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# PHASE 2: GROUND INVESTIGATION REPORT

## PREPARED FOR BARNSLEY METROPOLITAN BOROUGH COUNCIL

## RABBIT INGS COUNTRY PARK VISITORS CENTRE

## LUND HILL LANE

## ROYSTON

## BARNSLEY

## S71 4BB

**Project No: 24-562**

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# APPENDICES

## 1.0 Introduction

**December 2025**

As requested by Barnsley Metropolitan Borough Council and in conjunction with the Phase 1 Desk Top Study carried out by Arc Environmental Ltd (ref. 24-562 dated August 2024), Ground Investigation works have been carried out across two areas of an existing car park at Rabbit Ings Country Park, Royston, Barnsley where it is proposed to construct a new visitors centre, in one of two proposed locations.

The intrusive investigation works comprised sinking of 6 no. windowless sampling boreholes (WS01 – WS06) incorporating the installation of 4 no. combined ground gas and groundwater monitoring wells (WS01, WS02, WS03 & WS04) and 4 no. rotary boreholes (RBH01 – RBH04).

The positions of the exploratory holes can be seen on the Exploratory Hole Location Plan, a copy of which can be seen in Appendix I. It should be noted that this plan is for orientating purposes only, as the positions shown are approximate and the plan is not to a standard scale.

## 2.0 Physical Setting

### 2.1 Site Details

**Table 2.1**

| | |
|---|---|
| **Site Name & Address:** | Rabbit Ings Country Park Visitors Centre, Lund Hill Lane, Royston, Barnsley, S71 4BB |
| **Description of Location:** | The site is an existing car park located within the Rabbit Ings Country Park. The visitor's centre is located in the east of the site. The site is surrounded by undeveloped rural land, with Rabbit Ings Country Park located to the east and south-east of the car park. Current site access is gained off Lund Hill Lane to the west. |
| **Site Boundaries:** | N = undeveloped land, E = further car parking, visitor centre, S = footpath and grassland & W = access road and Lund Hill Lane. |
| **Site Shape:** | The development areas are rectangular in layout. |
| **General Topography:** | The ground profile is generally flat within the site area (at a recorded level of c.59.00mAOD). A detailed topographical survey of the site has not been provided at this stage. |
| **Site surfacing:** | Asphalt surfacing. |
| **Above Ground Structures:** | None. |

## 3.0 Scope of Works

**Table 3.1**

| | |
|---|---|
| **Client:** | Barnsley Metropolitan Borough Council |
| **Consultant:** | ~ |
| **Project type:** | Proposed new visitors centre |
| **Investigation Works:** | 6 no. windowless sampling borehole (WS01 to WS06),<br>4 no. ground gas / groundwater monitoring standpipes (WS01, WS02, WS03 & WS04).<br>& 4 no. rotary boreholes (RBH01 – RBH04) |
| **Laboratory Testing:** | Geotechnical & Ground Contamination. |
| **CLEA End-Use Classification:** | Level 1 GQRA – *Commercial.* |

The information contained in this report is limited to the area of the proposed development, as indicated on the Existing and Proposed Site Layout Plans shown in Appendix I, and to those areas accessible during the ground investigation. When considering the full scope of the development any features and / or issues not specifically mentioned in this report cannot be assumed to have been covered.

## 4.0 Investigation Rationale

This ground investigation has been designed to provide information on the general ground and groundwater conditions where access would allow, across the area of the proposed development. The boreholes were created primarily for geotechnical purposes to assist in the design of new foundations for the proposed development. Contamination screening was undertaken to assess the risks to Human Health and Controlled Waters and to assist with Waste Classification (off-site disposal).

The rationale behind the location of each exploratory hole is summarised in Table 4.1 below.

**Table 4.1**

| Potential issue | Exploratory Hole |
|---|---|
| Determine the nature of the underlying ground conditions, including shallow groundwater. | WS01-WS06 & RBH01 – RBH04 |
| Check for potential unrecorded shallow coal workings. | RBH01 – RBH04 |
| Determine the levels of contamination present within the initial deposits with a view to determining the risks posed towards Human Health and to assist with possible off-site removal. | WS01-WS06 |
| Determine the groundwater and ground gas characteristics. | WS01, WS02, WS03 & WS04 |

### 4.1 Sampling & Site Protocols:-

All works associated with this ground contamination assessment and investigations have generally been completed in accordance with BS10175: British Standard Code of Practice for the Investigation of Potentially Contaminated Sites (2011+A2:2017): Investigation of potentially contaminated sites – Code of practice & Land Contamination Risk Management (LCRM: October 2020).

4.1.1 Contamination Sampling:-

Samples were recovered by a representative of ARC Environmental Ltd. during the intrusive investigation works. All samples were stored at approximately 4ºC using cool boxes and ice packs prior to delivery to a UKAS / MCERTS accredited laboratory. Sampling was carried out in accordance with 'Technical Policy Statement 63: UKAS Policy on Deviating Samples'.

4.1.2 Onsite Health & Safety Requirements:-

All site representatives wore relevant and appropriate PPE including (where appropriate) safety footwear, high visibility jacket / vest, hard hat, eye protection and overalls. In addition, disposable latex gloves were used when handling any potentially contaminated materials and when rinsing all sampling tools. Each site vehicle contained a suitable First Aid kit with hand wash station / cleansing products (i.e. sanitary wipes).

4.1.3 Avoiding Cross-Contamination between Sample Locations:-

To avoid cross-contamination of materials between soil horizons, drill casing was used to seal off the made ground. In addition, disposable plastic liners were used to collect samples from the windowless sampling boreholes carried out.

## 5.0 Ground Conditions

For an accurate description of the ground conditions encountered at each investigation position, reference should be made to the borehole record sheets in Appendix I. It should be noted that there is always the possibility of variation in the ground conditions around and between the exploratory hole locations.

## 5.0 Ground Conditions (Cont'd)

### 5.1 Soil Profile:-

A summary of the soil profile for this site for each element of development can be found in Table 5.1 below.

**Table 5.1**

| Type of Strata | Depths Recorded (bgl) | Description & General Comments |
|---|---|---|
| MADE GROUND: | From 0.00m up to c.0.10m to c.0.45m. | Comprised asphalt, grass and geogrid surfacing overlying dolomitic subbase and gravelly sand with anthropogenic (i.e. glass) debris. |
| RESIDUAL SOIL: (Pennine Lower Coal Measures) | From c.0.10m to c.0.35m up to c.0.25m to c.1.70m. | Comprised firm sandy gravelly CLAY. |
| SOLID GEOLOGY (Pennine Lower Coal Measures) | From c.0.25m to c.1.70m up to at least c.20.00m | Comprised extremely weak to very weak (WS boreholes) light grey MUDSTONE, dark grey shaley MUDSTONE and COAL. |

bgl = below ground level. NE = not encountered

There was no visual or olfactory evidence of significant contamination (fuel, oils, ash or ACMs) noted within any of the exploratory holes during the ground investigation works.

### 5.2 Shallow Coal Mining Assessment:-

As highlighted within the Phase 1: Desk Top Study and Coal Mining Risk Assessment, the site was deemed to be at potential risk from potential 'unrecorded' shallow coal workings in the Royston Coal anticipated to be at <17m depth and ~0.80m thick. Therefore, a series of open hole rotary boreholes have been completed across the site to determine the level of risk to the proposed development.

From the rotary boreholes carried out, thin bands of intact coal (~0.50m) were encountered within all rotary boreholes at depths of between c.15.7m to c.16.0 coal was encountered at a depth c.2.50m bgl within RBH04. There was no evidence of workings in the form of broken ground 'soft drilling' or voids during the creation of the boreholes with 100% water flush return noted during the drilling process to a terminal depth of c.20.00m. Therefore, it is felt that the proposed development can be constructed without the need for incorporating any remedial measures to mitigate against future shallow coal mining related ground movement. Consequently, it is considered that the risk of surface instability associated with shallow coal workings is negligible and no further assessment and / or remedial works are deemed necessary.

### 5.3 Groundwater and Stability:-

No groundwater ingress was encountered within any of the boreholes during the investigation works. Consequently, shallow water ingresses is not likely to occur within shallow construction related excavations. However, provision should be made for the introduction of suitable groundwater control measures, in order to take care of any ingresses of groundwater which may occur, especially during the wetter periods of the year

Adequate lateral trench support will be required for excavations, to prevent trench wall collapse or over excavations, as well as to create a safe working environment, and any excavations on this site should remain open for as short a period as possible, since some of these materials may be susceptible to deterioration, if left open to the natural elements for any significant period of time. Reference to CIRIA 97 'Trenching Practice' would be beneficial to establish a suitable means of support or battering of excavation sides during construction.

# 6.0 Insitu Testing

## 6.1 Insitu Standard Penetration Tests:-

Standard penetration tests (SPT's) were carried out with the use of a normal split spoon sampler on the made ground, natural drift and solid geological deposits to determine the relative density / strength of the materials tested. The results are shown as 'N' values on the borehole record sheets, adjacent to the appropriate sample level. A summary of the results of the tests undertaken can be seen in Table 6.1 below.

**Table 6.1**

| Type of Strata | Range of SPT 'N' Values | Result details |
|---|---|---|
| SOILD GEOLOGY: (Pennine Lower Coal Measures) | 11 to 38 and 66 to 75 blows for limited penetration | Extremely weak and very weak deposits* |

* Using $N_{60}$ Values after Clayton 1995

## 6.2 Insitu Gas & Water Monitoring: -

When considering the areas of infilled land as highlighted within the Phase 1 Desk Top Study and Coal Mining Risk Assessment previously carried out and the potential for mine gas associated with potential shallow coal working below the site, ground gas and water monitoring standpipes were installed within WS01, WS02, WS03 and WS04. This was primarily to check for the possible presence of hazardous ground gases, and to monitor any shallow water levels. A standard 50mm diameter HDPE standpipe, with gravel and geo-wrap surround, bentonite seal, gas valve cap and security cover, was installed within each borehole, and ground gas and water levels were allowed to reach equilibrium, prior to the first monitoring visit. Monitoring was undertaken using a Gas Data GFM series soil gas analysers, with integral flow meter, and a Geotechnical Instruments electronic dipmeter. The response zones were designed to target any ground gas from on and off-site sources (i.e., infilled land).

Based on the findings of the intrusive investigation works, in accordance with CIRIA Report C665, November 2007, Report Edition No. 04, March 2007 and BS8485:2015+A1 2019 – Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings, it is felt that an adequate risk assessment can be undertaken based on the following limiting factors:

- The development has been considered as **low sensitivity** i.e., commercial development (Tables 5.5a & 5.5b – Typical/Idealised frequency and period of monitoring, after Wilson et al., 2005).
- The risk associated with the generation potential of a source is considered as **very low** (based on the findings of intrusive works).
- Monitoring over a **minimum** of **two month** with **four recorded** readings (Tables 5.5a & 5.5b – Typical /idealised frequency and period of monitoring after Wilson et al, 2005).
- **Negligible** flow rates are recorded during the monitoring period (Table 8.5 – Modified Wilson & Card classification).
- A targeted and phased programme of gas monitoring has been completed, which will obtain gas monitoring readings during varying atmospheric conditions, which covers the 'worst case' scenario for ground gas emissions to occur, particularly during rapid falls in atmospheric pressure (i.e. from c.1020mb and c.1010mb), and also during low atmospheric pressure events (i.e., c.1000mb and below).

## 6.0 Insitu Testing (Cont'd)

### 6.2 Insitu Gas & Water Monitoring (Cont'd): -

Monitoring visits were undertaken during a rising and falling atmospheric pressure trends. Monitoring of the weather conditions and predicated atmospheric pressures (Met Office Surface Pressure Charts) were carried out up to 72 hours in advance of proposed monitoring visits, in order that a reasonable period of data is obtained to determine atmospheric trends, and also to target the 'worst case' scenario.

A summary of the results for the visits undertaken, compared with the 'inert' background gas levels is presented in Table 6.2 below, whilst a copy of the gas monitoring certificate is attached in Appendix III.

**Table 6.2**

| Position | Date | Atmospheric Pressure (mbar) | Water (m bgl) | $CH_4$ (%v/v) | LEL (%v/v) | $CO_2$ (%v/v) | $O_2$ (%v/v) | Flow Rate (l/hr) |
|---|---|---|---|---|---|---|---|---|
| Background | ~ | ~ | ~ | 0 | 0 | 0 | 21.0 | <0.1 |
| WS01 | 15/10/25 | 1025 F | DRY | 0.0 | 0.0 | 0.9 | 19.4 | <0.1 |
| WS02 | | 1024 F | 3.41 | 0.0 | 0.0 | 5.3 | 16.3 | <0.1 |
| WS03 | | 1025 F | DRY | 0.0 | 0.0 | 4.2 | 17.9 | <0.1 |
| WS04 | | 1025 F | DRY | 0.0 | 0.0 | 2.2 | 17.7 | <0.1 |
| WS01 | 30/10/25 | 999 R | DRY | 0.0 | 0.0 | 2.4 | 15.9 | <0.1 |
| WS02 | | 1000 R | 3.07 | 0.0 | 0.0 | 8.3 | 16.3 | <0.1 |
| WS03 | | 999 R | DRY | 0.0 | 0.0 | 1.4 | 19.5 | <0.1 |
| WS04 | | 1000 R | 1.52 | 0.0 | 0.0 | 1.4 | 18.6 | <0.1 |
| WS01 | 11/11/25 | 997 S | DRY | 0.0 | 0.0 | 2.0 | 15.3 | <0.1 |
| WS02 | | 996 S | 3.13 | 0.0 | 0.0 | 5.0 | 18.0 | <0.1 |
| WS03 | | 997 S | DRY | 0.0 | 0.0 | 2.2 | 16.4 | <0.1 |
| WS04 | | 997 S | 1.12 | 0.0 | 0.0 | 0.5 | 19.8 | <0.1 |
| WS01 | 27/11/25 | 1002 F | 1.10 | 0.0 | 0.0 | 0.5 | 19.1 | <0.1 |
| WS02 | | 1002 F | 2.57 | 0.0 | 0.0 | 3.7 | 18.4 | <0.1 |
| WS03 | | 1002 F | DRY | 0.0 | 0.0 | 6.4 | 17.1 | <0.1 |
| WS04 | | 1001 F | 1.21 | 0.0 | 0.0 | 0.5 | 19.6 | <0.1 |

F = Falling Trend, R = Rising Trend, S = Steady Trend – based on records from www.weatheronline.com

From the monitoring undertaken, concentrations of Carbon Dioxide ($CO_2$) have been recorded, up to a maximum recorded level of 8.3% *v/v*, with depleted oxygen ($O_2$) concentrations (minimum 15.3% *v/v)*. In addition, negligible concentrations of Methane ($CH_4$) have been recorded. A negligible flow rate of <0.1l/hr has been recorded during the monitoring period undertaken.

Based on the monitoring undertaken, in accordance with CIRIA Report C665, an initial risk assessment has been completed for this site, by converting the results in Table 6.2 to a gas screening value (GSV), calculated by multiplying the typical maximum gas concentrations with the recorded maximum positive flow rates (after Wilson & Card). Using the maximum values recorded, the GSV for Carbon Dioxide and Methane has been calculated, the results of which are shown below:

**Carbon Dioxide GSV = 0.083 (8.3%) × 0.1 = 0.0083 l/hr**

When considering these results, in accordance with CIRIA C665, the GSV for $CO_2$ and $CH_4$ would fall below the lower target concentration of 0.07l/hr and would equate to a Characteristic Situation 1 (CS1) site classification. However, when considering the concentrations of $CO_2$ exceeding the action trigger level of 5%, the CIRIA 665 guidance recommends an increase in the characteristic situation by an order of 1 to consider the gas concentrations recorded (i.e., Characteristic Situation 2 Classification) resulting in gas protection measures being required.

## 6.0 Insitu Testing (Cont'd)

### 6.2 Insitu Gas & Water Monitoring (Cont'd): -

Water levels have been recorded within monitoring wells WS02 and WS04 between c.1.10m and c.3.27m during the monitoring visits.

As can be seen from the results of the water monitoring undertaken and from the observations noted during the fieldworks it is considered prudent to allow for the introduction of temporary groundwater control techniques (i.e. pumping equipment), in order to take care of any localised ingresses of surface water which may occur, during the construction period, especially if construction takes place during the wetter periods of the year.

The BGS radon map for Great Britain dated December 2022, indicates that the site falls within an area where 3-5% of homes are at or above the Action Level. Therefore, the CS-2 gas protection measures should also protect against radon.

## 7.0 Laboratory Testing

All geotechnical testing was carried out in accordance with BS1377-1:2016 by PSL of Doncaster (UKAS accredited). Ground contamination was undertaken by Chemtech Environmental (UKAS & MCERTS accredited).

### 7.1 Determination of Liquid & Plastic Limits:-

Representative samples of the natural clay deposits (residual soil) recovered from across the site were tested to determine their moisture contents as well as to determine their liquid and plastic limits, so that these materials could be classified.

The results are summarised in Table 7.1 below are also contained in the PSL Analytical Report (Ref. PSL25/7962), a copy of which is contained in Appendix IV.

**Table 7.1**

| Position | Depth(m) | M/C (%) | LL | PL | PI | Class | % Passing 425µm Sieve |
|---|---|---|---|---|---|---|---|
| WS02 | 1.50 | 20.7 | 50 | 24 | 26 | ClH | 100 |
| WS04 | 0.75 | 22.3 | 52 | 27 | 25 | ClH | 100 |
| WS05 | 1.50 | 10.7 | 44 | 23 | 21 | ClM | 100 |

M/C = Moisture Content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index, CL=Clay Low, CM = Clay Medium, CH = Clay High

From these results, the samples tested are inorganic in nature, and when plotted on the plasticity chart, fall within the medium and high plasticity range, and from the resulting plasticity indices are of medium volume change potential, when taking into account the amount passing the 425µm sieve. Consequently, the materials tested may undergo significant changes in volume, if large changes in their natural moisture content were to occur due to seasonal variations or the like and if new foundations were to be based within these materials, they would need to be taken down to a minimum depth of 0.90m below finished ground levels.

An increase in founding depth may be required to reach competent strata and also if the proposed development is within close proximity to existing or envisaged vegetation. An increase in the minimum foundation depth may also be required, even if trees are to be removed to avoid the effects of volume change potential. Reference should be made to BS5837:2012, "Trees in relation to design, demolition and construction" along with the NHBC Standards, Chapter 4.2 'Building near trees.

# 7.0 Laboratory Testing (Cont'd)

## 7.2 Determination of pH & $SO_4$:-

Representative samples of the made ground & natural strata recovered during the investigation were tested in order to determine their acidic (pH) and soluble sulphate ($SO_4$) levels. The results are shown in Table 7.2 below and are also contained within the Chemtech Environmental Ltd Analytical Report (Ref. 25-10200), a copy of which can be seen in Appendix IV.

**Table 7.2**

| Position | Depth (m) | Strata | pH | $SO_4$(mg/l) | Design $SO_4$ Class | ACEC Class |
|---|---|---|---|---|---|---|
| WS01 | 0.20 | Made Ground | 7.2 | 349 | DS-1 | AC-1 |
| WS02 | 0.40 | Natural Strata | 7.1 | 246 | DS-1 | AC-1 |
| WS03 | 0.40 | Made Ground | 8.4 | 60 | DS-1 | AC-1 |
| WS04 | 0.25 | Made Ground | 8.3 | 40 | DS-1 | AC-1 |
| WS05 | 0.30 | Made Ground | 8.6 | 29.1 | DS-1 | AC-1 |
| WS06 | 0.30 | Made Ground | 8.7 | 19.1 | DS-1 | AC-1 |
| WS01 | 1.50 | Natural Strata | 5.2 | 118 | DS-1 | AC-3z |
| WS02 | 2.50 | Natural Strata | 6.2 | 62 | DS-1 | AC-2z |
| WS03 | 1.50 | Natural Strata | 5.6 | 86.2 | DS-1 | AC-2z |
| WS04 | 1.50 | Natural Strata | 4.2 | 104 | DS-1 | AC-4z |
| WS05 | 0.75 | Natural Strata | 5.1 | 54.6 | DS-1 | AC-2z |
| WS06 | 1.50 | Natural Strata | 5.0 | 350 | DS-1 | AC-3z |

ACEC = Aggressive Chemical Environment for Concrete site classification

From these results it can be seen that the pH values for the samples tested range from 4.2 to 8.7 and the amount of soluble sulphate present ranges from 40mg/l to 350mg/l. Therefore, the site can be given a classification of Class DS-1. Considering the pH values of the materials tested, and assuming potentially mobile groundwater, the assessment of the Aggressive Chemical Environment for Concrete (ACEC) classification for this site is AC-4z.

