

## FINAL ANALYTICAL TEST REPORT


**Envirolab Job Number:** 23/12008  
**Issue Number:** 1

**Date:** 18 December, 2023

**Client:** RB Geotechnical  
7 Carr Manor View  
Leeds  
UK  
LS17 5AG

**Project Manager:** Ross Blake  
**Project Name:** Burnside  
**Project Ref:** Not specified  
**Order No:** N/A  
**Date Samples Received:** 01/12/23  
**Date Instructions Received:** 05/12/23  
**Date Analysis Completed:** 18/12/23

**Approved by:**

  
Danielle Brierley  
Client Services Supervisor

Envirolab Job Number: 23/12008

Client Project Name: Burnside

Client Project Ref: Not specified

| Lab Sample ID                                  | 23/12008/1 | 23/12008/2 | 23/12008/3 | 23/12008/4 |  |  |  | Units | Limit of Detection | Method ref  |
|--|------------|------------|------------|------------|--|--|--|-------|--------------------|-------------|
| Client Sample No                               | 1          | 2          | 3          | 4          |  |  |  |       |                    |             |
| Client Sample ID                               | HP01       | HP02       | HP03       | HP04       |  |  |  |       |                    |             |
| Depth to Top                                   |            |            |            |            |  |  |  |       |                    |             |
| Depth To Bottom                                |            |            |            |            |  |  |  |       |                    |             |
| Date Sampled                                   | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  |  |  |  |       |                    |             |
| Sample Type                                    | SOIL - ES  | SOIL - ES  | SOIL - ES  | SOIL - ES  |  |  |  |       |                    |             |
| Sample Matrix Code                             | 6AE        | 6AE        | 6AE        | 6AE        |  |  |  |       |                    |             |
| % Stones >10mm <sub>A</sub>                    | 4.6        | 9.7        | 9.6        | 9.9        |  |  |  |       |                    |             |
| Cyanide (free) <sub>A</sub> <sup>M#</sup>      | <1         | <1         | <1         | <1         |  |  |  | mg/kg | 1                  | A-T-042sFCN |
| Cyanide (total) <sub>A</sub> <sup>M#</sup>     | <1         | <1         | <1         | <1         |  |  |  | mg/kg | 1                  | A-T-042sTCN |
| Arsenic <sub>D</sub> <sup>M#</sup>             | 34         | 33         | 37         | 41         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Cadmium <sub>D</sub> <sup>M#</sup>             | 1.7        | 1.6        | 2.0        | 2.0        |  |  |  | mg/kg | 0.5                | A-T-024s    |
| Copper <sub>D</sub> <sup>M#</sup>              | 57         | 55         | 67         | 64         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Chromium <sub>D</sub> <sup>M#</sup>            | 41         | 62         | 114        | 40         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Lead <sub>D</sub> <sup>M#</sup>                | 93         | 81         | 103        | 96         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Mercury <sub>D</sub>                           | 0.38       | 0.22       | 0.51       | 0.34       |  |  |  | mg/kg | 0.17               | A-T-024s    |
| Nickel <sub>D</sub> <sup>M#</sup>              | 37         | 33         | 33         | 37         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Selenium <sub>D</sub> <sup>M#</sup>            | <1         | <1         | <1         | <1         |  |  |  | mg/kg | 1                  | A-T-024s    |
| Zinc <sub>D</sub> <sup>M#</sup>                | 107        | 119        | 143        | 114        |  |  |  | mg/kg | 5                  | A-T-024s    |
| TPH total (>C6-C40) <sub>A</sub> <sup>M#</sup> | 89         | 155        | 94         | 116        |  |  |  | mg/kg | 10                 | A-T-007s    |

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Client Project Name: Burnside

