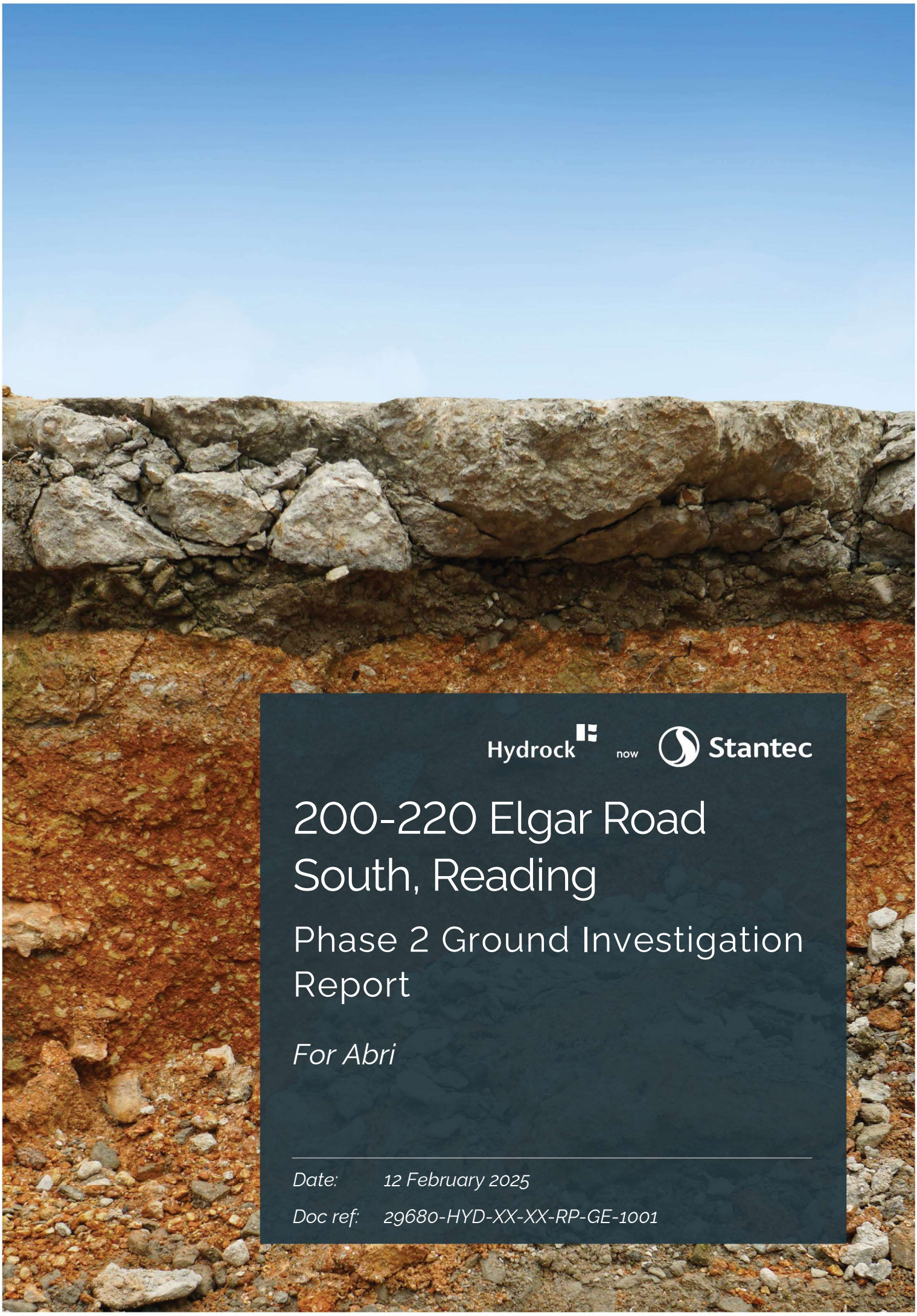


Hydrock now Stantec

# 200-220 Elgar Road South, Reading

## Phase 2 Ground Investigation Report

*For Abri*

*Date:* *12 February 2025*

*Doc ref:* *29680-HYD-XX-XX-RP-GE-1001*

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# Executive summary

| *Site information and setting* | |
|---|---|
| Objectives | The works have been commissioned as part of the due diligence process to acquire the land and assist with the design of the development, as well as to potentially support anticipated standard contaminated land planning conditions.<br>The objectives of the Phase 2 Ground Investigation are:<br>» to resolve any geotechnical and geoenvironmental uncertainties identified in the Phase 1 Desk Study by refining and updating the preliminary Ground Model, based on the conditions met in accordance with the principles of Environment Agency (EA) 'Land Contamination: Risk Management' (LCRM) (2023);<br>» to identify any geo-environmental mitigation requirements to enable development to progress; and<br>» to provide preliminary geotechnical recommendations for design. |
| Client | Abri Group Limited |
| Site name and location | 200-220 Elgar Road South, Reading, RG2 0BW. |
| Proposed development | The site development proposals are understood to comprise redevelopment of the existing one-storey office building into a four-storey residential apartment block comprising 16 units with soft landscaping and associated car parking. |
| Site description | The site is situated along Elgar Road South, is square in shape and has an area of 0.14ha.<br>The site is currently occupied by one single-storey building and car park area, currently used as a driving test centre. It is situated predominantly within an urban setting, with residential dwellings and industrial estates situated off site within close proximity to the north, south and east, as well as a green space to the west towards the River Kennet known as Waterloo Meadows. |
| *Desk study summary* | |
| Topography | The site is on a slope, sloping down from the east to the west from 40m above Ordnance Datum (OD) to 38m OD, respectively. The area of the industrial estate to the east slopes up to approximately 47m OD and the area towards the River Kennet to the west slopes down and sits at 34m OD. |
| Hydrology | The site slopes down from Elgar Road South towards the River Kennet to the west, and it is likely any surface water will drain towards this feature towards the north and north west, where the Kennet joins the main water body/river of the River Thames (located 2.5km to the north east downstream). Shallow groundwater is likely to be present within the Alluvium deposits, as well as variable groundwater strikes within the Lambeth Group due to lateral and vertical heterogenous lithologies (sand channels). A regional water table is also expected within the chalk. |
| Site History | The site was part of a historical brick works with kilns mapped on site from the earliest mapping provided in 1879 to 1914, until the buildings/structures associated with the works were demolished and 200-220 Elgar Road South building was constructed and mapped in 1957, it's use was unknown until it was labelled as a research laboratory between 1969-1976 when the shape of the building looks to be what is currently present on site.<br>Off site, approximately 2m south west, a historical landfill has been recorded to take inert, industrial waste during the 1950's. |
| Geology | Locally, Worked Ground has been identified within the Groundsure report within the eastern half of site, likely associated with the historical brick works. Underlying this Worked Ground recorded, is the Lambeth Group (Upnor Formation) which is the main geological bedrock unit, Superficial Alluvium deposits arising from the River Kennet could potentially be present on site to the western boundary, overlying the bedrock, where the site is situated closer to River Kennet. Chalk is also anticipated below the Lambeth Group. Inferred from a borehole record 202m north east from site which |

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| | logged Lambeth Group to be approximately 16m thick before recording hard chalk with flints underlying this unit until the borehole terminated at 16.61m bgl. |
| Natural geological hazards | The Groundsure Report has recorded soft ground along the River Kennet to the west of site, this is likely due to the presence of Alluvium deposits. If identified to be present on site these soils are compressible and have the potential, when loaded, to result in significant settlement of the ground resulting in damage to structures.<br>Lambeth Group will likely comprise cohesive material which may be affected by potential for shrink-swell ground movements in clays as a result of changes in moisture content from removal or growth of trees. The Groundsure Report identifies the site to be of moderate risk from shrink swell clays.<br>The site is potentially underlain at depth by the chalk, which can be associated with ground dissolution features. The Groundsure report identifies the site as low risk to ground dissolution from soluble rocks such as the chalk and Hydrock believe it is unlikely to present as a risk on site due to likely depth. A specialist cavities data search has not been undertaken at this time. |
| Anthropomorphic geotechnical hazards | Localised Worked Ground is likely to be present as a result of the historical brick works. The thickness of this Worked Ground underlying the site is unknown and presence of this heterogenous type of material represents a geotechnical risk due its unpredictability and likely instability. Foundations will need to be deepened to below any worked Ground recorded on site. |
| Hydrogeology | Any Worked Ground will be unclassified, but likely to be moderate to high porosity because of the unconsolidated nature, but permeability is likely to be low to moderate because of poor sorting and clay content.<br>The superficial Alluvium deposits and the Lambeth Group bedrock geology is classified by the Environment Agency as a Secondary A aquifer, whilst the Seaford and Newhaven Chalk Formation is classified as a Principal aquifer. |
| UXO risk | A non-specialist UXO assessment indicates a low bomb risk. |
| Climate change considerations | Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency (2010)[1] and SoBRA (2022)[2] which set out the UK context to climate change and land contamination. Both guidance documents advocate a "what if" scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.<br>Those "what if" scenarios that are relevant to this CSM are:<br>» Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters.<br>» Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, groundwater flooding, and/or land-based erosion.<br>» Increased frequency and/or magnitude of storm events leading to short-term drops in barometric pressure and/or high winds.<br>» Occurrence of extreme cold and hot weather events leading to changes in ground conditions such as soil temperature, evapo(trans)piration, and soil moisture (for example freeze-thaw effects and desiccation), decreased infiltration and fall in groundwater and surface water levels.<br>Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels. |
| *Ground model proven by investigation* | |
| Ground and groundwater | The ground conditions as proven by the investigation undertaken at the site comprise: |

[1] Environment Agency, 2010. Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references, March 2010.
[2] SoBRA, 2022. Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Society of Brownfield Risk Assessment, August 2022.

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| conditions encountered by investigation | » Surface Cover (Concrete / bituminous bound hardstanding / pea shingle) – between 0.0 and 0.6m bgl.<br>» Topsoil – between 0.0m and 0.3m below ground level (bgl), comprising grass over dark brown silty sand with frequent root hairs and occasional brick and flint gravels;<br>» Made Ground – between 0.08m and 2.10m bgl, comprising brown sandy gravelly clay or clayey gravelly sand with abundant gravels of brick, flint, clinker and rare chalk, slag, ash, rope, glass and mortar; over<br>» Alluvium Deposits – between 1.8m and 2.60m bgl, comprising either very loose greenish grey silty organic sand or soft dark grey speckled back sandy organic silt with occasional flint gravels; over<br>» Upnor Formation (Lambeth Group) – between 0.7m and >5.45m bgl (base of stratum not proven), comprising firm grey or grey, mottled orange/orange brown sandy silty clay or medium dense blue grey/greenish brown grey clayey or silty sand; over<br>» Seaford and Newhaven Chalk Formation – between 5.0m and >6.45m bgl (base of stratum not proven), comprising of structureless Grade Dm (matrix-supported) and Grade Dc (clast supported).<br>Groundwater was encountered during drilling at depths predominantly within the Upnor Formation between 2.5m and 3.2m bgl within the external window sample boreholes, these initial strikes were noted to rise after 20 minutes between 0.2m and 0.6m. |
| *Summary of geotechnical conclusions* | |
| Groundwork | Following breaking out of hardstanding and obstructions, excavation of shallow soils should be readily undertaken by conventional plant and equipment. However, excavation through any buried obstructions may require heavy-duty excavation plant.<br>Collapse within windowless sample boreholes was noted within sand bands of the Upnor Formation and where groundwater ingress occurred which indicates the ground may be unstable during excavation works and running sands may be present<br>Temporary trench support, or battering of excavation sides, is recommended for all excavations that are to be left open for any length of time and will definitely be required where man entry is required. Particular attention should be paid to excavation at, or close to, site boundaries, adjoining existing roads, and buildings, where collapse of excavation faces could have a disproportionate effect. Due to the sands encountered below the water table there is a potential for running sands to be a risk affecting site.<br>Based on site observations, the rate of water ingress to the proposed excavations is likely to be moderate through the Upnor Formation. In these circumstances, groundwater control by sump pumping would possibly be insufficient to deal with anticipated flows and alternative methods of dewatering, such as well points, or use of impermeable cut-offs should be considered. |
| Foundations | The ground investigation has confirmed that the top 2.60m of material is likely not suitable for shallow foundations and deeper foundations most likely will be required.<br>Piles should be suitable and the choice of piling system should be undertaken by a specialist piling Contractor and the design of piles is beyond the scope of this report. |
| Buried concrete | Design Sulfate Class - DS-1 and ACEC Class AC-1 for Made Ground, Alluvial deposits and Upnor Formation. Equivalent to Design Chemical Class DC-1 for a 50-year design life. |
| *Summary of geo-environmental assessment* | |
| Human Health | » Slightly elevated concentrations of metals, metalloids, PAH and VOCs identified in the Made Ground (WS01, WS02, WS03, WS05, FP01 and LWS02)<br>» Asbestos fibres detected in the Made Ground (WS05 and LWS02). |
| Phytotoxicity | » Elevated concentrations of copper and zinc in the Made Ground (WS05 and FP01). |
| Construction materials: | » Plastic or bitumastic products may be at risk from concentrations of organic compounds in the Made Ground. The pipework manufacturer should be consulted with regard the suitability of the pipework. |
| Potable water supply pipes | » Brownfield site with organic contamination and barrier pipe is considered suitable for this site. If Made Ground is to be removed from site, barrier pipe |

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| | may not be required. However, confirmation should be sought from the water supply company at the earliest opportunity. |
| Ground gases or vapours: | » Monitoring ongoing and the ground gas and vapour risk will need to be assessed and updated here |
| *Enabling works* | |
| Proposed mitigation measures | The mitigation measures proposed to remove unacceptable risks include:<br>» Private gardens;<br>▪ 600mm of clean cover comprising 150mm topsoil and 450mm of subsoil; or;<br>▪ 450mm of clean cover comprising a brightly coloured geotextile/membrane underlying 150mm of topsoil and 300mm of subsoil.<br>» Communal soft landscaping;<br>▪ 450mm of clean cover comprising a brightly coloured geotextile/membrane underlying 150mm of topsoil and 300mm of subsoil.<br>» Installation of barrier pipework if Made Ground is not removed from site<br>» Once ground gas monitoring has been completed the potential for ground gas and vapour mitigation measures to comply with relevant condition of the site.<br>The methodology for the remediation should be presented in a Remediation Strategy, which will need to be submitted to the warranty provider and the regulatory authorities for approval.<br>Verification reports by a competent independent geo-environmental specialist will be required following completion of any remedial works. |
| Earthworks | If significant earthworks are required, the works may be Category 2 in accordance with BS EN ISO 1997-1 (EC 7) and further geotechnical design may be necessary. Once site proposals have been further defined more specific consideration will need to be given to the reuse of materials and reference should be made back to this office. |
| *Future considerations* | |
| Further work | Following the ground investigation works undertaken to date, the following further works will be required:<br>» demolition/refurbishment asbestos survey;<br>» completion and reporting of the ongoing gas monitoring and groundwater, hence the conclusions in this report are provisional, subject to the completion of monitoring;<br>» additional ground investigation to include deeper boreholes to assess the underlying chalk, further define lead hotspot area, as well as groundwater and leachate sampling to determine the controlled waters risk to site;<br>» discussion and agreement with utility providers regarding the materials suitable for pipework;<br>» discussions with regulatory bodies and the warranty provider regarding the conclusions of this report;<br>» assessment of tree influence on foundations and design of foundations;<br>» discussions with piling Contractors regarding conclusions of this report and design of the piles;<br>» provision of geotechnical design for the Category 2 structures (earthworks, floor slabs, piled foundations);<br>» production of a Remediation Strategy and Verification Plan (and agreement with the regulatory bodies and the warranty provider);<br>» production of a Materials Management Plan relating to reuse of soils at the site and import of soils to the site, if required;<br>» writing of a Materials Management Strategy relating to reuse of soils at the site, if required;<br>» remediation and mitigation works; and |

- verification of the remediation and mitigation works.

This Executive Summary forms part of Hydrock Consultants Limited report number 29680-HYD-XX-XX-RP-GE-1001 and should not be used as a separate document.

# 1. Introduction

## 1.1 Terms of reference

In November 2024, Hydrock Consultants Limited (Hydrock) was commissioned by Abri Limited (the Client) to undertake a preliminary Phase 2 ground investigation at 200-220 Elgar Road South. The site is located in Reading with a postcode of RG2 0BW.

The site currently comprises a one-storey office block building and car park used as a Driving Test Centre.

Hydrock understands that the site is to be acquired for redevelopment into a four-storey residential apartment block comprising 16 units with private and communal soft landscaping and associated car parking. A proposed development layout (Sawkings Harper Architects drawing: A4080 2000 P8), is presented in Appendix A.

The investigation works have been undertaken in accordance with Hydrock's proposal referenced (29680-HYD-XX-XX-FP-GE-0002, dated 4 November 2024) and the Client's instructions to proceed via email (confirmation dated 28 November 2024).

## 1.2 Objectives

The works have been commissioned as part of the due diligence process to acquire the land and assist with the design of the development, as well as to potentially support anticipated standard contaminated land planning conditions.

The objectives of the Phase 2 Ground Investigation are:

- to resolve geotechnical and geoenvironmental uncertainties identified in the Phase 1 Desk Study by refining and updating the preliminary Ground Model, based on the conditions met in accordance with the principles of Environment Agency (EA) 'Land Contamination: Risk Management' (LCRM) (2023);
- to identify potential geo-environmental mitigation requirements to enable development to progress; and
- to provide preliminary geotechnical recommendations for design.

## 1.3 Scope

The scope of works comprised a preliminary Phase 2 Ground Investigation within the Elgar Road South site and preparation on this interpretative report.

The scope of the Phase 2 Ground Investigation comprises:

- a preliminary ground investigation including hand pitting, windowless sampling and lightweight windowless sampling to:
  - obtain data on the ground and groundwater conditions of the site;
  - allow collection of samples for geotechnical and chemical laboratory analysis;
  - allow geotechnical field tests to be undertaken;
  - install gas and groundwater monitoring wells;
- gas concentration and groundwater level monitoring;
- geotechnical and chemical laboratory analysis. The results of groundwater sampling is to be provided within an update to this report.

The interpretative Ground Investigation Report includes:

- updating of the preliminary Ground Model;
- preparation of a geotechnical risk register;
- presentation of an initial geotechnical design recommendations;
- formulation of an updated Conceptual Site Model (CSM), including identification of plausible contaminant linkages;
- completion of a generic quantitative risk assessment of identified chemical contaminants to establish 'suitability for use' under the current planning regime;
- discussion of potential environmental liabilities associated with land contamination (soil and gas); and,
- identification of outline mitigation requirements based on the proposed end use of the site.

## 1.4 Available information

The following documents, reports etc have been provided to Hydrock by the Client for use in the preparation of this report:

- Soil Environment Services. December 2020. 'Phase 1 Desk Top Study – Preliminary Risk Assessment, 220 Elgar Road, Reading. Ref: SES/MH/ER/1#1.

The following documents, reports etc have been reviewed from publicly available resources to gather relevant information from a nearby site due to ground gas concerns from the adjacent Waterloo meadows landfill;

- Peter Brett Associates. January 2016. Phase 1 and Phase 2 Ground Conditions Assessment – Proposed Retail Showroom, 21 Rose Kiln Lane, Reading. Ref: 31363/3501.

Hydrock acknowledges that this document is not assigned to the Client, and has used them for information purposes only. No formal reliance can be placed upon their contents for the current works.

A desk study (Soil Environment Services, 2020) was provided to the client by the previous Vendor of the site. Hydrock have undertaken a preliminary review of this report and note that whilst it provides an initial outline of site history and potential site sources of contamination, it does not contain all the elements expected in accordance with current guidance (e.g. LCRM 2023).

The documents below have been provided by Reading Borough Council (RBC), due to the site being situated adjacent to Waterloo Meadows landfill:

- Enviros Consulting Limited for Reading Borough Council. June 2006. Environmental Review: Waterloo Meadows, Reading. Ref: RE0700007 V4; and
- Enviros Consulting Limited for Reading Borough Council. January 2008. Further environmental assessment: Waterloo Meadows, Reading. Ref: RE070009.

The following report has been prepared by Hydrock, and should be referred to in conjunction with this report:

- Hydrock Consultants Ltd. Phase 1 Desk Study Report. 200-220 Elgar Road South, Reading. December 2024. Ref: 29680-HYD-XX-XX-RP-GE-1000 P01.

## 1.5 Regulatory context and guidance

The investigation work has been carried out in general compliance with recognised best practice, including (but not limited to) BS 5930:2015+A1:2020, BS 10175:2011+A2:2017 and the AGS (2006) 'Good Practice Guidelines for Site Investigations'.

The geo-environmental section of this report is written in broad accordance with BS 10175:2011+ A2:2017 and EA LCRM (2023).

The methods used follow a risk-based approach, the first stage of which is a Phase 1 desk study and field reconnaissance, with potential geo-environmental risks assessed qualitatively. This is done using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990). Potential geotechnical risks are also assessed from the Phase 1 desk study and site reconnaissance stage.

Phase 2 comprises intrusive ground investigation work and laboratory testing. The factual information from the desk study and the ground investigation are used to develop the Conceptual Site Model (CSM). This CSM is based on a ground model of the site physical conditions and an exposure model of the possible contaminant linkages. The CSM forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines. This GQRA might lead to more Detailed Quantitative Risk Assessment (DQRA).

Professional judgement is then used to evaluate the findings of the risk assessments and to provide recommendations for the development.

The geotechnical section of this report is prepared in general accordance with BS EN 1997-1+A1: 2013, BS EN 1997-2:2007 and BS 8004:2015+A1:2020. This report constitutes a Ground Investigation Report (GIR) as described in Part 2 of Eurocode 7 (BS EN 1997-2) (EC7). However, it is not intended to fulfil the requirements of a Geotechnical Design Report (GDR) as specified in EC7.

Where relevant the relevant requirements of the current edition of NHBC Standards have also been applied.

The geo-environmental and geotechnical aspects are discussed in separate sections. Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. Designers should take all aspects of the investigation into account. Further ground investigation may be required for detailed design.

Remaining uncertainties and recommendations for further work are listed in Section 9 and Section 10.

# 2. Desk study review

Information provided below is a summary form the Hydrock Phase 1 Desk Study (ref: 29680-HYD-XX-XX-RP-GE-1000 P01). The desk study should be read in conjunction with this report and referred to for further information.

## 2.1 Site location

The site is located 1.3km to the south of Reading Town Centre. The National Grid Reference of the approximate centre of the site is E471501, N172103. Site address is known as 200-220 Elgar Road South, Reading, RG2 0BW. A site location plan (Hydrock drawing ref: 29680-HYD-XX-XX-DR-GE-0001) is presented in Appendix A.

## 2.2 Site description

200-220 Elgar Road South is a square parcel of land, approximately 0.14ha in size, accessed from the road known as Elgar Road South. The site is occupied by a one-storey building in the east and car park in the west of the site, currently used as a driving test centre. The site is predominantly located within an urban setting, with residential dwellings and industrial estates off site to the north, east and south. A green space, used for recreational purposes is situated to the west towards the River Kennet known as Waterloo Meadows. The site sits on a gradual slope, sloping down from east to west from 40m above Ordnance Datum (OD) to 38m OD.

## 2.3 Site history

From 1879, the earliest historical maps show the site to be part of Waterloo Kilns (a brick, tile and pipe works) with numerous structures marked such as kilns and an engine house. In 1932, the site was open land with none of the former structures associated with the brick works present, however it is still present to the east of site. In 1957, a building labelled with 200 & 220 was on site, likely to be the same building that is present today. Between 1969-1976 this building was labelled as a research lab until it was labelled with 200 & 220 again in 1981. From aerial photographs the main building on site is shown in the centre, with a small amount of soft landscaping to the east towards Elgar Road South. A small side road along the northern boundary provides foot and vehicular access to the rear half of the site. It is noted to have been used as offices before becoming a driving test centre in 1995.

## 2.4 Geology

Worked Ground deposits has been recorded on site and within the surrounding area, this is likely due to the historical brick works operating here between 1879-1938. These deposits generally show where man-made materials have been placed and/or natural material has been excavated. The Lambeth Group, described as comprising of clays with some silt, sands and gravels, is the main bedrock unit that is anticipated to be present underlying the site. Superficial Alluvium deposits arising from the River Kennet could potentially be present onto site towards the western boundary, overlying the bedrock. The site is also anticipated to be underlain at depth by the Seaford and Newhaven Chalk Formations.

A nearby borehole located 202m north east (SU77SW910) identified silty sandy clay likely of the Lambeth Group down to 16.15m bgl, overlying hard chalk with flints down to base of the hole at 16.61m bgl.

Investigations in to the historical landfill adjacent to the site have identified varying levels of landfill material up to a maximum depth of 2.80m bgl to underlie Waterloo Meadows. The landfill waste was noted to be Made Ground with brick, concrete, flint, clinker, chalk, glass, rubber, leather, newspaper, ash, wood, plastic, shoes, pottery, toothpaste, cloth and batteries.

## 2.5 Hydrogeology

Any Worked Ground will be unclassified, but likely to be moderate to high porosity because of the unconsolidated nature, but permeability is likely to be low to moderate because of poor sorting and clay content.

The superficial Alluvium deposits and the Lambeth Group bedrock geology is classified by the Environment Agency as a Secondary A aquifer, whilst the Seaford and Newhaven Chalk Formation is classified as a Principal aquifer.

The site is not located within a Source Protection Zone (SPZ) and there are no active licensed groundwater abstraction within 1000m of the site.

Shallow groundwater is likely to be present within the Alluvium deposits, as well as variable groundwater strikes with the Lambeth Group due to lateral and vertical heterogenous lithologies (sand channels). A nearby borehole (SU77SW910) recorded water seepages at 9.63m, 11.88m and 13.89m within the Lambeth Group. The chalk is a significant aquifer in Reading with high permeabilities and ability to store and transmit large volumes of groundwater, as well as being able to support large abstractions, so a regional water table is also expected within the chalk. Nearby boreholes (SU77SW910 drilled to 16.61m bgl and SU77SW26 drilled to 45.72m bgl) either did not record groundwater depths or did not reach groundwater.

Recharge to the Alluvium deposits would be expected to take place locally with recharge to the chalk taking place on outcrops to the west of the River Kennet from site.

Some recharge to the Chalk would be expected to occur locally via the superficial deposits and Lambeth Group. Which can in turn create a pathway for potential contamination to leach into the chalk aquifer below.

## 2.6 Hydrology

The main surface water feature is the River Kennet which is approximately 99m north west from site, runs relatively north to south, with the direction of flow indicated to the north towards the River Thames (2.5km to the north east).

The Environment Agency website shows the site to be located within the Kennet Operational Catchment and the specific water body being the Lower Kennet - Sheffield Bottom to Reading. The current overall status (Cycle 3 - 2019 and 2022) is moderate due to receiving fails in its chemical ratings and moderate rating in ecological elements.

## 2.7 Flood risk

The desk study information indicates the site to be situated within Flood Zone 1 with a low probability of flooding from rivers or seas.

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regard to drainage and flooding.

## 2.8 Natural ground instability

Trees and hedges are present along the south and western site boundaries with only small amounts of vegetation actually situated on site, predominantly consisting of weeds to the south and one bush and grass to the east. Lambeth Group will likely comprise of cohesive material which may be affected by potential for shrink-swell ground movements in clays as a result of changes in moisture content from growth of new trees. The Groundsure report identifies the site to be of moderate risk from shrink swell clays.

The thickness of Worked Ground underlying the site is unknown and presence of this heterogenous type of material represents a geotechnical risk due its unpredictability and likely instability. Foundations will need to be deepened to below any Worked or unsuitable ground recorded on site.

Soft ground has been recorded towards the River Kennet to the west of site, this is likely due to the presence of Alluvium deposits. If this is identified to crop onto site these soils are compressible and have the potential, when loaded, to result in significant settlement of the ground resulting in damage to structures.

The site is potentially underlain at depth by the chalk, which can be associated with ground dissolution features. The Groundsure report identifies the site as low risk to ground dissolution from soluble rocks such as the chalk and Hydrock believe it is unlikely to present as a risk on site due to likely depth. A specialist cavities data search has not been undertaken at this time.

## 2.9 Waste management

A historical landfill has been recorded 2m south west from site, within the area of the Waterloo Meadows. From information received from Reading Borough Council (RBC), the landfill is known to have operated between 1950 and 1970 and accepted inert and industrial wastes. Following closure, the site became a community recreation area. The landfill from Enviros consulting likely extends to depths of 2.80m bgl and a description of a lining or separation layer between the landfill waste and natural deposits was not noted in the reports.

A Ground Investigation report was produced by Enviros Consulting in 2006 (Ref: RE0700007) on behalf of RBC for Waterloo Meadows. The report summarised the site geology from 12 windowless borehole drilled between 2.0m bgl and 3.0m bgl as;

- Topsoil from surface level to a maximum depth of 0.50m with brick, glass, concrete and flint;
- Made Ground encountered up to 2.80m bgl, comprising sand and clay with brick, concrete, flint, clinker, chalk and glass, occasionally interbedded with layers of waste;
- Waste Material varied across the site from 0.60m to 2.80m bgl with layers of fill between 0.20m -2.0m thick and comprised clinker, plastic, brick, metal, wood, glass, rubber, leather, newspaper, concrete, ash, sand and gravel; and,
- Alluvium was encountered from depths of 2.0m to 2.80m bgl.

An additional ground investigation and report was conducted and produced by Enviros Consulting in 2008 (ref: RE070009). Ten windowless sample boreholes were drilled to 3.0m bgl towards the northern and eastern part of the landfill targeting the children's centre and off-site residential properties associated with Elgar Road. The Ground conditions were summarised as:

- Topsoil from surface level to 0.35m bgl comprising brown sandy silt with frequent rootlets, with one location covered in tarmac hardstanding;
- Made Ground varied in in thickness from 0.20m to 2.60m and comprised of gravelly sand and silt with chalk, slate, coal, clinker, brick, flint and concrete. Variable quantities of waste including glass, pottery, rubber, wood, shoes, toothpaste, cloth, plastic and batteries. Made Ground containing this waste was identified as landfilled waste and was recorded at depths between 0.10m and 1.50m bgl close to the children's centre and adjacent to the houses and apartments on Park View.

## 2.10 Natural soil chemistry

The desk study did not indicate any significantly elevated naturally occuring elements that may present a risk to future site users.

## 2.11 Radon

The guidance indicates that the site is not in a Radon Affected Area and no radon protection measures are required.

## 2.12 Unexploded ordnance (UXO)

The non-specialist UXO screening exercise has indicated no further assessment is required with regard to UXO in relation to ground investigation. Further assessment may be considered prudent for construction activities.

## 2.13 Consultations

Reading Borough Council (RBC) were contacted on the 14 November 2024 in order to provide us with any information or records they hold for the site or any relevant records surrounding the site that could be potentially contaminative.

A response was received on the 11th December 2024 and commentary provided on the site is summarised below:

- The site has not been identified by RBC as being potentially contaminated;
- RBC holds one record of a disused tanker within 250m of the site, however hold no information on the capacity, contents or date of decommission or alternative use. Address: W H Hall Ltd, Elgar Road, Reading;
- RBC holds one record for the landfill site at 'Waterloo Meadows' and investigations were conducted on behalf of the council in 2006 and 2008 by Enviros Consulting. Copies of these reports have been provided to Hydrock for review and their report concluded:
    - A potential low risk from heavy metals, hydrocarbons and PAHs from the former landfill to surface water and to users of Park View residential properties;
    - a potential moderate/low risk from heavy metals, hydrocarbons and PAHs from the Made ground to users of Elgar Road South residential properties;
    - a potential moderate risk from carbon dioxide from the landfill to site users of the children's centre;
    - a potential moderate/low risk from carbon dioxide from the landfill to users of Park View residential properties; and,
    - a potential low risk from carbon dioxide from the landfill to users of Elgar Road South residential properties,
- A historical planning record for the site (PL/92/0541) outlines a change of use from office to driving test centre in 06/01/1993.

# 3. Initial conceptual site model

## 3.1 Introduction

The initial Conceptual Site Model (CSM) incorporates evidence from the site walkover and the Desk Study carried out at the site, as well as information provided by previous investigations carried out off-site within the Landfill area. The formulation of an initial CSM is a key component of the LCRM methodology, and incorporates: a ground model of the site physical conditions; and an exposure model of the possible contaminant linkages. It forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines.

## 3.2 Ground model

The preliminary ground model presented in Section 2 provides an understanding of the ground conditions and is the basis for preparing the preliminary geotechnical hazard assessment (Section 3.3) and the preliminary geo-environmental exposure model (Section 3.4).

## 3.3 Geotechnical hazard identification

### *3.3.1 Context*

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents CS 641 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table G.1 in Appendix G for further information).

### *3.3.2 Plausible geotechnical hazards*

Plausible geotechnical hazards identified at the site are:

- Uncontrolled Made Ground (variable strength and compressibility);
- Soft / loose compressible ground (low strength and high settlement potential);
- Shrinkage / swelling of the clay fraction of soils under the influence of vegetation;
- Variable lateral and vertical changes in ground conditions;
- Attack of buried concrete by aggressive ground conditions;
- Adverse chemical ground conditions, (e.g. expansive slag);
- Obstructions;
- Shallow groundwater;
- Changing groundwater conditions;
- Loose Made Ground, leading to difficulty with excavation and collapse of side walls;
- Earthworks – poor bearing capacity of new fill; and
- Earthworks – unsuitability of site won material to be reused as fill;

### *3.3.3 Potential development elements affected*

Development elements potentially affected by geotechnical hazards are:

- Buildings – foundations;
- Buildings – floor Slabs;
- Roads and pavements;

- Services;
- General slopes;
- Retaining walls;
- Gardens;
- Construction staff, vehicles and plant operators;
- Concrete below ground;
- Earthworks control, inability to place and compact fill; and
- Insufficient fill to complete earthworks;

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected have been carried forward for investigation and assessment. The investigation is presented in Section 4 and the assessment is presented in Section 0.

## 3.4 Geo-environmental exposure model

### *3.4.1 Context*

The preliminary exposure model is used to identify geo-environmental hazards and to establish potential contaminant linkages, based on the source-pathway-receptor (SPR) approach.

A viable contaminant linkage requires all the components of an SPR to be present. If only one or two are present, there is no linkage and no further assessment is required.

### *3.4.2 Potential contaminants*

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from an on-site or off-site source.

#### *3.4.2.1 Potential on-site sources of contamination*

- Made Ground and Worked Ground, associated with historical brick works, construction activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials (ACMs), Polycyclic Aromatic Hydrocarbons (PAHs) and petroleum hydrocarbons (S1).
- Made Ground, potentially containing asbestos fibres and Asbestos Containing Materials from demolition of kiln structures and buildings associated with the historical brick works (S2).
- Coal tar, potentially present in the bituminous bound pavements present within the car park area (S3).
- Ground gases (carbon dioxide and methane) from organic materials in the Made Ground / Alluvium deposits (S4).
- Asbestos fibres from insulation or asbestos-containing materials within the existing building (S5).

#### *3.4.2.2 Potential off-site sources of contamination*

- Leachate from landfilled waste including household, commercial and industrial, , located to the south west of site (S6).
- Possible Made Ground and Worked Ground placed within the surrounding area of the historical kiln works, former brick pits and during the construction of industrial estate warehouses located

to the east of site off Elgar Road South, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S7).

» Ground gases (carbon dioxide and methane) from organic/landfill materials in the historical landfill located 2m south west (S8).

### 3.4.3 Potential receptors

The following potential receptors in relation to the proposed land use have been identified.

» Human health (neighbours, site end users) (R1).

» Development end use (buildings, utilities and landscaping) (R2).

» Groundwater: Secondary A aquifer status of the Alluvium deposits, Lambeth Group and Principal Aquifer status of the Seaford Chalk Formation and Newhaven Chalk Formation (R3).

» Surface water: River Kennet approximately to the 99m north west and 110m west (R4).

### 3.4.4 Potential pathways

The following potential pathways have been identified.

» Ingestion, skin contact, inhalation of dust and outdoor air by people (P1).

» Carbon dioxide, vapours and methane ingress via permeable soils and/or construction gaps leading to accumulation in the proposed development, posing a risk of asphyxiation or explosion (P2).

» Root uptake of phytotoxic contaminants by plants (P3).

» Horizontal and vertical migration of contaminants through the unsaturated zone in the Alluvium deposits and Lambeth Group (P4).

» Surface water via overland flow (P5).

» Surface water, via drainage discharge and direct contact/permeation of contaminants into water pipes (P6.

Health and safety risks to site development contractors and maintenance workers have not been assessed as part of this study and will need to be considered separately.

The above sources, pathways and receptors have been considered as part of the Preliminary Risk Assessment in accordance with LCRM (2023), are considered to be plausible in the context of this site and have been carried forward for investigation and assessment. The investigation is presented in Section 4 and the assessment is presented in Section 0. An assessment of the Source – Pathway – Receptor linkages has been undertaken and is presented in Appendix H (Table H.2).

A summary of the plausible linkages is presented on the Initial Conceptual Model provided in Appendix A (Hydrock Drawing 29680-HYD-XX-XX-DR-GE-0002).

### 3.4.5 Potential implications of climate change

Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency

(2010)[3] and SoBRA (2022)[4] which set out the UK context to climate change and land contamination. Both guidance documents advocate a "what if" scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.

Those "what if" scenarios that are relevant to this CSM are:

- Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters.
- Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, groundwater flooding, and/or land-based erosion.
- Increased frequency and/or magnitude of storm events leading to short-term drops in barometric pressure and/or high winds.
- Occurrence of extreme cold and hot weather events leading to changes in ground conditions such as soil temperature, evapo(trans)piration, and soil moisture (for example freeze-thaw effects and desiccation), decreased infiltration and fall in groundwater and surface water levels.
- Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels.

For further details on the considerations made, refer to Table I.1 in Appendix I.

[3] Environment Agency, 2010. Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references, March 2010.
[4] SoBRA, 2022. Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Society of Brownfield Risk Assessment, August 2022.

# 4. Ground investigations

## 4.1 Site works

The ground investigation works, including the rationale which was based on the findings of the preliminary risk assessment is summarised in Table 4.1.

The fieldwork took place between 12 December 2024 and 13 December 2024. The 12 ground investigation locations were surveyed in using a Total Station GPS survey instrument and are shown on the Exploratory Hole Location Plan (Hydrock Drawing 29680-HYD-XX-XX-DR-GE-0004) in Appendix A.

The logs, including details of ground conditions, soil sampling, in situ testing and any monitoring installations, are also presented in Appendix B.

The weather conditions during the Hydrock fieldwork and for the previous week were cloudy with some drizzle and cool (5-7°C).

*Table 4.1: Summary of site works*

| Activity | Method | No. | Name | Depth/Range (m bgl) | In situ tests | Rationale |
|---|---|---|---|---|---|---|
| Drilling, Pitting and Probing | | | | | | |
| ***External works*** | | | | | | |
| Boreholes | Windowless sampler | 6 | WS01-WS05 & WS05A | 1.20 - 6.45 | SPTs | To investigate shallow ground conditions and install gas and groundwater monitoring wells |
| Trial pits | Hand-excavated | 3 | FP01-FP03 | 1.00 – 1.25 | - | To investigate foundations of existing building |
| ***Internal works*** | | | | | | Comment/s |
| Boreholes | Lightweight windowless sampler | 3 | LWS01-LWS03 | 2.50 – 3.00 | - | To investigate shallow ground conditions underneath the building |

Wells for monitoring groundwater levels and ground gas concentrations were installed in three of the windowless sampler boreholes. A summary of the monitoring well installations is presented in Table 4.2.

*Table 4.2: Summary of monitoring installations*

| Location | Ground level (m OD) | Screen top and base depth (m bgl) | Screen top and base elevation (m OD) | Strata targeted |
|---|---|---|---|---|
| WS01 | 42.10 | 0.50 – 1.50 | 41.60 – 40.60 | Made Ground |
| WS04 | 41.90 | 1.00 – 3.00 | 40.90 – 38.90 | Upnor Formation (Lambeth Group) |
| WS05 | 40.50 | 1.00 – 2.00 | 39.50 – 38.50 | Made Ground |

## 4.2 Geo-environmental testing

### *4.2.1 Sampling strategy and protocols*

Exploratory hole positions were determined by reference to the site conditions and uncertainties identified in the Initial CSM.

An even spread of exploratory holes across the site was used to identify the extent of Worked/Made Ground, as well as targeting the sloping nature of site with ground gas and groundwater monitoring installations within the boreholes at the top, middle and bottom of the site.

Samples were taken, stored and transported in general accordance with BS 10175:2011+A2:2017. Groundwater sampling will be undertaken as part of the ongoing monitoring. The results will be discussed in a revision to this report.

### *4.2.2 Geo-environmental monitoring*

Groundwater and ground gas monitoring has been undertaken on four occasions. The results to date are presented in Appendix D. Monitoring is ongoing and this report will be updated on completion of the monitoring programme.

### *4.2.3 Geo-environmental laboratory analyses*

The chemical test certificates for testing undertaken as part of Hydrock's investigation are provided in Appendix E and summarised in the table below. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The geo-environmental analyses undertaken on soils are summarised in Table 4.3.

*Table 4.3: Geo-environmental analyses of soils*

| Determinand Suite | Made Ground | Topsoil | Lambeth Group (Upnor Formation) |
|---|---|---|---|
| Hydrock minimum suite of determinands for solids [5] | 10 | 1 | 2 |
| Total petroleum hydrocarbons by HS-GC/MS and GC/FID | 4 | 1 | 2 |
| Speciated aliphatic and aromatic banding Total petroleum hydrocarbons by HS-GC/MS and GC/FID (Hydrock Tier 2 TPH Suite) | 6 | - | - |
| Volatile organic compounds (VOC target list plus TIC) by HS-GC/MS | 3 | - | - |
| Semi-volatile organic compounds (SVOC target list plus TIC) by GC-MS | 3 | - | - |
| Coal Tar test suites (speciated polynuclear aromatic hydrocarbons (PAH, by GC-FID), speciated phenols and speciated creosols) | 1 | - | - |

The soils chemical test data are interpreted and assessed in Section 7.4.

[5] The Hydrock minimum suite of determinands for waters comprises As, B (water soluble), Be, Cd, Cr (total), Cr(VI), Cu, Hg, Ni, Pb, S (elemental), Se, V, Zn, cyanide (total), sulfide, pH, asbestos fibres, speciated polynuclear aromatic hydrocarbons (PAH, by GC-FID), total phenols, fraction of organic carbon and free and "complex" cyanide species, if high total cyanide is detected

## 4.3 Geotechnical testing

### *4.3.1 Geotechnical laboratory testing*

The geotechnical tests undertaken by Hydrock are summarised in Table 4.4 and the test certificates are provided in Appendix C. Wherever possible, UKAS accredited procedures have been used.

*Table 4.4: Summary of sample numbers for geotechnical tests*

| Test | Made Ground | Alluvium Deposits | Lambeth Group (Upnor Formation |
|---|---|---|---|
| Natural moisture content | - | 2 | 4 |
| Atterberg limits | - | - | 4 |
| Particle size distribution (sieve/sedimentation) | - | - | 3 |
| Sulfate and aggressive chemical environment classification for buried concrete classification (full BRE SD1 suite) | 3 | 1 | 1 |
| Organic Matter | - | 2 | - |

The geotechnical test data are summarised in Section 5.6 and interpreted in Section 0.

## 4.4 Constraints

Some locations were terminated early due to buried structures, unstable ground conditions and/or slow drilling progress. This is summarised within Section 5.2 and Table 5.2.

# 5. Ground investigation records and data

## 5.1 Physical ground conditions

### *5.1.1 Summary of strata encountered*

The following presents a summary of the properties of the ground and groundwater conditions encountered, based on field observations, interpretation of the field data and laboratory test results, taking into account drilling, excavation and sampling methods, transport, handling and specimen preparation.

All relevant data from the investigation is discussed below.

Details of the ground investigation works are provided in the logs in Appendix B, a summary of the ground model is presented in Table 5.1 and the individual strata are described in the sections below. An exploratory hole location plan (ref: 29680-HYD-XX-XX-DR-GE-0004) is presented in Appendix A.

*Table 5.1: Strata encountered*

| Stratum | Depth to top (m bgl) | Depth to base (m bgl) | Thickness (m) (range) | Thickness (m) (average) |
|---|---|---|---|---|
| Surface Cover – Concrete slab | 0 | 0.10 – 0.60 | 0.10 – 0.60 | 0.33 |
| Surface Cover – bituminous bound hardstanding (Macadam) | 0 | 0.08 – 0.10 | 0.08 – 0.10 | 0.09 |
| Surface Cover – pea shingle | 0 | 0.10 – 0.20 | 0.10 – 0.20 | 0.16 |
| Topsoil | 0 | 0.30 | 0.30 | 0.30 |
| Made Ground | 0.08 – 0.60 | 0.70 – 2.10 | 0.40 - 2.50 | 1.12 |
| Alluvium Deposits | 1.80 – 2.10 | 2.60 | 0.50 - 0.80 | 0.65 |
| Lambeth Group - Upnor Formation | 0.70 – 2.60 | >2.50 – >5.45 | - | - |
| Seaford and Newhaven Chalk Formation | 5.00 – 5.20 | >5.45 – >6.45 | - | - |
| *>base of stratum not proven* | | | | |

WS01 towards the north east corner of site is recorded to be at 42.10m above OD, whilst WS05 drilled towards the south west corner is recorded at 40.50m above OD. Showing the site gradually slopes down from the north east to south west by 1.60m between drilling locations.

### *5.1.2 Surface covering*

The following surface cover was identified during the field reconnaissance and the fieldworks:

- Concrete slab, covering approximately 60% of the site, predominantly inside the building from the existing foundations, as well as some sections of the footpaths and driveway that surrounds the building;
- Bituminous bound hardstanding, covering approximately 20% of the site, predominantly within the car park and noted to be in good condition;
- Vegetation (grass and hedges), covering approximately 18% of site, predominantly towards the front of site towards Elgar Road South;
- Pea shingle, covering approximately 2% of the site, used along the sides of the building towards the south east walls.

### 5.1.3 Concrete slab

Coring of the slab inside the vacant areas of the building were undertaken before lightweight window sampling within three locations. The thickness of the cores recovered were 100mm (LWS01), 112mm (LWS02) and 600mm (LWS03), shown in Figure 5.1 to Figure 5.3. LWS03 concrete core was significantly thicker due to having two different layers of concrete (an older layer laid over a newer layer). Concrete was also noted within WS04 noted to be 500mm thick. The concrete was generally described as:

» Grey and brown concrete with 60%-70% or 70-80% angular to sub-rounded fine to coarse gravel sized aggregate of flint. Slightly to moderately voided.



*Figure 5.1: LWS01 concrete core (100mm)*



*Figure 5.2: LWS02 concrete core (112mm)*



*Figure 5.3: LWS03 concrete core (600mm)*

### 5.1.4 Bituminous bound hardstanding (Bituminous Macadam)

The asphalt layer was identified within the car park area to the western half of site and noted to be 80mm thick in WS03 and 100mm thick in WS05, this was generally described as:

» Black bituminous Macadam.

### 5.1.5 Topsoil

Topsoil was identified towards the eastern half of site within WS01 and WS02 and noted to be 300mm thick, this was generally described as:

» Grass over dark brown silty fine and medium SAND with frequent root hairs and occasional angular to subangular fine and medium gravels of brick and flint.

For the purposes of this report, topsoil is defined as the upper layer of an in-situ soil profile, usually darker in colour and more fertile than the layer below (subsoil), which is a product of natural chemical, physical, biological and environmental processes, but does not imply compliance with BS 3882:2015. Reuse of topsoil as a growing medium at the site should be determined by the landscape architect or the landscape Contractors.

### 5.1.6 Made Ground

Below the surface covering, Made Ground was recorded across all twelve exploratory hole locations undertaken and ranged in depths from 0.70m bgl 2.10m bgl within an average thickness of 1.12m. It is described as:

» Brown sandy gravelly CLAY or clayey gravelly SAND with abundant gravels of brick, flint and clinker and rare chalk, slag, ash, metal, rope, glass and mortar.

Within FP02 between 1.10 and 1.25m bgl and WS02 between 0.70 and 1.10m bgl, some potentially reworked natural material was also encountered described as buff yellow slightly gravelly SAND with fragments of brick tiles. For the purposes of this report, even though the predominant material of sand is natural in origin, due to the fragments of anthropogenic material, this is classified as Made Ground.

### 5.1.7 Alluvium Deposits

Alluvium deposits was encountered underlying the Made Ground within two out of the twelve locations (WS03 and WS05). In WS03 (both in the west of the site), this was found at 1.80m to 2.60m bgl (0.80m thickness) and in WS05 this was found at 2.10 to 2.60m bgl (0.50m thickness). It is described as:

» Very loose greenish grey silty fine and medium slightly organic SAND in WS03; and

» Soft dark grey speckled black sandy slightly organic SILT with occasional flint gravels in WS05.

### 5.1.8 Lambeth Group – Upnor Formation

The Upnor Formation, which is part of the Lambeth Group was encountered underlying the Made Ground and/or Alluvium deposits within ten out of the twelve locations, the absence of this material in two of the locations (FP02 and FP03) is due to early termination with the Made Ground. The base of the stratum was recorded in WS01 at 5.20m bgl, WS03 and WS05 at 5.00m bgl and is described as alternating sand and clay beds of:

» Firm grey or grey mottled orange or orange brown sandy silty CLAY; and/or

» Medium dense blue grey or greenish brown grey clayey or silty SAND.

### 5.1.9 Seaford and Newhaven Chalk Formation (Structureless Dm and Dm Chalk)

Structureless chalk of the Seaford and Newhaven Chalk Formation was encountered underlying the Upnor Formation within three out of the twelve locations (WS01, WS03 and WS05), however, the base of the stratum was not proven due to reaching target depths or early termination.

Descriptions of the chalk at the site include both Grade Dm (matrix-supported) and Grade Dc (clast supported) where no clear structure remain visible. It is described as:

- Structureless CHALK composed of white SILT (Grade Dm) within WS01;
- Structureless CHALK composed of white silty, GRAVEL of white, weak and low-density chalk clasts (Grade Dc) within WS03; and
- Structureless CHALK composed of white gravelly SILT. Chalk clasts are white, very and low density (Grade Dm) within WS05.