## 7.4 Contamination Testing / Screening Strategy:-

Representative samples of the made ground materials recovered from the window sample boreholes were passed onto Chemtech Environmental, so that soil contamination screening could be carried out to primarily assess any potential risk to Human Health and controlled waters and to also assist with off-site disposal.

There was no evidence of hydrocarbon contamination (fuel or waste oil) or ACMs noted within any of the exploratory positions. However, for completeness and to aid with off-site disposal, samples were tested for Speciated PAH (Polycyclic Aromatic Hydrocarbons), Speciated TPH (Total Petroleum Hydrocarbons) & Asbestos.

The catalogue of testing results can be found in the Chemtest Analytical Report (Ref. 25-10200), attached in Appendix IV, with the total analysis carried out is summarised on below.

- 6 no. soil samples screened for a generic (metals and non-organics) soil suite including Arsenic, Cadmium, Chromium (III & VI), Copper, Lead, Mercury, Nickel, Selenium, Zinc, Cyanide and Total Organic Carbon (TOC).
- 6 no. soil samples screened for Speciated Polycyclic Aromatic Hydrocarbons (PAH's).
- 6 no. soil samples screened for Speciated Total Petroleum Hydrocarbons (based on full Aliphatic / Aromatic Split & BTEX).
- 6 no. samples screened for the presence of asbestos.
- 2 no. asphalt samples screened for Speciated Polycyclic Aromatic Hydrocarbons (PAH's).

## 7.0 Laboratory Testing (Cont'd)

### 7.4 Contamination Testing / Screening Strategy:-

The results of the contamination screening are discussed further in Section 8.0 below.

## 8.0 Ground Contamination Risk Assessment

### 8.1 Methodology:-

Following completion of the contamination screening undertaken on various samples from this site, a Level 1 quantitative ground contamination risk assessment has been undertaken, generally in accordance with Land Contaminated: Risk Management (LCRM) (EA 2020).

This quantitative ground contamination risk assessments use the current UK practice for assessing the risks from land contamination, which is based on the established *source-pathway-receptor* pollutant linkage methodology and 'suitable for use' approach (Part IIA, EPA 1990 - inserted through Section 57 EA 1995).

Based on the results of the contamination screening completed, the risks from potential contaminants have been assessed for Human Health and Controlled Waters. The results of the risk assessments can be found in Sections 8.2 (Human Health) and 8.3 (Controlled Waters), with a summary of the potential contamination sources, migration pathways and sensitive receptors for this site described within the revised Conceptual Site Model (CSM) in Section 8.4.

### 8.2 Level 1 Risk Assessment (Human Health):-

The soil screening results have been assessed by comparing the maximum values ($C_M$) recorded for each analyte to the critical concentration values ($C_C$) adopted for this site i.e. based on a continued commercial end use. The results of the testing are contained in Appendix IV, has been summarised in Table 8.1 below continued on the following page.

**Table 8.1**

| Analyte | Critical Conc. ($C_C$) | No. of Samples Screened | Max. Conc. ($C_M$) Recorded | No. of Samples > $C_C$ |
|---|---|---|---|---|
| Arsenic | 640(1) | 6 | 38.7 | 0 |
| Cadmium | 190(1) | 6 | <1.6 | 0 |
| Chromium III | 8600(1) | 6 | 19.4 | 0 |
| Chromium VI | 33(1) | 6 | <0.04 | 0 |
| Copper | 68000(1) | 6 | 25.5 | 0 |
| Lead | 2330(2) | 6 | 476 | 0 |
| Mercury | 1100(1) | 6 | 1.1 | 0 |
| Nickel | 980(1) | 6 | 13 | 0 |
| Selenium | 12000(1) | 6 | 3.5 | 0 |
| Zinc | 730000(1) | 6 | 79.2 | 0 |
| Cyanide | 34(3) | 6 | <1* | 0 |
| Acenaphthene | 84000(1) | 6 | <0.013* | 0 |
| Acenaphthylene | 83000(1) | 6 | <0.015* | 0 |
| Anthracene | 520000(1) | 6 | 0.047 | 0 |
| Benzo(a)anthracene | 170(1) | 6 | 0.146 | 0 |
| Benzo(a)pyrene | 35(1) | 6 | 0.161 | 0 |
| Benzo(b)fluoranthene | 44(1) | 6 | 0.146 | 0 |
| Benzo(ghi)perylene | 3900(1) | 6 | 0.078 | 0 |

(1) = LQM CIEH Suitable 4 Use Levels (S4UL Nov 2014 (Revised August 2015) – *Commercial 1.0% SOM*, (2) = C4SL Values (*Commercial*), (3) = ATRISK$^{SOIL}$ SSV, Note = All units are mg/kg. NAD = No Asbestos Detected.

# 8.0 Ground Contamination Risk Assessment (Cont'd)

## 8.2 Level 1 Risk Assessment (Human Health) (Cont'd):-

**Table 8.1 (Cont'd)**

| Analyte | Critical Conc. ($C_C$) | No. of Samples Screened | Max. Conc. ($C_M$) Recorded | No. of Samples > $C_C$ |
|---|---|---|---|---|
| Benzo(k)fluoranthene | 1200(1) | 6 | 0.062 | 0 |
| Chrysene | 350(1) | 6 | 0.101 | 0 |
| Dibenz(ah)anthracene | 3.5(1) | 6 | 0.021 | 0 |
| Fluoranthene | 23000(1) | 6 | 0.237 | 0 |
| Fluorene | 63000(1) | 6 | <0.013* | 0 |
| Indeno(123cd)pyrene | 500(1) | 6 | 0.11 | 0 |
| Naphthalene | 190(1) | 6 | <0.016* | 0 |
| Phenanthrene | 22000(1) | 6 | 0.019 | 0 |
| Pyrene | 54000(1) | 6 | 0.192 | 0 |
| VPH Aliphatic (>C5-C6) | 3200(1) | 6 | <0.1* | 0 |
| VPH Aliphatic (>C6-C8) | 7800(1) | 6 | <0.1* | 0 |
| VPH Aliphatic (>C8-C10) | 2000(1) | 6 | <0.1* | 0 |
| EPH Aliphatic (>C10-C12) | 9700(1) | 6 | <1* | 0 |
| EPH Aliphatic (>C12-C16) | 59000(1) | 6 | <0.5* | 0 |
| EPH Aliphatic (>C16-C35) | 1600000(1) | 6 | <3.0* | 0 |
| EPH Aliphatic (>C35-C44) | 1600000(1) | 6 | 0.6 | 0 |
| VPH Aromatic (>EC5-EC7) | 26000(1) | 6 | <0.01* | 0 |
| VPH Aromatic (>EC7-EC8) | 56000(1) | 6 | <0.01* | 0 |
| VPH Aromatic (>EC8-EC10) | 3500(1) | 6 | <0.01* | 0 |
| EPH Aromatic (>EC10-EC12) | 16000(1) | 6 | 0.8 | 0 |
| EPH Aromatic (>EC12-EC16) | 36000(1) | 6 | 2.5 | 0 |
| EPH Aromatic (>EC16-EC21) | 28000(1) | 6 | <2* | 0 |
| EPH Aromatic (>EC21-EC35) | 28000(1) | 6 | 8.9 | 0 |
| EPH Aromatic (>EC35-EC44) | 28000(1) | 6 | 3 | 0 |
| Benzene | 27(1) | 6 | <0.001* | 0 |
| Toluene | 56000(1) | 6 | <0.001* | 0 |
| Ethylbenzene | 57000(1) | 6 | <0.001* | 0 |
| m & p-Xylene | 5900(1) | 6 | <0.002* | 0 |
| o-Xylene | 6600(1) | 6 | <0.002* | 0 |
| Asbestos | Presence | 6 | NAD | 0 |

(2) = LQM CIEH Suitable 4 Use Levels (S4UL Nov 2014 (Revised August 2015) – *Commercial 1.0% SOM*, (2) = C4SL Values (*Commercial*), (3) = ATRISK$^{SOIL}$ SSV, Note = All units are mg/kg. NAD = No Asbestos Detected.

The results have identified the following:

- None of the Maximum Concentrations ($C_M$) values exceed the Critical Concentrations ($C_C$) values taken for the site.
- No asbestos was detected within any of the soil samples tested.

Consequently, the made ground does not represent a significant risk to Human Health where exposure pathways are available and can remain on site in a commercial setting with no further assessment and / or remedial works are deemed necessary.

## 8.3 Asphalt Screening: -

The asphalt materials from the existing visitors centre car park have been assessed using Technical Guidance WM3: Guidance on the classification and assessment of Waste. The results of this assessment are summarised below and have identified the following:

## 8.0 Ground Contamination Risk Assessment (Cont'd)

### 8.3 Asphalt Screening (Cont'd): -

- The asphalt materials which may need to be discarded as a waste to landfill, should be classified as Non-Hazardous Waste (17 03 02).
- The level of Benzo(a)Pyrene is less than 50mg/kg (i.e. less than analytical detection limits) which suggests coal tar is not present, i.e. the asphalt is likely petrogenic in nature rather than pyrogenic.

### 8.4 Level 1 Risk Assessment (Controlled Waters): -

The following hydrogeological and hydrological issues have been taken into consideration when assessing the risks towards Controlled Waters:

- There was no visual or olfactory evidence of hydrocarbon / fuel derived contamination noted in the boreholes.
- There was no 'free product' recorded during the investigation.
- Groundwater was recorded at depths of between c.1.10m to c.3.47m bgl.
- No elevated contamination results recorded.
- There is one Water Abstraction recorded within c.500m of the site boundary, located c.410m south-east of the site.
- The solid geology (Pennine Lower Coal Measures) is classified as a Secondary A Aquifer.
- The closest surface water feature is Sandybridge Dyke located c.9m east of the site.
- The proposed development will comprise significant areas of hardcover therefore reducing surface water infiltration.

Consequently, the risk to Controlled Waters from on-site contamination is considered to be very low / negligible and therefore no further works are considered necessary with this regard.

### 8.5 Revised Conceptual Site Model (CSM): -

From the results of the intrusive investigation works and Phase 1 Desk Top Study & Coal Mining Risk Assessment, a Revised Conceptual Site Model (CSM) has been developed for this site and Table 8.2 on the following page summarises the various contamination sources, plausible migration pathways and potentially sensitive receptors identified for this site, assuming no remediation, additional protection measures and / or removal of the sources of contamination takes place.

**Table 8.2**

* = Not included in the Human Health & Controlled Waters Risk Assessment.

| | *Sources (S)* |
|---|---|
| **S1** | Made ground<br><br>**No elevated concentrations recorded** |

| | *Pathways (P)* |
|---|---|
| **P1** | Ingestion and Dermal Contact |
| **P2** | Inhalation of indoor / outdoor air |

| | *Receptors (R)* |
|---|---|
| **R1** | Human health - commercial use<br>(End users and construction workers) |

# 8.0 Ground Contamination Risk Assessment (Cont'd)

## 8.5 Revised Conceptual Site Model (CSM) (Cont'd): -

**Table 8.2**

* = Not included in the Human Health & Controlled Waters Risk Assessment.

| | *Sources (S)* | | *Pathways (P)* | | *Receptors (R)* |
|---|---|---|---|---|---|
| **S2** | Potential 'hot spots' of hydrocarbon contamination associated with the sites current use as a car park **No elevated TPH or PAH concentrations recorded** | **P3** | ~~Plant uptake and attached soils~~ | **R2** | Controlled waters: Groundwater within the solid geology (Secondary A Aquifer) |
| **S3** | Potential hazardous ground gases **Characterisation Situation 2 Classification (CS2)** | **P4** | Migration through existing services and permeable strata | | |
| | | **P5** | Surface run off infiltration leachate migration | **R3** | Building materials* |
| **S4** | The estimated probability of the property being above the Action Level for radon is 3-5% and basic radon protection is recommended **Radon protection recommended as part of the CS2 measures** | **P6** | Direct contact with building materials | **R4** | Adjacent sites |
| | | | | **R5** | Flora and fauna* |

8.5.1 Sources: -

The site contains made ground materials associated with current development and which represents the primary source of ground contamination for this site. The made ground contains limited anthropogenic debris, and representative samples of these materials have been assessed using a standard generic soil suite.

No visual or olfactory evidence of significant hydrocarbon / fuel derived contamination was noted within the exploratory positions. However, for completeness and to assist in any assessment for off-site disposal classification, the samples were also tested for Speciated PAH (Polycyclic Aromatic Hydrocarbons), Speciated TPH (Total Petroleum Hydrocarbons) & Asbestos.

8.5.2 Pathways: -

When considering the proposed end use, and without considering treatment, removal or protection measures, there are some potential plausible pathways available for direct contact, dermal contact, ingestion, inhalation, wind (dust / particulate), volatilization, and vertical and lateral transportation below the site.

Within the CLEA Risk Assessment Model for Human Health, there are 3 exposure mediums considered for on-site receptors, comprising ingestion of soil containing contaminants, inhalation of contaminated dust / vapours and dermal contact, with up to 10 no. exposure pathways considered, as shown below.

*1. Ingestion of soil and indoor dust 2. Consumption of homegrown produce and attached soil 3. Dermal contact (indoor) 4. Dermal contact (outdoor) 5. Inhalation of dust (indoor) 6. Inhalation of dust (outdoor) 7. Inhalation of vapour (indoor) 8. Inhalation of vapour (outdoor) 9. Oral background intake 10. Inhalation background intake.*

Where the future site has hard cover and below new structures, the majority of these pathways will not be available.

## 8.0 Ground Contamination Risk Assessment (Cont'd):-

### 8.5 Revised Conceptual Site Model (CSM) (Cont'd): -

When considering the potential pathways for leachate migration, where either hard cover and / or future surface water drainage systems are present, the potential effects of surface infiltration or contaminated surface water runoff will be greatly reduced.

Similarly, when considering the construction work force, exposure pathways through direct contact, ingestion and dust inhalation will be available during part of the construction process, and therefore adequate PPE should be provided to protect the workforce during this period.

8.5.3 Receptors: -

Within the CLEA Risk Assessment Model for Human Health, the potential receptors are assessed initially on site end use, followed by a delineation of age category (i.e. child or adult), with default settings for *Residential, Allotment* and *Public Open Space (Park)* end uses based on a child aged 0 to 6 years, *Public Open Space (Residential)* based on a child aged 3 to 9 and *Commercial* end uses based upon a working exposure period of up to 49 years (i.e. 16 to 65).

Key generic assumptions for *Residential* and *Public Open Space (Residential)* are based upon a typical residential property, consisting of a two-storey small, terraced house, with private garden, and a *Commercial* end use based upon a typical commercial or light industrial property, consisting of a three-storey office building (pre-1970). No buildings are anticipated for *Allotment* or *Public Open Space (Park)* end uses.

Within the CLEA Risk Assessment Model for Human Health there are 6 no. generic end use categories presently in use, as shown below.

*1) Residential - with home grown produce, 2) Residential - without home grown produce, 3) Allotments, 4) Commercial*
*5) Public Open Space-Residential, 6) Public Open Space-Park*

When considering the proposed development and the Level 1 Risk Assessment has taken the end use category as:

*4) Commercial*

There was no obvious visual or olfactory evidence of hydrocarbon / fuel derived contamination or 'free product' or 'mobile' contamination noted during the investigation.

When taking into the overall environmental setting of the site (Section 8.3) and the results of the contamination screening, the risk to Controlled Waters is considered very low / negligible and therefore screening and / or further assessment was not considered necessary.

## 9.0 Conclusions & Recommendations

### 9.1 Ground Conditions:-

Made ground was recorded to depths of between c.0.10m to c.0.45m below ground level (bgl), generally comprising asphalt and grass surfacing to depths of 0.19m to 0.35m bgl, dark brown silty gravelly sand within a geogrid was encountered within WS01 and WS04 (the northern portion of the site) to depths of c.0.10m bgl. Generally overlying light grey dolomitic subbase to depths of c.0.30m to c.0.45m.

The underlying natural deposits comprised brown sandy gravelly clay (residual soil) within WS01 and WS02 to depths of c.0.25m to c.0.50m bgl.

## 9.0 Conclusions & Recommendations (Cont'd)

### 9.1 Ground Conditions (Cont'd):-

The solid geology was encountered within all boreholes at depths from c.0.25m to c.1.70m up to at least c.20.00m. The soild geology comprised bands of light brown and grey mudstone, dark grey shaley mudstone and intact coal. The mudstone was noted to be extremely weak to very weak at the window sample borehole locations.

From the rotary boreholes carried out, intact coal (~0.50m thick) was encountered within the rotary boreholes at a depth of between c.15.7m to c.16.00m bgl. Shaley coal was encountered at a depth of c.2.50m bgl within RBH04.

### 9.2 Groundwater & Stability

No groundwater ingress was encountered within any of the boreholes during the investigation works. Consequently, shallow water ingresses unlikely to occur within shallow construction related excavations. Nonetheless, provision should be made for the introduction of suitable groundwater control measures, in order to take care of any ingresses of groundwater which may occur, especially during the wetter periods of the year

Adequate lateral trench support will be required for excavations, to prevent trench wall collapse or over excavations, as well as to create a safe working environment, and any excavations on this site should remain open for as short a period as possible, since some of these materials may be susceptible to deterioration, if left open to the natural elements for any significant period of time. Reference to CIRIA 97 'Trenching Practice' would be beneficial to establish a suitable means of support or battering of excavation sides during construction.

### 9.3 Foundation Options:-

When considering the foundation options available for the proposed development it is felt that traditional strip and / or pad foundations should be acceptable. Foundations should be taken down through the made ground and based wholly within the highly weathered mudstone, at a minimum depth of 0.90m bgl, where a maximum allowable bearing pressure of 150kN/$m^2$ is available.

An increase in this minimum depth may also be required if the proposed development is close to existing trees and vegetation, even if trees are to be removed. Reference should be made to BS5837:2012, "Trees in relation to design, demolition and construction" along with the NHBC Standards, Chapter 4.2 'Building near trees.

When considering the results of the pH and soluble sulphate testing, future foundations and buried concrete on the site can be constructed utilising a concrete design class of DS-1 and ACEC class of AC-4z.

### 9.4 Gas Protection Measures:-

From the results of the gas monitoring undertaken, detectable concentrations of Carbon Dioxide ($CO_2$) have been recorded, up to a maximum recorded level of 8.3% *v/v*, with associated depleted oxygen ($O_2$) concentrations (15.3% *v/v).* In addition, negligible flow rates of <0.1/hr have been recorded during the monitoring visits.

When considering the concentrations of $CO_2$ exceeding the action trigger level of 5%, Characteristic Situation 2 Classification) resulting in gas protection measures being required which also protects against radon.

## 9.0 Conclusions & Recommendations (Cont'd)

### 9.5 Ground Contamination:-

The results of the contamination screening carried out on the made ground deposits across the site did not return any concentrations above the critical concentration values taken for the site. In addition, no asbestos was detected within any of the soil samples tested. Consequently, these materials are not considered to pose a significant risk to Human Health where exposure pathways are available and can remain on site with no further assessment and / or protection measures required.

When taking into account the results of the contamination screening, proposed use of the site (commercial building), and given that the proposed development works will result in hardcover (therefore minimising surface infiltration), the risk to Controlled Waters from on-site contamination is considered to be very low / negligible and no further assessment / works are considered necessary.

When considering the risks to the construction workforce, the results can be used by the Main Contractor / Project Coordinator, when devising an adequate Site Health & Safety Plan, in accordance with current CDM Regulations. For further guidance reference should be made to the Health and Safety Executive (HSE) document EH40/2005 Workplace exposure limits.

### 9.6 Waste Classification:-

The made ground materials recorded below the site which may have to be discarded as a waste to landfill, have been assessed using Technical Guidance WM3 'Guidance on the classification and assessment of Waste', in conjunction with the on-line waste classification software tool HazWasteOnline™.

Each sample has been assessed separately to determine whether all the soils can be considered as a single waste stream or whether the different sources represent separate waste streams.

Based on the physical (visual and olfactory) inspection of the samples recovered from the boreholes, representative samples have been assessed as either 17 05 03 (waste soil and stones containing hazardous substances) or 17 05 04 (waste soil and stones other than those mentioned in 17 05 03) from the WM3 List of Waste (LoW).

In order to determine which waste code applies to each sample, the results of the laboratory testing have been assessed using the HazWasteOnline™ software. The results are summarised in Table 9.1 below and the full Waste Classification Report can be found in Appendix V.

**Table 9.1**

| Position | Depth (m) | WM3 Waste Classification | Waste Code |
|---|---|---|---|
| WS01 | 0.20 | Non-hazardous | 17 05 04 |
| WS02 | 0.40 | Non-hazardous | 17 05 04 |
| WS03 | 0.40 | Non-hazardous | 17 05 04 |
| WS04 | 0.25 | Non-hazardous | 17 05 04 |
| WS05 | 0.30 | Non-hazardous | 17 05 04 |
| WS06 | 0.30 | Non-hazardous | 17 05 04 |

The results of this assessment are included within the Waste Classification Report attached and have identified that all six samples tested have been classified as Non-Hazardous waste (waste code 17 05 04) and consequently should be subject to the 'lower rated' tax.

