

# 2471 – Bedewell Court, Hebburn

## Plotworks Validation Certificate

**No.85**



### **Plotworks Validation Certificate - Property Numbers 189, 190 and 191**

Shadbolt Environmental were commissioned by Barratt Homes North East to undertake plot works validation of groups of properties at Bedewell Court, Hebburn.

**Date of Works:** Monday 31 October 2022

#### **Thickness of Cover Layer Encountered:**

|                 |                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------|
| <b>Plot 190</b> | 300mm of dark brown clayey gravelly Topsoil, 900mm gravelly subsoil over separator membrane. |
|-----------------|----------------------------------------------------------------------------------------------|

#### **Chemical Analysis:**

Soils placed within plots were sampled from stockpiles prior to placement on site and submitted for chemical analysis.

Chemical testing results have been compared to the assessment criteria with all determinants being reported within acceptability criteria set out in the Remediation and Earthworks Strategy for the site and is considered suitable for use in residential properties at this site.

Copies of chemical testing results and assessment criteria are appended for review.

#### **Validation Statement:**

The validation trial pits excavated within the properties reported the required thickness of “clean” soils to be at least 1.00m in line with the Remediation and Earthworks Strategy for this area. The above referenced plots are now considered to be fully remediated and suitable for occupation.

***The Shadbolt Group***

**2471 – Bedewell Court, Hebburn**

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**SHADBOLT**  
ENVIRONMENTAL



**Plots 189, 190 and 191**



**Plots 190 and 191**

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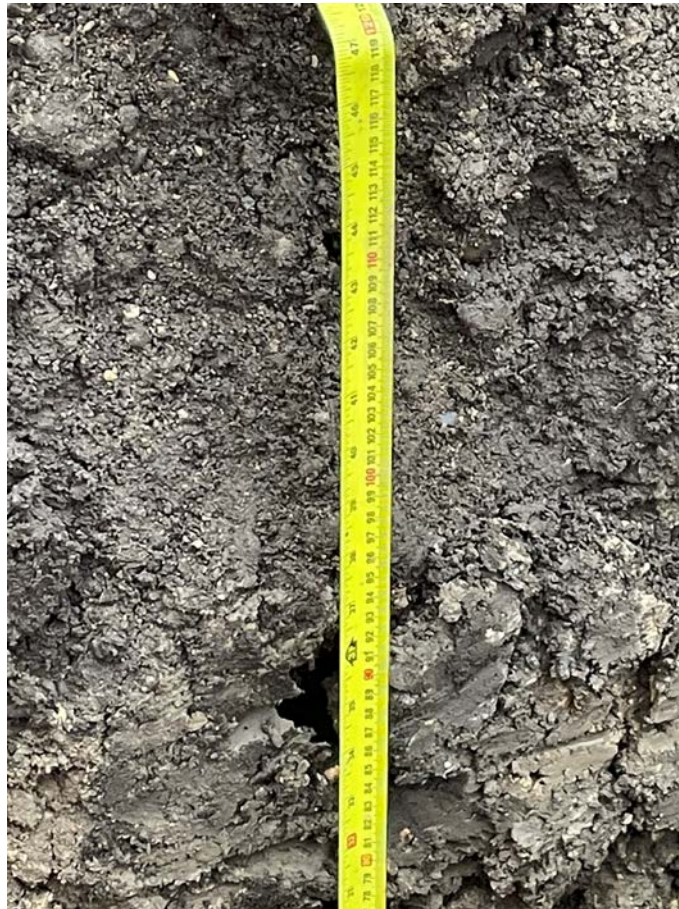


**Plot 190 Measurement**

**2471 – Bedewell Court, Hebburn**

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**Plot 190 Measurement (Zoomed)**

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## ***VALIDATION CRITERIA***

