

**National Trust**

# Castlefield Viaduct, Manchester

## Ground investigation report and contaminated land risk assessment

Reference: CVI-ARUP-Ground investigation report and contaminated land risk assessment

P01 | 14 August 2024



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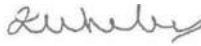
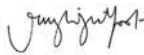
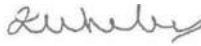
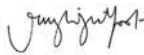
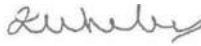
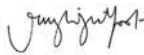
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**Ove Arup & Partners Limited**

3 St Paul's Place  
Norfolk Street  
Sheffield S1 2JE  
United Kingdom  
[arup.com](http://arup.com)

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|                                                                                                                                                                                                     | Prepared by                                                                        | Checked by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Approved by                                                                         |             |            |                                                                                                                                                                                                     |      |             |                 |             |           |                                                                                    |                                                                                     |                                                                                     |           |  |  |  |
| Name                                                                                                                                                                                                | Jen Whelan                                                                         | Jenny Lightfoot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Greg Hardie                                                                         |             |            |                                                                                                                                                                                                     |      |             |                 |             |           |                                                                                    |                                                                                     |                                                                                     |           |  |  |  |
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### Appendix A

Igne 2024, Factual ground investigation report

### Appendix B

Human health soil screening assessment

### Appendix C

Controlled waters soil leachate screening assessment

### Appendix D

Waste classification

# 1. Introduction

Ove Arup and Partners Ltd (Arup) has been commissioned by the National Trust to prepare this report summarising the results of a ground investigation undertaken to inform the Castlefield Viaduct development in Manchester.

Ground investigation was undertaken by Igne along Castlefield Viaduct in July 2024 [1]. The purpose of this report is to provide an assessment of the results of the ground investigation to update the ground contamination risk assessment presented in the Arup 2024 desk study [2]. Ground investigation was undertaken by Royal Haskoning DHV (RH) [3] along the eastern part of the viaduct in 2021 and information from this investigation has been used to further inform this assessment.

## 2. Site location

The site is elevated on Castlefield viaduct to the west of Manchester city centre (see Figure 1). The Bridgewater Canal is aligned parallel to the viaduct and connects to the River Irwell, approximately 200m to the west of the site.

Castlefield Viaduct is a 330-metre long, grade II listed structure. To the east of the site a 200m portion of viaduct comprises National Trust public realm and gardens. On the site the rail track has been removed and the surface contains railway ballast and other debris. In the east of the site the viaduct is crossed by steel spans while the west of the viaduct is a masonry structure.

**Figure 1 Site location**



## 3. Proposed development

The proposed development forms Phase 2 of the Castlefield Viaduct scheme and will comprise an urban park. The made ground along the viaduct will be removed and disposed offsite and replaced with topsoil or a mound with low-cost decorative grass. Paint flaking off the steel spans will be brushed down and debris

removed from site during development. A lift shaft and stair to allow access to the viaduct from the A57 will be constructed in the west of the site.

## 4. Ground investigation

### 4.1 Royal Haskoning DHV (2021)

Royal Haskoning DHV (RH) undertook ground investigation along the viaduct in 2012 on behalf the National Trust. The ground investigation comprised the excavation of ten hand dug pits (HP101 to HP110) to obtain samples of the made ground cover for geoenvironmental laboratory testing and ten paint samples (PS101 to PS110) were obtained from the steel viaduct spans.

Locations HP101 to HP105 and PS 101 to PS105 are within the current site boundary and have been considered in this assessment. The ground investigation locations are shown on Drawing 1.

### 4.2 Igne (2024)

Igne was appointed by the National Trust to undertake ground investigation on site. The intrusive site work was completed on 16<sup>th</sup> July 2024 and comprised the excavation of five hand dug pits (OP201 to OP205) to a depth of 0.3m within the made ground cover along the viaduct in the west of the site. The ground investigation locations are shown on Drawing 1 and the factual report is included in Appendix A.

A soil sample for geoenvironmental laboratory testing was obtained from each hand dug pit. Soil and leachate analysis was undertaken on each sample.

Further ground investigation at ground level beneath the viaduct to obtain geotechnical and geoenvironmental information for the proposed lift shaft and stair access in the west of the site is proposed. This ground investigation will be undertaken at a later date and the results will be reported separately.

## 5. Ground conditions

The ground conditions along the viaduct comprised made ground to a depth of 0.3m directly on the viaduct structure. Soils sampled were typically described as a dark brown to black sandy clayey gravel and sandy gravel with occasional rootlets fine to coarse sand and fine to coarse gravels of ballast, limestone, clinker and brick.

Visual and olfactory evidence of contamination was reported as an oily/greasy feel on the soil with some hydrocarbon staining on the ballast sampled in the east of the site during the 2021 ground investigation. No evidence of visual or olfactory contamination was recorded during the 2024 ground investigation.

## 6. Geoenvironmental risk assessment

### 6.1 Initial conceptual model

A preliminary conceptual site model (CSM) was produced for the proposed development following the framework outlined within the Environment Agency's Land Contamination Risk Management (LCRM) guidance<sup>1</sup>.

The CSM was presented in the Arup (2024) desk study [2] and is summarised in Table 1.

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<sup>1</sup> Environment Agency (2020) Land Contamination Risk Management [online] <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

**Table 1 Preliminary conceptual model**

| Sources                                                   |   | Pathways                                                                             | Receptors                                                         |
|-----------------------------------------------------------|---|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Made ground on the viaduct                                | → | Direct exposure via dermal contact, ingestion or inhalation of soils, dust or fibres | → Site workers during construction and site neighbours            |
|                                                           |   | Inhalation of volatile contaminants                                                  |                                                                   |
|                                                           | X | Direct exposure via dermal contact, ingestion or inhalation of soils, dust or fibres | → Future site users and maintenance workers                       |
|                                                           | X | Leaching of contaminants and migration via surface water drainage network            | → River Medlock, Bridgewater Canal                                |
| Paint flakes on viaduct steel spans                       | → | Direct exposure via dermal contact, ingestion or inhalation of paint                 | → Site workers during construction and future maintenance workers |
|                                                           |   |                                                                                      | → Future site users (members of public)                           |
| Made ground at ground level                               | → | Direct exposure via dermal contact, ingestion or inhalation of soils, dust or fibres | → Site workers during construction and site neighbours            |
|                                                           |   | Inhalation of volatile contaminants                                                  | → Maintenance workers                                             |
|                                                           | → | Direct exposure via dermal contact, ingestion or inhalation of soils, dust or fibres | X Future site users                                               |
|                                                           | → | Creation of preferential migration pathway via piling                                | → Groundwater within bedrock geology (Principal aquifer)          |
| Leachable contaminants in the made ground at ground level | X | Vertical migration of dissolved phase contamination                                  | → Groundwater within bedrock geology (Principal aquifer)          |
|                                                           |   | Lateral migration of dissolved phase contamination in groundwater                    | → River Medlock and Bridgewater Canal                             |
| Soils aggressive to building materials at ground level    | → | Direct contact with aggressive soils                                                 | → Buried concrete<br>Buried water supply pipes                    |

The ground investigation data assessed in this report was designed to inform further assessment of the potential contaminant linkages associated with sources of contamination on the viaduct level identified above. The pollutant linkages associated with potential sources of contamination at ground level will be assessed separately when the ground investigation in this part of the site is completed.

The results of the chemical testing of soil, soil leachate and paint samples have been assessed to determine the potential significance of the levels recorded. Results have been compared against appropriate screening criteria, intended to be protective of human health and the wider environment.

## 6.2 Human health screening assessment

### 6.2.1 Assessment criteria

The soil results have been compared to Arup human health generic assessment criteria (GAC) for a public open space end use which is considered to be the most appropriate scenario for the proposed development. The GAC have been generated for a soil with organic matter content of 6% (based on average organic matter content identified in soil samples taken on site) using the Contaminated Land Exposure Assessment (CLEA) model (v1.07).

### 6.2.2 Soil screening results

The results of the soil screening are presented in Appendix B. A total of ten soil samples obtained from the made ground were screened and contaminants which exceed the GAC are summarised in Table 2.

**Table 2 Soil exceedances of human health GAC**

| Determinand            | GAC (mg/kg) | Concentration range (mg/kg) | No. samples >GAC | Locations > GAC        |
|------------------------|-------------|-----------------------------|------------------|------------------------|
| Lead                   | 1,300       | 48 to 4,400                 | 2                | HP103 and HP105        |
| Benzo(a)anthracene     | 63          | 2 to 97                     | 1                | HP103                  |
| Benzo(b)fluoranthene   | 16          | 1.7 to 130                  | 3                | HP101, HP103 and HP105 |
| Benzo(a)pyrene         | 13          | 1.1 to 62                   | 3                | HP101, HP103 and HP105 |
| Dibenzo(a,h)anthracene | 1.4         | 0.18 to 12                  | 5                | HP101 to HP105         |

No asbestos was encountered in any of the samples.

### 6.2.3 Paint samples

Paint samples were obtained from the steel spans on the viaduct during the 2021 RH ground investigation with five paint samples within the current site (PS101 to PS105). The paint samples were tested for heavy metals and assessed in the RH (2021) risk assessment report [3].

The paint was found to contain high concentrations of lead and zinc and the results are summarised in Table 3.

**Table 3 Summary of paint sample results (from RH 2021 ground investigation)**

| Determinand | Number of samples | Concentration range (mg/kg) |
|-------------|-------------------|-----------------------------|
| Cadmium     | 5                 | <0.2 - 10                   |
| Chromium    | 5                 | 120 – 310                   |
| Lead        | 5                 | 55,000 – 62,000             |
| Nickel      | 5                 | 13 – 30                     |
| Zinc        | 5                 | 1,200 – 5,800               |

### 6.2.4 Risk assessment

The viaduct is covered with a layer of made ground and ground investigation has identified the presence of elevated concentrations of lead and polycyclic aromatic hydrocarbons (PAHs) which could pose a potential risk to human health where site users come into contact with soil on site. The made ground will be removed from the viaduct and disposed off-site during the construction works. Clean soil will be imported to site to form soft landscaping areas of the urban park. Therefore, there will be no risk to future site users from contact with made ground as this potential source of contamination will be removed.

The steel spans on the viaduct which cross the eastern part of the site are covered in paint that has been identified as containing elevated concentrations of metals (lead and zinc). The paint has been observed to have deteriorated and flakes of paint are present on the ballast. There is a risk that future site users could be exposed to contaminants in the paint flakes by direct contact and ingestion pathways. During the development works the steel spans will be brushed down to remove any loose paint and all paint flake debris will be swept up and removed from site prior to installation of the urban park. While this will prevent paint flaking on the urban park in the short term, over the longer term there may be continued degradation of the steel spans and any remaining paintwork may flake off and be deposited on the soil surface within the park.

A new balustrade, spaced off the steel spans, will be installed within the park to prevent members of the public from getting too close to the paintwork. While exposure to the paint for future site users is possible it is considered unlikely that members of the public would be interfering with the paint work on the steel spans or disturbing the soils within the park where paint flakes may be present and therefore there will be a low risk to future site users from direct exposure to the viaduct paintwork.

The biggest risk from interaction with soils and flaking paint onsite arises during the construction works. There is a possibility that the made ground and paint flakes may pose a short-term risk to human health for the construction workforce via potential exposure pathways including dermal contact, dust/fibre inhalation and ingestion pathways outdoors. There is also a possible risk to site neighbours during construction via dust/fibre inhalation exposure pathways. Such risks can be mitigated by the contractor following standard good practice during construction and adoption of adequate health and safety procedures, including use of PPE.

## 6.3 Controlled waters screening assessment

### 6.3.1 Assessment criteria

Soil leachate test results have been screened against criteria based on published freshwater Environmental Quality Standards (EQS) to identify potential contaminants of concern. Where no EQS values are available the results have been compared against UK or EU drinking water standards or World Health Organisation standards (WHO).

### 6.3.2 Soil leachate screening results

The results of the soil leachate screening are presented in Appendix C. A total of ten soil leachate samples were screened and contaminants which exceed the screening criteria are summarised in Table 3.

**Table 4 Soil exceedances of human health GAC**

| Determinand    | GAC (µg/l) | Concentration range (µg/l) | No. samples >GAC | Locations > GAC            |
|----------------|------------|----------------------------|------------------|----------------------------|
| Copper         | 1          | 2.1 to 24                  | 10               | All                        |
| Lead           | 1.2        | 1 to 9.6                   | 9                | All except OP204           |
| Zinc           | 12.3       | <1.3 to 28                 | 1                | HP101                      |
| Fluoranthene   | 0.0063     | 0.03 to 0.4                | 10               | All                        |
| Benzo(a)pyrene | 0.00017    | <0.01 to 0.32              | 8                | All except HP102 and HP104 |

### 6.3.3 Risk assessment

The made ground layer on the viaduct has been identified as having potentially leachable contaminants (metals and PAHs). The made ground will be removed from the viaduct during the development therefore the risk of contaminants leaching out of the made ground and entering nearby surface watercourses via the surfaced drainage network on the viaduct is negligible.

## 7. Hazardous waste assessment

### 7.1 Methodology

An indicative waste classification assessment has been undertaken on the soil chemical results to provide information for management and disposal of soils at the site.

The online waste classification service HazWasteOnline was used to screen the soil chemical results to identify those samples that may be classified as hazardous waste if offsite disposal is required in line with current waste guidance, WM3. Once data is uploaded, HazWasteOnline generates detailed reports containing

the hazardous properties (risk phrase) identified for each sample. Summary tables from these reports are presented in Appendix D. It identifies samples as being hazardous, potentially hazardous or non-hazardous waste. The user is required to employ site specific knowledge to confirm the classification.

## 7.2 Results

In total 10 samples of made ground were tested for a range of inorganic and organic contaminants during the recent ground investigations. HazWasteOnline classification identified seven samples as non-hazardous and three samples as hazardous.

Three samples from HP101, HP103 and HP105 were classified as hazardous due to elevated lead (HP7: carcinogenic) concentrations.

Two samples from HP103 and HP105 were found to have hazardous concentrations of TPH aliphatic and aromatic compounds. At these concentrations HP3(i): Flammable, HP 7: Carcinogenic, H10 “Toxic for reproduction”, HP 11: Mutagenic, H14 “Ecotoxic”, are triggered.

Made ground which is not classified as hazardous will be, by default, classified as non-hazardous. A subset of non-hazardous waste is inert. To classify material as inert, stringent Waste Acceptance Criteria (WAC) testing must be undertaken, and thresholds met.

## 8. Conclusions

Ground investigation was undertaken along the Castlefield Viaduct in 2021 and 2024 to excavate hand dug pits to obtain soil samples for chemical laboratory testing to inform risk assessment for the proposed Castlefield Viaduct urban park development.

The ground conditions along the viaduct comprise made ground to a depth of 0.3m directly on the viaduct structure which is a dark brown to black sandy clayey gravel and sandy gravel with occasional rootlets fine to coarse sand and fine to coarse gravels of ballast, limestone, clinker and brick.

The contamination risk assessment has identified contaminants associated with the soils and flaking paint on the viaduct that could pose a risk to human health, specifically to construction workers. Exposure of construction workers and maintenance workers to contaminated soils and paint should be controlled through appropriate site management procedures and PPE.

The made ground along the viaduct will be removed from the viaduct and disposed off-site to an appropriately licensed waste management facility during the construction works. Indicative waste classification indicates that material in the west of the site could be classified as non-hazardous and in the east of the site as hazardous. It may be possible during excavation to segregate these soils prior to disposal to avoid impacting non-hazardous material. Topsoil will be imported to site to form soft landscaping areas of the urban park. Therefore, there will be no risk to future site users from contact with ballast or to controlled waters via leaching as this potential source of contamination will be removed.

There is a risk that future site users could be exposed to contaminants in the paint flakes by direct contact and ingestion pathways. During the development works the steel spans will be brushed down to remove any loose paint and all paint flake debris will be swept up and removed from site prior to installation of the urban park. A new balustrade, spaced off the steel spans, will be installed within the park to prevent members of the public from getting too close to the paintwork. While exposure to the paint for future site users is possible it is considered unlikely that members of the public would be interfering with the paint work on the steel spans or disturbing the soils within the park where paint flakes may be present and therefore there will be a low risk to future site users from direct exposure to the viaduct paintwork.

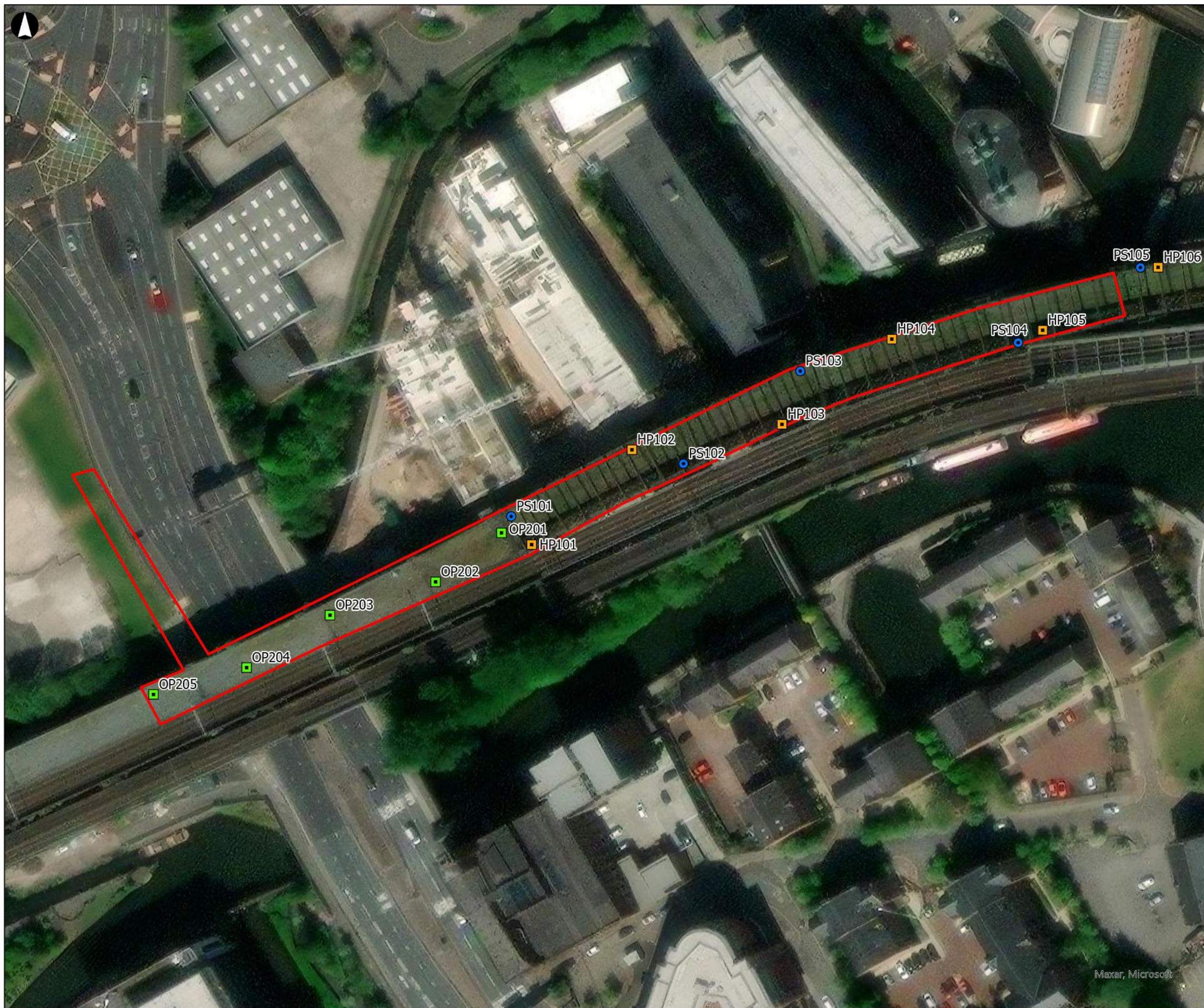
Further ground investigation is proposed in the west of the site at ground level to provide information for the lift and stair access. Once these works have been undertaken a separate report will be produced to assess potential contamination risks in this part of the site.

## 9. References

- [1] Igne, “Castlefield Viaduct Phase 2 Final Factual Report,” 2024.
- [2] Arup, “Castlefield Viaduct, Manchester, Geotechnical and Geoenvironmental Desk Study.,” 2024.
- [3] Royal Haskoning DHV, “Castlefield Viaduct, Manchester, Land Quality Interpretive Ground Investigation Report and Generic Risk Assessment Report, PC2387-RHD-ZZ-XX-RP-Z-0009.”.

# Drawings

## Drawing 1 Ground investigation locations



## Site Boundary

Site Boundary

## Ign 2024 GI Locations

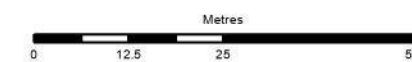
Hand Dug Pit (Viaduct Level)

## RH 2021 GI Locations

Hand Dug Pit

Paint Sample

Coordinate System: British National Grid



|   |          |    |    |    |    |
|---|----------|----|----|----|----|
| A | 06/08/24 | JW | OC | CL | CL |
|---|----------|----|----|----|----|

|     |      |    |      |      |       |
|-----|------|----|------|------|-------|
| Rev | Date | By | Chkd | Appd | Authd |
|-----|------|----|------|------|-------|

**ARUP**

3 Piccadilly Place  
Manchester M1 3BN  
Tel +44 161 228 2331  
www.arup.com

Client

**National Trust**

Project Name

**Castlefield Viaduct**

Drawing Title

**Ground Investigation Locations**

Scale at A3

**1:1,000**

Role

Suitability

**Issue**

Project Number  
**282210-42**

Rev  
**A**

Drawing Number  
**Drawing 1**

# Appendix A

## Igne 2024, Factual ground investigation report



# CASTLEFIELD VIADUCT PHASE 2

Final Factual Report  
(Rev.00)



Contract Number: NW1659  
Client: National Trust  
Consulting Engineer: Arup

Date: August 2024



## REPORT CONTROL SHEET

### Contract Details

|                         |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| Contract Title          | Castlefield Viaduct Phase 2                                             |
| Contract Number         | NW1659                                                                  |
| Location                | Castlefield Viaduct, Castlefield. To the west of Manchester City Centre |
| National Grid Reference | SJ 828 975                                                              |

### Report Details

|                  |                |      |     |
|------------------|----------------|------|-----|
| Report Status    | Draft (Rev.00) |      |     |
| Report Type      | Factual        |      |     |
| Volume Number    | 1              | of   | 1   |
| Copy Number      | PDF            | of   | PDF |
| Report Recipient | Olly Carlton   | Arup |     |

### Client/Consultant Engineer Details

|                                                                   |                                                                             |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Client                                                            | Consultant Engineer                                                         |
| National Trust<br>Kemble Drive<br>Swindon<br>Wiltshire<br>SN2 2NA | Arup<br>6 <sup>th</sup> Floor<br>3 Piccadilly Place<br>Manchester<br>M1 3BN |

### Signed & Approved On Behalf of Igne

|                                                                     |           |            |
|---------------------------------------------------------------------|-----------|------------|
| Engineering Reports Supervisor<br><br>Laura Clarke<br>BSc (Hons).   | Approved: | Date:      |
|                                                                     |           | 07/08/2024 |
| Technical Manager<br><br>Kerry Wade<br>BSc (Hons), MSc, FGS, MCMI   | Approved: | Date:      |
|                                                                     |           | 07/08/2024 |
| Director<br><br>Nick Vater<br>BSc (Hons), MSc, CGeol, EurGeol, FGS. | Approved: | Date:      |
|                                                                     |           | 07/08/2024 |



## CASTLEFIELD VIADUCT PHASE 2

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## 1. INTRODUCTION

The proposed development at the site includes an Urban Park with garden areas and the installation of a new lift shaft and stairs underneath the existing Castlefield Viaduct, to the west of Manchester City Centre.

Allied Exploration & Geotechnics Limited trading as Igne (AEG t/a Igne) were contracted by the National Trust with Arup acting in the capacity of Consulting Engineer to perform a ground investigation at this site in order to provide information on the subsurface ground and groundwater conditions as well as to obtain samples for specialist chemical testing.

### 1.1 Scope of Works

The investigation works consisted of the following main elements:

- Five hand excavated inspection pits.
- Associated sampling.
- Specialist chemical testing.

Site work was carried out on the 15<sup>th</sup> July 2024 with subsequent laboratory testing and reporting thereafter. A factual report only was requested.

The comments and opinions expressed in this report are based on the ground conditions encountered during the site work and on the results of tests carried out in the field and in the laboratory. There may, however, be special conditions prevailing on the site which have not been disclosed by this investigation and which have not been taken into account by this report.

## 2. THE SITE

### 2.1 Location

The National Grid Reference of the approximate centre of the site is SJ 828 975. This can be found on Ordnance Survey 1:50,000 Sheet Number 109 (Manchester, Bolton & Warrington). Part of this sheet is reproduced as Figure 1, the Site Location Plan.

The site is located approximately 2km west of Manchester City Centre.

### 2.2 Site Description and Topography

The site is located in Castlefield along an existing viaduct structure which is approximately 16m above the ground. The section of viaduct investigated as part of this contract is covered by a layer of railway ballast and is approximately 100m in length and 14m wide and runs over the Bridgewater Canal. Metrolink lines run along the viaduct immediately adjacent to the south of the site. The site is further bound to the north and south by residential housing and apartments.

