



## ANALYTICAL TEST REPORT

**Contract no:** 126996

**Contract name:** Hall - Kirkby Mallory

**Client reference:** 3424D

**Clients name:** Castledine Environmental

**Clients address:** 4 Wymeswold Road  
Hoton  
Loughborough  
LE12 5SN

**Samples received:** 27 September 2023

**Analysis started:** 27 September 2023

**Analysis completed:** 06 October 2023

**Report issued:** 06 October 2023

**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:**

*E. McCulloch*

Ellis McCulloch  
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 |
|----------|-----------|-----------|---------------------------------------|------------------|-----------|------------|
| 126996-1 | IP01      | 0.10      | Sandy Clay with Gravel & Roots        | -                | -         | 12.1       |
| 126996-2 | IP01      | 0.30      | Sandy Clayey Loam with Gravel         | -                | -         | 4.1        |
| 126996-3 | IP02      | 0.25      | Sandy Clay                            | -                | -         | 9.8        |
| 126996-4 | IP02      | 0.35      | Sandy Clayey Loam with Gravel & Roots | -                | -         | 12         |
| 126996-5 | IP03      | 0.10      | Sandy Clay with Gravel                | -                | -         | 10         |
| 126996-6 | IP04      | 0.25      | Sandy Clay with Gravel                | -                | -         | 12.1       |

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## SOILS

| Lab number<br>Sample id<br>Depth (m)<br>Date sampled |                    |            | 126996-1<br>IP01<br>0.10<br>22/09/2023 | 126996-2<br>IP01<br>0.30<br>22/09/2023 | 126996-3<br>IP02<br>0.25<br>22/09/2023 | 126996-4<br>IP02<br>0.35<br>22/09/2023 | 126996-5<br>IP03<br>0.10<br>22/09/2023 | 126996-6<br>IP04<br>0.25<br>22/09/2023 |
|------------------------------------------------------|--------------------|------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Test                                                 | Method             | Units      |                                        |                                        |                                        |                                        |                                        |                                        |
| Arsenic (total)                                      | CE264 <sup>M</sup> | mg/kg As   | 3.5                                    | 3.0                                    | <3                                     | 9.2                                    | <3                                     | 13.3                                   |
| Cadmium (total)                                      | CE264 <sup>M</sup> | mg/kg Cd   | <2                                     | <2                                     | <2                                     | <2                                     | <2                                     | <2                                     |
| Chromium (total)                                     | CE264 <sup>U</sup> | mg/kg Cr   | 12.2                                   | 46.9                                   | 17.0                                   | 22.3                                   | 26.8                                   | 59.5                                   |
| Chromium (VI)                                        | CE146              | mg/kg CrVI | -                                      | <1                                     | -                                      | <1                                     | -                                      | -                                      |
| Copper (total)                                       | CE264 <sup>M</sup> | mg/kg Cu   | 128.2                                  | 82.8                                   | 156.4                                  | 138.8                                  | 670.1                                  | 116.4                                  |
| Lead (total)                                         | CE264 <sup>U</sup> | mg/kg Pb   | 65.6                                   | 38.3                                   | 107.0                                  | 120.4                                  | 518.9                                  | 140.3                                  |
| Mercury (total)                                      | CE264 <sup>U</sup> | mg/kg Hg   | <2                                     | <2                                     | <2                                     | <2                                     | 2.5                                    | <2                                     |
| Nickel (total)                                       | CE264 <sup>M</sup> | mg/kg Ni   | 8.7                                    | 21.1                                   | 7.3                                    | 10.8                                   | 8.6                                    | 29.9                                   |
| Selenium (total)                                     | CE264              | mg/kg Se   | <3                                     | <3                                     | <3                                     | <3                                     | 3.5                                    | <3                                     |
| Zinc (total)                                         | CE264 <sup>M</sup> | mg/kg Zn   | 48.3                                   | 89.9                                   | 61.8                                   | 79.0                                   | 119.7                                  | 351.4                                  |
| pH                                                   | CE004 <sup>M</sup> | units      | -                                      | 8.2                                    | -                                      | 7.0                                    | -                                      | -                                      |
| Phenols (total)                                      | CE078              | mg/kg PhOH | -                                      | <0.5                                   | -                                      | <0.5                                   | -                                      | -                                      |
| Total Organic Carbon (TOC)                           | CE197              | % w/w C    | -                                      | 5.0                                    | -                                      | 1.5                                    | -                                      | -                                      |
| Estimate of OMC (calculated from TOC)                | CE197              | % w/w      | -                                      | 8.6                                    | -                                      | 2.6                                    | -                                      | -                                      |
| <b>PAH</b>                                           |                    |            |                                        |                                        |                                        |                                        |                                        |                                        |
| Naphthalene                                          | CE087 <sup>M</sup> | mg/kg      | -                                      | 1.12                                   | -                                      | <0.02                                  | -                                      | -                                      |
| Acenaphthylene                                       | CE087 <sup>M</sup> | mg/kg      | -                                      | 1.28                                   | -                                      | <0.02                                  | -                                      | -                                      |
| Acenaphthene                                         | CE087 <sup>M</sup> | mg/kg      | -                                      | 12.57                                  | -                                      | <0.02                                  | -                                      | -                                      |
| Fluorene                                             | CE087 <sup>U</sup> | mg/kg      | -                                      | 6.51                                   | -                                      | <0.02                                  | -                                      | -                                      |
| Phenanthrene                                         | CE087 <sup>M</sup> | mg/kg      | -                                      | 75.47                                  | -                                      | 0.06                                   | -                                      | -                                      |
| Anthracene                                           | CE087 <sup>U</sup> | mg/kg      | -                                      | 20.61                                  | -                                      | 0.04                                   | -                                      | -                                      |
| Fluoranthene                                         | CE087 <sup>M</sup> | mg/kg      | -                                      | 169.18                                 | -                                      | 0.18                                   | -                                      | -                                      |
| Pyrene                                               | CE087 <sup>M</sup> | mg/kg      | -                                      | 160.74                                 | -                                      | 0.18                                   | -                                      | -                                      |
| Benzo(a)anthracene                                   | CE087 <sup>U</sup> | mg/kg      | -                                      | 62.60                                  | -                                      | 0.11                                   | -                                      | -                                      |
| Chrysene                                             | CE087 <sup>M</sup> | mg/kg      | -                                      | 66.67                                  | -                                      | 0.13                                   | -                                      | -                                      |
| Benzo(b)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg      | -                                      | 95.47                                  | -                                      | 0.15                                   | -                                      | -                                      |
| Benzo(k)fluoranthene                                 | CE087 <sup>M</sup> | mg/kg      | -                                      | 33.58                                  | -                                      | 0.07                                   | -                                      | -                                      |
| Benzo(a)pyrene                                       | CE087 <sup>U</sup> | mg/kg      | -                                      | 92.91                                  | -                                      | 0.12                                   | -                                      | -                                      |
| Indeno(123cd)pyrene                                  | CE087 <sup>M</sup> | mg/kg      | -                                      | 59.80                                  | -                                      | 0.11                                   | -                                      | -                                      |
| Dibenz(ah)anthracene                                 | CE087 <sup>M</sup> | mg/kg      | -                                      | 10.38                                  | -                                      | <0.02                                  | -                                      | -                                      |
| Benzo(ghi)perylene                                   | CE087 <sup>M</sup> | mg/kg      | -                                      | 68.19                                  | -                                      | 0.10                                   | -                                      | -                                      |
| PAH (total of USEPA 16)                              | CE087              | mg/kg      | -                                      | 937                                    | -                                      | 1.23                                   | -                                      | -                                      |