## 5.2 Obstructions/termination

Six out of the twelve locations came across an obstruction or was unable to be progressed to the target depths of 6.0m bgl for the external windowless sample boreholes or 3.0m bgl for the internal lightweight windowless sample boreholes. These locations summarised within Table 5.2. A buried brick structure was identified within WS05A from 0.70 and 1.20m bgl and the hole was terminated, WS05 was then undertaken 2.50m north from the original location.

*Table 5.2: Obstructions encountered*

| Location | Depth (m bgl) | Stratum | Reason for termination |
|---|---|---|---|
| WS01 | 5.45 | Upnor Formation | Borehole collapse |
| WS02 | 5.45 | Upnor Formation | Borehole collapse |
| WS04 | 4.00 | Upnor Formation | Unstable borehole sides and backfilling sands |
| WS05A | 1.20 | Made Ground | Buried structure |
| LWS01 | 2.60 | Upnor Formation | Slow drilling progress made |
| LWS02 | 2.50 | Upnor Formation | Slow drilling progress made |

## 5.3 Visual and olfactory indicators of contamination (soil)

In addition to the more common man-made constituents (ash, clinker, plastic, etc), described above in Section 5.1.4, visual and olfactory indicators of contamination was noted in a number of locations, summarised in Table 5.3.

*Table 5.3: Visual and olfactory indicators of contamination - soils*

| Stratum | Location | Depth (m bgl) | Description |
|---|---|---|---|
| Made Ground | WS03 | 1.40 – 1.80 | Notable organic odour |
| Made Ground | WS05 | 1.60 – 2.10 | Very dark to black soil. Notable organic odour |

## 5.4 Groundwater

### *5.4.1 Groundwater observations and levels*

Groundwater encountered during the investigation is listed in Table *5.4*. A groundwater observation represents the depth at which groundwater was first observed and is likely to be deeper than the actual water table level at that location.

*Table 5.4: Groundwater occurrence*

| Stratum | Date | Location | Fieldwork | | Groundwater (m OD) | Comment |
|---|---|---|---|---|---|---|
| | | | Groundwater observation (m bgl) | Rose to after 20 mins (m bgl) | | |
| Made Ground | 12/12/2024 | LWS01 | 2.5 | - | - | Seepage |

| | | | | | | |
|---|---|---|---|---|---|---|
| Upnor Formation | 12/12/2024 | LWS02 | 1.7 | - | - | Seepage |
| | 13/12/2024 | WS01 | 2.5 | 1.95 | 39.6 | - |
| | | WS02 | 3.0 | 2.8 | 39.4 | - |
| | | WS03 | 3.2 | 3.0 | 37.5 | - |
| | | WS04 | 2.5 | 1.9 | 39.4 | - |
| | | WS05 | 3.0 | 2.8 | 37.5 | - |

Groundwater levels recorded to date during post-fieldwork monitoring are summarised in Table 5.5. The outstanding monitoring data will be provided in an update to this report..

*Table 5.5: Groundwater level data summary*

| Date | Stratum | Location | Fieldwork | |
|---|---|---|---|---|
| | | | Depth to groundwater (range) (m bgl) | Groundwater elevation (range) (m OD) |
| 13/01/2025 | Made Ground | WS01 | 1.53 | 40.57 |
| | Upnor Formation | WS04 | 1.55 | 40.35 |
| | Made Ground | WS05 | 1.55 | 38.95 |
| 21/01/2025 | Made Ground | WS01 | 1.59 | 40.51 |
| | Upnor Formation | WS04 | 1.57 | 40.33 |
| | Made Ground | WS05 | 1.56 | 38.94 |
| 29/01/2025 | Made Ground | WS01 | 1.48 | 40.62 |
| | Upnor Formation | WS04 | 0.91 | 40.99 |
| | Made Ground | WS05 | 1.47 | 39.03 |
| 03/02/2025 | Made Ground | WS01 | 1.47 | 40.63 |
| | Upnor Formation | WS04 | 1.44 | 40.46 |
| | Made Ground | WS05 | 1.53 | 38.97 |

### 5.4.2 *Groundwater summary*

In general, groundwater was encountered within the Upnor Formation, with groundwater strikes during drilling in all external window sample boreholes (WS01 to WS05) between 2.50m and 3.20m bgl. These vary in levels from 37.5 to 39.6m OD suggesting that this is groundwater within this heterogenous formation. These strikes were also noted to rise after 20 minutes between 0.2m and 0.6m.. Two groundwater seepages were recorded within two of the internal light-weight window samples. LWS01 recorded a seepage within the Made Ground at 2.50m bgl and LWS02 recorded a seepage within 1.70m bgl within the Upnor Formation.

## 5.5 Ground gases

Ground gas monitoring is currently being undertaken. Table 5.6 summarises the data collected to date on four monitoring visits between 13 January 2020 and 3 February 2025. An additional two visits are yet to be completed. The outstanding results will be presented in a revision to this report.

However, data so far has recorded not recorded methane above the instrument limit of detection and low carbon dioxide concentrations comprising 1.4 – 2.1% within the installs screened within the Made Ground and 0.1-1.7% within the install screened in the Upnor Formation. Atmospheric pressures recorded throughout the monitoring programme were recorded between 973mb and 1033mb.

*Table 5.6: Range of ground gas data*

| Stratum | Methane (%) | Carbon dioxide (%) | Oxygen (%) | Steady flow rate (l/hr) |
|---|---|---|---|---|
| Made Ground | <0.01 | 1.4 - 2.1 | 17.8 - 20.5 | <0.01 |
| Upnor Formation | <0.01 | 0.1 – 1.7 | 18.8 – 20.5 | <0.01 |

## 5.6 Geotechnical data

### *5.6.1 Introduction*

Laboratory test results are contained in Appendix C with *in situ* test results shown on the relevant exploratory hole log or datasheet in Appendix B. The following sections summarise the main findings and provide interpretation where appropriate.

### *5.6.2 Plasticity*

The volume change potentials in terms of NHBC Standard (Chapter 4.2) with respect to building near trees have been determined from the results of plasticity index tests on samples of soil. These are summarised in Table 5.7.

*Table 5.7: Volume change potential*

| Stratum | No. of tests | Modified Plasticity Index | | | Plasticity designation | Volume Change Potential |
|---|---|---|---|---|---|---|
| | | Min. | Max. | Av. | | |
| Upnor Formation (Cohesive) | 4 | 27 | 44 | 34 | High/Very High | Medium/high |

### *5.6.3 Moisture Content*

The moisture content is summarised in Table 5.8.

*Table 5.8: Moisture Content*

| Stratum | No. of tests | Moisture Content (%) | | | General Description |
|---|---|---|---|---|---|
| | | Min. | Max. | Av. | |
| Upnor Formation (Cohesive) | 4 | 20 | 47 | 28 | Brown sandy silty clay |
| Alluvium Deposits | 2 | 18 | 24 | 21 | Grey sandy silty clay |

### 5.6.4 Particle size distribution

Particle Size Distribution test (PSDs) results are summarised in Table 5.9 and summary descriptions and PSD plots of the material analysed are presented in Appendix C.

*Table 5.9: PSD results summary*

| Stratum | No. of tests | Silt/Clay % | Sand % | Gravel % | General description |
|---|---|---|---|---|---|
| Upnor Formation (Granular) | 2 | 3 to 9 | 90 to 97 | 0 to 1 | Brown slightly silty/clayey fine to coarse SAND. |
| Upnor Formation (Cohesive) | 1 | 90 | 10 | 0 | Brown fine to coarse sandy silty CLAY |

### 5.6.5 Standard Penetration Results

Table 5.10 summarises the factual results of the Standard Penetration Tests (SPTs N) undertaken in the field. SPT 'N' value versus depth profile is summarised in Figure 5.4.

*Table 5.10: Soil strength results and derived values*

| Stratum | No. of tests | SPT N (N-value) (range) | Method |
|---|---|---|---|
| Made Ground | 3 | 1 to 16 | SPT – windowless sampler boreholes. |
| Alluvium Deposits | 2 | 3 & 6 | |
| Upnor Formation (Cohesive) | 2 | 15 & 22 | |
| Upnor Formation (granular) | 13 | 3[1] to 29 | |
| Seaford and Newhaven Chalk (Dm) | 3 | 19 to 26 | |
| Seaford and Newhaven Chalk (Dc) | 2 | 12 & 23 | |
| [1]SPT possibly affected by groundwater strike encountered with WS03 – may not be representative. | | | |

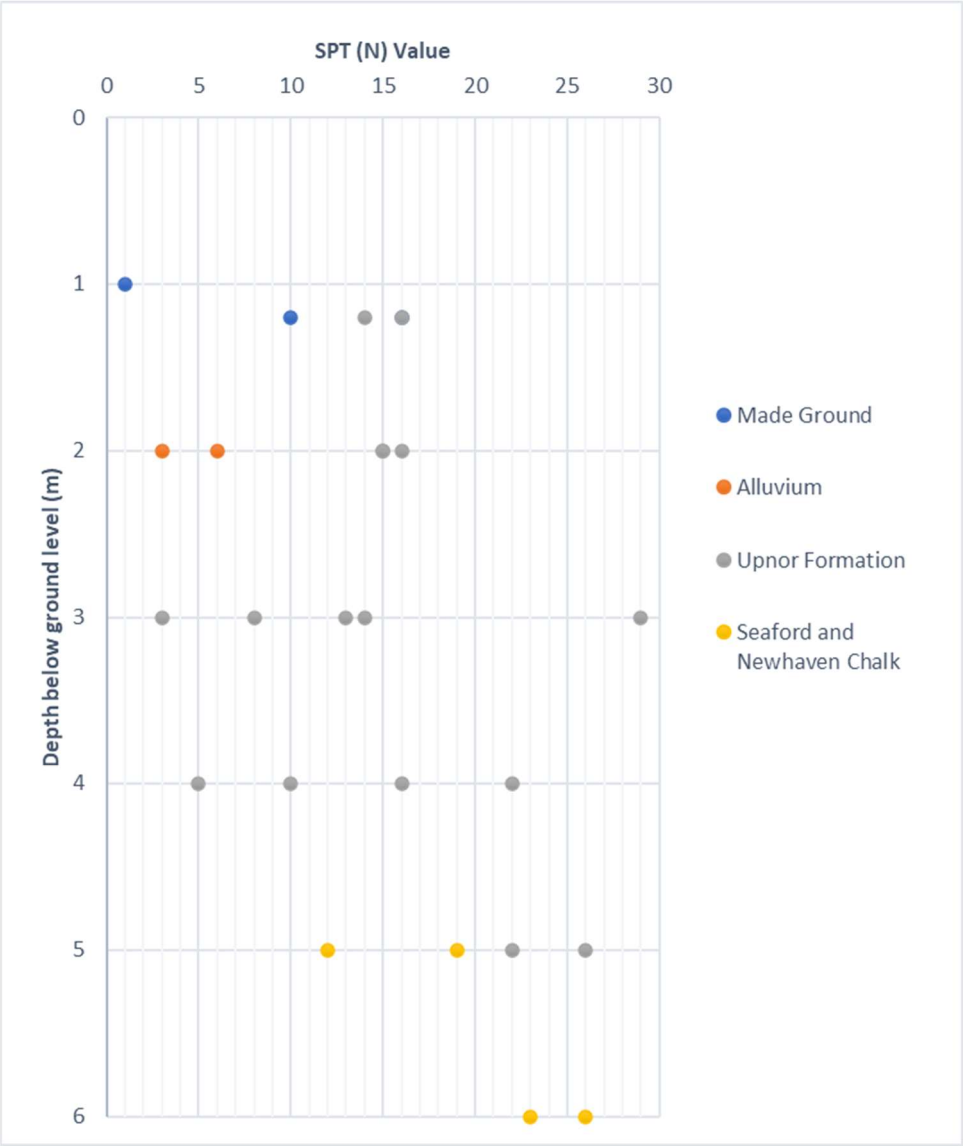



*Figure 5.4: SPT N value versus depth summary*

### 5.6.6 Sulfate content

In accordance with BRE (Special Digest 1), the Design Sulfate (DS) classification and the Aggressive Chemical Environment for Concrete (ACEC) classification are presented in Table 5.11. The assessment summary sheets are presented in Appendix C.

*Table 5.11: Aggressive chemical environment concrete classification*

| Stratum | No. tests | DS | ACEC |
|---|---|---|---|
| Made Ground | 3 | DS-1 | AC-1 |
| Alluvium Deposits | 1 | DS-1 | AC-1 |
| Upnor Formation | 1 | DS-1 | AC-1 |

### 5.6.7 Soil Organic Matter

The Soil Organic Matter (SOM) is summarised in Table 5.12

*Table 5.12: Soil Organic Matter*

| Stratum | No. tests | Sample Matrix | SOM (%) |
|---|---|---|---|
| Alluvium Deposits | 2 | Clay | <0.9 to 2.2 |

# 6. Geotechnical assessment

## 6.1 Geotechnical categorization of the proposed development

Eurocode 7, Section 2 advocates the use of geotechnical categorisation of the proposed structures to establish the design requirements.

The proposed development is to comprise low rise (3 storey) apartment block, with associated private gardens, Public Open Space and infrastructure. No earthworks or cut and fill plan is currently available however some amendment of site levels is anticipated.

Based on the above, for the purposes of this investigation, the proposed structures have been classed as Geotechnical Category 2.

For Category 2 structures, the Geotechnical Category should be re-assessed at the design stage and specific geotechnical design (in addition to this investigation), is required.

Following ground investigation and as part of the assessment provided in the following section, the preliminary geotechnical hazard identification undertaken in Section 3.3 has been updated.

Assessment has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HE-DMRB-G CS 641 and CD 622. The preliminary Geotechnical Risk Register following investigation is provided in Appendix G (Table G.3) and will need to be updated during future design works.

## 6.2 Groundwork

### *6.2.1 Site preparation*

The redevelopment will involve demolition of the existing buildings. This should be undertaken to an appropriate Specification to ensure any asset materials generated are geotechnically suitable for use.

Buried obstructions were encountered during this investigation associated with historic structures from the brick works and there is a possibility of further such obstructions being encountered.

### *6.2.2 Groundworks*

Following breaking out of hardstanding and obstructions, excavation of shallow soils should be readily undertaken by conventional plant and equipment. However, excavation through any buried obstructions may require heavy-duty excavation plant.

Collapse within windowless sample boreholes was noted within the sand bands of the Upnor Formation and where groundwater ingress occurred, which indicates the ground may be unstable during excavation works.

Temporary trench support, or battering of excavation sides, is recommended for all excavations that are to be left open for any length of time and will definitely be required where man entry is required. Particular attention should be paid to excavation at, or close to, site boundaries, adjoining existing roads, and buildings, where collapse of excavation faces could have a disproportionate effect. Due to the sands encountered below the water table there is a potential for running sands to be present.

A risk assessment of the stability of any open excavation should be undertaken by a competent person and appropriate measures adopted to ensure safe working practise in and around open excavations. Further guidance on responsibilities and requirements for working near, and in, excavations can be obtained from the Construction Design and Management Regulations (2015);

Construction Information Sheet 47: Inspections and Reports (2005) and HSG47: Avoiding Danger from Underground Services.

To ensure no loads are imposed on the sides of the excavation, spoil should not be placed immediately adjacent to the excavation. Spoil should be placed a suitable distance from the side of the excavation (as assessed by a competent person).

Based on site observations, the rate of water ingress to the proposed excavations is likely to be moderate through the Upnor Formation. In these circumstances, groundwater control by sump pumping would possibly be insufficient to deal with anticipated flows and alternative methods of dewatering, such as well points, or use of impermeable cut-offs should be considered.

However, it should be recognised that groundwater levels may vary from those at the time of the investigation, for example in response to seasonal fluctuations and the timing of construction may dictate the extent of groundwater control required.

Any water pumped from excavations may need to be passed via settlement tanks (to reduce suspended solids) before being discharged to the sewer. Discharge consents may also be required.

### *6.2.3 Earthworks/reuse of site-won materials*

If significant earthworks are required, the works may be Category 2 in accordance with BS EN ISO 1997-1 (EC 7) and further geotechnical design may be necessary. Once site proposals have been further defined more specific consideration will need to be given to the reuse of materials and reference should be made back to this office.

## 6.3 Slope stability

The site slopes down from the east to the west from 40m above Ordnance Datum (OD) to 38m OD, respectively. The site will likely need some levelling during the construction of the development.

The ground investigation has confirmed soft/unstable soils that underlie the site and there may be potential for future ground movement as a result of the development.

## 6.4 Retaining walls

Retaining walls are not anticipated, however they should be suitably designed if site proposals further define the need for retaining walls.

## 6.5 Foundation recommendations

The ground investigation has confirmed that the top 2.60m of material is likely not suitable for shallow foundations and deeper foundations most likely will be required.

Piles  and the choice of piling system should be undertaken by a specialist piling Contractor. The design of piles is beyond the scope of this report.  The decision on pile type and design should take into account the following factors relevant to the site:

- Obstructions in the ground are expected from the historical brick works/development of site, which could cause piles to stop shallower than the design depths, or to deviate from the vertical, thereby reducing their capacity.  In some circumstances, obstructions can lead to pile breakage.
- Pile installation can create preferential pathways for the migration of contaminants to the groundwater.
- Boring of piles through coarse soils (sands and gravels) can result in loosening of the material, with resultant risk of shaft collapse prior to concreting and reduced shaft friction.

- Groundwater levels were encountered during drilling within the Upnor Formation at 1.70m to 3.20m bgl and temporary casing may be required for bored piles.
- As the piles may be constructed through compressible soils and may have fill placed over them, piles should also be designed to cater for the potential down-drag effects of negative skin friction on piles from the secondary consolidation.
- Collapse of the pile shaft can be caused by 'necking' of the pile in running sand conditions, leading to pile failure.
- Where bored piles extend through very soft ground, bulging of the concrete can occur, leading to lateral pressure on adjacent piles.
- Where foundations are constructed on clay soils within the influencing distance of trees design should include for the upper section of the pile to be sleeved or additional length allowed for to resist stresses from clay swelling or shrinkage. In addition, heave protection may be required on the inside faces and underside of the ground beams.

Piles bearing in chalk should be designed adopting the parameters and recommendations provided in earlier sections of this report and CIRIA C574 (Lord et al 2002).

Driven piles in chalk may be unsuitable as the vibrations from driving can break down the structure of the chalk making it difficult to obtain a suitable 'set' to achieve the required pile safe working load.

Pile design is beyond the Scope of this report. Piles will require design based on the proposed loads, pile layout and ground conditions.

### *6.5.1 Foundation works risk assessment*

A foundation works risk assessment is likely to be necessary for piling and/or as there is a possibility that this could lead to creation of new pathways for migration of contamination and may result in a significant increase in risk of pollution to Controlled Waters.

The foundation works risk assessment should be undertaken in accordance with the risk assessment flowchart from National Groundwater & Contaminated Land Centre Report NC/99/73 (Figure 6.1) and will need to identify what additional risks to the environment piling may introduce and, if necessary, identify mitigation measures that will need to be put in place to remove any significant adverse environmental impacts.

### *6.5.2 Working platform*

A working platform will be required prior to the arrival on site of piling plant. This should be designed and installed in accordance with BR470 (BRE 2004) based on data on the specific plant in accordance with an FPS certificate for the rig loadings.

It should be noted that due to the poor ground conditions on site, the working platform when assessed in accordance with BR470 is expected to be of significant thickness. Additional assessment using proprietary methods or detailed geotechnical modelling (e.g. limit state assessment) may, with the addition of geogrids, reduce the working platform thickness.

## 6.6 Ground floor slabs

In accordance with the NHBC standards, as Made Ground greater than 600mm thick and clay soils of medium to high volume change potential are present at the site, it is recommended that suspended floor slabs with a void be adopted.

## 6.7 Buried concrete

Based on guidelines provided in BRE Special Digest 1 (BRE 2005) and the information presented in Section 0:

» The soils (Made Ground, Alluvium deposits, Upnor Formation) can be classified as Design Sulfate Class DS-1 and ACEC Class AC-1.

This equates to a Design Chemical Class[6] of:

» DC-1 for the soils (Made Ground, Alluvium deposits and Upnor Formation); and

Foundations are likely to be constructed within the chalk underlying the site. However, testing of this stratum is required to confirm the classification.

The designer should check and confirm the classification of concrete using the information presented in Appendix C during the design.

[6] The calculated ACEC class can be used in accordance with BS 8500-1+A2 (2019), Table A.10 to select the Designated Concrete (DC) class for an intended working life of 50 years. However, the designer is referred to BS 8500-1+A2 (2019), for full details and notes to Table A.11, including any Additional Protective Measures (APMs).

# 7. Geo-environmental assessment

## 7.1 Objectives

The objectives of the geo-environmental assessment present in the following sections are to:

- undertake a generic quantitative risk assessment in accordance with LCRM using published generic assessment criteria;
- screen out contaminant linkages that don't potentially pose an unacceptable risk to defined receptors;
- identify whether the ground conditions are suitable for the proposed land use from a land contamination perspective;
- identify contaminant linkages that potentially pose an elevated risk or are associated with a level of uncertainty that warrants further consideration.

## 7.2 Risk assessment approach

Using the updated CSM, a Stage 1 Tier 2 generic quantitative risk assessment (GQRA) for identified receptors based on all media sampled has been undertaken in accordance with the principles of LCRM.

Firstly, the risks associated with the identified potential contaminant linkages have been estimated using standardised methods (typically involving comparison of site data with published 'screening values'). Secondly, where screening values are exceeded, the result has been evaluated in an authoritative review of the findings with other pertinent information to determine whether or not the exceedance is or is not acceptable in the site-specific circumstances.

The data sets used in the assessment comprise the analytical results obtained by Hydrock as listed in Section 0.

In cases where potentially unacceptable risks are indicated and/or the land is potentially unsuitable for its intended use, actions such as more advanced stages of risk assessment (Tier 3, detailed quantitative risk assessment (DQRA)) or remediation are proposed (see Section 7.10).

## 7.3 Data sets

The data set(s) used in this report is based on the conceptual site model and the proposed development, and is taken to be the entire area of the site with the data separated into Made Ground, Topsoil and natural soils.

GAC based on a soil organic matter (SOM) of 2.5% have been adopted for all soils based on laboratory results. Assessment sheets are presented in Appendix E.

## 7.4 Human health risk assessment

### *7.4.1 Generic Assessment Criteria*

The soil screening values used are Generic Assessment Criteria (GAC) (i.e. derived in accordance with EA CLEA guidance (2009) using the updated exposure model detailed in Defra SP1010 (2014), with the exception of published C4SLs. The term 'GAC' used in this report is inclusive of all generic soil screening values.

Based on the proposed development, generic assessment criteria (GAC) based on a default residential with homegrown produce CLEA land use scenarios have been adopted.

GAC are selected based on the following hierarchy:

- Category 4 Screening Levels (C4SL), where available.

» SoBRA Acute GAC for free cyanide, as acute dose toxicity is the primary risk driver.
» Hydrock GAC, derived by Hydrock as detailed in Appendix E.

The results of the assessment are presented in Appendix E.

### 7.4.2 Assessment results

Soil data assessment sheets are presented in Appendix E69. Based on the data comparison against the GAC the results indicate that chemicals of potential concern (CoPC) which require further assessment listed in *Table 7.1*. These are associated with the Made Ground, including the macadam surface and the topsoil.

*Table 7.1: Chemicals of Potential Concern (CoPC)*

| Location | Stratum | Depth (m bgl) | CoPC | GAC (mg/kg) | Value (mg/kg) |
|---|---|---|---|---|---|
| WS01 | Topsoil | 0.3 | Benzo(b)fluoranthene | 3.3 | 3.8 |
| | | | Dibenz(ah)anthracene | 0.29 | 0.33 |
| WS02 | Made Ground | 0.5 | Beryllium | 0.5 | 7.1 |
| WS03 | Bituminous Macadam | 0.08 | Benzo(a)pyrene | 5 | 5.8 |
| | | | Benzo(f)fluoranthene | 3.3 | 6.5 |
| | | | Dibenz(a,h)anthracene | 0.29 | 1.4 |
| WS03 | Made Ground | 0.8 | Benzo(f)fluoranthene | 3.3 | 3.9 |
| | | | Dibenz(a,h)anthracene | 0.29 | 0.33 |
| WS05 | Made Ground | 0.3 | Lead | 200 | 340 |
| | | 0.3 | Benzo(f)fluoranthene | 3.3 | 3.9 |
| | | 0.5 | Beryllium | 1.7 | 2 |
| | | 1.2 | Arsenic | 37 | 37 |
| | | 1.2 | Lead | 200 | 740 |
| | | 1.2 | Benzo(f)fluoranthene | 3.3 | 5.5 |
| | | 1.2 | Dibenz(a,h)anthracene | 0.29 | 0.42 |
| | | 1.2 | Trichloromethane | 1.2 | 2.5 |
| FP01 | Made Ground | 0.1 | Beryllium | 1.7 | 4.5 |
| LWS02 | Made Ground | 0.7 | Benzo(f)fluoranthene | 3.3 | 24 |
| | | 0.7 | Benzo(a)anthracene | 12 | 19 |
| | | 0.7 | Benzo(a)pyrene | 5 | 23 |
| | | 0.7 | Dibenz(a,h)anthracene | 0.29 | 2.6 |

Samples submitted for analysis for petroleum hydrocarbons (PHC's), SVOCs and VOCs reported concentrations below the GAC and/or limit of detections. Three samples reported concentrations above the laboratory limit of detection for some chemicals, which don't have a GAC associated to them. These are listed below in Table 7.2.

*Table 7.2: Chemicals reported concentrations above LoD with no GAC*

| Location | Stratum | Depth (m bgl) | Chemical | Value (mg/kg) |
|---|---|---|---|---|
| WS03 | Made Ground | 0.8 | Aniline | 0.1 |
| | | 0.8 | Dimethyl phthalate | 0.1 |
| | | 0.8 | 4-Chlorophenyl phenyl ether | 0.3 |
| WS05 | Made Ground | 1.2 | Aniline | 0.1 |
| | | 1.2 | Dimethyl phthalate | 0.1 |
| | | 1.2 | 4-Chlorophenyl phenyl ether | 0.3 |
| LWS02 | Made Ground | 0.7 | Aniline | 0.1 |
| | | 0.7 | Dimethyl phthalate | 0.1 |
| | | 0.7 | 4-Chlorophenyl phenyl ether | 0.3 |
| | | 0.7 | Anthraquinone | 2.3 |

These chemical concentrations reported in Table 7.1 and Table 7.2 will be discussed in Section 7.4.4.

### 7.4.3 Asbestos

No visual evidence of Asbestos Containing Materials (ACM) were identified within the exploratory holes during the investigation. However, laboratory testing of soil samples have detected loose asbestos fibres within two samples as summarised in Table 7.3.

*Table 7.3: Asbestos in soil samples (laboratory testing)*

| Location | Strata | Depth (m bgl) | % Asbestos (w/w) | Comment |
|---|---|---|---|---|
| WS05 | Made Ground | 0.30 | 0.001 | Loose fibres – Chrysotile |
| LWS02 | Made Ground | 0.20 – 0.70 | 0.015 | Loose fibrous debris - Chrysotile |

The presence of Asbestos Containing Materials and asbestos fibres in soil requires further consideration.

### 7.4.4 Risk evaluation

The screening exercise has identified various metals, PAH, VOCs an asbestos in the asphalt surface, topsoil and Made Ground soils at concentrations in exceedance of the 'residential with home grown produce' GAC. These are considered further here to assess if the exceedance may be acceptable with respect to the proposed development. The phrase 'further assessment' does not necessarily mean that the soil is 'contaminated' or not otherwise suitable for use. The assessment and any mitigation required are to ensure the site does not pose an 'unacceptable risk' as defined under Planning and Part 2A of EPA 1990. A proposed development plan has been provided by the client which has been used to help with the assessment below (ref: A4080-2000 Proposed site plan) presented in Appendix A.

#### 7.4.4.1 Metals in the Made Ground

Exceedances of metals, such as arsenic, beryllium and lead were encountered within the Made Ground. Concentrations of arsenic that were noted to exceed was encountered within WS05 only at a concentration value of 37mg/kg, this is the same value as the GAC and therefore is not a significant exceedance and considered to not represent an unacceptable risk to end users.

Concentrations of lead that were noted to exceed were encountered within WS05 at concentrations of 340mg/kg and 740mg/kg which compared to the GAC of 200mg/kg shows a

relatively significant exceedance. The exceedance of 340mg/kg was encountered at 0.30m bgl and therefore this material would most likely be excavated as part of groundworks and removed from site. The exceedance of 740mg/kg was encountered at 1.20m bgl and would be underneath an engineered cover system, as this area would be developed into soft landscaping. An engineered cover system would create a barrier to this contaminant and would not present a risk to future site users once the mitigation measures are put in place.

Concentrations of beryllium that were noted to exceed were encountered within WS02, WS05 and FP01 at concentrations values of 7.1mg/kg, 2mg/kg and 4.5mg/kg respectively. The GAC for Beryllium is 1.7mg/kg which the above values recorded only slightly exceed this value. The exceedances within WS02 and WS05 were encountered at depths of 0.50m bgl and would either be excavated out as part of the groundworks and removed from site or an engineered cover system would be placed, due to locations being developed into soft landscaping. An engineered cover system would create a barrier to this contaminant and would not present a risk to future site users once the mitigation measures are put in place The exceedance within FP01 was encountered at 0.1m bgl and would most likely be excavated as part of the groundworks and removed from site

Similarly with the lead exceedances, the areas surrounding WS02, WS05 and FP01, will potentially be developed into gardens or areas of soft landscaping which may require mitigation measures for the area to be suitable for the proposed end use.

#### *7.4.4.2 Polycyclic aromatic hydrocarbons (PAHs)*

Exceedances of some PAHs have been identified within the macadam surfacing, topsoil and Made Ground on site. The macadam surfacing, even though identified exceedances of some PAHs will be removed from site when development occurs and new permeable paving. It is also noted that the concentrations of PAH were below the maker level for containing coal tar. It is considered that PAHs will not represent a risk to future site users.

Concentrations of benzo(a)pyrene that were noted to exceed within the Made Ground in LWS02 with a concentration value of 23mg/kg respectively which compared to the GAC of 5mg/kg exceeds significantly. This location however will likely be covered by the footprint of the new development and will therefore not be considered to represent an unacceptable risk to future site users.

Dibenz(a,h)anthracene exceedances have been identified within the topsoil and Made Ground within WS01,WS05 and LWS02. With a GAC of 0.29mg/kg, the exceedances recorded have been 0.33mg/kg within WS01 and WS05, which represent only a slight exceedance and therefore represent a low risk. The exceedance of 2.6mg/kg recorded in LWS02 is slightly more elevated, however this location is to be covered in the footprint of the new development and will therefore not be considered to represent an unacceptable risk to future site users.

#### *7.4.4.3 Volatile Organic Compounds (VOCs)*

Trichloromethane exceedance has been identified within the Made Ground within WS05 at a concentration of 2.50mg/kg versus a GAC of 1.7mg/kg. A potential source of the trichloromethane has not been identified on-site and may have migrated on to site from an offsite source. The areas surrounding WS05, will likely be developed an area of soft landscaping and due to Trichloromethane being a vapour it shouldn't pose a risk to future site users as it is not underneath a building where concentrations could accumulate. Should the proposed development plans change, the risk from vapours may need to be reassessed.

#### *7.4.4.4 Semi-Volatile Organic Compounds (SVOCs)*

Four SVOCs were identified above the Limit of Detection, however we have no in-house GAC to assess if these are an exceedance in the soil and could potentially pose a risk. The United States Regional Screening Levels produced by the United States Environmental Protection Agency have

been used to compare Anthraquinone and Aniline which have Screening levels of 14mg/kg and 95mg/kg respectively. Results recorded from the laboratory testing have given values of 2.3mg/kg for Anthraquinone and 0.1mg/kg for Aniline which are well below the screening levels given in the Unites States Regional Screening Levels. It is therefore likely Dimethyl phthalate and 4-Chlorophenyl phenyl ether which recorded values of 0.1mg/kg and 0.3mg/kg respectively are likely to not pose a significant risk either.

#### *7.4.4.5 Asbestos*

Whilst no clearly identifiable ACM was noted during the site walkover or during the ground investigation, the laboratory testing has identified low concentrations of asbestos fibres within the made ground soils in WS05 (<0.001%) and LWS02 (0.015%). Asbestos loose fibres were detected at 0.50m bgl within WS05 and would either be excavated out as part of the groundworks and removed from site or an engineered cover system would be placed, due to the location being developed in areas of soft landscaping. Asbestos loose fibred detected within LWS02, even though detected at a depth between 0.2 – 0.7m bgl, this location is to be covered in the footprint of the new development and will therefore not be considered to represent an unacceptable risk to future site users. Although no visible fragment of ACMs have not been recorded on-site to date, its wider presence (including fibres) cannot be discounted.

## 7.5 Controlled Water Risk Assessment

A groundwater sample will be taken and tested in due course and this section in regards to Controlled Waters will be updated as a revision to this report.

Site contaminant concentrations will be compared with relevant screening values (Water Quality Targets (WQTs) and / or Environmental Quality Standards (EQS), where appropriate. Ground gas risk assessment

The potential risk from ground gas will be assessed in accordance with BS8485:2015+A1:2019 Characteristic Situation approach using spot data and once the ground gas monitoring programme has been completed, the results will be presented in a revision to this report. However, it should be noted from the initial visits that have been undertaken no concentrations of methane have been detected and low concentrations of carbon dioxide have been detected (0.50% - 2.10%).

## 7.6 Phytotoxicity risk assessment

Soil contaminants, if present at sufficient concentrations, can have an adverse effect on the plant population. Phytotoxic effects can be manifested by a variety of responses, such as growth inhibition, interference with plant processes, contaminant-induced nutrient deficiencies and chlorosis (yellowing of leaves). Phytotoxicity is a difficult parameter to quantify given that experimental techniques vary widely and variations exist in plant tolerances, soil effects and synergistic/antagonistic reactions between chemicals. Guidelines for phytotoxicity and general plant health have been published for a limited number of substances for topsoil (BS BS3882:2015), for soils used for grazing/landscaping (ICRCL 70/90), and for agricultural uses (MAFF Code of Good Agricultural Practice). Some of these guidelines focus on reduced yield for agricultural crops, and in general do not define concentrations in soil at which plant health is necessarily significantly compromised. The guidelines are not based on plant uptake and human consumption considerations, this is considered as an exposure route in the derivation of human health GAC.

Reported soil sample results have been screened against these guidelines (where available) and the results are provided in the screening tables in Appendix E.

Based on individual test results that exceed the phytotoxic GAC, CoPC which require further assessment are summarised in Table 7.4.

*Table 7.4: Chemicals of Potential Concern that exceed the phytotoxic GAC*

| Stratum | CoPC | GAC (mg/kg) | Location | Depth | Value (mg/kg) |
|---|---|---|---|---|---|
| Made Ground | Copper | 200 | WS05 | 0.30 | 330 |
| | | | FP01 | 0.10 | 230 |
| | Zinc | 300 | WS05 | 0.30 | 1900 |
| | | | FP01 | 0.10 | 500 |

Results indicate that all CoPC in the topsoil are below the relevant phytotoxic GAC, therefore the contaminant linkage is incomplete.

The Made Ground soils are also indicated to not be a suitable growing medium.

## 7.7 Construction materials risk assessment

### *7.7.1 Water Pipelines*

A formal water pipe investigation and risk assessment is beyond the scope of this report. However, the findings of this investigation have been compared to the threshold values in Water UK HBF (2014), Table 1 as far as is practicable.

The site is brownfield and organic contamination (PAH, VOC, SVOC and petroleum hydrocarbons) has been identified in exceedance of the threshold values and a varying depths within the Made Ground from 0.3m to 1.2m bgl, which are depths where typical pipework may be placed and Hydrock believes barrier pipe is required. If Made Ground is to be removed from site, barrier pipe may not be required. However, confirmation should be sought from the water supply company at the earliest opportunity.

Because the requirements from individual water companies can vary, confirmation of pipeline requirements should be sought from the relevant water supply company at the earliest opportunity.

### *7.7.2 Other construction materials*

Plastic pipes for drains and sewers are manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) or polyethylene (PE). These materials may be affected by the presence of organic compounds in the soil.

The implications for buried concrete are discussed in Section 6.7.

## 7.8 Contamination risk to ground workers

Whilst risks to construction workers are not discussed in detail, the following section discusses potential risks that should be considered.

Information presented is provided to assist in managing the risk associated with contamination in soil and groundwater at the site but is not definitive. Contractors are responsible for undertaking their own assessments and assessing what risks are present and what control measures are required.

Task specific risk assessments and method statements should be in place, and risks and required mitigation measures communicated to all relevant personnel prior to the works commencing. Appropriate PPE and, if required, RPE should be provided and utilised.

**Metals, metalloids, PAHs and VOCs**

The soils contain metals, metalloids, PAH and VOCs recorded as pervasive concentrations throughout the Made Ground, with slightly to significant elevated concentrations. The

concentrations observed can be managed with typical industry hygiene and health and safety controls in place during the construction period as well as wearing appropriate personal protective equipment (PPE).

**Ground Gas**

Soil gas concentrations still need to be assessed, as the gas monitoring programme is still to be completed and this section will be updated. However, it should be noted from the initial visits that have been undertaken no concentrations of methane have been detected and low concentrations of carbon dioxide have been detected (0.50% - 2.10%).

It is noted that if concentrations of carbon dioxide (an asphyxiant) in the soil exceed HSE Workplace Exposure Limits for personnel in the working environment of 1.5% for short term (15 minutes) exposure and / or 0.5% for long term exposure.

Soil gas concentrations are not necessarily reflected by those in the breathing zone, as such, all Contractors and maintenance workers should be made aware of the possible presence of carbon dioxide and should take all necessary health and safety precautions when working in trenches or confined spaces.

**Vapours**

Organic odours were noted within the Made Ground during the drilling on site, with an exceedance in VOCs recorded, Photoionization Detector (PID) readings will need to be undertaken to assess the risk to vapours.

In addition to the potential for nuisance odours, there is a risk of volatilisation from the soils and groundwater, especially in confined spaces and risk assessments and method statements should be in place if vapours and odours are identified during excavation. Additional guidance can be found in EH40/2005 Workplace Exposure Limits (HSE 2011).

**Asbestos**

Whilst no clearly identifiable ACM was noted during the site walkover or during the ground investigation, the laboratory testing has identified low concentrations of asbestos fibres within the made ground soils in WS05 (<0.001%) and LWS02 (0.015%)

All site staff should be made aware of the possibility to encounter unidentified fragments of asbestos within the Made Ground soils anywhere on the site at any stage of the development. It is advised that the Contractor should consider supplying suitable and sufficient 'Asbestos Awareness' training (specific to asbestos in soils) to all site staff who could foreseeably encounter asbestos containing materials during the course of their work.

The Contractor for each stage of works must undertake a suitable and sufficient Risk Assessment in accordance the Regulation 6 of the Control of Asbestos Regulations 2012 (CAR2012). The results of the assessment should be used to compile a methodology in accordance with Regulation 7 of CAR2012, which limits the potential exposure and spread of asbestos fibre. Appropriate training should be provided to all site staff identified within the risk assessment as having the potential to be exposed or encounter asbestos during their work in accordance with Regulation 10 of CAR2012.

It is the responsibility of the Contractor to ensure that mitigation measures are suitable and sufficient to prevent exposure to airborne asbestos so far as is reasonably practicable in accordance with Regulation 11 of CAR2012. However, the asbestos fibres detected at the site are within a soil matrix, if the soils are kept damp and appropriate site hygiene measures are in place, this should assist in minimising the risk of the release of airborne fibres.

## 7.9 Updated Conceptual Site Model

The potential sources, pathways and receptors identified in the desk study (Section 3) have been investigated (Section 5) and assessed (Sections 6 and 7). The Source-Pathway-Receptor linkage assessment originally developed as the desk study stage has been updated on the basis of the investigation information and generic risk assessment and is presented in Appendix H (Table H.2).

» A summary of the Source-Pathway-Receptor (SPR) contaminant linkages for which the risks may be unacceptable and require mitigation (those that are moderate or higher) are discussed in Table 7.5.

Table 7.5 assumes the SPR linkages which have been discounted (subject to agreement) at the risk evaluation stage are confirmed by the regulators and the warranty provider as not requiring further consideration (mitigation). If these assumptions are not agreed during regulatory discussions, the conclusions will need to be updated. It should be noted that a groundwater and ground gas assessment has not been undertaken due to the ongoing monitoring at the site. Once this has been completed the report will be updated with relevant risk assessments.

Following the ground investigation, the plausible contaminant sources, receptors and pathways identified in the preliminary geo-environmental exposure model have been updated or confirmed as follows.

*Sources*

The following potential sources have been removed from the exposure model.

» Coal tar within the bituminous bound pavements present within the car park (S3).

» Leachate from landfilled waste including household, commercial and industrial located to the south west of site (S6).

*Receptors*

The following potential receptors has been amended from the information collected from the ground investigation:

» Groundwater: Secondary A aquifer status of the Alluvium deposits, Upnor Formation (Lambeth Group) and Principal Aquifer status of the Seaford Chalk Formation and Newhaven Chalk Formation (R3). The Upnor Formation of the Lambeth Group has been recorded on site from the intrusive investigation.

*Pathways*

No additional pathways have been identified.

Using the updated ground model and updated exposure model, generic risk assessment is undertaken as presented below.

pThe SPR linkages identified to date that warrant further assessment and/or mitigation are:

» Loose asbestos fibres within Made Ground (PL1);

» Asbestos fibres or asbestos containing materials potentially in the existing building (PL2);

» Metals, polycyclic aromatic hydrocarbons (PAHs) and VOCs have been found in exceedances in the Made Ground identified within WS01, WS02, WS03, WS05, FP01 and LWS02 (six out of the ten locations) (PL3);

» Possible Made Ground and Worked Ground placed within the surrounding area of the historical kiln works, former brick pits and during the construction of industrial estate warehouses located to the east of site off Elgar Road South, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (PL4).

*Table 7.5: Residual risks following evaluation*

| Contaminant Linkage | | | | Comments | |
|---|---|---|---|---|---|
| Potential Linkage | Sources | Pathways | Receptors | General | Mitigation |
| PL1 | Loose asbestos fibres within Made Ground | Ingestion, inhalation of fugitive dust | Human health (future site users) | Made Ground encountered asbestos fibres measured at 0.001% and 0.015%. | Mitigation may be required in the form of a cover system in soft landscaping area surrounding WS05 if Made Ground is not removed. LWS02 is located under the footprint of the building and will therefore not pose a risk. |
| | | Inhalation of fugitive dust | Human health (Neighbours) | | The risk of significant generation of dust is likely only during site development process and can therefore be controlled.<br>If discovered suppression should be included in control measures.<br>Works to be undertaken in accordance with CAR 2012. |
| PL2 | Asbestos fibres or asbestos containing materials potentially in the existing building | Inhalation of fugitive dust | Human health (Neighbours) | | All buildings should be appropriately surveyed for the presence of ACM prior to any demolition works and ACM removed by a suitably licensed contractor |
| PL3 | Heavy metals and PAHs have been found in exceedance within the Made Ground | Ingestion, or direct contact | Human Health (future site users) | Exceedances of GAC with various heavy metals and PAH | Mitigation may be required in the form of a cover system in soft landscaping area surrounding WS05 if Made Ground is not removed. |
| | | Direct Contact | Water supply pipes | Organic contamination (PAH, VOC, SVOC and petroleum hydrocarbons) have been identified in | Installation of barrier pipe may be required if Made Ground is to remain on site. However, confirmation should be sought from the water supply |

| Contaminant Linkage | | | | Comments | |
|---|---|---|---|---|---|
| Potential Linkage | Sources | Pathways | Receptors | General | Mitigation |
| | | | | exceedance of the threshold values in the Made Ground | company at the earliest opportunity. |
| | | Leaching, horizontal and vertical migration through soils and groundwater | Human health<br>Groundwater | Groundwater sampling is to be undertaken during the ongoing monitoring. | Once groundwater sampling testing has been undertaken, this section will be updated to confirm if there is any risk. |
| | | Root uptake | Planting | There is Made Ground below the site and exceedances of copper and nickel have been identified, | Clean cover / growing medium will likely need to be imported. |
| PL4 | Possible Made Ground and Worked Ground placed within the surrounding area of the historical kiln works, former brick pits and during the construction of industrial estate warehouses located to the east of site off Elgar Road South, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons | Leaching | Human Health<br>Groundwater | Groundwater sampling is to be undertaken during the ongoing monitoring and controlled waters risk assessment updated. | Once groundwater sampling testing has been undertaken, this section will be updated to confirm the risk. |

## 7.10 Mitigation measures

The outline remediation strategy presented below is provided for guidance only, and does not represent a 'Remediation Options Appraisal', or a 'Remediation Strategy', prepared in accordance with LCRM (2023).

As shown in Section 7.9 (and subject to regulatory (and NHBC) agreement), Hydrock consider the following mitigation is required to ensure the site is suitable for use for the proposed end use. The mitigation measures include:

- The provision of clean cover where Made Ground remains at formation level, comprising (PL1 and PL3). :
  - Private gardens;
    - 600mm of clean cover comprising 150mm topsoil and 450mm of subsoil; or;
    - 450mm of clean cover comprising a brightly coloured geotextile/membrane underlying 150mm of topsoil and 300mm of subsoil.
  - Communal soft landscaping;
    - 450mm of clean cover comprising a brightly coloured geotextile/membrane underlying 150mm of topsoil and 300mm of subsoil.
- Installation of protective barrier pipework if Made Ground is not removed from site (PL4).
- Once ground gas monitoring has been completed the potential for ground gas and vapour mitigation measures to comply with relevant condition of the site (PL5).

The methodology for the remediation should be set out in a Remediation Strategy (which will include the 'Implementation Plan', the 'Verification Plan' and the 'Long Term Monitoring and Maintenance Plan'), which will need to be submitted to the warranty provider and the regulatory authorities for approval.

In addition, the production of a Materials Management Plan and its approval by a Qualified Person will be required to allow reuse of suitable material at the site in accordance with waste regulations.

Verification reports by a competent independent geo-environmental specialist will be required following completion of any remedial works (including ground gas membrane installation if required on completion of ground gas monitoring programme).

# 8. Waste and Materials Management

## 8.1 Introduction

The Waste Framework Directive (WFD) (2009/98/EC) defines waste as '*any substance which the holder discards or intends to discard.*' In a geo-environmental context, the waste is most often 'soil' and the two main scenarios are offsite disposal of the material as a waste and/or reuse of the material on site. For cost and sustainability reasons, reuse is preferred to off-site disposal.

Section 8.2 below describes the key issues relating to off-site disposal to landfill and Section 8.3 considers requirements relating to reuse of soils and materials management.

## 8.2 Waste disposal

### *8.2.1 Principles*

Based on the WFD, any material excavated on site may be classified as waste and it is the responsibility of the producer of a material to determine whether or not it is waste. Where off-site disposal is undertaken, the following guidance applies.

Classification is a staged process:

- A hazardous waste is defined under the WFD as one which possesses one or more of fifteen defined hazardous properties. If a waste is not defined as hazardous, then it is non-hazardous.
- Where the materials are soil, it is then be assigned using the 'List of Waste Codes', which classifies the material as either:
  - hazardous (17-05-03), which is defined as "*soil and stones containing hazardous substances*"; or
  - non-hazardous (17-05-04), which is defined as "*soil and stones other than those mentioned in 17-05-03*".
  - Hydrock utilise the proprietary assessment tool, HazWasteOnline™ to undertake this assessment.
- Waste Acceptance Criteria (WAC) testing is then undertaken (if required), and are only applicable following classification of the waste, and only where the waste is destined for disposal to landfill. The WAC are both qualitative and quantitative. The WAC and the associated laboratory analyses (leaching tests) are not suitable for use in the determination of whether a waste is hazardous or non-hazardous.

It should be noted that some non-hazardous wastes may be suitable for disposal at an inert landfill as non-hazardous waste, subject to meeting the appropriate waste acceptance criteria.

It should be noted that classification must be undertaken on the waste produced, by the waste producer. Necessary sampling frequency to adequately characterise a soil population is defined within WM3.

### *8.2.2 HazWasteOnline™ assessment*

HazWasteOnline™ assessment has not been undertaken at this stage. Assessment may be required during the Basic Characterisation process required by the Landfill operator for the excavated material prior to disposal.

As the site is brownfield, in order to inform the preliminary waste characterisation process, Hydrock has undertaken an exercise using the proprietary web-based tool HazWasteOnline™. The output of the HazWasteOnline™ assessment is provided in and a summary of the preliminary waste classification is provided below.

The majority of soil samples assessed as part of the HazWasteOnline™ are classified as non-hazardous, However, two soil samples have been classified as hazardous on account of the designations outlined in Table 8.1:

*Table 8.1: HazWasteOnlineTM hazardous properties identified*

| Location | Depth | Stratum | Hazard Property | Contaminant of Concern |
|---|---|---|---|---|
| WS05 | 0.30 | Made Ground | HP 3(i), HP 7, HP 11, HP14 | Zinc, TPH |
| FP01 | 0 - 0.10 | Made Ground | HP 7 | Zinc, |

It should be noted that some of the soil samples assessed as part of the HazWasteOnline™ are classified as potentially hazardous on account of the designation 'HP3i' (with regards to petroleum hydrocarbons). However, based upon carbon banding of the TPH, the findings of the investigation and the way the petroleum hydrocarbons are distributed within the soil, it is likely that the potential for the soil being hazardous on account of HP3i can be all but discounted and it would be reasonable to assume that the result would indicate that the soil, would be non-hazardous as a result of the TPH content.

### 8.2.3 *WAC testing*

The site is brownfield. However, WAC testing has not been undertaken to date but will be required on the excavated soils that are to be disposed of, to assist with waste disposal options prior to disposal.

### 8.2.4 *Bituminous bound pavement*

The screening and testing undertaken on bituminous bound pavement has indicated that coal tars are not present, or below hazardous waste limits (0.1%), and will likely be classified as non-hazardous waste.

### 8.2.5 *General waste comments*

It should be noted that:

- Any soils containing > 0.1% asbestos or visible asbestos containing materials would be considered as hazardous.
- It is the waste producer's responsibility to segregate the waste at source and waste producers must not mix waste materials/streams or dilute hazardous components, for example by mixing with less or non-hazardous waste on site to meet WAC limit values.
- The above preliminary assessment has been made on the basis of the soils tested as part of the ground investigation, using the HazWasteOnline™ assessment. However, the formal classification of waste can only be undertaken on the material to be disposed of, and by the waste producer and the receiving landfill as license conditions vary from landfill to landfill.
- Basic Characterisation should be undertaken in accordance with Environment Agency guidance by the waste producer. Hydrock can assist if required and this report will assist the characterisation. However, Basic Characterisation does not form part of the current commission and would require further assessment and testing on the wastes actually to be disposed.
- Once the waste producer has undertaken an initial Basic Characterisation on each waste stream, they can manage the soils as part of the on-site processing programme (for example, stockpiling, treatment, screening and separation). The waste producer and landfill operator will then need to agree the suite of compliance testing for regularly generated waste to demonstrate compliance with the initial Basic Characterisation prior to disposal.

