

Date: 17th September 2025  
Reference: 16-465- V5

## GARDEN VALIDATION – EDENFIELD ROAD, NORDEN

|                                              |                        |
|----------------------------------------------|------------------------|
| <b>Project Name:</b>                         | Edenfield Road, Norden |
| <b>Project Number:</b>                       | 16-465                 |
| <b>Client:</b>                               | Stonebond              |
| <b>Date:</b>                                 | 17-09-2025             |
| <b>Project Manager &amp; Qualifications:</b> | M. Wilson              |
| <b>E3P Engineer &amp; Qualifications:</b>    | N/A                    |
| <b>Plots:</b>                                | 7 Rear                 |

### OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of Plot 7 at Edenfield Road, Norden.

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

All trial pits were completed to highlight the required cover system of 600 mm (150 mm topsoil, 450 mm subsoil and no-dig geotextile membrane) within rear gardens, and 300 mm (150 mm topsoil and 450 mm subsoil) within front gardens.

E3P can confirm that our independent validation demonstrates that all rear gardens have been installed with 150 mm of certified topsoil, at least 450 mm of certified subsoil, and a no-dig geotextile membrane; and all front gardens have been installed with 150 mm of certified topsoil, at least 150 mm of certified subsoil under the NHBC requirements for a site of this nature.

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





## TOPSOIL

As of 11th September 2025, a total volume of 120m<sup>3</sup> of topsoil had been imported onto site from Freeland Horticulture, Nook Lane Farm, Astley, Manchester, M29 7LW.

The topsoil comprised of a manufactured topsoil, which was formed through the blending and processing of clean imported compost and clean imported quarried sand. A composite sample of the topsoil was taken by Freeland Horticulture in May 2025 and submitted for chemical analysis at a UKAS accredited laboratory. Testing comprised of British Standards Topsoil (BS3882) suite, with the results confirming the topsoil was free of contamination and would adhere to current BS3882 specification for "multipurpose grade". A topsoil analysis report, provided by Freeland Horticulture, is attached to this letter.

E3P attended the site on the following dates to obtain samples of the stockpiled imported topsoil deposits, which were analysed following the E3P Remediation Strategy (Topsoil Brownfield Source – 1 per 50m<sup>3</sup>):

- 7th August 2025 – 2 samples (TS101-TS102).
- 2nd September 2025 – 4 samples (TS103-TS106)

Analysis of the topsoil was undertaken by Eurofins Chemtest Laboratories, and I2 Analytical 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.

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 25-26533 and 25-046764 (attached to this letter).

## SUBSOIL

As of 11th September 2025, a total volume of 600m<sup>3</sup> of subsoil had been imported onto site from Tong Quarry, Tong Lane, Bacup, OL13 9XA.

E3P attended the site on the following dates to obtain samples of the stockpiled imported subsoil deposits, which were analysed following the E3P Remediation Strategy (Topsoil Greenfield Source – 1 per 200m<sup>3</sup>):

- 5th March 2025 – 1 sample (SS101)
- 17th June 2025 – 1 sample (SS102)
- 7th August 2025 – 1 sample (SS103).

Analysis of the subsoil was undertaken by Eurofins Chemtest 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.

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 25-07909, 25-20566, and 25-26533 (attached to this letter).



## CHEMICAL ANALYSIS

| TOPSOIL/SUBSOIL | SOURCE                        | LAB REFERENCE | SAMPLE REFERENCE | PASS/FAIL |
|-----------------|-------------------------------|---------------|------------------|-----------|
| TOPSOIL         | Freeland Horticulture, Astley | 25-26533      | TS101-TS102      | PASS      |
| TOPSOIL         | Freeland Horticulture, Astley | 25-046764     | TS103-TS106      | PASS      |
| SUBSOIL         | Tongs Quarry, Bacup           | 25-07909      | SS101            | PASS      |
| SUBSOIL         | Tongs Quarry, Bacup           | 25-20566      | SS102            | PASS      |
| SUBSOIL         | Tongs Quarry, Bacup           | 25-26533      | SS103            | PASS      |

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

The garden 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 |
|--------------------------|------------|------------------|
| 1-4 (Rear)               | 07-08-2025 | V1               |
| 5 (Rear) and 1-2 (Front) | 18-08-2025 | V2               |
| 8-10 (Rear) 7-10 (Front) | 11-09-2025 | V3               |
| 6 Front and Rear         | 16-09-2025 | V4               |
| 7 Rear                   | 17-09-2025 | V5               |







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

Attention: Philippa Lambourne

Our Ref: SLC-1390-SA

23 June 2025

Dear Philippa

***Topsoil Analysis Report: Astley, Greater Manchester Topsoil May 2025***

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

**SOIL SAMPLING & EXAMINATION**

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

**LABORATORY ANALYSIS**

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

- ⊕ pH & electrical conductivity values;
- ⊕ major plant nutrients (N, P, K, Mg) & organic matter content;
- ⊕ particle size distribution and stone content;
- ⊕ heavy metals & potentially toxic elements (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- ⊕ sulphate, sulphur, sulphide;
- ⊕ total cyanide and total (mono) phenols;
- ⊕ speciated PAHs (US EPA16)
- ⊕ banded aromatic and aliphatic petroleum hydrocarbons (C<sub>5</sub>-C<sub>35</sub>).
- ⊕ Asbestos

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

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Phone: 01322 619161;

*Freeland horticulture Ltd, Registered in England: Rosedale Nursery, College Road, Hextable, Kent BR8 7LT  
Company Registration No: 04015968*

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

The sample was alkaline in nature (pH 8.4) with a pH value that would be considered suitable for general landscaping purposes.

The electrical conductivity (salinity) value using the soil:water extract was (1135µS/cm) indicating that soluble salts are not present at levels that would be harmful to plants.

The electrical conductivity values by CaSO<sub>4</sub> extract (BS3882 requirement) fell below the maximum specified value (3300µS/cm) given in BS3882:2015.

***Organic Matter & Nutrient Status***

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

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

***Particle Size Distribution & Stone Content***

The sample contained 73% sand and fell into the sandy loam texture class. This particle size distribution is considered suitable for a broad range of landscape applications, including tree and shrub planting, turfing and seeding.

The sample was Virtually free from stones of 50 mm and upwards in diameter and only contained a slight fraction of smaller stones (12.3%). As such, stones will not restrict the use of the soil for landscaping purposes.

***Potential Contaminants***

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

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

**CONCLUSION**

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

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

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

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

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|            |                            |
|------------|----------------------------|
| Client     | Freeland Horticulture Ltd  |
| Job Name   | Topsoil Analysis           |
| Site       | Astley, Greater Manchester |
| Month/Year | May 25                     |
| Our Ref    | 1390-SA                    |
| Date       | 23 June 2025               |

#### pH Value & Salinity

|                                                            |       |
|------------------------------------------------------------|-------|
| pH value (1:2.5 soil/water ext)                            | units |
| Electrical Conductivity (1:2.5 soil/water ext)             | µS/cm |
| Electrical Conductivity (1:2.5 soil/CaSO <sub>4</sub> ext) | µS/cm |

#### Composite sample

|      |
|------|
| 8.4  |
| 1135 |
| 2983 |

#### Organic Matter & Nutrient Status

|                          |      |
|--------------------------|------|
| Organic Matter (LOI)     | %    |
| Organic Carbon (Derived) | %    |
| Total Nitrogen           | %    |
| Carbon:Nitrogen Ratio    | :1   |
| Available Phosphorus     | mg/l |
| Available Potassium      | mg/l |
| Available Magnesium      | mg/l |

|       |
|-------|
| 5.6   |
| 3.3   |
| 0.277 |
| 0.6   |
| 40.6  |
| 820   |
| 166   |