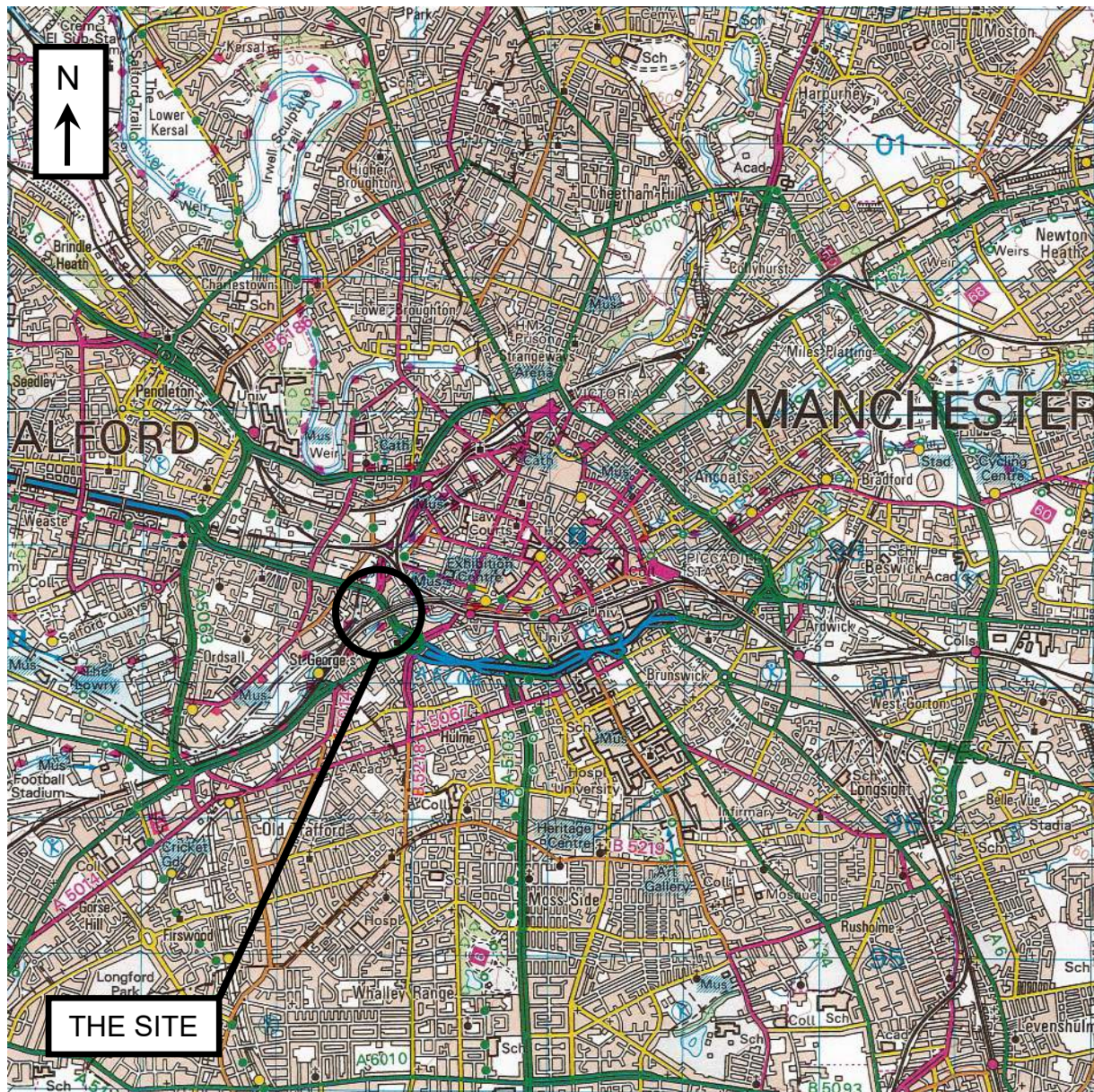


Figure 1: Site Location Plan

Reproduced from the Ordnance Survey 1:50,000 scale Landranger map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, Crown Copyright. All rights reserved. Licence number AL 100002282.



### 3. SITE OPERATIONS

#### 3.1 General

All exploratory hole work, associated sampling, *in-situ* testing and logging was carried out in accordance with techniques outlined in Table 1, as appropriate; at positions as near as practicable to those supplied by the Consulting Engineer. The approximate locations are shown on the Exploratory Hole Location Plan, Field Data Enclosure 1.

| Reference Code Number                 | Title                                                                                                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| BS 1377:1990                          | Methods of Test for Soils for Civil Engineering Purposes<br>(where not in contravention or superseded by Eurocode references) |
| BS 5930:2015 + A1:2020                | Code of Practice for Ground Investigation<br>(where not in contravention or superseded by Eurocode references)                |
| BS EN ISO 14688-1:2018 & 14688-2:2018 | Identification and Classification of Soil                                                                                     |
| BS 10175:2011+A2:2017                 | Investigation of Potentially Contaminated Sites                                                                               |

**Table 1: British Standard Reference Code Number**

The depths of all inspection pits, descriptions of the material encountered, details of any groundwater encountered, samples taken and *in-situ* testing carried out together with any other relevant information can be found on the Inspection Pit Records, Field Data Enclosure 2. A key to all symbols and abbreviations used throughout the report is included in the Key Sheets.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). Refer to the Key Sheets for further information.

#### 3.2 Health & Safety Considerations: Services

Before the commencement of any exploratory hole a search for underground services was conducted as prescribed in HSE publication '*Avoiding Underground Services (HSG47)*' and in accordance with in-house internal safety procedure AEG-14.

Service plans were provided by the Client and were consulted prior to using a service locating device (such as a Cable Avoidance Tool or C.A.T.) to scan a working area around the proposed exploratory hole location. Where no services were indicated a '*Permit-to-Work*' form was issued by the investigation supervisor. The inspection pit was also scanned during the excavation procedure. It should be noted that the digging of an inspection pit only confirms or guards against the possible presence of underground public utility services within the excavated pit.

Where services were located or there was reasonable belief that they were present, the position was relocated in agreement with the Client. Details of any services uncovered/located during this investigation are given in Table 2.



| Exploratory Hole Number                                                                                                                                                                                                                                           | Type of Service | Orientation & Depth (size where indicated) | Status (Damaged/Undamaged) | Additional Remarks |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------|----------------------------|--------------------|
| No services were encountered within the inspection pits dug for the purposes of the exploratory hole works. Services were known to exist within the vicinity of exploratory holes, The location and nature of these services are beyond the scope of this report. |                 |                                            |                            |                    |

**Table 2: Services Encountered**

### 3.3 Exploratory Holes: Mechanically Excavated Trial Pits

Five inspection pits were hand excavated to depths of 0.30m BGL (OP201 to UP205 inclusive). The Trial Pit Records are presented as Field Data Enclosure 2 and a summary of any relevant remarks are detailed in Table 3.

| Exploratory Hole Number                                                      | Excavation Method | Completion Depth (m BGL) | Remarks                     |
|------------------------------------------------------------------------------|-------------------|--------------------------|-----------------------------|
| OP201                                                                        | Hand Excavated    | 0.30                     | Advanced to required depth. |
| OP202                                                                        | Hand Excavated    | 0.30                     | Advanced to required depth. |
| OP203                                                                        | Hand Excavated    | 0.30                     | Advanced to required depth. |
| OP204                                                                        | Hand Excavated    | 0.30                     | Advanced to required depth. |
| OP205                                                                        | Hand Excavated    | 0.30                     | Advanced to required depth. |
| Any relevant photographs are presented after the applicable Trial Pit Record |                   |                          |                             |

**Table 3: Trial Pit Summary**

### 3.4 Samples

Representative samples of soil were obtained from the inspection pits and were taken to the laboratory for selected specialist chemical testing.

Environmental samples were taken in accordance with the contract specification during the investigation using an approved selection of container types in order to suit the encountered material properties and designated laboratory analytical parameters. Full chain of custody procedures were in place post sampling and during the transportation stage to the nominated specialist chemical laboratory. Environmental samples were administered appropriately following the best practice guidance provided in the contract specification.

### 3.5 Groundwater

The comments on groundwater conditions are based on the observations made at the time of investigation. It should be noted that groundwater levels may vary due to seasonal and other effects.

Distinct groundwater strikes and standing water were not encountered in the inspection pits during the site works operation.

### 3.6 Instrumentation & Monitoring

Groundwater or gas monitoring instrumentation was not installed into any completed inspection pit as part of this investigation contract.



### 3.7 Operative Observations: Potential Contamination

For the purposes of determining the condition of the site, with regard to human health and environmental issues, reference should specifically be made to any specialist chemical testing undertaken as part of the investigation scheme, as well as any supporting desk study and risk assessment documentation. The information given herein collates the observations made by the operatives involved in the investigation only and comments that have been indicated on the engineering records.

Where there was potential evidence of contamination, principally as a consequence of olfactory and visual identification, information is provided in Table 4.

| Exploratory Hole Number                           | Occurrence (in-situ/surface/ laboratory sample) | Visual / Olfactory / Laboratory Testing | Depth (m BGL) | Occurrence Type | Additional Remarks |
|---------------------------------------------------|-------------------------------------------------|-----------------------------------------|---------------|-----------------|--------------------|
| No occurrences recorded during the investigation. |                                                 |                                         |               |                 |                    |

**Table 4: Potential Contamination Encountered**

It should be stressed that the information provided herein is subjective, as it is based on the perceptions of individuals and not specialists routinely involved in the chemical determination of contaminated residues, liquors, vapours or solid contaminants.

### 3.8 Surveying

AEG t/a Igne was not required to survey the positions as part of this contract.

## 4. LABORATORY TESTING

### 4.1 Specialist Chemical Testing

Selected samples have been submitted for chemical analysis as specified by the Consulting Engineer, conducted under a subcontract arrangement with Derwentside Environmental Testing Services (DETS). The results of this testing are presented as Appendix I.

### 4.2 Laboratory Identified Asbestos

Selected samples were analysed for asbestos content as specified by the Consulting Engineer. Any identified asbestos is presented in Table 5 which has been summarised from specialist chemical testing results (see Appendix I for further details).

| Exploratory Hole Number                                                                     | Occurrence | Depth (m BGL) | Occurrence Type | Additional Remarks |
|---------------------------------------------------------------------------------------------|------------|---------------|-----------------|--------------------|
| No asbestos was detected within the samples selected for testing by the Consulting Engineer |            |               |                 |                    |

**Table 5: Laboratory Identified Asbestos**

## Key Sheets



## INTRODUCTION

The following explanatory notes define the terminologies, abbreviations and symbols pertaining to each individual column or section of the Exploratory Hole records. 'Exploratory Hole' is used as a general term in this report to comprise borehole, drillhole, and trial pit. All exploratory hole records have been produced using 'gINT®', which is an integrated software environment for the storage and manipulation of subsurface data.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). With respect to rotary coring, driller's records and observations of the recovered core are used to determine any zones of no recovery (core loss). These zones are based on the interpretation of the logging engineer and are therefore potentially subjective. In addition, where relevant, every effort is made to highlight material/zones that may relate to suspected old workings. However, it should be noted that this is not straightforward (especially without detailed information regarding anticipated subsurface conditions) and therefore no guarantee can be made with regards to the accuracy of the interpretation of the recovered core.

## INFORMATION COMMON TO ALL EXPLORATORY HOLE RECORDS

### Status Box

The status box in the top right hand corner of each exploratory hole record gives the status of each individual record i.e. PRELIM1, PRELIM2, PRELIM3 FINAL etc. The date shown relates to the last instance the data was revised. This information is for AEG Quality Assurance only.

### Exploratory Hole No

The identity number used throughout the report.

### Project

The ground investigation project name. Occasionally the project name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

### Client

Client's name responsible for funding the ground investigation project. The Client's name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

### Location

The exploratory hole position given as either national grid co-ordinates, local grid if specified, or a reference name normally pertaining to the area of investigation.

### Method (Equipment)

Represents the drilling, excavation or boring method(s) or equipment used.

### Ground Level (m(AOD))

The precise ground level in metres above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated.

### Date

The date relating to the start of the exploratory hole excavation.

### Sheet

The sheet number and total number of sheets for the particular record.

### Checked By

Printed signature of the person who has carried out the technical quality check on the log.

### Logged By

The name of the engineer who has carried out the logging of the exploratory hole.

### Contract No.

The Allied Exploration & Geotechnics Limited reference number for the project.

# Key Sheets



## INFORMATION RELEVANT TO BOREHOLE AND WINDOW/WINDOWLESS SAMPLE HOLE RECORDS

### Sample & Tests Columns

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
| Depth       | The depth over which a sample or test is taken is shown in depth column of the exploratory hole record in a "from...to" format. |
| Type No     | Indicates the type of sample/test and number given by the driller.                                                              |
| Test Result | Result of the test given in the applicable units.                                                                               |

### Water Column

|              |                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Strike | Level of groundwater strike within an exploratory hole. The symbol  denotes a water strike and is suffixed with a number, which indicates the strike order. The corresponding unfilled symbol  is the depth the strike rose to. |
| Seepage      | Groundwater seepage within an exploratory hole is denoted by the  symbol.                                                                                                                                                                                                                                           |

### Strata Columns

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reduced Level     | The corresponding reduced level of each soil or rock boundary in metres Ordnance Datum.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Legend            | A graphical representation of the materials encountered using BS 5930 recommended symbols for soil and rock.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Depth (Thickness) | The depth below ground level of each soil or rock boundary in metres and the thickness of each individual stratigraphic unit (given in brackets).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Description       | <p>Engineering description of each individual soil or rock type follows recommendations outlined in the current BS 5930 with the following implementation:</p> <ol style="list-style-type: none"> <li>The amendment of section 6 incorporates the guidance indicated in BS EN ISO 14688-1, BS EN ISO 14688-2 and BS EN ISO 14689-1 European Standard with particular emphasis on current UK practice.</li> <li>Supplementary laboratory or in-situ assessed measurements of undrained strength are provided where applicable information is available in parenthesis in accordance with BS 5930 after the field strength determined consistency. The description based measurement table indicating the quantitative undrained strength classification divisions is provided in Key Sheets Table 1.</li> </ol> |

| Term based on measurement | Undrained strength classification definition cu, in kPa<br>(from BS EN ISO 14688-2, 5.3, Table 6) |
|---------------------------|---------------------------------------------------------------------------------------------------|
| Extremely low             | <10                                                                                               |
| Very low                  | 10-20                                                                                             |
| Low                       | 20-40                                                                                             |
| Medium                    | 40-75                                                                                             |
| High                      | 75-150                                                                                            |
| Very High                 | 150-300                                                                                           |
| Extremely High            | 300-600                                                                                           |

KEY SHEETS TABLE 1

- Cobble and boulder content is expressed in accordance with the terms provided in BS5930 where visually identified in trial pit excavations, or inferred/recovered during the drilling operations. The assessment of frequency and spatial occurrence of coarse and very coarse rock material should not be considered as precise, but only an indicator or estimate of the potential conditions. It should be noted that the recovery of coarse or very coarse particles in boreholes is dependent on the limitations imposed by the casing diameter. The terminology used is outlined in Key Sheets Table 2.

# Key Sheets



| Fraction | Percent by Mass | Term                   |
|----------|-----------------|------------------------|
| Boulders | <5              | Low boulder content    |
|          | 5 to 20         | Medium boulder content |
|          | >20             | High boulder content   |
| Cobbles  | <10             | Low cobble content     |
|          | 10 to 20        | Medium cobble content  |
|          | >20             | High cobble content    |

KEY SHEETS TABLE 2

- 4 Rock Strength based on assessed field or measured unconfined compressive strength follows the classification scheme given in BS5930 as outlined in Key Sheets Table 3.

| Term for use in field or based on measurement     | Definition for field use                                                                                                                                                                          | Definition on basis of Unconfined Compressive Strength measurement (MPa) | Superseded Classification of Rock Strength: Terminology (Strength Range MPa) | Definition for field use                                                                                                     |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Extremely weak                                    | Scratched by thumbnail, gravel size lumps can be crushed between finger and thumb.                                                                                                                | 0.6-1.0                                                                  | Extremely weak (0.6-1.0)                                                     | Can be indented by thumbnail. Gravel sized lumps crush between finger and thumb.                                             |
| Very weak                                         | Scratched by thumbnail, lumps can be broken by heavy hand pressure, can be peeled easily by a pocket knife, crumbles under firm blows with point of geological hammer.                            | 1-5                                                                      | Very weak (1-5)                                                              | Crumbles under firm blows with point of geological hammer. Can be peeled by a pocket knife.                                  |
| Weak                                              | Thin slabs, corners or edges can be broken off with hand pressure, can be scratched with difficulty by pocket knife, shallow indentations made by firm blow with point of geological hammer.      | 5-12.5                                                                   | Weak (5-25)                                                                  | Can be peeled by a pocket knife with difficulty. Shallow indentations made by firm blow with the point of geological hammer. |
| Moderately Weak                                   | Thin slabs, corners or edges can be broken off with hand pressure, can be scratched with difficulty by pocket knife, hand-held specimen can be broken with single firm blow of geological hammer. | 12.5-25                                                                  |                                                                              |                                                                                                                              |
| Medium Strong                                     | Cannot be scraped or peeled with a pocket knife, specimen on a solid surface can be fractured with single firm blow of geological hammer.                                                         | 25-50                                                                    | Medium Strong (25-50)                                                        | Cannot be scraped with pocket knife. Can be fractured with a single firm blow of geological hammer.                          |
| Strong                                            | Specimen requires more than one blow of geological hammer to fracture it.                                                                                                                         | 50-100                                                                   | Strong (50-100)                                                              | Requires more than one blow of geological hammer to fracture.                                                                |
| Very Strong                                       | Specimen requires many blows of geological hammer to fracture it.                                                                                                                                 | 100-250                                                                  | Very Strong (100-250)                                                        | Requires many blows of geological hammer to fracture.                                                                        |
| Extremely strong                                  | Specimen can only be chipped with geological hammer.                                                                                                                                              | >250                                                                     | Extremely strong (>250)                                                      | Can only be chipped with geological hammer.                                                                                  |
| Based on current BS EN ISO 14689-1 4.2.7, Table 2 |                                                                                                                                                                                                   |                                                                          | Based on BS EN ISO 14689-1:2003 4.2.7, Table 5 (Superseded Version)          |                                                                                                                              |

KEY SHEETS TABLE 3

- 5 Where 'rock weathering classification' can be applied it is 'Approach 4' which will be used. If any other approach is used the factual text of the report will provide details of the applicable specific approach. (Ref.: BS5930). An outline of the 'Approach 4' rock weathering classification scheme is provided as Key Sheets Table 4.

| APPROACH 4 CLASSIFICATION INCORPORATING MATERIAL AND MASS FEATURES |                      |                                                                                                                                                                            |
|--------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Class                                                              | Classifier           | Typical characteristics                                                                                                                                                    |
| A                                                                  | Unweathered          | Original strength, colour, fracture spacing                                                                                                                                |
| B                                                                  | Partially weathered  | Slightly reduced strength, slightly closer fracture spacing, weathering penetrating in from fractures, brown oxidation                                                     |
| C                                                                  | Distinctly weathered | Further weathered, much closer fracture spacing grey reduction                                                                                                             |
| D                                                                  | Destructured         | Greatly weakened, mottled, ordered lithorelics in matrix becoming weakened and disordered, bedding disturbed.                                                              |
| E                                                                  | Residual or reworked | Matrix with occasional altered random or 'apparent' lithorelics, bedding destroyed. Classed as reworked when foreign inclusions are present as a result of transportation. |

KEY SHEETS TABLE 4

# Key Sheets



## Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

## Boring Progress and Water Observations Columns

This section provides information on each day's production as a daily log.

|             |                                                                |
|-------------|----------------------------------------------------------------|
| Date        | Date of shift.                                                 |
| Depth       | Depth of hole at the start of the shift.                       |
| Casing      | Casing's depth at the start of the shift.                      |
| Casing Dia  | Casing's diameter at the start of the shift.                   |
| Water Depth | Water level within the borehole at the start and end of shift. |

## Chiselling Columns

Indicates where hard strata occurred in the borehole and breaking out was carried out to advance the borehole.

|       |                                  |
|-------|----------------------------------|
| From  | The depth commenced.             |
| To    | The depth finished.              |
| Hours | The time spent for breaking out. |

## Water Added Columns

Indicates the depth range where water was added to the borehole to facilitate boring or to prevent stress relief disturbance "blowing/boiling" in granular soils.

|      |                                             |
|------|---------------------------------------------|
| From | Depth in metres from where water was added. |
| To   | Depth in metres to where water was added.   |

## General Remarks

Any remarks believed to be relevant to the exploratory hole.

## INFORMATION RELEVANT TO PIT/TRENCH RECORDS

The pit/trench records follow the same format as the borehole and window/windowless sample hole records for the Samples & Tests, Water and Strata columns. However, in addition to these there are the following:

### Plan

A schematic plan view of the pit showing its excavated dimensions together with its orientation, given as a compass bearing to magnetic north.

### Groundwater

Notes on water bearing horizons.

### Stability

The engineer's comments outlining the stability of the sides during pit excavation.

### General Remarks

The engineer's comments of any other information relevant to construction of the pit.

### Additional Information

An indication if a sketch and/or photographs accompany the record.

# Key Sheets



## Underground Services

|             |                                                           |
|-------------|-----------------------------------------------------------|
| Depth       | Depth service was encountered.                            |
| Orientation | Orientation given as a compass bearing to magnetic north. |
| Type        | Type of service encountered.                              |
| Diameter    | Diameter of service encountered.                          |
| Condition   | Condition the service encountered was noticed in.         |

## INFORMATION RELEVANT TO DRILLHOLE RECORDS AND ROTARY CONTINUATION

### Run Details Columns

|                |                                                                                                                                                             |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Depth          | Each drill run is highlighted by a horizontal line with the top and bottom depths shown in metres. Core diameter (C Dia) is presented also within each run. |
| TCR (SCR) RQD  | Information provided on the total core recovery, solid core recovery and rock quality designation. Refer to Abbreviations for further details.              |
| Fracture Index | Information given relating to the fracture index of the rock.                                                                                               |

### Strata Columns

As the strata columns for borehole and window/windowless sample hole records except for description which is as follows:

|                        |                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discontinuities Detail | Information on core discontinuities, localised variations in weathering, lithology, strength and structure follows recommendations outlined in BS5930. |
| Main                   | Engineering description of each individual soil or rock type follows recommendations outlined in BS5930.                                               |

### Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

### Drilling Progress and Water Observations Columns

|                |                                                                 |
|----------------|-----------------------------------------------------------------|
| Date           | Date of shift.                                                  |
| Depth          | Depth of hole at the start of the shift.                        |
| Casing         | Casing's depth at the start of the shift.                       |
| Water Strike   | Depth at which water was encountered.                           |
| Water Standing | Depth at which water in the hole levelled off.                  |
| Water Remarks  | Any remarks believed to be relevant to the water e.g. Artesian. |

### Standard Penetration Test

|        |                                          |
|--------|------------------------------------------|
| Depth  | The depth commenced.                     |
| Type   | Type of standard penetration test (SPT). |
| Result | Result of SPT.                           |

### Flush

|         |                                                                                    |
|---------|------------------------------------------------------------------------------------|
| From    | The depth commenced.                                                               |
| To      | The depth finished.                                                                |
| Type    | Details of the type of flush used. A = Air, F = Foam, W = Water and Pol = Polymer. |
| Returns | An indication of the percentage of the returned flush material.                    |

### General Remarks

Any remarks believed to be relevant to the exploratory hole.

# Key Sheets



## SAMPLES

|                   |                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------|
| B                 | Bulk disturbed sample.                                                                                                      |
| ES                | Environmental soil sample.                                                                                                  |
| EW                | Environmental water sample.                                                                                                 |
| G                 | Gas sample.                                                                                                                 |
| D                 | Small disturbed sample.                                                                                                     |
| LB                | Large bulk disturbed sample.                                                                                                |
| P                 | Piston sample.                                                                                                              |
| P*                | An attempted but failed undisturbed piston sample.                                                                          |
| U                 | Undisturbed sample.                                                                                                         |
| U*                | An attempted but failed general purpose undisturbed sample.                                                                 |
| L                 | Sonic sample liner/Windowless sample liner                                                                                  |
| U <sub>(ss)</sub> | The sample preceding brackets has been subsampled.                                                                          |
| ES <sub>(U)</sub> | Brackets following a sample denotes a subsample. The sample information within the brackets is the origin of the subsample. |
| W                 | Water sample.                                                                                                               |
| CC                | Core Cutter Sample                                                                                                          |

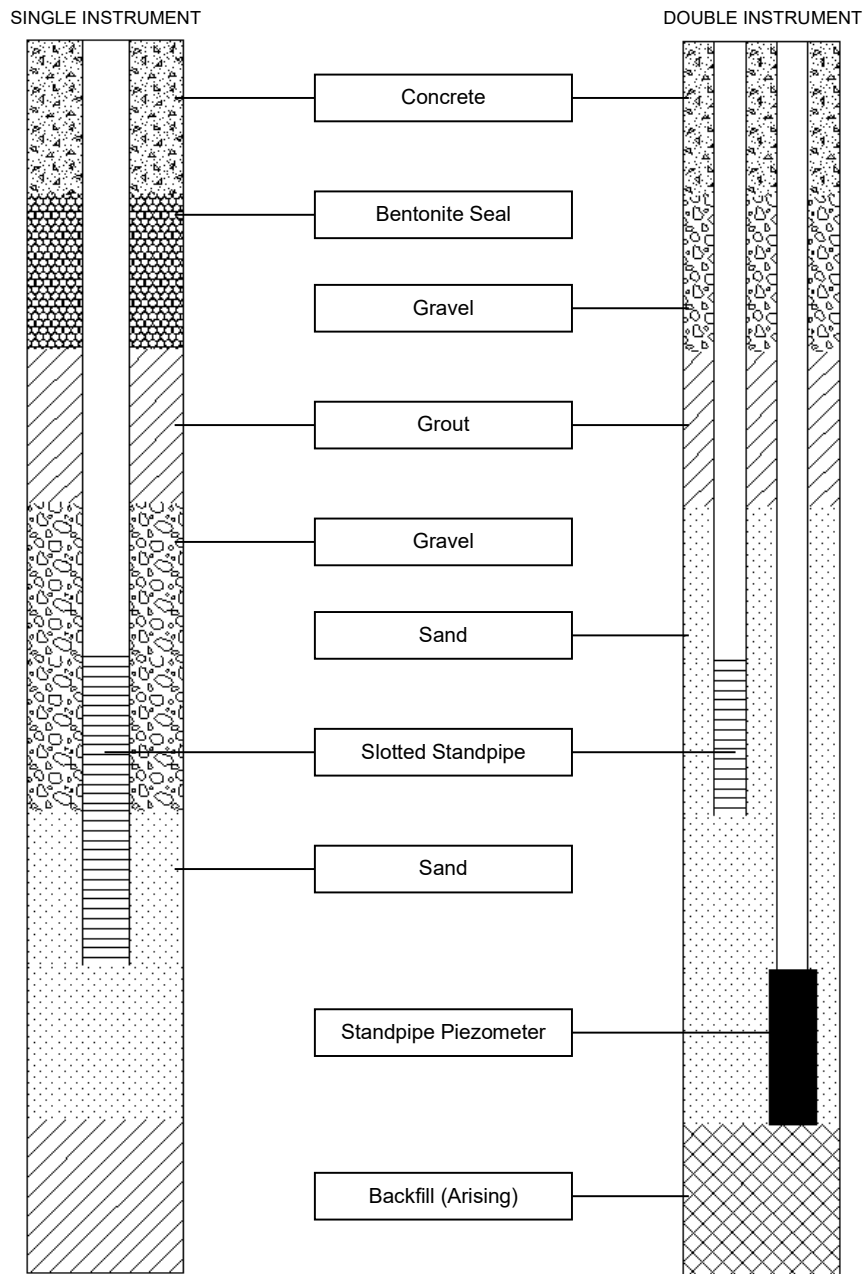
## IN-SITU TESTS

|                             |                                                                                                                                                                                                                                                                                                                |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CBR                         | California Bearing Ratio mould sample or test.                                                                                                                                                                                                                                                                 |
| HSV                         | In-situ hand shear vane.                                                                                                                                                                                                                                                                                       |
| HSV*                        | An attempted but failed in-situ hand shear vane.                                                                                                                                                                                                                                                               |
| HSV result of e.g 80(20)kPa | Denotes average HSV peak result followed by average HSV residual result (in brackets).                                                                                                                                                                                                                         |
| HP                          | Hand penetrometer test.                                                                                                                                                                                                                                                                                        |
| K (F)                       | Falling head permeability test.                                                                                                                                                                                                                                                                                |
| K (R)                       | Rising head permeability test.                                                                                                                                                                                                                                                                                 |
| K (C)                       | Constant head permeability test.                                                                                                                                                                                                                                                                               |
| K (P)                       | Packer permeability test.                                                                                                                                                                                                                                                                                      |
| PT                          | Pressuremeter test.                                                                                                                                                                                                                                                                                            |
| PID                         | Photo ionisation detector test.                                                                                                                                                                                                                                                                                |
| FID                         | Flame ionisation detector test.                                                                                                                                                                                                                                                                                |
| S                           | Standard Penetration Test (SPT) using the split barrel sampler (shoe). The corresponding uncorrected 'N' value is given in the test result column with more detailed information provided in the In-Situ Testing Enclosures where applicable. Testing has been conducted in accordance with BS EN ISO 22476-3. |
| C                           | Denotes SPT test using a solid cone in preference to the split barrel sampler (usually in coarse granular soil) with all other reporting requirements as outlined above for the split barrel sampler.                                                                                                          |
| SV                          | In-situ down-the-hole shear vane test. The remoulded shear strength is given in brackets.                                                                                                                                                                                                                      |

