | 6.4                  |
| Total Organic Carbon                |                  | M                           | 2625       | %            | 0.20        | 1.0                  | 0.89                 | 3.7                  |
| 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        | 18                   | < 0.10               | < 0.10               |
| Acenaphthylene                      |                  | N                           | 2800       | mg/kg        | 0.10        | < 0.10               | < 0.10               | < 0.10               |
| Acenaphthene                        |                  | M                           | 2800       | mg/kg        | 0.10        | 15                   | < 0.10               | < 0.10               |

## Results - Soil

**Project: Bennett Street CLAY**

| <b>Client: E3P</b>       |           | <b>Chemtest Job No.:</b>    | 24-27346    | 24-27346    | 24-27346    | 24-27346    | 24-27346    |
|--------------------------|-----------|-----------------------------|-------------|-------------|-------------|-------------|-------------|
| Quotation No.: Q23-31421 |           | <b>Chemtest Sample ID.:</b> | 1856420     | 1856421     | 1856422     | 1856423     | 1856424     |
|                          |           | Client Sample ID.:          | SW-CLAY 011 | SW-CLAY 012 | SW-CLAY 013 | SW-CLAY 014 | SW-CLAY 015 |
|                          |           | Sample Type:                | SOIL        | SOIL        | SOIL        | SOIL        | SOIL        |
|                          |           | Date Sampled:               | 22-Aug-2024 | 22-Aug-2024 | 22-Aug-2024 | 22-Aug-2024 | 22-Aug-2024 |
|                          |           | Time Sampled:               | 12:00       | 12:00       | 12:00       | 12:00       | 12:00       |
|                          |           | Asbestos Lab:               | NEW-ASB     | NEW-ASB     | NEW-ASB     | NEW-ASB     | NEW-ASB     |
| Determinand              | HWOL Code | Accred.                     | SOP         | Units       | LOD         |             |             |
| Fluorene                 |           | M                           | 2800        | mg/kg       | 0.10        | 13          | < 0.10      |
| Phenanthrene             |           | M                           | 2800        | mg/kg       | 0.10        | 64          | 0.36        |
| Anthracene               |           | M                           | 2800        | mg/kg       | 0.10        | 14          | < 0.10      |
| Fluoranthene             |           | M                           | 2800        | mg/kg       | 0.10        | 42          | 0.13        |
| Pyrene                   |           | M                           | 2800        | mg/kg       | 0.10        | 33          | 0.15        |
| Benzo[a]anthracene       |           | M                           | 2800        | mg/kg       | 0.10        | 14          | < 0.10      |
| Chrysene                 |           | M                           | 2800        | mg/kg       | 0.10        | 15          | < 0.10      |
| Benzo[b]fluoranthene     |           | M                           | 2800        | mg/kg       | 0.10        | 14          | < 0.10      |
| Benzo[k]fluoranthene     |           | M                           | 2800        | mg/kg       | 0.10        | 5.2         | < 0.10      |
| Benzo[a]pyrene           |           | M                           | 2800        | mg/kg       | 0.10        | 11          | < 0.10      |
| Indeno(1,2,3-c,d)Pyrene  |           | M                           | 2800        | mg/kg       | 0.10        | 5.6         | < 0.10      |
| Dibenz(a,h)Anthracene    |           | N                           | 2800        | mg/kg       | 0.10        | 1.4         | < 0.10      |
| Benzo[g,h,i]perylene     |           | M                           | 2800        | mg/kg       | 0.10        | 6.1         | < 0.10      |
| Total Of 16 PAH's        |           | N                           | 2800        | mg/kg       | 2.0         | 270         | < 2.0       |
| Total Phenols            |           | M                           | 2920        | mg/kg       | 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                                                                                    |
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| 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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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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### **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
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- 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

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PW - Processed Water  
RE - Recreational Water  
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SW - Surface Water  
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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](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 24-29407-1

**Initial Date of Issue:** 23-Sep-2024

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):**

[REDACTED]

**Project** Bennett Street

**Quotation No.:** Q23-31421

**Date Received:** 13-Sep-2024

**Order No.:** 009435

**Date Instructed:** 13-Sep-2024

**No. of Samples:** 3

**Turnaround (Wkdays):** 5

**Results Due:** 19-Sep-2024

**Date Approved:** 23-Sep-2024

**Approved By:**

[REDACTED]