#### Particle Size Analysis & Stones

|                      |          |
|----------------------|----------|
| Clay (<0.002mm)      | %        |
| Silt (0.063-0.002mm) | %        |
| Sand (2.0-0.063mm)   | %        |
| Texture Class        | UK Class |

|           |
|-----------|
| 12        |
| 15        |
| 73        |
| SandyLoam |

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

|      |
|------|
| 11.3 |
| 1.8  |
| 0.9  |

#### Potential Contaminants

|                                                         |       |
|---------------------------------------------------------|-------|
| Total Arsenic (As)                                      | mg/kg |
| Total Cadmium (Cd)                                      | mg/kg |
| Total Chromium (Cr)                                     | mg/kg |
| Hexavalent Chromium (Cr <sup>VI</sup> )                 | mg/kg |
| Total Copper (Cu)                                       | mg/kg |
| Total Lead (Pb)                                         | mg/kg |
| Total Mercury (Hg)                                      | mg/kg |
| Total Nickel (Ni)                                       | mg/kg |
| Total Selenium (Se)                                     | mg/kg |
| Total Zinc (Zn)                                         | mg/kg |
| Total Beryllium (Be)                                    | mg/kg |
| Total Barium (Ba)                                       | mg/kg |
| Total Vanadium (V)                                      | mg/kg |
| Hot Water Soluble Boron (B)                             | mg/kg |
| Total Cyanide (CN)                                      | mg/kg |
| Elemental Sulphur (S)                                   | mg/kg |
| Easily Liberated Sulphide (S <sup>-2</sup> )            | mg/kg |
| Water Soluble Sulphate (SO <sub>4</sub> <sup>-2</sup> ) | mg/l  |
| Total Phenols Index                                     | mg/kg |
| Asbestos Screen                                         | -     |

|      |
|------|
| 6.3  |
| 0.27 |
| 15.6 |
| <0.2 |
| 25.0 |
| 66.1 |
| <0.2 |
| 16.7 |
| 0.16 |
| 68.7 |
| <1   |
| 93.2 |
| 13.0 |
| 1.2  |
| <1   |
| <5   |
| <1   |
| 318  |
| <1   |
| N.D. |

#### Polyaromatic Hydrocarbons

|                |       |
|----------------|-------|
| Naphthalene    | mg/kg |
| Acenaphthylene | mg/kg |
| Acenaphthene   | mg/kg |
| Fluorene       | mg/kg |
| Phenanthrene   | mg/kg |

|       |
|-------|
| 0.1   |
| <0.05 |
| 0.2   |
| 0.2   |
| 1.1   |

|                          |                            |      |
|--------------------------|----------------------------|------|
| Client                   | Freeland Horticulture Ltd  |      |
| Job Name                 | Topsoil Analysis           |      |
| Site                     | Astley, Greater Manchester |      |
| Month/Year               | May 25                     |      |
| Our Ref                  | 1390-SA                    |      |
| Date                     | 23 June 2025               |      |
| Anthracene               | mg/kg                      | 0.2  |
| Fluoranthene             | mg/kg                      | 1.3  |
| Pyrene                   | mg/kg                      | 1.1  |
| Benzo[a]anthracene       | mg/kg                      | 0.6  |
| Chrysene                 | mg/kg                      | 0.6  |
| Benzo[b]fluoranthene     | mg/kg                      | 0.7  |
| Benzo[k]fluoranthene     | mg/kg                      | 0.3  |
| Benzo[a]pyrene           | mg/kg                      | 0.6  |
| Indeno[1,2,3-cd]pyrene   | mg/kg                      | 0.4  |
| Dibenzo[a,h]anthracene   | mg/kg                      | 0.1  |
| Benzo[g,h,i]perylene     | mg/kg                      | <0.1 |
| Total PAHs sum US EPA 16 | mg/kg                      | 8.0  |

#### Banded Petroleum Hydrocarbons

|                                                 |       |       |
|-------------------------------------------------|-------|-------|
| Aliphatic TPH >C <sub>5</sub> -C <sub>6</sub>   | mg/kg | <0.05 |
| Aliphatic TPH >C <sub>6</sub> -C <sub>8</sub>   | mg/kg | <0.05 |
| Aliphatic TPH >C <sub>8</sub> -C <sub>10</sub>  | mg/kg | <0.05 |
| Aliphatic TPH >C <sub>10</sub> -C <sub>12</sub> | mg/kg | <10   |
| Aliphatic TPH >C <sub>12</sub> -C <sub>16</sub> | mg/kg | <10   |
| Aliphatic TPH >C <sub>16</sub> -C <sub>21</sub> | mg/kg | 21.0  |
| Aliphatic TPH >C <sub>21</sub> -C <sub>35</sub> | mg/kg | 170   |
| Aliphatic TPH >C <sub>35</sub> -C <sub>44</sub> | mg/kg | 20.0  |

|                                                |       |       |
|------------------------------------------------|-------|-------|
| Aromatic TPH >C <sub>5</sub> -C <sub>7</sub>   | mg/kg | <0.05 |
| Aromatic TPH >C <sub>7</sub> -C <sub>8</sub>   | mg/kg | <0.05 |
| Aromatic TPH >C <sub>8</sub> -C <sub>10</sub>  | mg/kg | <0.05 |
| Aromatic TPH >C <sub>10</sub> -C <sub>12</sub> | mg/kg | <10   |
| Aromatic TPH >C <sub>12</sub> -C <sub>16</sub> | mg/kg | <10   |
| Aromatic TPH >C <sub>16</sub> -C <sub>21</sub> | mg/kg | 98.0  |
| Aromatic TPH >C <sub>21</sub> -C <sub>35</sub> | mg/kg | 240   |
| Aromatic TPH >C <sub>35</sub> -C <sub>44</sub> | mg/kg | 35.0  |

|                                                                 |       |     |
|-----------------------------------------------------------------|-------|-----|
| Total Petroleum Hydrocarbons (C <sub>5</sub> -C <sub>44</sub> ) | mg/kg | 597 |
|-----------------------------------------------------------------|-------|-----|

#### BTEX

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



# Final Report

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**Report No.:** 25-07909-1

**Initial Date of Issue:** 17-Mar-2025

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):** Mwilson@e3p.co.uk;  
gcalvert@e3p.co.uk

**Project** 16-465 - Edenfield Road, Norden

**Quotation No.:** Q23-31421

**Date Received:** 07-Mar-2025

**Order No.:** 010688

**Date Instructed:** 07-Mar-2025

**No. of Samples:** 1

**Turnaround (Wkdays):** 5

**Results Due:** 13-Mar-2025

**Date Approved:** 17-Mar-2025

**Approved By:**

**Details:** David Smith, Technical Director

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

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## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