## 9.0 Conclusions & Recommendations (Cont'd)

### 9.6 Waste Classification (Cont'd):-

To determine if the non-hazardous materials meet the criteria for disposal at an Inert landfill, supplementary Waste Acceptance Criteria (WAC) testing has been carried out. From the results of the WAC testing undertaken the made ground could potentially be disposed of at an Inert landfill.

It is recommended that this report is forwarded on to the chosen landfill for their comment and assessment.

It should be noted that this Waste Classification Report is only applicable to those made ground materials which have been sampled and screened as part of the assessment. If materials, other than those covered by this report, are to be discarded from site as a waste to landfill or there is a significant increase in the volume of materials to be discarded, then these additional materials will also need to be assessed using Technical Guidance WM3: Guidance on the classification and assessment of Waste.

Where possible, removal of materials from site as a 'waste' should be kept to a minimum and ideally excavated materials should all be reused on site. However, if excavated materials have to be discarded to accommodate finished ground levels etc., additional analysis and screening should be undertaken once each specific waste stream has been identified and the volume of material to be disposed of has been calculated, since the amount of screening required, including any pre-disposal WAC screening, will be dependent upon the final volume of material to be disposed of.

### 9.7 General Comments

When considering the potential for a Sustainable Urban Drainage System (SUDS) to be incorporated into the proposed development, due to the presence of impermeable clays and mudrocks the use of soakaways will not be suitable.

With regard to asbestos in soil, where we have sampled and tested for asbestos this is discussed in the report. However, there is always the possibility, along with other contamination, that undiscovered asbestos exists between sample locations and the possibility of unknown asbestos exists on all sites, particularly brownfield sites where previous buildings have been demolished, there were previous features that were infilled (old hollows, pits etc) or where significant quantities of materials such as demolition and brick rubble exist.

It is not uncommon for historical asbestos wastes to be deliberately buried on derelict sites or imported old demolition rubble which could contain asbestos to be imported for use as hardstanding/hardcore. Unless otherwise stated we have not assessed any above or below ground features such as existing buildings, service ducts, basements, culverts, partly demolished or dilapidated structures, spoil heaps, fly tipped materials, security bunds, etc.

It is also recommended that adequate surface drainage should be designed and installed by a competent contractor, in order to prevent surface water 'ponding' or collection, during and post construction, particularly since any existing surface drainage systems have been/will be disrupted or damaged.

In addition, for deeper excavations, drainage, service runs or the like that may pass close to or beneath any proposed new foundations, these should be undertaken with care and completed prior to the preparation of any new foundations, so as not to allow any loose or granular material to move or 'flow', thus causing settlement to occur to any new foundations based at a higher level.

## 9.0 Conclusions & Recommendations (Cont'd)

### 9.7 General Comments (Cont'd)

An "observational technique" can also be applied to the design and construction of this development, and where ground conditions seem to vary from those identified from the works to date, then advice should be sought from Arc Environmental Ltd.

**END OF REPORT**

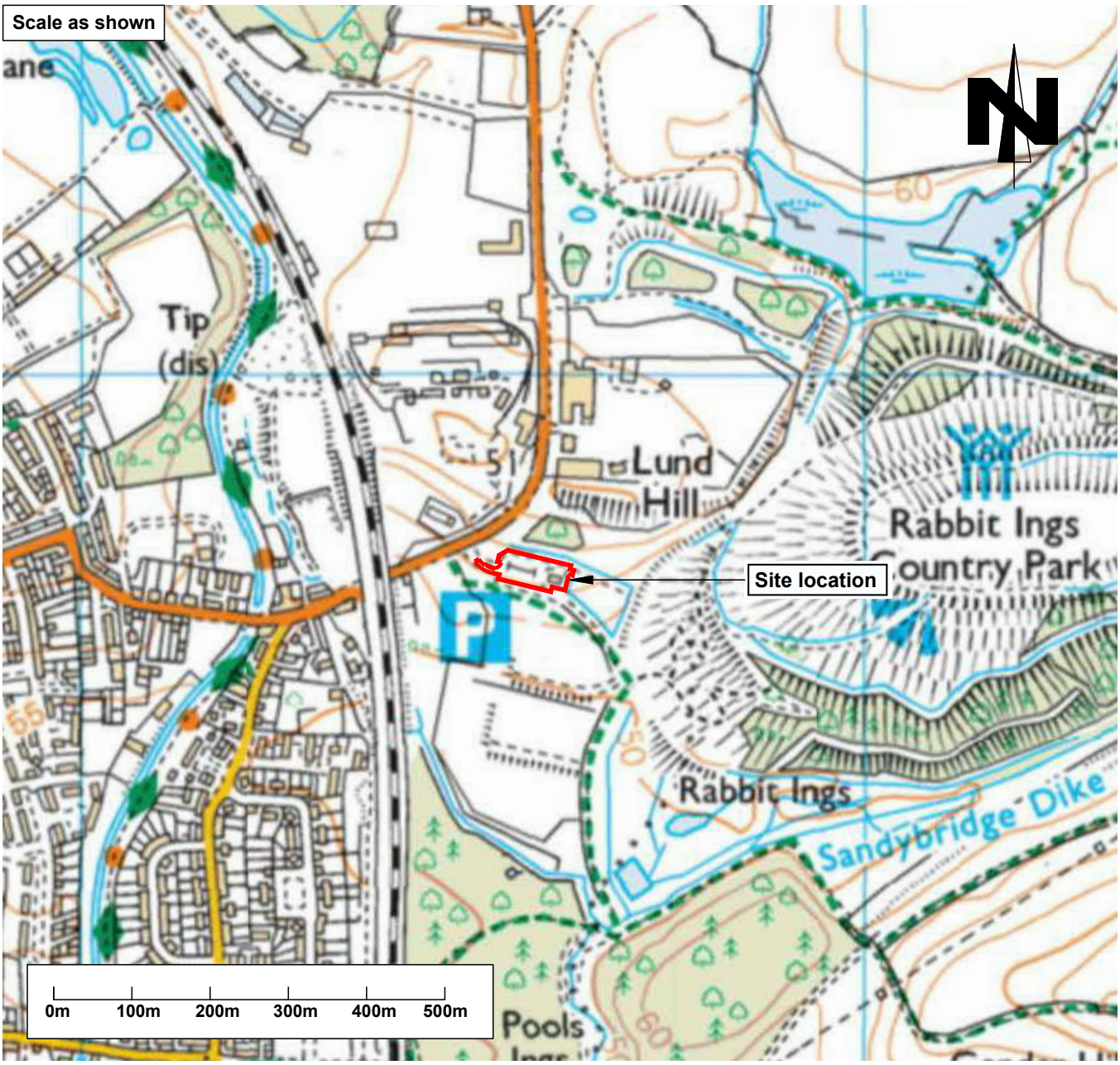
# APPENDIX I

**Location Plan**

**Aerial Photograph**

**Existing Site Layout Plan**

**Proposed Development Layout Plan**




Client:

**PROPERTY SERVICES LTD**

| Project Title: | Drawing Title: |
|---|---|
| Rabbits Ings Country Park<br>Visitors Centre, Lund Hill Lane<br>Royston, Barnsley, S71 4BB | Location Plan |

| Job Reference: | Drawing Number: | Revision: |
|---|---|---|
| 24–562 | – | |

| Drawn by: | Date: | Scale at A4: |
|---|---|---|
| P.D | 27.08.24 | As shown |

| Checked by: | Approved by: | |
|---|---|---|
| S.H | S.H | The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.<br>© Copyright Reserved |

| rev. | date | amendments | drawn | chckd |
|---|---|---|---|---|
| | | | | |

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LEGEND

| | |
|---|---|
| | APPROXIMATE SITE BOUNDARY |

| rev. | date | amendments | drawn | chckd |
|---|---|---|---|---|

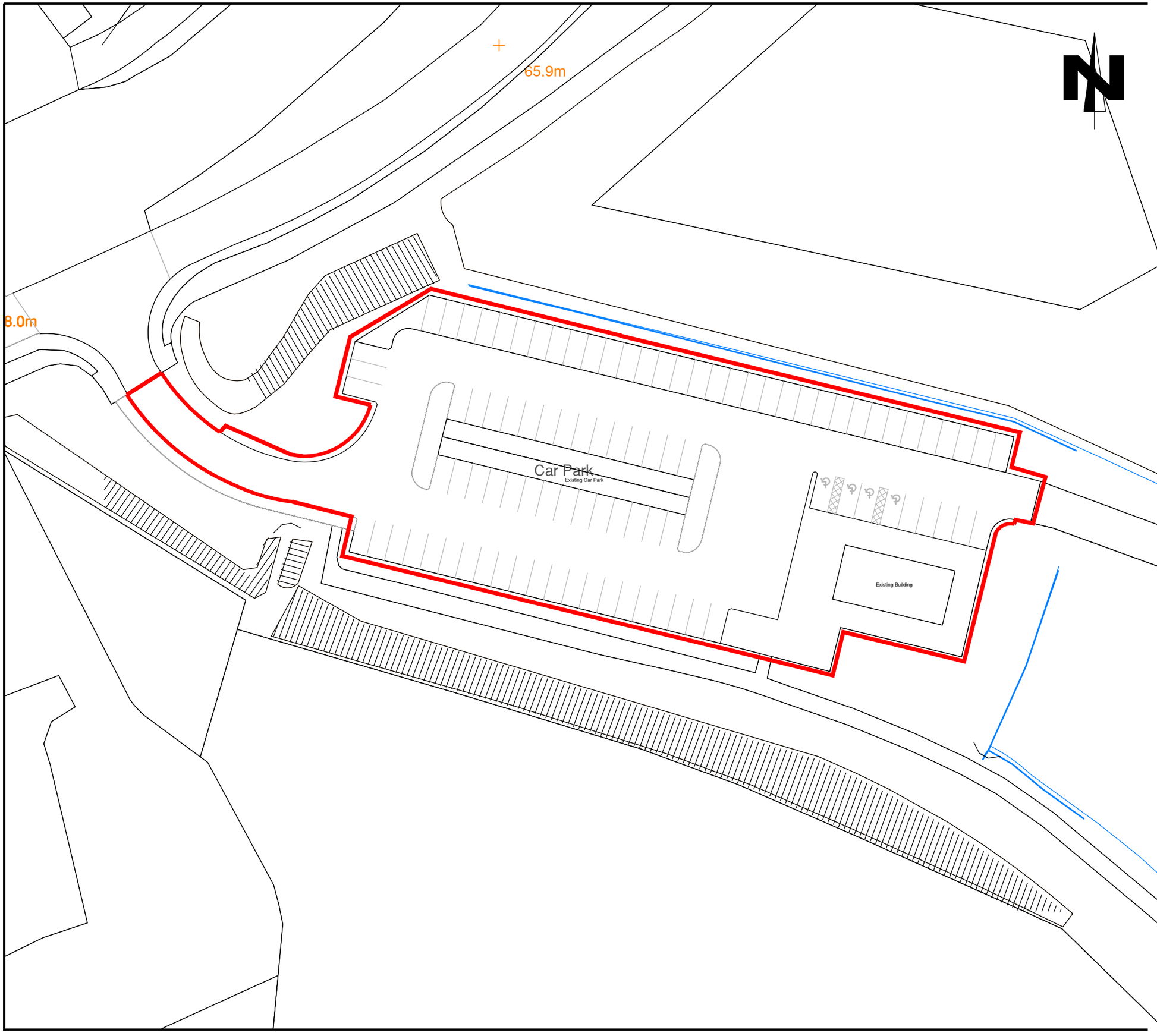
Client:
**PROPERTY SERVICES LTD**

Project Title:
Rabbit Ings Country Park Visitors Centre
Lund Hill Lane, Royston
Barnsley, S71 4BB

Drawing Title:
Aerial Photograph

| Scale at A3: | Date: | Drawn by: | Approved by: |
|---|---|---|---|
| NTS @ A3 | 23.08.24 | P.D | S.H |

| Job Ref: | Drg no: | Rev: |
|---|---|---|
| 24-562 | – | – |

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LEGEND

| | |
|---|---|
| | APPROXIMATE SITE BOUNDARY |

| rev. | date | amendments | drawn | chckd |
|---|---|---|---|---|

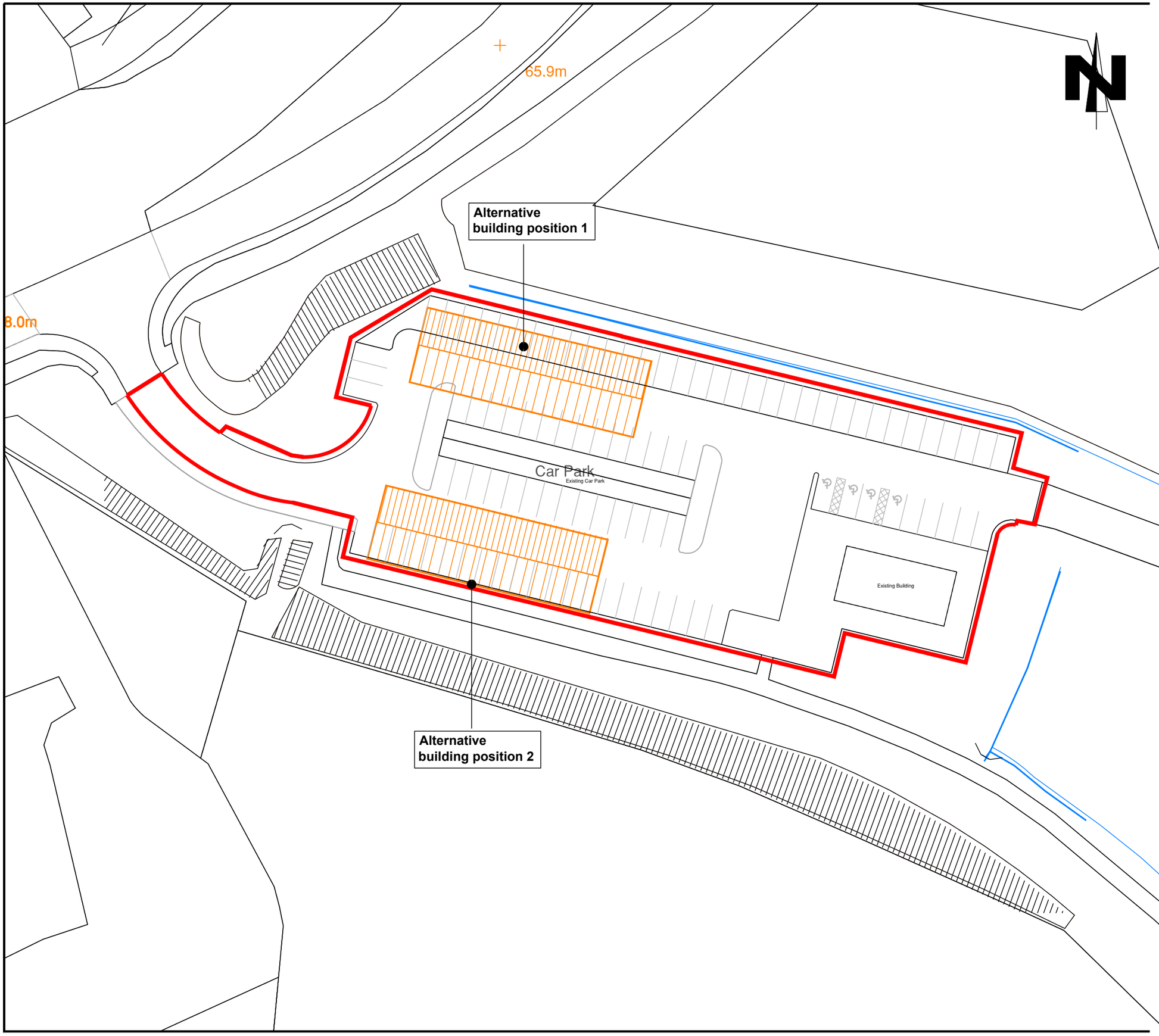
Client:
**PROPERTY SERVICES LTD**

Project Title:
Rabbit Ings Country Park Visitors Centre
Lund Hill Lane, Royston
Barnsley, S71 4BB

Drawing Title:
Existing Site Layout Plan

| Scale at A3: | Date: | Drawn by: | Approved by: |
|---|---|---|---|
| NTS @ A3 | 23.08.24 | P.D | S.H |

| Job Ref: | Drg no: | Rev: |
|---|---|---|
| 24-562 | – | – |

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LEGEND

| | |
|---|---|
| | APPROXIMATE SITE BOUNDARY |

| rev. | date | amendments | drawn | chckd |
|---|---|---|---|---|

Client:
**PROPERTY SERVICES LTD**

Project Title:
Rabbit Ings Country Park Visitors Centre
Lund Hill Lane, Royston
Barnsley, S71 4BB

Drawing Title:
Proposed Development Layout Plan

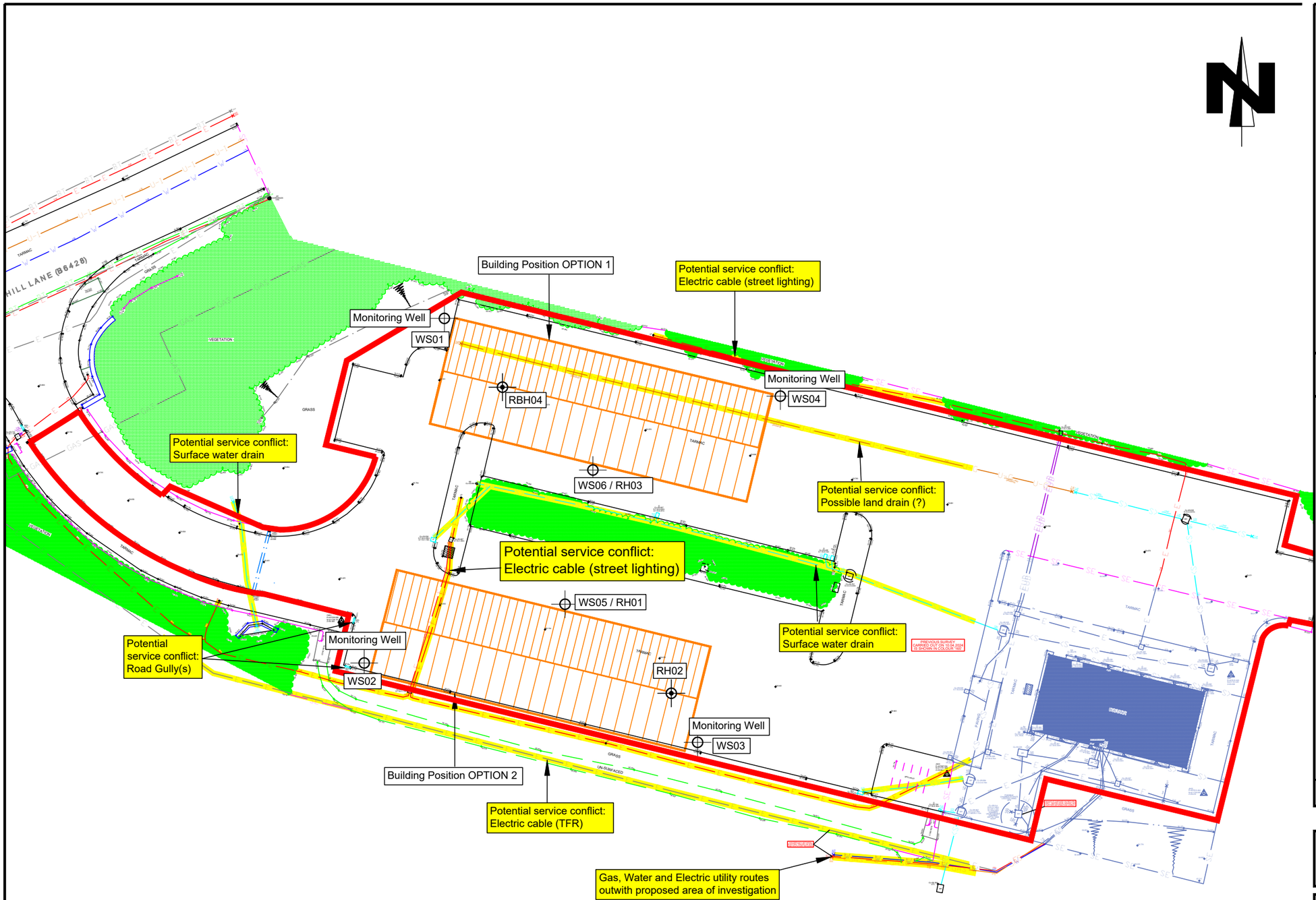
| Scale at A3: | Date: | Drawn by: | Approved by: |
|---|---|---|---|
| NTS @ A3 | 23.08.24 | P.D | S.H |

| Job Ref: | Drg no: | Rev: |
|---|---|---|
| 24-562 | – | – |

# APPENDIX II

## Exploratory Hole Location Plans

## Borehole & Trial Pit Record Sheets

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LEGEND

| | |
|---|---|
| | APPROXIMATE SITE BOUNDARY |
| ⊕ | WINDOWLESS SAMPLING BOREHOLE LOCATION |
| ⊕ | ROTARY BOREHOLE LOCATION |

| rev. | date | amendments | drawn | chckd |
|---|---|---|---|---|

Client:
**PROPERTY SERVICES LTD**

Project Title:
Rabbit Ings Country Park Visitors Centre
Lund Hill Lane, Royston
Barnsley, S71 4BB