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|---|------------|------------|------------|------------|--|--|--|-------|--------------------|------------|
| Client Sample No  | 1          | 2          | 3          | 4          |  |  |  |       |                    |            |
| Client Sample ID  | HP01       | HP02       | HP03       | HP04       |  |  |  |       |                    |            |
| Depth to Top  |            |            |            |            |  |  |  |       |                    |            |
| Depth To Bottom   |            |            |            |            |  |  |  |       |                    |            |
| Date Sampled  | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  |  |  |  |       |                    |            |
| Sample Type   | SOIL - ES  | SOIL - ES  | SOIL - ES  | SOIL - ES  |  |  |  |       |                    |            |
| Sample Matrix Code  | 6AE        | 6AE        | 6AE        | 6AE        |  |  |  |       |                    |            |
| Asbestos in Soil (inc. matrix)                                  |            |            |            |            |  |  |  |       |                    |            |
| Asbestos in soil <sup>#</sup>                                   | NAD        | NAD        | NAD        | NAD        |  |  |  |       |                    | A-T-045    |
| Asbestos Matrix (visual) <sub>D</sub>                           | -          | -          | -          | -          |  |  |  |       |                    | A-T-045    |
| Asbestos Matrix (microscope) <sub>D</sub>                       | -          | -          | -          | -          |  |  |  |       |                    | A-T-045    |
| Asbestos ACM - Suitable for Water Absorption Test? <sub>D</sub> | N/A        | N/A        | N/A        | N/A        |  |  |  |       |                    | A-T-045    |

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|---|------------|------------|------------|------------|--|--|--|-------|--------------------|------------|
| Client Sample No                                | 1          | 2          | 3          | 4          |  |  |  |       |                    |            |
| Client Sample ID                                | HP01       | HP02       | HP03       | HP04       |  |  |  |       |                    |            |
| Depth to Top                                    |            |            |            |            |  |  |  |       |                    |            |
| Depth To Bottom                                 |            |            |            |            |  |  |  |       |                    |            |
| Date Sampled                                    | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  | 30-Nov-23  |  |  |  |       |                    |            |
| Sample Type                                     | SOIL - ES  | SOIL - ES  | SOIL - ES  | SOIL - ES  |  |  |  |       |                    |            |
| Sample Matrix Code                              | 6AE        | 6AE        | 6AE        | 6AE        |  |  |  |       |                    |            |
| PAH-16MS  |            |            |            |            |  |  |  |       |                    |            |
| Acenaphthene <sub>A</sub> <sup>M#</sup>         | 0.07       | 0.07       | 0.19       | 0.33       |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Acenaphthylene <sub>A</sub> <sup>M#</sup>       | <0.01      | <0.01      | <0.01      | 0.02       |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Anthracene <sub>A</sub> <sup>M#</sup>           | 0.12       | 0.09       | 0.21       | 0.63       |  |  |  | mg/kg | 0.02               | A-T-019s   |
| Benzo(a)anthracene <sub>A</sub> <sup>M#</sup>   | 0.50       | 0.29       | 0.46       | 0.93       |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>       | 0.38       | 0.20       | 0.31       | 0.55       |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup> | 0.60       | 0.34       | 0.48       | 0.83       |  |  |  | mg/kg | 0.05               | A-T-019s   |
| Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>   | 0.21       | 0.13       | 0.17       | 0.27       |  |  |  | mg/kg | 0.05               | A-T-019s   |
| Benzo(k)fluoranthene <sub>A</sub> <sup>M#</sup> | 0.21       | 0.13       | 0.17       | 0.32       |  |  |  | mg/kg | 0.07               | A-T-019s   |
| Chrysene <sub>A</sub> <sup>M#</sup>             | 0.59       | 0.35       | 0.52       | 0.93       |  |  |  | mg/kg | 0.06               | A-T-019s   |
| Dibenzo(ah)anthracene <sub>A</sub>              | <0.04      | <0.04      | <0.04      | 0.05       |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Fluoranthene <sub>A</sub> <sup>M#</sup>         | 1.11       | 0.76       | 1.30       | 2.73       |  |  |  | mg/kg | 0.08               | A-T-019s   |
| Fluorene <sub>A</sub> <sup>M#</sup>             | 0.04       | 0.03       | 0.10       | 0.32       |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Indeno(123-cd)pyrene <sub>A</sub> <sup>M#</sup> | 0.23       | 0.13       | 0.19       | 0.31       |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Naphthalene <sub>A</sub> <sup>M#</sup>          | 0.05       | 0.05       | 0.05       | 0.95       |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Phenanthrene <sub>A</sub> <sup>M#</sup>         | 0.60       | 0.52       | 1.16       | 2.73       |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Pyrene <sub>A</sub> <sup>M#</sup>               | 0.97       | 0.64       | 1.04       | 2.21       |  |  |  | mg/kg | 0.07               | A-T-019s   |
| Total PAH-16MS <sub>A</sub>                     | 5.68       | 3.73       | 6.35       | 14.1       |  |  |  | mg/kg | 0.01               | A-T-019s   |