| <b>Client: E3P</b>                  |             | <b>Chemtest Job No.:</b>    |      | 25-07909    |       |                      |
|-------------------------------------|-------------|-----------------------------|------|-------------|-------|----------------------|
| Quotation No.: Q23-31421            |             | <b>Chemtest Sample ID.:</b> |      | 1943680     |       |                      |
|                                     |             | Client Sample ID.:          |      | SS101       |       |                      |
|                                     |             | Sample Type:                |      | SOIL        |       |                      |
|                                     |             | Date Sampled:               |      | 05-Mar-2025 |       |                      |
|                                     |             | Time Sampled:               |      | 12:00       |       |                      |
|                                     |             | Asbestos Lab:               |      | NEW-ASB     |       |                      |
| Determinand                         | HWOL Code   | Accred.                     | SOP  | Units       | LOD   |                      |
| ACM Type                            |             | N                           | 2192 |             | N/A   | -                    |
| Asbestos Identification             |             | U                           | 2192 |             | N/A   | No Asbestos Detected |
| Moisture                            |             | N                           | 2030 | %           | 0.020 | 13                   |
| Soil Colour                         |             | N                           | 2040 |             | N/A   | Brown                |
| Other Material                      |             | N                           | 2040 |             | N/A   | Stones               |
| Soil Texture                        |             | N                           | 2040 |             | N/A   | Loam                 |
| pH at 20C                           |             | M                           | 2010 |             | 4.0   | 7.3                  |
| Sulphate (2:1 Water Soluble) as SO4 |             | M                           | 2120 | g/l         | 0.010 | 0.34                 |
| Total Sulphur                       |             | U                           | 2175 | %           | 0.010 | 0.28                 |
| Cyanide (Total)                     |             | M                           | 2300 | mg/kg       | 0.50  | < 0.50               |
| Sulphide (Easily Liberatable)       |             | N                           | 2325 | mg/kg       | 0.50  | 3.0                  |
| Sulphate (Total)                    |             | U                           | 2430 | %           | 0.010 | 0.68                 |
| Arsenic                             |             | M                           | 2455 | mg/kg       | 0.5   | 5.2                  |
| Cadmium                             |             | M                           | 2455 | mg/kg       | 0.10  | 0.14                 |
| Chromium                            |             | M                           | 2455 | mg/kg       | 0.5   | 23                   |
| Copper                              |             | M                           | 2455 | mg/kg       | 0.50  | 200                  |
| Mercury                             |             | M                           | 2455 | mg/kg       | 0.05  | < 0.05               |
| Nickel                              |             | M                           | 2455 | mg/kg       | 0.50  | 34                   |
| Lead                                |             | M                           | 2455 | mg/kg       | 0.50  | 26                   |
| Selenium                            |             | M                           | 2455 | mg/kg       | 0.25  | 0.56                 |
| Zinc                                |             | M                           | 2455 | mg/kg       | 0.50  | 68                   |
| Chromium (Hexavalent)               |             | N                           | 2490 | mg/kg       | 0.50  | < 0.50               |
| Organic Matter                      |             | M                           | 2625 | %           | 0.40  | 1.3                  |
| Total Organic Carbon                |             | M                           | 2625 | %           | 0.20  | 0.76                 |
| TPH >C6-C8                          | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | < 1.0                |
| TPH >C8-C10                         | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | < 1.0                |
| TPH >C10-C12                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | < 1.0                |
| TPH >C12-C16                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | < 1.0                |
| TPH >C16-C21                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | 6.0                  |
| TPH >C21-C25                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | 8.0                  |
| TPH >C25-C35                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | 3.6                  |
| TPH >C35-C40                        | EH_1D_Total | N                           | 2670 | mg/kg       | 1.0   | < 1.0                |
| Total TPH >C6-C40                   | EH_1D_Total | U                           | 2670 | mg/kg       | 10    | 18                   |
| Naphthalene                         |             | M                           | 2800 | mg/kg       | 0.10  | < 0.10               |
| Acenaphthylene                      |             | N                           | 2800 | mg/kg       | 0.10  | < 0.10               |
| Acenaphthene                        |             | M                           | 2800 | mg/kg       | 0.10  | < 0.10               |
| Fluorene                            |             | M                           | 2800 | mg/kg       | 0.10  | < 0.10               |
| Phenanthrene                        |             | M                           | 2800 | mg/kg       | 0.10  | < 0.10               |

## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

| <b>Client: E3P</b>       |           | <b>Chemtest Job No.:</b>    |      | 25-07909    |      |        |
|--------------------------|-----------|-----------------------------|------|-------------|------|--------|
| Quotation No.: Q23-31421 |           | <b>Chemtest Sample ID.:</b> |      | 1943680     |      |        |
|                          |           | Client Sample ID.:          |      | SS101       |      |        |
|                          |           | Sample Type:                |      | SOIL        |      |        |
|                          |           | Date Sampled:               |      | 05-Mar-2025 |      |        |
|                          |           | Time Sampled:               |      | 12:00       |      |        |
|                          |           | Asbestos Lab:               |      | NEW-ASB     |      |        |
| Determinand              | HWOL Code | Accred.                     | SOP  | Units       | LOD  |        |
| Anthracene               |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Fluoranthene             |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Pyrene                   |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Benzo[a]anthracene       |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Chrysene                 |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Benzo[b]fluoranthene     |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Benzo[k]fluoranthene     |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Benzo[a]pyrene           |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Indeno(1,2,3-c,d)Pyrene  |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Dibenz(a,h)Anthracene    |           | N                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Benzo[g,h,i]perylene     |           | M                           | 2800 | mg/kg       | 0.10 | < 0.10 |
| Total Of 16 PAH's        |           | N                           | 2800 | mg/kg       | 2.0  | < 2.0  |
| Total Phenols            |           | M                           | 2920 | mg/kg       | 0.10 | < 0.10 |

## Test Methods

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

## **Report Information**

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### **Key**

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

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

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

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

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

All results are expressed on a dry weight basis.

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

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

All Asbestos testing is performed at the indicated laboratory .

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

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

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### **Sample Deviation Codes**

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

A - Date of sampling not supplied

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

C - Sample not received in appropriate containers

D - Broken Container

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

H - Appropriate cooling measures were not taken for sample transportation

---

### **Sample Retention and Disposal**

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

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

Charges may apply to extended sample storage.

## **Report Information**

### **Water Sample Category Key for Accreditation**

DW - Drinking Water  
GW - Ground Water  
LE - Land Leachate  
NA - Not Applicable  
PL - Prepared Leachate  
PW - Processed Water  
RE - Recreational Water  
SA - Saline Water  
SW - Surface Water  
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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

### **Asbestos Tests LOD = LOQ**

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:  
[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Amended Report

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|                               |                                                                                 |                            |             |
|-------------------------------|---------------------------------------------------------------------------------|----------------------------|-------------|
| <b>Report No.:</b>            | 25-20566-2                                                                      |                            |             |
| <b>Initial Date of Issue:</b> | 26-Jun-2025                                                                     | <b>Date of Re-Issue:</b>   | 07-Jul-2025 |
| <b>Re-Issue Details:</b>      | This report has been revised and directly supersedes 25-20566-1 in its entirety |                            |             |
| <b>Client</b>                 | E3P                                                                             |                            |             |
| <b>Client Address:</b>        | Taylor Road<br>Trafford Park<br>Urmston<br>Manchester<br>M41 7JQ                |                            |             |
| <b>Contact(s):</b>            | Mwilson@e3p.co.uk                                                               |                            |             |
| <b>Project</b>                | 16-465 - Edenfield Road, Norden                                                 |                            |             |
| <b>Quotation No.:</b>         | Q23-31421                                                                       | <b>Date Received:</b>      | 20-Jun-2025 |
| <b>Order No.:</b>             | 011448                                                                          | <b>Date Instructed:</b>    | 27-Jun-2025 |
| <b>No. of Samples:</b>        | 1                                                                               |                            |             |
| <b>Turnaround (Wkdays):</b>   | 5                                                                               | <b>Results Due:</b>        | 03-Jul-2025 |
| <b>Date Approved:</b>         | 07-Jul-2025                                                                     | <b>Subcon Results Due:</b> | 03-Jul-2025 |