Drawing Title:
Exploratory Hole Location Plan

| Scale at A3: | Date: | Drawn by: | Approved by: |
|---|---|---|---|
| 1:250 @ A3 | 06.10.25 | P.D | J.P.D |

| Job Ref: | Drg no: | Rev: |
|---|---|---|
| 24-562 | – | – |

# Borehole Log

**WS01**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | -0.10 | (0.10) 0.10 | | Grass overlying dark brown silty sand with roots. [TOPSOIL] |
| | | 0.20 | ES | | | (0.15) | | |
| | | | | | -0.25 | 0.25 | | Firm brown and orangish brown sandy gravelly CLAY. Gravel is fine to coarse, subrounded to subangular mudstone. [RESIDUAL SOIL] |
| | | 0.75 | B | | | | | Extremley weak becoming very weak dark grey and orangish brown highly weathered MUDSTONE. [PENNINE LOWER COAL MEASURES] |
| | | 1.20 | SPT | N=34 (4,5/7,7,10,10) | | (2.18) | | |
| | | 1.50 | B | | | | | |
| | | 2.00 | SPT | 70 blows for 430mm | | | | |
| | | 2.00 | D | | | | | |
| | | | | | -2.43 | 2.43 | | *End of Borehole at 2.43m* |

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 2.43m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS01**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=34 (4,5/7,7,10,10) |
| 2.00 (S) | | | | | N=50 for 280mm (10,10/10,10,13,17 for 55mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.2 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | | Logger |
|---|---|---|---|
| **0.00 - 2.43m** | BH | Tracked Windowless Sampling Rig | SH |

# Borehole Log

**WS02**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | 0.20 | ES | | | (0.35) | | Asphalt [MADE GROUND] |
| | | 0.40 | ES | | -0.35 | 0.35 (0.15) | | Firm dark brown sandy gravelly CLAY. Gravel is fine to coarse, subrounded to subangular mudstone and quartzite. [RESIDUAL SOIL] |
| | | 0.75 | B | | -0.50 | 0.50 | | Extremley weak becoming very weak brown and orangish brown highly weathered MUDSTONE. [PENNINE LOWER COAL MEASURES] |
| | | 1.20 | SPT | N=11 (2,2/3,2,3,3) | | | | |
| | | 1.50 | B | | | | | |
| | | 2.00 | SPT | N=13 (2,3/3,2,3,5) | | | | |
| | | 2.50 | B | | | (3.89) | | |
| | | 3.00 | SPT | N=30 (8,9/9,7,7,7) | | | | |
| | | 3.50 | B | | | | | |
| | | 4.00 | SPT | 71 blows for 385mm | | | | |
| | | 4.00 | D | | | | | |
| | | | | | -4.39 | 4.39 | | *End of Borehole at 4.39m* |

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 4.38m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS02**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=11 (2,2/3,2,3,3) |
| 2.00 (S) | | | | | N=13 (2,3/3,2,3,5) |
| 3.00 (S) | | | | | N=30 (8,9/9,7,7,7) |
| 4.00 (S) | | | | | N=50 for 235mm (10,11/14,14,15,7 for 10mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.2 | ES | | |
| 0.4 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2.5 | B | | |
| 3.5 | B | | |
| 4 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | Logger |
|---|---|---|
| **0.00 - 4.38m** | BH Tracked Windowless Sampling Rig | SH |

# Borehole Log

**WS03**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.23) | | Asphalt<br>[MADE GROUND] |
| | | | | | -0.23 | 0.23 | | |
| | | | | | | (0.22) | | Light grey sandy gravel. Gravel is coarse, subangular dolostone (dolomitic subbase).<br>[MADE GROUND] |
| | | 0.40 | ES | | -0.45 | 0.45 | | |
| | | 0.75 | B | | | | | Extremley weak becoming very weak orangish brown hightly weathered MUDSTONE.[PENNINE LOWER COAL MEASURES] |
| | | 1.20 | SPT | N=14 (2,3/3,3,4,4) | | | | |
| | | 1.50 | B | | | | | |
| | | | | | | (2.86) | | |
| | | 2.00 | SPT | N=27 (5,5/6,7,7,7) | | | | |
| | | 2.50 | B | | | | | |
| | | 3.00 | SPT | 75 blows for 305mm | | | | |
| | | 3.00 | D | | | | | |
| | | | | | -3.31 | 3.31 | | *End of Borehole at 3.31m* |

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 3.31m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS03**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=14 (2,3/3,3,4,4) |
| 2.00 (S) | | | | | N=27 (5,5/6,7,7,7) |
| 3.00 (S) | | | | | N=50 for 200mm (15,10/16,17,17 for 50mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.4 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2.5 | B | | |
| 3 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | | Logger |
|---|---|---|---|
| **0.00 - 3.31m** | BH | Tracked Windowless Sampling Rig | SH |

# Borehole Log

**WS04**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.10) | | Brown silty gravelly sand with glass fragments and geogrid. Gravel is fine to coarse, subangular to subrounded sandstone and quartzite. [MADE GROUND] |
| | | | | | -0.10 | 0.10 | | |
| | | 0.25 | ES | | | (0.20) | | |
| | | | | | -0.30 | 0.30 | | Light grey sandy gravel. Gravel is coarse, subangular dolostone (dolomitic subbase). [MADE GROUND] |
| | | 0.75 | B | | | | | Extremley weak becoming very weak dark grey and orangish brown highly weathered MUDSTONE. [PENNINE LOWER COAL MEASURES] |
| | | 1.20 | SPT | N=30 (5,5/6,7,8,9) | | | | |
| | | | | | | (2.12) | | |
| | | 1.50 | B | | | | | |
| | | 2.00 | SPT | 66 blows for 415mm | | | | |
| | | 2.00 | D | | | | | |
| | | | | | -2.42 | 2.42 | | *End of Borehole at 2.42m* |

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 2.42m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS04**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-09 | 2025-10-09 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=30 (5,5/6,7,8,9) |
| 2.00 (S) | | | | | N=50 for 265mm (8,8/10,12,16,12 for 40mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.25 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | | Logger |
|---|---|---|---|
| **0.00 - 2.42m** | BH | Tracked Windowless Sampling Rig | SH |

# Borehole Log

**WS05**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-10 | 2025-10-10 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.22) | | Asphalt<br>[MADE GROUND] |
| | | | | | -0.22 | 0.22 | | |
| | | 0.30 | ES | | | (0.23) | | Light grey sandy gravel. Gravel is coarse, subangular dolostone (dolomitic subbase).<br>[MADE GROUND] |
| | | | | | -0.45 | 0.45 | | |
| | | 0.75 | B | | | | | Extremley weak becoming very weak dark grey and orangish brown highly weathered MUDSTONE.<br>[PENNINE LOWER COAL MEASURES] |
| | | 1.20 | SPT | N=38 (6,6/7,8,11,12) | | | | |
| | | | | | | (1.97) | | |
| | | 1.50 | B | | | | | |
| | | 2.00 | SPT | 66 blows for 420mm | | | | |
| | | 2.00 | D | | | | | |
| | | | | | -2.42 | 2.42 | | *End of Borehole at 2.42m* |

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 2.42m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS05**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-10 | 2025-10-10 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=38 (6,6/7,8,11,12) |
| 2.00 (S) | | | | | N=50 for 270mm (8,8/11,13,14,12 for 45mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.3 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | | Logger |
|---|---|---|---|
| **0.00 - 2.42m** | BH | Tracked Windowless Sampling Rig | SH |

# Borehole Log

**WS06**

Sheet 1 of 1

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-10 | 2025-10-10 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|
| | | 0.10 | ES | | | (0.19) | | Asphalt [MADE GROUND] |
| | | | | | -0.19 | 0.19 | | Light grey sandy gravel. Gravel is coarse, subangular dolostone (dolomitic subbase). [MADE GROUND] |
| | | 0.30 | ES | | | (0.21) | | |
| | | | | | -0.40 | 0.40 | | Extremley weak becoming very weak dark grey and orangish brown highly weathered MUDSTONE.[PENNINE LOWER COAL MEASURES] |
| | | 0.75 | B | | | | | |
| | | 1.20 | SPT | N=32 (4,5/6,6,10,10) | | (1.82) | | |
| | | 1.50 | B | | | | | |
| | | 2.00 | SPT | 75 blows for 220mm | | | | |
| | | 2.00 | D | | | | | |
| | | | | | -2.22 | 2.22 | | *End of Borehole at 2.22m* |

**Remarks**
WATER OBSERVATIONS: Borehole remained dry.

**Method, Plant, Stability, Dimensions**
**0.00 - 2.22m** BH Tracked Windowless Sampling Rig

**Logger**
SH

# Borehole Log

**WS06**

**SUPPLEMENTARY INFO**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| BH | | | 0.00 | 1:25 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-10-10 | 2025-10-10 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

## SPT - Details

| Top Depth (m) (Type) | Casing Depth (m) | Water Depth (m) | Hammer Serial No. | Energy Ratio (%) | Results |
|---|---|---|---|---|---|
| 1.20 (S) | | | | | N=32 (4,5/6,6,10,10) |
| 2.00 (S) | | | | | N=50 for 135mm (19,6/24,26 for 60mm) |

## Sample Details

| Sample ID | Type | Water Level (m) | Remarks |
|---|---|---|---|
| 0.10 | ES | | |
| 0.3 | ES | | |
| 0.75 | B | | |
| 1.5 | B | | |
| 2 | D | | |

**Remarks**

WATER OBSERVATIONS: Borehole remained dry.

| Method, Plant, Stability, Dimensions | | | Logger |
|---|---|---|---|
| **0.00 - 2.22m** | BH | Tracked Windowless Sampling Rig | SH |

# Open Hole Log

**RBH01**

**Sheet 1 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2015-12-08 | 2025-12-08 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Samples and Tests: Type/ Ref | Samples and Tests: Results | Coring: Core Run | Coring: TCR (%) | Coring: SCR (%) | Coring: RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Strata: Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | (2.42) | | See WS05 log<br>[DISTURBED STRATA]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | -2.42 | 2.42 | | Highly weathered light brown and dark grey MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (1.78) | | |
| | | | | | | | | | | -4.20 | 4.20 | | Light grey MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (8.00) | | |

*Continued on next page*

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0

**Remarks**
All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**
**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**
SH

# Open Hole Log

**RBH01**

**Sheet 2 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2015-12-08 | 2025-12-08 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | As previous page. |
| | | | | | | | | | | -12.20 | 12.20 | | Dark grey shaley MUDSTONE with light grey bands<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.70) | | |
| | | | | | | | | | | -15.90 | 15.90 | | Intact COAL<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.50) | | |
| | | | | | | | | | | -16.40 | 16.40 | | Light grey MUDSTONE with dark grey bands<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.60) | | |
| | | | | | | | | | | -20.00 | 20.00 | | *End of Borehole at 20.00m* |

**Remarks**

All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**

**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**

SH

# Open Hole Log

**RBH02**



| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-08 | 2025-12-08 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | -0.10 | (0.10) | | Black bitumous surfacing |
| | | | | | | | | | | -0.20 | 0.10 | | [MADE GROUND] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.10) | | Dolomitic subbase |
| | | | | | | | | | | | 0.20 | | [MADE GROUND] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (1.50) | | Brown sandy CLAY |
| | | | | | | | | | | | | | [RESIDUAL SOIL] |
| | | | | | | | | | | | | | DRILLERS DESCRIPTION |
| | | | | | | | | | | -1.70 | 1.70 | | Highly weathered light brown and dark brown MUDSTONE |
| | | | | | | | | | | | | | [PENNINE LOWER COAL MEASURES] |
| | | | | | | | | | | | | | DRILLERS DESCRIPTION |
| | | | | | | | | | | | (2.20) | | |
| | | | | | | | | | | -3.90 | 3.90 | | Light grey MUDSTONE |
| | | | | | | | | | | | | | [PENNINE LOWER COAL MEASURES] |
| | | | | | | | | | | | | | DRILLERS DESCRIPTION |
| | | | | | | | | | | | (8.60) | | |

*Continued on next page*

**Remarks**

All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**

**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**

SH

# Open Hole Log

**RBH02**

**Sheet 2 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-08 | 2025-12-08 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | As previous page. |
| | | | | | | | | | | -12.50 | 12.50 | | Dark grey shaley MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.50) | | |
| | | | | | | | | | | -16.00 | 16.00 | | Intact COAL<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.50) | | |
| | | | | | | | | | | -16.50 | 16.50 | | Light grey MUDSTONE with dark grey bands<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.50) | | |
| | | | | | | | | | | -20.00 | 20.00 | | *End of Borehole at 20.00m* |

**Remarks**
All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**
**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**
SH

# Open Hole Log

**RBH03**



| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-09 | 2025-12-09 |

| Client | Consultant | Contractor |
|---|---|---|
| Property Services Barnsley Metropolitan Council | SH | Arc Environmental Ltd |

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | (2.22) | | See WS06 log<br>[DISTRUBED STRATA] |
| | | | | | | | | | | -2.22 | 2.22 | | Highly weathered dark brown and light brown MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (1.08) | | |
| | | | | | | | | | | -3.30 | 3.30 | | Light grey MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (10.20) | | |

*Continued on next page*

**Remarks**

All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**

**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**

SH

# Open Hole Log

**RBH03**

**Sheet 2 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-09 | 2025-12-09 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | As previous page. |
| | | | | | | | | | | -13.50 | 13.50 | | Dark grey shaley MUDSTONE [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (2.30) | | |
| | | | | | | | | | | -15.80 | 15.80 | | Intact COAL [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.50) | | |
| | | | | | | | | | | -16.30 | 16.30 | | Light grey MUDSTONE [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.70) | | |
| | | | | | | | | | | -20.00 | 20.00 | | *End of Borehole at 20.00m* |

**Remarks**
All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**
**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**
SH

# Open Hole Log

**RBH04**

**Sheet 1 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-10 | 2025-12-10 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | -0.20 | (0.20) 0.20 | | Topsoil within geogrid<br>[MADE GROUND] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.90) | | Dark brown sandy CLAY<br>[RESIDUAL SOIL]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | -1.10 | 1.10 | | Highly weathered dark brown and light brown MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (1.40) | | |
| | | | | | | | | | | -2.50 | 2.50 | | Shaley COAL<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.50) | | |
| | | | | | | | | | | -3.00 | 3.00 | | Light grey MUDSTONE<br>[PENNINE LOWER COAL MEASURES]<br>DRILLERS DESCRIPTION |
| | | | | | | | | | | | (10.40) | | |

*Continued on next page*

**Remarks**
All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**
**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**
SH

# Open Hole Log

**RBH04**

**Sheet 2 of 2**

| Hole Type | Easting | Northing | Ground Level (m) | Scale |
|---|---|---|---|---|
| RO | | | 0.00 | 1:50 |

| Project Name | Project No. | Start Date | End Date |
|---|---|---|---|
| Rabbit Ings Country Park, Barnsley | 25-562 | 2025-12-10 | 2025-12-10 |

**Client**
Property Services Barnsley Metropolitan Council

**Consultant**
SH

**Contractor**
Arc Environmental Ltd

| Inst/ Backfill | Water Levels | Samples and Tests: Depth (m) | Type/ Ref | Results | Coring: Core Run | TCR (%) | SCR (%) | RQD (%) | Frac | Level (m) | Depth (thickness) (m) | Strata: Legend | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | As previous page. |
| | | | | | | | | | | -13.40 | 13.40 | | Dark grey shaley MUDSTONE [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (2.30) | | |
| | | | | | | | | | | -15.70 | 15.70 | | Intact COAL [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (0.50) | | |
| | | | | | | | | | | -16.20 | 16.20 | | Light grey MUDSTONE [PENNINE LOWER COAL MEASURES] DRILLERS DESCRIPTION |
| | | | | | | | | | | | (3.80) | | |
| | | | | | | | | | | -20.00 | 20.00 | | *End of Borehole at 20.00m* |

**Remarks**
All descriptions based on drillers interpretations of cuttings brought to surface and drilling rates maintained.

**Method, Plant, Stability, Dimensions**
**0.00 - 20.00m** RO Rotary Drillig Rig

**Logger**
SH

# APPENDIX III

## Ground Gas and Groundwater Monitoring Certificate

# Arc Environmental Ground Gas & Groundwater Monitoring Certificate

| | |
|---|---|
| **Site:** | RABBIT INGS |
| **Ref:** | 24-562 |

| Visit | Date | Time | Equipment | Weather | Initials | Comments | Borehole | Gas Flow (l/hr) | Atmospheric Pressure (mb) | Trend | Methane (% v/v) | | Methane (% LEL) | | Carbon Dioxide (% v/v) | | Oxygen (% v/v) | | Hydrocarbons (GFM 435 only) | | Other Gases (PPM) | | | Depth to Water (m bgl) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | R/F/S | Initial | Steady | Initial | Steady | Initial | Steady | Initial | Steady | Hex % | PID Cf | PID (Isobutylene) | $H_2S$ | CO | |
| 1 | 15/10/25 | 8.30am | GFM435 | OVERCAST | PR | | WS01 | <0.1 | 1025 | | | 0.0 | | 0.0 | | 0.9 | | 19.4 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS02 | <0.1 | 1024 | | | 0.0 | | 0.0 | | 5.3 | | 16.3 | | | | 0.0 | 1.0 | 3.41 |
| | | | | | | | WS03 | <0.1 | 1025 | | | 0.0 | | 0.0 | | 4.2 | | 17.9 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS04 | <0.1 | 1025 | | | 0.0 | | 0.0 | | 2.2 | | 17.7 | | | | 0.0 | 0.0 | DRY |
| 2 | 30/10/25 | 8.30am | GFM435 | OVERCAST | PR | | WS01 | <0.1 | 999 | | | 0.0 | | 0.0 | | 2.4 | | 15.9 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS02 | <0.1 | 1000 | | | 0.0 | | 0.0 | | 8.3 | | 16.3 | | | | 0.0 | 0.0 | 3.07 |
| | | | | | | | WS03 | <0.1 | 999 | | | 0.0 | | 0.0 | | 1.4 | | 19.5 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS04 | <0.1 | 1000 | | | 0.0 | | 0.0 | | 1.4 | | 18.6 | | | | 0.0 | 0.0 | 1.52 |
| 3 | 11/10/2025 | 8.00am | GFM435 | CLEAR | PR | | WS01 | <0.1 | 997 | | | 0.0 | | 0.0 | | 2.0 | | 15.3 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS02 | <0.1 | 996 | | | 0.0 | | 0.0 | | 5.0 | | 18.0 | | | | 0.0 | 0.0 | 3.13 |
| | | | | | | | WS03 | <0.1 | 997 | | | 0.0 | | 0.0 | | 2.2 | | 16.4 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS04 | <0.1 | 997 | | | 0.0 | | 0.0 | | 0.5 | | 19.8 | | | | 0.0 | 0.0 | 1.12 |
| 4 | 27/11/25 | 8.00am | GFM435 | OVERCAST | PR | | WS01 | <0.1 | 1002 | | | 0.0 | | 0.0 | | 0.5 | | 19.1 | | | | 0.0 | 0.0 | 1.1 |
| | | | | | | | WS02 | <0.1 | 1002 | | | 0.0 | | 0.0 | | 3.7 | | 18.4 | | | | 0.0 | 0.0 | 2.57 |
| | | | | | | | WS03 | <0.1 | 1002 | | | 0.0 | | 0.0 | | 6.4 | | 7.1 | | | | 0.0 | 0.0 | DRY |
| | | | | | | | WS04 | <0.1 | 1001 | | | 0.0 | | 0.0 | | 0.5 | | 19.6 | | | | 0.0 | 0.0 | 1.21 |
| 5 | | | GFM435 | | PR | | WS01 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS02 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS03 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS04 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| 6 | | | GFM435 | | PR | | WS01 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS02 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS03 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |
| | | | | | | | WS04 | <0.1 | | | | 0.0 | | 0.0 | | | | | | | | 0.0 | 0.0 | |

Notes:

Detection limits - Methane = 0.0%, Carbon Dioxide = 0.0%, LEL = 0.0%, Oxygen = 0.0%, Flow = 0.1l/hr

Monitoring order is from **Left to Right** across table

Monitoring should be for **Not Less** than 3 minutes However, if high concentrations of gasses initially recorded, monitoring should be for up to 10 minutes

N/A = Not applicable = Off the scale

Cf = PID compensation Factor (1-10) - Must be used to multiply the PID reading to give an accuate measure of the total hydrocarbons in the borehole when methane is present

Hex = Hexane (Valid and in range up to 2.000%) - Recorded when abnormally high methane is present.