## Adopted Sirius Remediation Criteria for Residential Private Garden Cover Layer

| Parameter                   | Threshold Concentration<br>(mg/kg, unless otherwise stated) |          |        | Comment                                   |
|-----------------------------|-------------------------------------------------------------|----------|--------|-------------------------------------------|
|                             | 1% SOM <sup>†</sup>                                         | 2.5% SOM | 5% SOM |                                           |
| Metals/Metalloids           |                                                             |          |        |                                           |
| Arsenic (inorganic)         | 37                                                          |          |        |                                           |
| Cadmium                     | 11                                                          |          |        | Soil pH 6-9                               |
| Chromium (III)              | 910                                                         |          |        |                                           |
| Copper                      | 200                                                         |          |        | Based on phytotoxic effect                |
| Lead                        | 200                                                         |          |        |                                           |
| Mercury (inorganic)         | 40                                                          |          |        |                                           |
| Nickel                      | 180                                                         |          |        |                                           |
| Selenium                    | 250                                                         |          |        |                                           |
| Zinc                        | 450                                                         |          |        | Based on phytotoxic effect                |
| Other Inorganics            |                                                             |          |        |                                           |
| pH                          | <5 or >9                                                    |          |        | Must be in range 5-9                      |
| Water-Soluble Sulphate      | 0.5 g/l                                                     |          |        |                                           |
| Organics                    |                                                             |          |        |                                           |
| PAHs <sup>**</sup>          |                                                             |          |        |                                           |
| Benzo(a)pyrene              | 2.1                                                         | 2.1      | 2.2    | Genotoxic surrogate                       |
| Naphthalene                 | 1.0                                                         | 2.3      | 4.6    |                                           |
| TPH <sup>†</sup>            |                                                             |          |        |                                           |
| Sum of TPH fractions EC5-35 | 500                                                         | 500      | 500    | Speciate if elevated                      |
| Aliphatic EC 5-6            | 24                                                          | 41       | 68     |                                           |
| Aliphatic EC >6-8           | 53                                                          | 110      | 210    |                                           |
| Aliphatic EC >8-10          | 13                                                          | 31       | 61     |                                           |
| Aliphatic EC >10-12         | 62                                                          | 150      | 300    |                                           |
| Aliphatic EC >12-16         | 510                                                         | 1200     | 2300   |                                           |
| Aliphatic EC >16-35         | 41000                                                       | 70000    | 90000  |                                           |
| Aromatic EC >5-7            | 53                                                          | 110      | 200    |                                           |
| Aromatic EC >7-8            | 100                                                         | 240      | 460    |                                           |
| Aromatic EC >8-10           | 20                                                          | 48       | 94     |                                           |
| Aromatic EC >10-12          | 63                                                          | 150      | 290    |                                           |
| Aromatic EC >12-16          | 140                                                         | 320      | 570    |                                           |
| Aromatic EC >16-21          | 260                                                         | 540      | 840    |                                           |
| Aromatic EC >21-35          | 1100                                                        | 1500     | 1700   |                                           |
| TPH Hazard Index (no units) | <1                                                          | <1       | <1     |                                           |
| BTEX <sup>‡</sup>           |                                                             |          |        |                                           |
| Benzene                     | 0.063                                                       | 0.13     | 0.24   |                                           |
| Miscellaneous Organics      |                                                             |          |        |                                           |
| Phenol                      | 270                                                         | 440      | 440    | 440mg/kg is the skin irritation threshold |
| Other Parameters            |                                                             |          |        |                                           |
| Asbestos                    | <0.001% by weight                                           |          |        |                                           |

Based on sandy soil at a range of soil organic matter contents and assuming a standard residential with gardens land use. Alternative criteria may be specified for other soil types and SOM contents, for soils placed at depth, or for other land uses.

### Notes:

\* Soil organic matter; %SOM = 1.724 \* %TOC.