**Approved By:**

**Details:** David Smith, Technical Director

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

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## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b>    | 25-20566    |              |            |                      |
|-------------------------------------|------------------|-----------------------------|-------------|--------------|------------|----------------------|
| <b>Quotation No.: Q23-31421</b>     |                  | <b>Chemtest Sample ID.:</b> | 1989563     |              |            |                      |
| <b>Order No.: 011448</b>            |                  | <i>Client Sample Ref.:</i>  | SS102       |              |            |                      |
|                                     |                  | <i>Client Sample ID.:</i>   | SS102       |              |            |                      |
|                                     |                  | <i>Client Reference:</i>    | SS102       |              |            |                      |
|                                     |                  | <i>Sample Type:</i>         | SOIL        |              |            |                      |
|                                     |                  | <i>Top Depth (m):</i>       | -           |              |            |                      |
|                                     |                  | <i>Bottom Depth (m):</i>    | -           |              |            |                      |
|                                     |                  | <i>Date Sampled:</i>        | 17-Jun-2025 |              |            |                      |
|                                     |                  | <i>Time Sampled:</i>        | 12:00       |              |            |                      |
|                                     |                  | <i>Asbestos Lab:</i>        | DURHAM      |              |            |                      |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b>  | <b>Units</b> | <b>LOD</b> |                      |
| ACM Type                            |                  | N                           | 2192        |              | N/A        | -                    |
| Asbestos Identification             |                  | U                           | 2192        |              | N/A        | No Asbestos Detected |
| Moisture                            |                  | N                           | 2030        | %            | 0.020      | 24                   |
| Soil Colour                         |                  | N                           | 2030        |              | N/A        | Brown                |
| Other Material                      |                  | N                           | 2030        |              | N/A        | Stones               |
| Soil Texture                        |                  | N                           | 2030        |              | N/A        | Sand                 |
| pH at 20C                           |                  | M                           | 2010        |              | 4.0        | 6.9                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                           | 2120        | g/l          | 0.010      | 0.28                 |
| Total Sulphur                       |                  | U                           | 2175        | %            | 0.010      | 0.14                 |
| Cyanide (Total)                     |                  | M                           | 2300        | mg/kg        | 0.50       | < 0.50               |
| Sulphide (Easily Liberatable)       |                  | N                           | 2325        | mg/kg        | 0.50       | 2.2                  |
| Sulphate (Total)                    |                  | U                           | 2430        | %            | 0.010      | 0.31                 |
| Arsenic                             |                  | M                           | 2455        | mg/kg        | 0.5        | 2.5                  |
| Cadmium                             |                  | M                           | 2455        | mg/kg        | 0.10       | < 0.10               |
| Chromium                            |                  | M                           | 2455        | mg/kg        | 0.5        | 14                   |
| Copper                              |                  | M                           | 2455        | mg/kg        | 0.50       | 12                   |
| Mercury                             |                  | M                           | 2455        | mg/kg        | 0.05       | < 0.05               |
| Nickel                              |                  | M                           | 2455        | mg/kg        | 0.50       | 19                   |
| Lead                                |                  | M                           | 2455        | mg/kg        | 0.50       | 8.4                  |
| Selenium                            |                  | M                           | 2455        | mg/kg        | 0.25       | < 0.25               |
| Zinc                                |                  | M                           | 2455        | mg/kg        | 0.50       | 35                   |
| Chromium (Hexavalent)               |                  | N                           | 2490        | mg/kg        | 0.50       | < 0.50               |
| Organic Matter                      |                  | M                           | 2625        | %            | 0.40       | 2.1                  |
| Total Organic Carbon                |                  | M                           | 2625        | %            | 0.20       | 1.2                  |
| TPH >C6-C8                          | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C8-C10                         | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C10-C12                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C12-C16                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C16-C21                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C21-C25                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C25-C35                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| TPH >C35-C40                        | EH_1D_Total      | N                           | 2670        | mg/kg        | 1.0        | < 1.0                |
| Total TPH >C6-C40                   | EH_1D_Total      | U                           | 2670        | mg/kg        | 10         | < 10                 |
| Naphthalene                         |                  | M                           | 2700        | mg/kg        | 0.10       | < 0.10               |

## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

| <b>Client: E3P</b>              |                  | <b>Chemtest Job No.:</b> 25-20566   |            |              |            |
|---------------------------------|------------------|-------------------------------------|------------|--------------|------------|
| <b>Quotation No.: Q23-31421</b> |                  | <b>Chemtest Sample ID.:</b> 1989563 |            |              |            |
| <b>Order No.: 011448</b>        |                  | <i>Client Sample Ref.:</i> SS102    |            |              |            |
|                                 |                  | <i>Client Sample ID.:</i> SS102     |            |              |            |
|                                 |                  | <i>Client Reference:</i> SS102      |            |              |            |
|                                 |                  | <i>Sample Type:</i> SOIL            |            |              |            |
|                                 |                  | <i>Top Depth (m):</i> -             |            |              |            |
|                                 |                  | <i>Bottom Depth (m):</i> -          |            |              |            |
|                                 |                  | <i>Date Sampled:</i> 17-Jun-2025    |            |              |            |
|                                 |                  | <i>Time Sampled:</i> 12:00          |            |              |            |
|                                 |                  | <i>Asbestos Lab:</i> DURHAM         |            |              |            |
| <b>Determinand</b>              | <b>HWOL Code</b> | <b>Accred.</b>                      | <b>SOP</b> | <b>Units</b> | <b>LOD</b> |
| Acenaphthylene                  |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Acenaphthene                    |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Fluorene                        |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Phenanthrene                    |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Anthracene                      |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Fluoranthene                    |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Pyrene                          |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Benzo[a]anthracene              |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Chrysene                        |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Benzo[b]fluoranthene            |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Benzo[k]fluoranthene            |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Benzo[a]pyrene                  |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Indeno(1,2,3-c,d)Pyrene         |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Dibenz(a,h)Anthracene           |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Benzo[g,h,i]perylene            |                  | M                                   | 2700       | mg/kg        | 0.10       |
| Total Of 16 PAH's               |                  | M                                   | 2700       | mg/kg        | 2.0        |
| Naphthalene                     |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Acenaphthylene                  |                  | N                                   | 2800       | mg/kg        | 0.10       |
| Acenaphthene                    |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Fluorene                        |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Phenanthrene                    |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Anthracene                      |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Fluoranthene                    |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Pyrene                          |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Benzo[a]anthracene              |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Chrysene                        |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Benzo[b]fluoranthene            |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Benzo[k]fluoranthene            |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Benzo[a]pyrene                  |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Indeno(1,2,3-c,d)Pyrene         |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Dibenz(a,h)Anthracene           |                  | N                                   | 2800       | mg/kg        | 0.10       |
| Benzo[g,h,i]perylene            |                  | M                                   | 2800       | mg/kg        | 0.10       |
| Total Of 16 PAH's               |                  | N                                   | 2800       | mg/kg        | 2.0        |
| Total Phenols                   |                  | M                                   | 2920       | mg/kg        | 0.10       |

