

Our ref: 24-428.01L

FAO Allan McInnes  
McCarthy Stone  
Unit 1 Edward Court  
Atrincham Business Park  
George Richards Way  
Altrincham  
WA14 5GL



Arc Environmental Ltd  
Solum House  
Unit 1 Elliott Court  
St John's Road  
Meadowfield  
Durham  
DH7 8PN

25<sup>th</sup> June 2024

Dear Allan,

**Re: Jessiefield, Spath Road, Manchester, M20 2TZ**

As requested by McCarthy and Stone Retirement Lifestyles Limited, a representative from Arc Environmental Ltd (ARC) visited site on 18<sup>th</sup> June 2024 to confirm the suitability and recover representative samples from imported topsoil which has been emplaced within the soft landscaped areas. As part of the works, a visual and olfactory inspection of the topsoil was undertaken during the site visit to ensure the materials were absent of obvious contamination, i.e. staining, obvious fuel odours, fragments of asbestos containing materials and the like.

An overall topsoil volume of 115m<sup>3</sup> was imported to site from a 'greenfield' source at SED Services Ltd, Landgate Farm, Bryn, Wigan. In accordance with the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG) guidance; 'Verification Requirements for Cover Systems', Ver. 4.1, June 2021, a total of 3 no. representative samples of the topsoil, were recovered for confirmatory chemical laboratory analysis.

Sample 1 was recovered from a stockpile awaiting emplacement, whilst samples 2 & 3 were taken from areas where the imported topsoil had already been emplaced. A Sampling Location Plan can be seen attached in Appendix I.

The samples retrieved from site were stored at approximately 4°C using cool boxes and ice packs prior to delivery to a UKAS / MCERTS accredited laboratory. Sampling was carried out in accordance with 'Technical Policy Statement 63: UKAS Policy on Deviating Samples'. To ascertain the suitability of the topsoil materials, the soils were dispatched to Chemtech Environmental Limited of Stanley, Co. Durham and were screened for the following range of analytes;

- 3 no. soil samples screened using a generic soil suite, comprising; Arsenic, Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Zinc & Cyanide
- 3 no. soil samples screened for Speciated Polycyclic Aromatic (PAH's)
- 3 no. soil samples screened for the presence of Asbestos fibres

## Re: Jessiefield, Spath Road, Manchester, M20 2TZ (Cont'd)

A summary of the results can be seen in Table 1 below. The testing results can be found in the Chemtech Analytical Report, Ref. 134516 a copy of which can be seen attached in Appendix I. The results have been assessed against the most up to date and appropriate guidelines for the proposed end-use (Residential without home grown produce).

**Table 1**

| <b>Analyte</b>          | <b>Critical Concentration (C<sub>c</sub>)</b> | <b>Max. Concentrations (C<sub>m</sub>)</b> |
|-------------------------|-----------------------------------------------|--------------------------------------------|
| <b>Generic Analytes</b> |                                               |                                            |
| Arsenic                 | 40 <sup>(1)</sup>                             | 2.0                                        |
| Cadmium                 | 85 <sup>(1)</sup>                             | <1.6                                       |
| Chromium III            | 910 <sup>(1)</sup>                            | 14                                         |
| Chromium VI             | 6 <sup>(1)</sup>                              | <0.04                                      |
| Copper                  | 7100 <sup>(1)</sup>                           | 39                                         |
| Lead                    | 310 <sup>(2)</sup>                            | 15                                         |
| Mercury                 | 56 <sup>(1)</sup>                             | <0.7                                       |
| Nickel                  | 180 <sup>(1)</sup>                            | 4.9                                        |
| Selenium                | 430 <sup>(1)</sup>                            | <3                                         |
| Zinc                    | 40000 <sup>(1)</sup>                          | 51                                         |
| Cyanide                 | 34 <sup>(3)</sup>                             | <1                                         |
| Asbestos                | Presence                                      | NAD                                        |
| <b>Speciated PAH's</b>  |                                               |                                            |
| Acenaphthene            | 4700 <sup>(1)</sup>                           | 0.30                                       |
| Acenaphthylene          | 4600 <sup>(1)</sup>                           | 0.02                                       |
| Anthracene              | 35000 <sup>(1)</sup>                          | 0.53                                       |
| Benzo(a)anthracene      | 14 <sup>(1)</sup>                             | 1.97                                       |
| Benzo(a)pyrene          | 3.2 <sup>(1)</sup>                            | 2.07                                       |
| Benzo(b)fluoranthene    | 4.0 <sup>(1)</sup>                            | 2.10                                       |
| Benzo(ghi)perylene      | 360 <sup>(1)</sup>                            | 1.31                                       |
| Benzo(k)fluoranthene    | 110 <sup>(1)</sup>                            | 0.80                                       |
| Chrysene                | 31 <sup>(1)</sup>                             | 2.25                                       |
| Dibenz(ah)anthracene    | 0.32 <sup>(1)</sup>                           | 0.32                                       |
| Fluoranthene            | 1600 <sup>(1)</sup>                           | 4.33                                       |
| Fluorene                | 3800 <sup>(1)</sup>                           | 0.21                                       |
| Indeno(123cd)pyrene     | 46 <sup>(1)</sup>                             | 1.39                                       |
| Naphthalene             | 5.6 <sup>(1)</sup>                            | 0.10                                       |
| Phenanthrene            | 1500 <sup>(1)</sup>                           | 1.85                                       |
| Pyrene                  | 3800 <sup>(1)</sup>                           | 3.79                                       |