- At the time of disposal, additional testing on the excavated soils to be disposed of, will likely be necessary.
- Non-hazardous and hazardous soils require pre-treatment (separation, sorting and screening) prior to disposal.
- The costs for disposal of non-hazardous and hazardous soils are significant compared to disposal of inert material.
- In addition to disposal costs, landfill tax will be applicable. Non-hazardous and hazardous waste will generally be subject to the Standard Rate Landfill Tax. Inert or inactive waste will generally be subject to the Lower Rate Landfill Tax. The landfill tax value changes each April and can be found at https://www.gov.uk/government/publications/rates-and-allowances-landfill-tax/landfill-tax-rates-from-1-april-2013.
- Before a waste producer can move waste to a landfill site for disposal, they need to check the landfill site has the appropriate permit and must have completed the following[7]:
  - Duty of care transfer note / Hazardous Waste consignment note, including comment as to if pre-treatment has been undertaken; and
  - Basic Characterisation of the waste, to include: description of the waste; waste code (using list of wastes); composition of the waste (by testing, if necessary) and; WAC testing (if required).

## 8.3 Materials management

### *8.3.1 Introduction*

Soils that are to remain on site, should be managed and reused in accordance with a Materials Management Plan (MMP), prepared in accordance with 'The Definition of Waste: Development Industry Code of Practice', Version 2 (CL:AIRE), known as the DoWCoP. Where all aspects of the DoWCoP are followed the soils are considered not to be waste, because they were never discarded in the first place.

Version 2 of the DoWCoP clearly sets out the principles and an outline of the requirements of a MMP. The following compliance criteria must be seen to apply to the MMP for the site:

- Factor 1: Protection of human health and protection of the environment.
- Factor 2: Suitability for use, without further treatment.
- Factor 3: Certainty of Use.
- Factor 4: Fixed Quantity of Material.

The reuse of soils at sites should be considered during the planning and development design process so that compliance with issues such as fixed quantity and certainty of use clearly relate to agreed site levels. Suitability of Use is normally evident from the remediation strategy or the design statement, which form an integral part of a MMP. However, some soils may need to be tested post-excavation to prove they are suitable for use.

Once the MMP is finalised, it must be declared by a Qualified Person (QP). The Declaration is an on-line submission as part of which the QP is required to confirm that the declaration is being made before the relevant works have commenced (i.e. it is not a retrospective application).

[7] ENVIRONMENT AGENCY. November 2010. Guidance on waste acceptance procedures and criteria. Waste acceptance at landfills. The Environment Agency.

Once all material movements have been completed in accordance with the MMP a verification report must be produced, kept for 2 years and provided to the EA on request.

It should be noted that failure to comply with the requirements of the DoWCoP when re-using materials has potentially significant consequences for the waste holder. The risk is that the reused materials are still regarded as a waste that has been illegally deposited. From 1 April 2018, the scope of Landfill Tax has been extended to sites operating without the appropriate environmental disposal permit, and operators of illegal waste sites will now be liable for Landfill Tax. Further information is available at: https://www.gov.uk/government/publications/landfill-tax-disposals-not-made-at-landfill-sites/landfill-tax-disposals-not-made-at-landfill-sites.

If soils are excavated and reused on sites (or moved to another site) without a MMP, exemption, or appropriate Permit in place, anyone who knowingly facilitates the disposal may be *'jointly and severally liable'* to any assessment of tax, fines or prosecution.

### 8.3.2 Materials management scenarios

The materials management scenarios present on site are discussed below.

It should be noted that more than one scenario may apply, dependent upon where the soils are proposed for reuse.

#### 8.3.2.1 Made Ground and other contaminated soils

On sites where Made Ground or contaminated soils are present, any soils excavated will be a waste as soon as they are excavated (even if they are clean, naturally occurring materials), unless they are subject to reuse in accordance with the DoWCoP. As such, for any brownfield site or a site where Made Ground is present and soils are being moved and reused, the materials could be deemed a waste, subject to either:

- a Materials Management Plan (MMP), to prevent the material being classified as a waste following reuse; or
- an exemption (for limited volumes); or
- an environmental permit, dependant on its status.

Made Ground cannot be moved between sites under DoWCoP alone and would require relevant permits as part of the MMP documentation for the Hub site the material is being treated at.

#### 8.3.2.2 Recycled materials

All recycled materials (6F2 etc.) must be produced under the 2013 WRAP 'Quality Protocol: Aggregates from inert waste', whether on site or off-site. If they are not, they will be deemed a waste and can only be used on site under a permit. More information can be found at https://www.gov.uk/government/publications/quality-protocol-production-of-aggregates-frm-inert-waste.

#### 8.3.2.3 Geotechnical improvement requirements

Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties e.g. lime / cement modification, are not generally regarded as waste treatment operations and do not require a permit.

However, should processing be needed (such as screening, treatment or improvement), that would constitute a waste activity and require a mobile treatment permit. This may be as simple as removing oversize material with an excavator bucket, to using a riddle bucket to remove hardcore to full mechanical screening.

# 9. Uncertainties and limitations

## 9.1 Site-specific comments

The gas monitoring undertaken to date and included in this report is insufficient to fully characterise the site in accordance with BS 8576. Monitoring is ongoing and the conclusions of this report will be updated following completion of the scheduled monitoring.

## 9.2 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Abri (the Client) dated November 2024 under the terms of appointment for Hydrock, for the sole and specific use of the Client and parties commissioned by them to undertake work where reliance is placed on this report. Any third parties who use the information contained herein do so at their own risk. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared or for use of the report by any parties not defined in Hydrock's appointment.

This report details the findings of work carried out in December 2024. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Hydrock has used reasonable skill, care and diligence in the design of the investigation of the site and in its interpretation of the information obtained. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.

Groundwater data are only representative of the dates on which they were obtained and both levels and quality may vary.

Further ground investigations may be required for detailed design.

Unless otherwise stated, the recommendations in this report assume that ground levels will remain as existing. If there is to be any re-profiling (e.g. to create development platforms or for flood alleviation) then the recommendations may not apply.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

Where the existing report prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied upon by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or later activities.

The work has been carried out in general accordance with recognised best practice. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

The work has not been undertaken to meet the requirements of the Geotechnical Design Report (GDR) in accordance with BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design — Part I). The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

The chemical analyses reported were scheduled for the purposes of risk assessment with respect to human health, plant life and controlled waters as discussed in the report. Whilst the results may be useful in applying the Hazardous Waste Assessment Methodology given in Environment Agency Technical Guidance WM3, they are not primarily intended for that purpose and additional analysis will be required at the time of disposal to fully classify waste. Discussion and comment with regards to waste classification are preliminary and do not form the requirements of 'Basic Characterisation' as required.

Assessment and testing for the presence of coal tar has only been completed at the locations of exploratory holes undertaken for risk assessment purposes. This investigation is not designed to provide a definitive assessment of the risk from coal tar, nor the waste classification for bituminous bound pavement arisings at the site.

Unless otherwise stated, at the time of this investigation the future routes of water supply pipes had not been established. This investigation and sampling strategy may not be fully compliant with UKWIR recommendations. Consequently, a targeted investigation and specific sampling and chemical testing may be required at a later date once the routes of the supply pipes are known. In addition, it is recommended that the relevant water supply company be contacted at an early stage to confirm its requirements for assessment, which may not necessarily be the same as those recommended by UKWIR.

Whilst the preliminary risk assessment process has identified potential risks to construction workers, consideration of occupational health and safety issues is beyond the scope of this report.

The non-specialist UXO screening has been undertaken for the purposes of ground investigation only (i.e. low risk activity in accordance with CIRIA Report C681). Further assessment should be undertaken with regards to other higher risk activities e.g. construction.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential constraints and specialist advice should be sought.

Any site boundary line depicted on plans does not imply legal ownership of land.

# 10. Recommendations for further work

Following the ground investigation works undertaken to date, the following further works will be required:

- demolition/refurbishment asbestos survey;
- completion and reporting of the ongoing gas monitoring and groundwater, hence the conclusions in this report are provisional, subject to the completion of monitoring;
- additional ground investigation to include deeper boreholes to assess the underlying chalk, as well as groundwater and leachate sampling to determine the controlled waters risk to site;
- discussion and agreement with utility providers regarding the materials suitable for pipework;
- discussions with regulatory bodies and the warranty provider regarding the conclusions of this report;
- assessment of tree influence on foundations and design of foundations;
- discussions with piling Contractors regarding conclusions of this report and design of the piles;
- provision of geotechnical design for the Category 2 structures (earthworks, floor slabs, foundations);
- production of a Remediation Strategy and Verification Plan (and agreement with the regulatory bodies and the warranty provider);
- production of a Materials Management Plan relating to reuse of soils at the site and import of soils to the site, if required;
- writing of a Materials Management Strategy relating to reuse of soils at the site, if required;
- remediation and mitigation works; and
- verification of the remediation and mitigation works.

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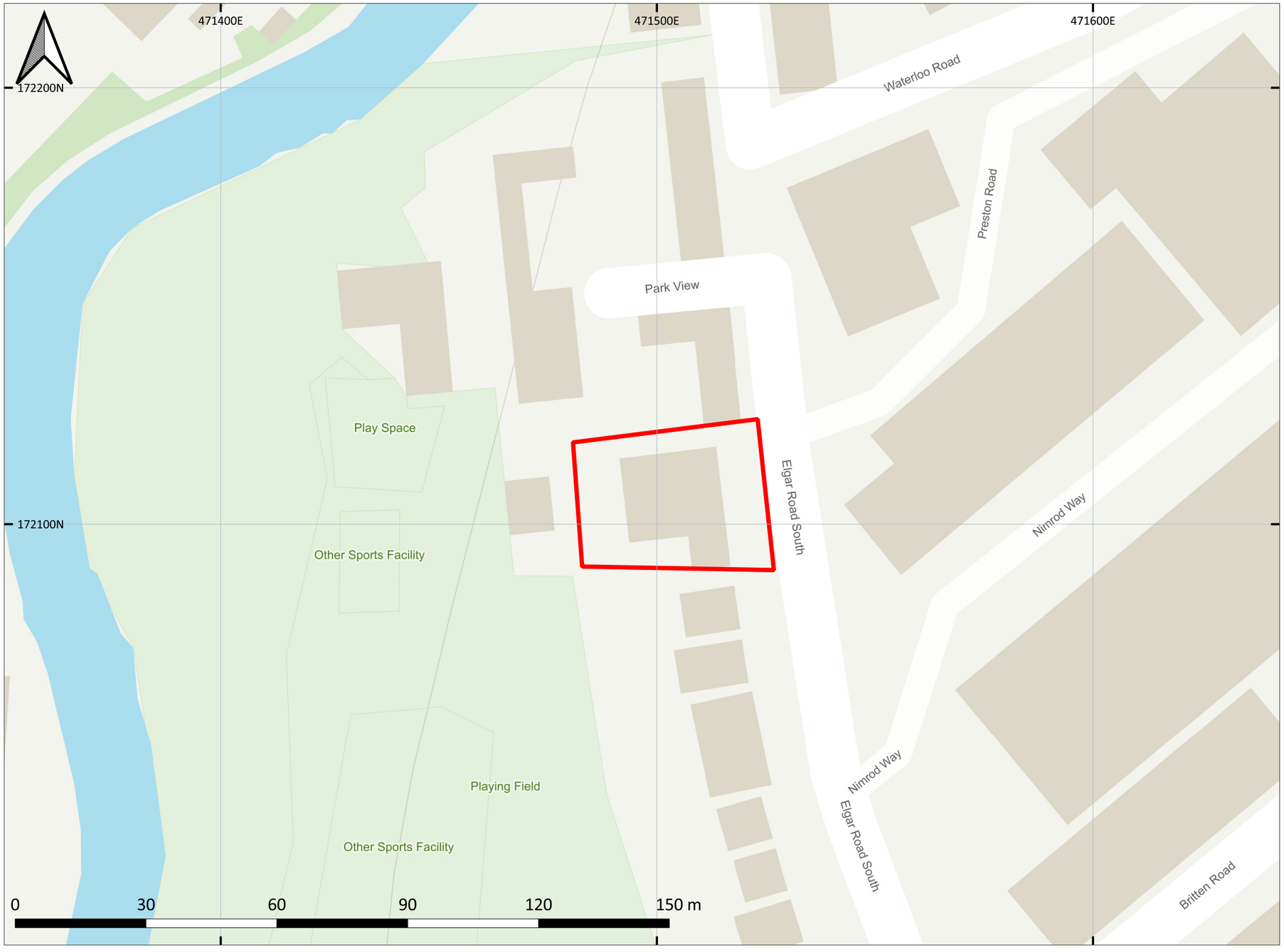
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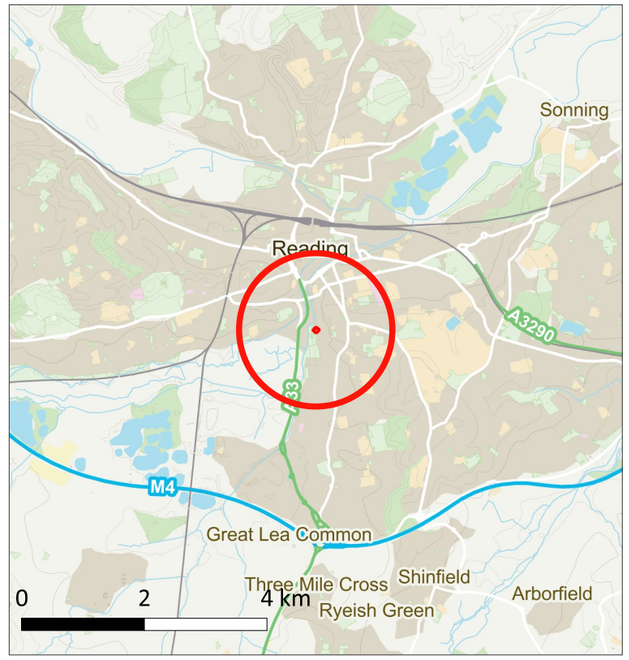
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# Appendix A Drawing







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KEY PLAN

Site Boundary

NOTES

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REVISIONS

| REV. | DRAWN BY INITIALS | CHECKED BY INITIALS | DATE | REVISION NOTES/COMMENTS |
|---|---|---|---|---|
| P01 | LC | AD | 12/11/24 | First issue |

Hydrock

TITLE
SITE LOCATION PLAN

HYDROCK PROJECT NO.
29680

SCALE @ A3
1:1,000

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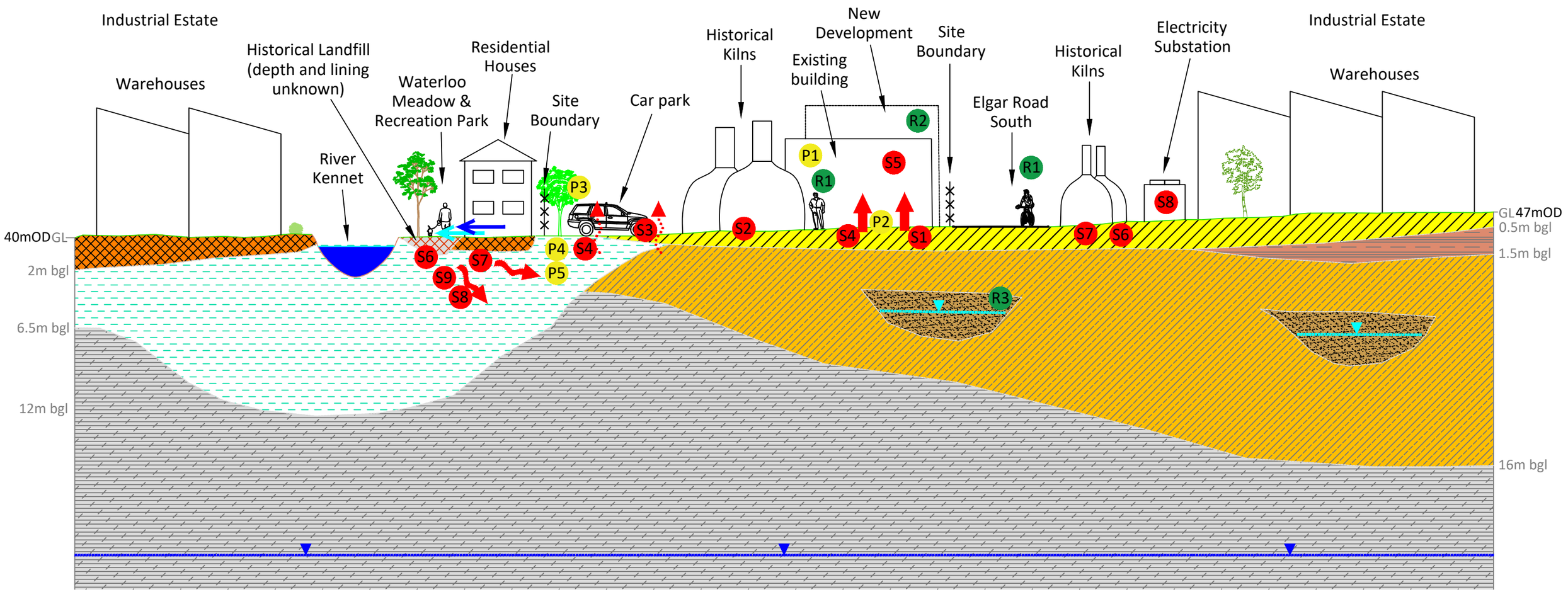
PURPOSE OF ISSUE
SUITABLE FOR INFORMATION

STATUS
S2

PROJECT
200-220 Elgar Road

DRAWING NO.
29680-HYD-XX-XX-DR-GE-0001

REVISION
P01




## Potential on-site Sources of Contamination

» Made Ground and Worked Ground, associated with historical brick works, construction activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S1).

» Made Ground, potentially containing asbestos fibres and Asbestos Containing Materials from demolition of kiln structures and buildings associated with the historical brick works (S2).

» Coal tar, potentially present in the bituminous bound pavements present within the car park area (S3).

» Ground gases (carbon dioxide and methane) from organic materials in the Made Ground / alluvial deposits (S4).

» Asbestos fibres from insulation or asbestos-containing materials within the existing building (S5).

## Potential off-site Sources of Contamination

» Leachate from landfilled waste including household, commercial and industrial, asbestos, located to the south west of site (S6).

» Possible Made Ground and Worked Ground placed within the surrounding area of the historical Kiln works, former brick pits and during the construction of industrial estate warehouses located to the east of site off Elgar Road, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S7).

» Ground gases (carbon dioxide and methane) from organic/landfill materials in the historical landfill located 2m south west (S8).

## Receptors

The following potential receptors in relation to the proposed land use have been identified.

» People (neighbours, site end users) (R1).

» Development end use (buildings, utilities and landscaping) (R2).

» Groundwater: Secondary A aquifer status of the Lambeth Group and Principal Aquifer status of the Seaford Chalk Formation and Newhaven Chalk Formation (R3).

» Surface water: River Kennet approximately to the 99m north west and 110m west (R4)

## Pathways

The following potential pathways have been identified.

» Ingestion, skin contact, inhalation of dust and outdoor air by people (P1).

» Methane ingress via permeable soils and/or construction gaps (P2).

» Root uptake by plant (P3).

» Methane ingress to the root zone from the landfill site, by plants (P4).

» Migration of contaminant via leachate migration through the unsaturated zone in the Alluvial deposits (P5).

» Surface water via overland flow (P6).

» Surface water, via drainage discharge (P7).

KEY

- Made Ground
- Historic Landfill
- Worked Ground
- London Clay
- Sand Channels
- Alluvium

NOTES

1. Figurative only, not to scale. No dimensions are to be taken from this drawing.

KEY

- Lambeth Group
- Chalk
- Perched water
- Deep Groundwater table

Potential Pathways

- DERMAL CONTACT, INGESTION, INHALATION
- LEACHING DISSOLUTION
- DISSOLVED PHASE MIGRATION
- VAPOUR
- SURFACE WATER VIA OVERLAND FLOW
- SURFACE WATER VIA DRAINAGE DISCHARG

| REV. | | | | | | |
|---|---|---|---|---|---|---|
| P01 | FIRST ISSUE | | | | | |
| | SD | 25/11/24 | LC | 25/11/24 | AD | 25/11/24 |
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CLIENT: Abri Ltd

PROJECT: 220-222 Elgar Road South, Reading

TITLE: Initial Conceptual Site Model

HYDROCK PROJECT NO.: 29680

SCALE @ A3: Not to scale

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 29680-HYD-XX-XX-DR-GE-0002

REVISION: P01




KEY PLAN

Hand Pit | Window Sampling | Installation

NOTES

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REVISIONS

| REV. | DRAWN BY INITIALS | CHECKED BY INITIALS | DATE | REVISION NOTES/COMMENTS |
|---|---|---|---|---|
| P01 | LC | HG | 07/02/25 | First issue |

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TITLE
Ground Investigation Location Plan

HYDROCK PROJECT NO.
29680

SCALE @ A3
1:200

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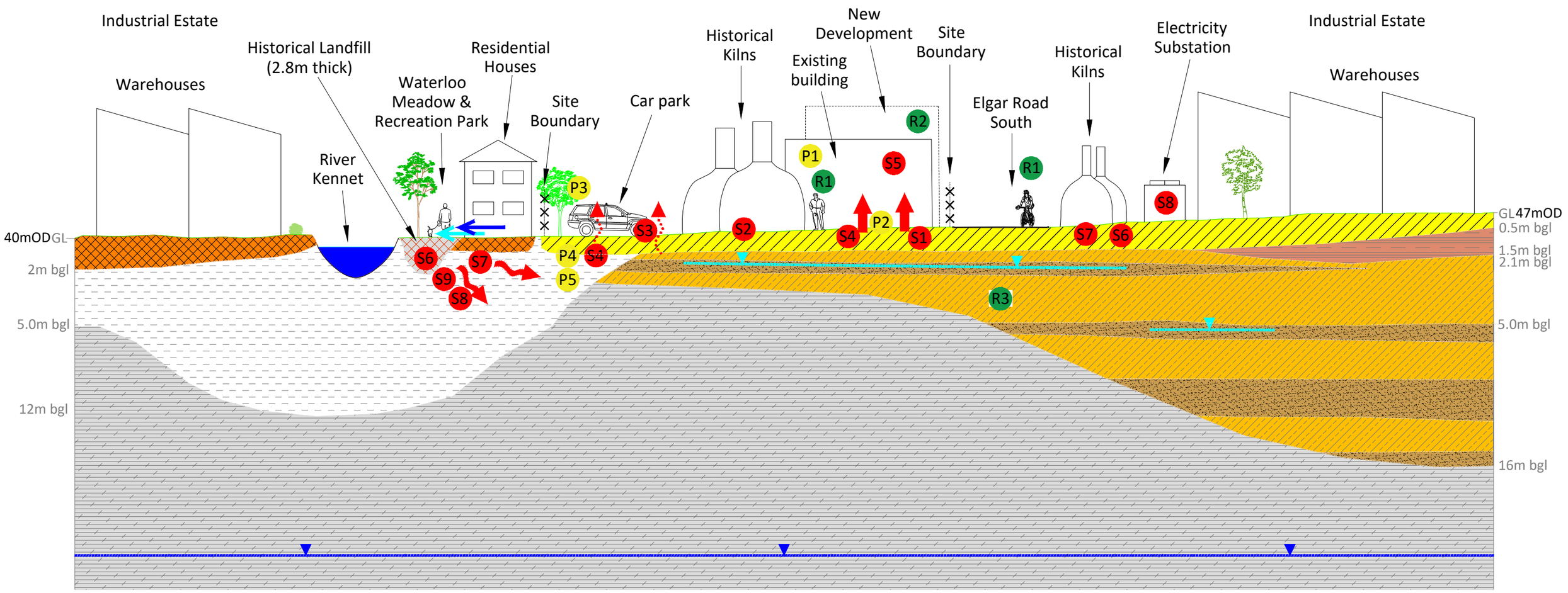
PURPOSE OF ISSUE
SUITABLE FOR INFORMATION

STATUS
S2

PROJECT
200-220 Elgar Road

DRAWING NO.
29860-HYD-XX-XX-DR-GE-0004

REVISION
P01




## Potential on-site Sources of Contamination

» Made Ground and Worked Ground, associated with historical brick works, construction activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S1).

» Made Ground, potentially containing asbestos fibres and Asbestos Containing Materials from demolition of kiln structures and buildings associated with the historical brick works (S2).

» Ground gases (carbon dioxide and methane) from organic materials in the Made Ground / alluvial deposits (S3).

» Asbestos fibres from insulation or asbestos-containing materials within the existing building (S4).

## Potential off-site Sources of Contamination

» Leachate from landfilled waste including household, commercial and industrial, asbestos, located to the south west of site (S5).

» Possible Made Ground and Worked Ground placed within the surrounding area of the historical Kiln works, former brick pits and during the construction of industrial estate warehouses located to the east of site off Elgar Road, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S6).

» Ground gases (carbon dioxide and methane) from organic/landfill materials in the historical landfill located 2m south west (S7).

## Receptors

The following potential receptors in relation to the proposed land use have been identified.

» People (neighbours, site end users) (R1).

» Development end use (buildings, utilities and landscaping) (R2).

» Groundwater: Secondary A aquifer status of the Lambeth Group and Principal Aquifer status of the Seaford Chalk Formation and Newhaven Chalk Formation (R3).

» Surface water: River Kennet approximately to the 99m north west and 110m west (R4)

## Pathways

The following potential pathways have been identified.

» Ingestion, skin contact, inhalation of dust and outdoor air by people (P1).

» Methane ingress via permeable soils and/or construction gaps (P2).

» Root uptake by plant (P3).

» Methane ingress to the root zone from the landfill site, by plants (P4).

» Migration of contaminant via leachate migration through the unsaturated zone in the Alluvial deposits (P5).

» Surface water via overland flow (P6).

» Surface water, via drainage discharge (P7).

KEY
- Made Ground
- Historic Landfill
- Worked Ground
- London Clay
- Sand deposits
- Alluvium

NOTES
1. Figurative only, not to scale. No dimensions are to be taken from this drawing.

KEY
- Upnor Formation (Lambeth Group)
- Seaford and Newhaven Chalk
- Perched water
- Deep Groundwater table

Potential Pathways
- DERMAL CONTACT, INGESTION, INHALATION
- LEACHING DISSOLUTION
- DISSOLVED PHASE MIGRATION
- VAPOUR
- SURFACE WATER VIA OVERLAND FLOW
- SURFACE WATER VIA DRAINAGE DISCHAR

| REV. | REVISION NOTES/COMMENTS | DRAWN BY | DATE | CHECKED BY | DATE | APPROVED BY | DATE |
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CLIENT: Abri Ltd

PROJECT: 220-222 Elgar Road South, Reading

TITLE: Updated Conceptual Site Model

HYDROCK PROJECT NO.: 29680

SCALE @ A3: Not to scale

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 29680-HYD-XX-XX-DR-GE-0005

REVISION: P01




SCALE @ A1: 1:100
SCALE @ A3: 1:200

A1 / A3

0 1.0 2.0 3.0 4.0 M

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NOTES

- Default drawing size is A1
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DRAWING DATE: 25/01/2022

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|---|---|---|
| P1 | 26/03/21 | Planning Issue |
| P2 | 14/09/2021 | Amendments to Planning Comments |
| P3 | 24/09/2021 | Updated Issue for Planning |
| P4 | 30/09/2021 | Updated Issue for Planning |
| P5 | 17/11/2021 | Updated Issue for Planning |
| P6 | 25/01/2022 | Updated Issue for Planning |
| P7 | 27/04/2022 | Updated Issue for Planning (bin store door) |
| P8 | 20/05/2022 | Updated Issue for Planning - landscaping layout changes |
| P9 | 15/06/2022 | Updated Issue for Planning - Private Defensible Space Updated |

PROJECT
220-222 Elgar Road

CLIENT
MAXIKA HOMES

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| A4080 | 2000 | P8 |

DRAWING TITLE
Proposed Site Plan

# Appendix B Exploratory hole location plan, exploratory hole logs and photographs

# *Exploratory hole location plan*




KEY PLAN

Hand Pit | Window Sampling | Installation

NOTES

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REVISIONS

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TITLE
Ground Investigation Location Plan

HYDROCK PROJECT NO.
29680

SCALE @ A3
1:200

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PURPOSE OF ISSUE
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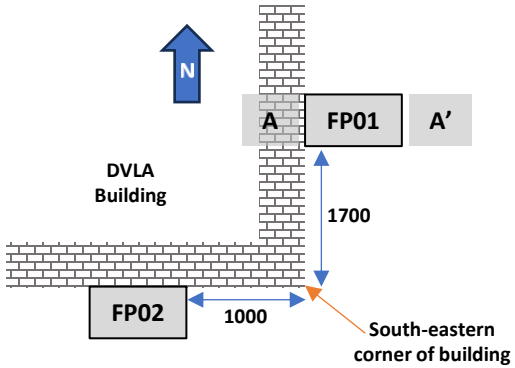
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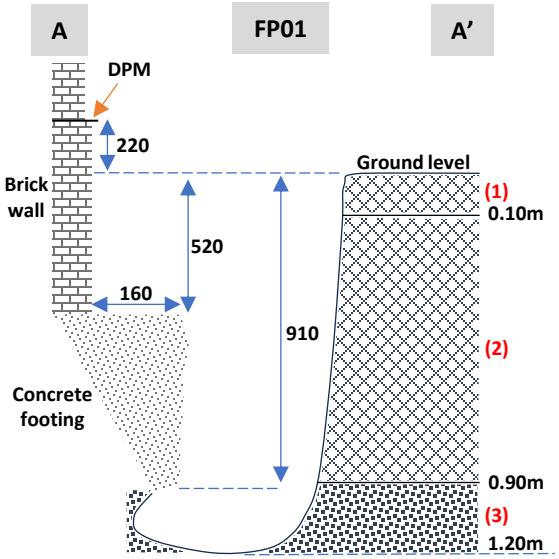
REVISION
P01

# *Exploratory hole logs*

**PLAN**

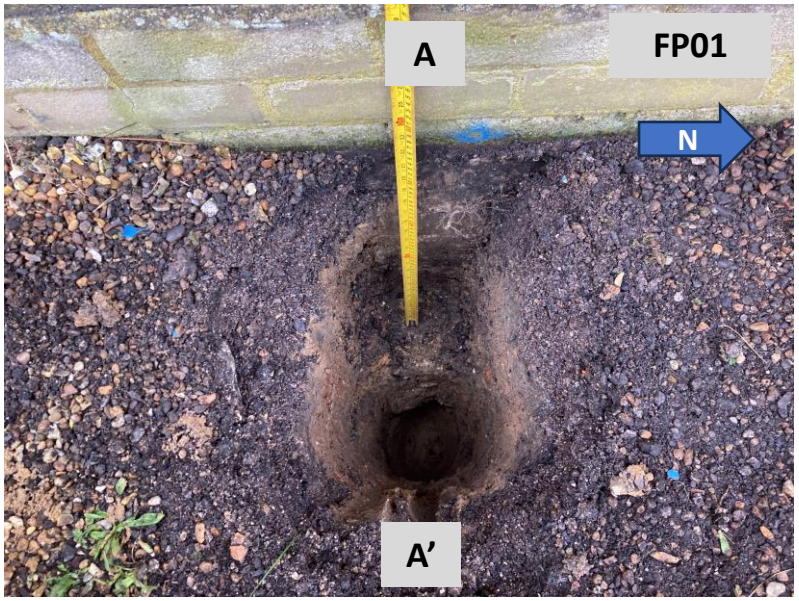



**SECTION**




Do not scale from drawing. All measurements in millimetres, unless otherwise stated.

**PHOTO**




**Log – X:471518.3, Y:172093.8, Z:42.3 – No Groundwater**

**(1) Ground level to 0.10m – Pea shingle over MADE GROUND: Black gravelly fine to coarse Sand and Ash. Gravel is sub-angular and sub-rounded fine and medium clinker and flint.**

**(2) 0.10m to 0.90m – MADE GROUND: Brown occasionally speckled black and red slightly sandy gravelly Clay. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, clinker and flint. Occasional brick tiles.**

**(2) 0.90m to 1.20m – Buff and light brownish yellow silty fine to coarse SAND.**

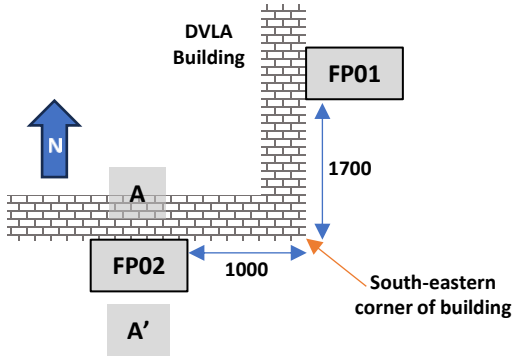
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| **Job Number:** | 29680 (P24.271) | **Client:** | Hydrock |
| **Drawing:** | 29680-(P24.271)-FP01 | **Revision:** | - |
| **Drawn:** | RG | **Date:** | 16/12/2024 |
| **Checked by:** | GC | **Scale:** | NTS |

**Title:** FP01 – Foundation Pit – A-A' Cross-section

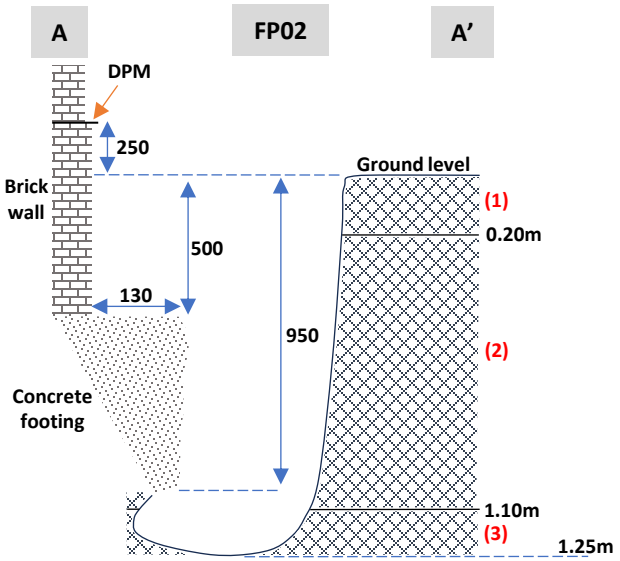
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**PLAN**

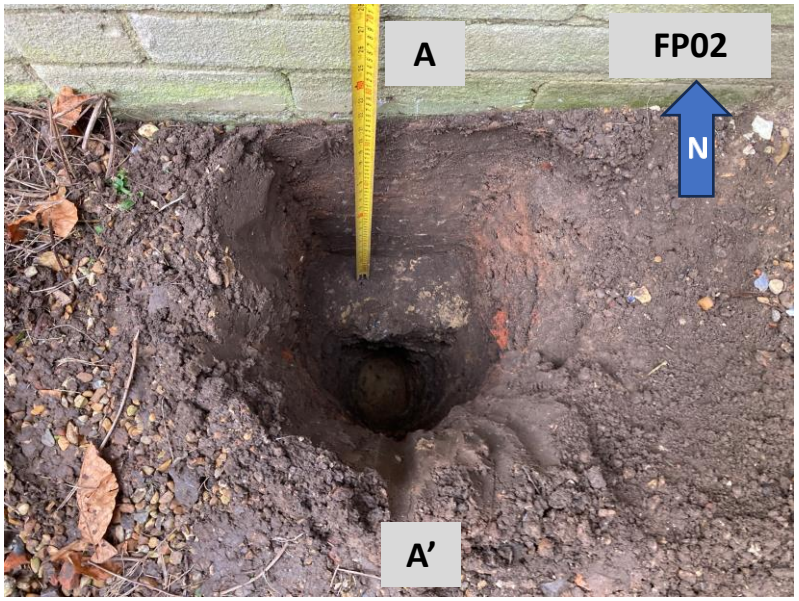



**SECTION**




Do not scale from drawing. All measurements in millimetres, unless otherwise stated.

**PHOTO**




**Log – X:471518.2, Y:172091.3, Z:42.3 – No Groundwater**

**(1) Ground level to 0.20m – Pea shingle over MADE GROUND: Dark brown sandy silty Clay. Frequent gravel of brick.**

**(2) 0.20m to 1.10m – MADE GROUND: Reddish brown and brown speckled red slightly sandy very gravelly Clay. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, flint and clinker. Occasional gravel of concrete and slag. Rare gravel of chalk and brick tiles.**

**(2) 1.10m to 1.25m – MADE GROUND: Buff and light brownish yellow slightly gravelly fine to coarse Sand. Gravel is sub-angular fine and medium limestone. Frequent gravel of brick tiles.**

| | | | |
|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | | |
| **Job Number:** | 29680 (P24.271) | **Client:** | Hydrock |
| **Drawing:** | 29680-(P24.271)-FP02 | **Revision:** | - |
| **Drawn:** | RG | **Date:** | 16/12/2024 |
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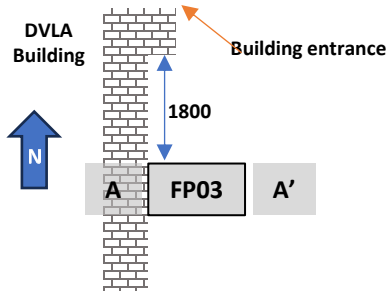
**Title:** FP02 – Foundation Pit – A-A' Cross-section

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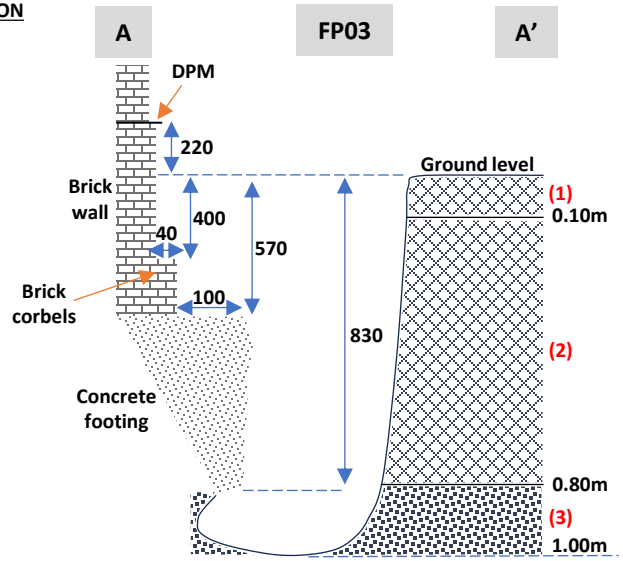
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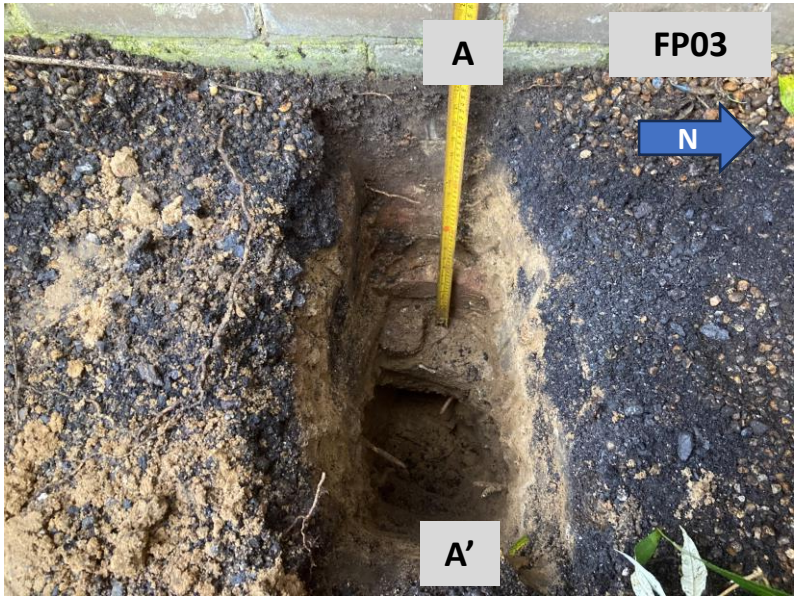
**PLAN**




**SECTION**




**PHOTO**




**Log – X:471517.8, Y:172105.8, Z:42.5 – No Groundwater**

**(1) Ground level to 0.10m – Pea shingle over MADE GROUND: Black gravelly fine to coarse Sand and Ash. Gravel is sub-angular and sub-rounded fine and medium clinker and flint.**

**(2) 0.10m to 0.80m – MADE GROUND: Buff and light brownish yellow slightly gravelly fine to coarse Sand. Gravel is sub-angular fine and medium limestone. Frequent gravel of brick tiles.**

**(2) 0.90m to 1.00m – Buff and light brownish yellow silty fine and medium SAND.**

Do not scale from drawing. All measurements in millimetres, unless otherwise stated.

| | | | |
|---|---|---|---|
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| **Job Number:** | 29680 (P24.271) | **Client:** | Hydrock |
| **Drawing:** | 29680-(P24.271)-FP03 | **Revision:** | - |
| **Drawn:** | RG | **Date:** | 16/12/2024 |
| **Checked by:** | GC | **Scale:** | NTS |

| | |
|---|---|
| **Title:** | FP03 – Foundation Pit – A-A' Cross-section |

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# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 12/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Handheld Window Sampling |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| LWS01 | WS | | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | 0.10 - 0.70 | ES | | 0.10 | | | CONCRETE: Comprised of a grey and brown Concrete with 60-70% angular to sub-rounded fine to coarse gravel-sized aggregate of flint. Slightly voided. |
| | | | | | 0.70 | | | MADE GROUND: Brown speckled red very gravelly Clay. Gravel is angular to sub-rounded fine to coarse brick. Frequent sub-angular fine to coarse gravel of clinker, flint and concrete. |
| | | 1.00 - 2.00 | ES | | | | | MADE GROUND: Red and orangish red silty sandy sub-angular and sub-rounded fine to coarse Gravel of brick. Sand is fine and medium. (BRICK FILL). |
| | ▼ | | | | 2.60 | | | Firm light brown mottled orange sandy CLAY. Sand is fine and medium. (UPNOR FORMATION). |
| | | 3.00 | D | | 3.00 | | | End of Borehole at 3.000m |

1 2 3 4 5 6

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 0.10<br>3.00 | 100<br>80 | | | | | | | | | | |

## Remarks

Undertaken internally. CAT scanned prior to drilling. Hydrostatic diamond coring through concrete floor slab with follow-on hand-held lightweight window sampling. Groundwater seepage at 2.50mbgl. Backfilled with arisings and reinstated at the surface with concrete

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 12/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Handheld Window Sampling |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| LWS02 | WS | | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | | | | 0.12 | | | CONCRETE: Comprised of a grey and brown Concrete with 60-70% angular to sub-rounded fine to coarse gravel-sized aggregate of flint. Slightly voided. |
| | | 0.20 - 0.70 | ES | | 0.20 | | | MADE GROUND: Light brown speckled whitish brown clayey angular and sub-angular fine and medium Gravel of flint. (SUB-BASE). |
| | | 0.70 - 0.90 | ES | | 0.70 | | | MADE GROUND: Dark brown speckled black slightly sandy gravelly Clay. Sand is fine to coarse. Gravel is angular to rounded fine to coarse limestone, flint, clinker and brick. Rare sub-angular medium gravel of slag. Rare fragments of glass. |
| | | | | | 0.90 | | | Recovered as - MADE GROUND: Red gravelly fine and medium Sand. Gravel is angular and sub-angular fine and medium brick. (BRICK FILL). |
| | ▼ | 1.50 | D | | | | | Firm grey mottled orangish brown silty CLAY. Locally sandy with fine and medium sand. |
| | | | | | 1.90 | | | (Medium dense) Light greyish brown clayey fine and medium SAND.(UPNOR FORMATION). |
| | | 2.10 - 2.60 | D | | 2.10 | | | Firm light greyish brown mottled orange sandy CLAY. Sand is fine and medium. (UPNOR FORMATION). |
| | | | | | 2.60 | | | End of Borehole at 2.600m |

1 2 3 4 5 6

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 0.12<br>2.60 | 100<br>80 | | | | | | | | | | |

## Remarks

Undertaken internally. CAT scanned prior to drilling. Hydrostatic diamond coring through concrete floor slab with follow-on hand-held lightweight window sampling. Groundwater seepage at 1.70mbgl. Backfilled with arisings and reinstated at the surface with concrete. Terminated at 2.60mbgl due to slow progress of drilling.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 12/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Handheld Window Sampling |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| LWS03 | WS | | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | | | | 0.12 | | | 10mm thick screed layer over CONCRETE: Comprised of a grey Concrete with 60-70% sub-angular and sub-rounded fine and medium gravel-sized aggregate of flint. |
| | | | | | 0.20 | | | |
| | | | | | 0.28 | | | CONCRETE: Comprised of a grey and brown Concrete with 70-80% sub-angular and sub-rounded fine to coarse gravel-sized aggregate of flint. Moderately voided. |
| | | 0.60 - 0.90 | ES | | 0.60 | | | MADE GROUND: Brown and grey sandy angular to sub-rounded fine to coarse Gravel of concrete and flint. Sand is fine to coarse. Suspected to be extremely weak concrete. |
| | | | | | 0.90 | | | CONCRETE: Comprised of a grey and brown Concrete with 70-80% sub-angular and sub-rounded fine to coarse gravel-sized aggregate of flint. Locally heavily voided. Noted to be fairly weak. |
| | | 1.30 - 2.50 | D | | 1.30 | | | MADE GROUND: Firm brown speckled red and black slightly sandy gravelly Clay. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick and clinker. Occasional coarse gravel-sized pockets of light brown clay. |
| | | | | | | | | MADE GROUND: Yellowish brown silty slightly gravelly fine to coarse Sand. Gravel is angular medium and coarse flint. Suspected to be reworked. |
| | | | | | | | | Medium dense buff and light brown silty fine to coarse SAND. Sand tending towards fine and medium. (UPNOR FORMATION). |
| | | | | | 2.50 | | | *From 2.20m to 2.50mbgl: Becoming slightly darker in colour.* |
| | | | | | | | | End of Borehole at 2.500m |

1 2 3 4 5 6

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 0.60<br>2.50 | 100<br>80 | | | | | | | | | | |

## Remarks

Undertaken internally. CAT scanned prior to drilling. Hydrostatic diamond coring through concrete floor slab with follow-on hand-held lightweight window sampling. Groundwater not encountered. Backfilled with arisings and reinstated at the surface with concrete. Terminated at 2.50mbgl due to slow progress of drilling.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471519.38 N172116.93 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS01 | WLS | 42.10m AoD | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | 0.00 - 0.30 | ES | | 0.30 | 41.80 | | Turfed grass over MADE GROUND: Dark brown silty fine and medium Sand. Frequent root hairs. Occasional angular and sub-angular fine and medium gravel of brick and flint. |
| | | 0.50 | ES | | 0.90 | 41.20 | | MADE GROUND: Brown and orangish brown mottled speckled light brown clayey gravelly fine to coarse Sand. Frequent medium and coarse gravel-sized pockets of reworked orangish brown sandy clay. Frequent angular and sub-angular fine to coarse gravel of flint. |
| | | 1.00<br>1.00<br>1.00<br>1.20 - 1.65<br>1.50<br>1.50 | B<br>ES<br>SPT<br>SPTL S<br>D<br>ES | N=1 (0,0/0,1,0,0) | 1.70 | 40.40 | | MADE GROUND: Very loose reworked brown mottled orangish brown clayey slightly gravelly fine and medium Sand. Gravel is angular and sub-angular medium and coarse flint. Occasional fine and medium gravel-sized pockets of reworked dark brown clay with fine gravel of brick. |
| | | 2.00<br>2.00 - 2.45<br>2.00<br>2.50 | D<br>SPTL S<br>SPT<br>D | N=16 (2,3/4,4,4,4) | 2.10<br>2.30 | 40.00<br>39.80 | | Firm to stiff thinly laminated grey and orange mottled sandy silty CLAY. Sand is fine and medium. (UPNOR FORMATION).<br>Medium dense brown silty fine and medium SAND. (UPNOR FORMATION).<br>Medium dense bluish grey clayey fine and medium SAND. (UPNOR FORMATION). |
| | | 2.80<br>3.00 - 3.45<br>3.00<br>3.50 | D<br>SPTL S<br>SPT<br>D | N=13 (1,3/3,3,3,4) | 2.70<br>2.90 | 39.40<br>39.20 | | Soft to firm orange mottled brown and brownish orange very sandy CLAY. Sand is fine and medium. (UPNOR FORMATION).<br>Medium dense greenish brown silty fine to coarse SAND. Sand tending towards fine and medium. Locally very clayey. (UPNOR FORMATION). |
| | | 4.00 - 4.45<br>4.00 - 4.50<br>4.00 | SPTL S<br>D<br>SPT | N=16 (3,4/4,4,4,4) | | | | |
| | | 5.00 - 5.45<br>5.00 | SPTL S<br>SPT | N=26 (6,6/5,7,7,7) | 4.80<br>5.20<br>5.45 | 37.30<br>36.90<br>36.65 | | Stiff dark grey silty CLAY. (UPNOR FORMATION).<br>Recovered as: Structureless CHALK composed of a white SILT. (CIRIA C574 Grade Dm).<br>End of Borehole at 5.450m |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 5.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 2.50m, rising to 1.95mbgl after a period of 20 minutes. Installed with monitoring standpipe comprising: 0.50m plain pipe within bentonite seal; and, 1.00m slotted pipe within gravel pack surrounds; finished within flush cover. Terminated at 5.45mbgl due to backfilling sands.