## ROCK QUALITY AND CORE RECOVERY

|     |                                                                                                                                                                                     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TCR | Total Core Recovery - the length of the recovered core expressed as a percentage of the length of core run.                                                                         |
| SCR | Solid Core Recovery - the sum length of all core pieces that are recovered with at least one full diameter, expressed as a percentage of the length of core run.                    |
| RQD | Rock Quality Designation - The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run. |
| FI  | Fracture Index - The number of fractures per 1000mm length of solid core.                                                                                                           |
| NI  | Non-intact - The material recovered in a non-intact state.                                                                                                                          |
| NR  | No recovery from the core run. These zones are based on the interpretation of the logging engineer and are therefore potentially subjective.                                        |

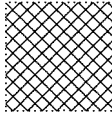
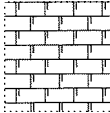
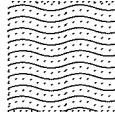
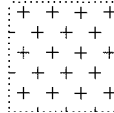
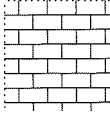
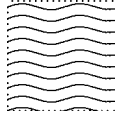
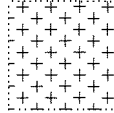
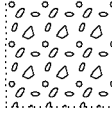
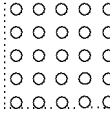
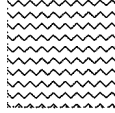
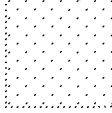
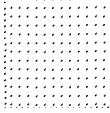
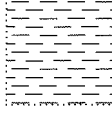
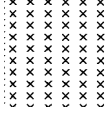
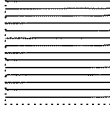
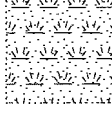
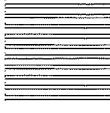
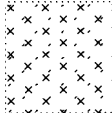
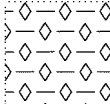
## Symbols and Abbreviations: Explanation of Instrumentation Legends Used



# Key Sheets



## Symbols and Abbreviations: Explanation of Legends Used

| Soils                                                                               | Rocks                |                                                                                     |                            |                                                                                   |                |                                                                                     |                |
|-------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------|----------------|
|                                                                                     | Sedimentary          | Metamorphic                                                                         | Igneous                    |                                                                                   |                |                                                                                     |                |
|    | Made Ground          |    | Chalk                      |  | Coarse Grained |  | Coarse Grained |
|    | Cobbles and Boulders |    | Limestone                  |  | Medium Grained |  | Medium Grained |
|    | Gravel               |    | Conglomerate               |  | Fine Grained   |  | Fine Grained   |
|    | Sand                 |    | Breccia                    |                                                                                   |                |                                                                                     |                |
|   | Silt                 |   | Sandstone                  |                                                                                   |                |                                                                                     |                |
|  | Clay                 |  | Siltstone                  |                                                                                   |                |                                                                                     |                |
|  | Peat                 |  | Mudstone                   |                                                                                   |                |                                                                                     |                |
|  | Topsoil              |  | Shale                      |                                                                                   |                |                                                                                     |                |
| Note: Composite soil types will be signified by combined symbols e.g.               |                      |  | Coal                       |                                                                                   |                |                                                                                     |                |
|  | Silty Sand           |  | Pyroclastic (Volcanic Ash) |                                                                                   |                |                                                                                     |                |
|                                                                                     |                      |  | Gypsum                     |                                                                                   |                |                                                                                     |                |

## **Exploratory Hole Location Plan**



Project ID:

NW1659

Title:

Exploratory Hole Location Plan

Project Title:

Castlefield Viaduct Phase 2

Scale:

1:1500

Location:

Castlefield Viaduct, Castlefield

Consultant:

Arup

Client:

National Trust

Contractor:

Allied Exploration & Geotechnics Limited t/a Igne

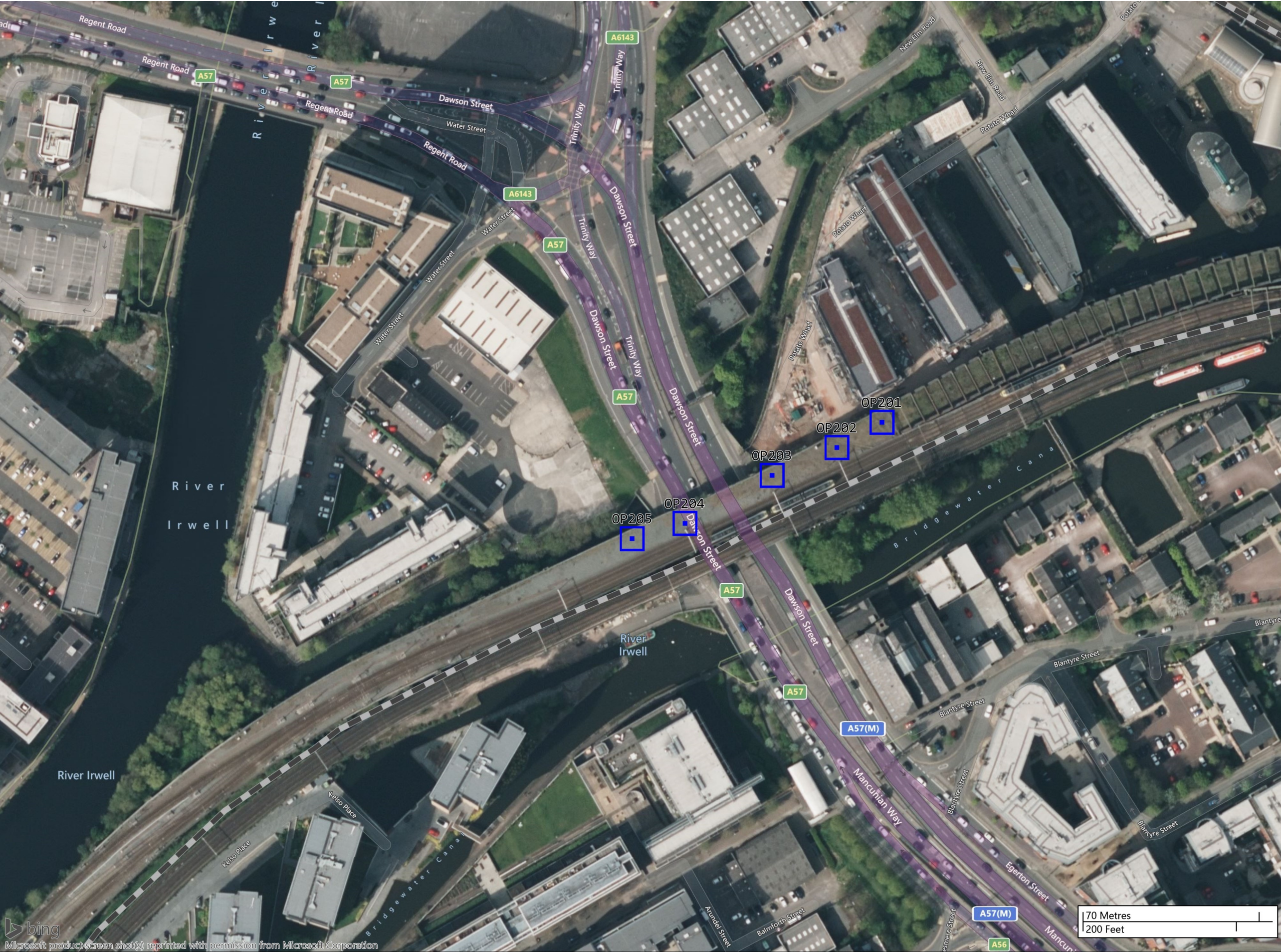


Key

Locations By Type - IP

NOTE:

All exploratory hole locations are approximate.



## Inspection Pit Records





## INSPECTION PIT RECORD

Status:-

PRELIM3

|                     |  |                                  |  |                      |             |        |
|---------------------|--|----------------------------------|--|----------------------|-------------|--------|
| Project:            |  | Castlefield Viaduct Phase 2      |  | Exploratory Hole No. |             |        |
| Client:             |  | National Trust                   |  |                      |             |        |
| Location:           |  | Castlefield Viaduct, Castlefield |  | OP201                |             |        |
| E: N:               |  |                                  |  |                      |             |        |
| Method (Equipment): |  | Hand Excavated (Hand Tools)      |  | Ground Level (m):    | Start Date: | Sheet: |
|                     |  |                                  |  |                      | 15/07/2024  | 1 of 3 |

| SAMPLES & TESTS |         |             | Water | STRATA        |        |                   |                                                                                                                                                                                       |
|-----------------|---------|-------------|-------|---------------|--------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Depth           | Type No | Test Result |       | Reduced Level | Legend | Depth (Thickness) | Description                                                                                                                                                                           |
| 0.30            | ES1     |             |       |               |        | 0.20              | MADE GROUND (Topsoil consisting of black sandy gravel with some rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to angular and includes clinker and limestone). |
|                 |         |             |       |               |        | 0.30              |                                                                                                                                                                                       |
|                 |         |             |       |               |        |                   | MADE GROUND (Black sandy gravel. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes limestone, clinker and brick).                                   |
|                 |         |             |       |               |        |                   | at c.0.20m BGL ... plastic and fabric membrane.                                                                                                                                       |
|                 |         |             |       |               |        |                   | Complete at 0.30m BGL.                                                                                                                                                                |

|                                                                                                                     |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p>PLAN</p> <p>0.40</p> <p>Face A</p> <p>Orientation 000°</p> <p>Face D</p> <p>Face B</p> <p>0.40</p> <p>Face C</p> | <p>GROUNDWATER</p> <p>No groundwater inflow observed.</p>                             |
|                                                                                                                     | <p>STABILITY</p> <p>Pit sides and base moderately unstable throughout excavation.</p> |

| ADDITIONAL INFORMATION |                 |                        | GENERAL REMARKS |  |  |
|------------------------|-----------------|------------------------|-----------------|--|--|
| Sketch Diagram:        | No Sketch Taken |                        |                 |  |  |
| Photographs:           | Yes             | See additional sheets. |                 |  |  |

All dimensions in metres  
Scale 1:50.00

For explanation of symbols and  
abbreviations see Key Sheets

Checked by:

Logged by:  
J. Myall

Contract No.  
NW1659

# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP201 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 2 of 3                     |

**Figure OP201.1**  
**OP201 Before Investigation Works.**



**Figure OP201.2**  
**OP201.**



# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |                                                     |                        |                                          |
|-------------------------------------------------|-----------------------------------------------------|------------------------|------------------------------------------|
| Project: Castlefield Viaduct Phase 2            |                                                     |                        | Exploratory Hole No.<br><br><b>OP201</b> |
| Client: National Trust                          | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                          |
| Method (Equipment): Hand Excavated (Hand Tools) | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 3 of 3                            |

**Figure OP201.3  
OP201 Reinstatement.**





# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP202 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 2 of 3                     |

**Figure OP202.1**  
**OP202 Before Investigation Works.**



**Figure OP202.2**  
**OP202.**



# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP202 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 3 of 3                     |

**Figure OP202.3  
OP202 Reinstatement.**





|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP203 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 2 of 3                     |

**Figure OP203.1**  
**OP203 Before Investigation Works.**



**Figure OP203.2**  
**OP203.**



# INSPECTION PIT RECORD

|                            |
|----------------------------|
| Status:-<br><b>PRELIM3</b> |
|----------------------------|

|                                                 |                                                     |                        |                                          |
|-------------------------------------------------|-----------------------------------------------------|------------------------|------------------------------------------|
| Project: Castlefield Viaduct Phase 2            |                                                     |                        | Exploratory Hole No.<br><br><b>OP203</b> |
| Client: National Trust                          | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                          |
| Method (Equipment): Hand Excavated (Hand Tools) | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 3 of 3                            |

**Figure OP203.3  
OP203 Reinstatement.**





|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP204 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 2 of 3                     |

**Figure OP204.1**  
**OP204 Before Investigation Works.**



**Figure OP204.2**  
**OP204.**



# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |                                                     |                        |                                          |
|-------------------------------------------------|-----------------------------------------------------|------------------------|------------------------------------------|
| Project: Castlefield Viaduct Phase 2            |                                                     |                        | Exploratory Hole No.<br><br><b>OP204</b> |
| Client: National Trust                          | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                          |
| Method (Equipment): Hand Excavated (Hand Tools) | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 3 of 3                            |

**Figure OP204.3**  
**OP204 Reinstatement.**





# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP205 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 2 of 3                     |

**Figure OP205.1**  
**OP205 Before Investigation Works.**



**Figure OP205.2**  
**OP205.**



# INSPECTION PIT RECORD

Status:-  
**PRELIM3**

|                                                 |  |                                                     |                        |                                   |
|-------------------------------------------------|--|-----------------------------------------------------|------------------------|-----------------------------------|
| Project: Castlefield Viaduct Phase 2            |  |                                                     |                        | Exploratory Hole No.<br><br>OP205 |
| Client: National Trust                          |  | Location: Castlefield Viaduct, Castlefield<br>E: N: |                        |                                   |
| Method (Equipment): Hand Excavated (Hand Tools) |  | Ground Level (m):                                   | Start Date: 15/07/2024 | Sheet: 3 of 3                     |

**Figure OP205.3  
OP205 Reinstatement.**



## **Specialist Chemical Testing (Tested Externally)**





## Certificate of Analysis

*Certificate Number* 24-14623

*Issued:* 24-Jul-24

*Client* Allied Exploration & Geotechnics Limited  
Unit 25  
Stella Gill Industrial Estate  
Pelton Fell  
DH2 2RG

*Our Reference* 24-14623

*Client Reference* ~ NW1659

*Order No* ~ A00386

*Contract Title* ~ Castlefield Viaduct Phase 2

*Description* 5 Soil samples, 5 Leachate prepared by DETS samples.

*Date Received* 16-Jul-24

*Date Started* 16-Jul-24

*Date Completed* 24-Jul-24

*Test Procedures* Identified by prefix DETSn (details on request).

*Notes* Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

*Approved By*



A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood  
General Manager



Normec DETS Limited

Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY

Symbol key at end of report Tel: 01207 582333 • email: [info@dets.co.uk](mailto:info@dets.co.uk) • [www.dets.co.uk](http://www.dets.co.uk)

Page 1 of 17

## Summary of Chemical Analysis

### Matrix Descriptions

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Sample ID | Other ID | Depth | Lab No  | Completed  | Matrix Description                                                                         |
|-----------|----------|-------|---------|------------|--------------------------------------------------------------------------------------------|
| OP201     | 1        | 0.3   | 2364747 | 24/07/2024 | Dark brown very gravelly, sandy CLAY including odd rootlets                                |
| OP202     | 1        | 0.3   | 2364748 | 24/07/2024 | Dark brown slightly gravelly, sandy CLAY including odd rootlets                            |
| OP203     | 1        | 0.3   | 2364749 | 24/07/2024 | Dark brown very gravelly, sandy CLAY including odd rootlets (Possible made ground - brick) |
| OP204     | 1        | 0.3   | 2364750 | 24/07/2024 | Dark brown very gravelly, sandy CLAY including odd rootlets (Possible made ground - brick) |
| OP205     | 1        | 0.3   | 2364751 | 24/07/2024 | Dark brown very gravelly, sandy CLAY                                                       |

# Summary of Chemical Analysis

## Soil Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364747    | 2364748    | 2364749    | 2364750    | 2364751    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                          | Method      | LOD  | Units |         |         |         |         |         |
|-------------------------------|-------------|------|-------|---------|---------|---------|---------|---------|
| <b>Metals</b>                 |             |      |       |         |         |         |         |         |
| Arsenic                       | DETSC 2301# | 0.2  | mg/kg | 27      | 30      | 3.9     | 5.9     | 26      |
| Barium                        | DETSC 2301# | 1.5  | mg/kg | 260     | 290     | 43      | 68      | 280     |
| Beryllium                     | DETSC 2301# | 0.2  | mg/kg | 1.5     | 2.5     | 0.4     | 0.6     | 2.3     |
| Boron, Water Soluble (2.5:1)  | DETSC 2311# | 0.2  | mg/kg | 0.7     | 0.8     | 0.2     | 0.3     | 0.7     |
| Cadmium                       | DETSC 2301# | 0.1  | mg/kg | 0.8     | 0.5     | 1.6     | 0.3     | 0.7     |
| Chromium                      | DETSC 2301# | 0.15 | mg/kg | 31      | 19      | 10      | 13      | 28      |
| Chromium III                  | DETSC 2301* | 0.15 | mg/kg | 31      | 19      | 10      | 13      | 28      |
| Chromium, Hexavalent          | DETSC 2204* | 1    | mg/kg | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Copper                        | DETSC 2301# | 0.2  | mg/kg | 260     | 280     | 48      | 61      | 170     |
| Lead                          | DETSC 2301# | 0.3  | mg/kg | 290     | 210     | 48      | 51      | 200     |
| Mercury                       | DETSC 2325# | 0.05 | mg/kg | 0.30    | 0.26    | < 0.05  | < 0.05  | 0.20    |
| Nickel                        | DETSC 2301# | 1    | mg/kg | 36      | 40      | 12      | 11      | 39      |
| Selenium                      | DETSC 2301# | 0.5  | mg/kg | < 0.5   | < 0.5   | < 0.5   | < 0.5   | < 0.5   |
| Vanadium                      | DETSC 2301# | 0.8  | mg/kg | 72      | 50      | 45      | 54      | 60      |
| Zinc                          | DETSC 2301# | 1    | mg/kg | 250     | 170     | 81      | 71      | 200     |
| <b>Inorganics</b>             |             |      |       |         |         |         |         |         |
| pH                            | DETSC 2008# |      | pH    | 8.1     | 8.2     | 8.7     | 9.8     | 9.5     |
| Cyanide, Total                | DETSC 2130# | 0.1  | mg/kg | 0.2     | 0.3     | < 0.1   | < 0.1   | 0.2     |
| Total Organic Carbon          | DETSC 2084# | 0.5  | %     | 16      | 25      | 2.1     | 6.3     | 20      |
| Ammoniacal Nitrogen as N      | DETSC 2119# | 0.5  | mg/kg | 1.2     | 1.7     | < 0.50  | < 0.50  | < 0.50  |
| <b>Petroleum Hydrocarbons</b> |             |      |       |         |         |         |         |         |
| Aliphatic C5-C6               | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C6-C8               | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C8-C10              | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic >EC10-EC12          | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC12-EC16          | DETSC 3521# | 1.2  | mg/kg | < 1.20  | < 1.20  | < 1.20  | < 1.20  | < 1.20  |
| Aliphatic >EC16-EC21          | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC21-EC35          | DETSC 3521# | 3.4  | mg/kg | < 3.40  | < 3.40  | < 3.40  | < 3.40  | < 3.40  |
| Aliphatic >EC35-EC40          | DETSC 3521* | 3.4  | mg/kg | < 3.40  | < 3.40  | < 3.40  | < 3.40  | < 3.40  |
| Aliphatic >EC40-EC44          | DETSC 3521* | 3.4  | mg/kg | < 3.40  | < 3.40  | < 3.40  | < 3.40  | < 3.40  |
| Aliphatic C5-C44              | DETSC 3521* | 10   | mg/kg | < 10.00 | < 10.00 | < 10.00 | < 10.00 | < 10.00 |
| Aromatic C5-C7                | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C7-C8                | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C8-C10               | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic >EC10-EC12           | DETSC 3521# | 0.9  | mg/kg | < 0.90  | 1.51    | < 0.90  | < 0.90  | < 0.90  |
| Aromatic >EC12-EC16           | DETSC 3521# | 0.5  | mg/kg | 5.55    | 8.18    | 3.20    | 2.62    | 5.53    |
| Aromatic >EC16-EC21           | DETSC 3521# | 0.6  | mg/kg | 28.21   | 37.61   | 23.24   | 19.10   | 29.01   |
| Aromatic >EC21-EC35           | DETSC 3521# | 1.4  | mg/kg | 41.33   | 57.04   | 39.14   | 33.47   | 45.45   |
| Aromatic >EC35-EC40           | DETSC 3521* | 1.4  | mg/kg | < 1.40  | < 1.40  | < 1.40  | < 1.40  | < 1.40  |
| Aromatic >EC40-EC44           | DETSC 3521* | 1.4  | mg/kg | < 1.40  | < 1.40  | < 1.40  | < 1.40  | < 1.40  |
| Aromatic C5-C44               | DETSC 3521* | 10   | mg/kg | 75.09   | 104.3   | 65.58   | 55.19   | 79.99   |

## Summary of Chemical Analysis Soil Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364747    | 2364748    | 2364749    | 2364750    | 2364751    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |       |       |       |        |       |
|-------------------------|-------------|------|-------|-------|-------|-------|--------|-------|
| TPH Ali/Aro C5-C44      | DETSC 3521* | 10   | mg/kg | 75.09 | 104.3 | 65.58 | 55.19  | 79.99 |
| <b>PAHs</b>             |             |      |       |       |       |       |        |       |
| Naphthalene             | DETSC 3303# | 0.03 | mg/kg | 0.51  | 1.4   | 0.18  | 0.14   | 0.32  |
| Acenaphthylene          | DETSC 3303# | 0.03 | mg/kg | 0.05  | 0.08  | 0.03  | < 0.03 | 0.06  |
| Acenaphthene            | DETSC 3303# | 0.03 | mg/kg | 0.90  | 1.3   | 0.51  | 0.32   | 0.78  |
| Fluorene                | DETSC 3303  | 0.03 | mg/kg | 0.49  | 0.85  | 0.29  | 0.19   | 0.46  |
| Phenanthrene            | DETSC 3303# | 0.03 | mg/kg | 4.4   | 6.3   | 3.0   | 2.1    | 4.4   |
| Anthracene              | DETSC 3303  | 0.03 | mg/kg | 0.93  | 1.4   | 0.65  | 0.48   | 1.1   |
| Fluoranthene            | DETSC 3303# | 0.03 | mg/kg | 6.2   | 8.2   | 5.1   | 3.6    | 6.8   |
| Pyrene                  | DETSC 3303# | 0.03 | mg/kg | 7.0   | 8.6   | 5.4   | 3.9    | 7.3   |
| Benzo(a)anthracene      | DETSC 3303# | 0.03 | mg/kg | 2.7   | 3.4   | 2.0   | 1.5    | 2.5   |
| Chrysene                | DETSC 3303  | 0.03 | mg/kg | 2.6   | 3.6   | 1.9   | 1.5    | 2.2   |
| Benzo(b)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 2.7   | 3.0   | 1.8   | 1.7    | 2.2   |
| Benzo(k)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 1.1   | 1.4   | 0.67  | < 0.03 | 0.76  |
| Benzo(a)pyrene          | DETSC 3303# | 0.03 | mg/kg | 2.0   | 2.6   | 1.3   | 1.1    | 1.8   |
| Indeno(1,2,3-c,d)pyrene | DETSC 3303# | 0.03 | mg/kg | 0.70  | 0.88  | 0.57  | 0.47   | 0.56  |
| Dibenzo(a,h)anthracene  | DETSC 3303# | 0.03 | mg/kg | 0.22  | 0.31  | 0.18  | 0.18   | 0.19  |
| Benzo(g,h,i)perylene    | DETSC 3303# | 0.03 | mg/kg | 1.2   | 1.3   | 0.95  | 0.78   | 0.88  |
| PAH - USEPA 16, Total   | DETSC 3303  | 0.1  | mg/kg | 34    | 44    | 24    | 18     | 32    |
| <b>Phenols</b>          |             |      |       |       |       |       |        |       |
| Phenol - Monohydric     | DETSC 2130# | 0.3  | mg/kg | 0.7   | < 0.3 | < 0.3 | < 0.3  | < 0.3 |