PID = Photo Ionisation Detector (Calibrated to Isobutylene)

# APPENDIX IV

## Laboratory Results

## (Geotechnical and Ground Contamination)

# ANALYTICAL TEST REPORT

| | |
|---|---|
| **Report Number** | 25-10200, issue number 1 |
| **Contract name:** | Rabbit Ings County Park |
| **Client reference:** | 24-562 |
| **Clients name:** | ARC Environmental Ltd |
| **Clients address:** | ARC Environmental Ltd<br>Solum House, Unit 1 Elliott Court<br>St Johns Road<br><br>DH7 8PN |
| **Samples received:** | 17/10/2025 |
| **Analysis started:** | 17/10/2025 |
| **Analysis completed:** | 23/10/2025 |
| **Report issued:** | 23/10/2025 |

| | |
|---|---|
| **Key** | U UKAS accredited test<br>M MCERTS & UKAS accredited test<br>(B) Analysis performed at Southampton Site<br>I/S Insufficient sample to carry out test<br>U/S Sample not suitable for testing<br>NAD No Asbestos Detected<br>Full key available on Information page |
| **Approved by:** | Sam Rogerson<br>Receipt and Reporting Manager |

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB

Telephone: (01207) 528578, Email supportsquad@chemtech-env.co.uk

# SAMPLE INFORMATION

**MCERTS (Soils):**

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

| Lab ref | Sample ID | Depth (m) | Sample description | Material removed | % Removed | % Moisture |
|---|---|---|---|---|---|---|
| 72577 | WS01 | 0.20 | Brown Loamy Sand Clay with Gravel and Vegetation. | - | - | 12.3 |
| 72578 | WS02 | 0.40 | Brown Loamy Sand Clay with Gravel. | - | - | 15.1 |
| 72579 | WS03 | 0.40 | Brown Sand with Gravel. | - | - | 4.9 |
| 72580 | WS04 | 0.25 | Brown Sand with Gravel. | - | - | 3.8 |
| 72581 | WS05 | 0.30 | Brown Sand with Gravel. | - | - | 1.8 |
| 72582 | WS06 | 0.30 | Brown Sand with Gravel. | - | - | 2.6 |
| 72583 | WS01 | 1.50 | Brown Sandy Clay with Gravel. | - | - | 11.9 |
| 72584 | WS02 | 2.50 | Brown Sandy Clay with Gravel. | - | - | 10.6 |
| 72585 | WS03 | 1.50 | Brown Sandy Clay with Gravel. | - | - | 10.7 |
| 72586 | WS04 | 1.50 | Brown Sandy Clay with Gravel. | - | - | 13.1 |
| 72587 | WS05 | 0.75 | Brown Sandy Clay with Gravel. | - | - | 7.6 |
| 72588 | WS06 | 1.50 | Brown Sandy Clay with Gravel. | - | - | 7.2 |
| 72589 | WS02 | 0.20 | - | - | - | 1.3 |
| 72590 | WS06 | 0.10 | - | - | - | 1.4 |

# DEVIATING SAMPLE INFORMATION

**Comments**
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

**Key**

| | |
|---|---|
| a | Sampling date not provided |
| b | Sampling time not provided (waters only) |
| c | Sample not received in appropriate containers |
| d | Storage Temperature |
| e | Headspace present in sample container |
| f | Sample exceeded sampling to receipt |
| g | Sample exceeded holding time(s) |

| Lab ref | Sample ID | Depth (m) | Deviating | Tests (Reason for deviation) |
|---|---|---|---|---|
| 72577 | WS01 | 0.20 | N | |
| 72578 | WS02 | 0.40 | N | |
| 72579 | WS03 | 0.40 | N | |
| 72580 | WS04 | 0.25 | N | |
| 72581 | WS05 | 0.30 | N | |
| 72582 | WS06 | 0.30 | N | |
| 72583 | WS01 | 1.50 | N | |
| 72584 | WS02 | 2.50 | N | |
| 72585 | WS03 | 1.50 | N | |
| 72586 | WS04 | 1.50 | N | |
| 72587 | WS05 | 0.75 | N | |
| 72588 | WS06 | 1.50 | N | |

# SOILS

| Lab Number | | | | | 72577 | 72578 | 72579 | 72580 | 72581 |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS01 | WS02 | WS03 | WS04 | WS05 |
| **Depth (m)** | | | | | 0.20 | 0.40 | 0.40 | 0.25 | 0.30 |
| **Sampling Date** | | | | | 09/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 | 10/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | | | | |
| Moisture Content | CE001 | N | 0.1 | % | 12.3 | 15.1 | 4.9 | 3.8 | 1.8 |
| Arsenic | CE264 | U | 1.8 | mg/kg | 8.1 | 38.7 | 7.2 | 6.8 | 3.5 |
| Cadmium | CE264 | M | 1.6 | mg/kg | < 1.6 | < 1.6 | < 1.6 | < 1.6 | < 1.6 |
| Chromium | CE264 | U | 2 | mg/kg | 12.2 | 19.4 | 8.8 | 9.2 | 6.6 |
| Chromium III | CE208 | N | 2 | mg/kg | 12.2 | 19.4 | 8.82 | 9.20 | 6.60 |
| Water Soluble Chromium VI | CE263 | N | 0.04 | mg/kg | < 0.040 | < 0.040 | < 0.040 | < 0.040 | < 0.040 |
| Copper | CE264 | U | 1.6 | mg/kg | 17.9 | 25.5 | 5.1 | 7.4 | 3.1 |
| Lead | CE264 | U | 2.3 | mg/kg | 40.3 | 44.4 | 39.5 | 476 | 48.1 |
| Mercury | CE264 | U | 0.7 | mg/kg | < 0.7 | < 0.7 | 1.1 | 0.7 | < 0.7 |
| Nickel | CE264 | M | 2.1 | mg/kg | 13.0 | 12.8 | 2.7 | 2.9 | < 2.1 |
| Selenium | CE264 | U | 3 | mg/kg | 3.5 | < 3.0 | < 3.0 | < 3.0 | 3.3 |
| Zinc | CE264 | M | 4 | mg/kg | 79.2 | 53.6 | 23.7 | 25.1 | 16.6 |
| pH | CE004 | M | 0.1 | pH units | 7.2 | 7.1 | 8.4 | 8.3 | 8.6 |
| Water Soluble Sulphate | CE061 | M | 10 | mg/l | 349 | 246 | 60.0 | 40.0 | 29.1 |
| Free Cyanide | CE077 | N | 1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Total Organic Carbon | CE197 | M | 0.1 | % | 1.19 | 1.82 | 0.40 | 0.53 | 0.27 |
| **Polyaromatic hydrocarbons** | | | | | | | | | |
| Acenaphthene | CE087 | M | 0.013 | mg/kg | < 0.013 | < 0.013 | < 0.013 | < 0.013 | < 0.013 |
| Acenaphthylene | CE087 | M | 0.015 | mg/kg | < 0.015 | < 0.015 | < 0.015 | < 0.015 | < 0.015 |
| Anthracene | CE087 | U | 0.017 | mg/kg | < 0.017 | < 0.017 | < 0.017 | 0.047 | < 0.017 |
| Benzo(a)anthracene | CE087 | U | 0.012 | mg/kg | 0.046 | 0.036 | 0.023 | 0.146 | < 0.012 |
| Benzo(a)pyrene | CE087 | U | 0.019 | mg/kg | < 0.019 | < 0.019 | < 0.019 | 0.161 | < 0.019 |
| Benzo(b)fluoranthene | CE087 | M | 0.02 | mg/kg | 0.024 | < 0.020 | < 0.020 | 0.146 | < 0.020 |
| Benzo(g,h,i)perylene | CE087 | M | 0.019 | mg/kg | < 0.019 | < 0.019 | < 0.019 | 0.078 | < 0.019 |
| Benzo(k)fluoranthene | CE087 | M | 0.025 | mg/kg | < 0.025 | < 0.025 | < 0.025 | 0.062 | < 0.025 |
| Chrysene | CE087 | M | 0.028 | mg/kg | < 0.028 | < 0.028 | < 0.028 | 0.101 | < 0.028 |
| Dibenzo(a,h)anthracene | CE087 | M | 0.017 | mg/kg | < 0.017 | < 0.017 | < 0.017 | 0.021 | < 0.017 |
| Fluoranthene | CE087 | M | 0.017 | mg/kg | 0.017 | < 0.017 | < 0.017 | 0.237 | < 0.017 |
| Fluorene | CE087 | U | 0.013 | mg/kg | < 0.013 | < 0.013 | < 0.013 | < 0.013 | < 0.013 |
| Indeno(1,2,3-cd)pyrene | CE087 | M | 0.019 | mg/kg | 0.026 | < 0.019 | < 0.019 | 0.110 | < 0.019 |
| Naphthalene | CE087 | M | 0.016 | mg/kg | < 0.016 | < 0.016 | < 0.016 | 0.068 | < 0.016 |

# SOILS

| Lab Number | | | | | 72577 | 72578 | 72579 | 72580 | 72581 |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS01 | WS02 | WS03 | WS04 | WS05 |
| **Depth (m)** | | | | | 0.20 | 0.40 | 0.40 | 0.25 | 0.30 |
| **Sampling Date** | | | | | 09/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 | 10/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | | | | |
| Phenanthrene | CE087 | M | 0.014 | mg/kg | 0.015 | 0.019 | < 0.014 | 0.141 | < 0.014 |
| Pyrene | CE087 | M | 0.016 | mg/kg | 0.017 | < 0.016 | < 0.016 | 0.192 | < 0.016 |
| Total PAH(16) | CE087 | N | 0.28 | mg/kg | < 0.280 | < 0.280 | < 0.280 | 1.51 | < 0.280 |
| **BTEX & Total Petroleum Hydrocarbons** | | | | | | | | | |
| Benzene | CE267 | U | 0.001 | mg/kg | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | CE267 | U | 0.001 | mg/kg | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | CE267 | U | 0.001 | mg/kg | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| MTBE | CE267 | N | 0.002 | mg/kg | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| m,p-Xylene | CE267 | U | 0.002 | mg/kg | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| oXylenes | CE267 | U | 0.002 | mg/kg | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| >C5-C6 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| >C6-C8 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| >C8-C10 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| >C10-C12 Aliphatic (EH_2D_AL) | CE250 | N | 1 | mg/kg | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| >C12-C16 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| >C16-C35 Aliphatic (EH_2D_AL) | CE250 | N | 3 | mg/kg | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 |
| >C35-C44 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | < 0.5 | < 0.5 | 0.6 | < 0.5 | < 0.5 |
| >C5-C7 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| >C7-C8 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| >C8-C10 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| >C10-C12 Aromatic (EH_2D_AR) | CE250 | N | 0.6 | mg/kg | < 0.6 | 0.8 | 0.8 | < 0.6 | < 0.6 |
| >C12-C16 Aromatic (EH_2D_AR) | CE250 | N | 1 | mg/kg | 1.0 | 2.4 | 2.5 | < 1.0 | < 1.0 |
| >C16-C21 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| >C21-C35 Aromatic (EH_2D_AR) | CE250 | N | 4.5 | mg/kg | < 4.5 | 8.2 | 8.9 | < 4.5 | < 4.5 |
| >C35-C44 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | < 2.0 | 3.0 | 3.0 | < 2.0 | < 2.0 |
| >C5-C44 Total (HS_1D_MS+EH_2D_Total) | CE250 | N | 14 | mg/kg | < 14.0 | 17.2 | 19.1 | < 14.0 | < 14.0 |
| **Asbestos** | | | | | | | | | |
| Asbestos Identification | SUBCON | SU | 0 | - | NAD | NAD | NAD | NAD | NAD |

# SOILS

| Lab Number | | | | | 72582 | 72583 | 72584 | 72585 | 72586 |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS06 | WS01 | WS02 | WS03 | WS04 |
| **Depth (m)** | | | | | 0.30 | 1.50 | 2.50 | 1.50 | 1.50 |
| **Sampling Date** | | | | | 10/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | | | | |
| Moisture Content | CE001 | N | 0.1 | % | 2.6 | 11.9 | 10.6 | 10.7 | 13.1 |
| Arsenic | CE264 | U | 1.8 | mg/kg | 4.6 | n/t | n/t | n/t | n/t |
| Cadmium | CE264 | M | 1.6 | mg/kg | < 1.6 | n/t | n/t | n/t | n/t |
| Chromium | CE264 | U | 2 | mg/kg | 7.9 | n/t | n/t | n/t | n/t |
| Chromium III | CE208 | N | 2 | mg/kg | 7.90 | n/t | n/t | n/t | n/t |
| Water Soluble Chromium VI | CE263 | N | 0.04 | mg/kg | < 0.040 | n/t | n/t | n/t | n/t |
| Copper | CE264 | U | 1.6 | mg/kg | 2.8 | n/t | n/t | n/t | n/t |
| Lead | CE264 | U | 2.3 | mg/kg | 43.0 | n/t | n/t | n/t | n/t |
| Mercury | CE264 | U | 0.7 | mg/kg | < 0.7 | n/t | n/t | n/t | n/t |
| Nickel | CE264 | M | 2.1 | mg/kg | < 2.1 | n/t | n/t | n/t | n/t |
| Selenium | CE264 | U | 3 | mg/kg | < 3.0 | n/t | n/t | n/t | n/t |
| Zinc | CE264 | M | 4 | mg/kg | 15.0 | n/t | n/t | n/t | n/t |
| pH | CE004 | M | 0.1 | pH units | 8.7 | 5.2 | 6.2 | 5.6 | 4.2 |
| Water Soluble Sulphate | CE061 | M | 10 | mg/l | 19.1 | 118 | 62.0 | 86.2 | 104 |
| Free Cyanide | CE077 | N | 1 | mg/kg | < 1.0 | n/t | n/t | n/t | n/t |
| Total Organic Carbon | CE197 | M | 0.1 | % | 0.20 | n/t | n/t | n/t | n/t |
| **Polyaromatic hydrocarbons** | | | | | | | | | |
| Acenaphthene | CE087 | M | 0.013 | mg/kg | < 0.013 | n/t | n/t | n/t | n/t |
| Acenaphthylene | CE087 | M | 0.015 | mg/kg | < 0.015 | n/t | n/t | n/t | n/t |
| Anthracene | CE087 | U | 0.017 | mg/kg | < 0.017 | n/t | n/t | n/t | n/t |
| Benzo(a)anthracene | CE087 | U | 0.012 | mg/kg | 0.013 | n/t | n/t | n/t | n/t |
| Benzo(a)pyrene | CE087 | U | 0.019 | mg/kg | < 0.019 | n/t | n/t | n/t | n/t |
| Benzo(b)fluoranthene | CE087 | M | 0.02 | mg/kg | < 0.020 | n/t | n/t | n/t | n/t |
| Benzo(g,h,i)perylene | CE087 | M | 0.019 | mg/kg | < 0.019 | n/t | n/t | n/t | n/t |
| Benzo(k)fluoranthene | CE087 | M | 0.025 | mg/kg | < 0.025 | n/t | n/t | n/t | n/t |
| Chrysene | CE087 | M | 0.028 | mg/kg | < 0.028 | n/t | n/t | n/t | n/t |
| Dibenzo(a,h)anthracene | CE087 | M | 0.017 | mg/kg | < 0.017 | n/t | n/t | n/t | n/t |
| Fluoranthene | CE087 | M | 0.017 | mg/kg | < 0.017 | n/t | n/t | n/t | n/t |
| Fluorene | CE087 | U | 0.013 | mg/kg | < 0.013 | n/t | n/t | n/t | n/t |
| Indeno(1,2,3-cd)pyrene | CE087 | M | 0.019 | mg/kg | < 0.019 | n/t | n/t | n/t | n/t |
| Naphthalene | CE087 | M | 0.016 | mg/kg | < 0.016 | n/t | n/t | n/t | n/t |

# SOILS

| Lab Number | | | | | 72582 | 72583 | 72584 | 72585 | 72586 |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS06 | WS01 | WS02 | WS03 | WS04 |
| **Depth (m)** | | | | | 0.30 | 1.50 | 2.50 | 1.50 | 1.50 |
| **Sampling Date** | | | | | 10/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 | 09/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | | | | |
| Phenanthrene | CE087 | M | 0.014 | mg/kg | < 0.014 | n/t | n/t | n/t | n/t |
| Pyrene | CE087 | M | 0.016 | mg/kg | < 0.016 | n/t | n/t | n/t | n/t |
| Total PAH(16) | CE087 | N | 0.28 | mg/kg | < 0.280 | n/t | n/t | n/t | n/t |
| **BTEX & Total Petroleum Hydrocarbons** | | | | | | | | | |
| Benzene | CE267 | U | 0.001 | mg/kg | < 0.001 | n/t | n/t | n/t | n/t |
| Toluene | CE267 | U | 0.001 | mg/kg | < 0.001 | n/t | n/t | n/t | n/t |
| Ethylbenzene | CE267 | U | 0.001 | mg/kg | < 0.001 | n/t | n/t | n/t | n/t |
| MTBE | CE267 | N | 0.002 | mg/kg | < 0.002 | n/t | n/t | n/t | n/t |
| m,p-Xylene | CE267 | U | 0.002 | mg/kg | < 0.002 | n/t | n/t | n/t | n/t |
| oXylenes | CE267 | U | 0.002 | mg/kg | < 0.002 | n/t | n/t | n/t | n/t |
| >C5-C6 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | n/t | n/t | n/t | n/t |
| >C6-C8 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | n/t | n/t | n/t | n/t |
| >C8-C10 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | < 0.10 | n/t | n/t | n/t | n/t |
| >C10-C12 Aliphatic (EH_2D_AL) | CE250 | N | 1 | mg/kg | < 1.0 | n/t | n/t | n/t | n/t |
| >C12-C16 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | < 0.5 | n/t | n/t | n/t | n/t |
| >C16-C35 Aliphatic (EH_2D_AL) | CE250 | N | 3 | mg/kg | < 3.0 | n/t | n/t | n/t | n/t |
| >C35-C44 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | < 0.5 | n/t | n/t | n/t | n/t |
| >C5-C7 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | n/t | n/t | n/t | n/t |
| >C7-C8 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | n/t | n/t | n/t | n/t |
| >C8-C10 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | < 0.010 | n/t | n/t | n/t | n/t |
| >C10-C12 Aromatic (EH_2D_AR) | CE250 | N | 0.6 | mg/kg | < 0.6 | n/t | n/t | n/t | n/t |
| >C12-C16 Aromatic (EH_2D_AR) | CE250 | N | 1 | mg/kg | < 1.0 | n/t | n/t | n/t | n/t |
| >C16-C21 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | < 2.0 | n/t | n/t | n/t | n/t |
| >C21-C35 Aromatic (EH_2D_AR) | CE250 | N | 4.5 | mg/kg | < 4.5 | n/t | n/t | n/t | n/t |
| >C35-C44 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | < 2.0 | n/t | n/t | n/t | n/t |
| >C5-C44 Total (HS_1D_MS+EH_2D_Total) | CE250 | N | 14 | mg/kg | < 14.0 | n/t | n/t | n/t | n/t |
| **Asbestos** | | | | | | | | | |
| Asbestos Identification | SUBCON | SU | 0 | - | NAD | n/t | n/t | n/t | n/t |