## Test Methods

| SOP  | Title                                                               | Parameters included                                                                                                                                                                                                                                                       | Method summary                                                                                                                                                                         | Water Accred. |
|------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 2010 | pH Value of Soils                                                   | pH at 20°C                                                                                                                                                                                                                                                                | pH Meter                                                                                                                                                                               |               |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS)          | Moisture content                                                                                                                                                                                                                                                          | Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.                                                                                   |               |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium                 | Boron; Sulphate; Magnesium; Chromium                                                                                                                                                                                                                                      | Aqueous extraction / ICP-OES                                                                                                                                                           |               |
| 2175 | Total Sulphur in Soils                                              | Total Sulphur                                                                                                                                                                                                                                                             | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.                                                                                             |               |
| 2192 | Asbestos                                                            | Asbestos                                                                                                                                                                                                                                                                  | Polarised light microscopy / Gravimetry                                                                                                                                                |               |
| 2300 | Cyanides & Thiocyanate in Soils                                     | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate                                                                                                                                                                                           | Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.                                                                                    |               |
| 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                                                                                                                                                    |               |
| 2700 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID | 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-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)                                                   |               |
| 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                                                                                                                                                     |               |
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| U/S | Unsuitable Sample                                                                                             |
| N/E | not evaluated                                                                                                 |
| <   | "less than"                                                                                                   |
| >   | "greater than"                                                                                                |
| SOP | Standard operating procedure                                                                                  |
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*Text example* All items indicated in italic font represent customer-supplied information that may not be independently verified by the laboratory

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NEW\_ASB Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL

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

### **Sample Deviation Codes**

---

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

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - The required amount of sample for analysis was not received
- H - Appropriate cooling measures were not taken for sample transportation

### **Sample Retention and Disposal**

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

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Charges may apply to extended sample storage.

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LE - Land Leachate  
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SA - Saline Water  
SW - Surface Water  
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TS - Treated Sewage  
UL - Unspecified Liquid

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MC - Mathematical Clean Up  
FC - Florisil Clean Up

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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

### **Asbestos Tests LOD = LOQ**

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:  
[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 25-26533-1

**Initial Date of Issue:** 26-Aug-2025

**Re-Issue Details:**

**Client** E3P

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

**Contact(s):** Mwilson@e3p.co.uk

**Project** 16-465 - Edenfield Road, Norden

**Quotation No.:** Q23-31421

**Date Received:** 12-Aug-2025

**Order No.:** 011892

**Date Instructed:** 12-Aug-2025

**No. of Samples:** 3

**Turnaround (Wkdays):** 5

**Results Due:** 18-Aug-2025

**Date Approved:** 26-Aug-2025

**Approved By:**

**Details:** David Smith, Technical Director

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

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## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

|                                     |                  |                             |            |              |            |                      |                      |                      |
|-------------------------------------|------------------|-----------------------------|------------|--------------|------------|----------------------|----------------------|----------------------|
| <b>Client: E3P</b>                  |                  | <b>Chemtest Job No.:</b>    |            |              |            | 25-26533             | 25-26533             | 25-26533             |
| <b>Quotation No.: Q23-31421</b>     |                  | <b>Chemtest Sample ID.:</b> |            |              |            | 2013499              | 2013500              | 2013501              |
| <b>Order No.: 011892</b>            |                  | <b>Client Sample Ref.:</b>  |            |              |            | SS103                | TS101                | TS102                |
|                                     |                  | <b>Client Sample ID.:</b>   |            |              |            | SS103                | TS101                | TS102                |
|                                     |                  | <b>Client Reference:</b>    |            |              |            | SS103                | TS101                | TS102                |
|                                     |                  | <b>Sample Type:</b>         |            |              |            | SOIL                 | SOIL                 | SOIL                 |
|                                     |                  | <b>Top Depth (m):</b>       |            |              |            | -                    | -                    | -                    |
|                                     |                  | <b>Bottom Depth (m):</b>    |            |              |            | -                    | -                    | -                    |
|                                     |                  | <b>Date Sampled:</b>        |            |              |            | 07-Aug-2025          | 07-Aug-2025          | 07-Aug-2025          |
|                                     |                  | <b>Time Sampled:</b>        |            |              |            | 12:00                | 12:00                | 12:00                |
|                                     |                  | <b>Asbestos Lab:</b>        |            |              |            | DURHAM               | DURHAM               | DURHAM               |
| <b>Determinand</b>                  | <b>HWOL Code</b> | <b>Accred.</b>              | <b>SOP</b> | <b>Units</b> | <b>LOD</b> |                      |                      |                      |
| ACM Type                            |                  | N                           | 2192       |              | N/A        | -                    | -                    | -                    |
| Asbestos Identification             |                  | U                           | 2192       |              | N/A        | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture                            |                  | N                           | 2030       | %            | 0.020      | 7.4                  | 13                   | 13                   |
| Soil Colour                         |                  | N                           | 2030       |              | N/A        | Brown                | Brown                | Brown                |
| Other Material                      |                  | N                           | 2030       |              | N/A        | Stones               | Stones and Roots     | Stones and Roots     |
| Soil Texture                        |                  | N                           | 2030       |              | N/A        | Sand                 | Loam                 | Loam                 |
| pH at 20C                           |                  | M                           | 2010       |              | 4.0        | 7.7                  | 8.3                  | 8.1                  |
| Sulphate (2:1 Water Soluble) as SO4 |                  | M                           | 2120       | g/l          | 0.010      | 0.44                 | 0.084                | 0.21                 |
| Total Sulphur                       |                  | U                           | 2175       | %            | 0.010      | 0.15                 | 0.070                | 0.10                 |
| Cyanide (Total)                     |                  | M                           | 2300       | mg/kg        | 0.50       | < 0.50               | < 0.50               | 0.60                 |
| Sulphide (Easily Liberatable)       |                  | N                           | 2325       | mg/kg        | 0.50       | 2.6                  | 2.6                  | 2.5                  |
| Sulphate (Total)                    |                  | U                           | 2430       | %            | 0.010      | 0.43                 | 0.50                 | 0.17                 |
| Arsenic                             |                  | M                           | 2455       | mg/kg        | 0.5        | 3.3                  | 6.0                  | 6.1                  |
| Cadmium                             |                  | M                           | 2455       | mg/kg        | 0.10       | 0.12                 | 0.13                 | 0.18                 |
| Chromium                            |                  | M                           | 2455       | mg/kg        | 0.5        | 14                   | 8.0                  | 6.4                  |
| Copper                              |                  | M                           | 2455       | mg/kg        | 0.50       | 14                   | 17                   | 26                   |
| Mercury                             |                  | M                           | 2455       | mg/kg        | 0.05       | < 0.05               | 0.06                 | 0.06                 |
| Nickel                              |                  | M                           | 2455       | mg/kg        | 0.50       | 24                   | 6.5                  | 7.8                  |
| Lead                                |                  | M                           | 2455       | mg/kg        | 0.50       | 12                   | 33                   | 96                   |
| Selenium                            |                  | M                           | 2455       | mg/kg        | 0.25       | 0.77                 | 0.63                 | 0.55                 |
| Zinc                                |                  | M                           | 2455       | mg/kg        | 0.50       | 38                   | 36                   | 38                   |
| Chromium (Hexavalent)               |                  | N                           | 2490       | mg/kg        | 0.50       | < 0.50               | < 0.50               | < 0.50               |
| Organic Matter                      |                  | M                           | 2625       | %            | 0.40       | 1.3                  | 12                   | 10                   |
| Total Organic Carbon                |                  | M                           | 2625       | %            | 0.20       | 0.77                 | 7.2                  | 6.0                  |
| TPH >C6-C8                          | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 9.5                  | 10                   |
| TPH >C8-C10                         | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 20                   | 12                   |
| TPH >C10-C12                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 12                   | 5.7                  |
| TPH >C12-C16                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 13                   | 12                   |
| TPH >C16-C21                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 37                   | 20                   |
| TPH >C21-C25                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 40                   | 25                   |
| TPH >C25-C35                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 100                  | 71                   |
| TPH >C35-C40                        | EH_1D_Total      | N                           | 2670       | mg/kg        | 1.0        | < 1.0                | 12                   | 10                   |
| Total TPH >C6-C40                   | EH_1D_Total      | U                           | 2670       | mg/kg        | 10         | < 10                 | 250                  | 170                  |