\*\* Soils must meet the specified criteria for each component AND the sum of 16 PAHs. The total is specified to prevent unsuitable materials being placed as cover. Where an individual PAH is not shown, then its criterion is greater than that for the sum or it is a genotoxic PAH assessed by using benzo(a)pyrene as a surrogate marker.

† Soils must meet the specified criteria for each component and the Hazard Index for TPH must be <1.0. The sum of TPH fractions

must also be met to prevent unsuitable materials being placed as cover. Where an individual TPH fraction has a criterion greater than that for the sum of TPH fractions, the value is solely provided for the calculation of the Hazard Index.

‡ Components other than benzene are not genotoxic carcinogens and therefore assessed as part of the TPH mixture.

**Soils must have no visual or olfactory evidence of contamination.**

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***CHEMICAL ANALYSIS***



## ANALYTICAL TEST REPORT

**Contract no:** 106266

**Contract name:** Bedewell

**Client reference:** 2471

**Clients name:** Shadbolt Group

**Clients address:** 18 Bewick Road  
Gateshead  
Tyne & Wear  
NE8 4DP

**Samples received:** 22 February 2022

**Analysis started:** 22 February 2022

**Analysis completed:** 01 March 2022

**Report issued:** 01 March 2022

**Key**

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

**Approved by:**



Megan Harris  
Senior Reporting Administrator

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## SAMPLE INFORMATION

### MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

| Lab ref  | Sample id | Depth (m) | Sample description          | Material removed | % Removed | % Moisture |
|----------|-----------|-----------|-----------------------------|------------------|-----------|------------|
| 106266-1 | TS-201    | -         | Sandy Loamy Clay with Roots | -                | -         | 12.9       |
| 106266-2 | TS-202    | -         | Sandy Loamy Clay with Roots | -                | -         | 14.6       |
| 106266-3 | TS-203    | -         | Sandy Loamy Clay with Roots | -                | -         | 16.3       |
| 106266-4 | TS-204    | -         | Sandy Loamy Clay with Roots | -                | -         | 15.0       |
| 106266-5 | SS-201    | -         | Sandy Loamy Clay with Roots | -                | -         | 15.4       |
| 106266-6 | SS-202    | -         | Sandy Loamy Clay with Roots | -                | -         | 13.6       |
| 106266-7 | SS-203    | -         | Sandy Loamy Clay with Roots | -                | -         | 14.3       |
| 106266-8 | SS-204    | -         | Sandy Loamy Clay with Roots | -                | -         | 13.4       |