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## METHOD DETAILS

| METHOD | SOILS                                 | METHOD SUMMARY                          | SAMPLE      | STATUS | LOD  | UNITS      |
|--------|---------------------------------------|-----------------------------------------|-------------|--------|------|------------|
| CE264  | Arsenic (total)                       | Aqua Regia Extraction, ICPOES           | Dry         | M      | 3    | mg/kg As   |
| CE264  | Cadmium (total)                       | Aqua Regia Extraction, ICPOES           | Dry         | M      | 2    | mg/kg Cd   |
| CE264  | Chromium (total)                      | Aqua Regia Extraction, ICPOES           | Dry         | U      | 2    | mg/kg Cr   |
| CE146  | Chromium (VI)                         | Acid extraction, Colorimetry            | Dry         |        | 1    | mg/kg CrVI |
| CE264  | Copper (total)                        | Aqua Regia Extraction, ICPOES           | Dry         | M      | 2    | 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      | 2    | mg/kg Hg   |
| CE264  | Nickel (total)                        | Aqua Regia Extraction, ICPOES           | Dry         | M      | 3    | 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      |
| CE078  | Phenols (total)                       | Extraction, Continuous Flow Colorimetry | As received |        | 0.5  | mg/kg PhOH |
| 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      |

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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) |
|----------|-----------|-----------|-----------|------------------------------|
| 126996-1 | IP01      | 0.10      | N         |                              |
| 126996-2 | IP01      | 0.30      | N         |                              |
| 126996-3 | IP02      | 0.25      | N         |                              |
| 126996-4 | IP02      | 0.35      | N         |                              |
| 126996-5 | IP03      | 0.10      | N         |                              |
| 126996-6 | IP04      | 0.25      | 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.

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.

Moisture Content Calculated on a Wet Weight basis