## Results - Soil

**Project: 16-465 - Edenfield Road, Norden**

|                          |           |                      |      |       |      |             |             |             |
|--------------------------|-----------|----------------------|------|-------|------|-------------|-------------|-------------|
| Client: E3P              |           | Chemtest Job No.:    |      |       |      | 25-26533    | 25-26533    | 25-26533    |
| Quotation No.: Q23-31421 |           | Chemtest Sample ID.: |      |       |      | 2013499     | 2013500     | 2013501     |
| Order No.: 011892        |           | Client Sample Ref.:  |      |       |      | SS103       | TS101       | TS102       |
|                          |           | Client Sample ID.:   |      |       |      | SS103       | TS101       | TS102       |
|                          |           | Client Reference:    |      |       |      | SS103       | TS101       | TS102       |
|                          |           | Sample Type:         |      |       |      | SOIL        | SOIL        | SOIL        |
|                          |           | Top Depth (m):       |      |       |      | -           | -           | -           |
|                          |           | Bottom Depth (m):    |      |       |      | -           | -           | -           |
|                          |           | Date Sampled:        |      |       |      | 07-Aug-2025 | 07-Aug-2025 | 07-Aug-2025 |
|                          |           | Time Sampled:        |      |       |      | 12:00       | 12:00       | 12:00       |
|                          |           | Asbestos Lab:        |      |       |      | DURHAM      | DURHAM      | DURHAM      |
| Determinand              | HWOL Code | Accred.              | SOP  | Units | LOD  |             |             |             |
| Naphthalene              |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.59        | 0.23        |
| Acenaphthylene           |           | N                    | 2800 | mg/kg | 0.10 | < 0.10      | < 0.10      | 0.12        |
| Acenaphthene             |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.41        | 0.22        |
| Fluorene                 |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.32        | 0.22        |
| Phenanthrene             |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 2.4         | 1.7         |
| Anthracene               |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.61        | 0.42        |
| Fluoranthene             |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 3.4         | 2.4         |
| Pyrene                   |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 2.9         | 2.2         |
| Benzo[a]anthracene       |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 1.3         | 1.1         |
| Chrysene                 |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 1.5         | 1.2         |
| Benzo[b]fluoranthene     |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 1.8         | 1.4         |
| Benzo[k]fluoranthene     |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.64        | 0.50        |
| Benzo[a]pyrene           |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 1.3         | 1.1         |
| Indeno(1,2,3-c,d)Pyrene  |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.92        | 0.68        |
| Dibenz(a,h)Anthracene    |           | N                    | 2800 | mg/kg | 0.10 | < 0.10      | < 0.10      | < 0.10      |
| Benzo[g,h,i]perylene     |           | M                    | 2800 | mg/kg | 0.10 | < 0.10      | 0.98        | 0.70        |
| Total Of 16 PAH's        |           | N                    | 2800 | mg/kg | 2.0  | < 2.0       | 19          | 14          |
| Total Phenols            |           | M                    | 2920 | mg/kg | 0.10 | < 0.10      | 0.18        | 0.61        |

## Test Methods

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

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### Key

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

*Text example* All items indicated in italic font represent customer-supplied information that may not be independently verified by the laboratory  
This report shall not be reproduced except in full, and only with the prior approval of the laboratory.  
Any comments or interpretations are outside the scope of UKAS accreditation.  
The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.  
Uncertainty of measurement for the determinands tested are available upon request .  
None of the results in this report have been recovery corrected.  
All results are expressed on a dry weight basis.  
  
The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.  
For all other tests the samples were dried at  $\leq 30^{\circ}\text{C}$  prior to analysis.  
All Asbestos testing is performed at the indicated laboratory .  
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

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

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### Sample Deviation Codes

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

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - The required amount of sample for analysis was not received
- H - Appropriate cooling measures were not taken for sample transportation

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### Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.  
All water samples will be retained for 14 days from the date of receipt.  
Charges may apply to extended sample storage.

## **Report Information**

### **Water Sample Category Key for Accreditation**

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

### **Clean Up Codes**

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

### **HWOL Acronym System**

HS - Headspace analysis  
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent  
CU - Clean-up – e.g. by Florisil, silica gel  
1D - GC – Single coil gas chromatography  
Total - Aliphatics & Aromatics  
AL - Aliphatics only  
AR - Aromatic only  
2D - GC-GC – Double coil gas chromatography  
#1 - EH\_2D\_Total but with humics mathematically subtracted  
#2 - EH\_2D\_Total but with fatty acids mathematically subtracted  
+ - Operator to indicate cumulative e.g. EH+EH\_Total or EH\_CU+HS\_Total

### **Asbestos Tests LOD = LOQ**

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:  
[customerservices@chemtest.com](mailto:customerservices@chemtest.com)

e3p  
Taylor Road  
Urmston  
Manchester

i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxley Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

t:

t: 01923 225404

e: mwilson@e3p.co.uk

f: 01923 237404

e: reception@i2analytical.com

## **Analytical Report Number : 25-046764**

|                             |                       |                                                        |            |
|-----------------------------|-----------------------|--------------------------------------------------------|------------|
| <b>Project / Site name:</b> | Edenfield Road Norden | <b>Samples received on:</b>                            | 02/09/2025 |
| <b>Your job number:</b>     | 16 465                | <b>Samples instructed on/<br/>Analysis started on:</b> | 02/09/2025 |
| <b>Your order number:</b>   | 12154                 | <b>Analysis completed by:</b>                          | 08/09/2025 |
| <b>Report Issue Number:</b> | 1                     | <b>Report issued on:</b>                               | 08/09/2025 |
| <b>Samples Analysed:</b>    | 4 soil samples        |                                                        |            |



**Signed:** \_\_\_\_\_

Anna Goc  
PL Head of Reporting Team  
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

|           |                                 |
|-----------|---------------------------------|
| soils     | - 4 weeks from reporting        |
| leachates | - 2 weeks from reporting        |
| waters    | - 2 weeks from reporting        |
| asbestos  | - 6 months from reporting       |
| air       | - once the analysis is complete |

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.  
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.  
Application of uncertainty of measurement would provide a range within which the true result lies.  
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 25-046764  
Project / Site name: Edenfield Road Norden  
Your Order No: 12154

|                                         |               |                            |                              |               |
|-----------------------------------------|---------------|----------------------------|------------------------------|---------------|
| Lab Sample Number                       | 666973        | 666974                     | 666975                       | 666976        |
| Sample Reference                        | TS103         | TS104                      | TS105                        | TS106         |
| Sample Number                           | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Water Matrix                            | N/A           | N/A                        | N/A                          | N/A           |
| Depth (m)                               | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Date Sampled                            | 02/09/2025    | 02/09/2025                 | 02/09/2025                   | 02/09/2025    |
| Time Taken                              | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Analytical Parameter<br>(Soil Analysis) | Units         | Test Limit of<br>detection | Test Accreditation<br>Status |               |

|                               |    |      |      |      |       |       |       |
|-------------------------------|----|------|------|------|-------|-------|-------|
| Stone Content                 | %  | 0.1  | NONE | 19.4 | < 0.1 | < 0.1 | < 0.1 |
| Moisture Content              | %  | 0.01 | NONE | 16   | 20    | 19    | 19    |
| Total mass of sample received | kg | 0.1  | NONE | 1.4  | 1.5   | 1.3   | 1.5   |