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## SOILS

| Lab number<br>Sample id<br>Depth (m)<br>Date sampled |                    |                      | 106266-1<br>TS-201<br>-<br>22/02/2022 | 106266-2<br>TS-202<br>-<br>22/02/2022 | 106266-3<br>TS-203<br>-<br>22/02/2022 | 106266-4<br>TS-204<br>-<br>22/02/2022 | 106266-5<br>SS-201<br>-<br>22/02/2022 | 106266-6<br>SS-202<br>-<br>22/02/2022 |
|------------------------------------------------------|--------------------|----------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Test                                                 | Method             | Units                |                                       |                                       |                                       |                                       |                                       |                                       |
| Arsenic (total)                                      | CE127 <sup>M</sup> | mg/kg As             | 9.7                                   | 11                                    | 10                                    | 9.0                                   | 8.6                                   | 8.7                                   |
| Boron (water soluble)                                | CE063 <sup>M</sup> | mg/kg B              | 0.8                                   | 0.6                                   | 0.5                                   | 0.6                                   | 1.1                                   | 1.1                                   |
| Cadmium (total)                                      | CE127 <sup>M</sup> | mg/kg Cd             | 0.3                                   | 0.3                                   | 0.4                                   | 0.3                                   | 0.3                                   | <0.2                                  |
| Chromium (total)                                     | CE127 <sup>M</sup> | mg/kg Cr             | 62                                    | 63                                    | 68                                    | 64                                    | 65                                    | 68                                    |
| Copper (total)                                       | CE127 <sup>M</sup> | mg/kg Cu             | 24                                    | 22                                    | 27                                    | 24                                    | 27                                    | 31                                    |
| Lead (total)                                         | CE127 <sup>M</sup> | mg/kg Pb             | 59                                    | 58                                    | 67                                    | 60                                    | 64                                    | 82                                    |
| Mercury (total)                                      | CE127 <sup>M</sup> | mg/kg Hg             | <0.5                                  | <0.5                                  | <0.5                                  | <0.5                                  | <0.5                                  | <0.5                                  |
| Nickel (total)                                       | CE127 <sup>M</sup> | mg/kg Ni             | 23                                    | 21                                    | 27                                    | 24                                    | 37                                    | 57                                    |
| Selenium (total)                                     | CE127 <sup>M</sup> | mg/kg Se             | 1.3                                   | 1.2                                   | 1.5                                   | 1.2                                   | 1.5                                   | 1.5                                   |
| Zinc (total)                                         | CE127 <sup>M</sup> | mg/kg Zn             | 91                                    | 89                                    | 102                                   | 89                                    | 89                                    | 79                                    |
| pH                                                   | CE004 <sup>M</sup> | units                | 8.1                                   | 8.3                                   | 8.4                                   | 8.1                                   | 8.3                                   | 8.4                                   |
| Sulphate (2:1 water soluble)                         | CE061 <sup>U</sup> | mg/l SO <sub>4</sub> | 42                                    | 75                                    | 72                                    | 106                                   | 140                                   | 212                                   |
| Cyanide (total)                                      | CE077              | mg/kg CN             | <1                                    | <1                                    | <1                                    | <1                                    | <1                                    | <1                                    |
| Total Organic Carbon (TOC)                           | CE197              | % w/w C              | 3.5                                   | -                                     | -                                     | -                                     | 2.8                                   | -                                     |
| Estimate of OMC (calculated from TOC)                | CE197              | % w/w                | 6.1                                   | -                                     | -                                     | -                                     | 4.8                                   | -                                     |
| <b>PAH</b>                                           |                    |                      |                                       |                                       |                                       |                                       |                                       |                                       |
| Naphthalene                                          | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |
| Acenaphthylene                                       | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |
| Acenaphthene                                         | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |
| Fluorene                                             | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |
| Phenanthrene                                         | CE087 <sup>M</sup> | mg/kg                | 0.02                                  | 0.04                                  | 0.03                                  | 0.03                                  | <0.02                                 | 0.13                                  |
| Anthracene                                           | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.02                                  |
| Fluoranthene                                         | CE087 <sup>M</sup> | mg/kg                | 0.04                                  | 0.07                                  | 0.04                                  | 0.04                                  | 0.04                                  | 0.19                                  |
| Pyrene                                               | CE087 <sup>M</sup> | mg/kg                | 0.03                                  | 0.05                                  | 0.03                                  | 0.03                                  | 0.03                                  | 0.13                                  |
| Benzo(a)anthracene                                   | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.10                                  |
| Chrysene                                             | CE087 <sup>M</sup> | mg/kg                | <0.03                                 | <0.03                                 | <0.03                                 | <0.03                                 | <0.03                                 | 0.09                                  |
| Benzo(b)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.08                                  |
| Benzo(k)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg                | <0.03                                 | <0.03                                 | <0.03                                 | <0.03                                 | <0.03                                 | <0.03                                 |
| Benzo(a)pyrene                                       | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.06                                  |
| Indeno(123cd)pyrene                                  | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.05                                  |
| Dibenz(ah)anthracene                                 | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |
| Benzo(ghi)perylene                                   | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | 0.04                                  |
| PAH (total of USEPA 16)                              | CE087              | mg/kg                | <0.34                                 | <0.34                                 | <0.34                                 | <0.34                                 | <0.34                                 | 0.89                                  |
| <b>BTEX &amp; TPH</b>                                |                    |                      |                                       |                                       |                                       |                                       |                                       |                                       |
| Benzene                                              | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 |
| Toluene                                              | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 |
| Ethylbenzene                                         | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 | <0.01                                 |
| m & p-Xylene                                         | CE192 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 | <0.02                                 |