# Summary of Chemical Analysis Soil Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364747    | 2364748    | 2364749    | 2364750    | 2364751    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                       | Method      | LOD  | Units |        |        |        |        |        |
|----------------------------|-------------|------|-------|--------|--------|--------|--------|--------|
| <b>VOCs</b>                |             |      |       |        |        |        |        |        |
| Vinyl Chloride             | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1 Dichloroethylene       | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Trans-1,2-dichloroethylene | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1-dichloroethane         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Cis-1,2-dichloroethylene   | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2,2-dichloropropane        | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Bromochloromethane         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Chloroform                 | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1,1-trichloroethane      | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1-dichloropropene        | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Carbon tetrachloride       | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Benzene                    | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2-dichloroethane         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Trichloroethylene          | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2-dichloropropane        | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Dibromomethane             | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Bromodichloromethane       | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| cis-1,3-dichloropropene    | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Toluene                    | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| trans-1,3-dichloropropene  | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1,2-trichloroethane      | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachloroethylene        | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,3-dichloropropane        | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Dibromochloromethane       | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2-dibromoethane          | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Chlorobenzene              | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,1,1,2-tetrachloroethane  | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Ethylbenzene               | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| m+p-Xylene                 | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| o-Xylene                   | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Styrene                    | DETSC 3431* | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Bromoform                  | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Isopropylbenzene           | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Bromobenzene               | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2,3-trichloropropane     | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| n-propylbenzene            | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2-chlorotoluene            | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,3,5-trimethylbenzene     | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 4-chlorotoluene            | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tert-butylbenzene          | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

# Summary of Chemical Analysis Soil Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364747    | 2364748    | 2364749    | 2364750    | 2364751    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                        | Method      | LOD  | Units |        |        |        |        |        |
|-----------------------------|-------------|------|-------|--------|--------|--------|--------|--------|
| 1,2,4-trimethylbenzene      | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| sec-butylbenzene            | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| p-isopropyltoluene          | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,3-dichlorobenzene         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,4-dichlorobenzene         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| n-butylbenzene              | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2-dichlorobenzene         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2-dibromo-3-chloropropane | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2,4-trichlorobenzene      | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Hexachlorobutadiene         | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1,2,3-trichlorobenzene      | DETSC 3431  | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| MTBE                        | DETSC 3431* | 0.01 | mg/kg | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| <b>SVOCs</b>                |             |      |       |        |        |        |        |        |
| Phenol                      | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Aniline                     | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Chlorophenol              | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Benzyl Alcohol              | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Methylphenol              | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Bis(2-chloroisopropyl)ether | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 3&4-Methylphenol            | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,4-Dimethylphenol          | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Bis-(dichloroethoxy)methane | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,4-Dichlorophenol          | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 1,2,4-Trichlorobenzene      | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 4-Chloro-3-methylphenol     | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Methylnaphthalene         | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Hexachlorocyclopentadiene   | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,4,6-Trichlorophenol       | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,4,5-Trichlorophenol       | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Chloronaphthalene         | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Nitroaniline              | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,4-Dinitrotoluene          | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 3-Nitroaniline              | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 4-Nitrophenol               | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Dibenzofuran                | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,6-Dinitrotoluene          | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2,3,4,6-Tetrachlorophenol   | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Diethylphthalate            | DETSC 3433  | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 4-Chlorophenylphenylether   | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 4-Nitroaniline              | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| 2-Methyl-4,6-Dinitrophenol  | DETSC 3433* | 0.1  | mg/kg | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |

## Summary of Chemical Analysis Soil Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364747    | 2364748    | 2364749    | 2364750    | 2364751    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                       | Method      | LOD | Units |       |       |       |       |       |
|----------------------------|-------------|-----|-------|-------|-------|-------|-------|-------|
| Diphenylamine              | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Bromophenylphenylether   | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Hexachlorobenzene          | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Pentachlorophenol          | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Di-n-butylphthalate        | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Butylbenzylphthalate       | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Bis(2-ethylhexyl)phthalate | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Di-n-octylphthalate        | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,4-Dinitrobenzene         | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Dimethylphthalate          | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,3-Dinitrobenzene         | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dinitrobenzene         | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,3,5,6-Tetrachlorophenol  | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Azobenzene                 | DETSC 3433  | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbazole                  | DETSC 3433* | 0.1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |

# Summary of Chemical Analysis

## Leachate Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364752    | 2364753    | 2364754    | 2364755    | 2364756    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                            | Method     | LOD   | Units |         |         |         |         |         |
|---------------------------------|------------|-------|-------|---------|---------|---------|---------|---------|
| <b>Preparation</b>              |            |       |       |         |         |         |         |         |
| BS EN 12457 10:1                | DETS 1009* |       |       | Y       | Y       | Y       | Y       | Y       |
| <b>Metals</b>                   |            |       |       |         |         |         |         |         |
| Arsenic, Dissolved              | DETS 2306  | 0.16  | ug/l  | 0.75    | 1.2     | 0.63    | 0.55    | 1.0     |
| Barium, Dissolved               | DETS 2306  | 0.26  | ug/l  | 34      | 17      | 7.7     | 6.4     | 14      |
| Beryllium, Dissolved            | DETS 2306* | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Boron, Dissolved                | DETS 2306* | 12    | ug/l  | < 12    | < 12    | < 12    | < 12    | < 12    |
| Cadmium, Dissolved              | DETS 2306  | 0.03  | ug/l  | < 0.03  | < 0.03  | < 0.03  | < 0.03  | < 0.03  |
| Chromium III, Dissolved         | DETS 2306* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Chromium, Hexavalent            | DETS 2203  | 7     | ug/l  | < 7.0   | < 7.0   | < 7.0   | < 7.0   | < 7.0   |
| Copper, Dissolved               | DETS 2306  | 0.4   | ug/l  | 3.1     | 2.9     | 2.1     | 2.6     | 3.0     |
| Lead, Dissolved                 | DETS 2306  | 0.09  | ug/l  | 2.1     | 2.7     | 1.6     | 1.0     | 2.2     |
| Mercury, Dissolved              | DETS 2306  | 0.01  | ug/l  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Nickel, Dissolved               | DETS 2306  | 0.5   | ug/l  | < 0.5   | < 0.5   | < 0.5   | < 0.5   | < 0.5   |
| Selenium, Dissolved             | DETS 2306  | 0.25  | ug/l  | 0.25    | 0.34    | < 0.25  | < 0.25  | < 0.25  |
| Vanadium, Dissolved             | DETS 2306  | 0.6   | ug/l  | < 0.6   | 0.7     | 1.2     | 1.0     | 1.6     |
| Zinc, Dissolved                 | DETS 2306  | 1.3   | ug/l  | < 1.3   | 1.5     | < 1.3   | < 1.3   | 1.7     |
| <b>Inorganics</b>               |            |       |       |         |         |         |         |         |
| pH                              | DETS 2008  |       | pH    | 6.6     | 6.6     | 6.8     | 6.7     | 6.6     |
| Alkalinity as CaCO3 (Automated) | DETS 2030  | 10    | mg/l  | 11      | 11      | < 10    | < 10    | 11      |
| Ammoniacal Nitrogen as N        | DETS 2207  | 0.015 | mg/l  | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 |
| <b>Petroleum Hydrocarbons</b>   |            |       |       |         |         |         |         |         |
| Aliphatic C5-C6                 | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aliphatic C6-C8                 | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aliphatic C8-C10                | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aliphatic C10-C12               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aliphatic C10-C44               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aliphatic C12-C16               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aliphatic C16-C21               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aliphatic C21-C35               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aliphatic C35-C44               | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C5-C7                  | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aromatic C7-C8                  | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aromatic C8-C10                 | DETS 3322  | 0.1   | ug/l  | < 0.1   | < 0.1   | < 0.1   | < 0.1   | < 0.1   |
| Aromatic C10-C12                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C12-C16                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C16-C21                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C21-C35                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C35-C44                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Aromatic C10-C44                | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Ali/Aro C10-C44                 | DETS 3072* | 1     | ug/l  | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |

## Summary of Chemical Analysis

### Leachate Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364752    | 2364753    | 2364754    | 2364755    | 2364756    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |        |       |       |        |       |
|-------------------------|-------------|------|-------|--------|-------|-------|--------|-------|
| <b>PAHs</b>             |             |      |       |        |       |       |        |       |
| Naphthalene             | DETSC 3304  | 0.05 | ug/l  | 0.13   | 0.09  | 0.07  | 0.05   | 0.64  |
| Acenaphthylene          | DETSC 3304  | 0.01 | ug/l  | 0.03   | 0.03  | 0.01  | 0.01   | 0.03  |
| Acenaphthene            | DETSC 3304  | 0.01 | ug/l  | 0.06   | 0.03  | 0.02  | 0.02   | 0.08  |
| Fluorene                | DETSC 3304  | 0.01 | ug/l  | 0.03   | 0.02  | 0.01  | < 0.01 | 0.03  |
| Phenanthrene            | DETSC 3304  | 0.01 | ug/l  | 0.16   | 0.10  | 0.07  | 0.07   | 0.13  |
| Anthracene              | DETSC 3304  | 0.01 | ug/l  | < 0.01 | 0.04  | 0.03  | 0.04   | 0.05  |
| Fluoranthene            | DETSC 3304  | 0.01 | ug/l  | 0.40   | 0.25  | 0.17  | 0.21   | 0.36  |
| Pyrene                  | DETSC 3304  | 0.01 | ug/l  | 0.48   | 0.31  | 0.20  | 0.26   | 0.42  |
| Benzo(a)anthracene      | DETSC 3304* | 0.01 | ug/l  | 0.23   | 0.15  | 0.09  | 0.12   | 0.21  |
| Chrysene                | DETSC 3304  | 0.01 | ug/l  | 0.21   | 0.14  | 0.09  | 0.11   | 0.20  |
| Benzo(b)fluoranthene    | DETSC 3304  | 0.01 | ug/l  | 0.39   | 0.33  | 0.19  | 0.22   | 0.42  |
| Benzo(k)fluoranthene    | DETSC 3304  | 0.01 | ug/l  | 0.17   | 0.13  | 0.06  | 0.09   | 0.14  |
| Benzo(a)pyrene          | DETSC 3304  | 0.01 | ug/l  | 0.30   | 0.20  | 0.11  | 0.13   | 0.32  |
| Indeno(1,2,3-c,d)pyrene | DETSC 3304  | 0.01 | ug/l  | 0.19   | 0.23  | 0.12  | 0.14   | 0.28  |
| Dibenzo(a,h)anthracene  | DETSC 3304  | 0.01 | ug/l  | 0.05   | 0.05  | 0.03  | 0.03   | 0.06  |
| Benzo(g,h,i)perylene    | DETSC 3304  | 0.01 | ug/l  | 0.20   | 0.21  | 0.11  | 0.12   | 0.23  |
| PAH Total               | DETSC 3304  | 0.2  | ug/l  | 3.0    | 2.3   | 1.4   | 1.6    | 3.6   |
| <b>Phenols</b>          |             |      |       |        |       |       |        |       |
| Phenol - Monohydric     | DETSC 2130  | 100  | ug/l  | < 100  | < 100 | < 100 | < 100  | < 100 |

## Summary of Chemical Analysis

### Leachate Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364752    | 2364753    | 2364754    | 2364755    | 2364756    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                       | Method      | LOD | Units |      |      |      |      |      |
|----------------------------|-------------|-----|-------|------|------|------|------|------|
| <b>VOCs</b>                |             |     |       |      |      |      |      |      |
| Dichlorodifluoromethane    | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Chloromethane              | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Vinyl Chloride             | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Bromomethane               | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Chloroethane               | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Trichlorofluoromethane     | DETSC 3432* | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1-dichloroethylene       | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Methylene Chloride         | DETSC 3432* | 27  | ug/l  | < 27 | < 27 | < 27 | < 27 | < 27 |
| Trans-1,2-dichloroethylene | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1-dichloroethane         | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Cis-1,2-dichloroethylene   | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 2,2-dichloropropane        | DETSC 3432* | 2   | ug/l  | < 2  | < 2  | < 2  | < 2  | < 2  |
| Bromochloromethane         | DETSC 3432  | 4   | ug/l  | < 4  | < 4  | < 4  | < 4  | < 4  |
| Chloroform                 | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1,1-trichloroethane      | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1-dichloropropene        | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Carbon tetrachloride       | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Benzene                    | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,2-dichloroethane         | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Trichloroethylene          | DETSC 3432* | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,2-dichloropropane        | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Dibromomethane             | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Bromodichloromethane       | DETSC 3432  | 4   | ug/l  | < 4  | < 4  | < 4  | < 4  | < 4  |
| cis-1,3-dichloropropene    | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Toluene                    | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| trans-1,3-dichloropropene  | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1,2-trichloroethane      | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Tetrachloroethylene        | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,3-dichloropropane        | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Dibromochloromethane       | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,2-dibromoethane          | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Chlorobenzene              | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1,1,2-tetrachloroethane  | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Ethylbenzene               | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| m+p-Xylene                 | DETSC 3432  | 2   | ug/l  | < 2  | < 2  | < 2  | < 2  | < 2  |
| o-Xylene                   | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Styrene                    | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Bromoform                  | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| Isopropylbenzene           | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |
| 1,1,2,2-tetrachloroethane  | DETSC 3432  | 1   | ug/l  | < 1  | < 1  | < 1  | < 1  | < 1  |

Symbol key at end of report

General

# Summary of Chemical Analysis

## Leachate Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364752    | 2364753    | 2364754    | 2364755    | 2364756    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                        | Method      | LOD | Units |       |       |       |       |       |
|-----------------------------|-------------|-----|-------|-------|-------|-------|-------|-------|
| Bromobenzene                | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2,3-trichloropropane      | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| n-propylbenzene             | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 2-chlorotoluene             | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,3,5-trimethylbenzene      | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 4-chlorotoluene             | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| Tert-butylbenzene           | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2,4-trimethylbenzene      | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| sec-butylbenzene            | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| p-isopropyltoluene          | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,3-dichlorobenzene         | DETSC 3432  | 2   | ug/l  | < 2   | < 2   | < 2   | < 2   | < 2   |
| 1,4-dichlorobenzene         | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| n-butylbenzene              | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2-dichlorobenzene         | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2-dibromo-3-chloropropane | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2,4-trichlorobenzene      | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| Hexachlorobutadiene         | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| 1,2,3-trichlorobenzene      | DETSC 3432  | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| MTBE                        | DETSC 3432* | 1   | ug/l  | < 1   | < 1   | < 1   | < 1   | < 1   |
| <b>SVOCs</b>                |             |     |       |       |       |       |       |       |
| Phenol                      | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aniline                     | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2-Chlorophenol              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Benzyl Alcohol              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2-Methylphenol              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Bis(2-chloroisopropyl)ether | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 3&4-Methylphenol            | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Bis(2-chloroethoxy)methane  | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,4-Dimethylphenol          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,4-Dichlorophenol          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2,4-Trichlorobenzene      | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Chloro-3-methylphenol     | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2-Methylnaphthalene         | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Hexachlorocyclopentadiene   | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,4,6-Trichlorophenol       | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,4,5-Trichlorophenol       | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2-Chloronaphthalene         | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2-Nitroaniline              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,4-Dinitrotoluene          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 3-Nitroaniline              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Nitrophenol               | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |

## Summary of Chemical Analysis

### Leachate Samples

Our Ref 24-14623

Client Ref ~ NW1659

Contract Title ~ Castlefield Viaduct Phase 2

| Lab No          | 2364752    | 2364753    | 2364754    | 2364755    | 2364756    |
|-----------------|------------|------------|------------|------------|------------|
| Sample ID ~     | OP201      | OP202      | OP203      | OP204      | OP205      |
| Depth ~         | 0.30       | 0.30       | 0.30       | 0.30       | 0.30       |
| Other ID ~      | 1          | 1          | 1          | 1          | 1          |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                       | Method      | LOD | Units |       |       |       |       |       |
|----------------------------|-------------|-----|-------|-------|-------|-------|-------|-------|
| Dibenzofuran               | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,6-Dinitrotoluene         | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,3,4,6-Tetrachlorophenol  | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Diethylphthalate           | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Chlorophenylphenylether  | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Nitroaniline             | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Diphenylamine              | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 4-Bromophenylphenylether   | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Hexachlorobenzene          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Bis(2-ethylhexyl)ester     | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Pentachlorophenol          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Di-n-butylphthalate        | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Butylbenzylphthalate       | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Bis(2-ethylhexyl)phthalate | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Di-n-octylphthalate        | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,4-Dinitrobenzene         | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Dimethylphthalate          | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,3-Dinitrobenzene         | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 2,3,5,6-Tetrachlorophenol  | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Azobenzene                 | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbazole                  | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1-Methylnaphthalene        | DETSC 3434* | 1   | ug/l  | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |

## Summary of Asbestos Analysis Soil Samples

*Our Ref* 24-14623

*Client Ref* ~ NW1659

*Contract Title* ~ Castlefield Viaduct Phase 2

| Lab No  | Sample ID    | Material Type | Result | Comment* | Analyst      |
|---------|--------------|---------------|--------|----------|--------------|
| 2364747 | OP201 1 0.30 | SOIL          | NAD    | none     | Pierce Booth |
| 2364748 | OP202 1 0.30 | SOIL          | NAD    | none     | Pierce Booth |
| 2364749 | OP203 1 0.30 | SOIL          | NAD    | none     | Pierce Booth |
| 2364750 | OP204 1 0.30 | SOIL          | NAD    | none     | Pierce Booth |
| 2364751 | OP205 1 0.30 | SOIL          | NAD    | none     | Pierce Booth |

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: \* -not included in laboratory scope of accreditation.

## Information in Support of the Analytical Results

Our Ref 24-14623  
 Client Ref ~ NW1659  
 Contract ~ Castlefield Viaduct Phase 2

### Containers Received & Deviating Samples

| Lab No  | Sample ID ~         | Date Sampled ~ | Containers Received               | Hold time exceeded for tests | Inappropriate container for tests |
|---------|---------------------|----------------|-----------------------------------|------------------------------|-----------------------------------|
| 2364747 | OP201 0.30 SOIL     | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              |                                   |
| 2364748 | OP202 0.30 SOIL     | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              |                                   |
| 2364749 | OP203 0.30 SOIL     | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              |                                   |
| 2364750 | OP204 0.30 SOIL     | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              |                                   |
| 2364751 | OP205 0.30 SOIL     | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              |                                   |
| 2364752 | OP201 0.30 LEACHATE | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              | VOC                               |
| 2364753 | OP202 0.30 LEACHATE | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              | VOC                               |
| 2364754 | OP203 0.30 LEACHATE | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              | VOC                               |
| 2364755 | OP204 0.30 LEACHATE | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              | VOC                               |
| 2364756 | OP205 0.30 LEACHATE | 15/07/24       | GJ 250ml x3, GJ 60ml x2, PT 1L x2 |                              | VOC                               |

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

### Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

### Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

## Appendix A - Details of Analysis

| Method     | Parameter                                   | Units    | Limit of Detection | Sample Preparation | Sub-Contracted | UKAS | MCERTS |
|------------|---------------------------------------------|----------|--------------------|--------------------|----------------|------|--------|
| DETSC 2002 | Organic matter                              | %        | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2003 | Loss on ignition                            | %        | 0.01               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2008 | pH                                          | pH Units | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2076 | Sulphate Aqueous Extract as SO <sub>4</sub> | mg/l     | 10                 | Air Dried          | No             | Yes  | Yes    |
| DETSC 2084 | Total Organic Carbon                        | %        | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2119 | Ammoniacal Nitrogen as N                    | mg/kg    | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Cyanide free                                | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Cyanide total                               | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Phenol - Monohydric                         | mg/kg    | 0.3                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Thiocyanate                                 | mg/kg    | 0.6                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Arsenic                                     | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Barium                                      | mg/kg    | 1.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Beryllium                                   | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cadmium Available                           | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cadmium                                     | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cobalt                                      | mg/kg    | 0.7                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Chromium                                    | mg/kg    | 0.15               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Copper                                      | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Manganese                                   | mg/kg    | 20                 | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Molybdenum                                  | mg/kg    | 0.4                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Nickel                                      | mg/kg    | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Lead                                        | mg/kg    | 0.3                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Selenium                                    | mg/kg    | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Zinc                                        | mg/kg    | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2311 | Boron (water soluble)                       | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2321 | Total Sulphate as SO <sub>4</sub>           | %        | 0.01               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2325 | Mercury                                     | mg/kg    | 0.05               | Air Dried          | No             | Yes  | Yes    |
| DETSC 3049 | Sulphur (free)                              | mg/kg    | 0.75               | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Ali/Aro C10-C35                             | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C10-C12                           | mg/kg    | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C10-C35                           | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C12-C16                           | mg/kg    | 1.2                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C16-C21                           | mg/kg    | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C21-C35                           | mg/kg    | 3.4                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C10-C12                            | mg/kg    | 0.9                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C10-C35                            | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C12-C16                            | mg/kg    | 0.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C16-C21                            | mg/kg    | 0.6                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C21-C35                            | mg/kg    | 1.4                | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Acenaphthene                                | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Acenaphthylene                              | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(a)pyrene                              | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(a)anthracene                          | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(b)fluoranthene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(k)fluoranthene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(g,h,i)perylene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Dibenzo(a,h)anthracene                      | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Fluoranthene                                | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |

## Appendix A - Details of Analysis

| Method    | Parameter                              | Units | Limit of Detection | Sample Preparation | Sub-Contracted | UKAS | MCERTS |
|-----------|----------------------------------------|-------|--------------------|--------------------|----------------|------|--------|
| DETS 3303 | Indeno(1,2,3-c,d)pyrene                | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETS 3303 | Naphthalene                            | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETS 3303 | Phenanthrene                           | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETS 3303 | Pyrene                                 | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETS 3311 | C10-C24 Diesel Range Organics (DRO)    | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3311 | C24-C40 Lube Oil Range Organics (LORO) | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3311 | EPH (C10-C40)                          | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3321 | Benzene                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3321 | Ethylbenzene                           | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3321 | Toluene                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3321 | Xylene                                 | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3321 | m+p Xylene                             | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3321 | o Xylene                               | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 28 + PCB 31                        | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 52                                 | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 101                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 118                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 153                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 138                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB 180                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3401 | PCB Total                              | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Ali/Aro C10-C35                        | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aliphatic C10-C12                      | mg/kg | 1.5                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aliphatic C10-C35                      | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aliphatic C12-C16                      | mg/kg | 1.2                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aliphatic C16-C21                      | mg/kg | 1.5                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aliphatic C21-C35                      | mg/kg | 3.4                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aromatic C10-C12                       | mg/kg | 0.9                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aromatic C10-C35                       | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aromatic C12-C16                       | mg/kg | 0.5                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aromatic C16-C21                       | mg/kg | 0.6                | As Received        | No             | Yes  | Yes    |
| DETS 3521 | Aromatic C21-C35                       | mg/kg | 1.4                | As Received        | No             | Yes  | Yes    |

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

## Appendix A - Details of Analysis

| Method | Parameter | Units | Limit of Detection | Sample Preparation | Sub-Contracted | UKAS | MCERTS |
|--------|-----------|-------|--------------------|--------------------|----------------|------|--------|
|--------|-----------|-------|--------------------|--------------------|----------------|------|--------|

### Key:

~ Sample details are provided by the client and can affect the validity of the results

\* -not accredited.