## Report Notes

### General

This report shall not be reproduced, except in full, without written approval from Envirolab.  
 The results reported herein relate only to the material supplied to the laboratory.  
 The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.  
 Analytical results reflect the quality of the sample at the time of analysis only.  
 Opinions and Interpretations expressed are outside our scope of accreditation.  
 The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.  
 A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

### Key

|                           |   |
|---------------------------|---|
| Superscript "#"           | Accredited to ISO 17025   |
| Superscript "M"           | Accredited to MCertS  |
| Superscript "U"           | Individual result not accredited  |
| None of the above symbols | Analysis unaccredited   |
| Subscript "A"             | Analysis performed on as-received Sample  |
| Subscript "D"             | Analysis performed on the dried sample, crushed to pass 2mm sieve.                                    |
| Subscript "A"             | Analysis has dependant options against results. Details appear in the comments of your Sample receipt |
| IS                        | Insufficient Sample for analysis  |
| US                        | Unsuitable Sample for analysis  |
| NDP                       | No Determination Possible   |
| NAD                       | No Asbestos Detected  |
| N/A                       | Not applicable  |

### Asbestos

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.  
 Stones etc. are not removed from the sample prior to analysis  
 Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

### Assigned Matrix Codes

|   |           |   |   |   |                               |
|---|-----------|---|---|---|-------------------------------|
| 1 | SAND      | 6 | CLAY/LOAM                                   | A | Contains Stones               |
| 2 | LOAM      | 7 | OTHER                                       | B | Contains Construction Rubble  |
| 3 | CLAY      | 8 | Asbestos Bulk (Only Asbestos ID accredited) | C | Contains visible hydrocarbons |
| 4 | LOAM/SAND | 9 | Incinerator Ash (some Metals accredited)    | D | Contains glass / metal        |
| 5 | SAND/CLAY |   |   | E | Contains roots / twigs        |

**Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.**

### Soil Chemical Analysis:

All results are reported as dry weight (<40°C).  
 For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.  
 For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts  
 All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

### TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.  
 Results "with Clean up" indicates samples cleaned up with Silica during extraction.

### EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.  
 Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

### Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

## Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU  
Tel. 0161 368 4921 email. ask@envlab.co.uk

**Client:** RB Geotechnical, 7 Carr Manor View, Leeds, UK, LS17 5AG

**Project No:** 23/12008

**Project:** Burnside

**Date Received:** 05/12/2023 (am)

**Clients Project No:**

**Cool Box Temperatures (°C):** 6.5

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples  $5 \pm 3^{\circ}\text{C}$ ), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

## Envirolab Analysis Dates

| Lab Sample ID          | 23/12008/1 | 23/12008/2 | 23/12008/3 | 23/12008/4 |
|------------------------|------------|------------|------------|------------|
| Client Sample No       | 1          | 2          | 3          | 4          |
| Client Sample ID/Depth | HP01       | HP02       | HP03       | HP04       |
| Date Sampled           | 30/11/23   | 30/11/23   | 30/11/23   | 30/11/23   |
| A-T-007s               |            |            |            |            |
| A-T-019s               |            |            |            |            |
| A-T-024s               |            |            |            |            |
| A-T-042sFCN            |            |            |            |            |
| A-T-042sTCN            |            |            |            |            |
| A-T-044                | 12/12/2023 | 12/12/2023 | 12/12/2023 | 12/12/2023 |
| A-T-045                |            |            |            |            |

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

**End of Report**