#### Asbestos

|                                        |      |     |           |              |              |              |              |
|----------------------------------------|------|-----|-----------|--------------|--------------|--------------|--------------|
| Asbestos in Soil Detected/Not Detected | Type | N/A | ISO 17025 | Not-detected | Not-detected | Not-detected | Not-detected |
| Asbestos Analyst ID                    | N/A  | N/A | N/A       | MBI          | MBI          | MBI          | MBI          |
| Analysis completed                     | N/A  | N/A | N/A       | 05/09/2025   | 05/09/2025   | 05/09/2025   | 05/09/2025   |

#### General Inorganics

|                                                                  |          |      |        |       |       |       |       |
|------------------------------------------------------------------|----------|------|--------|-------|-------|-------|-------|
| pH (L099)                                                        | pH Units | N/A  | MCERTS | 8.2   | 8.3   | 7.9   | 8.2   |
| Total Cyanide                                                    | mg/kg    | 1    | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Total Sulphate as SO <sub>4</sub>                                | mg/kg    | 50   | MCERTS | 800   | 690   | 730   | 760   |
| Water Soluble SO <sub>4</sub> 1hr extraction                     | mg/kg    | 2.5  | MCERTS | 300   | 170   | 210   | 240   |
| Water Soluble SO <sub>4</sub> (2:1 Leach. Equiv.) 1hr extraction | mg/l     | 1.25 | MCERTS | 151   | 86.3  | 107   | 118   |
| Sulphide                                                         | mg/kg    | 1    | MCERTS | 4.6   | 5.2   | 7.5   | 38    |
| Total Sulphur                                                    | mg/kg    | 50   | MCERTS | 670   | 870   | 750   | 850   |
| Total Organic Carbon (TOC) - Automated                           | %        | 0.1  | MCERTS | 3     | 4     | 3.3   | 4     |

#### Total Phenols

|                            |       |   |        |       |       |       |       |
|----------------------------|-------|---|--------|-------|-------|-------|-------|
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
|----------------------------|-------|---|--------|-------|-------|-------|-------|

#### Speciated PAHs

|                        |       |      |           |        |        |        |      |
|------------------------|-------|------|-----------|--------|--------|--------|------|
| Naphthalene            | mg/kg | 0.05 | MCERTS    | 0.11   | 0.79   | 0.05   | 0.25 |
| Acenaphthylene         | mg/kg | 0.05 | MCERTS    | < 0.05 | < 0.05 | < 0.05 | 0.07 |
| Acenaphthene           | mg/kg | 0.05 | MCERTS    | 0.42   | 0.55   | 0.14   | 0.96 |
| Fluorene               | mg/kg | 0.05 | MCERTS    | 0.35   | 0.35   | 0.11   | 1.5  |
| Phenanthrene           | mg/kg | 0.05 | MCERTS    | 4      | 2.8    | 0.86   | 8.4  |
| Anthracene             | mg/kg | 0.05 | MCERTS    | 1      | 0.71   | 0.29   | 5.1  |
| Fluoranthene           | mg/kg | 0.05 | MCERTS    | 4.8    | 4.1    | 1.7    | 11   |
| Pyrene                 | mg/kg | 0.05 | MCERTS    | 4.4    | 3.9    | 1.6    | 8.2  |
| Benzo(a)anthracene     | mg/kg | 0.05 | MCERTS    | 2.3    | 2.1    | 0.92   | 4.6  |
| Chrysene               | mg/kg | 0.05 | MCERTS    | 2.4    | 2.1    | 0.92   | 4    |
| Benzo(b)fluoranthene   | mg/kg | 0.05 | ISO 17025 | 2.5    | 2.3    | 1.2    | 2.4  |
| Benzo(k)fluoranthene   | mg/kg | 0.05 | ISO 17025 | 1      | 0.95   | 0.41   | 1.7  |
| Benzo(a)pyrene         | mg/kg | 0.05 | MCERTS    | 2.1    | 2      | 0.91   | 1.5  |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS    | 1      | 0.96   | 0.47   | 1.7  |
| Dibenz(a,h)anthracene  | mg/kg | 0.05 | MCERTS    | 0.2    | 0.22   | 0.11   | 0.18 |
| Benzo(ghi)perylene     | mg/kg | 0.05 | MCERTS    | 1.2    | 1.2    | 0.55   | 1.7  |

#### Total PAH

|                             |       |     |           |      |    |      |      |
|-----------------------------|-------|-----|-----------|------|----|------|------|
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | 27.8 | 25 | 10.3 | 53.3 |
|-----------------------------|-------|-----|-----------|------|----|------|------|

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|                                         |               |                            |                              |               |
|-----------------------------------------|---------------|----------------------------|------------------------------|---------------|
| Lab Sample Number                       | 666973        | 666974                     | 666975                       | 666976        |
| Sample Reference                        | TS103         | TS104                      | TS105                        | TS106         |
| Sample Number                           | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Water Matrix                            | N/A           | N/A                        | N/A                          | N/A           |
| Depth (m)                               | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Date Sampled                            | 02/09/2025    | 02/09/2025                 | 02/09/2025                   | 02/09/2025    |
| Time Taken                              | None Supplied | None Supplied              | None Supplied                | None Supplied |
| Analytical Parameter<br>(Soil Analysis) | Units         | Test Limit of<br>detection | Test Accreditation<br>Status |               |

#### Heavy Metals / Metalloids

|                                   |       |     |        |       |       |       |       |
|-----------------------------------|-------|-----|--------|-------|-------|-------|-------|
| Arsenic (aqua regia extractable)  | mg/kg | 1   | MCERTS | 5.7   | 7.2   | 8.5   | 7.2   |
| Cadmium (aqua regia extractable)  | mg/kg | 0.2 | MCERTS | < 0.2 | 0.3   | 0.3   | 0.3   |
| Chromium (hexavalent)             | mg/kg | 1.8 | MCERTS | <1.8  | <1.8  | <1.8  | <1.8  |
| Chromium (III) by IC              | mg/kg | 1   | NONE   | 10    | 13    | 11    | 16    |
| Chromium (aqua regia extractable) | mg/kg | 1   | MCERTS | 10    | 13    | 11    | 16    |
| Copper (aqua regia extractable)   | mg/kg | 1   | MCERTS | 48    | 36    | 45    | 34    |
| Lead (aqua regia extractable)     | mg/kg | 1   | MCERTS | 40    | 44    | 52    | 37    |
| Mercury (aqua regia extractable)  | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Nickel (aqua regia extractable)   | mg/kg | 1   | MCERTS | 11    | 15    | 13    | 17    |
| Selenium (aqua regia extractable) | mg/kg | 1   | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Zinc (aqua regia extractable)     | mg/kg | 1   | MCERTS | 63    | 73    | 77    | 68    |