# Percussion Drilling Log

IMPACT GEOTECHNICAL

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471520.75 N172093.80 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS02 | WLS | 42.40m AoD | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing Depth (m) | Type | Results | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | 0.00 - 0.30 | ES | | | | | Turfed grass over MADE GROUND: Dark brown silty fine and medium Sand. Frequent angular to sub-rounded fine to coarse gravel of brick and flint. Occasional root hairs. |
| | | | | | 0.30 | 42.10 | | MADE GROUND: Brown speckled red slightly sandy gravelly Clay. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, flint and clinker. Occasional angular coarse gravel-sized pieces of brick tile. |
| | | 0.50 | B | | | | | |
| | | 0.50 | ES | | | | | |
| | | | | | 0.70 | 41.70 | | Medium dense light brownish yellow and buff silty fine to coarse tending towards fine and medium SAND. Possibly reworked. |
| | | 1.00 | B | | | | | |
| | | 1.00 | ES | | 1.10 | 41.30 | | |
| | | 1.20 - 1.65 | SPTLS | | | | | Medium dense light brown slightly silty fine to coarse SAND. Sand tending towards fine and medium. Occasionally mottled light brownish orange. (UPNOR FORMATION). |
| | | 1.20 | SPT | N=16 (2,3/3,4,4,5) | | | | |
| | | 1.50 | D | | | | | |
| | | 2.00 | D | | | | | |
| | | 2.00 | SPT | N=15 (2,3/3,5,4,3) | | | | |
| | | | | | 2.20 | 40.20 | | Medium dense light orange slightly silty fine to coarse SAND. (UPNOR FORMATION). |
| | | 2.50 | D | | | | | |
| | | | | | 2.60 | 39.80 | | Firm grey mottled orange sandy silty CLAY. Sand is fine and medium. (UPNOR FORMATION). |
| | ▼ | 2.70 | D | | | | | |
| | ▽ | | | | 2.80 | 39.60 | | Medium dense greenish grey clayey silty fine and medium SAND. Closely spaced with very thin and thin beds (50 to 100mm) of greenish grey clay. Sand sometimes fine to coarse. (UPNOR FORMATION). |
| | | 3.00 | D | | | | | |
| | | 3.00 - 3.45 | SPTLS | | | | | |
| | | 3.00 | SPT | N=29 (2,5/5,8,8,8) | | | | |
| | | 3.50 | D | | | | | |
| | | 3.50 | SPT | N=15 (1,3/3,3,4,5) | | | | |
| | | 4.00 - 5.00 | D | | | | | |
| | | 4.00 | SPT | N=22 (2,5/4,6,7,5) | | | | |
| | | 5.00 - 5.45 | SPTLS | | | | | |
| | | 5.00 | SPT | N=22 (4,5/4,6,6,6) | | | | |
| | | | | | 5.10 | 37.30 | | Stiff dark greenish grey and greyish green sandy silty CLAY. Sand is fine and medium. Abundant shell fragments. (UPNOR FORMATION). |
| | | | | | 5.45 | 36.95 | | End of Borehole at 5.450m |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 5.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 3.00m, rising to 2.80mbgl after a period of 20 minutes. Backfilled with arisings. Terminated at 5.45mbgl due to backfilling sands.

AGS

# Percussion Drilling Log

IMPACT GEOTECHNICAL

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471490.86 N172110.71 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS03 | WLS | 40.70m AoD | RG | 1:30 | Sheet 1 of 2 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description | |
|---|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | | |
| | | 0.00 - 0.08 | D | | 0.08 | 40.62 | | TARMAC. | |
| | | | | | 0.20 | 40.50 | | MADE GROUND: Light brown speckled brown sandy angular and sub-angular Gravel of flint. Sand medium and coarse. (SUB-BASE). | |
| | | 0.30 | ES | | | | | MADE GROUND: Dark brown and black slightly silty very gravelly fine to coarse Sand. Gravel is angular and sub-angular fine to coarse clinker, slag, flint and brick. | |
| | | 0.50 | D | | 0.60 | 40.10 | | MADE GROUND: Black silty gravelly fine and medium Sand and Ash. Gravel is angular and sub-angular fine to coarse flint and clinker. Bituminous odour and appearance. | 1 |
| | | 0.80 | ES | | 0.90 | 39.80 | | MADE GROUND: Medium dense greyish green speckled red silty gravelly fine and medium Sand. Gravel is angular and sub-angular fine and medium brick. | |
| | | 1.00 | D | | | | | MADE GROUND: Soft dark grey speckled black sandy slightly gravelly organic slightly organic Silt. Sand is fine and medium. Gravel is sub-angular fine and medium chalk. Rare sub-angular fine gravel of brick. Notable organic odour. | |
| | | 1.00 | ES | | 1.40 | 39.30 | | Very loose greenish grey and greyish green silty fine and medium slightly organic SAND. Notable organic odour. (ALLUVIUM). | 2 |
| | | 1.20 - 1.65 | SPTLS | | | | | | |
| | | 1.20 | SPT | N=10 (3,4/3,2,3,2) | | | | | |
| | | 1.50 | D | | 1.80 | 38.90 | | | |
| | | 1.50 | ES | | | | | | |
| | | 2.00 | D | | | | | | |
| | | 2.00 | SPT | N=3 (0,0/0,1,1,1) | | | | | |
| | | 2.50 | D | | 2.60 | 38.10 | | Very loose light brown, brown and orange silty fine to coarse SAND. Sand tending towards fine and medium. Rare well-rounded cobbles of flint. (UPNOR FORMATION). | |
| | | 3.00 | D | | | | | | 3 |
| | | 3.00 | SPT | N=3 (0,1/1,1,1,0) | | | | | |
| | | 3.50 | D | | | | | | |
| | | 4.00 | D | | 3.90 | 36.80 | | Firm thinly laminated brownish grey mottled brownish orange sandy CLAY. Sand is fine and medium. Locally very sandy. (UPNOR FORMATION). | 4 |
| | | 4.00 | SPT | N=5 (1,2/1,2,1,1) | 4.20 | 36.50 | | Dense brown and buff silty fine and medium SAND. (UPNOR FORMATION). | |
| | | 4.50 | D | | | | | | |
| | | 5.00 - 6.00 | D | | 5.00 | 35.70 | | *From 4.90m to 5.00mbgl: 100mm thick layer of firm green glauconitic Clay.* | 5 |
| | | 5.00 | SPT | N=12 (3,2/2,3,4,3) | | | | Recovered as: Structureless CHALK composed of a very silty, sub-angular and sub-rounded, fine and medium GRAVEL. Clasts are extremely weak, low density, and white. Matrix is white. (CIRIA C574 Grade Dc). | |
| | | 6.00 | SPT | N=23 (5,6/7,6,5,5) | | | | | 6 |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 6.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 3.20m, rising to 3.00mbgl after a period of 20 minutes. Backfilled with arisings. Reinstated at the surface with cold lay tarmac.

AGS

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471490.86 N172110.71 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS03 | WLS | 40.70m AoD | RG | 1:30 | Sheet 2 of 2 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | | | | 6.45 | 34.25 | | Recovered as: Structureless CHALK composed of a very silty, sub-angular and sub-rounded, fine and medium GRAVEL. Clasts are extremely weak, low density, and white. Matrix is white. (CIRIA C574 Grade Dc). |
| | | | | | | | | End of Borehole at 6.450m |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 6.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 3.20m, rising to 3.00mbgl after a period of 20 minutes. Backfilled with arisings. Reinstated at the surface with cold lay tarmac.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471502.48 N172090.90 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS04 | WLS | 41.90m AoD | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | 0.50 - 0.90 | ES | | 0.50 | 41.40 | | Pea shingle over CONCRETE: Comprised of a grey and brown Concrete with 60-70% angular to sub-rounded fine to coarse gravel-sized aggregate of flint. Slightly voided. |
| | | 1.00 | D | | 0.90 | 41.00 | | MADE GROUND: Reddish brown and brown speckled red silty gravelly fine to coarse Sand. Gravel is angular and sub-angular fine to coarse brick, flint and limestone. Occasional roots ranging in size between 20 and 45mm in diameter. |
| | | 1.00 | ES | | | | | Medium dense light brownish yellow and buff silty fine to coarse SAND. (UPNOR FORMATION). |
| | | 1.20 - 1.65 | SPTLS | | | | | |
| | | 1.20 - 1.70 | D | | | | | |
| | | 1.20 | SPT | N=14 (1,3/3,4,4,3) | | | | |
| | | 1.80 | D | | 1.70 | 40.20 | | Firm thinly laminated brownish grey mottled brownish orange sandy CLAY. Sand is fine and medium. Locally very sandy. (UPNOR FORMATION). |
| | | 2.00 - 2.45 | SPTLS | | | | | |
| | | 2.00 - 2.50 | D | | | | | |
| | | 2.00 | SPT | N=15 (2,3/4,3,3,5) | | | | |
| | | 2.50 - 3.00 | D | | 2.50 | 39.40 | | Medium dense brownish green silty fine and medium SAND. (UPNOR FORMATION). |
| | | 3.00 | SPT | N=14 (2,3/4,3,3,4) | | | | |
| | | 3.50 - 4.00 | D | | 3.40 | 38.50 | | Firm to stiff thinly laminated dark grey mottled orange sandy silty CLAY. Sand is fine and medium. (UPNOR FORMATION). |
| | | | | | 4.00 | 37.90 | | End of Borehole at 4.000m |

1 2 3 4 5 6

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 2.50m, rising to 1.90mbgl after a period of 20 minutes. Installed with monitoring standpipe comprising: 1.00m plain pipe within bentonite seal; and, 2.00m slotted pipe within gravel pack surrounds; finished within flush cover. Terminated at 4.00mbgl due to unstable borehole sides and backfilling sands.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471483.80 N172092.50 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS05 | WLS | 40.50m AoD | RG | 1:30 | Sheet 1 of 2 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | 0.00 - 0.10 | D | | 0.10 | 40.40 | | TARMAC. |
| | | 0.30 | ES | | | | | MADE GROUND: Black sandy angular and sub-angular Gravel of clinker, flint, slag and brick. Sand is fine to coarse. Occasional pieces of rusted metal, bits of rope and medium and coarse gravel-sized pieces of glass. Locally ashy. |
| | | | | | 0.50 | 40.00 | | MADE GROUND: Dark brown silty gravelly fine and medium Sand. Gravel is sub-angular and sub-rounded fine and medium flint. Rare to occasional sub-angular fine gravel of brick and clinker. |
| | | 0.80 | D | | | | | |
| | | 0.80 | ES | | | | | |
| | | | | | 1.10 | 39.40 | | MADE GROUND: Soft black and red gravelly sandy Clay. Sand is fine to coarse. Gravel is angular to sub-rounded fine and medium clinker and brick. |
| | | 1.20 | ES | | | | | |
| | | 1.20 - 1.65 | SPTLS | | | | | |
| | | 1.20 | SPT | N=16 (2,2/2,5,5,4) | | | | |
| | | | | | 1.50 | 39.00 | | MADE GROUND: Light brown and red sandy angular and sub-angular medium and coarse Gravel of brick and mortar. Sand is fine and medium. |
| | | | | | 1.60 | 38.90 | | MADE GROUND: Soft dark grey speckled black sandy slightly gravelly slightly organic Silt. Sand is fine and medium. Gravel is sub-angular fine and medium chalk. Rare sub-angular fine gravel of brick. Notable organic odour. |
| | | 2.00 | D | | | | | |
| | | 2.00 | ES | | 2.10 | 38.40 | | |
| | | 2.00 - 2.45 | SPTLS | | | | | |
| | | 2.00 | SPT | N=6 (0,0/0,1,2,3) | | | | Soft dark grey speckled black sandy slightly organic SILT. Sand is fine and medium. Occasional sub-angular fine and medium gravel of flint. (ALLUVIUM). |
| | | 2.50 | D | | | | | |
| | | | | | 2.60 | 37.90 | | Loose light brown, brown and orangish brown silty fine to coarse SAND. Sand tending towards fine and medium. (UPNOR FORMATION). |
| | | 3.00 | D | | | | | |
| | | 3.00 | SPT | N=8 (2,2/3,2,1,2) | | | | |
| | | | | | | | | *From 3.60m to 4.10mbgl: Locally very clayey.* |
| | | 4.00 | D | | | | | |
| | | 4.00 | SPT | N=10 (2,3/2,3,3,2) | | | | |
| | | 5.00 - 6.00 | D | | 5.00 | 35.50 | | Recovered as: Structureless CHALK composed of a white slightly gravelly SILT. Gravel is sub-angular, fine and medium, very weak, low density white chalk clasts. (CIRIA C574 Grade Dm). |
| | | 5.00 | SPT | N=19 (3,5/5,5,4,5) | | | | |
| | | 6.00 | SPT | N=26 (6,6/5,8,7,6) | | | | |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 6.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 3.00m, rising to 2.80mbgl after a period of 20 minutes. Installed with monitoring standpipe comprising: 1.00m plain pipe within bentonite seal; and, 1.00m slotted pipe within gravel pack surrounds; finished within flush cover.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471483.80 N172092.50 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Archway Dart |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS05 | WLS | 40.50m AoD | RG | 1:30 | Sheet 2 of 2 |

| Well | Water Strikes | Sample and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | Depth (m) | Type | Results | | | | |
| | | | | | 6.45 | 34.05 | | Recovered as: Structureless CHALK composed of a white slightly gravelly SILT. Gravel is sub-angular, fine and medium, very weak, low density white chalk clasts. (CIRIA C574 Grade Dm). |
| | | | | | | | | End of Borehole at 6.450m |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| 1.20 | 300 | | | | | | | | | | |
| 2.00 | 101 | | | | | | | | | | |
| 3.00 | 92 | | | | | | | | | | |
| 4.00 | 79 | | | | | | | | | | |
| 6.00 | 70 | | | | | | | | | | |

## Remarks

Buried service search undertaken by Groundscan prior to drilling. Hand excavated buried service inspection pit to 1.20mbgl. Groundwater strike at 3.00m, rising to 2.80mbgl after a period of 20 minutes. Installed with monitoring standpipe comprising: 1.00m plain pipe within bentonite seal; and, 1.00m slotted pipe within gravel pack surrounds; finished within flush cover.

# Percussion Drilling Log

| | | |
|---|---|---|
| Project Name: 220-222 Elgar Road South | Client: Hydrock | Date: 13/12/2024 |
| Location: Reading, RG2 0BW | Contractor: Impact Geotechnical Ltd | Co-ords: E471484.06 N172090.51 |
| Project No. : 29680 (P24.271) | Crew Name: RM/SG | Drilling Equipment: Hand tools |

| Borehole Number | Hole Type | Level | Logged By | Scale | Page Number |
|---|---|---|---|---|---|
| WS05A | WLS | 40.60m AoD | RG | 1:30 | Sheet 1 of 1 |

| Well | Water Strikes | Sample and In Situ Testing: Depth (m) | Type | Results | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0.10 | 40.50 | | TARMAC. |
| | | | | | | | | MADE GROUND: Red and brown clayey sub-angular fine to coarse Gravel of brick. |
| | | | | | 0.70 | 39.90 | | MADE GROUND: Buried brick structure. |
| | | | | | 1.20 | 39.40 | | End of Borehole at 1.200m |

| Hole Diameter | | Casing Diameter | | Chiselling | | | | Inclination and Orientation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth Base | Diameter | Depth Base | Diameter | Depth Top | Depth Base | Duration | Tool | Depth Top | Depth Base | Inclination | Orientation |
| | | | | | | | | | | | |

Remarks

Terminated due to buried structure. WS05 undertaken 2.50m from WS05A as alternative location.

# *Exploratory hole photographs*

1.




2.



3.



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 1. WS01<br>2. WS01 pit<br>3. WS01 1.20m to 5.00mbgl<br>4. Monitoring install within WS01 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

5.



6.



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 5. WS02<br>6. WS02 pit<br>7. WS02 1.20m to 5.00mbgl<br>8. Reinstatement of WS02 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

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10.



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12.



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 9. WS03<br>10. WS03 ground level to 1.20mbgl<br>11. WS03 1.20m to 6.00mbgl<br>12. Reinstatement of WS03 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**13.**



**14.**



**15.**



**16.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 13. WS04<br>14. WS04 pit<br>15. WS04 1.20m to 4.00mbgl<br>16. Monitoring install within WS04 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 17. WS05<br>18. WS05 ground level to 1.20mbgl<br>19. WS05 1.20m to 6.00mbgl<br>20. Monitoring install within WS05 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**21.**



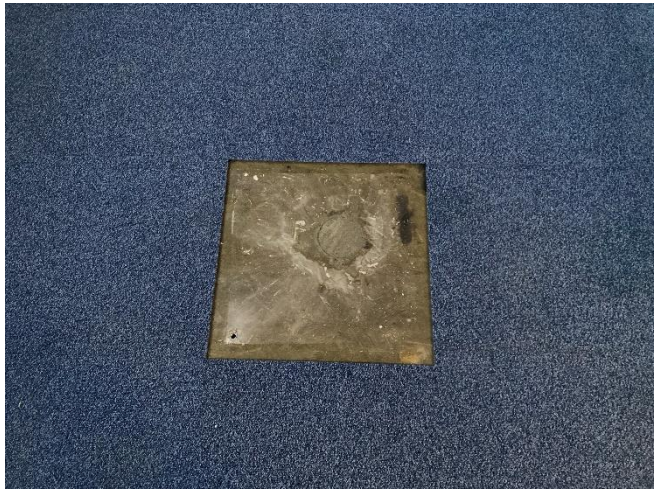
**22.**



**23.**



**24.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 21. LWS01 core hole<br>22. LWS01 ground level to 1.00mbgl<br>23. LWS01 1.00m to 3.00mbgl<br>24. Reinstatement of LWS01 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**25.**



**26.**



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**28.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 25. LWS02 core hole<br>26. LWS02 ground level to 1.00mbgl<br>27. LWS02 1.00m to 2.60mbgl<br>28. Reinstatement of LWS01 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**29.**



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**31.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 29. LWS03 core hole<br>30. LWS03 ground level to 1.00mbgl<br>31. LWS03 1.00m to 2.50mbgl<br>32. Reinstatement of LWS01 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**33.**



**34.**



**35.**



**36.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 33. FP01<br>34. FP01 arisings<br>35. FP01 pit<br>36. FP02 | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

**37.**



**38.**



**38.**



**40.**



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|---|---|---|---|
| **Project:** | 220-222 Elgar Road South | **Title:** | Site Photographs |
| **Job Number:** | 29680 (P24.271) | 37. FP02 arisings<br>38. FP02 pit<br>39. FP03 arisings<br>40. FP03 pit | IMPACT GEOTECHNICAL<br>Impact Geotechnical Limited<br>www.impactgeo.co.uk |
| **Client:** | Hydrock | | |
| **Produced by:** | RG | | |
| **Checked by:** | GC | | |

# Appendix C Geotechnical test results and Buried Concrete Assessment

# Geotechnical laboratory test results

# Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

## Contract Number: 76456

Client Ref: **29680**
Client PO: **PO38543**

Client: **Hydrock Limited**

Contract Title: **Elgar Road, Reading**
For the attention of: **Lily Cherry**

Date Received: **19-12-2024**
Date Completed: **23-01-2025**
Report Date: **23-01-2025**

This report has been checked and approved by:



**Darren Bourne**
Quality Senior Technician

| Description | Qty |
|---|---|
| **Moisture Content**<br>BS 1377:1990 - Part 2 : 3.2 - * UKAS | 6 |
| **4 Point Liquid & Plastic Limit**<br>BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS | 4 |
| **Particle Size Distribution**<br>BS EN ISO 17892-4 : 5.1 - * UKAS | 3 |
| **Organic Matter Content**<br>Sub-contracted Test - In-house method | 2 |
| **BRE Reduced Suite**<br>**includes pH, water & acid soluble sulphate and total sulphur**<br>Sub-contracted Test | 5 |

**Notes:** **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
**# - denotes test carried out by approved contractor**
**@ - denotes non accredited tests**

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 test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

**Approved Signatories:**
Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

| GSTL GEOTECHNICAL SITE & TESTING LABORATORIES | NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX ( BS 1377:1990 - Part 2 : 4.3 & 5.3 ) | |
|---|---|---|
| Contract Number | 76456 | |
| Project Name | Elgar Road, Reading | |
| Date Tested | 09/01/2025 | |
| | **DESCRIPTIONS** | |

| Sample/Hole Reference | Sample Number | Sample Type | Depth (m) | | | Descriptions |
|---|---|---|---|---|---|---|
| WS01 | | D | 2.80 | - | | Brown sandy silty CLAY |
| WS02 | | D | 2.70 | - | | Brown sandy silty CLAY |
| WS03 | | D | 2.50 | - | | Grey sandy silty CLAY |
| WS03 | | D | 4.00 | - | | Brown sandy silty CLAY |
| WS05 | | D | 2.50 | - | | Grey sandy silty CLAY |
| LWS02 | | D | 2.10 | - | 2.60 | Brown sandy silty CLAY |
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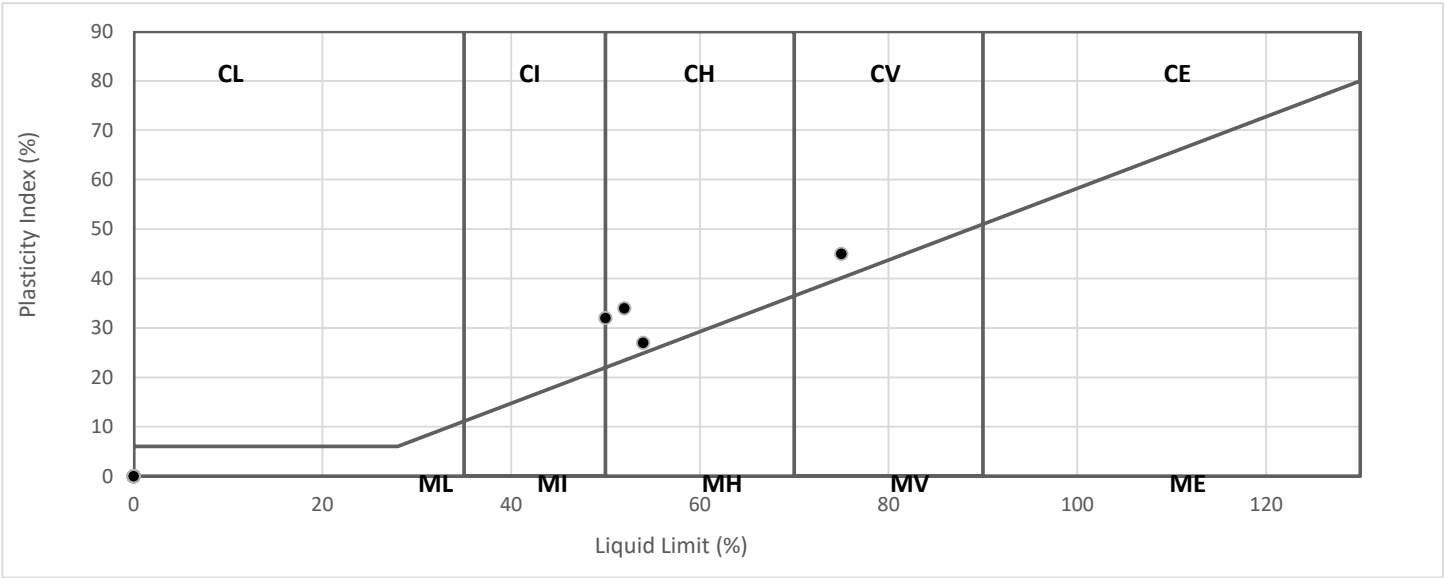
| Operator |
|---|
| Clayton Jenkins |

| GSTL GEOTECHNICAL SITE & TESTING LABORATORIES | NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX ( BS 1377:1990 - Part 2 : 4.3 & 5.3 ) | |
|---|---|---|
| Contract Number | 76456 | |
| Project Name | Elgar Road, Reading | |
| Date Tested | 09/01/2025 | |

| Sample/Hole Reference | Sample Number | Sample Type | Depth (m) | | | Moisture Content % | Liquid Limit % | Plastic Limit % | Plasticity index % | Passing 0.425mm % | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WS01 | | D | 2.80 | - | | 20 | 52 | 18 | 34 | 99 | CH High Plasticity |
| WS02 | | D | 2.70 | - | | 23 | 54 | 27 | 27 | 99 | CH High Plasticity |
| WS03 | | D | 2.50 | - | | 18 | | | | | |
| WS03 | | D | 4.00 | - | | 47 | 75 | 30 | 45 | 98 | CV Very High Plasticity |
| WS05 | | D | 2.50 | - | | 24 | | | | | |
| LWS02 | | D | 2.10 | - | 2.60 | 21 | 50 | 18 | 32 | 98 | CI/H Inter/High Plasticity |
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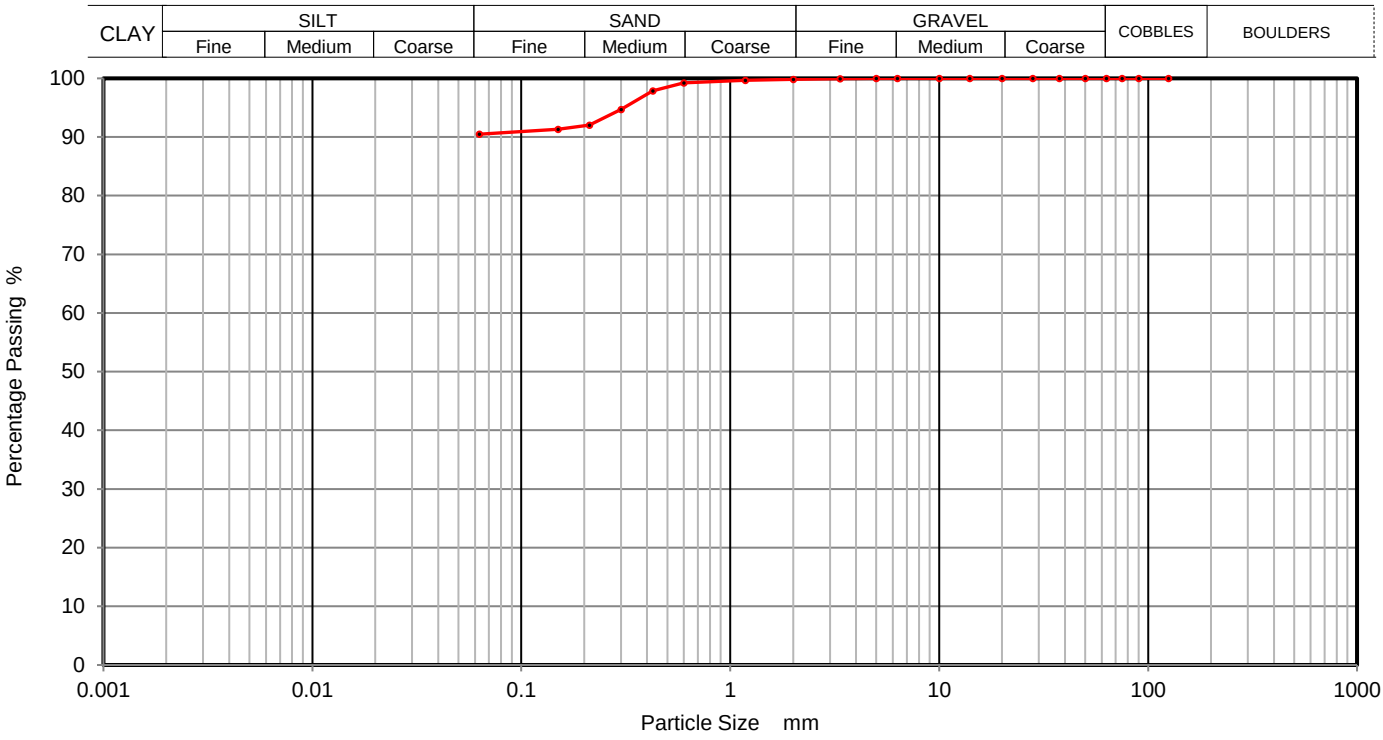
Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

**PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION**
**BS 5930:2015+A1:2020**




| Operator |
|---|
| Clayton Jenkins |

| GSTL GEOTECHNICAL SITE & TESTING LABORATORIES | PARTICLE SIZE DISTRIBUTION<br>BS EN ISO 17892-4:2016<br>Wet Sieve, Clause 5.2 | Contract Number | 76456 |
|---|---|---|---|
| | | Borehole/Pit No. | WS01 |
| Project Name | Elgar Road, Reading | Sample No. | |
| Sample Description | Btrown fine to coarse sandy silty CLAY | Depth Top | 2.00 |
| | | Depth Base | |
| Date Tested | 11/01/2025 | Sample Type | D |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | | |
| 90 | 100 | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.63 | 99 | | |
| 0.425 | 98 | | |
| 0.30 | 95 | | |
| 0.20 | 92 | | |
| 0.15 | 91 | | |
| 0.063 | 90 | | |

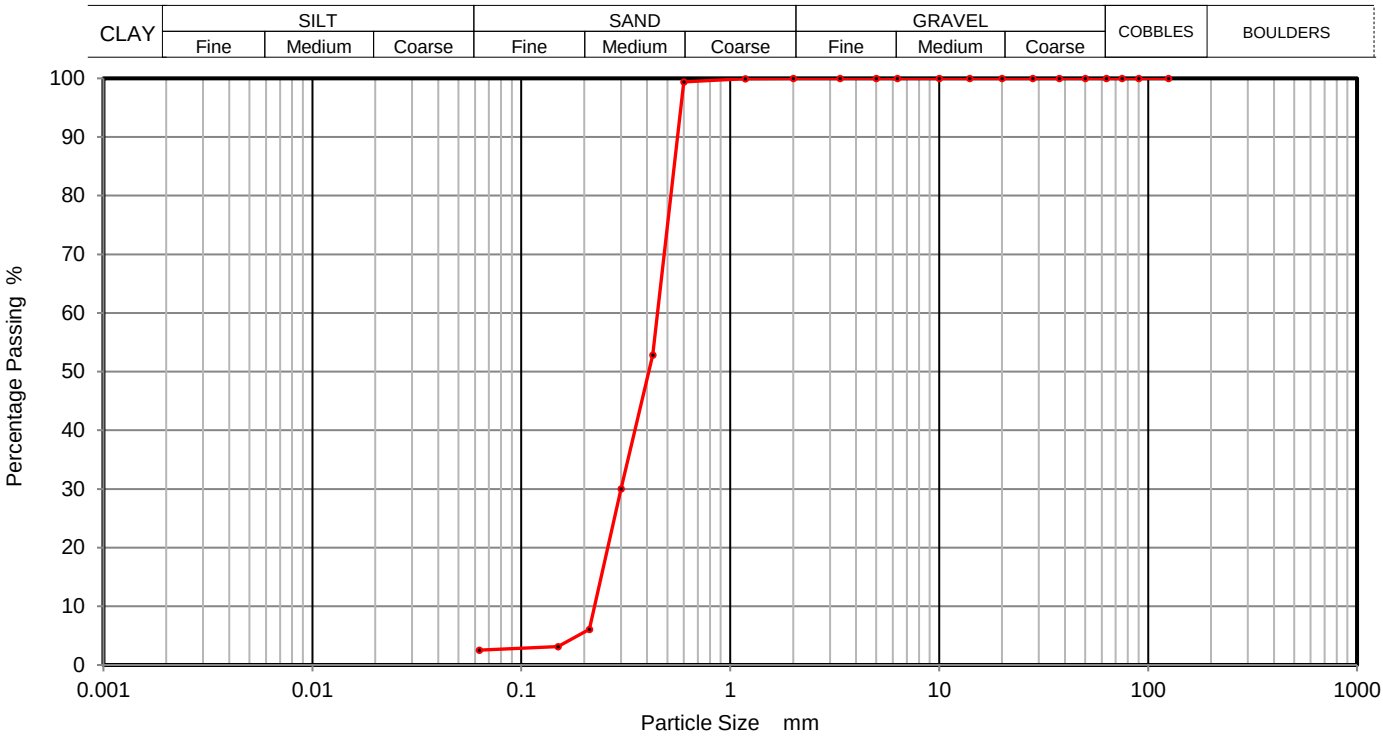
| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 0 |
| Sand | 10 |
| Silt and Clay | 90 |
| | |
| | |

Remarks

Preparation and testing in accordance with BS17892 unless noted below

| Operator |
|---|
| Cameron |

| GSTL GEOTECHNICAL SITE & TESTING LABORATORIES | **PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2** | Contract Number | **76456** |
|---|---|---|---|
| | | Borehole/Pit No. | **WS02** |
| Project Name | **Elgar Road, Reading** | Sample No. | |
| Sample Description | Brown silty/clay fine to coarse SAND | Depth Top | **2.00** |
| | | Depth Base | |
| Date Tested | 11/01/2025 | Sample Type | **D** |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | | |
| 90 | 100 | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.63 | 99 | | |
| 0.425 | 53 | | |
| 0.30 | 30 | | |
| 0.20 | 6 | | |
| 0.15 | 3 | | |
| 0.063 | 3 | | |

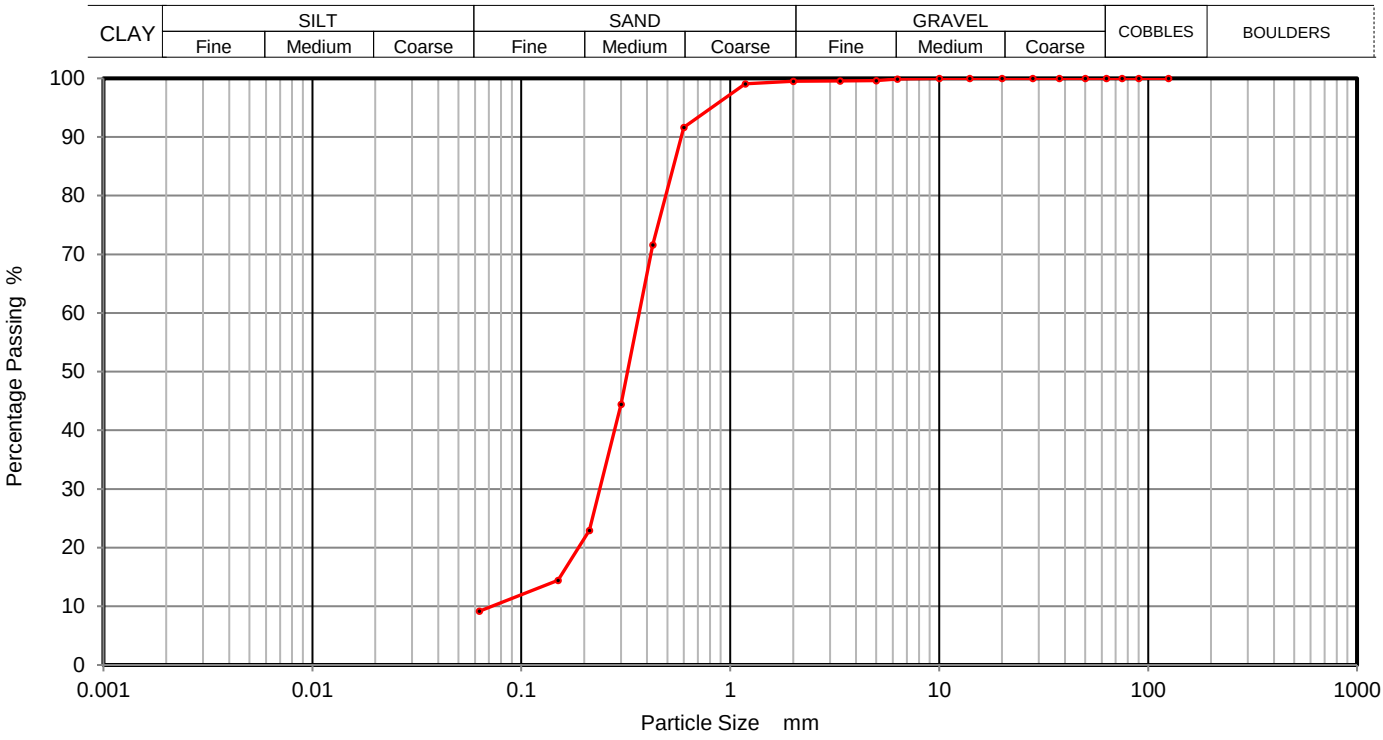
| **Sample Proportions** | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 0 |
| Sand | 97 |
| Silt and Clay | 3 |
| | |
| | |

Remarks

Preparation and testing in accordance with BS17892 unless noted below

| Operator |
|---|
| Cameron |

| GSTL GEOTECHNICAL SITE & TESTING LABORATORIES | **PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2** | Contract Number | **76456** |
|---|---|---|---|
| | | Borehole/Pit No. | **WS03** |
| Project Name | **Elgar Road, Reading** | Sample No. | |
| Sample Description | Brown slightly fine gravelly slightly silty/clay fine to coarse SAND | Depth Top | **3.50** |
| | | Depth Base | |
| Date Tested | 11/01/2025 | Sample Type | **D** |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | | |
| 90 | 100 | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.63 | 92 | | |
| 0.425 | 72 | | |
| 0.30 | 44 | | |
| 0.20 | 23 | | |
| 0.15 | 14 | | |
| 0.063 | 9 | | |

| **Sample Proportions** | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 1 |
| Sand | 90 |
| Silt and Clay | 9 |
| | |
| | |

Remarks

Preparation and testing in accordance with BS17892 unless noted below

| Operator |
|---|
| Cameron |

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CONSTRUCTION TESTING SOLUTIONS
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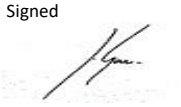
7 - 11 Harding Street
Leicester
LE1 4DH

**GSTL**
Unit 3-4 Heol Aur
Dafen Ind Estate
Dafen
SA14 8QN

**Analytical Test Report: L25/00209/GSL - 25-55018**

| | | | |
|---|---|---|---|
| Your Project Reference: | **ELGAR ROAD, REDING 29680** | | |
| Your Order Number: | 76456 | Samples Received / Instructed: | 10/01/2025 / 10/01/2025 |
| Report Issue Number: | 1 | Sample Tested: | 10/01 to 20/01/2025 |
| Samples Analysed: | 6 sample(s) | Report issued: | 20/01/2025 |

Signed



**James Gane**
Analytical Services Manager
CTS

Notes:

**General**

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30˚C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

**Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.**

**Uncertainty of measurement values are available on request.**

Samples were supplied by customer, results apply to the samples as received.

**Deviating Samples**

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

**Accreditation Key**

This report shall not be reproduce except in full

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

UKAS accreditation on waters only covers the Ground water and Surface water matrices

Date of Issue: 08.01.2025
Issued by: J. Gane
Issue No: 4
Rev No: 22

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**L25/00209/GSL - 25-55018**
**Project Reference - ELGAR ROAD, REDING**
**29680**
**Analytical Test Results - Solid**

| Lab Reference | | | 435039 | 435042 |
|---|---|---|---|---|
| Client Sample ID | | | - | - |
| Client Sample Location | | | WS03 | WS05 |
| Client Sample Type | | | D | D |
| Client Sample Number | | | - | - |
| Depth - Top (m) | | | 2.50 | 2.50 |
| Depth - Bottom (m) | | | 2.50 | 2.50 |
| Date of Sampling | | | - | - |
| Time of Sampling | | | - | - |
| Sample Matrix | | | Clay | Clay |
| **Determinant** | **Units** | **Accreditation** | | |
| SOM (via TOC) | (%) | UKAS | < 0.9 | 2.2 |

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**L25/00209/GSL - 25-55018**
**Project Reference - ELGAR ROAD, REDING**
**29680**
**Analytical Test Results - Chemical Analysis**

| Lab Reference | | | 435037 | 435038 | 435039 | 435040 | 435041 |
|---|---|---|---|---|---|---|---|
| Client Sample ID | | | - | - | - | - | - |
| Client Sample Location | | | WS01 | WS03 | WS03 | WS04 | WS05 |
| Client Sample Type | | | B | D | D | D | D |
| Client Sample Number | | | - | - | - | - | - |
| Depth - Top (m) | | | 1.00 | 0.50 | 2.50 | 1.00 | 2.00 |
| Depth - Bottom (m) | | | 1.00 | 0.50 | 2.50 | 1.00 | 2.00 |
| Date of Sampling | | | - | - | - | - | - |
| Time of Sampling | | | - | - | - | - | - |
| Sample Matrix | | | Clay | Sand | Clay | Sand | Clay |
| **Determinant** | **Units** | **Accreditation** | | | | | |
| Water soluble sulphate (as $SO_4$) | (mg/l) | u | < 10 | 170 | < 10 | 14 | 130 |
| Acid Soluble Sulphate | (%) | u | 0.01 | 0.15 | < 0.01 | < 0.01 | 0.05 |
| Total Sulphur | (%) | UKAS | < 0.01 | 0.15 | < 0.01 | < 0.01 | 0.12 |
| pH Value | pH Units | MCERTS | 7.5 | 8.1 | 8.1 | 8.4 | 7.8 |

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**L25/00209/GSL - 25-55018**

**Project Reference - ELGAR ROAD, READING 29680**

**Sample Descriptions**

| Lab Reference | Client Sample ID | Client Sample Location | Client Sample Type | Client Sample Number | Description | Moisture Content (%) | Stone Content (%) | Passing 2mm test sieve (%) |
|---|---|---|---|---|---|---|---|---|
| 435037 | - | WS01 | B | - | Brown gravelly sandy silty clay | - | - | 70 |
| 435038 | - | WS03 | D | - | Made Ground- dark greyish brown gravelly slightly clayey silty sand with frequent slag brick fragments | - | - | 78 |
| 435039 | - | WS03 | D | - | Greyish brown slightly gravelly sandy silty clay | 18 | 3.0 | 95 |
| 435040 | - | WS04 | D | - | Light brown slightly gravelly silty sand | - | - | 100 |
| 435041 | - | WS05 | D | - | Made Ground- dark brown slightly gravelly slightly sandy silty clay with rare brick fragments | - | - | 97 |
| 435042 | - | WS05 | D | - | Brownish grey slightly gravelly slightly sandy silty clay | 23 | 3.7 | - |

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**L25/00209/GSL - 25-55018**

**Project Reference - ELGAR ROAD, REDING 29680**

**Sample Comments**

| Lab Reference | Client Sample ID | Client Sample Location | Client Sample Type | Client Sample Number | Comments |
|---|---|---|---|---|---|
| 435037 | - | WS01 | B | - | |
| 435038 | - | WS03 | D | - | |
| 435039 | - | WS03 | D | - | |
| 435040 | - | WS04 | D | - | |
| 435041 | - | WS05 | D | - | |
| 435042 | - | WS05 | D | - | |

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**L25/00209/GSL - 25-55018**

**Project Reference - ELGAR ROAD, REDING 29680**

**Analysis Methodologies**

| Test Code | Test Name / Reference | Sample condition for analysis | Sample Preperation | Test Details |
|---|---|---|---|---|
| ANIONSS | MS - CL - Anions by Aquakem (2:1Extract) | Oven dried | Passing 2mm test sieve | Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio |
| PHS | MS - CL - pH in Soils | As received | Passing 10mm test sieve | Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction) |
| ASSO4S | MS - CL - Acid Soluble Sulphate | Oven Dried | Passing 2mm test sieve | Determination of total sulphate in soils by acid extraction followed by ICP analysis |
| TOCS | MS - CL - TOC Eltra | Air Dried | Passing 10mm test sieve | Determination of Total Organic Carbon in soils |
| SAMPLEPREP | MS - CL - Sample Preparation | - | - | Preparation of samples (including determination of moisture content) to allow for subsequent analysis |
| 1377TS-ELT | BS1377 Total Sulphur Content by HTC | Oven dried | BS1377 : Part 1 : 2016 | Total Sulphur Content testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.10 (using Eltra CS-800 Analyser) |

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**L25/00209/GSL - 25-55018**

**Project Reference - ELGAR ROAD, REDING 29680**

**Sample Deviations**

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

**Observations on receipt**

A - No date of sampling provided
W - No time of sampling provided for water sample
C - Received in inappropriate container
H - Contains headspace
T - Temperature on receipt exceeds storage temperature
R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

**Observations whilst in laboratory**

X - Exceeds sampling to extraction or analysis timescales

| Lab Reference | Client Sample ID | Client Sample Location | Client Sample Type | Client Sample Number | Test | Deviations |
|---|---|---|---|---|---|---|
| 435037 | - | WS01 | B | - | | A |
| 435038 | - | WS03 | D | - | | A |
| 435039 | - | WS03 | D | - | | A |
| 435040 | - | WS04 | D | - | | A |
| 435041 | - | WS05 | D | - | | A |
| 435042 | - | WS05 | D | - | | A |

# Buried concrete assessment sheets

Hydrock

| Client | Location or material to which this assessment applies |
|---|---|
| Abri | Alluvium |
| **Project** | |
| 200-220 Elgar Road South | |
| **Job number** | |
| 29680 | |

# Concrete in aggressive ground

After BRE Special Digest 1:2005 + 2017 3e

## Soil data

| | (Adjusted) water soluble sulfate (mg/l) | Total potential sulfate (%) | Water soluble magnesium (mg/l) |
|---|---|---|---|
| Number of tests | 1 | 1 | |
| No. tests in 20% data set | 0 | 0 | |
| No. tests with suspected pyrite | | 0 | |
| Maximum value | 10 | 0 | |
| Mean of highest two values | 10 | 0 | |
| Mean of highest 20% | | | |
| **Characteristic Value** | **10** | **0** | |

| | [no pyrite] | [pyrite suspected] |
|---|---|---|
| **DS Class** | **DS-1** | **DS-1** |

**If pyrite suspected, DS Class limited to** **DS-1**

**Is pyrite assumed to be present?** No **Adopted DS Class =** **DS-1**

## Water data

| | (Adjusted) soluble sulfate (mg/l) | Soluble magnesium (mg/l) |
|---|---|---|
| **Characteristic Value (Maximum Level)** | 0 | 0 |
| **DS Class** | | |

## pH data

| | Soil | Water |
|---|---|---|
| Number of tests | 1 | 0 |
| No. tests in 20% data set | 0 | |
| Lowest pH | 8.1 | |
| Mean of lowest 20% | | |
| **Characteristic value** | **8.1** | |
| **Design value** | **8.1** | |

Number of soil pH results less than 5.5: 0

## DS Class design value

**Based on higher of soil and water data** **DS-1**

## ACEC Class design value

Natural ground

Static groundwater **AC-1s**

Hydrock

| Client | Location or material to which this assessment applies |
|---|---|
| Abri | Made Ground |
| **Project** | |
| 200-220 Elgar Road South | |
| **Job number** | |
| 29680 | |

# Concrete in aggressive ground

After BRE Special Digest 1:2005 + 2017 3e

## Soil data

| | (Adjusted) water soluble sulfate (mg/l) | Total potential sulfate (%) | Water soluble magnesium (mg/l) |
|---|---|---|---|
| Number of tests | 3 | 3 | |
| No. tests in 20% data set | 1 | 1 | |
| No. tests with suspected pyrite | | 2 | |
| Maximum value | 170 | 0.5 | |
| Mean of highest two values | 150 | 0 | |
| Mean of highest 20% | | | |
| **Characteristic Value** | **170** | **0.5** | |
| | | | **Mg not required** |
| | **[no pyrite]** | **[pyrite suspected]** | |
| **DS Class** | **DS-1** | **DS-2** | |

**If pyrite suspected, DS Class limited to** **DS-2**

**Is pyrite assumed to be present?** No **Adopted DS Class =** **DS-1**

## Water data

| | (Adjusted) soluble sulfate (mg/l) | Soluble magnesium (mg/l) |
|---|---|---|
| **Characteristic Value** | 0 | 0 |
| **(Maximum Level)** | | **Mg not required** |
| **DS Class** | | |

## pH data

| | Soil | Water |
|---|---|---|
| Number of tests | 3 | 0 |
| No. tests in 20% data set | 1 | |
| Lowest pH | 7.5 | |
| Mean of lowest 20% | 7.5 | |
| **Characteristic value** | **7.5** | |
| **Design value** | **7.5** | |

Number of soil pH results less than 5.5 0

## DS Class design value

**Based on higher of soil and water data** **DS-1**

## ACEC Class design value

Brownfield

Static groundwater **AC-1s**

Hydrock

| Client | Location or material to which this assessment applies |
|---|---|
| Abri | Upnor Formation |
| **Project** | |
| 200-220 Elgar Road South | |
| **Job number** | |
| 29680 | |

# Concrete in aggressive ground

After BRE Special Digest 1:2005 + 2017 3e

## Soil data

| | (Adjusted) water soluble sulfate (mg/l) | Total potential sulfate (%) | Water soluble magnesium (mg/l) |
|---|---|---|---|
| Number of tests | 1 | 1 | |
| No. tests in 20% data set | 0 | 0 | |
| No. tests with suspected pyrite | | 0 | |
| Maximum value | 14 | 0 | |
| Mean of highest two values | 14 | 0 | |
| Mean of highest 20% | | | |
| **Characteristic Value** | **14** | **0** | |

| | [no pyrite] | [pyrite suspected] |
|---|---|---|
| **DS Class** | **DS-1** | **DS-1** |

**If pyrite suspected, DS Class limited to** **DS-1**

**Is pyrite assumed to be present?** No **Adopted DS Class =** **DS-1**

## Water data

| | (Adjusted) soluble sulfate (mg/l) | Soluble magnesium (mg/l) |
|---|---|---|
| **Characteristic Value (Maximum Level)** | 0 | 0 |
| **DS Class** | | |

## pH data

| | Soil | Water |
|---|---|---|
| Number of tests | 1 | 0 |
| No. tests in 20% data set | 0 | |
| Lowest pH | 8.1 | |
| Mean of lowest 20% | | |
| **Characteristic value** | **8.1** | |
| **Design value** | **8.1** | |

Number of soil pH results less than 5.5: 0

## DS Class design value

**Based on higher of soil and water data** **DS-1**

## ACEC Class design value

Natural ground

Static groundwater **AC-1s**

# *Appendix D Site monitoring data and ground gas risk assessment*

*To be updated once ground gas monitoring programme has been completed

# Site monitoring data

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road South | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 03/02/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | JS |
| **Well Details** | | | |
| **Well ID:** | WS01 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 0.50 |
| **Well Material:** | | **Base of Screen (m bgl):** | 1.50 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Well and cover in good condition.

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |
| 0:00:10 | - | 0.00 | 0.00 | 1.30 | 18.90 | 0.00 | 0.00 | 0.00 |
| 0:00:30 | - | 0.00 | 0.00 | 1.50 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:01:00 | - | 0.00 | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:01:30 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:02:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:02:30 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:03:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:05:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:07:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:08:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:09:00 | - | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |
| 0:10:00 | | | 0.00 | 1.50 | 18.30 | 0.00 | 0.00 | 0.00 |

**Ambient readings**

| Atmospheric pressure (mb): | 1019.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |

**Observations during monitoring**

N/A

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | | Ground Level | X | **Water Level Depth (m bd):** | 1.47 |
|---|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | | **Measured Well Depth (m bd):** | 1.65 |
| **NAPL Thickness (mm):** | | | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 04/02/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | JS |
| **Well Details** | | | |
| **Well ID:** | WS04 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 3.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Well and install in good condition.