<sup>(1)</sup> = The LQM / CIEH Suitable 4 Use Levels (Residential without home grown produce 2.5% SOM), <sup>(2)</sup> = CL:AIRE C4SLs (Residential without home grown produce 2.5% SOM), <sup>(3)</sup> = ATRISK<sup>SOIL</sup> Soil Screening Values (2009). NAD = No Asbestos Detected.

**Re: Jessiefield, Spath Road, Manchester, M20 2TZ (Cont'd)**

The ground contamination screening has identified that the maximum concentration ( $C_M$ ) values for all the individual analytes listed in Table 1 do not exceed the critical concentration ( $C_C$ ) values associated with the proposed end-use. Furthermore, no asbestos fibres were recorded.

From the laboratory, chemical screening undertaken on the imported topsoil deposits it is in the opinion of ARC that these materials are suitable for use in the soft landscaped areas.

We trust the contents of this report are to your satisfaction, and if you require any further information or clarification, please do not hesitate to contact us.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Geoff Heron'.

.....  
For and on behalf of ARC Environmental Limited

Geoff Heron

Senior Technician

# **APPENDIX I**

## **Sampling Location Plan & Validation Screening Results**



**ARC ENVIRONMENTAL LTD**

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The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.  
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| rev. | date | amendments | drawn | chkd |
|------|------|------------|-------|------|
|      |      |            |       |      |

Client:  
McCarthy & Stone (Retirement lifestyles) Ltd

Project Title:  
Proposed Development at  
Jessiefield,  
Spath Road, Didsbury,  
Manchester M20 2TZ

Drawing Title:  
  
Topsoil Verification  
Sampling Location Plan

Scale at A3: | Date: 25.06.24 | Drawn by: | Approved by:

Job Ref: 24-428 | Drg no: | Rev:



## ANALYTICAL TEST REPORT

**Contract no:** 134516

**Contract name:** Jessiefield, Didsbury, Manchester

**Client reference:** 24-428

**Clients name:** ARC Environmental

**Clients address:** Solum House, Unit 1 Elliott Court  
St Johns Road  
Meadowfield  
DH7 8PN

**Samples received:** 19 June 2024

**Analysis started:** 19 June 2024

**Analysis completed:** 28 June 2024

**Report issued:** 28 June 2024

**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:**

Abbie Neasham-Bourn  
Senior Reporting Administrator

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB  
Tel 01207 528578 Email customerservices@chemtech-env.co.uk  
Vat Reg No. 772 5703 18 Registered in England number 4284013

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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 |
|----------|-----------|-----------|--------------------------------|------------------|-----------|------------|
| 134516-1 | Sample 1  | -         | Loamy Sand with Gravel & Roots | -                | -         | 19         |
| 134516-2 | Sample 2  | -         | Loamy Sand with Gravel & Roots | -                | -         | 16.2       |
| 134516-3 | Sample 3  | -         | Loamy Sand with Gravel & Roots | -                | -         | 15.8       |