# -MCERTS (accreditation only applies if report carries the MCERTS logo).

\$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

### End of Report

# Appendix B

## Human health soil screening assessment

|                                      |        |
|--------------------------------------|--------|
| Concentration exceeds GAC            | 100.00 |
| Limit of Detection value exceeds GAC | <0.1   |

ARUP

|                                      |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
|--------------------------------------|--------|--------|------------|----------|-------------|-------------|-------------|-------------|---------------------|-------------|------------|------------|------------|------------|------------|--------|---------|---------|---------|---------|--|--|--|--|--|
| Concentration exceeds GAC            |        | 100.00 |            | ARUP     |             |             |             |             | Hole Ref            | OP201       | OP202      | OP203      | OP204      | OP205      | HP101      | HP102  | HP103   | HP104   | HP105   |         |  |  |  |  |  |
| Limit of Detection value exceeds GAC |        | <0.1   |            |          |             |             |             |             | Sample Ref          | 2364747     | 2364748    | 2364749    | 2364750    | 2364751    |            |        |         |         |         |         |  |  |  |  |  |
|                                      |        |        |            |          |             |             |             |             | Sample Depth (mbgl) | 0.3         | 0.3        | 0.3        | 0.3        | 0.3        |            |        |         |         |         |         |  |  |  |  |  |
|                                      |        |        |            |          |             |             |             |             | Sample Date         | 15/07/2024  | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 | 15/07/2024 |        |         |         |         |         |  |  |  |  |  |
|                                      |        |        |            | Aquifer  | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground         | Made Ground |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
|                                      |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| Contaminant Name                     |        | GAC    | GAC Source | Units    | Total > LOD | Total > GAC | Min         | Max         | 95th %ile           |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| Metals                               |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| Arsenic, Dissolved                   | 50     | EQS    | µg/l       | 7 of 10  | 0           | 0.55        | 4.2         | 3.570       |                     | 0.75        | 1.2        | 0.63       | 0.55       | 1          | 2.8        | < 1.0  | 4.2     | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Barium, Dissolved                    | 0.7    | WHO    | µg/l       | 10 of 10 | 10          | 6.4         | 140         | 135.50      |                     | 34          | 17         | 7.7        | 6.4        | 14         | 92         | 45     | 130     | 95      | 140     | 140     |  |  |  |  |  |
| Beryllium, Dissolved                 | 2      | EQS*   | µg/l       | 2 of 10  | 0           | 0.1         | 0.4         | 0.4         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 0.2      | < 0.2  | 0.4     | < 0.2   | 0.4     | 0.4     |  |  |  |  |  |
| Boron, Dissolved                     | -      |        | µg/l       | 5 of 10  | 0           | 12          | 28          | 25.750      |                     | < 12        | < 12       | < 12       | < 12       | < 12       | 28         | 16     | 18      | 23      | 17      | 17      |  |  |  |  |  |
| Cadmium, Dissolved                   | 0.08   | EQS    | µg/l       | 0 of 10  | 0           | 0.03        | 0.08        | 0.08        |                     | < 0.03      | < 0.03     | < 0.03     | < 0.03     | < 0.03     | < 0.08     | < 0.08 | < 0.08  | < 0.08  | < 0.08  | < 0.08  |  |  |  |  |  |
| Chromium III, Dissolved              | 4.7    | EQS    | µg/l       | 0 of 10  | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Chromium, Hexavalent                 | -      |        | µg/l       | 0 of 10  | 10          | 5           | 7           | 7.0         |                     | < 7.0       | < 7.0      | < 7.0      | < 7.0      | < 7.0      | < 5.0      | < 5.0  | < 5.0   | < 5.0   | < 5.0   | < 5.0   |  |  |  |  |  |
| Copper, Dissolved                    | 1      | EQS    | µg/l       | 10 of 10 | 10          | 2.1         | 24          | 22.20       |                     | 3.1         | 2.9        | 2.1        | 2.6        | 3          | 24         | 20     | 6.8     | 8.2     | 6.7     | 6.7     |  |  |  |  |  |
| Lead, Dissolved                      | 1.2    | EQS    | µg/l       | 10 of 10 | 9           | 1           | 9.6         | 7.80        |                     | 2.1         | 2.7        | 1.6        | 1          | 2.2        | 5.6        | 2.3    | 5.2     | 2.1     | 9.6     | 9.6     |  |  |  |  |  |
| Mercury, Dissolved                   | 1      | DWS    | µg/l       | 0 of 10  | 0           | 0.01        | 0.5         | 0.5         |                     | < 0.01      | < 0.01     | < 0.01     | < 0.01     | < 0.01     | < 0.5      | < 0.5  | < 0.5   | < 0.5   | < 0.5   | < 0.5   |  |  |  |  |  |
| Nickel, Dissolved                    | 4      | EQS    | µg/l       | 5 of 10  | 0           | 0.5         | 3.7         | 3.250       |                     | < 0.5       | < 0.5      | < 0.5      | < 0.5      | < 0.5      | 3.7        | 1.6    | 2.7     | 2.6     | 2.6     | 2.6     |  |  |  |  |  |
| Selenium, Dissolved                  | 10     | DWS    | µg/l       | 2 of 10  | 0           | 0.25        | 4           | 4.0         |                     | 0.25        | 0.34       | < 0.25     | < 0.25     | < 0.25     | < 4.0      | < 4.0  | < 4.0   | < 4.0   | < 4.0   | < 4.0   |  |  |  |  |  |
| Vanadium, Dissolved                  | 20     | EQS*   | µg/l       | 4 of 10  | 0           | 0.6         | 1.7         | 1.70        |                     | < 0.6       | 0.7        | 1.2        | 1          | 1.6        | < 1.7      | < 1.7  | < 1.7   | < 1.7   | < 1.7   | < 1.7   |  |  |  |  |  |
| Zinc, Dissolved                      | 12.3   | EQS    | µg/l       | 7 of 10  | 1           | 1.3         | 28          | 18.10       |                     | < 1.3       | 1.5        | < 1.3      | < 1.3      | 1.7        | 28         | 6      | 3.8     | 4.3     | 3.4     | 3.4     |  |  |  |  |  |
| Inorganics                           |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| pH                                   | 6 to 9 |        | pH units   | 10 of 10 | 0           | 6.6         | 8           | 8.0         |                     | 6.6         | 6.6        | 6.8        | 6.7        | 6.6        | 7.7        | 7.9    | 8       | 8       | 7.9     | 7.9     |  |  |  |  |  |
| Alkalinity as CaCO3 (Automated)      | -      |        | mg/l       | 8 of 10  | 0           | 10          | 110         | 99.20       |                     | 11          | 11         | < 10       | < 10       | 11         | 86         | 56     | 69      | 110     | 77      | 77      |  |  |  |  |  |
| Ammoniacal Nitrogen as N             | 0.3    | EQS    | mg/l       | 2 of 10  | 0           | <0.015      | 0.035       | 0.03455     |                     | < 0.015     | < 0.015    | < 0.015    | < 0.015    | < 0.015    | 0.034      | 0.035  | < 0.015 | < 0.015 | < 0.015 | < 0.015 |  |  |  |  |  |
| Phenol                               | 7.7    | EQS    | µg/l       | 0 of 10  | 0           | 0.05        | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 0.05     | < 0.05 | < 0.05  | < 0.05  | < 0.05  | < 0.05  |  |  |  |  |  |
| Phenol - Monohydric                  | -      |        | µg/l       | 0 of 5   | 0           | 100         | 100         | 100.0       |                     | < 100       | < 100      | < 100      | < 100      | < 100      |            |        |         |         |         |         |  |  |  |  |  |
| TPH                                  |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| Aliphatic C5-C6                      | 15000  | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C6-C8                      | 15000  | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C8-C10                     | 300    | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C10-C12                    | 300    | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C12-C16                    | 300    | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C16-C21                    | -      |        | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C21-C35                    | -      |        | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C35-C44                    | -      |        | µg/l       | 0 of 5   | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aliphatic C10-C44                    | -      |        | µg/l       | 0 of 5   | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C5-C7                       | 10     | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C7-C8                       | 700    | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C8-C10                      | 300    | WHO    | µg/l       | 0 of 10  | 0           | 0.1         | 1           | 1.0         |                     | < 0.1       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C10-C12                     | 90     | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C12-C16                     | 90     | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C16-C21                     | 90     | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C21-C35                     | 90     | WHO    | µg/l       | 0 of 10  | 0           | 1           | 10          | 10.0        |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C35-C44                     | -      |        | µg/l       | 0 of 5   | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Aromatic C10-C44                     | -      |        | µg/l       | 0 of 5   | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| Ali/Aro C10-C44                      | -      |        | µg/l       | 0 of 5   | 0           | 1           | 1           | 1.0         |                     | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0  | < 1.0   | < 1.0   | < 1.0   | < 1.0   |  |  |  |  |  |
| PAHs                                 |        |        |            |          |             |             |             |             |                     |             |            |            |            |            |            |        |         |         |         |         |  |  |  |  |  |
| Naphthalene                          | 2      | EQS    | µg/l       | 5 of 10  | 0           | 0.01        | 0.64        | 0.4105      |                     | 0.13        | 0.09       | 0.07       | 0.05       | 0.64       | < 0.01     | < 0.01 | < 0.01  | < 0.01  | < 0.01  | < 0.01  |  |  |  |  |  |
| Acenaphthylene                       | -      |        | µg/l       | 6 of 10  | 0           | 0.01        | 0.03        | 0.03        |                     | 0.03        | 0.03       | 0.01       | 0.01       | 0.03       | < 0.01     | < 0.01 | 0.02    | < 0.01  | < 0.01  | < 0.01  |  |  |  |  |  |
| Acenaphthene                         | 2000   | USEPA  | µg/l       | 10 of 10 | 0           | 0.02        | 0.12        | 0.111       |                     | 0.06        | 0.03       | 0.02       | 0.02       | 0.08       |            |        |         |         |         |         |  |  |  |  |  |

|                                      |        |
|--------------------------------------|--------|
| Concentration exceeds GAC            | 100.00 |
| Limit of Detection value exceeds GAC | <0.1   |

ARUP

| Concentration exceeds GAC            |      | 100.00     |       | ARUP        |             |             |             |             | Hole Ref            | OP201       | OP202       | OP203       | OP204       | OP205       | HP101      | HP102      | HP103      | HP104      | HP105      |  |  |  |
|--------------------------------------|------|------------|-------|-------------|-------------|-------------|-------------|-------------|---------------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|------------|------------|--|--|--|
| Limit of Detection value exceeds GAC |      | <0.1       |       |             |             |             |             |             | Sample Ref          | 2364747     | 2364748     | 2364749     | 2364750     | 2364751     |            |            |            |            |            |  |  |  |
|                                      |      |            |       |             |             |             |             |             | Sample Depth (mbgl) | 0.3         | 0.3         | 0.3         | 0.3         | 0.3         | 0.25       | 0.3        | 0.15       | 0.3        | 0.2        |  |  |  |
|                                      |      |            |       |             |             |             |             |             | Sample Date         | 15/07/2024  | 15/07/2024  | 15/07/2024  | 15/07/2024  | 15/07/2024  | 08/07/2021 | 08/07/2021 | 08/07/2021 | 08/07/2021 | 08/07/2021 |  |  |  |
|                                      |      |            |       | Aquifer     | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground         | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground |            |            |            |            |            |  |  |  |
| Contaminant Name                     | GAC  | GAC Source | Units | Total > LOD | Total > GAC | Min         | Max         | 95th %ile   |                     |             |             |             |             |             |            |            |            |            |            |  |  |  |
| 1,3-dichloropropane                  | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Dibromochloromethane                 | 100  | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2-dibromoethane                    | 0.4  | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Chlorobenzene                        | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,1,1,2-tetrachloroethane            | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Ethylbenzene                         | 20   | EQS*       | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| m+p-Xylene                           | -    |            | µg/l  | 0 of 10     | 0           | 1           | 2           | 2.0         | < 2                 | < 2         | < 2         | < 2         | < 2         | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| o-Xylene                             | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Styrene                              | 50   | EQS*       | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Bromoform                            | 100  | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Isopropylbenzene                     | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,1,2,2-tetrachloroethane            | 400  | USEPA      | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Bromobenzene                         | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2,3-trichloropropane               | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| n-propylbenzene                      | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 2-chlorotoluene                      | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,3,5-trimethylbenzene               | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 4-chlorotoluene                      | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Tert-butylbenzene                    | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2,4-trimethylbenzene               | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| sec-butylbenzene                     | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| p-isopropyltoluene                   | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,3-Dichlorobenzene                  | 3000 | USEPA      | µg/l  | 0 of 10     | 0           | 1           | 2           | 2.0         | < 2.0               | < 2.0       | < 2.0       | < 2.0       | < 2.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,4-dichlorobenzene                  | 300  | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| n-butylbenzene                       | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2-dichlorobenzene                  | -    |            | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2-dibromo-3-chloropropane          | 1    | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2,4-trichlorobenzene               | 70   | USEPA      | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| Hexachlorobutadiene                  | 0.6  | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 1,2,3-trichlorobenzene               | -    |            | µg/l  | 0 of 10     | 0           | 0.1         | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.1      | < 0.1      | < 0.1      | < 0.1      | < 0.1      |  |  |  |
| MTBE                                 | 15   | WHO        | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| SVOCs                                |      |            |       |             |             |             |             |             |                     |             |             |             |             |             |            |            |            |            |            |  |  |  |
| Aniline                              | -    |            | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 2-Chlorophenol                       | 50   | EQS*       | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| Benzyl Alcohol                       | -    |            | µg/l  | 0 of 5      | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       |            |            |            |            |            |  |  |  |
| 2-Methylphenol                       | 100  | EQS*       | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| Bis(2-chloroisopropyl)ether          | -    |            | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 3&4-Methylphenol                     | 100  | EQS*       | µg/l  | 0 of 5      | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       |            |            |            |            |            |  |  |  |
| Bis(2-chloroethoxy)methane           | -    |            | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 2,4-Dimethylphenol                   | 100  | EQS*       | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 2,4-Dichlorophenol                   | 4.2  | EQS        | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 1,2,4-Trichlorobenzene               | 70   | USEPA      | µg/l  | 0 of 10     | 0           | 1           | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |  |  |  |
| 4-Chloro-3-methylphenol              | 40   | EQS*       | µg/l  | 0 of 10     | 0           | 0.05        | 1           | 1.0         | < 1.0               | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 1.0       | < 0.05     | < 0.05     | < 0.05     | < 0.05     | < 0.05     |  |  |  |
| 2-Methylnaphthalene                  | -    |            | µg    |             |             |             |             |             |                     |             |             |             |             |             |            |            |            |            |            |  |  |  |

# Appendix C

## Controlled waters soil leachate screening assessment

|                                                    |        |
|----------------------------------------------------|--------|
| Concentration exceeds GAC                          | 100.00 |
| Limit of Detection value exceeds GAC               | <0.1   |
| Concentration exceeds saturation value but not GAC | 50     |

ARUP

| Concentration exceeds GAC                          |          |                     |            | 100.00   |             |             |       | Hole Ref<br>Sample Ref<br>Sample Depth (mbgl)<br>Sample Date<br>Investigation<br>Geology | OP201        | OP202        | OP203        | OP204        | OP205        | HP101        | HP102        | HP103        | HP104        | HP105       |
|----------------------------------------------------|----------|---------------------|------------|----------|-------------|-------------|-------|------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Limit of Detection value exceeds GAC               |          |                     |            | <0.1     |             |             |       |                                                                                          | 2364747      | 2364748      | 2364749      | 2364750      | 2364751      |              |              |              |              |             |
| Concentration exceeds saturation value but not GAC |          |                     |            | 50       |             |             |       |                                                                                          | 0.3          | 0.3          | 0.3          | 0.3          | 0.3          | 0.25         | 0.3          | 0.15         | 0.3          | 0.2         |
|                                                    |          |                     |            |          |             |             |       |                                                                                          | 15/07/2024   | 15/07/2024   | 15/07/2024   | 15/07/2024   | 15/07/2024   | 08/07/2021   | 08/07/2021   | 08/07/2021   | 08/07/2021   | 08/07/2021  |
|                                                    |          |                     |            |          |             |             |       | ES                                                                                       | ES           | ES           | ES           | ES           | ES           | ES           | ES           | ES           | ES           | ES          |
|                                                    |          |                     |            |          |             |             |       | Made Ground                                                                              | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground  | Made Ground |
|                                                    |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| Contaminant Name                                   |          | GAC                 | GAC Source | Units    | Total > LOD | Total > GAC | Min   | Max                                                                                      |              |              |              |              |              |              |              |              |              |             |
| Metal                                              |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| Arsenic                                            | 168      | AGAC                | mg/kg      | 10 of 10 | 0           | 3.9         | 69    | 27                                                                                       | 30           | 3.9          | 5.9          | 26           | 62           | 69           | 51           | 66           | 44           |             |
| Barium                                             | -        |                     |            | 10 of 10 | 0           | 43          | 610   | 260                                                                                      | 290          | 43           | 68           | 280          | 310          | 230          | 610          | 220          | 330          |             |
| Beryllium                                          | 63       | AGAC/S4UL           | mg/kg      | 10 of 10 | 0           | 0.4         | 2.5   | 1.5                                                                                      | 2.5          | 0.4          | 0.6          | 2.3          | 1.7          | 1.9          | 1.5          | 1.3          | 1.2          |             |
| Boron, Water Soluble (2.5:1)                       | 46200    | AGAC                | mg/kg      | 10 of 10 | 0           | 0.2         | 1.1   | 0.7                                                                                      | 0.8          | 0.2          | 0.3          | 0.7          | 1.1          | 0.7          | 0.7          | 0.5          | 0.6          |             |
| Cadmium                                            | 532      | S4UL                | mg/kg      | 10 of 10 | 0           | 0.3         | 3.1   | 0.8                                                                                      | 0.5          | 1.6          | 0.3          | 0.7          | 2.4          | 3.1          | 2.6          | 2.7          | 1.6          |             |
| Chromium                                           | 33000    | AGAC/S4UL           | mg/kg      | 10 of 10 | 0           | 10          | 69    | 31                                                                                       | 19           | 10           | 13           | 28           | 58           | 69           | 63           | 61           | 57           |             |
| Chromium III                                       | 33000    | AGAC/S4UL           | mg/kg      | 10 of 10 | 0           | 10          | 69    | 31                                                                                       | 19           | 10           | 13           | 28           | 58           | 69           | 63           | 60           | 57           |             |
| Chromium, Hexavalent                               | 220      | AGAC/S4UL           | mg/kg      | 0 of 10  | 0           | 1           | 1.2   | < 1.0                                                                                    | < 1.0        | < 1.0        | < 1.0        | < 1.0        | < 1.2        | < 1.2        | < 1.2        | < 1.2        | < 1.2        |             |
| Copper                                             | 44400    | AGAC/S4UL           | mg/kg      | 10 of 10 | 0           | 48          | 330   | 260                                                                                      | 280          | 48           | 61           | 170          | 330          | 310          | 230          | 250          | 210          |             |
| Lead                                               | 1300     | C4SL                | mg/kg      | 10 of 10 | 2           | 48          | 4400  | 290                                                                                      | 210          | 48           | 51           | 200          | 1200         | 550          | 4400         | 520          | 1400         |             |
| Mercury                                            | 240      | AGAC (inorganic)    | mg/kg      | 3 of 10  | 0           | 0.05        | 0.3   | 0.3                                                                                      | 0.26         | < 0.05       | < 0.05       | 0.2          | < 0.3        | < 0.3        | < 0.3        | < 0.3        | < 0.3        |             |
| Nickel                                             | 804      | AGAC                | mg/kg      | 10 of 10 | 0           | 11          | 1.1   | 36                                                                                       | 40           | 12           | 11           | 39           | 67           | 80           | 150          | 61           | 55           |             |
| Selenium                                           | 1850     | AGAC                | mg/kg      | 0 of 10  | 0           | 0.5         | 1     | < 0.5                                                                                    | < 0.5        | < 0.5        | < 0.5        | < 0.5        | < 1.0        | < 1.0        | < 1.0        | < 1.0        | < 1.0        |             |
| Vanadium                                           | 5000     | S4UL (pentavalent)  | mg/kg      | 10 of 10 | 0           | 45          | 72    | 72                                                                                       | 50           | 45           | 54           | 60           | 67           | 70           | 65           | 68           | 67           |             |
| Zinc                                               | 173000   | AGAC                | mg/kg      | 10 of 10 | 0           | 71          | 680   | 250                                                                                      | 170          | 81           | 71           | 200          | 680          | 290          | 500          | 320          | 320          |             |
| Inorganic                                          |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| pH                                                 | -        |                     | pH units   | 10 of 10 | 0           | 7.7         | 9.8   | 8.1                                                                                      | 8.2          | 8.7          | 9.8          | 9.5          | 7.7          | 8            | 7.8          | 8            | 7.9          |             |
| Cyanide, Total                                     | 24       | AGAC                | mg/kg      | 3 of 5   | 0           | 0.1         | 0.3   | 0.2                                                                                      | 0.3          | < 0.1        | < 0.1        | 0.2          |              |              |              |              |              |             |
| Total Organic Carbon                               | -        |                     | %          | 10 of 10 | 0           | 2.1         | 25    | 16                                                                                       | 25           | 2.1          | 6.3          | 20           | 6.3          | 6            | 8.1          | 4.8          | 4.8          |             |
| Ammoniacal Nitrogen as N                           | -        |                     | mg/kg      | 4 of 10  | 0           | 0.5         | 1.7   | 1.2                                                                                      | 1.7          | < 0.5        | < 0.5        | < 0.5        | < 0.5        | < 0.5        | 0.8          | < 0.5        | 1            |             |
| Phenols - monohydric                               | 1300     | S4UL                | mg/kg      | 1 of 10  | 0           | 0.3         | 1     | 0.7                                                                                      | < 0.3        | < 0.3        | < 0.3        | < 0.3        | < 1.0        | < 1.0        | < 1.0        | < 1.0        | < 1.0        |             |
| Asbestos                                           |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| Asbestos in Soil                                   | Presence |                     |            | 0 of 10  | 0           |             |       | Not-detected                                                                             | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected |             |
| TPH                                                |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| Aliphatics >C5-C6                                  | 181000   | AGAC                | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aliphatics >C6-C8                                  | 316000   | AGAC                | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aliphatics >C8-C10                                 | 21400    | AGAC                | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aliphatics >C10-C12                                | 24300    | AGAC                | mg/kg      | 0 of 10  | 0           | 1           | 1.5   | < 1.50                                                                                   | < 1.50       | < 1.50       | < 1.50       | < 1.50       | < 1.0        | < 1.0        | < 1.0        | < 1.0        | < 1.0        |             |
| Aliphatics >C12-C16                                | 25700    | AGAC                | mg/kg      | 3 of 10  | 0           | 1.2         | 18    | < 1.20                                                                                   | < 1.20       | < 1.20       | < 1.20       | < 1.20       | 18           | < 2.0        | 12           | < 2.0        | 7.2          |             |
| Aliphatics >C16-C21                                | 494000   | AGAC (Ali >C16-35)  | mg/kg      | 3 of 10  | 0           | 1.5         | 35    | < 1.50                                                                                   | < 1.50       | < 1.50       | < 1.50       | < 1.50       | 35           | < 8.0        | 21           | < 8.0        | 28           |             |
| Aliphatics >C21-C35                                | 494000   | AGAC (Ali >C16-35)  | mg/kg      | 5 of 10  | 0           | 3.4         | 340   | < 3.40                                                                                   | < 3.40       | < 3.40       | < 3.40       | < 3.40       | 180          | 320          | 92           | 210          | 340          |             |
| Aliphatics >C35-C40                                | 494000   | AGAC (Ali >C16-35)  | mg/kg      | 0 of 5   | 0           | 3.4         | 3.4   | < 3.40                                                                                   | < 3.40       | < 3.40       | < 3.40       | < 3.40       |              |              |              |              |              |             |
| Aliphatics >C40-EC44                               | 494000   | AGAC (Ali >C16-35)  | mg/kg      | 0 of 5   | 0           | 3.4         | 3.4   | < 3.40                                                                                   | < 3.40       | < 3.40       | < 3.40       | < 3.40       |              |              |              |              |              |             |
| Aliphatic C5-C44                                   | -        |                     | mg/kg      | 0 of 5   | 0           | 10          | 10    | < 10.00                                                                                  | < 10.00      | < 10.00      | < 10.00      | < 10.00      |              |              |              |              |              |             |
| Aromatics >EC6-EC7                                 | 113      | AGAC/S4UL (benzene) | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aromatics >EC7-EC8                                 | 101000   | AGAC (toluene)      | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aromatics >EC8-EC10                                | 9290     | AGAC                | mg/kg      | 0 of 10  | 0           | 0.001       | 0.01  | < 0.01                                                                                   | < 0.01       | < 0.01       | < 0.01       | < 0.01       | < 0.001      | < 0.001      | < 0.001      | < 0.001      | < 0.001      |             |
| Aromatics >EC10-EC12                               | 10000    | AGAC/S4UL           | mg/kg      | 6 of 10  | 0           | 0.9         | 11    | < 0.90                                                                                   | 1.51         | < 0.90       | < 0.90       | < 0.90       | 4.4          | 5.6          | 11           | 6.9          | 4.6          |             |
| Aromatics >EC12-EC16                               | 10400    | AGAC                | mg/kg      | 10 of 10 | 0           | 2.62        | 42    | 5.55                                                                                     | 8.18         | 3.2          | 2.62         | 5.53         | 30           | 27           | 42           | 24           | 26           |             |
| Aromatics >EC16-EC21                               | 7770     | AGAC                | mg/kg      | 10 of 10 | 0           | 19.1        | 410   | 28.21                                                                                    | 37.61        | 23.24        | 19.1         | 29.01        | 210          | 73           | 410          | 81           | 170          |             |
| Aromatics >EC21-EC35                               | 7850     | AGAC                | mg/kg      | 10 of 10 | 0           | 33.47       | 790   | 41.33                                                                                    | 57.04        | 39.14        | 33.47        | 45.45        | 380          | 200          | 790          | 200          | 430          |             |
| Aromatics >EC35-EC40                               | 7850     | AGAC                | mg/kg      | 0 of 5   | 0           | 1.4         | 1.4   | < 1.40                                                                                   | < 1.40       | < 1.40       | < 1.40       | < 1.40       |              |              |              |              |              |             |
| Aromatic >EC40-EC44                                | 7850     | AGAC                | mg/kg      | 0 of 5   | 0           | 1.4         | 1.4   | < 1.40                                                                                   | < 1.40       | < 1.40       | < 1.40       | < 1.40       |              |              |              |              |              |             |
| Aromatic C5-C44                                    | -        |                     | mg/kg      | 5 of 5   | 0           | 55.19       | 104.3 | 75.09                                                                                    | 104.3        | 65.58        | 55.19        | 79.99        |              |              |              |              |              |             |
| TPH Ali/Aro C5-C44                                 | -        |                     | mg/kg      | 5 of 5   | 0           | 55.19       | 104.3 | 75.09                                                                                    | 104.3        | 65.58        | 55.19        | 79.99        |              |              |              |              |              |             |
| PAHs                                               |          |                     |            |          |             |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |
| Naphthalene                                        | 2950     | AGAC                | mg/kg      | 10 of 10 | 0           | 0.14        | 2.7   | 0.51                                                                                     | 1.4          | 0.18         | 0.14         | 0.32         | 2.7          | 1.8          | 2.4          | 2.3          | 1.4          |             |
| Acenaphthylene                                     | 29900    | AGAC                | mg/kg      | 8 of 10  | 0           | 0.03        | 1.3   | 0.05                                                                                     | 0.08         | 0.03         | < 0.03       | 0.06         | 0.61         | < 0.05       | 1.3          | 0.27         | 0.59         |             |
| Acenaphthene                                       | 29900    | AGAC                | mg/kg      | 10 of 10 | 0           | 0.32        | 7.4   | 0.9                                                                                      | 1.3          | 0.51         | 0.32         | 0.78         | 7.4          | 1.6          | 6.2          | 3.6          | 2.9          |             |
| Fluorene                                           | 20100    | AGAC                | mg/kg      | 10 of 10 | 0           | 0.19        | 5.2   | 0.49                                                                                     | 0.85         | 0.29         | 0.19         | 0.46         | 5.2          | 1            | 3.7          | 2            | 1.7          |             |
| Phenanthrene                                       | 6270     | AGAC                | mg/kg      | 10 of 10 | 0           | 2.1         | 54    | 4.4                                                                                      | 6.3          | 3            | 2.1          | 4.4          | 49           | 13           | 54           | 20           | 24           |             |
| Anthracene                                         | 152000   | AGAC                | mg/kg      | 10 of 10 | 0           | 0.48        | 16    | 0.93                                                                                     | 1.4          | 0.65         | 0.48         | 1.1          | 13           | 3.3          | 16           | 4.2          | 6.5          |             |
| Fluoranthene                                       | 6350     | AGAC                | mg/kg      | 10 of 10 | 0           |             |       |                                                                                          |              |              |              |              |              |              |              |              |              |             |

|                                                    |        |
|----------------------------------------------------|--------|
| Concentration exceeds GAC                          | 100.00 |
| Limit of Detection value exceeds GAC               | <0.1   |
| Concentration exceeds saturation value but not GAC | 50     |