# SOILS

| Lab Number | | | | | 72587 | 72588 |
|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS05 | WS06 |
| **Depth (m)** | | | | | 0.75 | 1.50 |
| **Sampling Date** | | | | | 10/10/2025 | 10/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | |
| Moisture Content | CE001 | N | 0.1 | % | 7.6 | 7.2 |
| Arsenic | CE264 | U | 1.8 | mg/kg | n/t | n/t |
| Cadmium | CE264 | M | 1.6 | mg/kg | n/t | n/t |
| Chromium | CE264 | U | 2 | mg/kg | n/t | n/t |
| Chromium III | CE208 | N | 2 | mg/kg | n/t | n/t |
| Water Soluble Chromium VI | CE263 | N | 0.04 | mg/kg | n/t | n/t |
| Copper | CE264 | U | 1.6 | mg/kg | n/t | n/t |
| Lead | CE264 | U | 2.3 | mg/kg | n/t | n/t |
| Mercury | CE264 | U | 0.7 | mg/kg | n/t | n/t |
| Nickel | CE264 | M | 2.1 | mg/kg | n/t | n/t |
| Selenium | CE264 | U | 3 | mg/kg | n/t | n/t |
| Zinc | CE264 | M | 4 | mg/kg | n/t | n/t |
| pH | CE004 | M | 0.1 | pH units | 5.1 | 5.0 |
| Water Soluble Sulphate | CE061 | M | 10 | mg/l | 54.6 | 350 |
| Free Cyanide | CE077 | N | 1 | mg/kg | n/t | n/t |
| Total Organic Carbon | CE197 | M | 0.1 | % | n/t | n/t |
| **Polyaromatic hydrocarbons** | | | | | | |
| Acenaphthene | CE087 | M | 0.013 | mg/kg | n/t | n/t |
| Acenaphthylene | CE087 | M | 0.015 | mg/kg | n/t | n/t |
| Anthracene | CE087 | U | 0.017 | mg/kg | n/t | n/t |
| Benzo(a)anthracene | CE087 | U | 0.012 | mg/kg | n/t | n/t |
| Benzo(a)pyrene | CE087 | U | 0.019 | mg/kg | n/t | n/t |
| Benzo(b)fluoranthene | CE087 | M | 0.02 | mg/kg | n/t | n/t |
| Benzo(g,h,i)perylene | CE087 | M | 0.019 | mg/kg | n/t | n/t |
| Benzo(k)fluoranthene | CE087 | M | 0.025 | mg/kg | n/t | n/t |
| Chrysene | CE087 | M | 0.028 | mg/kg | n/t | n/t |
| Dibenzo(a,h)anthracene | CE087 | M | 0.017 | mg/kg | n/t | n/t |
| Fluoranthene | CE087 | M | 0.017 | mg/kg | n/t | n/t |
| Fluorene | CE087 | U | 0.013 | mg/kg | n/t | n/t |
| Indeno(1,2,3-cd)pyrene | CE087 | M | 0.019 | mg/kg | n/t | n/t |
| Naphthalene | CE087 | M | 0.016 | mg/kg | n/t | n/t |

# SOILS

| Lab Number | | | | | 72587 | 72588 |
|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS05 | WS06 |
| **Depth (m)** | | | | | 0.75 | 1.50 |
| **Sampling Date** | | | | | 10/10/2025 | 10/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | |
| Phenanthrene | CE087 | M | 0.014 | mg/kg | n/t | n/t |
| Pyrene | CE087 | M | 0.016 | mg/kg | n/t | n/t |
| Total PAH(16) | CE087 | N | 0.28 | mg/kg | n/t | n/t |
| **BTEX & Total Petroleum Hydrocarbons** | | | | | | |
| Benzene | CE267 | U | 0.001 | mg/kg | n/t | n/t |
| Toluene | CE267 | U | 0.001 | mg/kg | n/t | n/t |
| Ethylbenzene | CE267 | U | 0.001 | mg/kg | n/t | n/t |
| MTBE | CE267 | N | 0.002 | mg/kg | n/t | n/t |
| m,p-Xylene | CE267 | U | 0.002 | mg/kg | n/t | n/t |
| oXylenes | CE267 | U | 0.002 | mg/kg | n/t | n/t |
| >C5-C6 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | n/t | n/t |
| >C6-C8 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | n/t | n/t |
| >C8-C10 Aliphatic (HS_1D_AL) | CE267 | N | 0.1 | mg/kg | n/t | n/t |
| >C10-C12 Aliphatic (EH_2D_AL) | CE250 | N | 1 | mg/kg | n/t | n/t |
| >C12-C16 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | n/t | n/t |
| >C16-C35 Aliphatic (EH_2D_AL) | CE250 | N | 3 | mg/kg | n/t | n/t |
| >C35-C44 Aliphatic (EH_2D_AL) | CE250 | N | 0.5 | mg/kg | n/t | n/t |
| >C5-C7 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | n/t | n/t |
| >C7-C8 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | n/t | n/t |
| >C8-C10 Aromatic (HS_1D_AR) | CE267 | N | 0.01 | mg/kg | n/t | n/t |
| >C10-C12 Aromatic (EH_2D_AR) | CE250 | N | 0.6 | mg/kg | n/t | n/t |
| >C12-C16 Aromatic (EH_2D_AR) | CE250 | N | 1 | mg/kg | n/t | n/t |
| >C16-C21 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | n/t | n/t |
| >C21-C35 Aromatic (EH_2D_AR) | CE250 | N | 4.5 | mg/kg | n/t | n/t |
| >C35-C44 Aromatic (EH_2D_AR) | CE250 | N | 2 | mg/kg | n/t | n/t |
| >C5-C44 Total (HS_1D_MS+EH_2D_Total) | CE250 | N | 14 | mg/kg | n/t | n/t |
| **Asbestos** | | | | | | |
| Asbestos Identification | SUBCON | SU | 0 | - | n/t | n/t |

# SOLIDS

| Lab Number | | | | | 72589 | 72590 |
|---|---|---|---|---|---|---|
| **Sample ID** | | | | | WS02 | WS06 |
| **Depth (m)** | | | | | 0.20 | 0.10 |
| **Sampling Date** | | | | | 09/10/2025 | 10/10/2025 |
| **Test** | **Method** | **Accred** | **LoD** | **Units** | | |
| **Combustion** | | | | | | |
| Moisture Content | CE001 | N | 0.1 | % | 1.3 | 1.4 |
| **Polyaromatic hydrocarbons** | | | | | | |
| Naphthalene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Acenaphthylene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Acenaphthene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Fluorene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Phenanthrene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Anthracene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Fluoranthene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Pyrene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Benzo(a)anthracene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Chrysene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Benzo(b)fluoranthene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Benzo(k)fluoranthene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Benzo(a)pyrene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Indeno(1,2,3-cd)pyrene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Dibenzo(a,h)anthracene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Benzo(g,h,i)perylene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Coronene | CE151 | N | 1 | mg/kg | < 1.00 | < 1.00 |
| Total PAH(17) | CE151 | N | 17 | mg/kg | < 17.0 | < 17.0 |

# METHOD DETAILS

| METHOD | TESTNAME | METHOD SUMMARY | ANALYSIS BASIS |
|---|---|---|---|
| CE267 | VPH in Soil | HS-GCFID | As submitted sample |
| CE250 | GCXGC in Soil | DCM Extraction and GCxGC-FID | As submitted sample |
| SUBCON | Asbestos Soil | HSG248 | Air Dried Sample |
| CE061 | W. Sol Metals | ICPOES | Air dried sample |
| CE264 | Metals by ICP in Soil | ICPOES | Air dried sample |
| CE267 | BTEX in Soils | Analysis by HSGCFID | As submitted sample |
| CE263 | ChromiumVI by Discrete Analyser in Soil | Gallery | Air dried sample |
| CE151 | PAH in Road Cores | DCM Extraction and GCMS | As submitted sample |
| CE087 | PAH in Soil | DCM Extraction and GCMS | As submitted sample |
| CE077 | Cyanides in Soils | Continuous Flow Analyser | As submitted sample |
| CE208 | Chromium Hexavalent in Soil | Colorimetry | Air dried sample |
| CE197 | Primacs in Soil | Primacs | Air dried sample |

# REPORT INFORMATION

**Report No.:25-10200, issue number 1**

| Key | |
|---|---|
| U | ISO17025 Accredited Result |
| M | ISO17025 and MCERTS Accredited Result |
| N | Do not currently hold accreditation |
| ^ | MCERTS accreditation not applicable for sample matrix |
| * | ISO17025 accreditation not applicable for sample matrix |
| S | Subcontracted |
| I/S | Insufficient Sample |
| U/S | Unsuitable sample |
| N/T | Not tested |
| < | Means "less than" |
| > | Means "greater than" |

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.



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

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

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

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

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

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

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

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

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

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

## Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

## TPH Classification - HWOL Acronym System

| | |
|---|---|
| HS | Headspace analysis |
| EH | Extractable Hydrocarbons - i.e. everything extracted by the solvent |
| CU | Clean-up - e.g. by florisil, silica gel |
| 1D | GC - Single coil gas chromatography |
| Total | Aliphatics & Aromatics |
| AL | Aliphatics only |
| AR | Aromatics only |
| 2D | GC-GC - Double coil gas chromatography |
| #1 | EH_Total but with humics mathematically subtracted |
| #2 | EH_Total but with fatty acids mathematically subtracted |
| _ | Operator - underscore to separate acronyms (exception for +) |
| + | Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total |
| MS | Mass Spectrometry |

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

Vat Reg No. 772 5703 18 Registered in England number 4284013

## WAC Analysis

| **Lab Ref:** | 72577 | | | | | **Landfill Waste Acceptance Criteria Limits** | | |
|---|---|---|---|---|---|---|---|---|
| **Job Number:** | 25-10200 | | | | | **Inert Waste Landfill** | **Stable Non-reactive Hazardous waste in non-hazardous Landfill** | **Hazardous Waste Landfill** |
| **Sample Date:** | 09/10/2025 | | | | | | | |
| **Sample ID:** | WS01 | | | | | | | |
| **Depth (m)** | 0.20 | | | | | | | |
| **Site:** | Rabbit Ings County Park | | | | | | | |
| **Determinand** | **Code** | **Units** | **Result** | | | | | |
| Total Organic Carbon | | % | 1.19 | | | 3 | 5 | 6 |
| Loss on Ignition | U | % | 5.6 | | | -- | -- | 10 |
| Total BTEX | N | mg/kg | < 0.007 | | | 6 | -- | -- |
| Total PCBs (7 congeners) | MU | mg/kg | < 0.035 | | | 1 | -- | -- |
| Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL) | N | mg/kg | 55 | | | 500 | -- | -- |
| Total (of 17) PAHs | N | mg/kg | < 0.300 | | | 100 | -- | -- |
| pH | | | 7.2 | | | -- | >6 | -- |
| Acid Neutralisation Capacity (pH4) | N | mol/kg | 1.55 | | | -- | To be evaluated | |
| Acid Neutralisation Capacity (pH7) | N | mol/kg | 0.08 | | | -- | To be evaluated | |
| **Eluate Analysis** | | **Conc in Eluate** | | **2:1** | **10:1** | **Council Decision 2003/33/EC** | | |
| | | **2:1** | **8:1** | **mg/kg** | **mg/kg** | **Limit Values mg/kg at L:S 10:1** | | |
| Arsenic (µg/l) | N | 1.47 | 2.33 | 0.0029 | 0.023 | 0.5 | 2 | 25 |
| Barium (µg/l) | N | 35.6 | 20.6 | 0.0712 | 0.22 | 20 | 100 | 300 |
| Cadmium (µg/l) | N | 0.12 | < 0.10 | 0.0002 | < 0.001 | 0.04 | 1 | 5 |
| Chromium (µg/l) | N | < 0.50 | 0.72 | < 0.001 | 0.007 | 0.5 | 10 | 70 |
| Copper (µg/l) | N | 19.3 | 4.4 | 0.0386 | 0.058 | 2 | 50 | 100 |
| Mercury (µg/l) | N | < 0.050 | < 0.05 | < 0.0001 | < 0.0005 | 0.01 | 0.2 | 2 |
| Molybdenum (µg/l) | N | 2.42 | 2.08 | 0.0048 | 0.021 | 0.5 | 10 | 30 |
| Nickel (µg/l) | N | 4.92 | 1.03 | 0.0098 | 0.014 | 0.4 | 10 | 40 |
| Lead (µg/l) | N | 0.64 | 1.23 | 0.0013 | 0.012 | 0.5 | 10 | 50 |
| Antimony (µg/l) | N | < 0.80 | < 0.80 | < 0.0016 | < 0.008 | 0.06 | 0.7 | 5 |
| Selenium (µg/l) | N | < 1.10 | < 1.10 | < 0.0022 | < 0.011 | 0.1 | 0.5 | 7 |
| Zinc (µg/l) | N | 21.2 | 5.23 | 0.042 | 0.07 | 4 | 50 | 200 |
| Chloride (mg/l) | N | 2 | < 0.40 | 4 | < 4.0 | 800 | 15000 | 25000 |
| Fluoride (mg/l) | N | 1 | 0.7 | 2 | 7.28 | 10 | 150 | 500 |
| Sulphate (mg/l) | N | 13 | 1.6 | 26 | 26.4 | 1000 | 20000 | 50000 |
| Total Dissolved Solids (mg/l) | N | 208 | 106 | 415 | 1150 | 4000 | 60000 | 100000 |
| Phenol Index (mg/l) | N | < 0.010 | < 0.010 | < 0.020 | < 0.10 | 1 | - | - |
| Dissolved Organic Carbon (mg/l) | N | 12.2 | 3.61 | 24.3 | 43.9 | 500 | 800 | 1000 |
| **Leach Test Information** | | | | | | | | |
| pH | N | 8.2 | 6.6 | | | | | |
| Conductivity (uS/cm) | N | 273 | 139 | | | | | |
| Temperature (°C) | N | 17 | 18 | | | | | |
| Mass of dried test portion (kg) | N | 0.175 | | | | | | |
| Mass of wet test portion (kg) | N | 0.199 | | | | | | |
| Dry Matter (%) | N | 87.7 | | | | | | |
| Moisture (%) | N | 14 | | | | | | |
| Material Removed (%) | | | | | | | | |
| Eluate Volume (1) (VE1) Litre | N | 0.16 | | | | | | |
| Eluent Volume (l) L2/L8 | N | 0.325 | 1.4 | | | | | |

Disclaimer: The Landfill Waste Acceptance Criteria limits in this report are provided for guidance only and values are transcribed from the Council Decision annex 2003/33/EC

Chemtech Environmental Ltd does not take responsibility for any errors or omissions in the transcription, and all data should be verified by the end user.

Results will be colour flagged to the lowest threshold value breached. Any assessments made are based on the published results from the Laboratory and make no assessment of uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Method uncertainty levels Interpretation/assessment is outside the scope of the laboratory's UKAS accreditation.
Moisture Content Calculated on Wet Weight Basis

## WAC Analysis

| **Lab Ref:** | 72579 | | | | | **Landfill Waste Acceptance Criteria Limits** | | |
|---|---|---|---|---|---|---|---|---|
| **Job Number:** | 25-10200 | | | | | **Inert Waste Landfill** | **Stable Non-reactive Hazardous waste in non-hazardous Landfill** | **Hazardous Waste Landfill** |
| **Sample Date:** | 09/10/2025 | | | | | | | |
| **Sample ID:** | WS03 | | | | | | | |
| **Depth (m)** | 0.40 | | | | | | | |
| **Site:** | Rabbit Ings County Park | | | | | | | |
| **Determinand** | **Code** | **Units** | **Result** | | | | | |
| Total Organic Carbon | | % | 0.4 | | | 3 | 5 | 6 |
| Loss on Ignition | U | % | 0.89 | | | -- | -- | 10 |
| Total BTEX | N | mg/kg | < 0.007 | | | 6 | -- | -- |
| Total PCBs (7 congeners) | MU | mg/kg | < 0.035 | | | 1 | -- | -- |
| Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL) | N | mg/kg | 64 | | | 500 | -- | -- |
| Total (of 17) PAHs | N | mg/kg | < 0.300 | | | 100 | -- | -- |
| pH | | | 8.4 | | | -- | >6 | -- |
| Acid Neutralisation Capacity (pH4) | N | mol/kg | 12.6 | | | -- | To be evaluated | |
| Acid Neutralisation Capacity (pH7) | N | mol/kg | 0.2 | | | -- | To be evaluated | |
| **Eluate Analysis** | | **Conc in Eluate** | | **2:1** | **10:1** | **Council Decision 2003/33/EC** | | |
| | | **2:1** | **8:1** | **mg/kg** | **mg/kg** | **Limit Values mg/kg at L:S 10:1** | | |
| Arsenic (µg/l) | N | 0.36 | 0.24 | 0.0007 | 0.003 | 0.5 | 2 | 25 |
| Barium (µg/l) | N | 13 | 5.13 | 0.0259 | 0.063 | 20 | 100 | 300 |
| Cadmium (µg/l) | N | 0.29 | < 0.10 | 0.0006 | < 0.001 | 0.04 | 1 | 5 |
| Chromium (µg/l) | N | 0.67 | < 0.50 | 0.001 | 0.005 | 0.5 | 10 | 70 |
| Copper (µg/l) | N | 2.3 | 1.05 | 0.0046 | 0.012 | 2 | 50 | 100 |
| Mercury (µg/l) | N | < 0.050 | < 0.05 | < 0.0001 | < 0.0005 | 0.01 | 0.2 | 2 |
| Molybdenum (µg/l) | N | 1.11 | < 0.90 | 0.0022 | < 0.009 | 0.5 | 10 | 30 |
| Nickel (µg/l) | N | < 0.40 | < 0.40 | < 0.0008 | < 0.004 | 0.4 | 10 | 40 |
| Lead (µg/l) | N | < 0.60 | < 0.60 | < 0.0012 | < 0.006 | 0.5 | 10 | 50 |
| Antimony (µg/l) | N | < 0.80 | < 0.80 | < 0.0016 | < 0.008 | 0.06 | 0.7 | 5 |
| Selenium (µg/l) | N | < 1.10 | < 1.10 | < 0.0022 | < 0.011 | 0.1 | 0.5 | 7 |
| Zinc (µg/l) | N | 42.5 | < 3.00 | 0.085 | 0.08 | 4 | 50 | 200 |
| Chloride (mg/l) | N | 2.6 | < 0.40 | 5.2 | < 4.0 | 800 | 15000 | 25000 |
| Fluoride (mg/l) | N | 0.4 | 0.1 | 0.8 | 1.45 | 10 | 150 | 500 |
| Sulphate (mg/l) | N | 5.5 | < 0.300 | 11 | 8.3 | 1000 | 20000 | 50000 |
| Total Dissolved Solids (mg/l) | N | 107 | 57 | 214 | 646 | 4000 | 60000 | 100000 |
| Phenol Index (mg/l) | N | < 0.010 | < 0.010 | < 0.020 | < 0.10 | 1 | - | - |
| Dissolved Organic Carbon (mg/l) | N | 2.55 | 1.07 | 5.1 | 13 | 500 | 800 | 1000 |
| **Leach Test Information** | | | | | | | | |
| pH | N | 8.2 | 7.2 | | | | | |
| Conductivity (uS/cm) | N | 141 | 75 | | | | | |
| Temperature (°C) | N | 17 | 18 | | | | | |
| Mass of dried test portion (kg) | N | 0.175 | | | | | | |
| Mass of wet test portion (kg) | N | 0.184 | | | | | | |
| Dry Matter (%) | N | 95.1 | | | | | | |
| Moisture (%) | N | 5.1 | | | | | | |
| Material Removed (%) | | | | | | | | |
| Eluate Volume (1) (VE1) Litre | N | 0.265 | | | | | | |
| Eluent Volume (l) L2/L8 | N | 0.341 | 1.4 | | | | | |

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Moisture Content Calculated on Wet Weight Basis