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## SOILS

|                               |                    |                      |            |            |            |
|-------------------------------|--------------------|----------------------|------------|------------|------------|
| <b>Lab number</b>             |                    |                      | 134516-1   | 134516-2   | 134516-3   |
| <b>Sample id</b>              |                    |                      | Sample 1   | Sample 2   | Sample 3   |
| <b>Depth (m)</b>              |                    |                      | -          | -          | -          |
| <b>Date sampled</b>           |                    |                      | 18/06/2024 | 18/06/2024 | 18/06/2024 |
| <b>Test</b>                   | <b>Method</b>      | <b>Units</b>         |            |            |            |
| Moisture Content              | CE001              | % w/w                | 19.0       | 16.2       | 15.8       |
| Arsenic (total)               | CE264 <sup>M</sup> | mg/kg As             | 2.0        | <1.8       | <1.8       |
| Cadmium (total)               | CE264 <sup>M</sup> | mg/kg Cd             | <1.6       | <1.6       | <1.6       |
| Chromium (total)              | CE264 <sup>U</sup> | mg/kg Cr             | 14         | 2.7        | <2         |
| Chromium (III)                | CE208              | mg/kg CrIII          | 14         | 2.7        | <2         |
| Chromium (VI)                 | CE263              | mg/kg CrVI           | <0.04      | <0.04      | <0.04      |
| Copper (total)                | CE264 <sup>M</sup> | mg/kg Cu             | 39         | 8.1        | 2.4        |
| Lead (total)                  | CE264 <sup>U</sup> | mg/kg Pb             | 15         | 4.4        | 3.8        |
| Mercury (total)               | CE264 <sup>U</sup> | mg/kg Hg             | <0.7       | <0.7       | <0.7       |
| Nickel (total)                | CE264 <sup>M</sup> | mg/kg Ni             | 4.9        | <2.1       | <2.1       |
| Selenium (total)              | CE264              | mg/kg Se             | <3         | <3         | <3         |
| Zinc (total)                  | CE264 <sup>M</sup> | mg/kg Zn             | 51         | 13         | 8.6        |
| pH                            | CE004 <sup>M</sup> | units                | 7.9        | 7.8        | 7.8        |
| Sulphate (2:1 water soluble)  | CE061 <sup>U</sup> | mg/l SO <sub>4</sub> | 246        | 161        | 128        |
| Cyanide (free)                | CE077              | mg/kg CN             | <1         | <1         | <1         |
| Total Organic Carbon (TOC)    | CE197              | % w/w C              | 5.0        | 4.8        | 4.7        |
| <b>PAH</b>                    |                    |                      |            |            |            |
| Acenaphthene                  | CE087 <sup>M</sup> | mg/kg                | <0.02      | 0.06       | 0.30       |
| Acenaphthylene                | CE087 <sup>M</sup> | mg/kg                | <0.02      | <0.02      | 0.02       |
| Anthracene                    | CE087 <sup>U</sup> | mg/kg                | 0.02       | 0.53       | 0.31       |
| Benzo(a)anthracene            | CE087 <sup>U</sup> | mg/kg                | 0.07       | 1.97       | 0.56       |
| Benzo(a)pyrene                | CE087 <sup>U</sup> | mg/kg                | 0.07       | 2.07       | 0.53       |
| Benzo(b)fluoranthene          | CE087 <sup>M</sup> | mg/kg                | 0.09       | 2.10       | 0.57       |
| Benzo(ghi)perylene            | CE087 <sup>M</sup> | mg/kg                | 0.06       | 1.31       | 0.35       |
| Benzo(k)fluoranthene          | CE087 <sup>M</sup> | mg/kg                | 0.03       | 0.80       | 0.19       |
| Chrysene                      | CE087 <sup>M</sup> | mg/kg                | 0.09       | 2.25       | 0.71       |
| Dibenz(ah)anthracene          | CE087 <sup>M</sup> | mg/kg                | <0.02      | 0.32       | 0.09       |
| Fluoranthene                  | CE087 <sup>M</sup> | mg/kg                | 0.15       | 4.33       | 1.56       |
| Fluorene                      | CE087 <sup>U</sup> | mg/kg                | <0.02      | 0.06       | 0.21       |
| Indeno(123cd)pyrene           | CE087 <sup>M</sup> | mg/kg                | 0.06       | 1.39       | 0.33       |
| Naphthalene                   | CE087 <sup>M</sup> | mg/kg                | <0.02      | <0.02      | 0.10       |
| Phenanthrene                  | CE087 <sup>M</sup> | mg/kg                | 0.09       | 1.76       | 1.85       |
| Pyrene                        | CE087 <sup>M</sup> | mg/kg                | 0.14       | 3.79       | 1.47       |
| PAH (total of USEPA 16)       | CE087              | mg/kg                | 0.86       | 22.7       | 9.15       |
| <b>Subcontracted analysis</b> |                    |                      |            |            |            |
| Asbestos (qualitative)        | \$                 | -                    | NAD        | NAD        | NAD        |