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |
| 0:00:10 | - | 0.00 | 0.00 | 0.10 | 20.30 | 0.00 | 0.00 | 0.00 |
| 0:00:30 | - | 0.00 | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:01:00 | - | 0.00 | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:01:30 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:02:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:02:30 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:03:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:05:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:07:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:08:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:09:00 | - | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |
| 0:10:00 | | | 0.00 | 0.90 | 19.70 | 0.00 | 0.00 | 0.00 |

**Ambient readings**

| Atmospheric pressure (mb): | 1017.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |

**Observations during monitoring**

N/A

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | Ground Level | X | **Water Level Depth (m bd):** | 1.44 |
|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | **Measured Well Depth (m bd):** | 3.10 |
| **NAPL Thickness (mm):** | | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 21/01/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | LC |
| **Well Details** | | | |
| **Well ID:** | WS05 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 2.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | 0.00 | 0.00 | |
| 0:00:00 | - | | 0.00 | 1.50 | 18.70 | 0.00 | 0.00 | |
| 0:00:10 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:02:30 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:08:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:09:00 | - | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |
| 0:10:00 | | | 0.00 | 1.90 | 18.30 | 0.00 | 0.00 | |

| Ambient readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Atmospheric pressure (mb): | 1007.00 | | | | | | |
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

No CO present. (previous visit on 13/01/25 showed between 0 and 10 ppm)

| Samples | | | |
|---|---|---|---|
| **Sample ID:** | | **Containers:** | |
| **QA/QC Samples** | | | |
| ☐ Duplicate | **Sample ID:** | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | **Laboratory:** | |

| Groundwater Gauging: | | | | | |
|---|---|---|---|---|---|
| **Monitoring Data** | | | | | |
| **Monitoring Datum** | | Casing | Ground Level X | **Water Level Depth (m bd):** | 1.56 |
| **Depth to NAPL (m bd):** | | | | **Measured Well Depth (m bd):** | 2.10 |
| **NAPL Thickness (mm):** | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 21.01/25 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | JS |
| **Well Details** | | | |
| **Well ID:** | WS04 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 3.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | 0.00 | 0.00 | |
| 0:00:10 | - | | 0.00 | 1.40 | 19.60 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.60 | 19.00 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.60 | 19.00 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:02:30 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:08:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:09:00 | - | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |
| 0:10:00 | | | 0.00 | 1.50 | 19.00 | 0.00 | 0.00 | |

| Ambient readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Atmospheric pressure (mb): | 1005.00 | | | | | | |
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

Silty at base, no CO present. (previous visit on 13/01/25 showed between 0 and 10 ppm)

| Samples | | | |
|---|---|---|---|
| **Sample ID:** | | **Containers:** | |
| **QA/QC Samples** | | | |
| ☐ Duplicate | **Sample ID:** | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| | | | | | |
|---|---|---|---|---|---|
| **Monitoring Datum** | Casing | Ground Level | X | **Water Level Depth (m bd):** | 1.57 |
| **Depth to NAPL (m bd):** | | | | **Measured Well Depth (m bd):** | 3.10 |
| **NAPL Thickness (mm):** | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road South | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 21/01/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | JS |
| **Well Details** | | | |
| **Well ID:** | WS01 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 0.50 |
| **Well Material:** | | **Base of Screen (m bgl):** | 1.50 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | | | |
| 0:00:10 | - | | 0.00 | 0.50 | 19.40 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.40 | 19.10 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:02:30 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:08:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:09:00 | - | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |
| 0:10:00 | | | 0.00 | 1.40 | 19.00 | 0.00 | 0.00 | |

| **Ambient readings** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Atmospheric pressure (mb): | 1009.00 | | | | | | |
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|
| **QA/QC Samples** | | | |
| ☐ Duplicate | **Sample ID:** | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | Casing | Ground Level | X | **Water Level Depth (m bd):** | 1.59 |
|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | **Measured Well Depth (m bd):** | 1.65 |
| **NAPL Thickness (mm):** | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 13/01/2025 | **Weather:** | |
| **Comments:** | | **Recorded by:** | LC |
| **Well Details** | | | |
| **Well ID:** | WS05 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 2.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | | 0.00 | 0.00 | 0.00 | 20.30 | 0.00 | 0.00 | |
| 0:00:10 | - | | 0.00 | 0.50 | 20.20 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 0.70 | 19.90 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 0.70 | 19.90 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 0.70 | 19.90 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 0.70 | 19.80 | 10.00 | 0.00 | |
| 0:04:00 | - | | 0.00 | 0.70 | 19.80 | 10.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 0.70 | 19.80 | 10.00 | 0.00 | |
| 0:06:00 | - | | 0.00 | 0.70 | 19.80 | 10.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 0.70 | 19.80 | 10.00 | 0.00 | |
| 0:08:00 | - | | | | | | | |
| 0:09:00 | - | | | | | | | |
| 0:10:00 | | | | | | | | |

**Ambient readings**

| | | CH4 | CO2 | O2 | CO | H2S | VOC |
|---|---|---|---|---|---|---|---|
| Atmospheric pressure (mb): | 1033.00 | | | | | | |
| Ambient concentrations: | | | | | | | |
| | | | | | | | |

**Observations during monitoring**

fluctuaing between 0 & 10CO PPM

**Samples**

| | | | |
|---|---|---|---|
| **Sample ID:** | | **Containers:** | |

**QA/QC Samples**

| | | | | |
|---|---|---|---|---|
| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| | | | | | |
|---|---|---|---|---|---|
| **Monitoring Datum** | x | Casing | Ground Level | **Water Level Depth (m bd):** | 1.55 |
| **Depth to NAPL (m bd):** | | | | **Measured Well Depth (m bd):** | 2.10 |
| **NAPL Thickness (mm):** | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 13/01/2025 | **Weather:** | |
| **Comments:** | | **Recorded by:** | LC |
| **Well Details** | | | |
| **Well ID:** | WS04 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 3.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | | 0.00 | 0.00 | 0.80 | 19.70 | 0.00 | 0.00 | |
| 0:00:10 | - | | 0.00 | 0.80 | 19.70 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 0.60 | 19.90 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 0.60 | 19.90 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 0.60 | 19.90 | 10.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 0.60 | 19.90 | 10.00 | 0.00 | |
| 0:04:00 | - | | 0.00 | 0.60 | 19.90 | 10.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 0.50 | 19.90 | 10.00 | 0.00 | |
| 0:06:00 | - | | 0.00 | 0.50 | 19.90 | 10.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 0.50 | 20.00 | 10.00 | 0.00 | |
| 0:08:00 | - | | 0.00 | 0.50 | 19.90 | 10.00 | 0.00 | |
| 0:09:00 | - | | 0.00 | 0.50 | 19.90 | 10.00 | 0.00 | |
| 0:10:00 | | | 0.00 | 0.50 | 19.90 | 10.00 | 0.00 | |

**Ambient readings**

| Atmospheric pressure (mb): | 1035.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

fluctuating between 0 and 10 ppm CO. no samples, brown silt at base

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | | Ground Level | X | **Water Level Depth (m bd):** | 1.55 |
|---|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | | **Measured Well Depth (m bd):** | 3.12 |
| **NAPL Thickness (mm):** | | | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road South | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 13/01/2025 | **Weather:** | Sunny, cool |
| **Comments:** | | **Recorded by:** | LC |
| **Well Details** | | | |
| **Well ID:** | WS01 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 0.50 |
| **Well Material:** | | **Base of Screen (m bgl):** | 1.50 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

GAS TAP CLOSED

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | | 0.00 | | | | | | |
| 0:00:10 | - | | 0.00 | 0.90 | 19.10 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:04:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:06:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:08:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:09:00 | - | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |
| 0:10:00 | | | 0.00 | 1.30 | 18.50 | 0.00 | 0.00 | |

**Ambient readings**

| Atmospheric pressure (mb): | 1033.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | Ground Level | X | **Water Level Depth (m bd):** | 1.53 |
|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | **Measured Well Depth (m bd):** | 1.57 |
| **NAPL Thickness (mm):** | | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 27/01/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | LE |
| **Well Details** | | | |
| **Well ID:** | WS05 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 2.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Gas Tap Closed

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | | | |
| 0:00:10 | - | | 0.00 | 2.00 | 18.10 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 2.00 | 17.90 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 2.00 | 17.80 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 2.00 | 17.80 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 2.00 | 17.80 | 0.00 | 10.00 | |
| 0:02:30 | - | | 0.00 | 2.00 | 17.80 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 2.10 | 17.80 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 2.00 | 17.80 | 0.00 | 0.00 | |
| 0:08:00 | - | | | | | | | |
| 0:09:00 | - | | | | | | | |
| 0:10:00 | | | | | | | | |

**Ambient readings**

| Atmospheric pressure (mb): | 973.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

Test terminated when results no longer fluctuated.

| Samples | | | |
|---|---|---|---|
| **Sample ID:** | | **Containers:** | |
| **QA/QC Samples** | | | |
| ☐ Duplicate | **Sample ID:** | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| Monitoring Datum | | Casing | Ground Level | X | Water Level Depth (m bd): | 1.47 |
|---|---|---|---|---|---|---|
| Depth to NAPL (m bd): | | | | | Measured Well Depth (m bd): | 2.17 |
| NAPL Thickness (mm): | | | | | Correction for dip tape depth to base (mm): | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 27/01/2025 | **Weather:** | Overcast/slight rain |
| **Comments:** | | **Recorded by:** | LE |
| **Well Details** | | | |
| **Well ID:** | WS04 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 3.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Gas Tap Closed

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | | | |
| 0:00:10 | - | | 0.00 | 0.50 | 20.40 | 10.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.50 | 19.30 | 10.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.50 | 19.10 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 1.60 | 19.00 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.60 | 19.00 | 10.00 | 0.00 | |
| 0:02:30 | - | | 0.00 | 1.70 | 18.80 | 10.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.70 | 18.80 | 10.00 | 0.00 | |
| 0:05:00 | - | | | | | | | |
| 0:07:00 | - | | | | | | | |
| 0:08:00 | - | | | | | | | |
| 0:09:00 | - | | | | | | | |
| 0:10:00 | | | | | | | | |

**Ambient readings**

| Atmospheric pressure (mb): | 975.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

Test terminated when results no longer fluctuated.

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | Ground Level | X | **Water Level Depth (m bd):** | 0.91 |
|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | **Measured Well Depth (m bd):** | 3.13 |
| **NAPL Thickness (mm):** | | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road South | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 27/01/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | LE |
| **Well Details** | | | |
| **Well ID:** | WS01 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 0.50 |
| **Well Material:** | | **Base of Screen (m bgl):** | 1.50 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Gas Tap closed

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | | | | | | |
| 0:00:10 | - | | 0.00 | 1.60 | 18.50 | 0.00 | 0.00 | |
| 0:00:30 | - | | 0.00 | 1.50 | 18.60 | 0.00 | 0.00 | |
| 0:01:00 | - | | 0.00 | 1.50 | 18.50 | 0.00 | 0.00 | |
| 0:01:30 | - | | 0.00 | 1.50 | 18.50 | 0.00 | 0.00 | |
| 0:02:00 | - | | 0.00 | 1.50 | 18.50 | 0.00 | 0.00 | |
| 0:02:30 | - | | 0.00 | 1,5 | 18.50 | 0.00 | 0.00 | |
| 0:03:00 | - | | 0.00 | 1.50 | 18.50 | 0.00 | 0.00 | |
| 0:05:00 | - | | 0.00 | 1.50 | 18.60 | 0.00 | 0.00 | |
| 0:07:00 | - | | 0.00 | 1.50 | 18.50 | 0.00 | 0.00 | |
| 0:08:00 | - | | | | | | | |
| 0:09:00 | - | | | | | | | |
| 0:10:00 | | | | | | | | |

**Ambient readings**

| | | | | | | |
|---|---|---|---|---|---|---|
| Atmospheric pressure (mb): | 973.00 | | | | | |
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | | | | | | |

**Observations during monitoring**

Test terminated when results no longer fluctuated.

**Samples**

| | | | |
|---|---|---|---|
| **Sample ID:** | | **Containers:** | |

**QA/QC Samples**

| | | | | |
|---|---|---|---|---|
| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| | | | | | |
|---|---|---|---|---|---|
| **Monitoring Datum** | | Casing | Ground Level X | **Water Level Depth (m bd):** | 1.48 |
| **Depth to NAPL (m bd):** | | | | **Measured Well Depth (m bd):** | 1.64 |
| **NAPL Thickness (mm):** | | | | **Correction for dip tape depth to base (mm):** | |

# Ground Gas Monitoring Form

Hydrock

| Project Details | | | |
|---|---|---|---|
| **Project Name:** | 200-220 Elgar Road | **Project Number:** | 29680 |
| **Visit Details** | | | |
| **Date:** | 04/02/2025 | **Weather:** | Overcast |
| **Comments:** | | **Recorded by:** | JS |
| **Well Details** | | | |
| **Well ID:** | WS05 | **Casing Level above GL (m):** | |
| **Single or dual gas tap:** | Single | **Top of Screen (m bgl):** | 1.00 |
| **Well Material:** | | **Base of Screen (m bgl):** | 2.00 |
| **Well Diameter D (mm):** | 50 | **Top of Screen (m b.casing):** | |
| **Hole Diameter R (mm):** | | **Base of Screen (m b.casing):** | |
| **Expected headspace air volume:** | | | |
| **Equipment Details** | | | |
| **Gas Analyser Type:** | GFM 436 | **Instrument Serial Number:** | |
| **Calibration Date:** | 24/09/2025 | **Span gas check ok:** | |
| **PID instrument:** | | **Instrument Serial Number:** | |
| **Calibration Date:** | | **Calibration check ok:** | |
| **Well conditons:** | | | |

Well and install in good condition.

**Well measurement readings**

**Parameter Details**

| Time (hh:mm:ss) | Relative BH pressure (hPA/mb) | Borehole flow (litres/hour) | CH4 (%) | CO2 (%) | O2 (%) | CO (ppm) | H2S (ppm) | VOC (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0:00:00 | 0 | 0.00 | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |
| 0:00:10 | - | 0.00 | 0.00 | 1.40 | 18.90 | 0.00 | 0.00 | 0.00 |
| 0:00:30 | - | 0.00 | 0.00 | 1.90 | 18.50 | 0.00 | 0.00 | 0.00 |
| 0:01:00 | - | 0.00 | 0.00 | 2.00 | 18.50 | 0.00 | 0.00 | 0.00 |
| 0:01:30 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:02:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:02:30 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:03:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:04:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:05:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:08:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:09:00 | - | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |
| 0:10:00 | | | 0.00 | 2.00 | 18.40 | 0.00 | 0.00 | 0.00 |

**Ambient readings**

| Atmospheric pressure (mb): | 1018.00 | | | | | | |
|---|---|---|---|---|---|---|---|
| Ambient concentrations: | | **CH4** | **CO2** | **O2** | **CO** | **H2S** | **VOC** |
| | | 0.00 | 0.00 | 20.50 | 0.00 | 0.00 | 0.00 |

**Observations during monitoring**

N/A

**Samples**

| **Sample ID:** | | **Containers:** | |
|---|---|---|---|

**QA/QC Samples**

| ☐ Duplicate | **Sample ID:** | | **Laboratory:** | |
|---|---|---|---|---|
| ☐ Triplicate | **Sample ID:** | | **Laboratory:** | |

**Groundwater Gauging:**

**Monitoring Data**

| **Monitoring Datum** | | Casing | Ground Level | X | **Water Level Depth (m bd):** | 1.53 |
|---|---|---|---|---|---|---|
| **Depth to NAPL (m bd):** | | | | | **Measured Well Depth (m bd):** | 2.10 |
| **NAPL Thickness (mm):** | | | | | **Correction for dip tape depth to base (mm):** | |

# Appendix E Contamination test results and GQRA

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# Analytical Report Number : 24-059945

Replaces Analytical Report Number: 24-059945, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to samples 410646 and 410649, TPH Level 2 Suite testing added to samples 410646 and 410638 as per client's request.

| | | | |
|---|---|---|---|
| **Project / Site name:** | Elgar Road South, Reading | **Samples received on:** | 16/12/2024 |
| **Your job number:** | 29680 | **Samples instructed on/ Analysis started on:** | 17/12/2024 |
| **Your order number:** | PO38656 | **Analysis completed by:** | 08/01/2025 |
| **Report Issue Number:** | 2 | **Report issued on:** | 08/01/2025 |
| **Samples Analysed:** | 14 soil samples | | |

**Signed:**

Adan Cazas Garcia
Key Account Manager
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

| | |
|---|---|
| soils | - 4 weeks from reporting |
| leachates | - 2 weeks from reporting |
| waters | - 2 weeks from reporting |
| asbestos | - 6 months from reporting |
| air | - once the analysis is complete |

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410638 | 410639 | 410640 | 410641 | 410642 |
|---|---|---|---|---|---|---|---|---|
| Sample Reference | | | | WS01 | WS01 | WS02 | WS02 | WS03 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.00-0.30 | 0.50 | 0.50 | 1.00 | 0.80 |
| Date Sampled | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Test Limit of detection | Test Accreditation Status | | | | | |
| Stone Content | % | 0.1 | NONE | < 0.1 | < 0.1 | 21.1 | < 0.1 | < 0.1 |
| Moisture Content | % | 0.01 | NONE | 12 | 8.7 | 10 | 8.8 | 14 |
| Total mass of sample received | kg | 0.1 | NONE | 1.2 | 1.2 | 1.2 | 1.2 | 1.1 |

**Asbestos**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Asbestos in Soil Detected/Not Detected | Type | N/A | ISO 17025 | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected |
| Asbestos Analyst ID | N/A | N/A | N/A | KSZ | KSZ | KSZ | KSZ | KSZ |
| Actinolite detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Amosite detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Anthophyllite detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Chrysotile detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Crocidolite detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Tremolite detected | Type | N/A | ISO 17025 | - | - | - | - | - |
| Asbestos % by hand picking/weighing | % | 0.001 | ISO 17025 | - | - | - | - | - |
| Asbestos Containing Material Types Detected (ACM) | Type | N/A | ISO 17025 | - | - | - | - | - |

**General Inorganics**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| pH (L099) | pH Units | N/A | MCERTS | 8.1 | 8.2 | 9.4 | 8.1 | 8.4 |
| Free Cyanide | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 87 | 45 | 32 | 14 | 140 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.0434 | 0.0224 | 0.0162 | 0.00707 | 0.0723 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 43.4 | 22.4 | 16.2 | 7.07 | 72.3 |
| Fraction Organic Carbon (FOC) Automated | N/A | 0.001 | MCERTS | 0.017 | 0.0028 | 0.012 | 0.001 | 0.028 |

**Total Phenols**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |

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The results included within the report relate only to the sample(s) submitted for testing.

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410638 | 410639 | 410640 | 410641 | 410642 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS01 | WS01 | WS02 | WS02 | WS03 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 0.00-0.30 | 0.50 | 0.50 | 1.00 | 0.80 |
| **Date Sampled** | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | 2 | 1.2 | 2 | 0.56 | 1.8 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | 0.45 | 0.12 | 0.28 | < 0.05 | 0.69 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | 0.1 | < 0.05 | < 0.05 | < 0.05 | 0.12 |
| Fluorene | mg/kg | 0.05 | MCERTS | 0.19 | 0.1 | 0.14 | 0.06 | 0.23 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | 1.2 | 0.14 | 1.5 | < 0.05 | 2.1 |
| Anthracene | mg/kg | 0.05 | MCERTS | 0.27 | < 0.05 | 0.19 | < 0.05 | 0.69 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | 4.3 | 0.11 | 2.1 | < 0.05 | 4.9 |
| Pyrene | mg/kg | 0.05 | MCERTS | 3.8 | < 0.05 | 1.8 | < 0.05 | 4.7 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | 2.3 | 0.06 | 0.8 | < 0.05 | 2.6 |
| Chrysene | mg/kg | 0.05 | MCERTS | 2.6 | 0.06 | 0.83 | < 0.05 | 2.8 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | 3.8 | < 0.05 | 1 | < 0.05 | 3.9 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | 1.8 | < 0.05 | 0.39 | < 0.05 | 1.4 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | 3.3 | < 0.05 | 0.85 | < 0.05 | 3.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | 1.6 | < 0.05 | 0.38 | < 0.05 | 1.7 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | 0.33 | < 0.05 | < 0.05 | < 0.05 | 0.33 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | 1.8 | < 0.05 | 0.42 | < 0.05 | 1.9 |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | 29.8 | 1.81 | 12.6 | < 0.80 | 33 |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 11 | 9.8 | 15 | 2.5 | 15 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | 0.99 | 0.66 | 7.1 | 0.43 | 1.5 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 1.1 | 0.8 | 2.4 | 0.7 | 3.8 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | 0.5 | < 0.2 | 0.4 | < 0.2 | 0.4 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | < 1.8 | < 1.8 | < 1.8 |
| Chromium (III) | mg/kg | 1 | NONE | 15 | 14 | 20 | 6.2 | 16 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 16 | 15 | 20 | 6.7 | 17 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 46 | 8.5 | 51 | 7.7 | 90 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 110 | 11 | 35 | 4.8 | 69 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 | 0.5 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 19 | 14 | 64 | 12 | 26 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | 29 | 25 | 54 | 14 | 40 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 140 | 39 | 110 | 22 | 150 |

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The results included within the report relate only to the sample(s) submitted for testing.

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410638 | 410639 | 410640 | 410641 | 410642 |
|---|---|---|---|---|---|---|---|---|
| Sample Reference | | | | WS01 | WS01 | WS02 | WS02 | WS03 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.00-0.30 | 0.50 | 0.50 | 1.00 | 0.80 |
| Date Sampled | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | - | < 0.010 |
| TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | - | < 0.010 |
| TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | - | < 0.010 |
| TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL | mg/kg | 1 | MCERTS | 1 | - | - | - | < 1.0 |
| TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL | mg/kg | 2 | MCERTS | 13 | - | - | - | 3.1 |
| TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL | mg/kg | 8 | MCERTS | 9.7 | - | - | - | 26 |
| TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL | mg/kg | 10 | MCERTS | < 10 | - | - | - | 160 |
| TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL | mg/kg | 8 | MCERTS | < 8.0 | - | - | - | 130 |
| TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL | mg/kg | 8.4 | NONE | < 8.4 | - | - | - | 21 |
| TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | 23 | - | - | - | 160 |
| TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | 23 | - | - | - | 180 |
| TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | - | < 0.010 |
| TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | - | < 0.010 |
| TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR | mg/kg | 0.02 | MCERTS | < 0.020 | - | - | - | < 0.020 |
| TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR | mg/kg | 1 | MCERTS | < 1.0 | - | - | - | 1.8 |
| TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR | mg/kg | 2 | MCERTS | 7.9 | - | - | - | 5.7 |
| TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR | mg/kg | 10 | MCERTS | 37 | - | - | - | 25 |
| TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR | mg/kg | 10 | MCERTS | 98 | - | - | - | 83 |
| TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR | mg/kg | 8.4 | NONE | 29 | - | - | - | 23 |
| TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | 140 | - | - | - | 120 |
| TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | 170 | - | - | - | 140 |
| TPH Total >EC5 - EC44 EH_CU+HS_1D_TOTAL | mg/kg | 10 | NONE | 200 | - | - | - | 320 |
| TPH (EC10 - EC40) EH_CU_1D_TOTAL | mg/kg | 10 | MCERTS | 190 | < 10 | < 10 | < 10 | - |
| **VOCs** | | | | | | | | |
| Chloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Chloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromomethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Vinyl Chloride | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Trichlorofluoromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1-Dichloroethene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Trans 1,2-dichloroethylene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | MCERTS | < 5.0 | - | - | - | < 5.0 |
| 1,1-Dichloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 2,2-Dichloropropane | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Chloroform | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,1-Trichloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dichloroethane | µg/kg | 7 | MCERTS | - | - | - | - | < 7.0 |
| 1,1-Dichloropropene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Cis-1,2-dichloroethene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | - | - | - | < 5.0 |
| Carbontetrachloride | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dichloropropane | µg/kg | 6 | MCERTS | - | - | - | - | < 6.0 |
| Trichloroethene | µg/kg | 10 | MCERTS | - | - | - | - | < 10 |
| Dibromomethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromodichloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Cis-1,3-dichloropropene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410638 | 410639 | 410640 | 410641 | 410642 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS01 | WS01 | WS02 | WS02 | WS03 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 0.00-0.30 | 0.50 | 0.50 | 1.00 | 0.80 |
| **Date Sampled** | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| Trans-1,3-dichloropropene | µg/kg | 10 | MCERTS | - | - | - | - | < 10 |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | - | - | - | 8.3 |
| 1,1,2-Trichloroethane | µg/kg | 6 | MCERTS | - | - | - | - | < 6.0 |
| 1,3-Dichloropropane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Dibromochloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Tetrachloroethene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dibromoethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Chlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,1,2-Tetrachloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | - | - | - | < 5.0 |
| p & m-Xylene | µg/kg | 8 | MCERTS | < 8.0 | - | - | - | < 8.0 |
| Styrene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromoform | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| o-Xylene | µg/kg | 5 | MCERTS | < 5.0 | - | - | - | < 5.0 |
| Isopropylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,2,2-Tetrachloroethane | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Bromobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| n-Propylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 2-Chlorotoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 4-Chlorotoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,3,5-Trimethylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| tert-Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2,4-Trimethylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| sec-Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,3-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| p-Isopropyltoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,4-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dibromo-3-chloropropane | µg/kg | 8 | MCERTS | - | - | - | - | < 8.0 |
| 1,2,4-Trichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Hexachlorobutadiene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2,3-Trichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |

**SVOCs**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Aniline | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| Phenol | mg/kg | 0.2 | ISO 17025 | - | - | - | - | < 0.2 |
| 2-Chlorophenol | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| Bis(2-chloroethyl)ether | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 1,3-Dichlorobenzene | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| 1,2-Dichlorobenzene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 1,4-Dichlorobenzene | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 2-Methylphenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Hexachloroethane | mg/kg | 0.05 | ISO 17025 | - | - | - | - | < 0.05 |
| Nitrobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 4-Methylphenol | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Isophorone | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 2-Nitrophenol | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |
| 2,4-Dimethylphenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Bis(2-chloroethoxy)methane | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 1,2,4-Trichlorobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410638 | 410639 | 410640 | 410641 | 410642 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS01 | WS01 | WS02 | WS02 | WS03 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 0.00-0.30 | 0.50 | 0.50 | 1.00 | 0.80 |
| **Date Sampled** | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| 2,4-Dichlorophenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 4-Chloroaniline | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| Hexachlorobutadiene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 4-Chloro-3-methylphenol | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4,6-Trichlorophenol | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4,5-Trichlorophenol | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| 2-Methylnaphthalene | mg/kg | 0.1 | NONE | - | - | - | - | 0.2 |
| 2-Chloronaphthalene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| Dimethylphthalate | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 2,6-Dinitrotoluene | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4-Dinitrotoluene | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Dibenzofuran | mg/kg | 0.2 | MCERTS | - | - | - | - | 0.2 |
| 4-Chlorophenyl phenyl ether | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Diethyl phthalate | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 4-Nitroaniline | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Azobenzene | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |
| Bromophenyl phenyl ether | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| Hexachlorobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.30 |
| Carbazole | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Dibutyl phthalate | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Anthraquinone | mg/kg | 0.3 | NONE | - | - | - | - | 0.3 |
| Butyl benzyl phthalate | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |

**Miscellaneous Organics**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Coal Tar | | N/A | NONE | - | - | - | - | - |
| Total Residue | mg/kg | 10 | NONE | - | - | - | - | - |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410643 | 410644 | 410645 | 410646 | 410647 |
|---|---|---|---|---|---|---|---|---|
| Sample Reference | | | | WS03 | WS04 | WS03 | WS05 | WS05 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 1.50 | 1.00 | 0.00-0.08 | 0.30 | 1.20 |
| Date Sampled | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Test Limit of detection | Test Accreditation Status | | | | | |
| Stone Content | % | 0.1 | NONE | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Moisture Content | % | 0.01 | NONE | 12 | 7 | 0.42 | 19 | 17 |
| Total mass of sample received | kg | 0.1 | NONE | 1 | 1 | 1.1 | 1.2 | 1.2 |
| **Asbestos** | | | | | | | | |
| Asbestos in Soil Detected/Not Detected | Type | N/A | ISO 17025 | Not-detected | Not-detected | - | Detected | Not-detected |
| Asbestos Analyst ID | N/A | N/A | N/A | KSZ | KSZ | - | KSZ | KSZ |
| Actinolite detected | Type | N/A | ISO 17025 | - | - | - | Not-detected | - |
| Amosite detected | Type | N/A | ISO 17025 | - | - | - | Not-detected | - |
| Anthophyllite detected | Type | N/A | ISO 17025 | - | - | - | Not-detected | - |
| Chrysotile detected | Type | N/A | ISO 17025 | - | - | - | Detected | - |
| Crocidolite detected | Type | N/A | ISO 17025 | - | - | - | Not-detected | - |
| Tremolite detected | Type | N/A | ISO 17025 | - | - | - | Not-detected | - |
| Asbestos % by hand picking/weighing | % | 0.001 | ISO 17025 | - | - | - | 0.001 | - |
| Asbestos Containing Material Types Detected (ACM) | Type | N/A | ISO 17025 | - | - | - | Loose Fibres | - |
| **General Inorganics** | | | | | | | | |
| pH (L099) | pH Units | N/A | MCERTS | 8.5 | 8.2 | - | 8.2 | 8.2 |
| Free Cyanide | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | - | < 1.0 | < 1.0 |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 44 | 44 | - | 150 | 130 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.0218 | 0.022 | - | 0.0764 | 0.0654 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 21.8 | 22 | - | 76.4 | 65.4 |
| Fraction Organic Carbon (FOC) Automated | N/A | 0.001 | MCERTS | 0.0029 | 0.0068 | - | 0.054 | 0.043 |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | - | < 1.0 | < 1.0 |

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410643 | 410644 | 410645 | 410646 | 410647 |
|---|---|---|---|---|---|---|---|---|
| Sample Reference | | | | WS03 | WS04 | WS03 | WS05 | WS05 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 1.50 | 1.00 | 0.00-0.08 | 0.30 | 1.20 |
| Date Sampled | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | 0.31 | 0.74 | 4 | 19 | 3 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 1.8 | 2.3 | 0.9 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.23 | 0.23 | 0.17 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.06 | 0.9 | 1.1 | 0.43 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | 0.11 | 0.06 | 5.2 | 2.8 | 6.2 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 1.4 | 0.61 | 1 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | 0.12 | < 0.05 | 20 | 4.5 | 11 |
| Pyrene | mg/kg | 0.05 | MCERTS | 0.11 | < 0.05 | 16 | 3.8 | 8.7 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 8 | 2.3 | 4.1 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 8.3 | 2.8 | 5.2 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | 6.5 | 3.9 | 5.5 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | 2.8 | 1.6 | 2.6 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 5.8 | 3.2 | 4.4 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 7.3 | 2.5 | 2.4 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 1.4 | < 0.05 | 0.42 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 8.1 | 2.9 | 2.6 |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | < 0.80 | 0.86 | 97.5 | 54 | 58.3 |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 3.5 | 4.4 | - | 14 | 37 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | 0.48 | 0.42 | - | 1.6 | 2 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 0.8 | 0.9 | - | 1.2 | 1.3 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | - | 2.7 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | - | < 1.8 | < 1.8 |
| Chromium (III) | mg/kg | 1 | NONE | 9.9 | 10 | - | 31 | 15 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 10 | 11 | - | 32 | 15 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 8.8 | 12 | - | 330 | 61 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 12 | 16 | - | 340 | 740 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | - | 1.8 | 2.2 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 11 | 7.7 | - | 40 | 37 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | - | < 1.0 | < 1.0 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | 17 | 20 | - | 35 | 33 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 32 | 29 | - | 1900 | 280 |

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410643 | 410644 | 410645 | 410646 | 410647 |
|---|---|---|---|---|---|---|---|---|
| Sample Reference | | | | WS03 | WS04 | WS03 | WS05 | WS05 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 1.50 | 1.00 | 0.00-0.08 | 0.30 | 1.20 |
| Date Sampled | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | < 0.010 | < 0.010 |
| TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL | mg/kg | 1 | MCERTS | < 1.0 | - | - | < 1.0 | < 1.0 |
| TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL | mg/kg | 2 | MCERTS | < 2.0 | - | - | 11 | 2.7 |
| TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL | mg/kg | 8 | MCERTS | < 8.0 | - | - | 330 | 10 |
| TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL | mg/kg | 10 | MCERTS | < 10 | - | - | 1500 | 83 |
| TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL | mg/kg | 8 | MCERTS | < 8.0 | - | - | 1200 | 73 |
| TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL | mg/kg | 8.4 | NONE | < 8.4 | - | - | 100 | 26 |
| TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | < 10 | - | - | 1500 | 86 |
| TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | < 10 | - | - | 1600 | 110 |
| TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | < 0.010 | < 0.010 |
| TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | - | - | < 0.010 | < 0.010 |
| TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR | mg/kg | 0.02 | MCERTS | < 0.020 | - | - | < 0.020 | < 0.020 |
| TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR | mg/kg | 1 | MCERTS | < 1.0 | - | - | 10 | 3.6 |
| TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR | mg/kg | 2 | MCERTS | < 2.0 | - | - | 8.9 | 6.4 |
| TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR | mg/kg | 10 | MCERTS | < 10 | - | - | 75 | 25 |
| TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR | mg/kg | 10 | MCERTS | < 10 | - | - | 380 | 53 |
| TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR | mg/kg | 8.4 | NONE | < 8.4 | - | - | 92 | 12 |
| TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | < 10 | - | - | 470 | 89 |
| TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | < 10 | - | - | 560 | 100 |
| TPH Total >EC5 - EC44 EH_CU+HS_1D_TOTAL | mg/kg | 10 | NONE | < 10 | - | - | 2200 | 210 |
| TPH (EC10 - EC40) EH_CU_1D_TOTAL | mg/kg | 10 | MCERTS | - | < 10 | - | 2200 | - |
| **VOCs** | | | | | | | | |
| Chloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Chloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromomethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Vinyl Chloride | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Trichlorofluoromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1-Dichloroethene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Trans 1,2-dichloroethylene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | MCERTS | < 5.0 | - | - | < 5.0 | < 5.0 |
| 1,1-Dichloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 2,2-Dichloropropane | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Chloroform | µg/kg | 5 | MCERTS | - | - | - | - | 2500 |
| 1,1,1-Trichloroethane | µg/kg | 5 | MCERTS | - | - | - | - | 25 |
| 1,2-Dichloroethane | µg/kg | 7 | MCERTS | - | - | - | - | < 7.0 |
| 1,1-Dichloropropene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Cis-1,2-dichloroethene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | - | - | < 5.0 | < 5.0 |
| Carbontetrachloride | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dichloropropane | µg/kg | 6 | MCERTS | - | - | - | - | < 6.0 |
| Trichloroethene | µg/kg | 10 | MCERTS | - | - | - | - | 15 |
| Dibromomethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromodichloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Cis-1,3-dichloropropene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410643 | 410644 | 410645 | 410646 | 410647 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS03 | WS04 | WS03 | WS05 | WS05 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 1.50 | 1.00 | 0.00-0.08 | 0.30 | 1.20 |
| **Date Sampled** | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| Trans-1,3-dichloropropene | µg/kg | 10 | MCERTS | - | - | - | - | < 10 |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | - | - | < 5.0 | < 5.0 |
| 1,1,2-Trichloroethane | µg/kg | 6 | MCERTS | - | - | - | - | < 6.0 |
| 1,3-Dichloropropane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Dibromochloromethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Tetrachloroethene | µg/kg | 5 | MCERTS | - | - | - | - | 190 |
| 1,2-Dibromoethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Chlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,1,2-Tetrachloroethane | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | - | - | < 5.0 | < 5.0 |
| p & m-Xylene | µg/kg | 8 | MCERTS | < 8.0 | - | - | < 8.0 | < 8.0 |
| Styrene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Bromoform | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| o-Xylene | µg/kg | 5 | MCERTS | < 5.0 | - | - | < 5.0 | < 5.0 |
| Isopropylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,1,2,2-Tetrachloroethane | µg/kg | 5 | NONE | - | - | - | - | < 5.0 |
| Bromobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| n-Propylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 2-Chlorotoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 4-Chlorotoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,3,5-Trimethylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| tert-Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2,4-Trimethylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| sec-Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,3-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| p-Isopropyltoluene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,4-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Butylbenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2-Dibromo-3-chloropropane | µg/kg | 8 | MCERTS | - | - | - | - | < 8.0 |
| 1,2,4-Trichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| Hexachlorobutadiene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |
| 1,2,3-Trichlorobenzene | µg/kg | 5 | MCERTS | - | - | - | - | < 5.0 |

**SVOCs**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Aniline | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| Phenol | mg/kg | 0.2 | ISO 17025 | - | - | - | - | < 0.2 |
| 2-Chlorophenol | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| Bis(2-chloroethyl)ether | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 1,3-Dichlorobenzene | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| 1,2-Dichlorobenzene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 1,4-Dichlorobenzene | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 2-Methylphenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Hexachloroethane | mg/kg | 0.05 | ISO 17025 | - | - | - | - | < 0.05 |
| Nitrobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 4-Methylphenol | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Isophorone | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 2-Nitrophenol | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |
| 2,4-Dimethylphenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Bis(2-chloroethoxy)methane | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 1,2,4-Trichlorobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |

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The results included within the report relate only to the sample(s) submitted for testing.

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410643 | 410644 | 410645 | 410646 | 410647 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS03 | WS04 | WS03 | WS05 | WS05 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 1.50 | 1.00 | 0.00-0.08 | 0.30 | 1.20 |
| **Date Sampled** | | | | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 | 13/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | | |
| 2,4-Dichlorophenol | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| 4-Chloroaniline | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| Hexachlorobutadiene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 4-Chloro-3-methylphenol | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4,6-Trichlorophenol | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4,5-Trichlorophenol | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| 2-Methylnaphthalene | mg/kg | 0.1 | NONE | - | - | - | - | 0.4 |
| 2-Chloronaphthalene | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| Dimethylphthalate | mg/kg | 0.1 | MCERTS | - | - | - | - | < 0.1 |
| 2,6-Dinitrotoluene | mg/kg | 0.1 | NONE | - | - | - | - | < 0.1 |
| 2,4-Dinitrotoluene | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Dibenzofuran | mg/kg | 0.2 | MCERTS | - | - | - | - | 0.4 |
| 4-Chlorophenyl phenyl ether | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Diethyl phthalate | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| 4-Nitroaniline | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Azobenzene | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |
| Bromophenyl phenyl ether | mg/kg | 0.2 | MCERTS | - | - | - | - | < 0.2 |
| Hexachlorobenzene | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.30 |
| Carbazole | mg/kg | 0.3 | MCERTS | - | - | - | - | < 0.3 |
| Dibutyl phthalate | mg/kg | 0.2 | NONE | - | - | - | - | < 0.2 |
| Anthraquinone | mg/kg | 0.3 | NONE | - | - | - | - | 1.7 |
| Butyl benzyl phthalate | mg/kg | 0.3 | NONE | - | - | - | - | < 0.3 |

**Miscellaneous Organics**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Coal Tar | | N/A | NONE | - | - | Not Identified | - | - |
| Total Residue | mg/kg | 10 | NONE | - | - | 3800 | - | - |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410648 | 410649 | 410650 | 410651 |
|---|---|---|---|---|---|---|---|
| Sample Reference | | | | LWS01 | LWS02 | FP01 | FP02 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.10-0.70 | 0.20-0.70 | 0.00-0.10 | 1.20 |
| Date Sampled | | | | 12/12/2024 | 12/12/2024 | 12/12/2024 | 12/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | |
| Stone Content | % | 0.1 | NONE | 59.7 | 44.6 | 34 | < 0.1 |
| Moisture Content | % | 0.01 | NONE | 7.1 | 7 | 13 | 8.1 |
| Total mass of sample received | kg | 0.1 | NONE | 1.1 | 1.2 | 1.2 | 1.3 |

**Asbestos**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Asbestos in Soil Detected/Not Detected | Type | N/A | ISO 17025 | Not-detected | Detected | Not-detected | Not-detected |
| Asbestos Analyst ID | N/A | N/A | N/A | KSZ | KSZ | KSZ | KSZ |
| Actinolite detected | Type | N/A | ISO 17025 | - | Not-detected | - | - |
| Amosite detected | Type | N/A | ISO 17025 | - | Not-detected | - | - |
| Anthophyllite detected | Type | N/A | ISO 17025 | - | Not-detected | - | - |
| Chrysotile detected | Type | N/A | ISO 17025 | - | Detected | - | - |
| Crocidolite detected | Type | N/A | ISO 17025 | - | Not-detected | - | - |
| Tremolite detected | Type | N/A | ISO 17025 | - | Not-detected | - | - |
| Asbestos % by hand picking/weighing | % | 0.001 | ISO 17025 | - | 0.015 | - | - |
| Asbestos Containing Material Types Detected (ACM) | Type | N/A | ISO 17025 | - | Loose Fibrous Debris | - | - |

**General Inorganics**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| pH (L099) | pH Units | N/A | MCERTS | 11.4 | 8.1 | 7.9 | 8.5 |
| Free Cyanide | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 180 | 300 | 48 | 37 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.0894 | 0.151 | 0.0241 | 0.0184 |
| Water Soluble $SO_4$ 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 89.4 | 151 | 24.1 | 18.4 |
| Fraction Organic Carbon (FOC) Automated | N/A | 0.001 | MCERTS | 0.005 | 0.014 | 0.048 | 0.0029 |

**Total Phenols**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410648 | 410649 | 410650 | 410651 |
|---|---|---|---|---|---|---|---|
| Sample Reference | | | | LWS01 | LWS02 | FP01 | FP02 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.10-0.70 | 0.20-0.70 | 0.00-0.10 | 1.20 |
| Date Sampled | | | | 12/12/2024 | 12/12/2024 | 12/12/2024 | 12/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | |
| **Speciated PAHs** | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | 1.1 | 1.9 | 28 | 0.65 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | 0.25 | 3.2 | 1.8 | 0.14 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | 1 | 0.22 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | 0.11 | 2 | 0.97 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | 0.26 | 22 | 1.2 | 0.34 |
| Anthracene | mg/kg | 0.05 | MCERTS | 0.09 | 5.1 | 0.18 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | 0.7 | 36 | 0.42 | 0.4 |
| Pyrene | mg/kg | 0.05 | MCERTS | 0.72 | 32 | 0.38 | 0.36 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | 0.43 | 19 | < 0.05 | 0.22 |
| Chrysene | mg/kg | 0.05 | MCERTS | 0.5 | 19 | 0.51 | 0.16 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | 0.85 | 24 | 1 | 0.29 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | 0.25 | 11 | 0.41 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | 0.66 | 23 | 0.66 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | 0.38 | 11 | 0.52 | 0.09 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | 2.6 | 0.15 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | 0.42 | 11 | 0.63 | 0.13 |
| **Total PAH** | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | 6.71 | 224 | 37.3 | 2.78 |
| **Heavy Metals / Metalloids** | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 12 | 16 | 17 | 4.7 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | 0.95 | 1.1 | 4.5 | 0.45 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 2.3 | 1.3 | 1.6 | 0.9 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | 0.4 | 7.4 | 0.5 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | < 1.8 | < 1.8 |
| Chromium (III) | mg/kg | 1 | NONE | 18 | 14 | 21 | 9 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 18 | 15 | 22 | 9.3 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 14 | 24 | 230 | 13 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 36 | 80 | 46 | 13 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | 2.3 | < 0.3 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 17 | 22 | 53 | 10 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 1.6 | < 1.0 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | 29 | 45 | 51 | 16 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 53 | 140 | 500 | 41 |

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**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410648 | 410649 | 410650 | 410651 |
|---|---|---|---|---|---|---|---|
| Sample Reference | | | | LWS01 | LWS02 | FP01 | FP02 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.10-0.70 | 0.20-0.70 | 0.00-0.10 | 1.20 |
| Date Sampled | | | | 12/12/2024 | 12/12/2024 | 12/12/2024 | 12/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | |
| **Petroleum Hydrocarbons** | | | | | | | |
| TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | - |
| TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | - |
| TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | - |
| TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 1.6 | - |
| TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | 10 | - |
| TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | 9.3 | - |
| TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL | mg/kg | 10 | MCERTS | < 10 | 23 | 70 | - |
| TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL | mg/kg | 8 | MCERTS | < 8.0 | 23 | 61 | - |
| TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL | mg/kg | 8.4 | NONE | < 8.4 | < 8.4 | 75 | - |
| TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | < 10 | 23 | 82 | - |
| TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL | mg/kg | 10 | NONE | < 10 | 23 | 160 | - |
| TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | - |
| TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR | mg/kg | 0.01 | MCERTS | < 0.010 | < 0.010 | < 0.010 | - |
| TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR | mg/kg | 0.02 | MCERTS | < 0.020 | < 0.020 | < 0.020 | - |
| TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR | mg/kg | 1 | MCERTS | 1.2 | 1.4 | 12 | - |
| TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR | mg/kg | 2 | MCERTS | 4.7 | 12 | 9.7 | - |
| TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR | mg/kg | 10 | MCERTS | < 10 | 120 | < 10 | - |
| TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR | mg/kg | 10 | MCERTS | 17 | 230 | 92 | - |
| TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR | mg/kg | 8.4 | NONE | < 8.4 | 19 | 170 | - |
| TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | 23 | 360 | 110 | - |
| TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR | mg/kg | 10 | NONE | 23 | 380 | 290 | - |
| TPH Total >EC5 - EC44 EH_CU+HS_1D_TOTAL | mg/kg | 10 | NONE | 23 | 410 | 440 | - |
| TPH (EC10 - EC40) EH_CU_1D_TOTAL | mg/kg | 10 | MCERTS | - | - | - | 23 |
| **VOCs** | | | | | | | |
| Chloromethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Chloroethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Bromomethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Vinyl Chloride | µg/kg | 5 | NONE | - | < 5.0 | - | - |
| Trichlorofluoromethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,1-Dichloroethene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Trans 1,2-dichloroethylene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | - |
| 1,1-Dichloroethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 2,2-Dichloropropane | µg/kg | 5 | NONE | - | < 5.0 | - | - |
| Chloroform | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,1,1-Trichloroethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2-Dichloroethane | µg/kg | 7 | MCERTS | - | < 7.0 | - | - |
| 1,1-Dichloropropene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Cis-1,2-dichloroethene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | - |
| Carbontetrachloride | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2-Dichloropropane | µg/kg | 6 | MCERTS | - | < 6.0 | - | - |
| Trichloroethene | µg/kg | 10 | MCERTS | - | < 10 | - | - |
| Dibromomethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Bromodichloromethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Cis-1,3-dichloropropene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410648 | 410649 | 410650 | 410651 |
|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | LWS01 | LWS02 | FP01 | FP02 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Water Matrix** | | | | N/A | N/A | N/A | N/A |
| **Depth (m)** | | | | 0.10-0.70 | 0.20-0.70 | 0.00-0.10 | 1.20 |
| **Date Sampled** | | | | 12/12/2024 | 12/12/2024 | 12/12/2024 | 12/12/2024 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | |
| Trans-1,3-dichloropropene | µg/kg | 10 | MCERTS | - | < 10 | - | - |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | - |
| 1,1,2-Trichloroethane | µg/kg | 6 | MCERTS | - | < 6.0 | - | - |
| 1,3-Dichloropropane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Dibromochloromethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Tetrachloroethene | µg/kg | 5 | MCERTS | - | 8.1 | - | - |
| 1,2-Dibromoethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Chlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,1,1,2-Tetrachloroethane | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | - |
| p & m-Xylene | µg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | - |
| Styrene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Bromoform | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| o-Xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | - |
| Isopropylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,1,2,2-Tetrachloroethane | µg/kg | 5 | NONE | - | < 5.0 | - | - |
| Bromobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| n-Propylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 2-Chlorotoluene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 4-Chlorotoluene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,3,5-Trimethylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| tert-Butylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2,4-Trimethylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| sec-Butylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,3-Dichlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| p-Isopropyltoluene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,4-Dichlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2-Dichlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Butylbenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2-Dibromo-3-chloropropane | µg/kg | 8 | MCERTS | - | < 8.0 | - | - |
| 1,2,4-Trichlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| Hexachlorobutadiene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |
| 1,2,3-Trichlorobenzene | µg/kg | 5 | MCERTS | - | < 5.0 | - | - |

**SVOCs**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Aniline | mg/kg | 0.1 | NONE | - | < 0.1 | - | - |
| Phenol | mg/kg | 0.2 | ISO 17025 | - | < 0.2 | - | - |
| 2-Chlorophenol | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| Bis(2-chloroethyl)ether | mg/kg | 0.2 | MCERTS | - | < 0.2 | - | - |
| 1,3-Dichlorobenzene | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| 1,2-Dichlorobenzene | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| 1,4-Dichlorobenzene | mg/kg | 0.2 | MCERTS | - | < 0.2 | - | - |
| Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| 2-Methylphenol | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| Hexachloroethane | mg/kg | 0.05 | ISO 17025 | - | < 0.05 | - | - |
| Nitrobenzene | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| 4-Methylphenol | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| Isophorone | mg/kg | 0.2 | MCERTS | - | < 0.2 | - | - |
| 2-Nitrophenol | mg/kg | 0.3 | NONE | - | < 0.3 | - | - |
| 2,4-Dimethylphenol | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| Bis(2-chloroethoxy)methane | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| 1,2,4-Trichlorobenzene | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |

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The results included within the report relate only to the sample(s) submitted for testing.