ARUP

|                     |             |             |             |             |             |             |             |             |             |             |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Hole Ref            | OP201       | OP202       | OP203       | OP204       | OP205       | HP101       | HP102       | HP103       | HP104       | HP105       |
| Sample Ref          | 2364747     | 2364748     | 2364749     | 2364750     | 2364751     |             |             |             |             |             |
| Sample Depth (mbgl) | 0.3         | 0.3         | 0.3         | 0.3         | 0.3         | 0.25        | 0.3         | 0.15        | 0.3         | 0.2         |
| Sample Date         | 15/07/2024  | 15/07/2024  | 15/07/2024  | 15/07/2024  | 15/07/2024  | 08/07/2021  | 08/07/2021  | 08/07/2021  | 08/07/2021  | 08/07/2021  |
| Investigation       | ES          | ES          | ES          | ES          | ES          | ES          | ES          | ES          | ES          | ES          |
| Geology             | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground | Made Ground |

| Contaminant Name            | GAC    | GAC Source            | Units | Total > LOD | Total > GAC | Min  | Max  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------|--------|-----------------------|-------|-------------|-------------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|
| 1,1,2-trichloroethane       | 1480   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Tetrachloroethylene         | 1460   | AGAC                  | mg/kg | 0 of 5      | 0           | 0.01 | 0.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,3-dichloropropane         | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Dibromochloromethane        | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2-dibromoethane           | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Chlorobenzene               | 2900   | AGAC/S4UL             | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,1,1,2-tetrachloroethane   | 2070   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Ethylbenzene                | 27100  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| m+p-Xylene                  | 31500  | AGAC (p-xylene)       | mg/kg | 0 of 9      | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| o-Xylene                    | 32600  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Styrene                     | 6120   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Bromoform                   | 5220   | AGAC                  | mg/kg | 0 of 5      | 0           | 0.01 | 0.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| Isopropylbenzene            | 33800  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Bromobenzene                | 3460   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2,3-trichloropropane      | -      |                       | mg/kg | 0 of 5      | 0           | 0.01 | 0.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| n-propylbenzene             | 43900  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-chlorotoluene             | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,3,5-trimethylbenzene      | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-chlorotoluene             | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Tert-butylbenzene           | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2,4-trimethylbenzene      | 408    | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| sec-butylbenzene            | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| p-isopropyltoluene          | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,3-dichlorobenzene         | 392    | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,4-dichlorobenzene         | 36000  | S4UL (inh)            | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| n-butylbenzene              | -      |                       | mg/kg | 0 of 5      | 0           | 0.01 | 0.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2-dichlorobenzene         | 50500  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2-dibromo-3-chloropropane | -      |                       | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2,4-trichlorobenzene      | 3980   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Hexachlorobutadiene         | 50.8   | AGAC/S4UL             | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2,3-trichlorobenzene      | 1570   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| MTBE                        | -      |                       | mg/kg | 0 of 9      | 0           | 0.01 | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>SVOCs</b>                |        |                       |       |             |             |      |      |  |  |  |  |  |  |  |  |  |  |  |  |
| Phenol                      | 1300   | S4UL (direct contact) | mg/kg | 0 of 10     | 0           | 0.2  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Aniline                     | -      |                       | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Chlorophenol              | 1060   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Benzyl Alcohol              | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Methylphenol              | 49400  | AGAC                  | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Bis(2-chloroisopropyl)ether | -      |                       | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 3&4-Methylphenol            | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,4-Dimethylphenol          | 9880   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Bis-(dichloroethoxy)methane | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,4-Dichlorophenol          | 1040   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2,4-Trichlorobenzene      | 3980   | AGAC                  | mg/kg | 0 of 10     | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-Chloro-3-methylphenol     | -      |                       | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Methylnaphthalene         | -      |                       | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Hexachlorocyclopentadiene   | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,4,6-Trichlorophenol       | 1060   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,4,5-Trichlorophenol       | 1100   | S4UL                  | mg/kg | 0 of 10     | 0           | 0.2  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Chloronaphthalene         | 2750   | AGAC                  | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Nitroaniline              | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,4-Dinitrotoluene          | 990    | AGAC                  | mg/kg | 0 of 10     | 0           | 0.2  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Nitroaniline              | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-Nitrophenol               | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Dibenzofuran                | -      |                       | mg/kg | 0 of 10     | 0           | 0.2  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,6-Dinitrotoluene          | 498    | AGAC                  | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,3,4,6-Tetrachlorophenol   | 1050   | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Diethylphthalate            | 96000  |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-Chlorophenylphenylether   | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-Nitroaniline              | -      |                       | mg/kg | 0 of 10     | 0           | 0.2  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Methyl-4,6-Dinitrophenol  | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Diphenylamine               | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-Bromophenylphenylether    | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Hexachlorobenzene           | 29.7   | AGAC/S4UL             | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Pentachlorophenol           | 117    | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Di-n-butylphthalate         | 2630   | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Butylbenzylphthalate        | 259000 | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Bis(2-ethylhexyl)phthalate  | 16800  | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Di-n-octylphthalate         | 20000  | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,4-Dinitrobenzene          | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Dimethylphthalate           | -      |                       | mg/kg | 0 of 10     | 0           | 0.1  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,3-Dinitrobenzene          | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,2-Dinitrobenzene          | -      |                       | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| 2,3,5,6-Tetrachlorophenol   | 1050   | AGAC                  | mg/kg | 0 of 5      | 0           | 1    | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Azobenzene                  | -      |                       | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |
| Carbazole                   | -      |                       | mg/kg | 0 of 10     | 0           | 0.3  | 1    |  |  |  |  |  |  |  |  |  |  |  |  |

# Appendix D

## Hazardous waste assessment

## Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



EOPUE-BRY1Z-JVG0R

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

### Job name

Castlefield Viaduct 1

### Description/Comments

Screening assessment to classify waste material from Castlefield Viaduct site.

### Project

Castlefield Viaduct

### Site

Castlefield Viaduct

### Classified by

Name: **Lottie Harold**  
Date: **09 Aug 2024 09:17 GMT**  
Telephone: **07711093533**  
Company: **Ove Arup**  
**6th floor, 3 Piccadilly Place**  
**MANCHESTER**  
**M1 3BN**

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

**HazWasteOnline™ Certification:**

**CERTIFIED**

**Course**  
Hazardous Waste Classification

**Date**  
06 Jun 2024

Next 3 year Refresher due by Jun 2027

### Purpose of classification

2 - Material Characterisation

### Address of the waste

Castlefield Viaduct, Greater, Manchester

**Post Code** M3 4LG

### SIC for the process giving rise to the waste

43120 Site preparation

### Description of industry/producer giving rise to the waste

Redevelopment of viaduct structure into a public garden.

### Description of the specific process, sub-process and/or activity that created the waste

Waste created during the removal of material from the viaduct structure.

### Description of the waste

Made ground comprising sand, gravel, brick and clinker, with a plastic membrane.

**Job summary**

| #  | Sample name | Depth [m] | Classification Result | Hazard properties                  | Page |
|----|-------------|-----------|-----------------------|------------------------------------|------|
| 1  | OP201       | 0.3       | Non Hazardous         |                                    | 3    |
| 2  | OP202       | 0.3       | Non Hazardous         |                                    | 5    |
| 3  | OP203       | 0.3       | Non Hazardous         |                                    | 7    |
| 4  | OP204       | 0.3       | Non Hazardous         |                                    | 9    |
| 5  | OP205       | 0.3       | Non Hazardous         |                                    | 11   |
| 6  | HP101       | 0.25      | Hazardous             | HP 7                               | 13   |
| 7  | HP102       | 0.3       | Non Hazardous         |                                    | 15   |
| 8  | HP103       | 0.15      | Hazardous             | HP 3(i), HP 7, HP 10, HP 11, HP 14 | 17   |
| 9  | HP104       | 0.3       | Non Hazardous         |                                    | 20   |
| 10 | HP105       | 0.2       | Hazardous             | HP 3(i), HP 7, HP 11               | 22   |

**Related documents**

| # | Name                                | Description                                   |
|---|-------------------------------------|-----------------------------------------------|
| 1 | Arup Contaminated Land Template 001 | waste stream template used to create this Job |

**Report**

Created by: Lottie Harold

Created date: 09 Aug 2024 09:17 GMT

| Appendices                                                                 | Page |
|----------------------------------------------------------------------------|------|
| <a href="#">Appendix A: Classifier defined and non GB MCL determinands</a> | 25   |
| <a href="#">Appendix B: Rationale for selection of metal species</a>       | 26   |
| <a href="#">Appendix C: Version</a>                                        | 27   |

**Classification of sample: OP201**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>OP201</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                                                            |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                    | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                                                           |                                |                                  |          | 27                | mg/kg | 1.32         | 35.649         | mg/kg | 0.00356 %            | ✓          |                |
|    | 033-003-00-0                                                                                                                                                                           | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                                                                                                                |                                |                                  |          | 260               | mg/kg | 1.117        | 290.292        | mg/kg | 0.029 %              | ✓          |                |
|    |                                                                                                                                                                                        | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                                                                                                          |                                |                                  |          | 1.5               | mg/kg | 2.775        | 4.163          | mg/kg | 0.000416 %           | ✓          |                |
|    | 004-003-00-8                                                                                                                                                                           | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                                                                                                            |                                |                                  |          | 0.7               | mg/kg | 6.272        | 4.39           | mg/kg | 0.000439 %           | ✓          |                |
|    | 005-001-00-X                                                                                                                                                                           | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                                                                                                            |                                |                                  | 1        | 0.8               | mg/kg | 1.285        | 1.028          | mg/kg | 0.00008 %            | ✓          |                |
|    | 048-010-00-4                                                                                                                                                                           | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                                                                                                          |                                |                                  |          | 31                | mg/kg | 1.462        | 45.308         | mg/kg | 0.00453 %            | ✓          |                |
|    |                                                                                                                                                                                        | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                                                            |                                |                                  |          | 260               | mg/kg | 1.126        | 292.731        | mg/kg | 0.0293 %             | ✓          |                |
|    | 029-002-00-X                                                                                                                                                                           | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }                                                                                     |                                |                                  | 1        | 290               | mg/kg |              | 290            | mg/kg | 0.029 %              | ✓          |                |
|    | 082-001-00-6                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                                                         |                                |                                  |          | 0.3               | mg/kg | 1.353        | 0.406          | mg/kg | 0.0000406 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                                                           | 231-299-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel dihydroxide }                                                                                                                                                          |                                |                                  |          | 36                | mg/kg | 1.579        | 56.862         | mg/kg | 0.00569 %            | ✓          |                |
|    | 028-008-00-X                                                                                                                                                                           | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 11 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                                 |                                |                                  |          | 72                | mg/kg | 1.785        | 128.533        | mg/kg | 0.0129 %             | ✓          |                |
|    | 023-001-00-8                                                                                                                                                                           | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc oxide }                                                                                                                                                                    |                                |                                  |          | 250               | mg/kg | 1.245        | 311.178        | mg/kg | 0.0311 %             | ✓          |                |
|    | 030-013-00-7                                                                                                                                                                           | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 13 | pH                                                                                                                                                                                     |                                |                                  |          | 8.1               | pH    |              | 8.1            | pH    | 8.1 pH               |            |                |
|    |                                                                                                                                                                                        |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 14 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } |                                |                                  |          | 0.2               | mg/kg | 1.884        | 0.377          | mg/kg | 0.0000377 %          | ✓          |                |
|    | 006-007-00-5                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 15 | phenol                                                                                                                                                                                 |                                |                                  |          | 0.7               | mg/kg |              | 0.7            | mg/kg | 0.00007 %            | ✓          |                |
|    | 604-001-00-2                                                                                                                                                                           | 203-632-7                      | 108-95-2                         |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 16     | TPH (C6 to C40) petroleum group    |           |            |          | 75.09 mg/kg       |              | 75.09 mg/kg    | 0.00751 %            | ✓          |                |
|        |                                    |           | TPH        |          |                   |              |                |                      |            |                |
| 17     | naphthalene                        |           |            |          | 0.51 mg/kg        |              | 0.51 mg/kg     | 0.000051 %           | ✓          |                |
|        | 601-052-00-2                       | 202-049-5 | 91-20-3    |          |                   |              |                |                      |            |                |
| 18     | acenaphthylene                     |           |            |          | 0.05 mg/kg        |              | 0.05 mg/kg     | 0.000005 %           | ✓          |                |
|        |                                    | 205-917-1 | 208-96-8   |          |                   |              |                |                      |            |                |
| 19     | acenaphthene                       |           |            |          | 0.9 mg/kg         |              | 0.9 mg/kg      | 0.00009 %            | ✓          |                |
|        |                                    | 201-469-6 | 83-32-9    |          |                   |              |                |                      |            |                |
| 20     | fluorene                           |           |            |          | 0.49 mg/kg        |              | 0.49 mg/kg     | 0.000049 %           | ✓          |                |
|        |                                    | 201-695-5 | 86-73-7    |          |                   |              |                |                      |            |                |
| 21     | phenanthrene                       |           |            |          | 4.4 mg/kg         |              | 4.4 mg/kg      | 0.00044 %            | ✓          |                |
|        |                                    | 201-581-5 | 85-01-8    |          |                   |              |                |                      |            |                |
| 22     | anthracene                         |           |            |          | 0.93 mg/kg        |              | 0.93 mg/kg     | 0.000093 %           | ✓          |                |
|        |                                    | 204-371-1 | 120-12-7   |          |                   |              |                |                      |            |                |
| 23     | fluoranthene                       |           |            |          | 6.2 mg/kg         |              | 6.2 mg/kg      | 0.00062 %            | ✓          |                |
|        |                                    | 205-912-4 | 206-44-0   |          |                   |              |                |                      |            |                |
| 24     | pyrene                             |           |            |          | 7 mg/kg           |              | 7 mg/kg        | 0.0007 %             | ✓          |                |
|        |                                    | 204-927-3 | 129-00-0   |          |                   |              |                |                      |            |                |
| 25     | benzo[a]anthracene                 |           |            |          | 2.7 mg/kg         |              | 2.7 mg/kg      | 0.00027 %            | ✓          |                |
|        | 601-033-00-9                       | 200-280-6 | 56-55-3    |          |                   |              |                |                      |            |                |
| 26     | chrysene                           |           |            |          | 2.6 mg/kg         |              | 2.6 mg/kg      | 0.00026 %            | ✓          |                |
|        | 601-048-00-0                       | 205-923-4 | 218-01-9   |          |                   |              |                |                      |            |                |
| 27     | benzo[b]fluoranthene               |           |            |          | 2.7 mg/kg         |              | 2.7 mg/kg      | 0.00027 %            | ✓          |                |
|        | 601-034-00-4                       | 205-911-9 | 205-99-2   |          |                   |              |                |                      |            |                |
| 28     | benzo[k]fluoranthene               |           |            |          | 1.1 mg/kg         |              | 1.1 mg/kg      | 0.00011 %            | ✓          |                |
|        | 601-036-00-5                       | 205-916-6 | 207-08-9   |          |                   |              |                |                      |            |                |
| 29     | benzo[a]pyrene; benzo[def]chrysene |           |            |          | 2 mg/kg           |              | 2 mg/kg        | 0.0002 %             | ✓          |                |
|        | 601-032-00-3                       | 200-028-5 | 50-32-8    |          |                   |              |                |                      |            |                |
| 30     | indeno[123-cd]pyrene               |           |            |          | 0.7 mg/kg         |              | 0.7 mg/kg      | 0.00007 %            | ✓          |                |
|        |                                    | 205-893-2 | 193-39-5   |          |                   |              |                |                      |            |                |
| 31     | dibenz[a,h]anthracene              |           |            |          | 0.22 mg/kg        |              | 0.22 mg/kg     | 0.000022 %           | ✓          |                |
|        | 601-041-00-2                       | 200-181-8 | 53-70-3    |          |                   |              |                |                      |            |                |
| 32     | benzo[ghi]perylene                 |           |            |          | 1.2 mg/kg         |              | 1.2 mg/kg      | 0.00012 %            | ✓          |                |
|        |                                    | 205-883-8 | 191-24-2   |          |                   |              |                |                      |            |                |
| 33     | PAHs (total)                       |           |            |          | 34 mg/kg          |              | 34 mg/kg       | 0.0034 %             | ✓          |                |
|        |                                    |           |            |          |                   |              |                |                      |            |                |
| Total: |                                    |           |            |          |                   |              |                | 0.16 %               |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| CLP: Note 1 | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
|             | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(j): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: **1000 mg/kg (0.1%)**  
 because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00751%)

**Classification of sample: OP202**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>OP202</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                                                            |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                    | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                                                           |                                |                                  |          | 30                | mg/kg | 1.32         | 39.61          | mg/kg | 0.00396 %            | ✓          |                |
|    | 033-003-00-0                                                                                                                                                                           | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                                                                                                                |                                |                                  |          | 290               | mg/kg | 1.117        | 323.787        | mg/kg | 0.0324 %             | ✓          |                |
|    |                                                                                                                                                                                        | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                                                                                                          |                                |                                  |          | 2.5               | mg/kg | 2.775        | 6.938          | mg/kg | 0.000694 %           | ✓          |                |
|    | 004-003-00-8                                                                                                                                                                           | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                                                                                                            |                                |                                  |          | 0.8               | mg/kg | 6.272        | 5.017          | mg/kg | 0.000502 %           | ✓          |                |
|    | 005-001-00-X                                                                                                                                                                           | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                                                                                                            |                                |                                  | 1        | 0.5               | mg/kg | 1.285        | 0.643          | mg/kg | 0.00005 %            | ✓          |                |
|    | 048-010-00-4                                                                                                                                                                           | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                                                                                                          |                                |                                  |          | 19                | mg/kg | 1.462        | 27.77          | mg/kg | 0.00278 %            | ✓          |                |
|    |                                                                                                                                                                                        | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                                                            |                                |                                  |          | 280               | mg/kg | 1.126        | 315.249        | mg/kg | 0.0315 %             | ✓          |                |
|    | 029-002-00-X                                                                                                                                                                           | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }                                                                                     |                                |                                  | 1        | 210               | mg/kg |              | 210            | mg/kg | 0.021 %              | ✓          |                |
|    | 082-001-00-6                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                                                         |                                |                                  |          | 0.26              | mg/kg | 1.353        | 0.352          | mg/kg | 0.0000352 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                                                           | 231-299-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel dihydroxide }                                                                                                                                                          |                                |                                  |          | 40                | mg/kg | 1.579        | 63.18          | mg/kg | 0.00632 %            | ✓          |                |
|    | 028-008-00-X                                                                                                                                                                           | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 11 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                                 |                                |                                  |          | 50                | mg/kg | 1.785        | 89.259         | mg/kg | 0.00893 %            | ✓          |                |
|    | 023-001-00-8                                                                                                                                                                           | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc oxide }                                                                                                                                                                    |                                |                                  |          | 170               | mg/kg | 1.245        | 211.601        | mg/kg | 0.0212 %             | ✓          |                |
|    | 030-013-00-7                                                                                                                                                                           | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 13 | pH                                                                                                                                                                                     |                                |                                  |          | 8.2               | pH    |              | 8.2            | pH    | 8.2 pH               |            |                |
|    |                                                                                                                                                                                        |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 14 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } |                                |                                  |          | 0.3               | mg/kg | 1.884        | 0.565          | mg/kg | 0.0000565 %          | ✓          |                |
|    | 006-007-00-5                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 15 | TPH (C6 to C40) petroleum group                                                                                                                                                        |                                |                                  |          | 102.83            | mg/kg |              | 102.83         | mg/kg | 0.0103 %             | ✓          |                |
|    |                                                                                                                                                                                        |                                |                                  |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 16     | naphthalene                        |           |            |          | 1.4 mg/kg         |              | 1.4 mg/kg      | 0.00014 %            | ✓          |                |
|        | 601-052-00-2                       | 202-049-5 | 91-20-3    |          |                   |              |                |                      |            |                |
| 17     | acenaphthylene                     |           |            |          | 0.08 mg/kg        |              | 0.08 mg/kg     | 0.000008 %           | ✓          |                |
|        |                                    | 205-917-1 | 208-96-8   |          |                   |              |                |                      |            |                |
| 18     | acenaphthene                       |           |            |          | 1.3 mg/kg         |              | 1.3 mg/kg      | 0.00013 %            | ✓          |                |
|        |                                    | 201-469-6 | 83-32-9    |          |                   |              |                |                      |            |                |
| 19     | fluorene                           |           |            |          | 0.85 mg/kg        |              | 0.85 mg/kg     | 0.000085 %           | ✓          |                |
|        |                                    | 201-695-5 | 86-73-7    |          |                   |              |                |                      |            |                |
| 20     | phenanthrene                       |           |            |          | 6.3 mg/kg         |              | 6.3 mg/kg      | 0.00063 %            | ✓          |                |
|        |                                    | 201-581-5 | 85-01-8    |          |                   |              |                |                      |            |                |
| 21     | anthracene                         |           |            |          | 1.4 mg/kg         |              | 1.4 mg/kg      | 0.00014 %            | ✓          |                |
|        |                                    | 204-371-1 | 120-12-7   |          |                   |              |                |                      |            |                |
| 22     | fluoranthene                       |           |            |          | 8.2 mg/kg         |              | 8.2 mg/kg      | 0.00082 %            | ✓          |                |
|        |                                    | 205-912-4 | 206-44-0   |          |                   |              |                |                      |            |                |
| 23     | pyrene                             |           |            |          | 8.6 mg/kg         |              | 8.6 mg/kg      | 0.00086 %            | ✓          |                |
|        |                                    | 204-927-3 | 129-00-0   |          |                   |              |                |                      |            |                |
| 24     | benzo[a]anthracene                 |           |            |          | 3.4 mg/kg         |              | 3.4 mg/kg      | 0.00034 %            | ✓          |                |
|        | 601-033-00-9                       | 200-280-6 | 56-55-3    |          |                   |              |                |                      |            |                |
| 25     | chrysene                           |           |            |          | 3.6 mg/kg         |              | 3.6 mg/kg      | 0.00036 %            | ✓          |                |
|        | 601-048-00-0                       | 205-923-4 | 218-01-9   |          |                   |              |                |                      |            |                |
| 26     | benzo[b]fluoranthene               |           |            |          | 3 mg/kg           |              | 3 mg/kg        | 0.0003 %             | ✓          |                |
|        | 601-034-00-4                       | 205-911-9 | 205-99-2   |          |                   |              |                |                      |            |                |
| 27     | benzo[k]fluoranthene               |           |            |          | 1.4 mg/kg         |              | 1.4 mg/kg      | 0.00014 %            | ✓          |                |
|        | 601-036-00-5                       | 205-916-6 | 207-08-9   |          |                   |              |                |                      |            |                |
| 28     | benzo[a]pyrene; benzo[def]chrysene |           |            |          | 2.6 mg/kg         |              | 2.6 mg/kg      | 0.00026 %            | ✓          |                |
|        | 601-032-00-3                       | 200-028-5 | 50-32-8    |          |                   |              |                |                      |            |                |
| 29     | indeno[123-cd]pyrene               |           |            |          | 0.88 mg/kg        |              | 0.88 mg/kg     | 0.000088 %           | ✓          |                |
|        |                                    | 205-893-2 | 193-39-5   |          |                   |              |                |                      |            |                |
| 30     | dibenz[a,h]anthracene              |           |            |          | 0.31 mg/kg        |              | 0.31 mg/kg     | 0.000031 %           | ✓          |                |
|        | 601-041-00-2                       | 200-181-8 | 53-70-3    |          |                   |              |                |                      |            |                |
| 31     | benzo[ghi]perylene                 |           |            |          | 1.3 mg/kg         |              | 1.3 mg/kg      | 0.00013 %            | ✓          |                |
|        |                                    | 205-883-8 | 191-24-2   |          |                   |              |                |                      |            |                |
| 32     | PAHs (total)                       |           |            |          | 44 mg/kg          |              | 44 mg/kg       | 0.0044 %             | ✓          |                |
|        |                                    |           |            |          |                   |              |                |                      |            |                |
| Total: |                                    |           |            |          |                   |              |                | 0.149 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| •           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0103%)

**Classification of sample: OP203**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>OP203</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 3.9               | mg/kg | 1.32         | 5.149          | mg/kg | 0.000515 %           | ✓          |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                            |                                |                                  |          | 43                | mg/kg | 1.117        | 48.01          | mg/kg | 0.0048 %             | ✓          |                |
|    |                                                                                                    | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                      |                                |                                  |          | 0.4               | mg/kg | 2.775        | 1.11           | mg/kg | 0.000111 %           | ✓          |                |
|    | 004-003-00-8                                                                                       | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                        |                                |                                  |          | 0.2               | mg/kg | 6.272        | 1.254          | mg/kg | 0.000125 %           | ✓          |                |
|    | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 1.6               | mg/kg | 1.285        | 2.056          | mg/kg | 0.00016 %            | ✓          |                |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 10                | mg/kg | 1.462        | 14.616         | mg/kg | 0.00146 %            | ✓          |                |
|    |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 48                | mg/kg | 1.126        | 54.043         | mg/kg | 0.0054 %             | ✓          |                |
|    | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 48                | mg/kg |              | 48             | mg/kg | 0.0048 %             | ✓          |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 12                | mg/kg | 1.579        | 18.954         | mg/kg | 0.0019 %             | ✓          |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 45                | mg/kg | 1.785        | 80.333         | mg/kg | 0.00803 %            | ✓          |                |
|    | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11 | zinc { zinc oxide }                                                                                |                                |                                  |          | 81                | mg/kg | 1.245        | 100.822        | mg/kg | 0.0101 %             | ✓          |                |
|    | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12 | pH                                                                                                 |                                | PH                               |          | 8.7               | pH    |              | 8.7            | pH    | 8.7 pH               |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |                                | TPH                              |          | 65.58             | mg/kg |              | 65.58          | mg/kg | 0.00656 %            | ✓          |                |
| 14 | naphthalene                                                                                        |                                |                                  |          | 0.18              | mg/kg |              | 0.18           | mg/kg | 0.000018 %           | ✓          |                |
|    | 601-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 15 | acenaphthylene                                                                                     |                                |                                  |          | 0.03              | mg/kg |              | 0.03           | mg/kg | 0.000003 %           | ✓          |                |
|    |                                                                                                    | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 16 | acenaphthene                                                                                       |                                |                                  |          | 0.51              | mg/kg |              | 0.51           | mg/kg | 0.000051 %           | ✓          |                |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |              |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|--------------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number    | CAS Number |          |                   |              |                |                      |            |                |
| 17     | fluorene                           | 201-695-5    | 86-73-7    |          | 0.29 mg/kg        |              | 0.29 mg/kg     | 0.000029 %           | ✓          |                |
| 18     | phenanthrene                       | 201-581-5    | 85-01-8    |          | 3 mg/kg           |              | 3 mg/kg        | 0.0003 %             | ✓          |                |
| 19     | anthracene                         | 204-371-1    | 120-12-7   |          | 0.65 mg/kg        |              | 0.65 mg/kg     | 0.000065 %           | ✓          |                |
| 20     | fluoranthene                       | 205-912-4    | 206-44-0   |          | 5.1 mg/kg         |              | 5.1 mg/kg      | 0.00051 %            | ✓          |                |
| 21     | pyrene                             | 204-927-3    | 129-00-0   |          | 5.4 mg/kg         |              | 5.4 mg/kg      | 0.00054 %            | ✓          |                |
| 22     | benzo[a]anthracene                 | 601-033-00-9 | 200-280-6  |          | 2 mg/kg           |              | 2 mg/kg        | 0.0002 %             | ✓          |                |
| 23     | chrysene                           | 601-048-00-0 | 205-923-4  |          | 1.9 mg/kg         |              | 1.9 mg/kg      | 0.00019 %            | ✓          |                |
| 24     | benzo[b]fluoranthene               | 601-034-00-4 | 205-911-9  |          | 1.8 mg/kg         |              | 1.8 mg/kg      | 0.00018 %            | ✓          |                |
| 25     | benzo[k]fluoranthene               | 601-036-00-5 | 205-916-6  |          | 0.67 mg/kg        |              | 0.67 mg/kg     | 0.000067 %           | ✓          |                |
| 26     | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5  |          | 1.3 mg/kg         |              | 1.3 mg/kg      | 0.00013 %            | ✓          |                |
| 27     | indeno[123-cd]pyrene               | 205-893-2    | 193-39-5   |          | 0.57 mg/kg        |              | 0.57 mg/kg     | 0.000057 %           | ✓          |                |
| 28     | dibenz[a,h]anthracene              | 601-041-00-2 | 200-181-8  |          | 0.18 mg/kg        |              | 0.18 mg/kg     | 0.000018 %           | ✓          |                |
| 29     | benzo[ghi]perylene                 | 205-883-8    | 191-24-2   |          | 0.95 mg/kg        |              | 0.95 mg/kg     | 0.000095 %           | ✓          |                |
| 30     | PAHs (total)                       |              |            |          | 24 mg/kg          |              | 24 mg/kg       | 0.0024 %             | ✓          |                |
| Total: |                                    |              |            |          |                   |              |                | 0.0488 %             |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| 🧪           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: **1000 mg/kg (0.1%)**  
 because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00656%)