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## SOILS

|                               |                    |              |            |            |            |            |            |            |
|-------------------------------|--------------------|--------------|------------|------------|------------|------------|------------|------------|
| <b>Lab number</b>             |                    |              | 106266-1   | 106266-2   | 106266-3   | 106266-4   | 106266-5   | 106266-6   |
| <b>Sample id</b>              |                    |              | TS-201     | TS-202     | TS-203     | TS-204     | SS-201     | SS-202     |
| <b>Depth (m)</b>              |                    |              | -          | -          | -          | -          | -          | -          |
| <b>Date sampled</b>           |                    |              | 22/02/2022 | 22/02/2022 | 22/02/2022 | 22/02/2022 | 22/02/2022 | 22/02/2022 |
| <b>Test</b>                   | <b>Method</b>      | <b>Units</b> |            |            |            |            |            |            |
| o-Xylene                      | CE192 <sup>U</sup> | mg/kg        | <0.01      | <0.01      | <0.01      | <0.01      | <0.01      | <0.01      |
| EPH (>C10-C40)                | CE033 <sup>M</sup> | mg/kg        | <19        | 60         | <19        | <19        | <19        | 31         |
| <b>Subcontracted analysis</b> |                    |              |            |            |            |            |            |            |
| Asbestos (qualitative)        | \$                 | -            | NAD        | NAD        | NAD        | NAD        | NAD        | NAD        |

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## SOILS

| Lab number<br>Sample id<br>Depth (m)<br>Date sampled |                    |                      | 106266-7<br>SS-203<br>-<br>22/02/2022 | 106266-8<br>SS-204<br>-<br>22/02/2022 |
|------------------------------------------------------|--------------------|----------------------|---------------------------------------|---------------------------------------|
| Test                                                 | Method             | Units                |                                       |                                       |
| Arsenic (total)                                      | CE127 <sup>M</sup> | mg/kg As             | 7.7                                   | 7.8                                   |
| Boron (water soluble)                                | CE063 <sup>M</sup> | mg/kg B              | 1.1                                   | 0.9                                   |
| Cadmium (total)                                      | CE127 <sup>M</sup> | mg/kg Cd             | <0.2                                  | <0.2                                  |
| Chromium (total)                                     | CE127 <sup>M</sup> | mg/kg Cr             | 61                                    | 61                                    |
| Copper (total)                                       | CE127 <sup>M</sup> | mg/kg Cu             | 28                                    | 21                                    |
| Lead (total)                                         | CE127 <sup>M</sup> | mg/kg Pb             | 53                                    | 41                                    |
| Mercury (total)                                      | CE127 <sup>M</sup> | mg/kg Hg             | <0.5                                  | <0.5                                  |
| Nickel (total)                                       | CE127 <sup>M</sup> | mg/kg Ni             | 35                                    | 33                                    |
| Selenium (total)                                     | CE127 <sup>M</sup> | mg/kg Se             | 1.5                                   | 1.4                                   |
| Zinc (total)                                         | CE127 <sup>M</sup> | mg/kg Zn             | 73                                    | 60                                    |
| pH                                                   | CE004 <sup>M</sup> | units                | 8.4                                   | 8.4                                   |
| Sulphate (2:1 water soluble)                         | CE061 <sup>U</sup> | mg/l SO <sub>4</sub> | 253                                   | 323                                   |
| Cyanide (total)                                      | CE077              | mg/kg CN             | <1                                    | <1                                    |
| Total Organic Carbon (TOC)                           | CE197              | % w/w C              | -                                     | -                                     |
| Estimate of OMC (calculated from TOC)                | CE197              | % w/w                | -                                     | -                                     |
| <b>PAH</b>                                           |                    |                      |                                       |                                       |
| Naphthalene                                          | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Acenaphthylene                                       | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Acenaphthene                                         | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Fluorene                                             | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Phenanthrene                                         | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Anthracene                                           | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Fluoranthene                                         | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | 0.03                                  |
| Pyrene                                               | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | 0.02                                  |
| Benzo(a)anthracene                                   | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Chrysene                                             | CE087 <sup>M</sup> | mg/kg                | <0.03                                 | <0.03                                 |
| Benzo(b)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Benzo(k)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg                | <0.03                                 | <0.03                                 |
| Benzo(a)pyrene                                       | CE087 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Indeno(123cd)pyrene                                  | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Dibenz(ah)anthracene                                 | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| Benzo(ghi)perylene                                   | CE087 <sup>M</sup> | mg/kg                | <0.02                                 | <0.02                                 |
| PAH (total of USEPA 16)                              | CE087              | mg/kg                | <0.34                                 | <0.34                                 |
| <b>BTEX &amp; TPH</b>                                |                    |                      |                                       |                                       |
| Benzene                                              | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 |
| Toluene                                              | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 |
| Ethylbenzene                                         | CE192 <sup>U</sup> | mg/kg                | <0.01                                 | <0.01                                 |
| m & p-Xylene                                         | CE192 <sup>U</sup> | mg/kg                | <0.02                                 | <0.02                                 |