## WAC Analysis

| **Lab Ref:** | 72580 | | | | | **Landfill Waste Acceptance Criteria Limits** | | |
|---|---|---|---|---|---|---|---|---|
| **Job Number:** | 25-10200 | | | | | **Inert Waste Landfill** | **Stable Non-reactive Hazardous waste in non-hazardous Landfill** | **Hazardous Waste Landfill** |
| **Sample Date:** | 09/10/2025 | | | | | | | |
| **Sample ID:** | WS04 | | | | | | | |
| **Depth (m)** | 0.25 | | | | | | | |
| **Site:** | Rabbit Ings County Park | | | | | | | |
| **Determinand** | **Code** | **Units** | **Result** | | | | | |
| Total Organic Carbon | | % | 0.53 | | | 3 | 5 | 6 |
| Loss on Ignition | U | % | 1.5 | | | -- | -- | 10 |
| Total BTEX | N | mg/kg | < 0.007 | | | 6 | -- | -- |
| Total PCBs (7 congeners) | MU | mg/kg | < 0.035 | | | 1 | -- | -- |
| Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL) | N | mg/kg | < 19 | | | 500 | -- | -- |
| Total (of 17) PAHs | N | mg/kg | 1.54 | | | 100 | -- | -- |
| pH | | | 8.3 | | | -- | >6 | -- |
| Acid Neutralisation Capacity (pH4) | N | mol/kg | 11 | | | -- | To be evaluated | |
| Acid Neutralisation Capacity (pH7) | N | mol/kg | 0.19 | | | -- | To be evaluated | |
| **Eluate Analysis** | | **Conc in Eluate** | | **2:1** | **10:1** | **Council Decision 2003/33/EC** | | |
| | | **2:1** | **8:1** | **mg/kg** | **mg/kg** | **Limit Values mg/kg at L:S 10:1** | | |
| Arsenic (µg/l) | N | 0.21 | 0.27 | 0.0004 | 0.003 | 0.5 | 2 | 25 |
| Barium (µg/l) | N | 14.3 | 6.16 | 0.0285 | 0.073 | 20 | 100 | 300 |
| Cadmium (µg/l) | N | 0.22 | < 0.10 | 0.0004 | < 0.001 | 0.04 | 1 | 5 |
| Chromium (µg/l) | N | 0.65 | < 0.50 | 0.001 | < 0.005 | 0.5 | 10 | 70 |
| Copper (µg/l) | N | 2.4 | 1.05 | 0.0048 | 0.012 | 2 | 50 | 100 |
| Mercury (µg/l) | N | < 0.050 | < 0.05 | < 0.0001 | < 0.0005 | 0.01 | 0.2 | 2 |
| Molybdenum (µg/l) | N | 2.17 | 1.43 | 0.0043 | 0.015 | 0.5 | 10 | 30 |
| Nickel (µg/l) | N | 3.98 | < 0.40 | 0.008 | 0.006 | 0.4 | 10 | 40 |
| Lead (µg/l) | N | < 0.60 | < 0.60 | < 0.0012 | < 0.006 | 0.5 | 10 | 50 |
| Antimony (µg/l) | N | < 0.80 | < 0.80 | < 0.0016 | < 0.008 | 0.06 | 0.7 | 5 |
| Selenium (µg/l) | N | < 1.10 | < 1.10 | < 0.0022 | < 0.011 | 0.1 | 0.5 | 7 |
| Zinc (µg/l) | N | 11.3 | < 3.00 | 0.023 | < 0.03 | 4 | 50 | 200 |
| Chloride (mg/l) | N | 2 | < 0.40 | 4 | < 4.0 | 800 | 15000 | 25000 |
| Fluoride (mg/l) | N | 0.7 | 0.2 | 1.4 | 2.7 | 10 | 150 | 500 |
| Sulphate (mg/l) | N | 1.8 | < 0.300 | 3.6 | < 3.0 | 1000 | 20000 | 50000 |
| Total Dissolved Solids (mg/l) | N | 116 | 69 | 231 | 757 | 4000 | 60000 | 100000 |
| Phenol Index (mg/l) | N | < 0.010 | < 0.010 | < 0.020 | < 0.10 | 1 | - | - |
| Dissolved Organic Carbon (mg/l) | N | 2.32 | < 0.85 | 4.6 | 9.7 | 500 | 800 | 1000 |
| **Leach Test Information** | | | | | | | | |
| pH | N | 8.1 | 7.9 | | | | | |
| Conductivity (uS/cm) | N | 152 | 91 | | | | | |
| Temperature (°C) | N | 17 | 18 | | | | | |
| Mass of dried test portion (kg) | N | 0.175 | | | | | | |
| Mass of wet test portion (kg) | N | 0.182 | | | | | | |
| Dry Matter (%) | N | 96.2 | | | | | | |
| Moisture (%) | N | 4 | | | | | | |
| Material Removed (%) | | | | | | | | |
| Eluate Volume (1) (VE1) Litre | N | 0.245 | | | | | | |
| Eluent Volume (l) L2/L8 | N | 0.343 | 1.4 | | | | | |

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Moisture Content Calculated on Wet Weight Basis

## WAC Analysis

| **Lab Ref:** | 72581 | | | | | **Landfill Waste Acceptance Criteria Limits** | | |
|---|---|---|---|---|---|---|---|---|
| **Job Number:** | 25-10200 | | | | | **Inert Waste Landfill** | **Stable Non-reactive Hazardous waste in non-hazardous Landfill** | **Hazardous Waste Landfill** |
| **Sample Date:** | 09/10/2025 | | | | | | | |
| **Sample ID:** | WS05 | | | | | | | |
| **Depth (m)** | 0.30 | | | | | | | |
| **Site:** | Rabbit Ings County Park | | | | | | | |
| **Determinand** | **Code** | **Units** | **Result** | | | | | |
| Total Organic Carbon | | % | 0.27 | | | 3 | 5 | 6 |
| Loss on Ignition | U | % | 0.62 | | | -- | -- | 10 |
| Total BTEX | N | mg/kg | < 0.007 | | | 6 | -- | -- |
| Total PCBs (7 congeners) | MU | mg/kg | < 0.035 | | | 1 | -- | -- |
| Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL) | N | mg/kg | < 19 | | | 500 | -- | -- |
| Total (of 17) PAHs | N | mg/kg | < 0.300 | | | 100 | -- | -- |
| pH | | | 8.6 | | | -- | >6 | -- |
| Acid Neutralisation Capacity (pH4) | N | mol/kg | 14.3 | | | -- | To be evaluated | |
| Acid Neutralisation Capacity (pH7) | N | mol/kg | 0.2 | | | -- | To be evaluated | |
| **Eluate Analysis** | | **Conc in Eluate** | | **2:1** | **10:1** | **Council Decision 2003/33/EC** | | |
| | | **2:1** | **8:1** | **mg/kg** | **mg/kg** | **Limit Values mg/kg at L:S 10:1** | | |
| Arsenic (µg/l) | N | 0.21 | 0.2 | 0.0004 | 0.002 | 0.5 | 2 | 25 |
| Barium (µg/l) | N | 7.19 | 4.84 | 0.0144 | 0.052 | 20 | 100 | 300 |
| Cadmium (µg/l) | N | 0.13 | < 0.10 | 0.0003 | < 0.001 | 0.04 | 1 | 5 |
| Chromium (µg/l) | N | 0.93 | 1.3 | 0.002 | 0.012 | 0.5 | 10 | 70 |
| Copper (µg/l) | N | 1.3 | 2.21 | 0.0026 | 0.021 | 2 | 50 | 100 |
| Mercury (µg/l) | N | < 0.050 | < 0.05 | < 0.0001 | < 0.0005 | 0.01 | 0.2 | 2 |
| Molybdenum (µg/l) | N | 1.48 | 1.27 | 0.003 | 0.013 | 0.5 | 10 | 30 |
| Nickel (µg/l) | N | < 0.40 | 0.73 | < 0.0008 | 0.006 | 0.4 | 10 | 40 |
| Lead (µg/l) | N | < 0.60 | 0.65 | < 0.0012 | 0.006 | 0.5 | 10 | 50 |
| Antimony (µg/l) | N | < 0.80 | < 0.80 | < 0.0016 | < 0.008 | 0.06 | 0.7 | 5 |
| Selenium (µg/l) | N | < 1.10 | < 1.10 | < 0.0022 | < 0.011 | 0.1 | 0.5 | 7 |
| Zinc (µg/l) | N | 3.12 | < 3.00 | 0.006 | < 0.03 | 4 | 50 | 200 |
| Chloride (mg/l) | N | 1.8 | < 0.40 | 3.6 | < 4.0 | 800 | 15000 | 25000 |
| Fluoride (mg/l) | N | 0.2 | < 0.080 | 0.4 | < 0.80 | 10 | 150 | 500 |
| Sulphate (mg/l) | N | 8.2 | 1.8 | 16.4 | 28.4 | 1000 | 20000 | 50000 |
| Total Dissolved Solids (mg/l) | N | 116 | 63 | 233 | 718 | 4000 | 60000 | 100000 |
| Phenol Index (mg/l) | N | < 0.010 | < 0.010 | < 0.020 | < 0.10 | 1 | - | - |
| Dissolved Organic Carbon (mg/l) | N | 1.79 | 1.17 | 3.6 | 12.7 | 500 | 800 | 1000 |
| **Leach Test Information** | | | | | | | | |
| pH | N | 8.1 | 8.1 | | | | | |
| Conductivity (uS/cm) | N | 153 | 83 | | | | | |
| Temperature (°C) | N | 17 | 18 | | | | | |
| Mass of dried test portion (kg) | N | 0.175 | | | | | | |
| Mass of wet test portion (kg) | N | 0.178 | | | | | | |
| Dry Matter (%) | N | 98.2 | | | | | | |
| Moisture (%) | N | 1.9 | | | | | | |
| Material Removed (%) | | | | | | | | |
| Eluate Volume (1) (VE1) Litre | N | 0.285 | | | | | | |
| Eluent Volume (l) L2/L8 | N | 0.346 | 1.4 | | | | | |

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Moisture Content Calculated on Wet Weight Basis

# LABORATORY REPORT

**Contract Number: PSL25/7962**

| | |
|---|---|
| Report Date: | 07 November 2025 |
| Client's Reference: | 24-562 |
| Client Name: | ARC Environmental<br>Solum House<br>Unit 1 Elliott Court<br>St Johns Road, Meadowfield<br>Durham<br>DH7 8PN |
| **For the attention of:** | **Shona Heatherington** |
| Contract Title: | Rabbit Ings Country Park |
| Date Received: | 16/10/2025 |
| Date Commenced: | 16/10/2025 |
| Date Completed: | 7/11/2025 |
| **Notes:** | **Opinions and Interpretations are outside the UKAS Accreditation** |

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

| | | |
|---|---|---|
| A Watkins<br>(Managing Director) | R Berriman<br>(Associate Director) | S Royle<br>(Laboratory Manager) |
| L Knight<br>(Assistant Laboratory Manager) | S Eyre<br>(Senior Technician) | S Braithwaite<br>(Senior Technician) |



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Doncaster,
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Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

# SUMMARY OF LABORATORY SOIL DESCRIPTIONS

| Hole Number | Sample Number | Sample Type | Top Depth m | Base Depth m | Description of Sample |
|---|---|---|---|---|---|
| WS02 | | B | 1.50 | | Brown mottled grey slightly sandy CLAY. |
| WS04 | | B | 0.75 | | Brown mottled grey slightly sandy CLAY. |
| WS05 | | B | 1.50 | | Brown mottled grey slightly sandy CLAY. |
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UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

**Rabbit Ings Country Park**

**Contract No:**

**PSL25/7962**

**Client Ref:**

**24-562**

# SUMMARY OF SOIL CLASSIFICATION TESTS

**BS 1377 - Part 2 : 2022 in accordance with BS EN ISO 17892 (as below)**

| Hole Number | Sample Number | Sample Type | Top Depth m | Base Depth m | Water Content % | Linear Shrinkage | Particle Density $Mg/m^3$ | Liquid Limit % | Plastic Limit % | Plasticity Index % | Passing 0.425mm % | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS02 | | B | 1.50 | | 20.7 | | | 50 | 24 | 26 | 100 | High Plasticity CIH |
| WS04 | | B | 0.75 | | 22.3 | | | 52 | 27 | 25 | 100 | High Plasticity CIH |
| WS05 | | B | 1.50 | | 10.7 | | | 44 | 23 | 21 | 100 | Medium Plasticity CIM |
| | | | | | | | | | | | | |
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Water Content - BS 1377 - Part 2 : 2022 : Clause 4 in accordance with BS EN ISO 17892 - 1 : 2014 + A1 : 2022
Linear Shrinkage - BS 1377 - Part 2 : 2022 : Clause 7
Particle Density (Gas Jar method) - BS 1377 - Part 2 : 2022 : Clause 9
Liquid, Plastic Limit & Plasticity Index - BS 1377 - Part 2 : 2022 : Clause 5 & 6 in accordance with BS EN ISO 17892 - 12 : 2018 + A2 : 2022

**SYMBOLS : NP = Non Plastic**

UKAS TESTING 4043

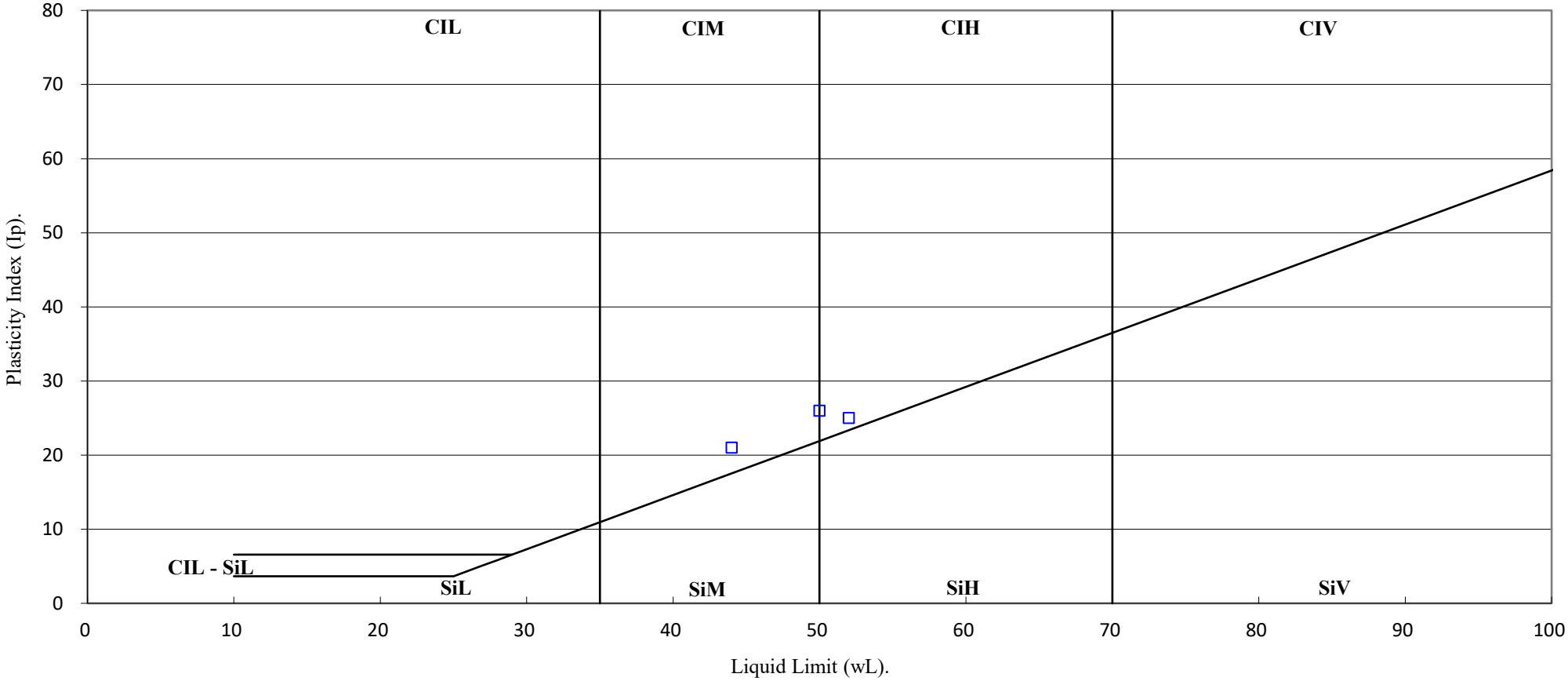
PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

**Rabbit Ings Country Park**

**Contract No:**
**PSL25/7962**
**Client Ref:**
**24-562**

# PLASTICITY CHART

**BS EN ISO 14688-2:2017 Clause 4.4**




| | | |
|---|---|---|
| UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY | **Rabbit Ings Country Park** | **Contract No:** **PSL25/7962** **Client Ref:** **24-562** |

# APPENDIX V

## Waste Classification Report (HazWasteOnline™)

# 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:

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

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

QPBBO-DUACA-9Y05H

Report is invalid if pages are removed.

## Job name

24-562

## Description/Comments

Classification of MG for off site disposal

## Project

24-562

## Site

Rabbit Ings Country Park, Barnsley

## Classified by

Name:
**John Ditchburn**
Date:
**18 Nov 2025 10:15 GMT**
Telephone:
**0191 378 6380**

Company:
**Arc Environmental Ltd**
**Solum House, Unit 1, Elliott Court, St. Johns Road**
**Meadowfield**
**DH7 8PN**

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 | Date |
|---|---|
| Hazardous Waste Classification | 03 Dec 2020 |
| Most recent 3 year Refresher | 05 Dec 2023 |

Next 3 year Refresher due by Dec 2026

## Purpose of classification

2 - Material Characterisation

## Address of the waste

Rabbit Ings Country Park, Barnsley **Post Code** S71 4BB

## SIC for the process giving rise to the waste

42110 Construction of roads and motorways

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

Imported road stone

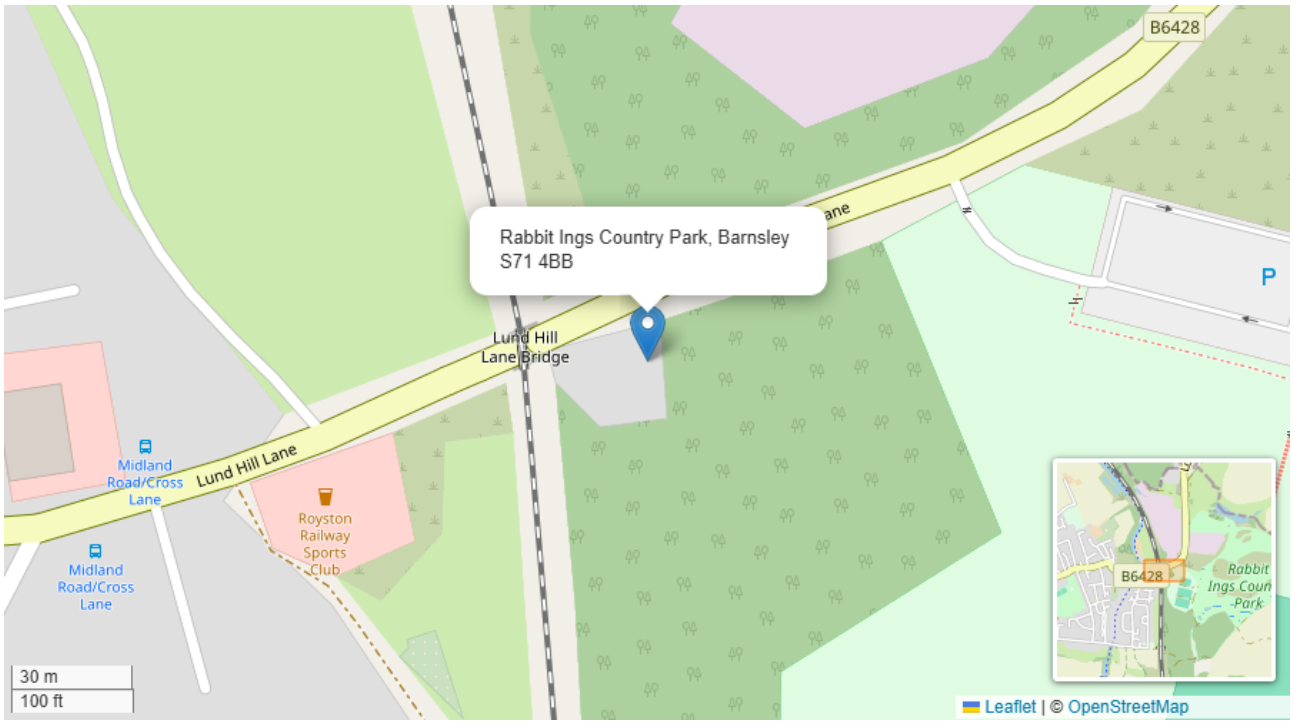
## Description of the specific process, sub-process and/or activity that created the waste

Foundation and service tench arisings

## Description of the waste

Grey sandy gravel and gravelly sand with occasional glass and plastic fragments

## Waste Location




## Job summary

| # | Sample name | Depth [m] | Classification Result | Hazard properties | Page |
|---|---|---|---|---|---|
| 1 | WS01-0.20--09/10/2025--72577 | | Non Hazardous | | 3 |
| 2 | WS02-0.40--09/10/2025--72578 | | Non Hazardous | | 6 |
| 3 | WS03-0.40--09/10/2025--72579 | | Non Hazardous | | 9 |
| 4 | WS04-0.25--09/10/2025--72580 | | Non Hazardous | | 12 |
| 5 | WS05-0.30--10/10/2025--72581 | | Non Hazardous | | 15 |
| 6 | WS06-0.30--10/10/2025--72582 | | Non Hazardous | | 18 |

## Related documents

| # | Name | Description |
|---|---|---|
| 1 | HWOL_25-10200-20251023.HWOL | Chemtech Environmental .hwol file used to populate the Job |
| 2 | Example worst case waste stream template: 17 05 04 or 17 05 03 * | waste stream template used to create this Job |

## Report

Created by: John Ditchburn

Created date: 18 Nov 2025 10:15 GMT

## Classification of sample: WS01-0.20--09/10/2025--72577

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

## Sample details

Sample name:
**WS01-0.20--09/10/2025--72577**

Moisture content:
**12.3%**
(wet weight correction)

LoW Code:

Chapter:
17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry:
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 12.3% Wet Weight Moisture Correction applied (MC)

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | <**LOD** |
| 2 | | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 8.1 mg/kg | 1.895 | 13.458 mg/kg | 0.00135 % | ✓ | |
| 4 | | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | <**LOD** |
| 5 | | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 12.2 mg/kg | 1.462 | 15.638 mg/kg | 0.00156 % | ✓ | |
| 6 | | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | <**LOD** |
| 7 | | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 17.9 mg/kg | 3.929 | 61.679 mg/kg | 0.00617 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 40.3 mg/kg | 1.56 | 55.129 mg/kg | 0.00353 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.7 mg/kg | 1.353 | <0.947 mg/kg | <0.0000947 % | | <**LOD** |
| 10 | | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | 13 mg/kg | 5.358 | 61.09 mg/kg | 0.00611 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | 3.5 mg/kg | 2.554 | 7.839 mg/kg | 0.000784 % | ✓ | |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 79.2 mg/kg | 2.774 | 192.688 mg/kg | 0.0193 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | <14 mg/kg | | <14 mg/kg | <0.0014 % | | <**LOD** |

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | confirm TPH has NOT arisen from diesel or petrol | | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| 16 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 17 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 18 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 19 | | xylene | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| 20 | | 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 } | 006-007-00-5 | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| 21 | | pH | | | PH | | 7.2 | pH | | 7.2 | pH | 7.2 pH | | |
| 22 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 23 | | acenaphthylene | | 205-917-1 | 208-96-8 | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| 24 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 25 | | fluorene | | 201-695-5 | 86-73-7 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 26 | | phenanthrene | | 201-581-5 | 85-01-8 | | 0.015 | mg/kg | | 0.0132 | mg/kg | 0.00000132 % | ✓ | |
| 27 | | anthracene | | 204-371-1 | 120-12-7 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 28 | | fluoranthene | | 205-912-4 | 206-44-0 | | 0.017 | mg/kg | | 0.0149 | mg/kg | 0.00000149 % | ✓ | |
| 29 | | pyrene | | 204-927-3 | 129-00-0 | | 0.017 | mg/kg | | 0.0149 | mg/kg | 0.00000149 % | ✓ | |
| 30 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 0.046 | mg/kg | | 0.0403 | mg/kg | 0.00000403 % | ✓ | |
| 31 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | <0.028 | mg/kg | | <0.028 | mg/kg | <0.0000028 % | | <LOD |
| 32 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | 0.024 | mg/kg | | 0.021 | mg/kg | 0.0000021 % | ✓ | |
| 33 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | <0.025 | mg/kg | | <0.025 | mg/kg | <0.0000025 % | | <LOD |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 35 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | 0.026 | mg/kg | | 0.0228 | mg/kg | 0.00000228 % | ✓ | |
| 36 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 37 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | | | | | | | | | Total: | 0.0388 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
| | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| CLP: Note 1 | Only the metal concentration has been used for classification |

## Classification of sample: WS02-0.40--09/10/2025--72578

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

## Sample details

Sample name:
**WS02-0.40--09/10/2025--72578**
Moisture content:
**15.1%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 15.1% Wet Weight Moisture Correction applied (MC)

| # | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | <LOD |
| 2 | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 38.7 mg/kg | 1.895 | 62.247 mg/kg | 0.00622 % | ✓ | |
| 4 | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | <LOD |
| 5 | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 19.4 mg/kg | 1.462 | 24.073 mg/kg | 0.00241 % | ✓ | |
| 6 | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | <LOD |
| 7 | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 25.5 mg/kg | 3.929 | 85.062 mg/kg | 0.00851 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 44.4 mg/kg | 1.56 | 58.798 mg/kg | 0.00377 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.7 mg/kg | 1.353 | <0.947 mg/kg | <0.0000947 % | | <LOD |
| 10 | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | 12.8 mg/kg | 5.358 | 58.23 mg/kg | 0.00582 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <3 mg/kg | 2.554 | <7.662 mg/kg | <0.000766 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 53.6 mg/kg | 2.774 | 126.241 mg/kg | 0.0126 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 17.2 mg/kg | | 14.603 mg/kg | 0.00146 % | ✓ | |

| # | | 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 | | confirm TPH has NOT arisen from diesel or petrol | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| | | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 16 | | benzene | | | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 17 | | toluene | | | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 18 | | ethylbenzene | | | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 19 | | xylene | | | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| | | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | | | | | | | | |
| 20 | | 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 } | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| | | 006-007-00-5 | | | | | | | | | | | |
| 21 | | pH | | | | 7.1 | pH | | 7.1 | pH | 7.1 pH | | |
| | | | | PH | | | | | | | | | |
| 22 | | naphthalene | | | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 23 | | acenaphthylene | | | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 24 | | acenaphthene | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 25 | | fluorene | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 26 | | phenanthrene | | | | 0.019 | mg/kg | | 0.0161 | mg/kg | 0.00000161 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 27 | | anthracene | | | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 28 | | fluoranthene | | | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 29 | | pyrene | | | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 30 | | benzo[a]anthracene | | | | 0.036 | mg/kg | | 0.0306 | mg/kg | 0.00000306 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 31 | | chrysene | | | | <0.028 | mg/kg | | <0.028 | mg/kg | <0.0000028 % | | <LOD |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 32 | | benzo[b]fluoranthene | | | | <0.02 | mg/kg | | <0.02 | mg/kg | <0.000002 % | | <LOD |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 33 | | benzo[k]fluoranthene | | | | <0.025 | mg/kg | | <0.025 | mg/kg | <0.0000025 % | | <LOD |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 35 | | indeno[123-cd]pyrene | | | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 36 | | dibenz[a,h]anthracene | | | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 37 | | benzo[ghi]perylene | | | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0408 % | | |

| Key | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
| | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| 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: No liquid phase: too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00146%)

## Classification of sample: WS03-0.40--09/10/2025--72579

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

## Sample details

Sample name:
**WS03-0.40--09/10/2025--72579**
Moisture content:
**4.9%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 4.9% Wet Weight Moisture Correction applied (MC)

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | **<LOD** |
| 2 | | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 7.2 mg/kg | 1.895 | 12.972 mg/kg | 0.0013 % | ✓ | |
| 4 | | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | **<LOD** |
| 5 | | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 8.82 mg/kg | 1.462 | 12.259 mg/kg | 0.00123 % | ✓ | |
| 6 | | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | **<LOD** |
| 7 | | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 5.1 mg/kg | 3.929 | 19.056 mg/kg | 0.00191 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 39.5 mg/kg | 1.56 | 58.594 mg/kg | 0.00376 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 1.1 mg/kg | 1.353 | 1.416 mg/kg | 0.000142 % | ✓ | |
| 10 | | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | 2.7 mg/kg | 5.358 | 13.759 mg/kg | 0.00138 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <3 mg/kg | 2.554 | <7.662 mg/kg | <0.000766 % | | **<LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 23.7 mg/kg | 2.774 | 62.526 mg/kg | 0.00625 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | 19.1 mg/kg | | 18.164 mg/kg | 0.00182 % | ✓ | |

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | confirm TPH has NOT arisen from diesel or petrol | | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| 16 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 17 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 18 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 19 | | xylene | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| 20 | | 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 } | 006-007-00-5 | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| 21 | | pH | | | PH | | 8.4 | pH | | 8.4 | pH | 8.4 pH | | |
| 22 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 23 | | acenaphthylene | | 205-917-1 | 208-96-8 | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| 24 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 25 | | fluorene | | 201-695-5 | 86-73-7 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 26 | | phenanthrene | | 201-581-5 | 85-01-8 | | <0.014 | mg/kg | | <0.014 | mg/kg | <0.0000014 % | | <LOD |
| 27 | | anthracene | | 204-371-1 | 120-12-7 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 28 | | fluoranthene | | 205-912-4 | 206-44-0 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 29 | | pyrene | | 204-927-3 | 129-00-0 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 30 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 0.023 | mg/kg | | 0.0219 | mg/kg | 0.00000219 % | ✓ | |
| 31 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | <0.028 | mg/kg | | <0.028 | mg/kg | <0.0000028 % | | <LOD |
| 32 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | <0.02 | mg/kg | | <0.02 | mg/kg | <0.000002 % | | <LOD |
| 33 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | <0.025 | mg/kg | | <0.025 | mg/kg | <0.0000025 % | | <LOD |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 35 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 36 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 37 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | | | | | | | | | Total: | 0.0178 % | | |

| Key | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
| | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| 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: No liquid phase: too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00182%)

## Classification of sample: WS04-0.25--09/10/2025--72580

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

## Sample details

Sample name:
**WS04-0.25--09/10/2025--72580**
Moisture content:
**3.8%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 3.8% Wet Weight Moisture Correction applied (MC)

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | <LOD |
| 2 | | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 6.8 mg/kg | 1.895 | 12.393 mg/kg | 0.00124 % | ✓ | |
| 4 | | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | <LOD |
| 5 | | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 9.2 mg/kg | 1.462 | 12.935 mg/kg | 0.00129 % | ✓ | |
| 6 | | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | <LOD |
| 7 | | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 7.4 mg/kg | 3.929 | 27.97 mg/kg | 0.0028 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 476 mg/kg | 1.56 | 714.258 mg/kg | 0.0458 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 0.7 mg/kg | 1.353 | 0.911 mg/kg | 0.0000911 % | ✓ | |
| 10 | | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | 2.9 mg/kg | 5.358 | 14.949 mg/kg | 0.00149 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <3 mg/kg | 2.554 | <7.662 mg/kg | <0.000766 % | | <LOD |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 25.1 mg/kg | 2.774 | 66.985 mg/kg | 0.0067 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | <14 mg/kg | | <14 mg/kg | <0.0014 % | | <LOD |

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | confirm TPH has NOT arisen from diesel or petrol | | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| 16 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 17 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 18 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 19 | | xylene | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| 20 | | 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 } | 006-007-00-5 | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| 21 | | pH | | | PH | | 8.3 | pH | | 8.3 | pH | 8.3 pH | | |
| 22 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 0.068 | mg/kg | | 0.0654 | mg/kg | 0.00000654 % | ✓ | |
| 23 | | acenaphthylene | | 205-917-1 | 208-96-8 | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| 24 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 25 | | fluorene | | 201-695-5 | 86-73-7 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 26 | | phenanthrene | | 201-581-5 | 85-01-8 | | 0.141 | mg/kg | | 0.136 | mg/kg | 0.0000136 % | ✓ | |
| 27 | | anthracene | | 204-371-1 | 120-12-7 | | 0.047 | mg/kg | | 0.0452 | mg/kg | 0.00000452 % | ✓ | |
| 28 | | fluoranthene | | 205-912-4 | 206-44-0 | | 0.237 | mg/kg | | 0.228 | mg/kg | 0.0000228 % | ✓ | |
| 29 | | pyrene | | 204-927-3 | 129-00-0 | | 0.192 | mg/kg | | 0.185 | mg/kg | 0.0000185 % | ✓ | |
| 30 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 0.146 | mg/kg | | 0.14 | mg/kg | 0.000014 % | ✓ | |
| 31 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | 0.101 | mg/kg | | 0.0972 | mg/kg | 0.00000972 % | ✓ | |
| 32 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | 0.146 | mg/kg | | 0.14 | mg/kg | 0.000014 % | ✓ | |
| 33 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | 0.062 | mg/kg | | 0.0596 | mg/kg | 0.00000596 % | ✓ | |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | 0.161 | mg/kg | | 0.155 | mg/kg | 0.0000155 % | ✓ | |
| 35 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | 0.11 | mg/kg | | 0.106 | mg/kg | 0.0000106 % | ✓ | |
| 36 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | 0.021 | mg/kg | | 0.0202 | mg/kg | 0.00000202 % | ✓ | |
| 37 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | 0.078 | mg/kg | | 0.075 | mg/kg | 0.0000075 % | ✓ | |
| | | | | | | | | | | | Total: | 0.0596 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
|  | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| CLP: Note 1 | Only the metal concentration has been used for classification |

## Classification of sample: WS05-0.30--10/10/2025--72581

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

## Sample details

Sample name:
**WS05-0.30--10/10/2025--72581**
Moisture content:
**1.8%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 1.8% Wet Weight Moisture Correction applied (MC)

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | <**LOD** |
| 2 | | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 3.5 mg/kg | 1.895 | 6.511 mg/kg | 0.000651 % | ✓ | |
| 4 | | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | <**LOD** |
| 5 | | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 6.6 mg/kg | 1.462 | 9.473 mg/kg | 0.000947 % | ✓ | |
| 6 | | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | <**LOD** |
| 7 | | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 3.1 mg/kg | 3.929 | 11.961 mg/kg | 0.0012 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 48.1 mg/kg | 1.56 | 73.677 mg/kg | 0.00472 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.7 mg/kg | 1.353 | <0.947 mg/kg | <0.0000947 % | | <**LOD** |
| 10 | | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | <2.1 mg/kg | 5.358 | <11.252 mg/kg | <0.00113 % | | <**LOD** |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | 3.3 mg/kg | 2.554 | 8.276 mg/kg | 0.000828 % | ✓ | |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 16.6 mg/kg | 2.774 | 45.222 mg/kg | 0.00452 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | <14 mg/kg | | <14 mg/kg | <0.0014 % | | <**LOD** |

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | confirm TPH has NOT arisen from diesel or petrol | | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| 16 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 17 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 18 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 19 | | xylene | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| 20 | | 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 } | 006-007-00-5 | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| 21 | | pH | | | PH | | 8.6 | pH | | 8.6 | pH | 8.6 pH | | |
| 22 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 23 | | acenaphthylene | | 205-917-1 | 208-96-8 | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| 24 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 25 | | fluorene | | 201-695-5 | 86-73-7 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 26 | | phenanthrene | | 201-581-5 | 85-01-8 | | <0.014 | mg/kg | | <0.014 | mg/kg | <0.0000014 % | | <LOD |
| 27 | | anthracene | | 204-371-1 | 120-12-7 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 28 | | fluoranthene | | 205-912-4 | 206-44-0 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 29 | | pyrene | | 204-927-3 | 129-00-0 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 30 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | <0.012 | mg/kg | | <0.012 | mg/kg | <0.0000012 % | | <LOD |
| 31 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | <0.028 | mg/kg | | <0.028 | mg/kg | <0.0000028 % | | <LOD |
| 32 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | <0.02 | mg/kg | | <0.02 | mg/kg | <0.000002 % | | <LOD |
| 33 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | <0.025 | mg/kg | | <0.025 | mg/kg | <0.0000025 % | | <LOD |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 35 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 36 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 37 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | | | | | | | | | Total: | 0.0129 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
| | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| CLP: Note 1 | Only the metal concentration has been used for classification |

## Classification of sample: WS06-0.30--10/10/2025--72582

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

## Sample details

Sample name:
**WS06-0.30--10/10/2025--72582**
Moisture content:
**2.6%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 2.6% Wet Weight Moisture Correction applied (MC)

| # | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | asbestos | 650-013-00-6 | - - - - - - - | 12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5<br>12001-29-5 | | <10 % | | <10 % | <10% | | <LOD |
| 2 | asbestos fibres detected (Yes/No) | | | ACM_FIBRES | | No | | | | | |
| 3 | arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex } | 033-005-00-1 | | | | 4.6 mg/kg | 1.895 | 8.488 mg/kg | 0.000849 % | ✓ | |
| 4 | cadmium { cadmium sulfate } | 048-009-00-9 | 233-331-6 | 10124-36-4 | | <1.6 mg/kg | 1.855 | <2.967 mg/kg | <0.000297 % | | <LOD |
| 5 | chromium in Cr(III) compounds { chromium(III) oxide (worst case) } | | 215-160-9 | 1308-38-9 | | 7.9 mg/kg | 1.462 | 11.246 mg/kg | 0.00112 % | ✓ | |
| 6 | chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 | | | | <0.04 mg/kg | 2.27 | <0.0908 mg/kg | <0.00000908 % | | <LOD |
| 7 | copper { copper sulphate pentahydrate } | 029-023-00-4 | 231-847-6 | 7758-99-8 | | 2.8 mg/kg | 3.929 | 10.715 mg/kg | 0.00107 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 43 mg/kg | 1.56 | 65.328 mg/kg | 0.00419 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.7 mg/kg | 1.353 | <0.947 mg/kg | <0.0000947 % | | <LOD |
| 10 | nickel { nickel dibromate } | 028-053-00-5 | 238-596-1 | 14550-87-9 | | <2.1 mg/kg | 5.358 | <11.252 mg/kg | <0.00113 % | | <LOD |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <3 mg/kg | 2.554 | <7.662 mg/kg | <0.000766 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 15 mg/kg | 2.774 | 40.53 mg/kg | 0.00405 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | <14 mg/kg | | <14 mg/kg | <0.0014 % | | <LOD |

| # | | Determinand | EU CLP index number | EC Number | CAS Number | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | confirm TPH has NOT arisen from diesel or petrol | | | | | ☑ | | | | | | | |
| 15 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.002 | mg/kg | | <0.002 | mg/kg | <0.0000002 % | | <LOD |
| 16 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 17 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 18 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.001 | mg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| 19 | | xylene | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | | <0.004 | mg/kg | | <0.004 | mg/kg | <0.0000004 % | | <LOD |
| 20 | | 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 } | 006-007-00-5 | | | | <1 | mg/kg | 1.884 | <1.884 | mg/kg | <0.000188 % | | <LOD |
| 21 | | pH | | | PH | | 8.7 | pH | | 8.7 | pH | 8.7 pH | | |
| 22 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 23 | | acenaphthylene | | 205-917-1 | 208-96-8 | | <0.015 | mg/kg | | <0.015 | mg/kg | <0.0000015 % | | <LOD |
| 24 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 25 | | fluorene | | 201-695-5 | 86-73-7 | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <LOD |
| 26 | | phenanthrene | | 201-581-5 | 85-01-8 | | <0.014 | mg/kg | | <0.014 | mg/kg | <0.0000014 % | | <LOD |
| 27 | | anthracene | | 204-371-1 | 120-12-7 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 28 | | fluoranthene | | 205-912-4 | 206-44-0 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 29 | | pyrene | | 204-927-3 | 129-00-0 | | <0.016 | mg/kg | | <0.016 | mg/kg | <0.0000016 % | | <LOD |
| 30 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 0.013 | mg/kg | | 0.0127 | mg/kg | 0.00000127 % | ✓ | |
| 31 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | <0.028 | mg/kg | | <0.028 | mg/kg | <0.0000028 % | | <LOD |
| 32 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | <0.02 | mg/kg | | <0.02 | mg/kg | <0.000002 % | | <LOD |
| 33 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | <0.025 | mg/kg | | <0.025 | mg/kg | <0.0000025 % | | <LOD |
| 34 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 35 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| 36 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | <0.017 | mg/kg | | <0.017 | mg/kg | <0.0000017 % | | <LOD |
| 37 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | <0.019 | mg/kg | | <0.019 | mg/kg | <0.0000019 % | | <LOD |
| | | | | | | | | | | | Total: | 0.0113 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |
|  | Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| **<LOD** | Below limit of detection |
| CLP: Note 1 | Only the metal concentration has been used for classification |

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

**asbestos fibres detected (Yes/No)** (CAS Number: ACM_FIBRES)

Description/Comments: not classified, information only
Data source: N/A
Data source date: 15 Jan 2020
Hazard Statements: None.

**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

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

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
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

**confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

**ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

**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

**pH** (CAS Number: PH)

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

**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

## Appendix B: Rationale for selection of metal species

**arsenic {arsenic acid and its salts with the exception of those specified elsewhere in this Annex}**

Worst case CLP species based on hazard statements/molecular weight and conversion factor for arsenic acid H3AsO4. (edit as required)

**cadmium {cadmium sulfate}**

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

**chromium in Cr(III) compounds {chromium(III) oxide (worst case)}**

No CrVI present

**chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}**

Worst case species based on hazard statements/molecular weight (edit as required)

**copper {copper sulphate pentahydrate}**

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

**lead {lead chromate}**

Worst case CLP species based on hazard statements/molecular weight (edit as required)

**mercury {mercury dichloride}**

Reasonable worst case CLP species based on hazard statements/molecular weight and assuming no evidence for the use of explosives. (edit as required)

**nickel {nickel dibromate}**

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

**selenium {nickel selenate}**

Worst case CLP species based on hazard statements/molecular weight (edit as required)

**zinc {zinc chromate}**

Worst case CLP species based on hazard statements/molecular weight (edit as required)

**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}**

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

## Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.321.6868.12417 (17 Nov 2025)
HazWasteOnline Database: 2025.321.6868.12417 (17 Nov 2025)

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
**GB MCL List v6.0** - version 6.0 of 15th February 2025
**GB MCL List v7.0** - version 7.0 of 23rd September 2025