**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**

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## Results - Soil

**Project: Bennett Street**

|                                     |             |                      |      |       |       |                      |                      |                      |
|-------------------------------------|-------------|----------------------|------|-------|-------|----------------------|----------------------|----------------------|
| Client: E3P                         |             | Chemtest Job No.:    |      |       |       | 24-29407             | 24-29407             | 24-29407             |
| Quotation No.: Q23-31421            |             | Chemtest Sample ID.: |      |       |       | 1865568              | 1865569              | 1865570              |
|                                     |             | Client Sample ID.:   |      |       |       | SW-CLAY-016          | SW-CLAY-017          | SW-CLAY-018          |
|                                     |             | Sample Type:         |      |       |       | SOIL                 | SOIL                 | SOIL                 |
|                                     |             | Date Sampled:        |      |       |       | 11-Sep-2024          | 11-Sep-2024          | 11-Sep-2024          |
|                                     |             | 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                            |             | U                    | 2192 |       | N/A   | -                    | -                    | -                    |
| Asbestos Identification             |             | U                    | 2192 |       | N/A   | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture                            |             | N                    | 2030 | %     | 0.020 | 6.9                  | 15                   | 9.3                  |
| Soil Colour                         |             | N                    | 2040 |       | N/A   | Brown                | Brown                | Brown                |
| Other Material                      |             | N                    | 2040 |       | N/A   | Stones               | Stones               | Stones               |
| Soil Texture                        |             | N                    | 2040 |       | N/A   | Sand                 | Clay                 | Clay                 |
| pH at 20C                           |             | M                    | 2010 |       | 4.0   | 8.2                  | 8.3                  | 8.4                  |
| Sulphate (2:1 Water Soluble) as SO4 |             | M                    | 2120 | g/l   | 0.010 | 0.062                | 0.36                 | 0.098                |
| Total Sulphur                       |             | U                    | 2175 | %     | 0.010 | 0.060                | 0.21                 | 0.10                 |
| Cyanide (Total)                     |             | M                    | 2300 | mg/kg | 0.50  | < 0.50               | < 0.50               | < 0.50               |
| Sulphide (Easily Liberatable)       |             | N                    | 2325 | mg/kg | 0.50  | 8.5                  | 8.8                  | 9.1                  |
| Sulphate (Total)                    |             | U                    | 2430 | %     | 0.010 | 0.099                | 0.46                 | 0.15                 |
| Arsenic                             |             | M                    | 2455 | mg/kg | 0.5   | 12                   | 17                   | 10                   |
| Cadmium                             |             | M                    | 2455 | mg/kg | 0.10  | 0.27                 | 0.15                 | < 0.10               |
| Chromium                            |             | M                    | 2455 | mg/kg | 0.5   | 30                   | 35                   | 22                   |
| Copper                              |             | M                    | 2455 | mg/kg | 0.50  | 43                   | 62                   | 32                   |
| Mercury                             |             | M                    | 2455 | mg/kg | 0.05  | 0.26                 | 0.24                 | 0.13                 |
| Nickel                              |             | M                    | 2455 | mg/kg | 0.50  | 39                   | 42                   | 29                   |
| Lead                                |             | M                    | 2455 | mg/kg | 0.50  | 44                   | 62                   | 31                   |
| Selenium                            |             | M                    | 2455 | mg/kg | 0.25  | 0.94                 | 1.4                  | 0.73                 |
| Zinc                                |             | M                    | 2455 | mg/kg | 0.50  | 81                   | 100                  | 58                   |
| Chromium (Hexavalent)               |             | N                    | 2490 | mg/kg | 0.50  | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |             | M                    | 2625 | %     | 0.40  | 2.6                  | 4.3                  | 2.6                  |
| Total Organic Carbon                |             | M                    | 2625 | %     | 0.20  | 1.5                  | 2.5                  | 1.5                  |
| 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   | 8.6                  | 22                   | 10                   |
| TPH >C21-C25                        | EH_1D_Total | N                    | 2670 | mg/kg | 1.0   | 7.5                  | 17                   | 9.5                  |
| TPH >C25-C35                        | EH_1D_Total | N                    | 2670 | mg/kg | 1.0   | 13                   | 35                   | 26                   |
| 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    | 29                   | 74                   | 45                   |
| Naphthalene                         |             | M                    | 2800 | mg/kg | 0.10  | 0.22                 | 0.27                 | < 0.10               |
| Acenaphthylene                      |             | N                    | 2800 | mg/kg | 0.10  | < 0.10               | < 0.10               | < 0.10               |
| Acenaphthene                        |             | M                    | 2800 | mg/kg | 0.10  | 0.29                 | 0.40                 | < 0.10               |
| Fluorene                            |             | M                    | 2800 | mg/kg | 0.10  | 0.28                 | 0.42                 | < 0.10               |

## Results - Soil

**Project: Bennett Street**

| Client: E3P              |           | Chemtest Job No.:    |      |       |      | 24-29407    | 24-29407    | 24-29407    |
|--------------------------|-----------|----------------------|------|-------|------|-------------|-------------|-------------|
| Quotation No.: Q23-31421 |           | Chemtest Sample ID.: |      |       |      | 1865568     | 1865569     | 1865570     |
|                          |           | Client Sample ID.:   |      |       |      | SW-CLAY-016 | SW-CLAY-017 | SW-CLAY-018 |
|                          |           | Sample Type:         |      |       |      | SOIL        | SOIL        | SOIL        |
|                          |           | Date Sampled:        |      |       |      | 11-Sep-2024 | 11-Sep-2024 | 11-Sep-2024 |
|                          |           | 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 | 1.7         | 2.3         | 0.38        |
| Anthracene               |           | M                    | 2800 | mg/kg | 0.10 | 0.47        | 0.51        | < 0.10      |
| Fluoranthene             |           | M                    | 2800 | mg/kg | 0.10 | 2.0         | 2.7         | 0.42        |
| Pyrene                   |           | M                    | 2800 | mg/kg | 0.10 | 2.0         | 2.7         | 0.50        |
| Benzo[a]anthracene       |           | M                    | 2800 | mg/kg | 0.10 | 0.86        | 1.0         | < 0.10      |
| Chrysene                 |           | M                    | 2800 | mg/kg | 0.10 | 0.95        | 1.2         | < 0.10      |
| Benzo[b]fluoranthene     |           | M                    | 2800 | mg/kg | 0.10 | 0.85        | 1.1         | < 0.10      |
| Benzo[k]fluoranthene     |           | M                    | 2800 | mg/kg | 0.10 | 0.32        | 0.39        | < 0.10      |
| Benzo[a]pyrene           |           | M                    | 2800 | mg/kg | 0.10 | 0.77        | 0.82        | < 0.10      |
| Indeno(1,2,3-c,d)Pyrene  |           | M                    | 2800 | mg/kg | 0.10 | 0.42        | 0.49        | < 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 | 0.40        | 0.55        | < 0.10      |
| Total Of 16 PAH's        |           | N                    | 2800 | mg/kg | 2.0  | 12          | 15          | < 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.                                                           |               |
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| 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. |               |
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