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## SOILS

|                               |                    |              |            |            |
|-------------------------------|--------------------|--------------|------------|------------|
| <b>Lab number</b>             |                    |              | 106266-7   | 106266-8   |
| <b>Sample id</b>              |                    |              | SS-203     | SS-204     |
| <b>Depth (m)</b>              |                    |              | -          | -          |
| <b>Date sampled</b>           |                    |              | 22/02/2022 | 22/02/2022 |
| <b>Test</b>                   | <b>Method</b>      | <b>Units</b> |            |            |
| o-Xylene                      | CE192 <sup>U</sup> | mg/kg        | <0.01      | <0.01      |
| EPH (>C10-C40)                | CE033 <sup>M</sup> | mg/kg        | 32         | <19        |
| <b>Subcontracted analysis</b> |                    |              |            |            |
| Asbestos (qualitative)        | \$                 | -            | NAD        | NAD        |

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## METHOD DETAILS

| METHOD | SOILS                                 | METHOD SUMMARY                          | SAMPLE      | STATUS | LOD  | UNITS                |
|--------|---------------------------------------|-----------------------------------------|-------------|--------|------|----------------------|
| CE127  | Arsenic (total)                       | Aqua regia digest, ICP-MS               | Dry         | M      | 1    | mg/kg As             |
| CE063  | Boron (water soluble)                 | Hot water extract, ICP-OES              | Dry         | M      | 0.5  | mg/kg B              |
| CE127  | Cadmium (total)                       | Aqua regia digest, ICP-MS               | Dry         | M      | 0.2  | mg/kg Cd             |
| CE127  | Chromium (total)                      | Aqua regia digest, ICP-MS               | Dry         | M      | 1    | mg/kg Cr             |
| CE127  | Copper (total)                        | Aqua regia digest, ICP-MS               | Dry         | M      | 1    | mg/kg Cu             |
| CE127  | Lead (total)                          | Aqua regia digest, ICP-MS               | Dry         | M      | 1    | mg/kg Pb             |
| CE127  | Mercury (total)                       | Aqua regia digest, ICP-MS               | Dry         | M      | 0.5  | mg/kg Hg             |
| CE127  | Nickel (total)                        | Aqua regia digest, ICP-MS               | Dry         | M      | 1    | mg/kg Ni             |
| CE127  | Selenium (total)                      | Aqua regia digest, ICP-MS               | Dry         | M      | 0.3  | mg/kg Se             |
| CE127  | Zinc (total)                          | Aqua regia digest, ICP-MS               | Dry         | M      | 5    | mg/kg Zn             |
| CE004  | pH                                    | Based on BS 1377, pH Meter              | As received | M      | -    | units                |
| CE061  | Sulphate (2:1 water soluble)          | Aqueous extraction, ICP-OES             | Dry         | U      | 10   | mg/l SO <sub>4</sub> |
| CE077  | Cyanide (total)                       | Extraction, Continuous Flow Colorimetry | As received |        | 1    | mg/kg CN             |
| CE197  | Total Organic Carbon (TOC)            | Carbon Analyser                         | Dry         |        | 0.1  | % w/w C              |
| CE197  | Estimate of OMC (calculated from TOC) | Calculation from Total Organic Carbon   | Dry         |        | 0.1  | % w/w                |