**Classification of sample: OP204**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>OP204</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 5.9               | mg/kg | 1.32         | 7.79           | mg/kg | 0.000779 %           | ✓          |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                            |                                |                                  |          | 68                | mg/kg | 1.117        | 75.922         | mg/kg | 0.00759 %            | ✓          |                |
|    |                                                                                                    | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                      |                                |                                  |          | 0.6               | mg/kg | 2.775        | 1.665          | mg/kg | 0.000167 %           | ✓          |                |
|    | 004-003-00-8                                                                                       | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                        |                                |                                  |          | 0.3               | mg/kg | 6.272        | 1.882          | mg/kg | 0.000188 %           | ✓          |                |
|    | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 0.3               | mg/kg | 1.285        | 0.386          | mg/kg | 0.00003 %            | ✓          |                |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 13                | mg/kg | 1.462        | 19             | mg/kg | 0.0019 %             | ✓          |                |
|    |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 61                | mg/kg | 1.126        | 68.679         | mg/kg | 0.00687 %            | ✓          |                |
|    | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 51                | mg/kg |              | 51             | mg/kg | 0.0051 %             | ✓          |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 11                | mg/kg | 1.579        | 17.374         | mg/kg | 0.00174 %            | ✓          |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 54                | mg/kg | 1.785        | 96.4           | mg/kg | 0.00964 %            | ✓          |                |
|    | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11 | zinc { zinc oxide }                                                                                |                                |                                  |          | 71                | mg/kg | 1.245        | 88.375         | mg/kg | 0.00884 %            | ✓          |                |
|    | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12 | pH                                                                                                 |                                | PH                               |          | 9.8               | pH    |              | 9.8            | pH    | 9.8 pH               |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |                                | TPH                              |          | 55.19             | mg/kg |              | 55.19          | mg/kg | 0.00552 %            | ✓          |                |
| 14 | naphthalene                                                                                        |                                |                                  |          | 0.14              | mg/kg |              | 0.14           | mg/kg | 0.000014 %           | ✓          |                |
|    | 601-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 15 | acenaphthene                                                                                       |                                |                                  |          | 0.32              | mg/kg |              | 0.32           | mg/kg | 0.000032 %           | ✓          |                |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |
| 16 | fluorene                                                                                           |                                |                                  |          | 0.19              | mg/kg |              | 0.19           | mg/kg | 0.000019 %           | ✓          |                |
|    |                                                                                                    | 201-695-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |              |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|--------------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number    | CAS Number |          |                   |              |                |                      |            |                |
| 17     | phenanthrene                       | 201-581-5    | 85-01-8    |          | 2.1 mg/kg         |              | 2.1 mg/kg      | 0.00021 %            | ✓          |                |
| 18     | anthracene                         | 204-371-1    | 120-12-7   |          | 0.48 mg/kg        |              | 0.48 mg/kg     | 0.000048 %           | ✓          |                |
| 19     | fluoranthene                       | 205-912-4    | 206-44-0   |          | 3.6 mg/kg         |              | 3.6 mg/kg      | 0.00036 %            | ✓          |                |
| 20     | pyrene                             | 204-927-3    | 129-00-0   |          | 3.9 mg/kg         |              | 3.9 mg/kg      | 0.00039 %            | ✓          |                |
| 21     | benzo[a]anthracene                 | 601-033-00-9 | 200-280-6  |          | 1.5 mg/kg         |              | 1.5 mg/kg      | 0.00015 %            | ✓          |                |
| 22     | chrysene                           | 601-048-00-0 | 205-923-4  |          | 1.5 mg/kg         |              | 1.5 mg/kg      | 0.00015 %            | ✓          |                |
| 23     | benzo[b]fluoranthene               | 601-034-00-4 | 205-911-9  |          | 1.7 mg/kg         |              | 1.7 mg/kg      | 0.00017 %            | ✓          |                |
| 24     | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5  |          | 1.1 mg/kg         |              | 1.1 mg/kg      | 0.00011 %            | ✓          |                |
| 25     | indeno[123-cd]pyrene               | 205-893-2    | 193-39-5   |          | 0.47 mg/kg        |              | 0.47 mg/kg     | 0.000047 %           | ✓          |                |
| 26     | dibenz[a,h]anthracene              | 601-041-00-2 | 200-181-8  |          | 0.18 mg/kg        |              | 0.18 mg/kg     | 0.000018 %           | ✓          |                |
| 27     | benzo[ghi]perylene                 | 205-883-8    | 191-24-2   |          | 0.78 mg/kg        |              | 0.78 mg/kg     | 0.000078 %           | ✓          |                |
| 28     | PAHs (total)                       |              |            |          | 18 mg/kg          |              | 18 mg/kg       | 0.0018 %             | ✓          |                |
| Total: |                                    |              |            |          |                   |              |                | 0.052 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| •           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00552%)

**Classification of sample: OP205**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>OP205</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                                                            |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                    | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                                                           |                                |                                  |          | 26                | mg/kg | 1.32         | 34.328         | mg/kg | 0.00343 %            | ✓          |                |
|    | 033-003-00-0                                                                                                                                                                           | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                                                                                                                |                                |                                  |          | 280               | mg/kg | 1.117        | 312.622        | mg/kg | 0.0313 %             | ✓          |                |
|    |                                                                                                                                                                                        | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                                                                                                          |                                |                                  |          | 2.3               | mg/kg | 2.775        | 6.383          | mg/kg | 0.000638 %           | ✓          |                |
|    | 004-003-00-8                                                                                                                                                                           | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                                                                                                            |                                |                                  |          | 0.7               | mg/kg | 6.272        | 4.39           | mg/kg | 0.000439 %           | ✓          |                |
|    | 005-001-00-X                                                                                                                                                                           | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                                                                                                            |                                |                                  | 1        | 0.7               | mg/kg | 1.285        | 0.9            | mg/kg | 0.00007 %            | ✓          |                |
|    | 048-010-00-4                                                                                                                                                                           | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                                                                                                          |                                |                                  |          | 28                | mg/kg | 1.462        | 40.924         | mg/kg | 0.00409 %            | ✓          |                |
|    |                                                                                                                                                                                        | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                                                            |                                |                                  |          | 170               | mg/kg | 1.126        | 191.401        | mg/kg | 0.0191 %             | ✓          |                |
|    | 029-002-00-X                                                                                                                                                                           | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }                                                                                     |                                |                                  | 1        | 200               | mg/kg |              | 200            | mg/kg | 0.02 %               | ✓          |                |
|    | 082-001-00-6                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                                                         |                                |                                  |          | 0.2               | mg/kg | 1.353        | 0.271          | mg/kg | 0.0000271 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                                                           | 231-299-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel dihydroxide }                                                                                                                                                          |                                |                                  |          | 39                | mg/kg | 1.579        | 61.6           | mg/kg | 0.00616 %            | ✓          |                |
|    | 028-008-00-X                                                                                                                                                                           | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 11 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                                 |                                |                                  |          | 60                | mg/kg | 1.785        | 107.111        | mg/kg | 0.0107 %             | ✓          |                |
|    | 023-001-00-8                                                                                                                                                                           | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc oxide }                                                                                                                                                                    |                                |                                  |          | 200               | mg/kg | 1.245        | 248.943        | mg/kg | 0.0249 %             | ✓          |                |
|    | 030-013-00-7                                                                                                                                                                           | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 13 | pH                                                                                                                                                                                     |                                |                                  |          | 9.5               | pH    |              | 9.5            | pH    | 9.5 pH               |            |                |
|    |                                                                                                                                                                                        |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 14 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } |                                |                                  |          | 0.2               | mg/kg | 1.884        | 0.377          | mg/kg | 0.0000377 %          | ✓          |                |
|    | 006-007-00-5                                                                                                                                                                           |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 15 | TPH (C6 to C40) petroleum group                                                                                                                                                        |                                |                                  |          | 79.99             | mg/kg |              | 79.99          | mg/kg | 0.008 %              | ✓          |                |
|    |                                                                                                                                                                                        |                                |                                  |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 16     | naphthalene                        |           |            |          | 0.32 mg/kg        |              | 0.32 mg/kg     | 0.000032 %           | ✓          |                |
|        | 601-052-00-2                       | 202-049-5 | 91-20-3    |          |                   |              |                |                      |            |                |
| 17     | acenaphthylene                     |           |            |          | 0.06 mg/kg        |              | 0.06 mg/kg     | 0.000006 %           | ✓          |                |
|        |                                    | 205-917-1 | 208-96-8   |          |                   |              |                |                      |            |                |
| 18     | acenaphthene                       |           |            |          | 0.78 mg/kg        |              | 0.78 mg/kg     | 0.000078 %           | ✓          |                |
|        |                                    | 201-469-6 | 83-32-9    |          |                   |              |                |                      |            |                |
| 19     | fluorene                           |           |            |          | 0.46 mg/kg        |              | 0.46 mg/kg     | 0.000046 %           | ✓          |                |
|        |                                    | 201-695-5 | 86-73-7    |          |                   |              |                |                      |            |                |
| 20     | phenanthrene                       |           |            |          | 4.4 mg/kg         |              | 4.4 mg/kg      | 0.00044 %            | ✓          |                |
|        |                                    | 201-581-5 | 85-01-8    |          |                   |              |                |                      |            |                |
| 21     | anthracene                         |           |            |          | 1.1 mg/kg         |              | 1.1 mg/kg      | 0.00011 %            | ✓          |                |
|        |                                    | 204-371-1 | 120-12-7   |          |                   |              |                |                      |            |                |
| 22     | fluoranthene                       |           |            |          | 6.8 mg/kg         |              | 6.8 mg/kg      | 0.00068 %            | ✓          |                |
|        |                                    | 205-912-4 | 206-44-0   |          |                   |              |                |                      |            |                |
| 23     | pyrene                             |           |            |          | 7.3 mg/kg         |              | 7.3 mg/kg      | 0.00073 %            | ✓          |                |
|        |                                    | 204-927-3 | 129-00-0   |          |                   |              |                |                      |            |                |
| 24     | benzo[a]anthracene                 |           |            |          | 2.5 mg/kg         |              | 2.5 mg/kg      | 0.00025 %            | ✓          |                |
|        | 601-033-00-9                       | 200-280-6 | 56-55-3    |          |                   |              |                |                      |            |                |
| 25     | chrysene                           |           |            |          | 2.2 mg/kg         |              | 2.2 mg/kg      | 0.00022 %            | ✓          |                |
|        | 601-048-00-0                       | 205-923-4 | 218-01-9   |          |                   |              |                |                      |            |                |
| 26     | benzo[b]fluoranthene               |           |            |          | 2.2 mg/kg         |              | 2.2 mg/kg      | 0.00022 %            | ✓          |                |
|        | 601-034-00-4                       | 205-911-9 | 205-99-2   |          |                   |              |                |                      |            |                |
| 27     | benzo[k]fluoranthene               |           |            |          | 0.76 mg/kg        |              | 0.76 mg/kg     | 0.000076 %           | ✓          |                |
|        | 601-036-00-5                       | 205-916-6 | 207-08-9   |          |                   |              |                |                      |            |                |
| 28     | benzo[a]pyrene; benzo[def]chrysene |           |            |          | 1.8 mg/kg         |              | 1.8 mg/kg      | 0.00018 %            | ✓          |                |
|        | 601-032-00-3                       | 200-028-5 | 50-32-8    |          |                   |              |                |                      |            |                |
| 29     | indeno[123-cd]pyrene               |           |            |          | 0.56 mg/kg        |              | 0.56 mg/kg     | 0.000056 %           | ✓          |                |
|        |                                    | 205-893-2 | 193-39-5   |          |                   |              |                |                      |            |                |
| 30     | dibenz[a,h]anthracene              |           |            |          | 0.19 mg/kg        |              | 0.19 mg/kg     | 0.000019 %           | ✓          |                |
|        | 601-041-00-2                       | 200-181-8 | 53-70-3    |          |                   |              |                |                      |            |                |
| 31     | benzo[ghi]perylene                 |           |            |          | 0.88 mg/kg        |              | 0.88 mg/kg     | 0.000088 %           | ✓          |                |
|        |                                    | 205-883-8 | 191-24-2   |          |                   |              |                |                      |            |                |
| 32     | PAHs (total)                       |           |            |          | 32 mg/kg          |              | 32 mg/kg       | 0.0032 %             | ✓          |                |
|        |                                    |           |            |          |                   |              |                |                      |            |                |
| Total: |                                    |           |            |          |                   |              |                | 0.135 %              |            |                |

## Key

|                                                                                     |                                                                                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | User supplied data                                                                                                              |
| •                                                                                   | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|  | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1                                                                         | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.008%)

**Classification of sample: HP101**

 **Hazardous Waste**  
 Classified as **17 05 03 \***  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>HP101</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | Entry: 17 05 03 * (Soil and stones containing hazardous substances)                                |
| <b>0.25 m</b> |                                                                                                    |

**Hazard properties**

**HP 7: Carcinogenic** "waste which induces cancer or increases its incidence"

Hazard Statements hit:

**Carc. 1A; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.12%)

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 62                | mg/kg | 1.32         | 81.86          | mg/kg | 0.00819 %            | ✓          |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                            |                                |                                  |          | 310               | mg/kg | 1.117        | 346.117        | mg/kg | 0.0346 %             | ✓          |                |
|    |                                                                                                    | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                      |                                |                                  |          | 1.7               | mg/kg | 2.775        | 4.718          | mg/kg | 0.000472 %           | ✓          |                |
|    | 004-003-00-8                                                                                       | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                        |                                |                                  |          | 1.1               | mg/kg | 6.272        | 6.899          | mg/kg | 0.00069 %            | ✓          |                |
|    | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 2.4               | mg/kg | 1.285        | 3.085          | mg/kg | 0.00024 %            | ✓          |                |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 58                | mg/kg | 1.462        | 84.77          | mg/kg | 0.00848 %            | ✓          |                |
|    |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 330               | mg/kg | 1.126        | 371.543        | mg/kg | 0.0372 %             | ✓          |                |
|    | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 1200              | mg/kg |              | 1200           | mg/kg | 0.12 %               | ✓          |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 67                | mg/kg | 1.579        | 105.826        | mg/kg | 0.0106 %             | ✓          |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 67                | mg/kg | 1.785        | 119.607        | mg/kg | 0.012 %              | ✓          |                |
|    | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11 | zinc { zinc oxide }                                                                                |                                |                                  |          | 680               | mg/kg | 1.245        | 846.406        | mg/kg | 0.0846 %             | ✓          |                |
|    | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12 | pH                                                                                                 |                                |                                  |          | 7.7               | pH    |              | 7.7            | pH    | 7.7 pH               |            |                |
|    |                                                                                                    |                                | PH                               |          |                   |       |              |                |       |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |                                |                                  |          | 857.4             | mg/kg |              | 857.4          | mg/kg | 0.0857 %             | ✓          |                |
|    |                                                                                                    |                                | TPH                              |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 14     | naphthalene                        |           |            |          | 2.7 mg/kg         |              | 2.7 mg/kg      | 0.00027 %            | ✓          |                |
|        | 601-052-00-2                       | 202-049-5 | 91-20-3    |          |                   |              |                |                      |            |                |
| 15     | acenaphthylene                     |           |            |          | 0.61 mg/kg        |              | 0.61 mg/kg     | 0.000061 %           | ✓          |                |
|        |                                    | 205-917-1 | 208-96-8   |          |                   |              |                |                      |            |                |
| 16     | acenaphthene                       |           |            |          | 7.4 mg/kg         |              | 7.4 mg/kg      | 0.00074 %            | ✓          |                |
|        |                                    | 201-469-6 | 83-32-9    |          |                   |              |                |                      |            |                |
| 17     | fluorene                           |           |            |          | 5.2 mg/kg         |              | 5.2 mg/kg      | 0.00052 %            | ✓          |                |
|        |                                    | 201-695-5 | 86-73-7    |          |                   |              |                |                      |            |                |
| 18     | phenanthrene                       |           |            |          | 49 mg/kg          |              | 49 mg/kg       | 0.0049 %             | ✓          |                |
|        |                                    | 201-581-5 | 85-01-8    |          |                   |              |                |                      |            |                |
| 19     | anthracene                         |           |            |          | 13 mg/kg          |              | 13 mg/kg       | 0.0013 %             | ✓          |                |
|        |                                    | 204-371-1 | 120-12-7   |          |                   |              |                |                      |            |                |
| 20     | fluoranthene                       |           |            |          | 81 mg/kg          |              | 81 mg/kg       | 0.0081 %             | ✓          |                |
|        |                                    | 205-912-4 | 206-44-0   |          |                   |              |                |                      |            |                |
| 21     | pyrene                             |           |            |          | 78 mg/kg          |              | 78 mg/kg       | 0.0078 %             | ✓          |                |
|        |                                    | 204-927-3 | 129-00-0   |          |                   |              |                |                      |            |                |
| 22     | benzo[a]anthracene                 |           |            |          | 41 mg/kg          |              | 41 mg/kg       | 0.0041 %             | ✓          |                |
|        | 601-033-00-9                       | 200-280-6 | 56-55-3    |          |                   |              |                |                      |            |                |
| 23     | chrysene                           |           |            |          | 39 mg/kg          |              | 39 mg/kg       | 0.0039 %             | ✓          |                |
|        | 601-048-00-0                       | 205-923-4 | 218-01-9   |          |                   |              |                |                      |            |                |
| 24     | benzo[b]fluoranthene               |           |            |          | 44 mg/kg          |              | 44 mg/kg       | 0.0044 %             | ✓          |                |
|        | 601-034-00-4                       | 205-911-9 | 205-99-2   |          |                   |              |                |                      |            |                |
| 25     | benzo[k]fluoranthene               |           |            |          | 16 mg/kg          |              | 16 mg/kg       | 0.0016 %             | ✓          |                |
|        | 601-036-00-5                       | 205-916-6 | 207-08-9   |          |                   |              |                |                      |            |                |
| 26     | benzo[a]pyrene; benzo[def]chrysene |           |            |          | 37 mg/kg          |              | 37 mg/kg       | 0.0037 %             | ✓          |                |
|        | 601-032-00-3                       | 200-028-5 | 50-32-8    |          |                   |              |                |                      |            |                |
| 27     | indeno[123-cd]pyrene               |           |            |          | 14 mg/kg          |              | 14 mg/kg       | 0.0014 %             | ✓          |                |
|        |                                    | 205-893-2 | 193-39-5   |          |                   |              |                |                      |            |                |
| 28     | dibenz[a,h]anthracene              |           |            |          | 4.4 mg/kg         |              | 4.4 mg/kg      | 0.00044 %            | ✓          |                |
|        | 601-041-00-2                       | 200-181-8 | 53-70-3    |          |                   |              |                |                      |            |                |
| 29     | benzo[ghi]perylene                 |           |            |          | 17 mg/kg          |              | 17 mg/kg       | 0.0017 %             | ✓          |                |
|        |                                    | 205-883-8 | 191-24-2   |          |                   |              |                |                      |            |                |
| 30     | PAHs (total)                       |           |            |          | 448 mg/kg         |              | 448 mg/kg      | 0.0448 %             | ✓          |                |
|        |                                    |           |            |          |                   |              |                |                      |            |                |
| Total: |                                    |           |            |          |                   |              |                | 0.492 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Hazardous result                                                                                                                |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0857%)

**Classification of sample: HP102**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>HP102</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                                  |
| <b>0.3 m</b>  | Entry:                                                                                             |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 69                | mg/kg | 1.32         | 91.102         | mg/kg | 0.00911 %            | ✓          |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                            |                                |                                  |          | 230               | mg/kg | 1.117        | 256.796        | mg/kg | 0.0257 %             | ✓          |                |
|    |                                                                                                    | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                      |                                |                                  |          | 1.9               | mg/kg | 2.775        | 5.273          | mg/kg | 0.000527 %           | ✓          |                |
|    | 004-003-00-8                                                                                       | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                        |                                |                                  |          | 0.7               | mg/kg | 6.272        | 4.39           | mg/kg | 0.000439 %           | ✓          |                |
|    | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 3.1               | mg/kg | 1.285        | 3.984          | mg/kg | 0.00031 %            | ✓          |                |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 69                | mg/kg | 1.462        | 100.847        | mg/kg | 0.0101 %             | ✓          |                |
|    |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 310               | mg/kg | 1.126        | 349.025        | mg/kg | 0.0349 %             | ✓          |                |
|    | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 550               | mg/kg |              | 550            | mg/kg | 0.055 %              | ✓          |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 80                | mg/kg | 1.579        | 126.36         | mg/kg | 0.0126 %             | ✓          |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 70                | mg/kg | 1.785        | 124.963        | mg/kg | 0.0125 %             | ✓          |                |
|    | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11 | zinc { zinc oxide }                                                                                |                                |                                  |          | 290               | mg/kg | 1.245        | 360.967        | mg/kg | 0.0361 %             | ✓          |                |
|    | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12 | pH                                                                                                 |                                | PH                               |          | 8                 | pH    |              | 8              | pH    | 8pH                  |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |                                | TPH                              |          | 625.6             | mg/kg |              | 625.6          | mg/kg | 0.0626 %             | ✓          |                |
| 14 | naphthalene                                                                                        |                                |                                  |          | 1.8               | mg/kg |              | 1.8            | mg/kg | 0.00018 %            | ✓          |                |
|    | 601-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 15 | acenaphthene                                                                                       |                                |                                  |          | 1.6               | mg/kg |              | 1.6            | mg/kg | 0.00016 %            | ✓          |                |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |
| 16 | fluorene                                                                                           |                                |                                  |          | 1                 | mg/kg |              | 1              | mg/kg | 0.0001 %             | ✓          |                |
|    |                                                                                                    | 201-695-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |              |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|--------------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number    | CAS Number |          |                   |              |                |                      |            |                |
| 17     | phenanthrene                       | 201-581-5    | 85-01-8    |          | 13 mg/kg          |              | 13 mg/kg       | 0.0013 %             | ✓          |                |
| 18     | anthracene                         | 204-371-1    | 120-12-7   |          | 3.3 mg/kg         |              | 3.3 mg/kg      | 0.00033 %            | ✓          |                |
| 19     | fluoranthene                       | 205-912-4    | 206-44-0   |          | 24 mg/kg          |              | 24 mg/kg       | 0.0024 %             | ✓          |                |
| 20     | pyrene                             | 204-927-3    | 129-00-0   |          | 23 mg/kg          |              | 23 mg/kg       | 0.0023 %             | ✓          |                |
| 21     | benzo[a]anthracene                 | 601-033-00-9 | 200-280-6  |          | 14 mg/kg          |              | 14 mg/kg       | 0.0014 %             | ✓          |                |
| 22     | chrysene                           | 601-048-00-0 | 205-923-4  |          | 12 mg/kg          |              | 12 mg/kg       | 0.0012 %             | ✓          |                |
| 23     | benzo[b]fluoranthene               | 601-034-00-4 | 205-911-9  |          | 14 mg/kg          |              | 14 mg/kg       | 0.0014 %             | ✓          |                |
| 24     | benzo[k]fluoranthene               | 601-036-00-5 | 205-916-6  |          | 5.3 mg/kg         |              | 5.3 mg/kg      | 0.00053 %            | ✓          |                |
| 25     | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5  |          | 12 mg/kg          |              | 12 mg/kg       | 0.0012 %             | ✓          |                |
| 26     | indeno[123-cd]pyrene               | 205-893-2    | 193-39-5   |          | 5.8 mg/kg         |              | 5.8 mg/kg      | 0.00058 %            | ✓          |                |
| 27     | dibenz[a,h]anthracene              | 601-041-00-2 | 200-181-8  |          | 1.4 mg/kg         |              | 1.4 mg/kg      | 0.00014 %            | ✓          |                |
| 28     | benzo[ghi]perylene                 | 205-883-8    | 191-24-2   |          | 6.5 mg/kg         |              | 6.5 mg/kg      | 0.00065 %            | ✓          |                |
| 29     | PAHs (total)                       |              |            |          | 140 mg/kg         |              | 140 mg/kg      | 0.014 %              | ✓          |                |
| Total: |                                    |              |            |          |                   |              |                | 0.288 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| •           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: **1000 mg/kg (0.1%)**  
 because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0626%)

## Classification of sample: HP103

 **Hazardous Waste**  
Classified as **17 05 03 \***  
in the List of Waste

## Sample details

|               |           |                                                                                           |
|---------------|-----------|-------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code: |                                                                                           |
| <b>HP103</b>  | Chapter:  | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | Entry:    | 17 05 03 * (Soil and stones containing hazardous substances)                              |
| <b>0.15 m</b> |           |                                                                                           |

## Hazard properties

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.138%)

**HP 7: Carcinogenic** "waste which induces cancer or increases its incidence"

Hazard Statements hit:

**Carc. 1A; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.44%)

**Carc. 1B; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.138%)

**HP 10: Toxic for reproduction** "waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring"

Hazard Statements hit:

**Repr. 1A; H360Df** "May damage the unborn child. Suspected of damaging fertility."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.44%)