**Analytical Report Number: 24-059945**
**Project / Site name: Elgar Road South, Reading**
**Your Order No: PO38656**

| Lab Sample Number | | | | 410648 | 410649 | 410650 | 410651 |
|---|---|---|---|---|---|---|---|
| Sample Reference | | | | LWS01 | LWS02 | FP01 | FP02 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| Water Matrix | | | | N/A | N/A | N/A | N/A |
| Depth (m) | | | | 0.10-0.70 | 0.20-0.70 | 0.00-0.10 | 1.20 |
| Date Sampled | | | | 12/12/2024 | 12/12/2024 | 12/12/2024 | 12/12/2024 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Test Limit of detection** | **Test Accreditation Status** | | | | |
| 2,4-Dichlorophenol | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| 4-Chloroaniline | mg/kg | 0.1 | NONE | - | < 0.1 | - | - |
| Hexachlorobutadiene | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| 4-Chloro-3-methylphenol | mg/kg | 0.1 | NONE | - | < 0.1 | - | - |
| 2,4,6-Trichlorophenol | mg/kg | 0.1 | NONE | - | < 0.1 | - | - |
| 2,4,5-Trichlorophenol | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| 2-Methylnaphthalene | mg/kg | 0.1 | NONE | - | 0.4 | - | - |
| 2-Chloronaphthalene | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| Dimethylphthalate | mg/kg | 0.1 | MCERTS | - | < 0.1 | - | - |
| 2,6-Dinitrotoluene | mg/kg | 0.1 | NONE | - | < 0.1 | - | - |
| 2,4-Dinitrotoluene | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| Dibenzofuran | mg/kg | 0.2 | MCERTS | - | 1.5 | - | - |
| 4-Chlorophenyl phenyl ether | mg/kg | 0.3 | MCERTS | - | < 0.3 | - | - |
| Diethyl phthalate | mg/kg | 0.2 | MCERTS | - | < 0.2 | - | - |
| 4-Nitroaniline | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| Azobenzene | mg/kg | 0.3 | NONE | - | < 0.3 | - | - |
| Bromophenyl phenyl ether | mg/kg | 0.2 | MCERTS | - | < 0.2 | - | - |
| Hexachlorobenzene | mg/kg | 0.3 | MCERTS | - | < 0.30 | - | - |
| Carbazole | mg/kg | 0.3 | MCERTS | - | 1.1 | - | - |
| Dibutyl phthalate | mg/kg | 0.2 | NONE | - | < 0.2 | - | - |
| Anthraquinone | mg/kg | 0.3 | NONE | - | 2.3 | - | - |
| Butyl benzyl phthalate | mg/kg | 0.3 | NONE | - | < 0.3 | - | - |

**Miscellaneous Organics**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Coal Tar | | N/A | NONE | - | - | - | - |
| Total Residue | mg/kg | 10 | NONE | - | - | - | - |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

**Analytical Report Number:** 24-059945
**Project / Site name:** Elgar Road South, Reading
**Your Order No:** PO38656

# Certificate of Analysis - Asbestos Quantification

## Methods:

### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

### Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

| Sample Number | Sample ID | Sample Depth (m) | Sample Weight (g) | Asbestos Containing Material Types Detected (ACM) | PLM Results | Asbestos by hand picking/weighing (%) | Total % Asbestos in Sample |
|---|---|---|---|---|---|---|---|
| **410646** | WS05 | 0.30 | 104 | Loose Fibres | **Chrysotile** | 0.001 | **0.001** |
| **410649** | LWS02 | 0.20-0.70 | 134 | Loose Fibrous Debris | **Chrysotile** | 0.015 | **0.015** |

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



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The results included within the report are representative of the samples submitted for analysis.

**Analytical Report Number : 24-059945**
**Project / Site name: Elgar Road South, Reading**

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description * |
|---|---|---|---|---|
| 410638 | WS01 | None Supplied | 0.00-0.30 | Brown loam and clay with gravel and vegetation |
| 410639 | WS01 | None Supplied | 0.5 | Brown loam and clay with gravel and vegetation |
| 410640 | WS02 | None Supplied | 0.5 | Brown clay and sand with gravel and stones |
| 410641 | WS02 | None Supplied | 1 | Brown sand |
| 410642 | WS03 | None Supplied | 0.8 | Brown sand with gravel |
| 410643 | WS03 | None Supplied | 1.5 | Brown clay and sand |
| 410644 | WS04 | None Supplied | 1 | Brown sand |
| 410645 | WS03 | None Supplied | 0.00-0.08 | Non Soil. *g |
| 410646 | WS05 | None Supplied | 0.3 | Non Soil. *g |
| 410647 | WS05 | None Supplied | 1.2 | Brown sand with gravel |
| 410648 | LWS01 | None Supplied | 0.10-0.70 | Brown gravelly sand with stones |
| 410649 | LWS02 | None Supplied | 0.20-0.70 | Brown gravelly sand with stones |
| 410650 | FP01 | None Supplied | 0.00-0.10 | Non Soil. *g |
| 410651 | FP02 | None Supplied | 1.2 | Brown sand with brick |

**Analytical Report Number : 24-059945**
**Project / Site name: Elgar Road South, Reading**

**Water matrix abbreviations:**
**Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)**
**Final Sewage Effluent (FSE) Landfill Leachate (LL)**

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| Asbestos identification in Soil | Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques | In-house method based on HSG 248, 2021 | A001B | D | ISO 17025 |
| Asbestos Quantification - Gravimetric | Asbestos quantification by gravimetric method - in house method based on references | HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft) | A006B | D | ISO 17025 |
| Moisture Content | Moisture content, determined gravimetrically (up to 30°C) | In-house method | L019B | W | NONE |
| Stones content of soil | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight | In-house method based on British Standard Methods and MCERTS requirements. | L019B | D | NONE |
| Metals in soil by ICP-OES | Determination of metals in soil by aqua-regia digestion followed by ICP-OES | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil | L038B | D | MCERTS |
| Boron, water soluble, in soil | Determination of water soluble boron in soil by hot water extract followed by ICP-OES | In-house method based on Second Site Properties version 3 | L038B | D | MCERTS |
| Sulphate, water soluble, in soil (16hr extraction) | Sulphate, water soluble, in soil (16hr extraction) | In-house method | L038B | D | MCERTS |
| Speciated PAHs and/or Semi-volatile organic compounds in soil | Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS | In-house method based on USEPA 8270 | L064B | D | MCERTS |
| Coal Tar in soil | In-house method by GC-MS, by calculation of discrete polyaromatic content | In-house method by calculation | L064B | D | NONE |
| TPH Chromatogram in soil | TPH Chromatogram in soil | In-house method | L064B | D | NONE |
| BTEX and/or Volatile organic compounds in soil | Determination of volatile organic compounds in soil by headspace GC-MS | In-house method based on USEPA 8260 | L073B | W | MCERTS |
| Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil | Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic | In-house method | L076B/L088-PL | D/W | MCERTS |
| Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil | Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS | In-house method | L076B/L088-PL | D/W | MCERTS |
| Chromium III in soil | In-house method by calculation from total Cr and Cr VI | In-house method by calculation | L080-PL/L130B | W | NONE |
| Hexavalent chromium in soil | Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry | In-house method | L080-PL | W | MCERTS |
| Free cyanide in soil | Determination of free cyanide by distillation followed by colorimetry | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton | L080-PL | W | MCERTS |
| Monohydric phenols in soil | Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton | L080-PL | W | MCERTS |

**Analytical Report Number : 24-059945**
**Project / Site name: Elgar Road South, Reading**

**Water matrix abbreviations:**
**Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)**
**Final Sewage Effluent (FSE) Landfill Leachate (LL)**

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| pH in soil (automated) | Determination of pH in soil by addition of water followed by automated electrometric measurement | In-house method | L099-PL | D | MCERTS |
| Fraction Organic Carbon FOC Automated | Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate | In-house method | L009B | D | MCERTS |

**For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).**
**For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).**
**For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.**
**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**
**Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.**

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

*g - Unaccredited sample matrix.

# Sample Deviation Report

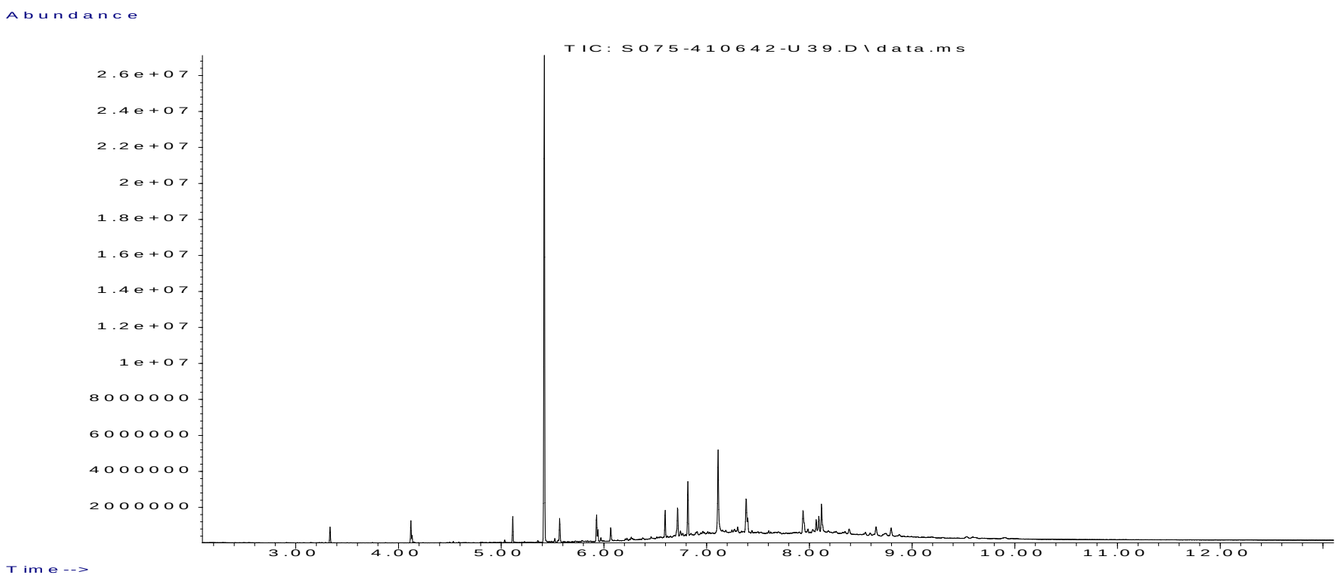
**Analytical Report Number : 24-059945**

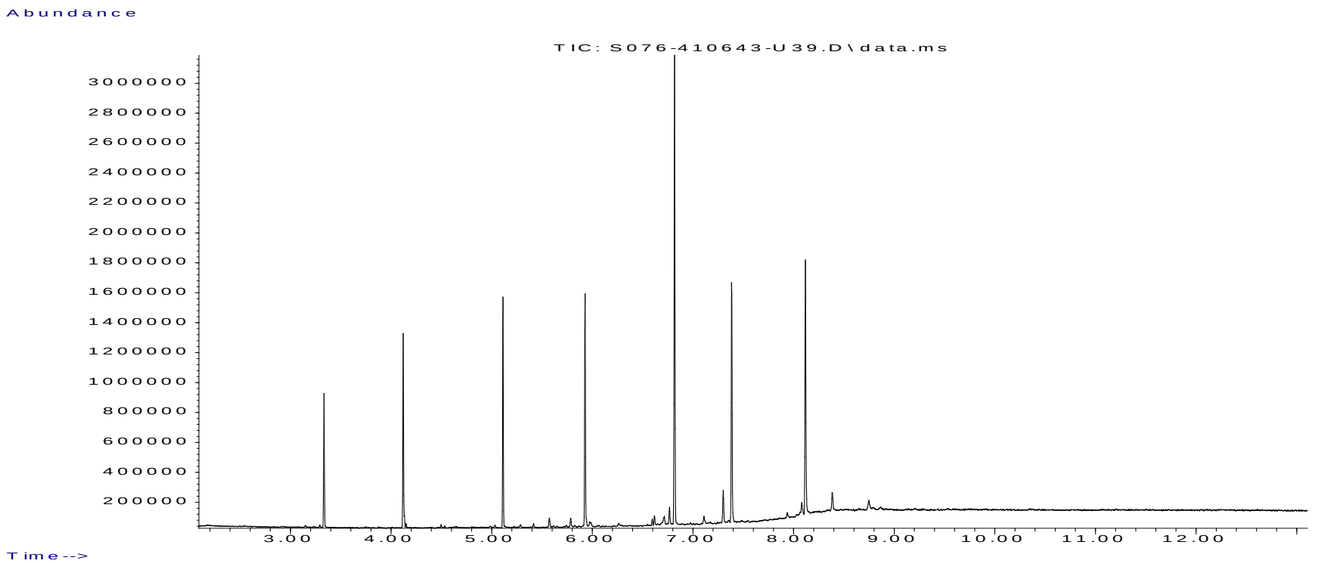
**Project / Site name: Elgar Road South, Reading**

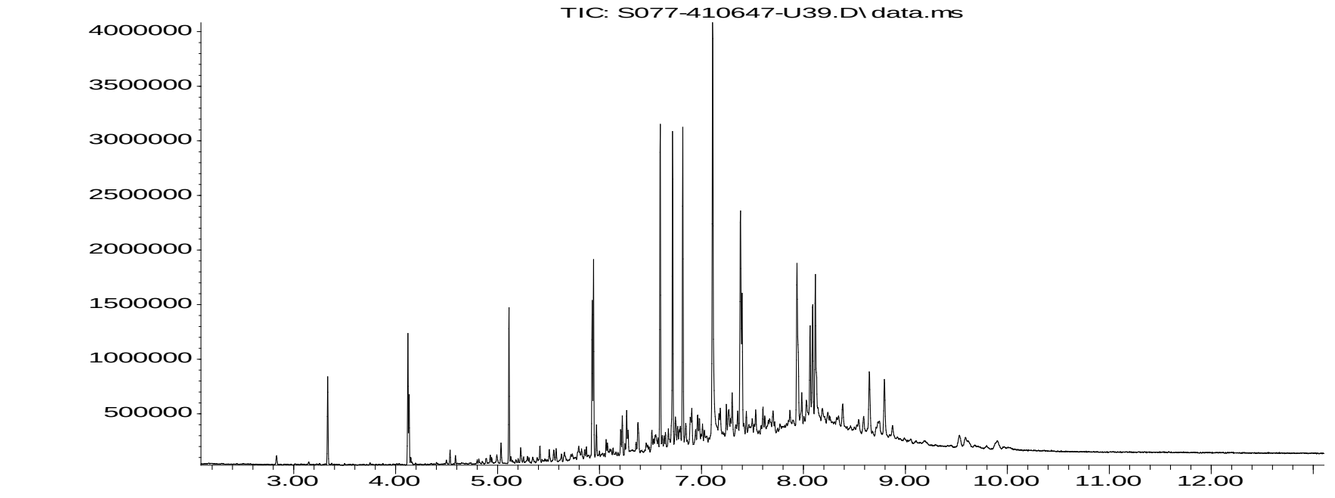
This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

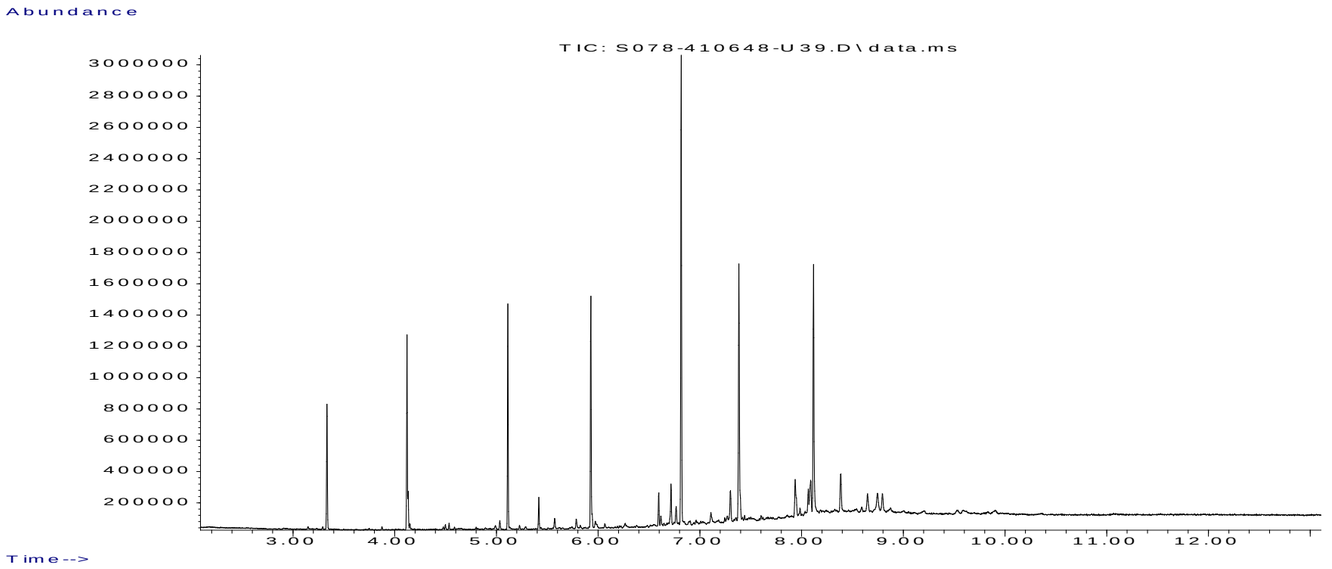
Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

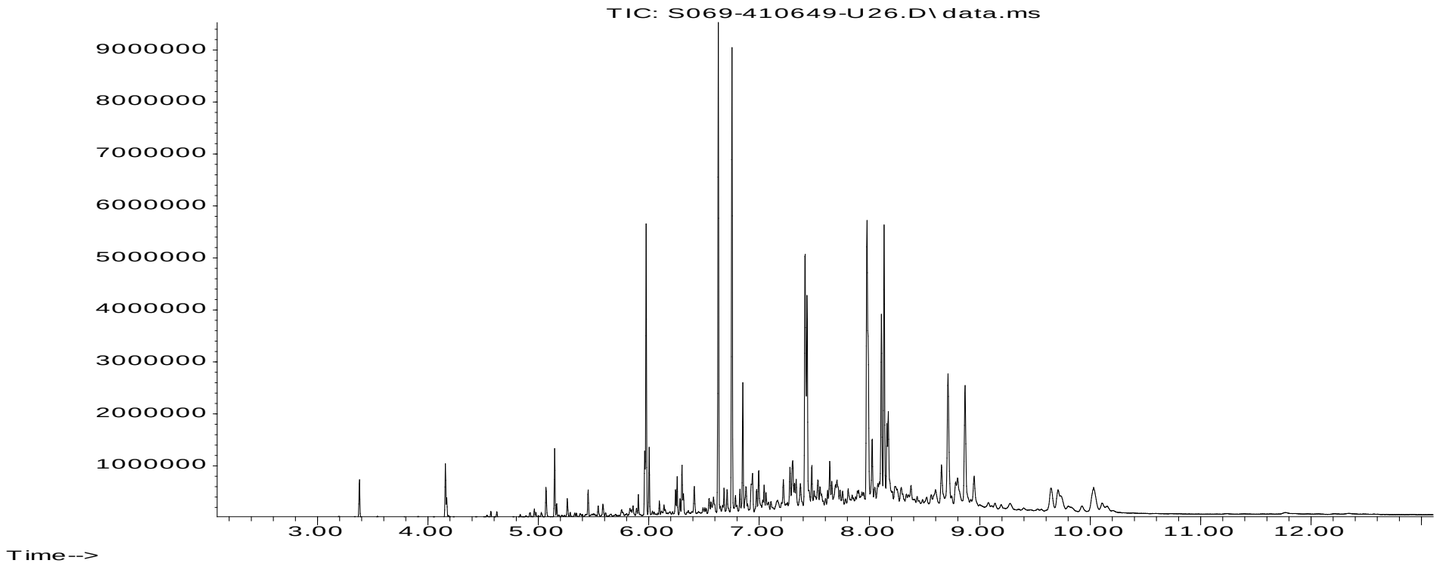
| Sample ID | Other ID | Sample Type | Lab Sample Number | Sample Deviation | Test Name | Test Ref | Test Deviation |
|---|---|---|---|---|---|---|---|
| WS03 | N/A | S | 410645 | b | Coal Tar in soil | L064B | b |
| WS03 | N/A | S | 410645 | b | Speciated PAHs and/or Semi-volatile organic compounds in soil | L064B | b |
| WS05 | N/A | S | 410646 | b | BTEX and/or Volatile organic compounds in soil | L073B | b |
| WS05 | N/A | S | 410646 | b | Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil | L076B/L088-PL | b |
| WS05 | N/A | S | 410647 | b | BTEX and/or Volatile organic compounds in soil | L073B | b |
| WS05 | N/A | S | 410647 | b | Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil | L076B/L088-PL | b |

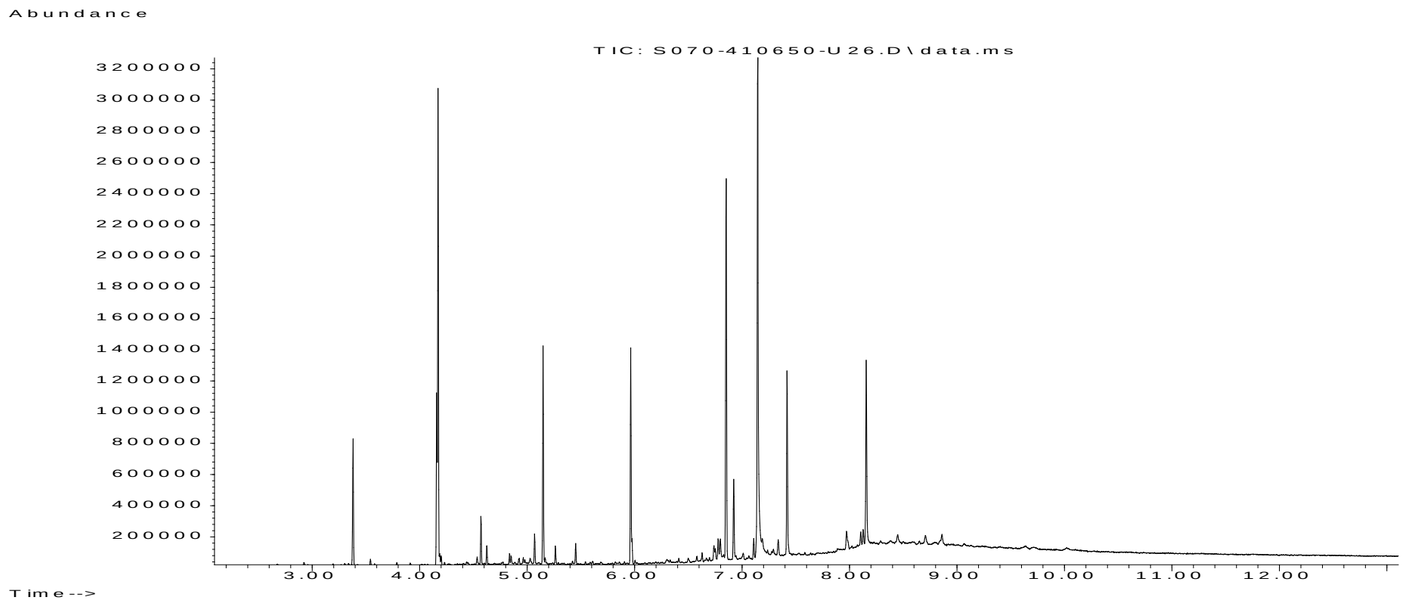

TIC: S075-410642-U39.D\data.ms
Abundance
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2.4e+07
2.2e+07
2e+07
1.8e+07
1.6e+07
1.4e+07
1.2e+07
1e+07
8000000
6000000
4000000
2000000
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
Time-->


TIC: S076-410643-U39.D\data.ms
Abundance
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2400000
2200000
2000000
1800000
1600000
1400000
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600000
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200000
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
Time-->


TIC: S077-410647-U39.D\ data.ms
Abundance
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2500000
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1500000
1000000
500000
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5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
Time-->


TIC: S078-410648-U39.D\data.ms
Abundance
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2800000
2600000
2400000
2200000
2000000
1800000
1600000
1400000
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6.00
7.00
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10.00
11.00
12.00
Time-->


TIC: S069-410649-U26.D\data.ms
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4.00
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6.00
7.00
8.00
9.00
10.00
11.00
12.00
Time-->


TIC: S070-410650-U26.D\data.ms
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2400000
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2000000
1800000
1600000
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1200000
1000000
800000
600000
400000
200000
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
Time-->

## Assessment of Chemicals of Potential Concern to Human Health

**Risk parameter:** Default - Human Health - residential with home-grown produce (2.5%SOM)
**Client:** Abri
**Site:** 200-220 Elgar Road
**Job no.:** 29680
**Lab. report no(s).:** 24-059945-1

**Data Filters**
Zone: All
Strata: ALL
Depth Min (m bgl): 0.08
Depth Max (m bgl): 1.5

Hydrock now Stantec

Dataset mean SOM%: 3.15
Scenario SOM%: 2.5

All values in mg/kg unless otherwise stated

| CAS No / P Code | Chemical of Potential Concern | Units | LoD | No. Samples | Min. Value | Max. Value | Mean | Median | Standard Deviation | No. Samples >= GAC & > LoD | Soil Saturation Limit @2.5% SOM | GAC | GAC Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | **Asbestos** | | | | | | | | | | | | |
| P1020 | Asbestos Identified | text | Y/N | 13 | - | - | - | - | No. of detects: | 2 | - | - | - |
| P1889 | Asbestos Screen Name | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| 12172-67-7 | Actinolite detected | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| 12172-73-5 | Amosite detected | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| 17068-78-9 | Anthophyllite detected | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| 12001-29-5 | Chrysotile detected | text | Y/N | 2 | - | - | - | - | - | | - | - | - |
| 12001-28-4 | Crocidolite detected | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| 14567-73-8 | Tremolite detected | text | Y/N | 0 | - | - | - | - | - | | - | | - |
| P1885 | Asbestos Quant. (Stage 2) | % | 0.001 | 0 | | | | | No. > LOD: | | - | | - |
| P1935 | Asbestos Quant. Total | % | 0.001 | 2 | 0.001 | 0.015 | 0.008 | 0.008 | No. > LOD: | 2 | - | - | - |
| P1826 | Asbestos Quant. (Stage 3) | % | 0.001 | 0 | | | | | No. > LOD: | | - | | - |
| - | Asbestos Quant. Total (Stages 2+3) | % | 0.001 | 0 | | | | | No. > LOD: | | - | | - |
| P1880 | Asbestos Containing Material Types Detected (ACM) | text | - | 2 | - | - | - | - | - | | - | - | - |
| o | **Hydrock Default Suite - FOC / SOM / pH** | | | | | | | | | | - | | |
| P1085 | FOC (dimensionless) | [] | 0.001 | 13 | 0.001 | 0.054 | 0.018 | 0.012 | 0.02 | | - | - | - |
| - | SOM (calculated) | % | 0.1724 | 13 | 0.17 | 9.31 | 3.15 | 2.07 | 3.24 | | - | - | - |
| P1334 | pH (su) | pH Units | 0.1 | 13 | 7.90 | 11.40 | 8.55 | 8.20 | 0.93 | | - | - | - |
| o | **Hydrock Default Suite - Metals & PAH** | | | | | | | | | | | | |
| 7440-38-2 | Arsenic | mg/kg | 1 | 13 | 2.50 | 37.00 | 12.45 | 12.00 | 8.97 | 1 | NR | 37 | C4SL - CL:AIRE 2014 |
| 7440-41-7 | Beryllium | mg/kg | 0.06 | 13 | 0.42 | 7.10 | 1.71 | 0.99 | 1.96 | 3 | NR | 1.7 | Hydrock Derived |
| 7440-42-8 | Boron | mg/kg | 0.2 | 13 | 0.70 | 3.80 | 1.47 | 1.20 | 0.89 | 0 | NR | 300 | Hydrock Derived |
| 7440-43-9 | Cadmium | mg/kg | 0.2 | 13 | 0.20 | 7.40 | 1.04 | 0.40 | 2.03 | 0 | NR | 22 | C4SL - CL:AIRE 2014 |
| 16065-83-1 | Chromium (III) | mg/kg | 1 | 13 | 6.20 | 31.00 | 15.32 | 15.00 | 6.40 | 0 | NR | 890 | Hydrock Derived |
| 18540-29-9 | Chromium (VI) | mg/kg | 1.8 | 13 | 1.80 | 1.80 | 1.80 | 1.80 | 0.00 | 0 | NR | 21 | C4SL - CL:AIRE 2014 |
| 7440-47-3 | Chromium (Total) | mg/kg | 1 | 13 | 6.70 | 32.00 | 15.92 | 15.00 | 6.51 | | | - | |
| 7440-50-8 | Copper | mg/kg | 1 | 13 | 7.70 | 330.00 | 68.92 | 24.00 | 99.11 | 0 | NR | 2500 | Hydrock Derived |
| 7439-92-1 | Lead | mg/kg | 1 | 13 | 4.80 | 740.00 | 116.37 | 36.00 | 207.32 | 2 | NR | 200 | C4SL - CL:AIRE 2014 |
| 7439-97-6 | Mercury, inorganic | mg/kg | 0.3 | 13 | 0.30 | 2.30 | 0.73 | 0.30 | 0.79 | 0 | NR | 200 | Hydrock Derived |
| 7440-02-0 | Nickel | mg/kg | 1 | 13 | 7.70 | 64.00 | 25.59 | 19.00 | 17.77 | 0 | NR | 130 | Hydrock Derived |
| 7782-49-2 | Selenium | mg/kg | 1 | 13 | 1.00 | 1.60 | 1.05 | 1.00 | 0.17 | 0 | NR | 260 | Hydrock Derived |
| 7440-62-2 | Vanadium | mg/kg | 1 | 13 | 14.00 | 54.00 | 31.38 | 29.00 | 13.23 | 0 | NR | 410 | Hydrock Derived |
| 7440-66-6 | Zinc | mg/kg | 1 | 13 | 22.00 | 1900.00 | 264.31 | 110.00 | 509.28 | 0 | NR | 3900 | Hydrock Derived |
| P1095 | Cyanide (free) | mg/kg | 1 | 13 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0 | NR | 24 | Acute Risk - SoBRA 2020 |
| P1186 | Total Phenols (Monohydric) | mg/kg | 1 | 13 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0 | 38058 | 210 | Hydrock Derived |
| 83-32-9 | Acenaphthene | mg/kg | 0.05 | 14 | 0.05 | 1.00 | 0.17 | 0.08 | 0.25 | 0 | 141 | 540 | Hydrock Derived |
| 208-96-8 | Acenaphthylene | mg/kg | 0.05 | 14 | 0.05 | 3.20 | 0.86 | 0.37 | 1.01 | 0 | 212 | 440 | Hydrock Derived |
| 120-12-7 | Anthracene | mg/kg | 0.05 | 14 | 0.05 | 5.10 | 0.70 | 0.19 | 1.33 | 0 | 2.91 | 5500 | Hydrock Derived |
| 56-55-3 | Benz(a)anthracene | mg/kg | 0.05 | 14 | 0.05 | 19.00 | 2.86 | 0.62 | 5.16 | 1 | 4.28 | 12 | Hydrock Derived |
| 50-32-8 | Benzo(a)pyrene | mg/kg | 0.05 | 14 | 0.05 | 23.00 | 3.23 | 0.76 | 6.00 | 2 | 2.28 | 5 | C4SL - CL:AIRE 2014 |
| 205-99-2 | Benzo(b)fluoranthene | mg/kg | 0.05 | 14 | 0.05 | 24.00 | 3.64 | 1.00 | 6.27 | 6 | 3.04 | 3.3 | Hydrock Derived |
| 191-24-2 | Benzo(ghi)perylene | mg/kg | 0.05 | 14 | 0.05 | 11.00 | 2.15 | 0.53 | 3.34 | 0 | 0.04 | 340 | Hydrock Derived |
| 207-08-9 | Benzo(k)fluoranthene | mg/kg | 0.05 | 14 | 0.05 | 11.00 | 1.61 | 0.40 | 2.88 | 0 | 1.72 | 93 | Hydrock Derived |
| 218-01-9 | Chrysene | mg/kg | 0.05 | 14 | 0.05 | 19.00 | 3.07 | 0.67 | 5.18 | 0 | 1.10 | 22 | Hydrock Derived |
| 53-70-3 | Dibenz(ah)anthracene | mg/kg | 0.05 | 14 | 0.05 | 2.60 | 0.40 | 0.05 | 0.73 | 5 | 0.010 | 0.29 | Hydrock Derived |
| 206-44-0 | Fluoranthene | mg/kg | 0.05 | 14 | 0.05 | 36.00 | 6.05 | 1.40 | 10.28 | 0 | 47 | 560 | Hydrock Derived |
| 86-73-7 | Fluorene | mg/kg | 0.05 | 14 | 0.05 | 2.00 | 0.46 | 0.17 | 0.58 | 0 | 77 | 420 | Hydrock Derived |
| 193-39-5 | Indeno(123cd)pyrene | mg/kg | 0.05 | 14 | 0.05 | 11.00 | 2.01 | 0.45 | 3.23 | 0 | 0.15 | 36 | Hydrock Derived |
| 91-20-3 | Naphthalene | mg/kg | 0.05 | 14 | 0.31 | 28.00 | 4.73 | 1.85 | 8.21 | 0 | 183 | 36 | C4SL - CL:AIRE 2024 |
| 85-01-8 | Phenanthrene | mg/kg | 0.05 | 14 | 0.05 | 22.00 | 3.08 | 1.20 | 5.78 | 0 | 90 | 220 | Hydrock Derived |
| 129-00-0 | Pyrene | mg/kg | 0.05 | 14 | 0.05 | 32.00 | 5.18 | 1.26 | 8.92 | 0 | 5.5 | 1200 | Hydrock Derived |
| P1310 | PAH 16 Total | mg/kg | 0.8 | 14 | 0.80 | 224.00 | 40.02 | 21.20 | 60.23 | | | - | |
| o | **TPH fractions** | | | | | | | | | | | | |
| P1407 | TPH ali EC05-EC06 | mg/kg | 0.01 | 8 | 0.01 | 0.01 | 0.01 | 0.01 | 0.000 | 0 | 558 | 78 | Hydrock Derived |
| P1408 | TPH ali >EC06-EC08 | mg/kg | 0.01 | 8 | 0.01 | 0.01 | 0.01 | 0.01 | 0.000 | 0 | 322 | 230 | Hydrock Derived |
| P1409 | TPH ali >EC08-EC10 | mg/kg | 0.01 | 8 | 0.01 | 0.01 | 0.01 | 0.01 | 0.000 | 0 | 190 | 65 | Hydrock Derived |
| P1410 | TPH ali >EC10-EC12 | mg/kg | 1 | 8 | 1.00 | 1.60 | 1.08 | 1.00 | 0.21 | 0 | 118 | 330 | Hydrock Derived |
| P1411 | TPH ali >EC12-EC16 | mg/kg | 2 | 8 | 2.00 | 13.00 | 5.73 | 2.90 | 4.73 | 0 | 59 | 2400 | Hydrock Derived |
| | TPH ali >EC16-EC21 | mg/kg | 8 | 8 | 8.00 | 330.00 | 51.13 | 9.50 | 112.85 | | | - | |
| | TPH ali >EC21-EC35 | mg/kg | 8 | 8 | 8.00 | 1200.00 | 188.88 | 42.00 | 410.80 | | | - | |
| P1938 | TPH ali >EC16-EC35 | mg/kg | 10 | 8 | 10.00 | 1500.00 | 233.25 | 46.50 | 514.50 | 0 | 21 | 92000 | Hydrock Derived |
| P1415 | TPH ali >EC35-EC44 | mg/kg | 8.4 | 8 | 8.40 | 100.00 | 31.95 | 14.70 | 35.57 | 0 | 21 | 92000 | Hydrock Derived |
| | TPH ali >EC5-EC35 | mg/kg | 10 | 8 | 10.00 | 1500.00 | 236.75 | 52.50 | 513.05 | | | - | |
| | TPH ali >EC5-EC44 | mg/kg | 10 | 8 | 10.00 | 1600.00 | 264.50 | 66.50 | 544.02 | | | - | |
| P1441 | TPH aro EC05-EC07 | mg/kg | 0.01 | 8 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 2265 | 150 | Hydrock Derived |
| P1355 | TPH aro >EC07-EC08 | mg/kg | 0.01 | 8 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1916 | 300 | Hydrock Derived |
| P1356 | TPH aro >EC08-EC10 | mg/kg | 0.01 | 8 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0 | 1503 | 84 | Hydrock Derived |
| P1357 | TPH aro >EC10-EC12 | mg/kg | 1 | 8 | 1.00 | 12.00 | 4.00 | 1.60 | 4.43 | 0 | 899 | 180 | Hydrock Derived |
| P1358 | TPH aro >EC12-EC16 | mg/kg | 2 | 8 | 2.00 | 12.00 | 7.16 | 7.15 | 3.14 | 0 | 419 | 330 | Hydrock Derived |
| P1359 | TPH aro >EC16-EC21 | mg/kg | 10 | 8 | 10.00 | 120.00 | 39.00 | 25.00 | 39.24 | 0 | 134 | 540 | Hydrock Derived |
| P1360 | TPH aro >EC21-EC35 | mg/kg | 10 | 8 | 10.00 | 380.00 | 120.38 | 87.50 | 125.09 | 0 | 12 | 1500 | Hydrock Derived |
| P1362 | TPH aro >EC35-EC44 | mg/kg | 8.4 | 8 | 8.40 | 170.00 | 45.23 | 21.00 | 57.34 | 0 | 12 | 1500 | Hydrock Derived |
| | TPH aro >EC5-EC35 | mg/kg | 10 | 8 | 10.00 | 470.00 | 165.25 | 115.00 | 163.31 | | | - | |
| | TPH aro >EC5-EC44 | mg/kg | 10 | 8 | 10.00 | 560.00 | 209.13 | 155.00 | 189.50 | | | - | |
| | Total TPH >EC5-EC44 | mg/kg | 10 | 8 | 1.00 | 2200.00 | 475.50 | 265.00 | 715.14 | | | - | |
| o | **VOCs - BTEX & MTBE** | | | | | | | | | | | | |
| 71-43-2 | Benzene | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 2265 | 0.41 | C4SL - CL:AIRE 2014 |
| 108-88-3 | Toluene | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1916 | 300 | Hydrock Derived |
| 100-41-4 | Ethylbenzene | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1216 | 110 | Hydrock Derived |
| 95-47-6 | Xylene, o- | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1120 | 140 | Hydrock Derived |
| | Xylene, p- (or combined m & p) | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | |
| 1634-04-4 | MTBE | mg/kg | 5 | 6 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 33075 | 110 | Hydrock Derived |
| o | **VOCs - other benzenes** | | | | | | | | | | | | |
| 98-82-8 | Iso-propylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 950 | 230 | Hydrock Derived |
| 103-65-1 | Propylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 981 | 390 | Hydrock Derived |
| 95-63-6 | 1,2,4-Trimethylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1363 | 42 | Hydrock Derived |
| 108-67-8 | 1,3,5-Trimethylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 552 | 25 | Hydrock Derived |
| o | **VOCs - chlorobenzenes** | | | | | | | | | | | | |
| 108-86-1 | Bromobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1971 | 2.8 | Hydrock Derived |
| 108-90-7 | Chlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1520 | 1 | Hydrock Derived |
| 95-50-1 | 1,2-Dichlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1371 | 55 | Hydrock Derived |
| 541-73-1 | 1,3-Dichlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1271 | 0.98 | Hydrock Derived |
| 106-46-7 | 1,4-Dichlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 540 | 92 | Hydrock Derived |
| 118-74-1 | Hexachlorobenzene | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 0.50 | 3.3 | Hydrock Derived |
| 87-61-6 | 1,2,3-trichlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 330 | 3.6 | Hydrock Derived |
| 120-82-1 | 1,2,4-trichlorobenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 786 | 6.4 | Hydrock Derived |
| o | **VOCs - chloroalkanes & alkanes** | | | | | | | | | | | | |
| 75-27-4 | Bromodichloromethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 3225 | 0.04 | Hydrock Derived |
| 75-25-2 | Bromoform (aka tribromethane) | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 5483 | 7.3 | Hydrock Derived |
| 75-00-3 | Chloroethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 3539 | 16 | Hydrock Derived |
| 75-01-4 | Chloroethene (aka vinyl chloride) | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1758 | 0.01 | C4SL - CL:AIRE 2021 |
| 74-87-3 | Chloromethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 2235 | 0.014 | Hydrock Derived |
| 75-34-3 | 1,1-Dichloroethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 2964 | 5.5 | Hydrock Derived |
| 107-06-2 | 1,2-Dichloroethane | mg/kg | 7 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 4291 | 0.18 | C4SL - CL:AIRE 2022 |
| 75-35-4 | 1,1-Dichloroethene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 3941 | 0.57 | Hydrock Derived |
| 156-59-2 | Cis 1,2 Dichloroethene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 6612 | 0.78 | C4SL - CL:AIRE 2024 |
| 156-60-5 | Trans 1,2 Dichloroethene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 6172 | 1.6 | C4SL - CL:AIRE 2024 |
| 78-87-5 | 1,2-Dichloropropane | mg/kg | 6 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 2108 | 0.06 | Hydrock Derived |
| 67-72-1 | Hexachloroethane | mg/kg | 0.05 | 3 | 0.05 | 0.05 | 0.05 | 0.05 | 0.00 | 0 | 20 | 0.66 | Hydrock Derived |
| 127-18-4 | Tetrachloroethene | mg/kg | 5 | 3 | 0.01 | 0.19 | 0.07 | 0.01 | 0.11 | 0 | 951 | 0.7 | C4SL - CL:AIRE 2021 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 6022 | 2.8 | Hydrock Derived |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 5461 | 3.5 | Hydrock Derived |
| 56-23-5 | Tetrachloromethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 3322 | 0.056 | Hydrock Derived |
| 79-01-6 | Trichloroethene | mg/kg | 10 | 3 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0 | 3216 | 0.02 | C4SL - CL:AIRE 2021 |
| 71-55-6 | 1,1,1-Trichloroethane | mg/kg | 5 | 3 | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 | 0 | 2915 | 18 | Hydrock Derived |
| 79-00-5 | 1,1,2 Trichloroethane | mg/kg | 6 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 8214 | 1.6 | Hydrock Derived |
| 67-66-3 | Trichloromethane | mg/kg | 5 | 3 | 0.01 | 2.50 | 0.84 | 0.01 | 1.44 | 1 | 9058 | 1.7 | Hydrock Derived |
| o | **Other phenols & chlorophenols** | | | | | | | | | | | | |
| 108-95-2 | Phenol | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 38058 | 210 | Hydrock Derived |
| 95-57-8 | 2-Chlorophenol | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0 | 131331 | 9.1 | Hydrock Derived |
| 120-83-2 | 2,4-Dichlorophenol | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 10444 | 2.1 | Hydrock Derived |
| 105-67-9 | 2,4-Dimethylphenol | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 3138 | 46 | Hydrock Derived |
| 95-48-7 | 2-Methylphenol | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 32497 | 190 | Hydrock Derived |
| 106-44-5 | 4-Methylphenol | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 58913 | 190 | Hydrock Derived |
| 88-06-2 | 2,4,6-Trichlorophenol | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0 | 2019 | 3.4 | Hydrock Derived |
| o | **Phthalates** | | | | | | | | | | | | |
| 85-68-7 | Butyl benzyl phthalate | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 65 | 3500 | Hydrock Derived |
| 84-66-2 | Diethyl Phthalate | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 29 | 270 | Hydrock Derived |
| 84-74-2 | Di-n-butyl phthalate | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 11 | 32 | Hydrock Derived |
| o | **Other organics** | | | | | | | | | | | | |
| 121-14-2 | 2,4-Dinitrotoluene | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 299 | 3.4 | Hydrock Derived |
| 606-20-2 | 2,6-Dinitrotoluene | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0 | 622 | 1.8 | Hydrock Derived |
| 87-68-3 | Hexachloro-1,3-butadiene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 765 | 0.7 | Hydrock Derived |
| 100-42-5 | Styrene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0 | 1442 | 25 | Hydrock Derived |