| CE087  | Naphthalene                           | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Acenaphthylene                        | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Acenaphthene                          | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Fluorene                              | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Phenanthrene                          | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Anthracene                            | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Fluoranthene                          | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Pyrene                                | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Benzo(a)anthracene                    | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Chrysene                              | Solvent extraction, GC-MS               | As received | M      | 0.03 | mg/kg                |
| CE087  | Benzo(b)fluoranthene                  | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Benzo(k)fluoranthene                  | Solvent extraction, GC-MS               | As received | M      | 0.03 | mg/kg                |
| CE087  | Benzo(a)pyrene                        | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Indeno(123cd)pyrene                   | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Dibenz(ah)anthracene                  | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Benzo(ghi)perylene                    | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | PAH (total of USEPA 16)               | Solvent extraction, GC-MS               | As received |        | 0.34 | mg/kg                |
| CE192  | Benzene                               | Headspace GC-FID                        | As received | U      | 0.01 | mg/kg                |
| CE192  | Toluene                               | Headspace GC-FID                        | As received | U      | 0.01 | mg/kg                |
| CE192  | Ethylbenzene                          | Headspace GC-FID                        | As received | U      | 0.01 | mg/kg                |
| CE192  | m & p-Xylene                          | Headspace GC-FID                        | As received | U      | 0.02 | mg/kg                |
| CE192  | o-Xylene                              | Headspace GC-FID                        | As received | U      | 0.01 | mg/kg                |
| CE033  | EPH (>C10-C40)                        | Solvent extraction, GC-FID              | As received | M      | 19   | mg/kg                |
| \$     | Asbestos (qualitative)                | HSG 248, Microscopy                     | Dry         | U      | -    | -                    |

# Chemtech Environmental Limited

## DEVIATING SAMPLE INFORMATION

### Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

### Key

|     |                                                 |
|-----|-------------------------------------------------|
| N   | No (not deviating sample)                       |
| Y   | Yes (deviating sample)                          |
| NSD | Sampling date not provided                      |
| NST | Sampling time not provided (waters only)        |
| EHT | Sample exceeded holding time(s)                 |
| IC  | Sample not received in appropriate containers   |
| HP  | Headspace present in sample container           |
| NCF | Sample not chemically fixed (where appropriate) |
| OR  | Other (specify)                                 |

| Lab ref  | Sample id | Depth (m) | Deviating | Tests (Reason for deviation) |
|----------|-----------|-----------|-----------|------------------------------|
| 106266-1 | TS-201    | -         | N         |                              |
| 106266-2 | TS-202    | -         | N         |                              |
| 106266-3 | TS-203    | -         | N         |                              |
| 106266-4 | TS-204    | -         | N         |                              |
| 106266-5 | SS-201    | -         | N         |                              |
| 106266-6 | SS-202    | -         | N         |                              |
| 106266-7 | SS-203    | -         | N         |                              |
| 106266-8 | SS-204    | -         | N         |                              |

# Chemtech Environmental Limited

## ADDITIONAL INFORMATION

### Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

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

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

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