**HP 11: Mutagenic** "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

**Muta. 1B; H340** "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.138%)

**HP 14: Ecotoxic** "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

**Aquatic Chronic 1; H410** "Very toxic to aquatic life with long lasting effects."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.44%)

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |              |                                | CLP Note                         | User entered data | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------|--------------------------------|----------------------------------|-------------------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number    | CAS Number                     |                                  |                   |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       | 033-003-00-0 | 215-481-4                      | 1327-53-3                        | 51 mg/kg          | 1.32         | 67.337         | mg/kg | 0.00673 %            | ✓          |                |
| 2  | barium { barium oxide }                                                                            | 215-127-9    | 1304-28-5                      |                                  | 610 mg/kg         | 1.117        | 681.069        | mg/kg | 0.0681 %             | ✓          |                |
| 3  | beryllium { beryllium oxide }                                                                      | 004-003-00-8 | 215-133-1                      | 1304-56-9                        | 1.5 mg/kg         | 2.775        | 4.163          | mg/kg | 0.000416 %           | ✓          |                |
| 4  | boron { boron trifluoride }                                                                        | 005-001-00-X | 231-569-5                      | 7637-07-2                        | 0.7 mg/kg         | 6.272        | 4.39           | mg/kg | 0.000439 %           | ✓          |                |
| 5  | cadmium { cadmium sulfide }                                                                        | 048-010-00-4 | 215-147-8                      | 1306-23-6                        | 2.6 mg/kg         | 1.285        | 3.342          | mg/kg | 0.00026 %            | ✓          |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      | 215-160-9    | 1308-38-9                      |                                  | 63 mg/kg          | 1.462        | 92.078         | mg/kg | 0.00921 %            | ✓          |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        | 029-002-00-X | 215-270-7                      | 1317-39-1                        | 230 mg/kg         | 1.126        | 258.954        | mg/kg | 0.0259 %             | ✓          |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } | 082-001-00-6 |                                |                                  | 4400 mg/kg        |              | 4400           | mg/kg | 0.44 %               | ✓          |                |
| 9  | nickel { nickel dihydroxide }                                                                      | 028-008-00-X | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] | 150 mg/kg         | 1.579        | 236.925        | mg/kg | 0.0237 %             | ✓          |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             | 023-001-00-8 | 215-239-8                      | 1314-62-1                        | 65 mg/kg          | 1.785        | 116.037        | mg/kg | 0.0116 %             | ✓          |                |
| 11 | zinc { zinc oxide }                                                                                | 030-013-00-7 | 215-222-5                      | 1314-13-2                        | 500 mg/kg         | 1.245        | 622.357        | mg/kg | 0.0622 %             | ✓          |                |
| 12 | pH                                                                                                 |              | PH                             |                                  | 7.8 pH            |              | 7.8            | pH    | 7.8 pH               |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |              | TPH                            |                                  | 1378 mg/kg        |              | 1378           | mg/kg | 0.138 %              | ✓          |                |
| 14 | naphthalene                                                                                        | 601-052-00-2 | 202-049-5                      | 91-20-3                          | 2.4 mg/kg         |              | 2.4            | mg/kg | 0.00024 %            | ✓          |                |
| 15 | acenaphthylene                                                                                     | 205-917-1    | 208-96-8                       |                                  | 1.3 mg/kg         |              | 1.3            | mg/kg | 0.00013 %            | ✓          |                |
| 16 | acenaphthene                                                                                       | 201-469-6    | 83-32-9                        |                                  | 6.2 mg/kg         |              | 6.2            | mg/kg | 0.00062 %            | ✓          |                |
| 17 | fluorene                                                                                           | 201-695-5    | 86-73-7                        |                                  | 3.7 mg/kg         |              | 3.7            | mg/kg | 0.00037 %            | ✓          |                |
| 18 | phenanthrene                                                                                       | 201-581-5    | 85-01-8                        |                                  | 54 mg/kg          |              | 54             | mg/kg | 0.0054 %             | ✓          |                |
| 19 | anthracene                                                                                         | 204-371-1    | 120-12-7                       |                                  | 16 mg/kg          |              | 16             | mg/kg | 0.0016 %             | ✓          |                |
| 20 | fluoranthene                                                                                       | 205-912-4    | 206-44-0                       |                                  | 170 mg/kg         |              | 170            | mg/kg | 0.017 %              | ✓          |                |
| 21 | pyrene                                                                                             | 204-927-3    | 129-00-0                       |                                  | 170 mg/kg         |              | 170            | mg/kg | 0.017 %              | ✓          |                |
| 22 | benzo[a]anthracene                                                                                 | 601-033-00-9 | 200-280-6                      | 56-55-3                          | 97 mg/kg          |              | 97             | mg/kg | 0.0097 %             | ✓          |                |
| 23 | chrysene                                                                                           | 601-048-00-0 | 205-923-4                      | 218-01-9                         | 94 mg/kg          |              | 94             | mg/kg | 0.0094 %             | ✓          |                |
| 24 | benzo[b]fluoranthene                                                                               | 601-034-00-4 | 205-911-9                      | 205-99-2                         | 130 mg/kg         |              | 130            | mg/kg | 0.013 %              | ✓          |                |
| 25 | benzo[k]fluoranthene                                                                               | 601-036-00-5 | 205-916-6                      | 207-08-9                         | 97 mg/kg          |              | 97             | mg/kg | 0.0097 %             | ✓          |                |
| 26 | benzo[a]pyrene; benzo[def]chrysene                                                                 | 601-032-00-3 | 200-028-5                      | 50-32-8                          | 62 mg/kg          |              | 62             | mg/kg | 0.0062 %             | ✓          |                |

| #      | Determinand           |              |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|-----------------------|--------------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number   | EC Number    | CAS Number |          |                   |              |                |                      |            |                |
| 27     | indeno[123-cd]pyrene  |              |            |          | 42 mg/kg          |              | 42 mg/kg       | 0.0042 %             | ✓          |                |
|        |                       | 205-893-2    | 193-39-5   |          |                   |              |                |                      |            |                |
| 28     | dibenz[a,h]anthracene |              |            |          | 12 mg/kg          |              | 12 mg/kg       | 0.0012 %             | ✓          |                |
|        |                       | 601-041-00-2 | 200-181-8  |          |                   |              |                |                      |            |                |
| 29     | benzo[ghi]perylene    |              |            |          | 46 mg/kg          |              | 46 mg/kg       | 0.0046 %             | ✓          |                |
|        |                       |              | 205-883-8  |          |                   |              |                |                      |            |                |
| 30     | PAHs (total)          |              |            |          | 996 mg/kg         |              | 996 mg/kg      | 0.0996 %             | ✓          |                |
|        |                       |              |            |          |                   |              |                |                      |            |                |
| Total: |                       |              |            |          |                   |              |                | 0.986 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Hazardous result                                                                                                                |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.138%)

**Classification of sample: HP104**


**Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>HP104</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>0.3 m</b>  |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 66                | mg/kg | 1.32         | 87.141         | mg/kg | 0.00871 %            | ✓          |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 2  | barium { barium oxide }                                                                            |                                |                                  |          | 220               | mg/kg | 1.117        | 245.631        | mg/kg | 0.0246 %             | ✓          |                |
|    |                                                                                                    | 215-127-9                      | 1304-28-5                        |          |                   |       |              |                |       |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                      |                                |                                  |          | 1.3               | mg/kg | 2.775        | 3.608          | mg/kg | 0.000361 %           | ✓          |                |
|    | 004-003-00-8                                                                                       | 215-133-1                      | 1304-56-9                        |          |                   |       |              |                |       |                      |            |                |
| 4  | boron { boron trifluoride }                                                                        |                                |                                  |          | 0.5               | mg/kg | 6.272        | 3.136          | mg/kg | 0.000314 %           | ✓          |                |
|    | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 2.7               | mg/kg | 1.285        | 3.47           | mg/kg | 0.00027 %            | ✓          |                |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 60                | mg/kg | 1.462        | 87.693         | mg/kg | 0.00877 %            | ✓          |                |
|    |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 250               | mg/kg | 1.126        | 281.472        | mg/kg | 0.0281 %             | ✓          |                |
|    | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 520               | mg/kg |              | 520            | mg/kg | 0.052 %              | ✓          |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 61                | mg/kg | 1.579        | 96.349         | mg/kg | 0.00963 %            | ✓          |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10 | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 68                | mg/kg | 1.785        | 121.393        | mg/kg | 0.0121 %             | ✓          |                |
|    | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11 | zinc { zinc oxide }                                                                                |                                |                                  |          | 320               | mg/kg | 1.245        | 398.308        | mg/kg | 0.0398 %             | ✓          |                |
|    | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12 | pH                                                                                                 |                                | PH                               |          | 8                 | pH    |              | 8              | pH    | 8pH                  |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                    |                                | TPH                              |          | 521.9             | mg/kg |              | 521.9          | mg/kg | 0.0522 %             | ✓          |                |
| 14 | naphthalene                                                                                        |                                |                                  |          | 2.3               | mg/kg |              | 2.3            | mg/kg | 0.00023 %            | ✓          |                |
|    | 601-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 15 | acenaphthylene                                                                                     |                                |                                  |          | 0.27              | mg/kg |              | 0.27           | mg/kg | 0.000027 %           | ✓          |                |
|    |                                                                                                    | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 16 | acenaphthene                                                                                       |                                |                                  |          | 3.6               | mg/kg |              | 3.6            | mg/kg | 0.00036 %            | ✓          |                |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                        |              |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|------------------------------------|--------------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                | EC Number    | CAS Number |          |                   |              |                |                      |            |                |
| 17     | fluorene                           | 201-695-5    | 86-73-7    |          | 2 mg/kg           |              | 2 mg/kg        | 0.0002 %             | ✓          |                |
| 18     | phenanthrene                       | 201-581-5    | 85-01-8    |          | 20 mg/kg          |              | 20 mg/kg       | 0.002 %              | ✓          |                |
| 19     | anthracene                         | 204-371-1    | 120-12-7   |          | 4.2 mg/kg         |              | 4.2 mg/kg      | 0.00042 %            | ✓          |                |
| 20     | fluoranthene                       | 205-912-4    | 206-44-0   |          | 29 mg/kg          |              | 29 mg/kg       | 0.0029 %             | ✓          |                |
| 21     | pyrene                             | 204-927-3    | 129-00-0   |          | 26 mg/kg          |              | 26 mg/kg       | 0.0026 %             | ✓          |                |
| 22     | benzo[a]anthracene                 | 601-033-00-9 | 200-280-6  |          | 14 mg/kg          |              | 14 mg/kg       | 0.0014 %             | ✓          |                |
| 23     | chrysene                           | 601-048-00-0 | 205-923-4  |          | 14 mg/kg          |              | 14 mg/kg       | 0.0014 %             | ✓          |                |
| 24     | benzo[b]fluoranthene               | 601-034-00-4 | 205-911-9  |          | 16 mg/kg          |              | 16 mg/kg       | 0.0016 %             | ✓          |                |
| 25     | benzo[k]fluoranthene               | 601-036-00-5 | 205-916-6  |          | 5.9 mg/kg         |              | 5.9 mg/kg      | 0.00059 %            | ✓          |                |
| 26     | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5  |          | 13 mg/kg          |              | 13 mg/kg       | 0.0013 %             | ✓          |                |
| 27     | indeno[123-cd]pyrene               | 205-893-2    | 193-39-5   |          | 5.9 mg/kg         |              | 5.9 mg/kg      | 0.00059 %            | ✓          |                |
| 28     | dibenz[a,h]anthracene              | 601-041-00-2 | 200-181-8  |          | 1.8 mg/kg         |              | 1.8 mg/kg      | 0.00018 %            | ✓          |                |
| 29     | benzo[ghi]perylene                 | 205-883-8    | 191-24-2   |          | 6.4 mg/kg         |              | 6.4 mg/kg      | 0.00064 %            | ✓          |                |
| 30     | PAHs (total)                       |              |            |          | 164 mg/kg         |              | 164 mg/kg      | 0.0164 %             | ✓          |                |
| Total: |                                    |              |            |          |                   |              |                | 0.27 %               |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| 🧪           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: **1000 mg/kg (0.1%)**  
 because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0522%)

**Classification of sample: HP105**

 **Hazardous Waste**  
 Classified as **17 05 03 \***  
 in the List of Waste

**Sample details**

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Sample name:  | LoW Code:                                                                                          |
| <b>HP105</b>  | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Sample Depth: | Entry: 17 05 03 * (Soil and stones containing hazardous substances)                                |
| <b>0.2 m</b>  |                                                                                                    |

**Hazard properties**

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.101%)

**HP 7: Carcinogenic** "waste which induces cancer or increases its incidence"

Hazard Statements hit:

**Carc. 1A; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.14%)

**Carc. 1B; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.101%)

**HP 11: Mutagenic** "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

**Muta. 1B; H340** "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.101%)

**Determinands**

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

| # | Determinand                   |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. |  | Classification value | MC Applied | Conc. Not Used |
|---|-------------------------------|-----------|------------|----------|-------------------|--------------|----------------|--|----------------------|------------|----------------|
|   | EU CLP index number           | EC Number | CAS Number |          |                   |              |                |  |                      |            |                |
| 1 | arsenic { arsenic trioxide }  |           |            |          | 44 mg/kg          | 1.32         | 58.094 mg/kg   |  | 0.00581 %            | ✓          |                |
|   | 033-003-00-0                  | 215-481-4 | 1327-53-3  |          |                   |              |                |  |                      |            |                |
| 2 | barium { barium oxide }       |           |            |          | 330 mg/kg         | 1.117        | 368.447 mg/kg  |  | 0.0368 %             | ✓          |                |
|   |                               | 215-127-9 | 1304-28-5  |          |                   |              |                |  |                      |            |                |
| 3 | beryllium { beryllium oxide } |           |            |          | 1.2 mg/kg         | 2.775        | 3.33 mg/kg     |  | 0.000333 %           | ✓          |                |
|   | 004-003-00-8                  | 215-133-1 | 1304-56-9  |          |                   |              |                |  |                      |            |                |

| #      |                                                                                     | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|--------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|        |                                                                                     | EU CLP index number                                                                                | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 4      |    | boron { boron trifluoride }                                                                        |                                |                                  | 1        | 0.6               | mg/kg | 6.272        | 3.763          | mg/kg | 0.000376 %           | ✓          |                |
|        |                                                                                     | 005-001-00-X                                                                                       | 231-569-5                      | 7637-07-2                        |          |                   |       |              |                |       |                      |            |                |
| 5      |    | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | 1.6               | mg/kg | 1.285        | 2.056          | mg/kg | 0.00016 %            | ✓          |                |
|        |                                                                                     | 048-010-00-4                                                                                       | 215-147-8                      | 1306-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 6      |    | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 57                | mg/kg | 1.462        | 83.309         | mg/kg | 0.00833 %            | ✓          |                |
|        |                                                                                     |                                                                                                    | 215-160-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 7      |    | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 210               | mg/kg | 1.126        | 236.437        | mg/kg | 0.0236 %             | ✓          |                |
|        |                                                                                     | 029-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 8      |    | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 1400              | mg/kg |              | 1400           | mg/kg | 0.14 %               | ✓          |                |
|        |                                                                                     | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 9      |    | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 55                | mg/kg | 1.579        | 86.872         | mg/kg | 0.00869 %            | ✓          |                |
|        |                                                                                     | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 10     |    | vanadium { divanadium pentaoxide; vanadium pentoxide }                                             |                                |                                  |          | 67                | mg/kg | 1.785        | 119.607        | mg/kg | 0.012 %              | ✓          |                |
|        |                                                                                     | 023-001-00-8                                                                                       | 215-239-8                      | 1314-62-1                        |          |                   |       |              |                |       |                      |            |                |
| 11     |    | zinc { zinc oxide }                                                                                |                                |                                  |          | 320               | mg/kg | 1.245        | 398.308        | mg/kg | 0.0398 %             | ✓          |                |
|        |                                                                                     | 030-013-00-7                                                                                       | 215-222-5                      | 1314-13-2                        |          |                   |       |              |                |       |                      |            |                |
| 12     |    | pH                                                                                                 |                                |                                  |          | 7.9               | pH    |              | 7.9            | pH    | 7.9 pH               |            |                |
|        |                                                                                     |                                                                                                    |                                | PH                               |          |                   |       |              |                |       |                      |            |                |
| 13     |    | TPH (C6 to C40) petroleum group                                                                    |                                |                                  |          | 1005.8            | mg/kg |              | 1005.8         | mg/kg | 0.101 %              | ✓          |                |
|        |                                                                                     |                                                                                                    |                                | TPH                              |          |                   |       |              |                |       |                      |            |                |
| 14     |                                                                                     | naphthalene                                                                                        |                                |                                  |          | 1.4               | mg/kg |              | 1.4            | mg/kg | 0.00014 %            | ✓          |                |
|        |                                                                                     | 601-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 15     |  | acenaphthylene                                                                                     |                                |                                  |          | 0.59              | mg/kg |              | 0.59           | mg/kg | 0.000059 %           | ✓          |                |
|        |                                                                                     |                                                                                                    | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 16     |  | acenaphthene                                                                                       |                                |                                  |          | 2.9               | mg/kg |              | 2.9            | mg/kg | 0.00029 %            | ✓          |                |
|        |                                                                                     |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |
| 17     |  | fluorene                                                                                           |                                |                                  |          | 1.7               | mg/kg |              | 1.7            | mg/kg | 0.00017 %            | ✓          |                |
|        |                                                                                     |                                                                                                    | 201-695-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |
| 18     |  | phenanthrene                                                                                       |                                |                                  |          | 24                | mg/kg |              | 24             | mg/kg | 0.0024 %             | ✓          |                |
|        |                                                                                     |                                                                                                    | 201-581-5                      | 85-01-8                          |          |                   |       |              |                |       |                      |            |                |
| 19     |  | anthracene                                                                                         |                                |                                  |          | 6.5               | mg/kg |              | 6.5            | mg/kg | 0.00065 %            | ✓          |                |
|        |                                                                                     |                                                                                                    | 204-371-1                      | 120-12-7                         |          |                   |       |              |                |       |                      |            |                |
| 20     |  | fluoranthene                                                                                       |                                |                                  |          | 65                | mg/kg |              | 65             | mg/kg | 0.0065 %             | ✓          |                |
|        |                                                                                     |                                                                                                    | 205-912-4                      | 206-44-0                         |          |                   |       |              |                |       |                      |            |                |
| 21     |  | pyrene                                                                                             |                                |                                  |          | 67                | mg/kg |              | 67             | mg/kg | 0.0067 %             | ✓          |                |
|        |                                                                                     |                                                                                                    | 204-927-3                      | 129-00-0                         |          |                   |       |              |                |       |                      |            |                |
| 22     |                                                                                     | benzo[a]anthracene                                                                                 |                                |                                  |          | 39                | mg/kg |              | 39             | mg/kg | 0.0039 %             | ✓          |                |
|        |                                                                                     | 601-033-00-9                                                                                       | 200-280-6                      | 56-55-3                          |          |                   |       |              |                |       |                      |            |                |
| 23     |                                                                                     | chrysene                                                                                           |                                |                                  |          | 33                | mg/kg |              | 33             | mg/kg | 0.0033 %             | ✓          |                |
|        |                                                                                     | 601-048-00-0                                                                                       | 205-923-4                      | 218-01-9                         |          |                   |       |              |                |       |                      |            |                |
| 24     |                                                                                     | benzo[b]fluoranthene                                                                               |                                |                                  |          | 46                | mg/kg |              | 46             | mg/kg | 0.0046 %             | ✓          |                |
|        |                                                                                     | 601-034-00-4                                                                                       | 205-911-9                      | 205-99-2                         |          |                   |       |              |                |       |                      |            |                |
| 25     |                                                                                     | benzo[k]fluoranthene                                                                               |                                |                                  |          | 16                | mg/kg |              | 16             | mg/kg | 0.0016 %             | ✓          |                |
|        |                                                                                     | 601-036-00-5                                                                                       | 205-916-6                      | 207-08-9                         |          |                   |       |              |                |       |                      |            |                |
| 26     |                                                                                     | benzo[a]pyrene; benzo[def]chrysene                                                                 |                                |                                  |          | 39                | mg/kg |              | 39             | mg/kg | 0.0039 %             | ✓          |                |
|        |                                                                                     | 601-032-00-3                                                                                       | 200-028-5                      | 50-32-8                          |          |                   |       |              |                |       |                      |            |                |
| 27     |  | indeno[123-cd]pyrene                                                                               |                                |                                  |          | 17                | mg/kg |              | 17             | mg/kg | 0.0017 %             | ✓          |                |
|        |                                                                                     |                                                                                                    | 205-893-2                      | 193-39-5                         |          |                   |       |              |                |       |                      |            |                |
| 28     |                                                                                     | dibenz[a,h]anthracene                                                                              |                                |                                  |          | 4.3               | mg/kg |              | 4.3            | mg/kg | 0.00043 %            | ✓          |                |
|        |                                                                                     | 601-041-00-2                                                                                       | 200-181-8                      | 53-70-3                          |          |                   |       |              |                |       |                      |            |                |
| 29     |  | benzo[ghi]perylene                                                                                 |                                |                                  |          | 19                | mg/kg |              | 19             | mg/kg | 0.0019 %             | ✓          |                |
|        |                                                                                     |                                                                                                    | 205-883-8                      | 191-24-2                         |          |                   |       |              |                |       |                      |            |                |
| 30     |  | PAHs (total)                                                                                       |                                |                                  |          | 382               | mg/kg |              | 382            | mg/kg | 0.0382 %             | ✓          |                |
|        |                                                                                     |                                                                                                    |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| Total: |                                                                                     |                                                                                                    |                                |                                  |          |                   |       |              |                |       | 0.453 %              |            |                |

## Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Hazardous result                                                                                                                |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)  
because: Under 1000 mg/kg TPH is unlikely to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.101%)

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**Appendix A: Classifier defined and non GB MCL determinands**

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**■ barium oxide** (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20  
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825>  
Data source date: 02 Apr 2020  
Hazard Statements: Acute Tox. 3; H301 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 1; H332

**■ chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database  
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>  
Data source date: 17 Jul 2015  
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**■ lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6  
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A  
Additional Hazard Statement(s): Carc. 1A; H350  
Reason for additional Hazards Statement(s):  
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium [www.reach-lead.eu/substanceinformation.html](http://www.reach-lead.eu/substanceinformation.html) (worst case lead compounds). Review date 29/09/2015

**■ pH** (CAS Number: PH)

Description/Comments: Appendix C4  
Data source: WM3 1st Edition 2015  
Data source date: 25 May 2015  
Hazard Statements: None.

**■ salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5  
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide  
Additional Hazard Statement(s): EUH032 >= 0.2 %  
Reason for additional Hazards Statement(s):  
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

**■ TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013  
Data source: WM3 1st Edition 2015  
Data source date: 25 May 2015  
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

**■ acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

**■ acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

**■ fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

■ **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **PAHs (total)**

Description/Comments: Worst case scenario combining risk phrases and substance specific thresholds from benzo[a]pyrene (CLP# 601-032-00-3) and benzo[a]anthracene (CLP# 601-033-00-9)

Data source: 2008/1272/EC – Table 3.2 of Annex VI of regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures and 2009/790/EC Annex IV – Annex IV of regulation 2009/790/EC - 1st Adaptation to Technical Progress for European Regulation 1272/2008

Data source date: 16 Dec 2008

Hazard Statements: Skin Sens. 1; H317 , Carc. 1B; H350 , Carc. 1B; H350 >= 0.01 % , Muta. 1B; H340 , Aquatic Acute 1; H400 (M=100) , Aquatic Chronic 1; H410 (M=100) , Repr. 1B; H360FD

## Appendix B: Rationale for selection of metal species

### arsenic {arsenic trioxide}

Worst case species based on risk phrases

### barium {barium oxide}

No metal works

### beryllium {beryllium oxide}

Worst case species based on risk phrases

### boron {boron trifluoride}

Water soluble

### cadmium {cadmium sulfide}

Worst case species based on risk phrases

### chromium {chromium(III) oxide (worst case)}

Chromium (VI) below LOD

### copper {dicopper oxide; copper (I) oxide}

Most likely common species

---

**lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}**


---

Minor source of lead from lead paint on iron girders in the east of the viaduct.

**mercury {mercury dichloride}**


---

Worst case species based on risk phrases

**nickel {nickel dihydroxide}**


---

Worst case species based on risk phrases

**vanadium {divanadium pentaoxide; vanadium pentoxide}**


---

Worst case species

**zinc {zinc oxide}**


---

No significant sources of zinc chromate have been identified on site.

**cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}**

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Worst case species

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**Appendix C: Version**


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HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2024.213.6193.11387 (31 Jul 2024)

HazWasteOnline Database: 2024.213.6193.11387 (31 Jul 2024)

This classification utilises the following guidance and legislation:

**WM3 v1.2.GB - Waste Classification** - 1st Edition v1.2.GB - Oct 2021

**CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008

**1st ATP** - Regulation 790/2009/EC of 10 August 2009

**2nd ATP** - Regulation 286/2011/EC of 10 March 2011

**3rd ATP** - Regulation 618/2012/EU of 10 July 2012

**4th ATP** - Regulation 487/2013/EU of 8 May 2013

**Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013

**5th ATP** - Regulation 944/2013/EU of 2 October 2013

**6th ATP** - Regulation 605/2014/EU of 5 June 2014

**WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014

**Revised List of Waste 2014** - Decision 2014/955/EU of 18 December 2014

**7th ATP** - Regulation 2015/1221/EU of 24 July 2015

**8th ATP** - Regulation (EU) 2016/918 of 19 May 2016

**9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016

**10th ATP** - Regulation (EU) 2017/776 of 4 May 2017

**HP14 amendment** - Regulation (EU) 2017/997 of 8 June 2017

**13th ATP** - Regulation (EU) 2018/1480 of 4 October 2018

**14th ATP** - Regulation (EU) 2020/217 of 4 October 2019

**15th ATP** - Regulation (EU) 2020/1182 of 19 May 2020

**The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)**

**Regulations 2020** - UK: 2020 No. 1567 of 16th December 2020

**The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020** - UK: 2020 No. 1540 of 16th December 2020

**GB MCL List** - version 1.1 of 09 June 2021

**GB MCL List v2.0** - version 2.0 of 20th October 2023

**GB MCL List v3.0** - version 3.0 of 11th January 2024

**GB MCL List v4.0** - version 4.0 of 2nd March 2024

**GB MCL List v5.0** - version 5.0 of 26th June 2024