| Location | WS01 | WS01 | WS02 | WS02 | WS03 | WS03 | WS04 | WS03 | WS05 | WS05 | LWS01 | LWS02 | FP01 | FP02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 12/12/24 | 12/12/24 | 12/12/24 | 12/12/24 |
| Zone | EX | EX | EX | EX | EX | EX | EX | EX | EX | EX | IN | IN | EX | EX |
| Depth (m bgl) | 0.3 | 0.5 | 0.5 | 1 | 0.8 | 1.5 | 1 | 0.08 | 0.3 | 1.2 | 0.7 | 0.7 | 0.1 | 1.2 |
| Strata | TS | MG | MG | UF | MG | MG | UF | MACADAM | MG | MG | MG | MG | MG | MG |
| **Asbestos** | | | | | | | | | | | | | | |
| Asbestos Identified | N | N | N | N | N | N | N | | Y | N | N | Y | N | N |
| Asbestos Screen Name | | | | | | | | | | | | | | |
| Actinolite detected | | | | | | | | | | | | | | |
| Amosite detected | | | | | | | | | | | | | | |
| Anthophyllite detected | | | | | | | | | | | | | | |
| Chrysotile detected | | | | | | | | | Y | | | Y | | |
| Crocidolite detected | | | | | | | | | | | | | | |
| Tremolite detected | | | | | | | | | | | | | | |
| Asbestos Quant. (Stage 2) | | | | | | | | | | | | | | |
| Asbestos Quant. Total | | | | | | | | | 0.001 | | | 0.015 | | |
| Asbestos Quant. (Stage 3) | | | | | | | | | | | | | | |
| Asbestos Quant. Total (Stages 2+3) | | | | | | | | | | | | | | |
| Asbestos Containing Material Types Detected (ACM) | | | | | | | | | Loose Firbes | | | Loose Firbous Debris | | |
| **Hydrock Default Suite - FOC / SOM / pH** | | | | | | | | | | | | | | |
| FOC (dimensionless) | 0.017 | 0.0028 | 0.012 | 0.001 | 0.028 | 0.0029 | 0.0068 | | 0.054 | 0.043 | 0.005 | 0.014 | 0.048 | 0.0029 |
| SOM (calculated) | 2.9308 | 0.48272 | 2.0688 | 0.1724 | 4.8272 | 0.49996 | 1.17232 | | 9.3096 | 7.4132 | 0.862 | 2.4136 | 8.2752 | 0.49996 |
| pH (su) | 8.1 | 8.2 | 9.4 | 8.1 | 8.4 | 8.5 | 8.2 | | 8.2 | 8.2 | 11.4 | 8.1 | 7.9 | 8.5 |
| **Hydrock Default Suite - Metals & PAH** | | | | | | | | | | | | | | |
| Arsenic | 11 | 9.8 | 15 | 2.5 | 15 | 3.5 | 4.4 | | 14 | 37 | 12 | 16 | 17 | 4.7 |
| Beryllium | 0.99 | 0.66 | 7.1 | 0.43 | 1.5 | 0.48 | 0.42 | | 1.6 | 2 | 0.95 | 1.1 | 4.5 | 0.45 |
| Boron | 1.1 | 0.8 | 2.4 | 0.7 | 3.8 | 0.8 | 0.9 | | 1.2 | 1.3 | 2.3 | 1.3 | 1.6 | 0.9 |
| Cadmium | 0.5 | <0.2 | 0.4 | <0.2 | 0.4 | <0.2 | <0.2 | | 2.7 | <0.2 | <0.2 | 0.4 | 7.4 | 0.5 |
| Chromium (III) | 15 | 14 | 20 | 6.2 | 16 | 9.9 | 10 | | 31 | 15 | 18 | 14 | 21 | 9 |
| Chromium (VI) | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 |
| Chromium (Total) | 16 | 15 | 20 | 6.7 | 17 | 10 | 11 | | 32 | 15 | 18 | 15 | 22 | 9.3 |
| Copper | 46 | 8.5 | 51 | 7.7 | 90 | 8.8 | 12 | | 330 | 61 | 14 | 24 | 230 | 13 |
| Lead | 110 | 11 | 35 | 4.8 | 69 | 12 | 16 | | 340 | 740 | 36 | 80 | 46 | 13 |
| Mercury, inorganic | <0.3 | <0.3 | <0.3 | <0.3 | 0.5 | <0.3 | <0.3 | | 1.8 | 2.2 | <0.3 | <0.3 | 2.3 | <0.3 |
| Nickel | 19 | 14 | 64 | 12 | 26 | 11 | 7.7 | | 40 | 37 | 17 | 22 | 53 | 10 |
| Selenium | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | <1 | 1.6 | <1 |
| Vanadium | 29 | 25 | 54 | 14 | 40 | 17 | 20 | | 35 | 33 | 29 | 45 | 51 | 16 |
| Zinc | 140 | 39 | 110 | 22 | 150 | 32 | 29 | | 1900 | 280 | 53 | 140 | 500 | 41 |
| Cyanide (free) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Phenols (Monohydric) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | <1 | <1 | <1 |
| Acenaphthene | 0.1 | <0.05 | <0.05 | <0.05 | 0.12 | <0.05 | <0.05 | 0.23 | 0.23 | 0.17 | <0.05 | 1 | 0.22 | <0.05 |
| Acenaphthylene | 0.45 | 0.12 | 0.28 | <0.05 | 0.69 | <0.05 | <0.05 | 1.8 | 2.3 | 0.9 | 0.25 | 3.2 | 1.8 | 0.14 |
| Anthracene | 0.27 | <0.05 | 0.19 | <0.05 | 0.69 | <0.05 | <0.05 | 1.4 | 0.61 | 1 | 0.09 | 5.1 | 0.18 | <0.05 |
| Benz(a)anthracene | 2.3 | 0.06 | 0.8 | <0.05 | 2.6 | <0.05 | <0.05 | 8 | 2.3 | 4.1 | 0.43 | 19 | <0.05 | 0.22 |
| Benzo(a)pyrene | 3.3 | <0.05 | 0.85 | <0.05 | 3.1 | <0.05 | <0.05 | 5.8 | 3.2 | 4.4 | 0.66 | 23 | 0.66 | <0.05 |
| Benzo(b)fluoranthene | 3.8 | <0.05 | 1 | <0.05 | 3.9 | <0.05 | <0.05 | 6.5 | 3.9 | 5.5 | 0.85 | 24 | 1 | 0.29 |
| Benzo(ghi)perylene | 1.8 | <0.05 | 0.42 | <0.05 | 1.9 | <0.05 | <0.05 | 8.1 | 2.9 | 2.6 | 0.42 | 11 | 0.63 | 0.13 |
| Benzo(k)fluoranthene | 1.8 | <0.05 | 0.39 | <0.05 | 1.4 | <0.05 | <0.05 | 2.8 | 1.6 | 2.6 | 0.25 | 11 | 0.41 | <0.05 |
| Chrysene | 2.6 | 0.06 | 0.83 | <0.05 | 2.8 | <0.05 | <0.05 | 8.3 | 2.8 | 5.2 | 0.5 | 19 | 0.51 | 0.16 |
| Dibenz(ah)anthracene | 0.33 | <0.05 | <0.05 | <0.05 | 0.33 | <0.05 | <0.05 | 1.4 | <0.05 | 0.42 | <0.05 | 2.6 | 0.15 | <0.05 |
| Fluoranthene | 4.3 | 0.11 | 2.1 | <0.05 | 4.9 | 0.12 | <0.05 | 20 | 4.5 | 11 | 0.7 | 36 | 0.42 | 0.4 |
| Fluorene | 0.19 | 0.1 | 0.14 | 0.06 | 0.23 | <0.05 | 0.06 | 0.9 | 1.1 | 0.43 | 0.11 | 2 | 0.97 | <0.05 |
| Indeno(123cd)pyrene | 1.6 | <0.05 | 0.38 | <0.05 | 1.7 | <0.05 | <0.05 | 7.3 | 2.5 | 2.4 | 0.38 | 11 | 0.52 | 0.09 |
| Naphthalene | 2 | 1.2 | 2 | 0.56 | 1.8 | 0.31 | 0.74 | 4 | 19 | 3 | 1.1 | 1.9 | 28 | 0.65 |
| Phenanthrene | 1.2 | 0.14 | 1.5 | <0.05 | 2.1 | 0.11 | 0.06 | 5.2 | 2.8 | 6.2 | 0.26 | 22 | 1.2 | 0.34 |
| Pyrene | 3.8 | <0.05 | 1.8 | <0.05 | 4.7 | 0.11 | <0.05 | 16 | 3.8 | 8.7 | 0.72 | 32 | 0.38 | 0.36 |
| PAH 16 Total | 29.8 | 1.81 | 12.6 | <0.8 | 33 | <0.8 | 0.86 | 97.5 | 54 | 58.3 | 6.71 | 224 | 37.3 | 2.78 |
| **TPH fractions** | | | | | | | | | | | | | | |
| TPH ali EC05-EC06 | <0.01 | | | | <0.01 | <0.01 | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| TPH ali >EC06-EC08 | <0.01 | | | | <0.01 | <0.01 | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| TPH ali >EC08-EC10 | <0.01 | | | | <0.01 | <0.01 | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| TPH ali >EC10-EC12 | 1 | | | | <1 | <1 | | | <1 | <1 | <1 | <1 | 1.6 | |
| TPH ali >EC12-EC16 | 13 | | | | 3.1 | <2 | | | 11 | 2.7 | <2 | <2 | 10 | |
| TPH ali >EC16-EC21 | 9.7 | | | | 26 | <8 | | | 330 | 10 | <8 | <8 | 9.3 | |
| TPH ali >EC21-EC35 | <8 | | | | 130 | <8 | | | 1200 | 73 | <8 | 23 | 61 | |
| TPH ali >EC16-EC35 | <10 | | | | 160 | <10 | | | 1500 | 83 | <10 | 23 | 70 | |
| TPH ali >EC35-EC44 | <8.4 | | | | 21 | <8.4 | | | 100 | 26 | <8.4 | <8.4 | 75 | |
| TPH ali >EC5-EC35 | 23 | | | | 160 | <10 | | | 1500 | 86 | <10 | 23 | 82 | |
| TPH ali >EC5-EC44 | 23 | | | | 180 | <10 | | | 1600 | 110 | <10 | 23 | 160 | |
| TPH aro EC05-EC07 | <0.01 | | | | <0.01 | <0.01 | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| TPH aro >EC07-EC08 | <0.01 | | | | <0.01 | <0.01 | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| TPH aro >EC08-EC10 | <0.02 | | | | <0.02 | <0.02 | | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | |
| TPH aro >EC10-EC12 | <1 | | | | 1.8 | <1 | | | 10 | 3.6 | 1.2 | 1.4 | 12 | |
| TPH aro >EC12-EC16 | 7.9 | | | | 5.7 | <2 | | | 8.9 | 6.4 | 4.7 | 12 | 9.7 | |
| TPH aro >EC16-EC21 | 37 | | | | 25 | <10 | | | 75 | 25 | <10 | 120 | <10 | |
| TPH aro >EC21-EC35 | 98 | | | | 83 | <10 | | | 380 | 53 | 17 | 230 | 92 | |
| TPH aro >EC35-EC44 | 29 | | | | 23 | <8.4 | | | 92 | 12 | <8.4 | 19 | 170 | |
| TPH aro >EC5-EC35 | 140 | | | | 120 | <10 | | | 470 | 89 | 23 | 360 | 110 | |
| TPH aro >EC5-EC44 | 170 | | | | 140 | <10 | | | 560 | 100 | 23 | 380 | 290 | |
| Total TPH >EC5-EC44 | 200 | | | | 320 | <1 | | | 2200 | 210 | 23 | 410 | 440 | |
| **VOCs - BTEX & MTBE** | | | | | | | | | | | | | | |
| Benzene | | | | | <0.005 | <0.005 | | | | <0.005 | <0.005 | <0.005 | <0.005 | |
| Toluene | | | | | 0.0083 | <0.005 | | | | <0.005 | <0.005 | <0.005 | <0.005 | |
| Ethylbenzene | | | | | <0.005 | <0.005 | | | | <0.005 | <0.005 | <0.005 | <0.005 | |
| Xylene, o- | | | | | <0.005 | <0.005 | | | | <0.005 | <0.005 | <0.005 | <0.005 | |
| Xylene, p- (or combined m & p) | | | | | <0.008 | <0.008 | | | | <0.008 | <0.008 | <0.008 | <0.008 | |
| MTBE | | | | | <0.005 | <0.005 | | | | <0.005 | <0.005 | <0.005 | <0.005 | |
| **VOCs - other benzenes** | | | | | | | | | | | | | | |
| Iso-propylbenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Propylbenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,2,4-Trimethylbenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,3,5-Trimethylbenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| **VOCs - chlorobenzenes** | | | | | | | | | | | | | | |
| Bromobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Chlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,2-Dichlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,3-Dichlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,4-Dichlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Hexachlorobenzene | | | | | <0.3 | | | | | <0.3 | | <0.3 | | |
| 1,2,3-trichlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,2,4-trichlorobenzene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| **VOCs - chloroalkanes & alkanes** | | | | | | | | | | | | | | |
| Bromodichloromethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Bromoform (aka tribromethane) | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Chloroethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Chloroethene (aka vinyl chloride) | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Chloromethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,1-Dichloroethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,2-Dichloroethane | | | | | <0.007 | | | | | <0.007 | | <0.007 | | |
| 1,1-Dichloroethene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Cis 1,2 Dichloroethene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Trans 1,2 Dichloroethene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,2-Dichloropropane | | | | | <0.006 | | | | | <0.006 | | <0.006 | | |
| Hexachloroethane | | | | | <0.05 | | | | | <0.05 | | <0.05 | | |
| Tetrachloroethene | | | | | <0.005 | | | | | 0.19 | | 0.0081 | | |
| 1,1,1,2-Tetrachloroethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| 1,1,2,2-Tetrachloroethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Tetrachloromethane | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Trichloroethene | | | | | <0.01 | | | | | 0.015 | | <0.01 | | |
| 1,1,1-Trichloroethane | | | | | <0.005 | | | | | 0.025 | | <0.005 | | |
| 1,1,2 Trichloroethane | | | | | <0.006 | | | | | <0.006 | | <0.006 | | |
| Trichloromethane | | | | | <0.005 | | | | | 2.5 | | <0.005 | | |
| **Other phenols & chlorophenols** | | | | | | | | | | | | | | |
| Phenol | | | | | <0.2 | | | | | <0.2 | | <0.2 | | |
| 2-Chlorophenol | | | | | <0.1 | | | | | <0.1 | | <0.1 | | |
| 2,4-Dichlorophenol | | | | | <0.3 | | | | | <0.3 | | <0.3 | | |
| 2,4-Dimethylphenol | | | | | <0.3 | | | | | <0.3 | | <0.3 | | |
| 2-Methylphenol | | | | | <0.3 | | | | | <0.3 | | <0.3 | | |
| 4-Methylphenol | | | | | <0.2 | | | | | <0.2 | | <0.2 | | |
| 2,4,6-Trichlorophenol | | | | | <0.1 | | | | | <0.1 | | <0.1 | | |
| **Phthalates** | | | | | | | | | | | | | | |
| Butyl benzyl phthalate | | | | | <0.3 | | | | | <0.3 | | <0.3 | | |
| Diethyl Phthalate | | | | | <0.2 | | | | | <0.2 | | <0.2 | | |
| Di-n-butyl phthalate | | | | | <0.2 | | | | | <0.2 | | <0.2 | | |
| **Other organics** | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | <0.2 | | | | | <0.2 | | <0.2 | | |
| 2,6-Dinitrotoluene | | | | | <0.1 | | | | | <0.1 | | <0.1 | | |
| Hexachloro-1,3-butadiene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |
| Styrene | | | | | <0.005 | | | | | <0.005 | | <0.005 | | |

# Assessment of Chemicals of Potential Concern to Human Health

| | |
|---|---|
| **Risk parameter:** | Default - Human Health - residential with home-grown produce (2.5%SOM) |
| **Client:** | Abri |
| **Site:** | 200-220 Elgar Road |
| **Job no.:** | 29680 |
| **Lab. report no(s):** | 24-059945-1 |

Data Filters
Zone: All
Strata: ALL
Depth Min (m bgl): 0.08
Depth Max (m bgl): 3.5
Dataset mean SOM%: 3.15
Scenario SOM%: 2.5

Hydrock new Stantec

All values in mg/kg unless otherwise stated

| CAS No / P Code | Chemical of Potential Concern | Units | LoD | No. Samples | Min. Value | Max. Value | Mean | Median | Standard Deviation | No. Samples >= GAC & > LoD | Soil Saturation Limit @ 2.5% SOM | GAC | GAC Source | Strata | Date | Zone | Location | Depth (m bgl) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 12/12/24 | 12/12/24 | 12/12/24 | 12/12/24 |
| | | | | | | | | | | | | | | | EX | EX | EX | EX | EX | EX | EX | EX | EX | EX | IN | IN | EX | EX |
| | | | | | | | | | | | | | | | WS01 | WS01 | WS02 | WS02 | WS03 | WS03 | WS04 | WS03 | WS05 | WS05 | LWS01 | LWS02 | FP01 | FP02 |
| | | | | | | | | | | | | | | | 0.3 | 0.5 | 0.5 | 1 | 0.8 | 1.5 | 1 | 0.08 | 0.3 | 1.2 | 0.7 | 0.7 | 0.1 | 1.2 |
| | **Other VOC Suite Substances which do not have a GAC** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 74-83-9 | Bromomethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 75-69-4 | Trichlorofluoromethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 594-20-7 | 2,2-Dichloropropane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 563-58-6 | 1,1-Dichloropropene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 74-95-3 | Dibromomethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 10061-01-5 | Cis-1,3-dichloropropene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 10061-02-6 | Trans-1,3-dichloropropene | mg/kg | 10 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.01 | | | | | | | | <0.01 | | <0.01 | | | |
| 142-28-9 | 1,3-Dichloropropane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 124-48-1 | Dibromochloromethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 106-93-4 | 1,2-Dibromoethane | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 95-49-8 | 2-Chlorotoluene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 106-43-4 | 4-Chlorotoluene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 98-06-6 | tert butylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 135-98-8 | sec butylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 99-87-6 | Isopropyltoluene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 104-51-8 | n butylbenzene | mg/kg | 5 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.005 | | | | | | | | <0.005 | | <0.005 | | | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | mg/kg | 8 | 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | | | - | | | <0.008 | | | | | | | | <0.008 | | <0.008 | | | |
| | **Other SVOC Suite Substances which do not have a GAC** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 62-53-3 | Aniline | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | | | - | | | 0.1 | | | | | | | | 0.1 | | 0.1 | | | |
| 111-44-4 | Bis(2-chloroethyl)ether | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | | | - | | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 39638-32-9 | Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | | | - | | | <0.1 | | | | | | | | <0.1 | | <0.1 | | | |
| 98-95-3 | Nitrobenzene | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | | | - | | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 78-59-1 | Isophorone | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | | | - | | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 88-75-5 | 2-Nitrophenol | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | | | - | | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 111-91-1 | Bis(2-chloroethoxy)methane | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | | | - | | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 106-47-8 | 4-Chloroaniline | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | | | - | | | <0.1 | | | | | | | | <0.1 | | <0.1 | | | |
| 59-50-7 | 4-Chloro-3-methylphenol | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | | | - | | | <0.1 | | | | | | | | <0.1 | | <0.1 | | | |
| 95-95-4 | 2,4,5-Trichlorophenol | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | | | - | | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 91-57-6 | 2-Methylnaphthalene | mg/kg | 0.1 | 3 | 0.20 | 0.40 | 0.33 | 0.40 | 0.12 | | | - | | | <0.2 | | | | | | | | <0.4 | | <0.4 | | | |
| 131-11-3 | Dimethyl phthalate | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | | | - | | | 0.1 | | | | | | | | 0.1 | | 0.1 | | | |
| 132-64-9 | Dibenzofuran | mg/kg | 0.2 | 3 | 0.20 | 1.50 | 0.70 | 0.40 | 0.70 | | | - | | | <0.2 | | | | | | | | <0.4 | | <0.4 | | | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | | | - | | | 0.3 | | | | | | | | 0.3 | | 0.3 | | | |
| 100-01-6 | 4-Nitroaniline | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | | | - | | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 103-33-3 | Azobenzene | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | | | - | | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 101-55-3 | Bromophenyl phenyl ether | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | | | - | | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 86-74-8 | Carbazole | mg/kg | 0.3 | 3 | 0.30 | 1.10 | 0.57 | 0.30 | 0.46 | | | - | | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 84-65-1 | Anthraquinone | mg/kg | 0.3 | 3 | 0.30 | 2.30 | 1.43 | 1.70 | 1.03 | | | - | | | <0.3 | | | | | | | | <0.7 | | 2.3 | | | |
| | **Duplicate SVOC Substances** | **mg/kg** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95-50-1 | 1,2-Dichlorobenzene | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0 | 1371.211796 | 55 | Hydrock Derived | | 0.1 | | | | | | | | 0.1 | | 0.1 | | | |
| 541-73-1 | 1,3-Dichlorobenzene | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 1271.45544 | 0.98 | Hydrock Derived | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 106-46-7 | 1,4-Dichlorobenzene | mg/kg | 0.2 | 3 | 0.20 | 0.20 | 0.20 | 0.20 | 0.00 | 0 | 5397.782423 | 92 | Hydrock Derived | | <0.2 | | | | | | | | <0.2 | | <0.2 | | | |
| 120-82-1 | 1,2,4-trichlorobenzene | mg/kg | 0.3 | 3 | 0.30 | 0.30 | 0.30 | 0.30 | 0.00 | 0 | 7855.310372 | 8.4 | Hydrock Derived | | <0.3 | | | | | | | | <0.3 | | <0.3 | | | |
| 87-68-3 | Hexachloro-1,3-butadiene | mg/kg | 0.1 | 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0 | 7645808906 | 0.7 | Hydrock Derived | | <0.1 | | | | | | | | <0.1 | | <0.1 | | | |
| | **TPH Additivity Check** | | | | | | **HAZARD QUOTIENTS FOR EACH FRACTION** | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Aliphatics >EC5-EC8 | 0.000128205 | | | | | | | | 0.000128205 | 0.000128205 | 0.000128205 | 0.000128205 | 0.000128205 | 0.000128205 | 0.000128205 |
| | | | | | | | | | | | | | Aliphatics >EC8-EC8 | 4.347826-05 | | | | | | | | 4.347826-05 | 4.347826-05 | 4.347826-05 | 4.347826-05 | 4.347826-05 | 4.347826-05 | 4.347826-05 |
| | | | | | | | | | | | | | Aliphatics >EC8-EC10 | 0.000153846 | | | | | | | | 0.000153846 | 0.000153846 | 0.000153846 | 0.000153846 | 0.000153846 | 0.000153846 | 0.000153846 |
| | | | | | | | | | | | | | Aliphatics >EC10-EC12 | 0.003030303 | | | | | | | | 0.003030303 | 0.003030303 | 0.003030303 | 0.003030303 | 0.003030303 | 0.004848485 | 0.003030303 |
| | | | | | | | | | | | | | Aliphatics >EC12-EC16 | 0.005416667 | | | | | | | | 0.001291667 | 0.000833333 | 0.000833333 | 0.00458333 | 0.001125 | 0.000833333 | 0.004166667 |
| | | | | | | | | | | | | | Aliphatics >EC16-EC35 | 0.000108696 | | | | | | | | 0.00173913 | 0.000108696 | 0.000108696 | 0.016304348 | 0.000902174 | 0.000108696 | 0.00025 |
| | | | | | | | | | | | | | Aliphatics >EC35-EC44 | 9.13043E-05 | | | | | | | | 0.000228261 | 9.13043E-05 | 9.13043E-05 | 0.001086957 | 0.000239609 | 9.13043E-05 | 9.13043E-05 |
| | | | | | | | | | | | | | Aromatics EC5-EC7 | 6.666667E-05 | | | | | | | | 6.666667E-05 | 6.666667E-05 | 6.666667E-05 | 6.666667E-05 | 6.666667E-05 | 6.666667E-05 | 6.666667E-05 |
| | | | | | | | | | | | | | Aromatics >EC7-EC8 | 3.33333E-05 | | | | | | | | 3.33333E-05 | 3.33333E-05 | 3.33333E-05 | 3.33333E-05 | 3.33333E-05 | 3.33333E-05 | 3.33333E-05 |
| | | | | | | | | | | | | | Aromatics >EC8-EC10 | 0.000238095 | | | | | | | | 0.000238095 | 0.000238095 | 0.000238095 | 0.000238095 | 0.000238095 | 0.000238095 | 0.000238095 |
| | | | | | | | | | | | | | Aromatics >EC10-EC12 | 0.005555556 | | | | | | | | 0.005555556 | 0.005555556 | 0.005555556 | 0.02 | 0.006666667 | 0.005777778 | 0.006666667 |
| | | | | | | | | | | | | | Aromatics >EC12-EC16 | 0.012820513 | | | | | | | | 0.012727273 | 0.008205128 | 0.008205128 | 0.012820513 | 0.010455128 | 0.012820513 | 0.009230769 |
| | | | | | | | | | | | | | Aromatics >EC16-EC21 | 0.048298296 | | | | | | | | 0.048298296 | 0.048298296 | 0.048298296 | 0.138888889 | 0.048298296 | 0.048298296 | 0.048298296 |
| | | | | | | | | | | | | | Aromatics >EC21-EC35 | 0.065333333 | | | | | | | | 0.055333333 | 0.006666667 | 0.006666667 | 0.253333333 | 0.055333333 | 0.013333333 | 0.153333333 |
| | | | | | | | | | | | | | Aromatics >EC35-EC44 | 0.010333333 | | | | | | | | 0.015333333 | 0.0056 | 0.0056 | 0.061333333 | 0.008 | 0.0056 | 0.012666667 |
| | | | | | | | | | | | | | **Hazard Index for ali>C8-C16** | **0.008888016** | | | | | | | | **0.004475216** | **0.004017489** | **0.004017489** | **0.007767483** | **0.004308149** | **0.004017489** | **0.004017489** |
| | | | | | | | | | | | | | **Hazard Index for aro>C8-C16** | **0.027510823** | | | | | | | | **0.027510823** | **0.011804637** | **0.011804637** | **0.060270048** | **0.019803983** | **0.021147186** | **0.044179569** |
| | | | | | | | | | | | | | Hazard Index for aro>C16-C35 | **0.110851852** | | | | | | | | **0.10152963** | **0.025185185** | | **0.302222222** | **0.08162963** | **0.029851852** | **0.273580556** |
| | **PFAS Additivity Check** | | | | | | **HAZARD QUOTIENTS FOR PFOA, PFOS, PFHxS AND PFNA** | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PFOA C8 Carboxylic Acid | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PFOS C8 Sulphonate | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PFHxS C6 Sulphonate | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PFNA C9 Carboxylic Acid | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | **Hazard Index for PFOA, PFOS, PFHxS AND PFNA** | | | | | | | | | | | | | | | |

Considered additive
Considered additive
Considered additive
Considered additive

Hazard Index
HI or HQ greater than 1 highlighted with orange shading

**Legend:**

| | | |
|---|---|---|
| MG | Made Ground | |
| TS | Topsoil | |
| UF | Upper Formation | |

| | |
|---|---|
| <0.008 | Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. |
| 0.02 | Value greater than, or equal to, the generic assessment criterion (GAC) |
| **64.00** | Value exceed saturation limit and substance is liquid or solid at ambient temperature |
| **<20** | Value excluded from statistical analysis |
| **Y** | Test result |
| - | Represents a determinand that was not tested. |
| * | represents a data point that is not included in the current filter settings |

Template Version
v.1.1: 22/10/24

# Assessment of Chemicals of Potential Concern to Plant Life

| | |
|---|---|
| **Risk parameter:** | **Phytotoxic pH >7** |
| **Client:** | Abri |
| **Site:** | 200-220 Elgar Road |
| **Job no.:** | 29680 |
| **Lab. report no(s).:** | 24-059945-1 |

**Data Filters**

| | |
|---|---|
| Zone | **All** |
| Strata | **All** |
| Depth Min (m bgl) | **0.08** |
| Depth Max (m bgl) | **1.5** |
| Dataset mean pH | **8.55** |
| Scenario pH | **>7** |

Hydrock now Stantec

All values in mg/kg unless otherwise stated

| CAS No / P Code | Chemical of Potential Concern | Units | LoD | No. Samples | Min. Value | Max. Value | Mean | Median | Standard Deviation | No. Samples >= GAC & > LoD | GAC | GAC Source | Date | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 13/12/24 | 12/12/24 | 12/12/24 | 12/12/24 | 12/12/24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | **Zone** | EX | EX | EX | EX | EX | EX | EX | EX | EX | EX | IN | IN | EX | EX |
| | | | | | | | | | | | | | **Location** | WS01 | WS01 | WS02 | WS02 | WS03 | WS03 | WS04 | WS03 | WS05 | WS05 | LWS01 | LWS02 | FP01 | FP02 |
| | | | | | | | | | | | | | **Depth (m bgl)** | 0.3 | 0.5 | 0.5 | 1 | 0.8 | 1.5 | 1 | 0.08 | 0.3 | 1.2 | 0.7 | 0.7 | 0.1 | 1.2 |
| | | | | | | | | | | | | | **Strata** | TS | MG | MG | UF | MG | MG | UF | MACADAM | MG | MG | MG | MG | MG | MG |
| **0** | **Hydrock Default Suite - FOC / SOM / pH** | | | | | | | | | | | | | | | | | | | | | | | | | |
| P1334 | pH (su) | pH Units | 0.1 | 13 | 7.90 | 11.40 | 8.55 | 8.20 | 0.93 | | - | - | | 8.1 | 8.2 | 9.4 | 8.1 | 8.4 | 8.5 | 8.2 | | 8.2 | 8.2 | 11.4 | 8.1 | 7.9 | 8.5 |
| **0** | **Hydrock Default Suite - Metals & PAH** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7440-38-2 | Arsenic | mg/kg | 1 | 13 | 2.50 | 37.00 | 12.45 | 12.00 | 8.97 | 0 | 250 | MAFF 1998 | | 11 | 9.8 | 15 | 2.5 | 15 | 3.5 | 4.4 | | 14 | 37 | 12 | 16 | 17 | 4.7 |
| 7440-42-8 | Boron | mg/kg | 0.2 | 13 | 0.70 | 3.80 | 1.47 | 1.20 | 0.89 | 0 | 5 | Nable, et al. 1997 | | 1.1 | 0.8 | 2.4 | 0.7 | 3.8 | 0.8 | 0.9 | | 1.2 | 1.3 | 2.3 | 1.3 | 1.6 | 0.9 |
| 16065-83-1 | Chromium (III) | mg/kg | 1 | 13 | 6.20 | 31.00 | 15.32 | 15.00 | 6.40 | 0 | 400 | MAFF 1998 (Cr(T)) | | 15 | 14 | 20 | 6.2 | 16 | 9.9 | 10 | | 31 | 15 | 18 | 14 | 21 | 9 |
| 18540-29-9 | Chromium (VI) | mg/kg | 1.8 | 13 | 1.80 | 1.80 | 1.80 | 1.80 | 0.00 | 0 | 25 | ICRCL 70/90 1990 | | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 |
| 7440-50-8 | Copper | mg/kg | 1 | 13 | 7.70 | **330.00** | 68.92 | 24.00 | 99.11 | **2** | 200 | BS3882 2015 | | 46 | 8.5 | 51 | 7.7 | 90 | 8.8 | 12 | | 330 | 61 | 14 | 24 | 230 | 13 |
| 7440-02-0 | Nickel | mg/kg | 1 | 13 | 7.70 | 64.00 | 25.59 | 19.00 | 17.77 | 0 | 110 | BS3882 2015 | | 19 | 14 | 64 | 12 | 26 | 11 | 7.7 | | 40 | 37 | 17 | 22 | 53 | 10 |
| 7440-66-6 | Zinc | mg/kg | 1 | 13 | 22.00 | **1900.00** | 264.31 | 110.00 | 509.28 | **2** | 300 | BS3882 2015 | | 140 | 39 | 110 | 22 | 150 | 32 | 29 | | 1900 | 280 | 53 | 140 | 500 | 41 |

**Legend:**

| | |
|---|---|
| MG | Made Ground |
| TS | Topsoil |
| UF | Upnor Formation |

| | |
|---|---|
| <0.02 | Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. |
| 0.02 | Value greater than, or equal to, the generic assessment criterion (GAC). |
| **64.00** | Value exceed saturation limit and substance is liquid or solid at ambient temperature |
| ***<10** | Value excluded from statistical analysis |
| ***Y*** | Text result |
| **-** | Represents a determinand that was not tested. |
| **•** | represents a data point that is not included in the current filter settings |

Template Version:

113: 22/10/24

# Appendix F Waste Assessment

# Waste Classification Report

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

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.

Z5A01-E3HY1-AZPU5

Report is invalid if pages are removed.

## Job name

Elgar Road South

## Description/Comments

Ground Investigation Report

## Project

Elgar Road South, Reading

## Site

200-220 Elgar Road South, Reading, RG2 0BW.

## Classified by

Name:
**Emma Raftery**
Date:
**03 Feb 2025 09:01 GMT**
Telephone:
**+447504502056**

Company:
**Hydrock Consultants Ltd**
**Bow lake Gardens**
**Bishopstoke**
**SO506JH**

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 | 04 Apr 2024 |

Next 3 year Refresher due by Apr 2027

## Purpose of classification

2 - Material Characterisation

## Address of the waste

200-220 Elgar Road South, Reading, RG2 0BW. **Post Code** RG2 0BW

## SIC for the process giving rise to the waste

41202 Construction of domestic buildings

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

Ground Investigation

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

Ground Investigation

## Description of the waste

Soil from Ground Investigation

## Job summary

| # | Sample name | Depth [m] | Classification Result | Hazard properties | Page |
|---|---|---|---|---|---|
| 1 | WS01--13122024-0.00 | | Non Hazardous | | 3 |
| 2 | WS01--13122024-0.50 | | Non Hazardous | | 6 |
| 3 | WS02--13122024-0.50 | | Non Hazardous | | 8 |
| 4 | WS02--13122024-1.00 | | Non Hazardous | | 10 |
| 5 | WS03--13122024-0.80 | | Non Hazardous | | 12 |
| 6 | WS03--13122024-1.50 | | Non Hazardous | | 18 |
| 7 | WS04--13122024-1.00 | | Non Hazardous | | 20 |
| 8 | WS03--13122024-0.00 | | Non Hazardous | | 22 |
| 9 | WS05--13122024-0.30 | | Hazardous | HP 3(i), HP 7, HP 11, HP 14 | 24 |
| 10 | WS05--13122024-1.20 | | Non Hazardous | | 27 |
| 11 | LWS01--12122024-0.10 | | Non Hazardous | | 33 |
| 12 | LWS02--12122024-0.20 | | Non Hazardous | | 36 |
| 13 | FP01--12122024-0.00 | | Hazardous | HP 7 | 42 |
| 14 | FP02--12122024-1.20 | | Non Hazardous | | 45 |

## Related documents

| # | Name | Description |
|---|---|---|
| 1 | 24-059945_HWOL.hwol | i2 Analytical .hwol file used to populate the Job |
| 2 | Example waste stream template for contaminated soils | waste stream template used to create this Job |

## Report

Created by: Emma Raftery

Created date: 03 Feb 2025 09:01 GMT


| Appendices | Page |
|---|---|
| Appendix A: Classifier defined and non GB MCL determinands | 47 |
| Appendix B: Rationale for selection of metal species | 50 |
| Appendix C: Version | 51 |

## Classification of sample: WS01--13122024-0.00

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

## Sample details

Sample name:
**WS01--13122024-0.00**
Moisture content:
**12%**
(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% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 11 mg/kg | 1.32 | 12.781 mg/kg | 0.00128 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.99 mg/kg | 2.775 | 2.418 mg/kg | 0.000242 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 1.1 mg/kg | 3.22 | 3.117 mg/kg | 0.000312 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 0.5 mg/kg | 1.142 | 0.503 mg/kg | 0.0000503 % | ✓ | |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 15 mg/kg | 1.462 | 21.923 mg/kg | 0.00219 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <LOD |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 46 mg/kg | 1.126 | 45.576 mg/kg | 0.00456 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 110 mg/kg | 1.56 | 150.99 mg/kg | 0.00968 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 mg/kg | 1.353 | <0.406 mg/kg | <0.0000406 % | | <LOD |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 19 mg/kg | 2.976 | 49.763 mg/kg | 0.00498 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 mg/kg | 2.554 | <2.554 mg/kg | <0.000255 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 140 mg/kg | 2.774 | 341.775 mg/kg | 0.0342 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 200 mg/kg | | 176 mg/kg | 0.0176 % | ✓ | |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 15 | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 16 | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 18 | | 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** |
| 19 | | pH | | | PH | | 8.1 | pH | | 8.1 | pH | 8.1 pH | | |
| 20 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 2 | mg/kg | | 1.76 | mg/kg | 0.000176 % | ✓ | |
| 21 | | acenaphthylene | | 205-917-1 | 208-96-8 | | 0.45 | mg/kg | | 0.396 | mg/kg | 0.0000396 % | ✓ | |
| 22 | | acenaphthene | | 201-469-6 | 83-32-9 | | 0.1 | mg/kg | | 0.088 | mg/kg | 0.0000088 % | ✓ | |
| 23 | | fluorene | | 201-695-5 | 86-73-7 | | 0.19 | mg/kg | | 0.167 | mg/kg | 0.0000167 % | ✓ | |
| 24 | | phenanthrene | | 201-581-5 | 85-01-8 | | 1.2 | mg/kg | | 1.056 | mg/kg | 0.000106 % | ✓ | |
| 25 | | anthracene | | 204-371-1 | 120-12-7 | | 0.27 | mg/kg | | 0.238 | mg/kg | 0.0000238 % | ✓ | |
| 26 | | fluoranthene | | 205-912-4 | 206-44-0 | | 4.3 | mg/kg | | 3.784 | mg/kg | 0.000378 % | ✓ | |
| 27 | | pyrene | | 204-927-3 | 129-00-0 | | 3.8 | mg/kg | | 3.344 | mg/kg | 0.000334 % | ✓ | |
| 28 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 2.3 | mg/kg | | 2.024 | mg/kg | 0.000202 % | ✓ | |
| 29 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | 2.6 | mg/kg | | 2.288 | mg/kg | 0.000229 % | ✓ | |
| 30 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | 3.8 | mg/kg | | 3.344 | mg/kg | 0.000334 % | ✓ | |
| 31 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | 1.8 | mg/kg | | 1.584 | mg/kg | 0.000158 % | ✓ | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | 3.3 | mg/kg | | 2.904 | mg/kg | 0.00029 % | ✓ | |
| 33 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | 1.6 | mg/kg | | 1.408 | mg/kg | 0.000141 % | ✓ | |
| 34 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | 0.33 | mg/kg | | 0.29 | mg/kg | 0.000029 % | ✓ | |
| 35 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | 1.8 | mg/kg | | 1.584 | mg/kg | 0.000158 % | ✓ | |
| 36 | | monohydric phenols | | | P1186 | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| 37 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | 023-001-00-8 | 215-239-8 | 1314-62-1 | | 29 | mg/kg | 1.785 | 45.558 | mg/kg | 0.00456 % | ✓ | |
| 38 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | 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] | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <**LOD** |
| | | | | | | | | | | | Total: | 0.0832 % | | |

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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0176%)

## Classification of sample: WS01--13122024-0.50

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

## Sample details

Sample name:
**WS01--13122024-0.50**
Moisture content:
**8.7%**
(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: 8.7% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 9.8 | mg/kg | 1.32 | 11.813 | mg/kg | 0.00118 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.66 | mg/kg | 2.775 | 1.672 | mg/kg | 0.000167 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 0.8 | mg/kg | 3.22 | 2.352 | mg/kg | 0.000235 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 | mg/kg | 1.142 | <0.228 | mg/kg | <0.0000228 % | | <**LOD** |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 14 | mg/kg | 1.462 | 20.462 | mg/kg | 0.00205 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 8.5 | mg/kg | 1.126 | 8.737 | mg/kg | 0.000874 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 11 | mg/kg | 1.56 | 15.665 | mg/kg | 0.001 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 | mg/kg | 1.353 | <0.406 | mg/kg | <0.0000406 % | | <**LOD** |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 14 | mg/kg | 2.976 | 38.043 | mg/kg | 0.0038 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 39 | mg/kg | 2.774 | 98.779 | mg/kg | 0.00988 % | ✓ | |
| 13 | | 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** |
| 14 | | pH | | | PH | | 8.2 | pH | | 8.2 | pH | 8.2 pH | | |
| 15 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 1.2 | mg/kg | | 1.096 | mg/kg | 0.00011 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 16 | | acenaphthylene | | | | 0.12 | mg/kg | | 0.11 | mg/kg | 0.000011 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 17 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 18 | | fluorene | | | | 0.1 | mg/kg | | 0.0913 | mg/kg | 0.00000913 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 19 | | phenanthrene | | | | 0.14 | mg/kg | | 0.128 | mg/kg | 0.0000128 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 20 | | anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 21 | | fluoranthene | | | | 0.11 | mg/kg | | 0.1 | mg/kg | 0.00001 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 22 | | pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 23 | | benzo[a]anthracene | | | | 0.06 | mg/kg | | 0.0548 | mg/kg | 0.00000548 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 24 | | chrysene | | | | 0.06 | mg/kg | | 0.0548 | mg/kg | 0.00000548 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 25 | | benzo[b]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 26 | | benzo[k]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 27 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 28 | | indeno[123-cd]pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 29 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 30 | | benzo[ghi]perylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 31 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| | | | | P1186 | | | | | | | | | |
| 32 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 25 | mg/kg | 1.785 | 40.747 | mg/kg | 0.00407 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0244 % | | |

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--13122024-0.50

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

## Sample details

Sample name:
**WS02--13122024-0.50**
Moisture content:
**10%**
(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: 10% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 15 | mg/kg | 1.32 | 17.824 | mg/kg | 0.00178 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 7.1 | mg/kg | 2.775 | 17.734 | mg/kg | 0.00177 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 2.4 | mg/kg | 3.22 | 6.955 | mg/kg | 0.000695 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 0.4 | mg/kg | 1.142 | 0.411 | mg/kg | 0.0000411 % | ✓ | |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 20 | mg/kg | 1.462 | 29.231 | mg/kg | 0.00292 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 51 | mg/kg | 1.126 | 51.678 | mg/kg | 0.00517 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 35 | mg/kg | 1.56 | 49.134 | mg/kg | 0.00315 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 | mg/kg | 1.353 | <0.406 | mg/kg | <0.0000406 % | | <**LOD** |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 64 | mg/kg | 2.976 | 171.433 | mg/kg | 0.0171 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 110 | mg/kg | 2.774 | 274.641 | mg/kg | 0.0275 % | ✓ | |
| 13 | | 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** |
| 14 | | pH | | | PH | | 9.4 | pH | | 9.4 | pH | 9.4 pH | | |
| 15 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 2 | mg/kg | | 1.8 | mg/kg | 0.00018 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 16 | | acenaphthylene | | | | 0.28 | mg/kg | | 0.252 | mg/kg | 0.0000252 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 17 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 18 | | fluorene | | | | 0.14 | mg/kg | | 0.126 | mg/kg | 0.0000126 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 19 | | phenanthrene | | | | 1.5 | mg/kg | | 1.35 | mg/kg | 0.000135 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 20 | | anthracene | | | | 0.19 | mg/kg | | 0.171 | mg/kg | 0.0000171 % | ✓ | |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 21 | | fluoranthene | | | | 2.1 | mg/kg | | 1.89 | mg/kg | 0.000189 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 22 | | pyrene | | | | 1.8 | mg/kg | | 1.62 | mg/kg | 0.000162 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 23 | | benzo[a]anthracene | | | | 0.8 | mg/kg | | 0.72 | mg/kg | 0.000072 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 24 | | chrysene | | | | 0.83 | mg/kg | | 0.747 | mg/kg | 0.0000747 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 25 | | benzo[b]fluoranthene | | | | 1 | mg/kg | | 0.9 | mg/kg | 0.00009 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 26 | | benzo[k]fluoranthene | | | | 0.39 | mg/kg | | 0.351 | mg/kg | 0.0000351 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 27 | | benzo[a]pyrene; benzo[def]chrysene | | | | 0.85 | mg/kg | | 0.765 | mg/kg | 0.0000765 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 28 | | indeno[123-cd]pyrene | | | | 0.38 | mg/kg | | 0.342 | mg/kg | 0.0000342 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 29 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 30 | | benzo[ghi]perylene | | | | 0.42 | mg/kg | | 0.378 | mg/kg | 0.0000378 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 31 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| | | | | P1186 | | | | | | | | | |
| 32 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 54 | mg/kg | 1.785 | 86.76 | mg/kg | 0.00868 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0709 % | | |

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--13122024-1.00

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

## Sample details

Sample name:
**WS02--13122024-1.00**
Moisture content:
**8.8%**
(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: 8.8% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 2.5 | mg/kg | 1.32 | 3.01 | mg/kg | 0.000301 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.43 | mg/kg | 2.775 | 1.088 | mg/kg | 0.000109 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 0.7 | mg/kg | 3.22 | 2.056 | mg/kg | 0.000206 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 | mg/kg | 1.142 | <0.228 | mg/kg | <0.0000228 % | | <**LOD** |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 6.2 | mg/kg | 1.462 | 9.062 | mg/kg | 0.000906 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 7.7 | mg/kg | 1.126 | 7.906 | mg/kg | 0.000791 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 4.8 | mg/kg | 1.56 | 6.828 | mg/kg | 0.000438 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 | mg/kg | 1.353 | <0.406 | mg/kg | <0.0000406 % | | <**LOD** |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 12 | mg/kg | 2.976 | 32.572 | mg/kg | 0.00326 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 22 | mg/kg | 2.774 | 55.66 | mg/kg | 0.00557 % | ✓ | |
| 13 | | 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** |
| 14 | | pH | | | PH | | 8.1 | pH | | 8.1 | pH | 8.1 pH | | |
| 15 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 0.56 | mg/kg | | 0.511 | mg/kg | 0.0000511 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 16 | | acenaphthylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 17 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 18 | | fluorene | | | | 0.06 | mg/kg | | 0.0547 | mg/kg | 0.00000547 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 19 | | phenanthrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 20 | | anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 21 | | fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 22 | | pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 23 | | benzo[a]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 24 | | chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 25 | | benzo[b]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 26 | | benzo[k]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 27 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 28 | | indeno[123-cd]pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 29 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 30 | | benzo[ghi]perylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 31 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| | | | | P1186 | | | | | | | | | |
| 32 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 14 | mg/kg | 1.785 | 22.793 | mg/kg | 0.00228 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0149 % | | |

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: WS03--13122024-0.80

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

## Sample details

Sample name:
**WS03--13122024-0.80**
Moisture content:
**14%**
(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: 14% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 15 mg/kg | 1.32 | 17.032 mg/kg | 0.0017 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 1.5 mg/kg | 2.775 | 3.58 mg/kg | 0.000358 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 3.8 mg/kg | 3.22 | 10.523 mg/kg | 0.00105 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 0.4 mg/kg | 1.142 | 0.393 mg/kg | 0.0000393 % | ✓ | |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 16 mg/kg | 1.462 | 23.385 mg/kg | 0.00234 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <LOD |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 90 mg/kg | 1.126 | 87.144 mg/kg | 0.00871 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 69 mg/kg | 1.56 | 92.559 mg/kg | 0.00593 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 0.5 mg/kg | 1.353 | 0.582 mg/kg | 0.0000582 % | ✓ | |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 26 mg/kg | 2.976 | 66.549 mg/kg | 0.00665 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 mg/kg | 2.554 | <2.554 mg/kg | <0.000255 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 150 mg/kg | 2.774 | 357.865 mg/kg | 0.0358 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 320 mg/kg | | 275.2 mg/kg | 0.0275 % | ✓ | |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 15 | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 16 | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | 0.0083 mg/kg | | 0.0071 mg/kg | 0.000000714 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 17 | | ethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 18 | | 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 | | | | | | | | | | | |
| 19 | | pH | | | | 8.4 | pH | | 8.4 | pH | 8.4 pH | | |
| | | | | PH | | | | | | | | | |
| 20 | | naphthalene | | | | 1.8 | mg/kg | | 1.548 | mg/kg | 0.000155 % | ✓ | |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 21 | | acenaphthylene | | | | 0.69 | mg/kg | | 0.593 | mg/kg | 0.0000593 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 22 | | acenaphthene | | | | 0.12 | mg/kg | | 0.103 | mg/kg | 0.0000103 % | ✓ | |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 23 | | fluorene | | | | 0.23 | mg/kg | | 0.198 | mg/kg | 0.0000198 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 24 | | phenanthrene | | | | 2.1 | mg/kg | | 1.806 | mg/kg | 0.000181 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 25 | | anthracene | | | | 0.69 | mg/kg | | 0.593 | mg/kg | 0.0000593 % | ✓ | |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 26 | | fluoranthene | | | | 4.9 | mg/kg | | 4.214 | mg/kg | 0.000421 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 27 | | pyrene | | | | 4.7 | mg/kg | | 4.042 | mg/kg | 0.000404 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | 2.6 | mg/kg | | 2.236 | mg/kg | 0.000224 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | 2.8 | mg/kg | | 2.408 | mg/kg | 0.000241 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | 3.9 | mg/kg | | 3.354 | mg/kg | 0.000335 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | 1.4 | mg/kg | | 1.204 | mg/kg | 0.00012 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | 3.1 | mg/kg | | 2.666 | mg/kg | 0.000267 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | 1.7 | mg/kg | | 1.462 | mg/kg | 0.000146 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | 0.33 | mg/kg | | 0.284 | mg/kg | 0.0000284 % | ✓ | |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | 1.9 | mg/kg | | 1.634 | mg/kg | 0.000163 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | phenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-001-00-2 | 203-632-7 | 108-95-2 | | | | | | | | | |
| 37 | | 1,1-dichloroethane and 1,2-dichloroethane (combined) | | | | <0.007 | mg/kg | | <0.007 | mg/kg | <0.0000007 % | | <LOD |
| | | | 203-458-1, 200-863-5 | 107-06-2, 75-34-3 | | | | | | | | | |
| 38 | | tetrachloroethylene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-028-00-4 | 204-825-9 | 127-18-4 | | | | | | | | | |
| 39 | | carbon tetrachloride; tetrachloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-008-00-5 | 200-262-8 | 56-23-5 | | | | | | | | | |
| 40 | | trichloroethylene; trichloroethene | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-027-00-9 | 201-167-4 | 79-01-6 | | | | | | | | | |
| 41 | | vinyl chloride; chloroethylene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-023-00-7 | 200-831-0 | 75-01-4 | | | | | | | | | |
| 42 | | hexachlorobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 602-065-00-6 | 204-273-9 | 118-74-1 | | | | | | | | | |
| 43 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 44 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 40 | mg/kg | 1.785 | 61.41 | mg/kg | 0.00614 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 45 | | bromodichloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 200-856-7 | 75-27-4 | | | | | | | | | |
| 46 | | bromobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-060-00-9 | 203-623-8 | 108-86-1 | | | | | | | | | |
| 47 | | bromomethane; methylbromide | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-002-00-2 | 200-813-2 | 74-83-9 | | | | | | | | | |
| 48 | | 1,2,4-trichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-087-00-6 | 204-428-0 | 120-82-1 | | | | | | | | | |
| 49 | | mesitylene; 1,3,5-trimethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-025-00-5 | 203-604-4 | 108-67-8 | | | | | | | | | |
| 50 | | n-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 203-209-7 | 104-51-8 | | | | | | | | | |
| 51 | | 1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2] | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-030-00-5 | 208-826-5 [1]<br>233-195-8 [2] | 542-75-6 [1]<br>10061-01-5 [2] | | | | | | | | | |
| 52 | | chlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-033-00-1 | 203-628-5 | 108-90-7 | | | | | | | | | |
| 53 | | chloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-009-00-0 | 200-830-5 | 75-00-3 | | | | | | | | | |
| 54 | | chloromethane; methyl chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-001-00-7 | 200-817-4 | 74-87-3 | | | | | | | | | |
| 55 | | 1,2-dibromoethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-010-00-6 | 203-444-5 | 106-93-4 | | | | | | | | | |
| 56 | | dibromochloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 204-704-0 | 124-48-1 | | | | | | | | | |
| 57 | | 1,2-dibromo-3-chloropropane | | | | <0.008 | mg/kg | | <0.008 | mg/kg | <0.0000008 % | | <LOD |
| | | 602-021-00-6 | 202-479-3 | 96-12-8 | | | | | | | | | |
| 58 | | dibromomethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-003-00-8 | 200-824-2 | 74-95-3 | | | | | | | | | |
| 59 | | 1,1-dichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-011-00-1 | 200-863-5 | 75-34-3 | | | | | | | | | |
| 60 | | 1,1-dichloroethylene; vinylidene chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-025-00-8 | 200-864-0 | 75-35-4 | | | | | | | | | |
| 61 | | 2,2-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 209-832-0 | 594-20-7 | | | | | | | | | |
| 62 | | 1,1-dichloropropene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-031-00-0 | 209-253-3 | 563-58-6 | | | | | | | | | |
| 63 | | 1,3-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-531-3 | 142-28-9 | | | | | | | | | |
| 64 | | 1,1,2-trichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-014-00-8 | 201-166-9 | 79-00-5 | | | | | | | | | |
| 65 | | hexachlorobutadiene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 201-765-5 | 87-68-3 | | | | | | | | | |
| 66 | | cumene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-024-00-X | 202-704-5 | 98-82-8 | | | | | | | | | |
| 67 | | 1-isopropyl-4-methylbenzene; p-cymene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-094-00-1 | 202-796-7 | 99-87-6 | | | | | | | | | |
| 68 | | 1,3-dichlorbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-067-00-7 | 208-792-1 | 541-73-1 | | | | | | | | | |
| 69 | | 1,2-dichlorobenzene; o-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-034-00-7 | 202-425-9 | 95-50-1 | | | | | | | | | |
| 70 | | 1,4-dichlorobenzene; p-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-035-00-2 | 203-400-5 | 106-46-7 | | | | | | | | | |
| 71 | | 1,2-dichloropropane; propylene dichloride | | | | <0.006 | mg/kg | | <0.006 | mg/kg | <0.0000006 % | | <LOD |
| | | 602-020-00-0 | 201-152-2 | 78-87-5 | | | | | | | | | |
| 72 | | sec-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-227-0 | 135-98-8 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 73 | | styrene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-026-00-0 | 202-851-5 | 100-42-5 | | | | | | | | | |
| 74 | | tert-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 202-632-4 | 98-06-6 | | | | | | | | | |
| 75 | | bromoform; tribromomethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-007-00-X | 200-854-6 | 75-25-2 | | | | | | | | | |
| 76 | | 1,1,1-trichloroethane; methyl chloroform | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-013-00-2 | 200-756-3 | 71-55-6 | | | | | | | | | |
| 77 | | 1,2,3-trichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 201-757-1 | 87-61-6 | | | | | | | | | |
| 78 | | trichlorofluoromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 200-892-3 | 75-69-4 | | | | | | | | | |
| 79 | | 1,1,2,2-tetrachloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-015-00-3 | 201-197-8 | 79-34-5 | | | | | | | | | |
| 80 | | chloroform; trichloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-006-00-4 | 200-663-8 | 67-66-3 | | | | | | | | | |
| 81 | | trans-1,3-dichloropropene | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | | 431-460-4 | 10061-02-6 | | | | | | | | | |
| 82 | | 1,1,1,2-tetrachloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 211-135-1 | 630-20-6 | | | | | | | | | |
| 83 | | 1,2,4-trimethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-043-00-3 | 202-436-9 | 95-63-6 | | | | | | | | | |
| 84 | | BBP; benzyl butyl phthalate | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 607-430-00-3 | 201-622-7 | 85-68-7 | | | | | | | | | |
| 85 | | bis(2-chloroethyl) ether | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 603-029-00-2 | 203-870-1 | 111-44-4 | | | | | | | | | |
| 86 | | bis(2-chloroethoxy)methane | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 203-920-2 | 111-91-1 | | | | | | | | | |
| 87 | | 4-bromophenylphenylether | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | | 202-952-4 | 101-55-3 | | | | | | | | | |
| 88 | | carbazole | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 201-696-0 | 86-74-8 | | | | | | | | | |
| 89 | | chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-014-00-3 | 200-431-6 | 59-50-7 | | | | | | | | | |
| 90 | | 2-chloronaphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | 202-079-9 | 91-58-7 | | | | | | | | | |
| 91 | | dibenzofuran | | | | 0.2 | mg/kg | | 0.172 | mg/kg | 0.0000172 % | ✓ | |
| | | | 205-071-3 | 132-64-9 | | | | | | | | | |
| 92 | | 2,4-dichlorophenol | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 604-011-00-7 | 204-429-6 | 120-83-2 | | | | | | | | | |
| 93 | | diethyl phthalate | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | | 201-550-6 | 84-66-2 | | | | | | | | | |
| 94 | | dibutyl phthalate; DBP | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 607-318-00-4 | 201-557-4 | 84-74-2 | | | | | | | | | |
| 95 | | dimethyl phthalate | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | 205-011-6 | 131-11-3 | | | | | | | | | |
| 96 | | 3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7] | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 604-006-00-X | 202-439-5 [1]<br>202-461-5 [2]<br>203-321-6 [3]<br>208-395-3 [4]<br>209-400-1 [5]<br>215-089-3 [6]<br>276-245-4 [7] | 95-65-8 [1]<br>95-87-4 [2]<br>105-67-9 [3]<br>526-75-0 [4]<br>576-26-1 [5]<br>1300-71-6 [6]<br>71975-58-1 [7] | | | | | | | | | |
| 97 | | hexachloroethane | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 200-666-4 | 67-72-1 | | | | | | | | | |
| 98 | | 3,5,5-trimethylcyclohex-2-enone; isophorone | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 606-012-00-8 | 201-126-0 | 78-59-1 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 99 | | 2-methyl naphthalene | | | | 0.2 | mg/kg | | 0.172 | mg/kg | 0.0000172 % | ✓ | |
| | | | 202-078-3 | 91-57-6 | | | | | | | | | |
| 100 | | nitrobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 609-003-00-7 | 202-716-0 | 98-95-3 | | | | | | | | | |
| 101 | | 2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-008-00-0 | 202-433-2 [1]<br>203-402-6 [2]<br>203-582-6 [3]<br>246-691-4 [4] | 95-57-8 [1]<br>106-48-9 [2]<br>108-43-0 [3]<br>25167-80-0 [4] | | | | | | | | | |
| 102 | | 2-nitrophenol | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 201-857-5 | 88-75-5 | | | | | | | | | |
| 103 | | 4-chloroaniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-137-00-9 | 203-401-0 | 106-47-8 | | | | | | | | | |
| 104 | | 4-chlorophenylphenylether | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 230-281-7 | 7005-72-3 | | | | | | | | | |
| 105 | | o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 612-012-00-9 | 201-855-4 [1]<br>202-729-1 [2]<br>202-810-1 [3] | 88-74-4 [1]<br>99-09-2 [2]<br>100-01-6 [3] | | | | | | | | | |
| 106 | | 2,4,5-trichlorophenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-017-00-X | 202-467-8 | 95-95-4 | | | | | | | | | |
| 107 | | 2,4,6-trichlorophenol | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-018-00-5 | 201-795-9 | 88-06-2 | | | | | | | | | |
| 108 | | 2,6-dinitrotoluene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 609-049-00-8 | 210-106-0 | 606-20-2 | | | | | | | | | |
| 109 | | aniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-008-00-7 | 200-539-3 | 62-53-3 | | | | | | | | | |
| 110 | | anthraquinone | | | | 0.3 | mg/kg | | 0.258 | mg/kg | 0.0000258 % | ✓ | |
| | | 606-151-00-4 | 201-549-0 | 84-65-1 | | | | | | | | | |
| 111 | | azobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 611-001-00-6 | 203-102-5 | 103-33-3 | | | | | | | | | |
| 112 | | 2,4-dinitrotoluene; [1] dinitrotoluene [2] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 609-007-00-9 | 204-450-0 [1]<br>246-836-1 [2] | 121-14-2 [1]<br>25321-14-6 [2] | | | | | | | | | |
| 113 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| 114 | | m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4] | | | | <0.5 | mg/kg | | <0.5 | mg/kg | <0.00005 % | | <LOD |
| | | 604-004-00-9 | 203-577-9 [1]<br>202-423-8 [2]<br>203-398-6 [3]<br>215-293-2 [4] | 108-39-4 [1]<br>95-48-7 [2]<br>106-44-5 [3]<br>1319-77-3 [4] | | | | | | | | | |
| 115 | | 1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-026-00-3 | 208-750-2 [1]<br>205-859-7 [2]<br>205-860-2 [3] | 540-59-0 [1]<br>156-59-2 [2]<br>156-60-5 [3] | | | | | | | | | |
| 116 | | 2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-040-00-X | 202-424-3 [1]<br>203-580-5 [2]<br>203-397-0 [3]<br>246-698-2 [4] | 95-49-8 [1]<br>108-41-8 [2]<br>106-43-4 [3]<br>25168-05-2 [4] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.101 % | | |

| 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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