#### Petroleum Hydrocarbons

|                                                          |       |      |        |         |         |         |         |
|----------------------------------------------------------|-------|------|--------|---------|---------|---------|---------|
| TPHCWG - Aliphatic >EC5 - EC6 <sub>HS_ID_AL</sub>        | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC6 - EC8 <sub>HS_ID_AL</sub>        | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC8 - EC10 <sub>HS_ID_AL</sub>       | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC10 - EC12 <sub>EH_CU_ID_AL</sub>   | mg/kg | 1    | MCERTS | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| TPHCWG - Aliphatic >EC12 - EC16 <sub>EH_CU_ID_AL</sub>   | mg/kg | 2    | MCERTS | 2.3     | 2.3     | 2.2     | 2.1     |
| TPHCWG - Aliphatic >EC16 - EC21 <sub>EH_CU_ID_AL</sub>   | mg/kg | 8    | MCERTS | < 8.0   | < 8.0   | < 8.0   | < 8.0   |
| TPHCWG - Aliphatic >EC21 - EC35 <sub>EH_CU_ID_AL</sub>   | mg/kg | 8    | MCERTS | 30      | 35      | 31      | 44      |
| TPHCWG - Aliphatic >EC5 - EC35 <sub>EH_CU+HS_ID_AL</sub> | mg/kg | 10   | NONE   | 33      | 37      | 33      | 46      |

|                                                         |       |      |        |         |         |         |         |
|---------------------------------------------------------|-------|------|--------|---------|---------|---------|---------|
| TPHCWG - Aromatic >EC5 - EC7 <sub>HS_ID_AR</sub>        | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| TPHCWG - Aromatic >EC7 - EC8 <sub>HS_ID_AR</sub>        | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| TPHCWG - Aromatic >EC8 - EC10 <sub>HS_ID_AR</sub>       | mg/kg | 0.02 | MCERTS | < 0.020 | < 0.020 | < 0.020 | < 0.020 |
| TPHCWG - Aromatic >EC10 - EC12 <sub>EH_CU_ID_AR</sub>   | mg/kg | 1    | MCERTS | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| TPHCWG - Aromatic >EC12 - EC16 <sub>EH_CU_ID_AR</sub>   | mg/kg | 2    | MCERTS | < 2.0   | < 2.0   | < 2.0   | 4.1     |
| TPHCWG - Aromatic >EC16 - EC21 <sub>EH_CU_ID_AR</sub>   | mg/kg | 10   | MCERTS | < 10    | < 10    | < 10    | 29      |
| TPHCWG - Aromatic >EC21 - EC35 <sub>EH_CU_ID_AR</sub>   | mg/kg | 10   | MCERTS | 26      | 33      | 31      | 72      |
| TPHCWG - Aromatic >EC5 - EC35 <sub>EH_CU+HS_ID_AR</sub> | mg/kg | 10   | NONE   | 26      | 33      | 31      | 100     |

#### VOCs

|                                    |       |   |        |       |       |       |       |
|------------------------------------|-------|---|--------|-------|-------|-------|-------|
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Benzene                            | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Toluene                            | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Ethylbenzene                       | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| p & m-Xylene                       | µg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| o-Xylene                           | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m)     | Sample Description *                  |
|-------------------|------------------|---------------|---------------|---------------------------------------|
| 666973            | TS103            | None Supplied | None Supplied | Brown loam with vegetation and stones |
| 666974            | TS104            | None Supplied | None Supplied | Brown loam with gravel and vegetation |
| 666975            | TS105            | None Supplied | None Supplied | Brown loam with gravel and vegetation |
| 666976            | TS106            | None Supplied | None Supplied | Brown loam with gravel and vegetation |

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**Water matrix abbreviations:**

**Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)**

**Final Sewage Effluent (FSE) Landfill Leachate (LL)**

| Analytical Test Name                                                                       | Analytical Method Description                                                                                                                                         | Analytical Method Reference                                                                            | Method number | Wet / Dry Analysis | Accreditation Status |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Asbestos identification in Soil                                                            | Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques                                                 | In-house method based on HSG 248, 2021                                                                 | A001B         | D                  | ISO 17025            |
| Total organic carbon (Automated) in soil                                                   | Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)                   | In-house method                                                                                        | L009B         | D                  | MCERTS               |
| Sulphide in soil                                                                           | Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode | In-house method                                                                                        | L010-PL       | D                  | MCERTS               |
| Moisture Content                                                                           | Moisture content, determined gravimetrically (up to 30°C)                                                                                                             | In-house method                                                                                        | L019B         | W                  | NONE                 |
| Stones content of soil                                                                     | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight                                            | In-house method based on British Standard Methods and MCERTS requirements.                             | L019B         | D                  | NONE                 |
| Metals in soil by ICP-OES                                                                  | Determination of metals in soil by aqua-regia digestion followed by ICP-OES                                                                                           | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil                    | L038B         | D                  | MCERTS               |
| Total sulphate (as SO <sub>4</sub> in soil)                                                | Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES                                                                                | In-house method                                                                                        | L038B         | D                  | MCERTS               |
| Total Sulphur in soil                                                                      | Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES                                                   | In-house method                                                                                        | L038B         | D                  | MCERTS               |
| Sulphate, water soluble, in soil (1hr extraction)                                          | Sulphate, water soluble, in soil (1hr extraction)                                                                                                                     | In-house method                                                                                        | L038B         | D                  | MCERTS               |
| Cr(VI) in soils by Ion chromatography                                                      | Determination of hexavalent chromium in alkaline soil extract by use of ion chromatography with spectrophotometric detection                                          | In-house method                                                                                        | L130B         | W                  | NONE                 |
| Speciated PAHs and/or Semi-volatile organic compounds in soil                              | Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS                                | In-house method based on USEPA 8270                                                                    | L064B         | D                  | MCERTS               |
| BTEX and/or Volatile organic compounds in soil                                             | Determination of volatile organic compounds in soil by headspace GC-MS                                                                                                | In-house method based on USEPA 8260                                                                    | L073B         | W                  | MCERTS               |
| Total petroleum hydrocarbons with carbon banding by GC-FID in soil                         | Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic                                                            | In-house method                                                                                        | L076B         | D                  | MCERTS               |
| Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands) | Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).                                   | Calculation                                                                                            | L076B/L088-PL | D/W                | NONE                 |
| Hexavalent chromium in soil                                                                | Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry                                      | In-house method                                                                                        | L080-PL       | W                  | MCERTS               |
| Monohydric phenols in soil                                                                 | Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry                                                 | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton | L080-PL       | W                  | MCERTS               |

**Analytical Report Number : 25-046764**

**Project / Site name: Edenfield Road Norden**

**Water matrix abbreviations:**

**Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)**

**Final Sewage Effluent (FSE) Landfill Leachate (LL)**

| Analytical Test Name                                                 | Analytical Method Description                                                                                | Analytical Method Reference                                                                            | Method number | Wet / Dry Analysis | Accreditation Status |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Total cyanide in soil                                                | Determination of total cyanide by distillation followed by colorimetry                                       | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton | L080-PL       | W                  | MCERTS               |
| Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil | Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic | In-house method                                                                                        | L088-PL       | W                  | MCERTS               |
| pH in soil (automated)                                               | Determination of pH in soil by addition of water followed by automated electrometric measurement             | In-house method                                                                                        | L099-PL       | D                  | MCERTS               |
| Soil Descriptions                                                    | Textural classification                                                                                      | In-house method                                                                                        | L019B         | W                  | NONE                 |

**For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).**

**For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).**

**For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

**Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.**

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

\*U/S g- Unsuitable for analysis due to high colour intensity.

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**Project / Site name: Edenfield Road Norden**

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

| Sample ID | Other ID | Sample Type | Lab Sample Number | Sample Deviation | Test Name                       | Test Ref | Test Deviation |
|-----------|----------|-------------|-------------------|------------------|---------------------------------|----------|----------------|
| TS103     | N/A      | S           | 666973            | b                | Asbestos identification in Soil | A001B    | b              |
| TS104     | N/A      | S           | 666974            | b                | Asbestos identification in Soil | A001B    | b              |
| TS105     | N/A      | S           | 666975            | b                | Asbestos identification in Soil | A001B    | b              |
| TS106     | N/A      | S           | 666976            | b                | Asbestos identification in Soil | A001B    | b              |