**134516**  
**Jessiefield, Didsbury, Manchester**  
**24-428**

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## METHOD DETAILS

| METHOD | SOILS                        | METHOD SUMMARY                          | SAMPLE      | STATUS | LOD  | UNITS                |
|--------|------------------------------|-----------------------------------------|-------------|--------|------|----------------------|
| CE001  | Moisture Content             | Gravimetry                              | As received |        | 0.1  | % w/w                |
| CE264  | Arsenic (total)              | Aqua Regia Extraction, ICPOES           | Dry         | M      | 1.8  | mg/kg As             |
| CE264  | Cadmium (total)              | Aqua Regia Extraction, ICPOES           | Dry         | M      | 1.6  | mg/kg Cd             |
| CE264  | Chromium (total)             | Aqua Regia Extraction, ICPOES           | Dry         | U      | 2    | mg/kg Cr             |
| CE208  | Chromium (III)               | Calculation: Cr (total) - Cr (VI)       | Dry         |        | 0.04 | mg/kg CrIII          |
| CE263  | Chromium (VI)                | Discrete Analyser                       | Dry         |        | 0.04 | mg/kg CrVI           |
| CE264  | Copper (total)               | Aqua Regia Extraction, ICPOES           | Dry         | M      | 1.6  | mg/kg Cu             |
| CE264  | Lead (total)                 | Aqua Regia Extraction, ICPOES           | Dry         | U      | 3    | mg/kg Pb             |
| CE264  | Mercury (total)              | Aqua Regia Extraction, ICPOES           | Dry         | U      | 0.7  | mg/kg Hg             |
| CE264  | Nickel (total)               | Aqua Regia Extraction, ICPOES           | Dry         | M      | 2.1  | mg/kg Ni             |
| CE264  | Selenium (total)             | Aqua Regia Extraction, ICPOES           | Dry         | U      | 3    | mg/kg Se             |
| CE264  | Zinc (total)                 | Aqua Regia Extraction, ICPOES           | Dry         | M      | 4    | 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 (free)               | Extraction, Continuous Flow Colorimetry | As received |        | 1    | mg/kg CN             |
| CE197  | Total Organic Carbon (TOC)   | Carbon Analyser                         | Dry         |        | 0.1  | % w/w C              |
| CE087  | Acenaphthene                 | 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  | Anthracene                   | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Benzo(a)anthracene           | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Benzo(a)pyrene               | Solvent extraction, GC-MS               | As received | U      | 0.02 | mg/kg                |
| CE087  | Benzo(b)fluoranthene         | 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  | Benzo(k)fluoranthene         | Solvent extraction, GC-MS               | As received | M      | 0.03 | mg/kg                |
| CE087  | Chrysene                     | Solvent extraction, GC-MS               | As received | M      | 0.03 | mg/kg                |
| CE087  | Dibenz(ah)anthracene         | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Fluoranthene                 | 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  | Indeno(123cd)pyrene          | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Naphthalene                  | Solvent extraction, GC-MS               | As received | M      | 0.02 | mg/kg                |
| CE087  | Phenanthrene                 | 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  | PAH (total of USEPA 16)      | Solvent extraction, GC-MS               | As received |        | 0.34 | mg/kg                |
| \$     | Asbestos (qualitative)       | HSG 248, Microscopy                     | Dry         | U      | -    | -                    |

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## 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) |
|----------|-----------|-----------|-----------|------------------------------|
| 134516-1 | Sample 1  | -         | N         |                              |
| 134516-2 | Sample 2  | -         | N         |                              |
| 134516-3 | Sample 3  | -         | N         |                              |

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## 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 4 weeks from initial receipt unless otherwise instructed.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.