**Flam. Liq. 2; H225** "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 7.14e-07%)

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0275%)

## Classification of sample: WS03--13122024-1.50

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

## Sample details

Sample name:
**WS03--13122024-1.50**
Moisture content:
**12%**
(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% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 3.5 mg/kg | 1.32 | 4.067 mg/kg | 0.000407 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.48 mg/kg | 2.775 | 1.172 mg/kg | 0.000117 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 0.8 mg/kg | 3.22 | 2.267 mg/kg | 0.000227 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 mg/kg | 1.142 | <0.228 mg/kg | <0.0000228 % | | <LOD |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 9.9 mg/kg | 1.462 | 14.469 mg/kg | 0.00145 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <LOD |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 8.8 mg/kg | 1.126 | 8.719 mg/kg | 0.000872 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 12 mg/kg | 1.56 | 16.472 mg/kg | 0.00106 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 mg/kg | 1.353 | <0.406 mg/kg | <0.0000406 % | | <LOD |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 11 mg/kg | 2.976 | 28.81 mg/kg | 0.00288 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 mg/kg | 2.554 | <2.554 mg/kg | <0.000255 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 32 mg/kg | 2.774 | 78.12 mg/kg | 0.00781 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | <10 mg/kg | | <10 mg/kg | <0.001 % | | <LOD |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 15 | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 16 | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 17 | | ethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 18 | | 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 | | | | | | | | | | | |
| 19 | | pH | | | | 8.5 | pH | | 8.5 | pH | 8.5 pH | | |
| | | | | PH | | | | | | | | | |
| 20 | | naphthalene | | | | 0.31 | mg/kg | | 0.273 | mg/kg | 0.0000273 % | ✓ | |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 21 | | acenaphthylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 22 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 23 | | fluorene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 24 | | phenanthrene | | | | 0.11 | mg/kg | | 0.0968 | mg/kg | 0.00000968 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 25 | | anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 26 | | fluoranthene | | | | 0.12 | mg/kg | | 0.106 | mg/kg | 0.0000106 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 27 | | pyrene | | | | 0.11 | mg/kg | | 0.0968 | mg/kg | 0.00000968 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |
| 37 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 17 | mg/kg | 1.785 | 26.706 | mg/kg | 0.00267 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 38 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0196 % | | |

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: WS04--13122024-1.00

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

## Sample details

Sample name:
**WS04--13122024-1.00**
Moisture content:
**7%**
(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: 7% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 4.4 | mg/kg | 1.32 | 5.403 | mg/kg | 0.00054 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.42 | mg/kg | 2.775 | 1.084 | mg/kg | 0.000108 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 0.9 | mg/kg | 3.22 | 2.695 | mg/kg | 0.00027 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 | mg/kg | 1.142 | <0.228 | mg/kg | <0.0000228 % | | <**LOD** |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 10 | mg/kg | 1.462 | 14.616 | mg/kg | 0.00146 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 12 | mg/kg | 1.126 | 12.565 | mg/kg | 0.00126 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 16 | mg/kg | 1.56 | 23.21 | mg/kg | 0.00149 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 | mg/kg | 1.353 | <0.406 | mg/kg | <0.0000406 % | | <**LOD** |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 7.7 | mg/kg | 2.976 | 21.313 | mg/kg | 0.00213 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 29 | mg/kg | 2.774 | 74.819 | mg/kg | 0.00748 % | ✓ | |
| 13 | | 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** |
| 14 | | pH | | | PH | | 8.2 | pH | | 8.2 | pH | 8.2 pH | | |
| 15 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 0.74 | mg/kg | | 0.688 | mg/kg | 0.0000688 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 16 | | acenaphthylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 17 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 18 | | fluorene | | | | 0.06 | mg/kg | | 0.0558 | mg/kg | 0.00000558 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 19 | | phenanthrene | | | | 0.06 | mg/kg | | 0.0558 | mg/kg | 0.00000558 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 20 | | anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 21 | | fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 22 | | pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 23 | | benzo[a]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 24 | | chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 25 | | benzo[b]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 26 | | benzo[k]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 27 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 28 | | indeno[123-cd]pyrene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 29 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 30 | | benzo[ghi]perylene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 31 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| | | | | P1186 | | | | | | | | | |
| 32 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 20 | mg/kg | 1.785 | 33.204 | mg/kg | 0.00332 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0192 % | | |

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: WS03--13122024-0.00

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

## Sample details

Sample name:
**WS03--13122024-0.00**
Moisture content:
**0.42%**
(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: 0.42% 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 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 4 mg/kg | | 3.983 mg/kg | 0.000398 % | ✓ | |
| 2 | | acenaphthylene | | 205-917-1 | 208-96-8 | | 1.8 mg/kg | | 1.792 mg/kg | 0.000179 % | ✓ | |
| 3 | | acenaphthene | | 201-469-6 | 83-32-9 | | 0.23 mg/kg | | 0.229 mg/kg | 0.0000229 % | ✓ | |
| 4 | | fluorene | | 201-695-5 | 86-73-7 | | 0.9 mg/kg | | 0.896 mg/kg | 0.0000896 % | ✓ | |
| 5 | | phenanthrene | | 201-581-5 | 85-01-8 | | 5.2 mg/kg | | 5.178 mg/kg | 0.000518 % | ✓ | |
| 6 | | anthracene | | 204-371-1 | 120-12-7 | | 1.4 mg/kg | | 1.394 mg/kg | 0.000139 % | ✓ | |
| 7 | | fluoranthene | | 205-912-4 | 206-44-0 | | 20 mg/kg | | 19.916 mg/kg | 0.00199 % | ✓ | |
| 8 | | pyrene | | 204-927-3 | 129-00-0 | | 16 mg/kg | | 15.933 mg/kg | 0.00159 % | ✓ | |
| 9 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 8 mg/kg | | 7.966 mg/kg | 0.000797 % | ✓ | |
| 10 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | 8.3 mg/kg | | 8.265 mg/kg | 0.000827 % | ✓ | |
| 11 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | 6.5 mg/kg | | 6.473 mg/kg | 0.000647 % | ✓ | |
| 12 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | 2.8 mg/kg | | 2.788 mg/kg | 0.000279 % | ✓ | |
| 13 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | 5.8 mg/kg | | 5.776 mg/kg | 0.000578 % | ✓ | |
| 14 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | 7.3 mg/kg | | 7.269 mg/kg | 0.000727 % | ✓ | |
| 15 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | 1.4 mg/kg | | 1.394 mg/kg | 0.000139 % | ✓ | |
| 16 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | 8.1 mg/kg | | 8.066 mg/kg | 0.000807 % | ✓ | |
| | | | | | | | | | Total: | 0.00973 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand defined or amended by HazWasteOnline (see Appendix A) |

## Classification of sample: WS05--13122024-0.30

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

## Sample details

| | |
|---|---|
| Sample name: | LoW Code: |
| **WS05--13122024-0.30** | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content: | |
| **19%** (wet weight correction) | Entry: 17 05 03 * (Soil and stones containing hazardous substances) |

## Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.178%)

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

Hazard Statements hit:

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

Because of determinand:

zinc chromate (compound conc.: 0.427%)

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.178%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.178%)

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

Hazard Statements hit:

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

Because of determinand:

zinc chromate (compound conc.: 0.427%)

## Determinands

Moisture content: 19% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 14 | mg/kg | 1.32 | 14.972 | mg/kg | 0.0015 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 1.6 | mg/kg | 2.775 | 3.597 | mg/kg | 0.00036 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 1.2 | mg/kg | 3.22 | 3.13 | mg/kg | 0.000313 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 2.7 | mg/kg | 1.142 | 2.498 | mg/kg | 0.00025 % | ✓ | |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 31 | mg/kg | 1.462 | 45.308 | mg/kg | 0.00453 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 330 | mg/kg | 1.126 | 300.95 | mg/kg | 0.0301 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 340 | mg/kg | 1.56 | 429.573 | mg/kg | 0.0275 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 1.8 | mg/kg | 1.353 | 1.973 | mg/kg | 0.000197 % | ✓ | |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 40 | mg/kg | 2.976 | 96.431 | mg/kg | 0.00964 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 1900 | mg/kg | 2.774 | 4269.412 | mg/kg | 0.427 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | 2200 | mg/kg | | 1782 | mg/kg | 0.178 % | ✓ | |
| 14 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 15 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 16 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 17 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 18 | | 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** |
| 19 | | pH | | | PH | | 8.2 | pH | | 8.2 | pH | 8.2 pH | | |
| 20 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 19 | mg/kg | | 15.39 | mg/kg | 0.00154 % | ✓ | |
| 21 | | acenaphthylene | | 205-917-1 | 208-96-8 | | 2.3 | mg/kg | | 1.863 | mg/kg | 0.000186 % | ✓ | |
| 22 | | acenaphthene | | 201-469-6 | 83-32-9 | | 0.23 | mg/kg | | 0.186 | mg/kg | 0.0000186 % | ✓ | |
| 23 | | fluorene | | 201-695-5 | 86-73-7 | | 1.1 | mg/kg | | 0.891 | mg/kg | 0.0000891 % | ✓ | |
| 24 | | phenanthrene | | 201-581-5 | 85-01-8 | | 2.8 | mg/kg | | 2.268 | mg/kg | 0.000227 % | ✓ | |
| 25 | | anthracene | | 204-371-1 | 120-12-7 | | 0.61 | mg/kg | | 0.494 | mg/kg | 0.0000494 % | ✓ | |
| 26 | | fluoranthene | | 205-912-4 | 206-44-0 | | 4.5 | mg/kg | | 3.645 | mg/kg | 0.000365 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 27 | | pyrene | | | | 3.8 | mg/kg | | 3.078 | mg/kg | 0.000308 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | 2.3 | mg/kg | | 1.863 | mg/kg | 0.000186 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | 2.8 | mg/kg | | 2.268 | mg/kg | 0.000227 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | 3.9 | mg/kg | | 3.159 | mg/kg | 0.000316 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | 1.6 | mg/kg | | 1.296 | mg/kg | 0.00013 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | 3.2 | mg/kg | | 2.592 | mg/kg | 0.000259 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | 2.5 | mg/kg | | 2.025 | mg/kg | 0.000202 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | 2.9 | mg/kg | | 2.349 | mg/kg | 0.000235 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |
| 37 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 35 | mg/kg | 1.785 | 50.61 | mg/kg | 0.00506 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 38 | | asbestos | | | | 0.001 | % | | 0.0008 | % | 0.00081 % | ✓ | |
| | | 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 | | | | | | | | | |
| 39 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.691 % | | |

Key

| | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Hazardous result |
| | 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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.178%)

## Classification of sample: WS05--13122024-1.20

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

## Sample details

Sample name:
**WS05--13122024-1.20**
Moisture content:
**17%**
(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: 17% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 37 | mg/kg | 1.32 | 40.547 | mg/kg | 0.00405 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 2 | mg/kg | 2.775 | 4.607 | mg/kg | 0.000461 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 1.3 | mg/kg | 3.22 | 3.474 | mg/kg | 0.000347 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 | mg/kg | 1.142 | <0.228 | mg/kg | <0.0000228 % | | <**LOD** |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 15 | mg/kg | 1.462 | 21.923 | mg/kg | 0.00219 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 61 | mg/kg | 1.126 | 57.004 | mg/kg | 0.0057 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 740 | mg/kg | 1.56 | 958.038 | mg/kg | 0.0614 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 2.2 | mg/kg | 1.353 | 2.471 | mg/kg | 0.000247 % | ✓ | |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 37 | mg/kg | 2.976 | 91.401 | mg/kg | 0.00914 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 280 | mg/kg | 2.774 | 644.712 | mg/kg | 0.0645 % | ✓ | |
| 13 | | TPH (C6 to C40) petroleum group | | | TPH | | 210 | mg/kg | | 174.3 | mg/kg | 0.0174 % | ✓ | |
| 14 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 15 | | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 16 | | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 17 | | ethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 18 | | 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 | | | | | | | | | | | |
| 19 | | pH | | | | 8.2 | pH | | 8.2 | pH | 8.2 pH | | |
| | | | | PH | | | | | | | | | |
| 20 | | naphthalene | | | | 3 | mg/kg | | 2.49 | mg/kg | 0.000249 % | ✓ | |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 21 | | acenaphthylene | | | | 0.9 | mg/kg | | 0.747 | mg/kg | 0.0000747 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 22 | | acenaphthene | | | | 0.17 | mg/kg | | 0.141 | mg/kg | 0.0000141 % | ✓ | |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 23 | | fluorene | | | | 0.43 | mg/kg | | 0.357 | mg/kg | 0.0000357 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 24 | | phenanthrene | | | | 6.2 | mg/kg | | 5.146 | mg/kg | 0.000515 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 25 | | anthracene | | | | 1 | mg/kg | | 0.83 | mg/kg | 0.000083 % | ✓ | |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 26 | | fluoranthene | | | | 11 | mg/kg | | 9.13 | mg/kg | 0.000913 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 27 | | pyrene | | | | 8.7 | mg/kg | | 7.221 | mg/kg | 0.000722 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | 4.1 | mg/kg | | 3.403 | mg/kg | 0.00034 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | 5.2 | mg/kg | | 4.316 | mg/kg | 0.000432 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | 5.5 | mg/kg | | 4.565 | mg/kg | 0.000457 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | 2.6 | mg/kg | | 2.158 | mg/kg | 0.000216 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | 4.4 | mg/kg | | 3.652 | mg/kg | 0.000365 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | 2.4 | mg/kg | | 1.992 | mg/kg | 0.000199 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | 0.42 | mg/kg | | 0.349 | mg/kg | 0.0000349 % | ✓ | |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | 2.6 | mg/kg | | 2.158 | mg/kg | 0.000216 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | phenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-001-00-2 | 203-632-7 | 108-95-2 | | | | | | | | | |
| 37 | | 1,1-dichloroethane and 1,2-dichloroethane (combined) | | | | <0.007 | mg/kg | | <0.007 | mg/kg | <0.0000007 % | | <LOD |
| | | | 203-458-1, 200-863-5 | 107-06-2, 75-34-3 | | | | | | | | | |
| 38 | | tetrachloroethylene | | | | 0.19 | mg/kg | | 0.158 | mg/kg | 0.0000158 % | ✓ | |
| | | 602-028-00-4 | 204-825-9 | 127-18-4 | | | | | | | | | |
| 39 | | carbon tetrachloride; tetrachloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-008-00-5 | 200-262-8 | 56-23-5 | | | | | | | | | |
| 40 | | trichloroethylene; trichloroethene | | | | 0.015 | mg/kg | | 0.0124 | mg/kg | 0.00000124 % | ✓ | |
| | | 602-027-00-9 | 201-167-4 | 79-01-6 | | | | | | | | | |
| 41 | | vinyl chloride; chloroethylene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-023-00-7 | 200-831-0 | 75-01-4 | | | | | | | | | |
| 42 | | hexachlorobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 602-065-00-6 | 204-273-9 | 118-74-1 | | | | | | | | | |
| 43 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 44 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 33 | mg/kg | 1.785 | 48.896 | mg/kg | 0.00489 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 45 | | bromodichloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 200-856-7 | 75-27-4 | | | | | | | | | |
| 46 | | bromobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-060-00-9 | 203-623-8 | 108-86-1 | | | | | | | | | |
| 47 | | bromomethane; methylbromide | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-002-00-2 | 200-813-2 | 74-83-9 | | | | | | | | | |
| 48 | | 1,2,4-trichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-087-00-6 | 204-428-0 | 120-82-1 | | | | | | | | | |
| 49 | | mesitylene; 1,3,5-trimethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-025-00-5 | 203-604-4 | 108-67-8 | | | | | | | | | |
| 50 | | n-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 203-209-7 | 104-51-8 | | | | | | | | | |
| 51 | | 1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2] | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-030-00-5 | 208-826-5 [1]<br>233-195-8 [2] | 542-75-6 [1]<br>10061-01-5 [2] | | | | | | | | | |
| 52 | | chlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-033-00-1 | 203-628-5 | 108-90-7 | | | | | | | | | |
| 53 | | chloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-009-00-0 | 200-830-5 | 75-00-3 | | | | | | | | | |
| 54 | | chloromethane; methyl chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-001-00-7 | 200-817-4 | 74-87-3 | | | | | | | | | |
| 55 | | 1,2-dibromoethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-010-00-6 | 203-444-5 | 106-93-4 | | | | | | | | | |
| 56 | | dibromochloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 204-704-0 | 124-48-1 | | | | | | | | | |
| 57 | | 1,2-dibromo-3-chloropropane | | | | <0.008 | mg/kg | | <0.008 | mg/kg | <0.0000008 % | | <LOD |
| | | 602-021-00-6 | 202-479-3 | 96-12-8 | | | | | | | | | |
| 58 | | dibromomethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-003-00-8 | 200-824-2 | 74-95-3 | | | | | | | | | |
| 59 | | 1,1-dichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-011-00-1 | 200-863-5 | 75-34-3 | | | | | | | | | |
| 60 | | 1,1-dichloroethylene; vinylidene chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-025-00-8 | 200-864-0 | 75-35-4 | | | | | | | | | |
| 61 | | 2,2-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 209-832-0 | 594-20-7 | | | | | | | | | |
| 62 | | 1,1-dichloropropene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-031-00-0 | 209-253-3 | 563-58-6 | | | | | | | | | |
| 63 | | 1,3-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-531-3 | 142-28-9 | | | | | | | | | |
| 64 | | 1,1,2-trichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-014-00-8 | 201-166-9 | 79-00-5 | | | | | | | | | |
| 65 | | hexachlorobutadiene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 201-765-5 | 87-68-3 | | | | | | | | | |
| 66 | | cumene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-024-00-X | 202-704-5 | 98-82-8 | | | | | | | | | |
| 67 | | 1-isopropyl-4-methylbenzene; p-cymene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-094-00-1 | 202-796-7 | 99-87-6 | | | | | | | | | |
| 68 | | 1,3-dichlorbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-067-00-7 | 208-792-1 | 541-73-1 | | | | | | | | | |
| 69 | | 1,2-dichlorobenzene; o-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-034-00-7 | 202-425-9 | 95-50-1 | | | | | | | | | |
| 70 | | 1,4-dichlorobenzene; p-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-035-00-2 | 203-400-5 | 106-46-7 | | | | | | | | | |
| 71 | | 1,2-dichloropropane; propylene dichloride | | | | <0.006 | mg/kg | | <0.006 | mg/kg | <0.0000006 % | | <LOD |
| | | 602-020-00-0 | 201-152-2 | 78-87-5 | | | | | | | | | |
| 72 | | sec-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-227-0 | 135-98-8 | | | | | | | | | |

| # | | 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 | | | | | | | |
| 73 | | styrene | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | 601-026-00-0 | 202-851-5 | 100-42-5 | | | | | | | |
| 74 | ● | tert-butylbenzene | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | | 202-632-4 | 98-06-6 | | | | | | | |
| 75 | | bromoform; tribromomethane | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | 602-007-00-X | 200-854-6 | 75-25-2 | | | | | | | |
| 76 | | 1,1,1-trichloroethane; methyl chloroform | | | | 0.025 mg/kg | | 0.025 mg/kg | 0.0000025 % | | |
| | | 602-013-00-2 | 200-756-3 | 71-55-6 | | | | | | | |
| 77 | ● | 1,2,3-trichlorobenzene | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | | 201-757-1 | 87-61-6 | | | | | | | |
| 78 | ● | trichlorofluoromethane | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | | 200-892-3 | 75-69-4 | | | | | | | |
| 79 | | 1,1,2,2-tetrachloroethane | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | 602-015-00-3 | 201-197-8 | 79-34-5 | | | | | | | |
| 80 | | chloroform; trichloromethane | | | | 2.5 mg/kg | | 2.075 mg/kg | 0.000208 % | ✓ | |
| | | 602-006-00-4 | 200-663-8 | 67-66-3 | | | | | | | |
| 81 | ● | trans-1,3-dichloropropene | | | | <0.01 mg/kg | | <0.01 mg/kg | <0.000001 % | | <LOD |
| | | | 431-460-4 | 10061-02-6 | | | | | | | |
| 82 | ● | 1,1,1,2-tetrachloroethane | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | | 211-135-1 | 630-20-6 | | | | | | | |
| 83 | | 1,2,4-trimethylbenzene | | | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| | | 601-043-00-3 | 202-436-9 | 95-63-6 | | | | | | | |
| 84 | | BBP; benzyl butyl phthalate | | | | <0.3 mg/kg | | <0.3 mg/kg | <0.00003 % | | <LOD |
| | | 607-430-00-3 | 201-622-7 | 85-68-7 | | | | | | | |
| 85 | | bis(2-chloroethyl) ether | | | | <0.2 mg/kg | | <0.2 mg/kg | <0.00002 % | | <LOD |
| | | 603-029-00-2 | 203-870-1 | 111-44-4 | | | | | | | |
| 86 | ● | bis(2-chloroethoxy)methane | | | | <0.3 mg/kg | | <0.3 mg/kg | <0.00003 % | | <LOD |
| | | | 203-920-2 | 111-91-1 | | | | | | | |
| 87 | ● | 4-bromophenylphenylether | | | | <0.2 mg/kg | | <0.2 mg/kg | <0.00002 % | | <LOD |
| | | | 202-952-4 | 101-55-3 | | | | | | | |
| 88 | ● | carbazole | | | | <0.3 mg/kg | | <0.3 mg/kg | <0.00003 % | | <LOD |
| | | | 201-696-0 | 86-74-8 | | | | | | | |
| 89 | | chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 604-014-00-3 | 200-431-6 | 59-50-7 | | | | | | | |
| 90 | ● | 2-chloronaphthalene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | | 202-079-9 | 91-58-7 | | | | | | | |
| 91 | ● | dibenzofuran | | | | 0.4 mg/kg | | 0.332 mg/kg | 0.0000332 % | ✓ | |
| | | | 205-071-3 | 132-64-9 | | | | | | | |
| 92 | | 2,4-dichlorophenol | | | | <0.3 mg/kg | | <0.3 mg/kg | <0.00003 % | | <LOD |
| | | 604-011-00-7 | 204-429-6 | 120-83-2 | | | | | | | |
| 93 | ● | diethyl phthalate | | | | <0.2 mg/kg | | <0.2 mg/kg | <0.00002 % | | <LOD |
| | | | 201-550-6 | 84-66-2 | | | | | | | |
| 94 | | dibutyl phthalate; DBP | | | | <0.2 mg/kg | | <0.2 mg/kg | <0.00002 % | | <LOD |
| | | 607-318-00-4 | 201-557-4 | 84-74-2 | | | | | | | |
| 95 | ● | dimethyl phthalate | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | | 205-011-6 | 131-11-3 | | | | | | | |
| 96 | | 3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7] | | | | <0.3 mg/kg | | <0.3 mg/kg | <0.00003 % | | <LOD |
| | | 604-006-00-X | 202-439-5 [1]<br>202-461-5 [2]<br>203-321-6 [3]<br>208-395-3 [4]<br>209-400-1 [5]<br>215-089-3 [6]<br>276-245-4 [7] | 95-65-8 [1]<br>95-87-4 [2]<br>105-67-9 [3]<br>526-75-0 [4]<br>576-26-1 [5]<br>1300-71-6 [6]<br>71975-58-1 [7] | | | | | | | |
| 97 | ● | hexachloroethane | | | | <0.05 mg/kg | | <0.05 mg/kg | <0.000005 % | | <LOD |
| | | | 200-666-4 | 67-72-1 | | | | | | | |
| 98 | | 3,5,5-trimethylcyclohex-2-enone; isophorone | | | | <0.2 mg/kg | | <0.2 mg/kg | <0.00002 % | | <LOD |
| | | 606-012-00-8 | 201-126-0 | 78-59-1 | | | | | | | |

| # | | 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 | | | | | | | | | |
| 99 | | 2-methyl naphthalene | | | | 0.4 | mg/kg | | 0.332 | mg/kg | 0.0000332 % | ✓ | |
| | | | 202-078-3 | 91-57-6 | | | | | | | | | |
| 100 | | nitrobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 609-003-00-7 | 202-716-0 | 98-95-3 | | | | | | | | | |
| 101 | | 2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-008-00-0 | 202-433-2 [1]<br>203-402-6 [2]<br>203-582-6 [3]<br>246-691-4 [4] | 95-57-8 [1]<br>106-48-9 [2]<br>108-43-0 [3]<br>25167-80-0 [4] | | | | | | | | | |
| 102 | | 2-nitrophenol | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 201-857-5 | 88-75-5 | | | | | | | | | |
| 103 | | 4-chloroaniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-137-00-9 | 203-401-0 | 106-47-8 | | | | | | | | | |
| 104 | | 4-chlorophenylphenylether | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 230-281-7 | 7005-72-3 | | | | | | | | | |
| 105 | | o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 612-012-00-9 | 201-855-4 [1]<br>202-729-1 [2]<br>202-810-1 [3] | 88-74-4 [1]<br>99-09-2 [2]<br>100-01-6 [3] | | | | | | | | | |
| 106 | | 2,4,5-trichlorophenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-017-00-X | 202-467-8 | 95-95-4 | | | | | | | | | |
| 107 | | 2,4,6-trichlorophenol | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-018-00-5 | 201-795-9 | 88-06-2 | | | | | | | | | |
| 108 | | 2,6-dinitrotoluene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 609-049-00-8 | 210-106-0 | 606-20-2 | | | | | | | | | |
| 109 | | aniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-008-00-7 | 200-539-3 | 62-53-3 | | | | | | | | | |
| 110 | | anthraquinone | | | | 1.7 | mg/kg | | 1.411 | mg/kg | 0.000141 % | ✓ | |
| | | 606-151-00-4 | 201-549-0 | 84-65-1 | | | | | | | | | |
| 111 | | azobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 611-001-00-6 | 203-102-5 | 103-33-3 | | | | | | | | | |
| 112 | | 2,4-dinitrotoluene; [1] dinitrotoluene [2] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 609-007-00-9 | 204-450-0 [1]<br>246-836-1 [2] | 121-14-2 [1]<br>25321-14-6 [2] | | | | | | | | | |
| 113 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| 114 | | m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4] | | | | <0.5 | mg/kg | | <0.5 | mg/kg | <0.00005 % | | <LOD |
| | | 604-004-00-9 | 203-577-9 [1]<br>202-423-8 [2]<br>203-398-6 [3]<br>215-293-2 [4] | 108-39-4 [1]<br>95-48-7 [2]<br>106-44-5 [3]<br>1319-77-3 [4] | | | | | | | | | |
| 115 | | 1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-026-00-3 | 208-750-2 [1]<br>205-859-7 [2]<br>205-860-2 [3] | 540-59-0 [1]<br>156-59-2 [2]<br>156-60-5 [3] | | | | | | | | | |
| 116 | | 2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-040-00-X | 202-424-3 [1]<br>203-580-5 [2]<br>203-397-0 [3]<br>246-698-2 [4] | 95-49-8 [1]<br>108-41-8 [2]<br>106-43-4 [3]<br>25168-05-2 [4] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.177 % | | |

| 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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0174%)

## Classification of sample: LWS01--12122024-0.10

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

## Sample details

Sample name:
**LWS01--12122024-0.10**
Moisture content:
**7.1%**
(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: 7.1% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 12 mg/kg | 1.32 | 14.719 mg/kg | 0.00147 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.95 mg/kg | 2.775 | 2.449 mg/kg | 0.000245 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 2.3 mg/kg | 3.22 | 6.88 mg/kg | 0.000688 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | <0.2 mg/kg | 1.142 | <0.228 mg/kg | <0.0000228 % | | <**LOD** |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 18 mg/kg | 1.462 | 26.308 mg/kg | 0.00263 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <**LOD** |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 14 mg/kg | 1.126 | 14.643 mg/kg | 0.00146 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 36 mg/kg | 1.56 | 52.166 mg/kg | 0.00334 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 mg/kg | 1.353 | <0.406 mg/kg | <0.0000406 % | | <**LOD** |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 17 mg/kg | 2.976 | 47.004 mg/kg | 0.0047 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 mg/kg | 2.554 | <2.554 mg/kg | <0.000255 % | | <**LOD** |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 53 mg/kg | 2.774 | 136.591 mg/kg | 0.0137 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 23 mg/kg | | 21.367 mg/kg | 0.00214 % | ✓ | |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <**LOD** |
| 15 | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <**LOD** |
| 16 | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | | ethylbenzene | 601-023-00-4 | 202-849-4 | 100-41-4 | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <**LOD** |
| 18 | | 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** |
| 19 | | pH | | | PH | | 11.4 | pH | | 11.4 | pH | 11.4 pH | | |
| 20 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 1.1 | mg/kg | | 1.022 | mg/kg | 0.000102 % | ✓ | |
| 21 | | acenaphthylene | | 205-917-1 | 208-96-8 | | 0.25 | mg/kg | | 0.232 | mg/kg | 0.0000232 % | ✓ | |
| 22 | | acenaphthene | | 201-469-6 | 83-32-9 | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| 23 | | fluorene | | 201-695-5 | 86-73-7 | | 0.11 | mg/kg | | 0.102 | mg/kg | 0.0000102 % | ✓ | |
| 24 | | phenanthrene | | 201-581-5 | 85-01-8 | | 0.26 | mg/kg | | 0.242 | mg/kg | 0.0000242 % | ✓ | |
| 25 | | anthracene | | 204-371-1 | 120-12-7 | | 0.09 | mg/kg | | 0.0836 | mg/kg | 0.00000836 % | ✓ | |
| 26 | | fluoranthene | | 205-912-4 | 206-44-0 | | 0.7 | mg/kg | | 0.65 | mg/kg | 0.000065 % | ✓ | |
| 27 | | pyrene | | 204-927-3 | 129-00-0 | | 0.72 | mg/kg | | 0.669 | mg/kg | 0.0000669 % | ✓ | |
| 28 | | benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | | 0.43 | mg/kg | | 0.399 | mg/kg | 0.0000399 % | ✓ | |
| 29 | | chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | | 0.5 | mg/kg | | 0.465 | mg/kg | 0.0000465 % | ✓ | |
| 30 | | benzo[b]fluoranthene | 601-034-00-4 | 205-911-9 | 205-99-2 | | 0.85 | mg/kg | | 0.79 | mg/kg | 0.000079 % | ✓ | |
| 31 | | benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | | 0.25 | mg/kg | | 0.232 | mg/kg | 0.0000232 % | ✓ | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | | 0.66 | mg/kg | | 0.613 | mg/kg | 0.0000613 % | ✓ | |
| 33 | | indeno[123-cd]pyrene | | 205-893-2 | 193-39-5 | | 0.38 | mg/kg | | 0.353 | mg/kg | 0.0000353 % | ✓ | |
| 34 | | dibenz[a,h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| 35 | | benzo[ghi]perylene | | 205-883-8 | 191-24-2 | | 0.42 | mg/kg | | 0.39 | mg/kg | 0.000039 % | ✓ | |
| 36 | | monohydric phenols | | | P1186 | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| 37 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | 023-001-00-8 | 215-239-8 | 1314-62-1 | | 29 | mg/kg | 1.785 | 48.095 | mg/kg | 0.00481 % | ✓ | |
| 38 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | 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] | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <**LOD** |
| | | | | | | | | | | | Total: | 0.0367 % | | |

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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00214%)

## Classification of sample: LWS02--12122024-0.20

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

## Sample details

Sample name:
**LWS02--12122024-0.20**
Moisture content:
**7%**
(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: 7% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 16 mg/kg | 1.32 | 19.646 mg/kg | 0.00196 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 1.1 mg/kg | 2.775 | 2.839 mg/kg | 0.000284 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 1.3 mg/kg | 3.22 | 3.893 mg/kg | 0.000389 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 0.4 mg/kg | 1.142 | 0.425 mg/kg | 0.0000425 % | ✓ | |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 14 mg/kg | 1.462 | 20.462 mg/kg | 0.00205 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <LOD |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 24 mg/kg | 1.126 | 25.13 mg/kg | 0.00251 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 80 mg/kg | 1.56 | 116.05 mg/kg | 0.00744 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 mg/kg | 1.353 | <0.406 mg/kg | <0.0000406 % | | <LOD |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 22 mg/kg | 2.976 | 60.894 mg/kg | 0.00609 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 mg/kg | 2.554 | <2.554 mg/kg | <0.000255 % | | <LOD |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 140 mg/kg | 2.774 | 361.194 mg/kg | 0.0361 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 410 mg/kg | | 381.3 mg/kg | 0.0381 % | ✓ | |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | 603-181-00-X | 216-653-1 | 1634-04-4 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 15 | benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |
| 16 | toluene | 601-021-00-3 | 203-625-9 | 108-88-3 | | <0.005 mg/kg | | <0.005 mg/kg | <0.0000005 % | | <LOD |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 17 | | ethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 18 | | 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 | | | | | | | | | | | |
| 19 | | pH | | | | 8.1 | pH | | 8.1 | pH | 8.1 pH | | |
| | | | | PH | | | | | | | | | |
| 20 | | naphthalene | | | | 1.9 | mg/kg | | 1.767 | mg/kg | 0.000177 % | ✓ | |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 21 | | acenaphthylene | | | | 3.2 | mg/kg | | 2.976 | mg/kg | 0.000298 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 22 | | acenaphthene | | | | 1 | mg/kg | | 0.93 | mg/kg | 0.000093 % | ✓ | |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 23 | | fluorene | | | | 2 | mg/kg | | 1.86 | mg/kg | 0.000186 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 24 | | phenanthrene | | | | 22 | mg/kg | | 20.46 | mg/kg | 0.00205 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 25 | | anthracene | | | | 5.1 | mg/kg | | 4.743 | mg/kg | 0.000474 % | ✓ | |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 26 | | fluoranthene | | | | 36 | mg/kg | | 33.48 | mg/kg | 0.00335 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 27 | | pyrene | | | | 32 | mg/kg | | 29.76 | mg/kg | 0.00298 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | 19 | mg/kg | | 17.67 | mg/kg | 0.00177 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | 19 | mg/kg | | 17.67 | mg/kg | 0.00177 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | 24 | mg/kg | | 22.32 | mg/kg | 0.00223 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | 11 | mg/kg | | 10.23 | mg/kg | 0.00102 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | 23 | mg/kg | | 21.39 | mg/kg | 0.00214 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | 11 | mg/kg | | 10.23 | mg/kg | 0.00102 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | 2.6 | mg/kg | | 2.418 | mg/kg | 0.000242 % | ✓ | |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | 11 | mg/kg | | 10.23 | mg/kg | 0.00102 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | phenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-001-00-2 | 203-632-7 | 108-95-2 | | | | | | | | | |
| 37 | | 1,1-dichloroethane and 1,2-dichloroethane (combined) | | | | <0.007 | mg/kg | | <0.007 | mg/kg | <0.0000007 % | | <LOD |
| | | | 203-458-1, 200-863-5 | 107-06-2, 75-34-3 | | | | | | | | | |
| 38 | | tetrachloroethylene | | | | 0.0081 | mg/kg | | 0.0075 | mg/kg | 0.000000753 % | ✓ | |
| | | 602-028-00-4 | 204-825-9 | 127-18-4 | | | | | | | | | |
| 39 | | carbon tetrachloride; tetrachloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-008-00-5 | 200-262-8 | 56-23-5 | | | | | | | | | |
| 40 | | trichloroethylene; trichloroethene | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-027-00-9 | 201-167-4 | 79-01-6 | | | | | | | | | |
| 41 | | vinyl chloride; chloroethylene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-023-00-7 | 200-831-0 | 75-01-4 | | | | | | | | | |
| 42 | | hexachlorobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 602-065-00-6 | 204-273-9 | 118-74-1 | | | | | | | | | |
| 43 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 44 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 45 | mg/kg | 1.785 | 74.71 | mg/kg | 0.00747 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 45 | | bromodichloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 200-856-7 | 75-27-4 | | | | | | | | | |
| 46 | | bromobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-060-00-9 | 203-623-8 | 108-86-1 | | | | | | | | | |
| 47 | | bromomethane; methylbromide | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-002-00-2 | 200-813-2 | 74-83-9 | | | | | | | | | |
| 48 | | 1,2,4-trichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-087-00-6 | 204-428-0 | 120-82-1 | | | | | | | | | |
| 49 | | mesitylene; 1,3,5-trimethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-025-00-5 | 203-604-4 | 108-67-8 | | | | | | | | | |
| 50 | | n-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 203-209-7 | 104-51-8 | | | | | | | | | |
| 51 | | 1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2] | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-030-00-5 | 208-826-5 [1]<br>233-195-8 [2] | 542-75-6 [1]<br>10061-01-5 [2] | | | | | | | | | |
| 52 | | chlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-033-00-1 | 203-628-5 | 108-90-7 | | | | | | | | | |
| 53 | | chloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-009-00-0 | 200-830-5 | 75-00-3 | | | | | | | | | |
| 54 | | chloromethane; methyl chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-001-00-7 | 200-817-4 | 74-87-3 | | | | | | | | | |
| 55 | | 1,2-dibromoethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-010-00-6 | 203-444-5 | 106-93-4 | | | | | | | | | |
| 56 | | dibromochloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 204-704-0 | 124-48-1 | | | | | | | | | |
| 57 | | 1,2-dibromo-3-chloropropane | | | | <0.008 | mg/kg | | <0.008 | mg/kg | <0.0000008 % | | <LOD |
| | | 602-021-00-6 | 202-479-3 | 96-12-8 | | | | | | | | | |
| 58 | | dibromomethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-003-00-8 | 200-824-2 | 74-95-3 | | | | | | | | | |
| 59 | | 1,1-dichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-011-00-1 | 200-863-5 | 75-34-3 | | | | | | | | | |
| 60 | | 1,1-dichloroethylene; vinylidene chloride | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-025-00-8 | 200-864-0 | 75-35-4 | | | | | | | | | |
| 61 | | 2,2-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 209-832-0 | 594-20-7 | | | | | | | | | |
| 62 | | 1,1-dichloropropene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-031-00-0 | 209-253-3 | 563-58-6 | | | | | | | | | |
| 63 | | 1,3-dichloropropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-531-3 | 142-28-9 | | | | | | | | | |
| 64 | | 1,1,2-trichloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-014-00-8 | 201-166-9 | 79-00-5 | | | | | | | | | |
| 65 | | hexachlorobutadiene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 201-765-5 | 87-68-3 | | | | | | | | | |
| 66 | | cumene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-024-00-X | 202-704-5 | 98-82-8 | | | | | | | | | |
| 67 | | 1-isopropyl-4-methylbenzene; p-cymene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-094-00-1 | 202-796-7 | 99-87-6 | | | | | | | | | |
| 68 | | 1,3-dichlorbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-067-00-7 | 208-792-1 | 541-73-1 | | | | | | | | | |
| 69 | | 1,2-dichlorobenzene; o-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-034-00-7 | 202-425-9 | 95-50-1 | | | | | | | | | |
| 70 | | 1,4-dichlorobenzene; p-dichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-035-00-2 | 203-400-5 | 106-46-7 | | | | | | | | | |
| 71 | | 1,2-dichloropropane; propylene dichloride | | | | <0.006 | mg/kg | | <0.006 | mg/kg | <0.0000006 % | | <LOD |
| | | 602-020-00-0 | 201-152-2 | 78-87-5 | | | | | | | | | |
| 72 | | sec-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 205-227-0 | 135-98-8 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 73 | | styrene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-026-00-0 | 202-851-5 | 100-42-5 | | | | | | | | | |
| 74 | | tert-butylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 202-632-4 | 98-06-6 | | | | | | | | | |
| 75 | | bromoform; tribromomethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-007-00-X | 200-854-6 | 75-25-2 | | | | | | | | | |
| 76 | | 1,1,1-trichloroethane; methyl chloroform | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-013-00-2 | 200-756-3 | 71-55-6 | | | | | | | | | |
| 77 | | 1,2,3-trichlorobenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 201-757-1 | 87-61-6 | | | | | | | | | |
| 78 | | trichlorofluoromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 200-892-3 | 75-69-4 | | | | | | | | | |
| 79 | | 1,1,2,2-tetrachloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-015-00-3 | 201-197-8 | 79-34-5 | | | | | | | | | |
| 80 | | chloroform; trichloromethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 602-006-00-4 | 200-663-8 | 67-66-3 | | | | | | | | | |
| 81 | | trans-1,3-dichloropropene | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | | 431-460-4 | 10061-02-6 | | | | | | | | | |
| 82 | | 1,1,1,2-tetrachloroethane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | | 211-135-1 | 630-20-6 | | | | | | | | | |
| 83 | | 1,2,4-trimethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-043-00-3 | 202-436-9 | 95-63-6 | | | | | | | | | |
| 84 | | BBP; benzyl butyl phthalate | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 607-430-00-3 | 201-622-7 | 85-68-7 | | | | | | | | | |
| 85 | | bis(2-chloroethyl) ether | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 603-029-00-2 | 203-870-1 | 111-44-4 | | | | | | | | | |
| 86 | | bis(2-chloroethoxy)methane | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 203-920-2 | 111-91-1 | | | | | | | | | |
| 87 | | 4-bromophenylphenylether | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | | 202-952-4 | 101-55-3 | | | | | | | | | |
| 88 | | carbazole | | | | 1.1 | mg/kg | | 1.023 | mg/kg | 0.000102 % | ✓ | |
| | | | 201-696-0 | 86-74-8 | | | | | | | | | |
| 89 | | chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-014-00-3 | 200-431-6 | 59-50-7 | | | | | | | | | |
| 90 | | 2-chloronaphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | 202-079-9 | 91-58-7 | | | | | | | | | |
| 91 | | dibenzofuran | | | | 1.5 | mg/kg | | 1.395 | mg/kg | 0.00014 % | ✓ | |
| | | | 205-071-3 | 132-64-9 | | | | | | | | | |
| 92 | | 2,4-dichlorophenol | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 604-011-00-7 | 204-429-6 | 120-83-2 | | | | | | | | | |
| 93 | | diethyl phthalate | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | | 201-550-6 | 84-66-2 | | | | | | | | | |
| 94 | | dibutyl phthalate; DBP | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 607-318-00-4 | 201-557-4 | 84-74-2 | | | | | | | | | |
| 95 | | dimethyl phthalate | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | 205-011-6 | 131-11-3 | | | | | | | | | |
| 96 | | 3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7] | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 604-006-00-X | 202-439-5 [1]<br>202-461-5 [2]<br>203-321-6 [3]<br>208-395-3 [4]<br>209-400-1 [5]<br>215-089-3 [6]<br>276-245-4 [7] | 95-65-8 [1]<br>95-87-4 [2]<br>105-67-9 [3]<br>526-75-0 [4]<br>576-26-1 [5]<br>1300-71-6 [6]<br>71975-58-1 [7] | | | | | | | | | |
| 97 | | hexachloroethane | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | | 200-666-4 | 67-72-1 | | | | | | | | | |
| 98 | | 3,5,5-trimethylcyclohex-2-enone; isophorone | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 606-012-00-8 | 201-126-0 | 78-59-1 | | | | | | | | | |

| # | | 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 | | | | | | | | | |
| 99 | | 2-methyl naphthalene | | | | 0.4 | mg/kg | | 0.372 | mg/kg | 0.0000372 % | ✓ | |
| | | | 202-078-3 | 91-57-6 | | | | | | | | | |
| 100 | | nitrobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 609-003-00-7 | 202-716-0 | 98-95-3 | | | | | | | | | |
| 101 | | 2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-008-00-0 | 202-433-2 [1]<br>203-402-6 [2]<br>203-582-6 [3]<br>246-691-4 [4] | 95-57-8 [1]<br>106-48-9 [2]<br>108-43-0 [3]<br>25167-80-0 [4] | | | | | | | | | |
| 102 | | 2-nitrophenol | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 201-857-5 | 88-75-5 | | | | | | | | | |
| 103 | | 4-chloroaniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-137-00-9 | 203-401-0 | 106-47-8 | | | | | | | | | |
| 104 | | 4-chlorophenylphenylether | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | | 230-281-7 | 7005-72-3 | | | | | | | | | |
| 105 | | o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 612-012-00-9 | 201-855-4 [1]<br>202-729-1 [2]<br>202-810-1 [3] | 88-74-4 [1]<br>99-09-2 [2]<br>100-01-6 [3] | | | | | | | | | |
| 106 | | 2,4,5-trichlorophenol | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 604-017-00-X | 202-467-8 | 95-95-4 | | | | | | | | | |
| 107 | | 2,4,6-trichlorophenol | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 604-018-00-5 | 201-795-9 | 88-06-2 | | | | | | | | | |
| 108 | | 2,6-dinitrotoluene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 609-049-00-8 | 210-106-0 | 606-20-2 | | | | | | | | | |
| 109 | | aniline | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 612-008-00-7 | 200-539-3 | 62-53-3 | | | | | | | | | |
| 110 | | anthraquinone | | | | 2.3 | mg/kg | | 2.139 | mg/kg | 0.000214 % | ✓ | |
| | | 606-151-00-4 | 201-549-0 | 84-65-1 | | | | | | | | | |
| 111 | | azobenzene | | | | <0.3 | mg/kg | | <0.3 | mg/kg | <0.00003 % | | <LOD |
| | | 611-001-00-6 | 203-102-5 | 103-33-3 | | | | | | | | | |
| 112 | | 2,4-dinitrotoluene; [1] dinitrotoluene [2] | | | | <0.2 | mg/kg | | <0.2 | mg/kg | <0.00002 % | | <LOD |
| | | 609-007-00-9 | 204-450-0 [1]<br>246-836-1 [2] | 121-14-2 [1]<br>25321-14-6 [2] | | | | | | | | | |
| 113 | | asbestos | | | | 0.015 | % | | 0.0139 | % | 0.0139 % | ✓ | |
| | | 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 | | | | | | | | | |
| 114 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| 115 | | m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4] | | | | <0.5 | mg/kg | | <0.5 | mg/kg | <0.00005 % | | <LOD |
| | | 604-004-00-9 | 203-577-9 [1]<br>202-423-8 [2]<br>203-398-6 [3]<br>215-293-2 [4] | 108-39-4 [1]<br>95-48-7 [2]<br>106-44-5 [3]<br>1319-77-3 [4] | | | | | | | | | |
| 116 | | 1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-026-00-3 | 208-750-2 [1]<br>205-859-7 [2]<br>205-860-2 [3] | 540-59-0 [1]<br>156-59-2 [2]<br>156-60-5 [3] | | | | | | | | | |
| 117 | | 2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4] | | | | <0.01 | mg/kg | | <0.01 | mg/kg | <0.000001 % | | <LOD |
| | | 602-040-00-X | 202-424-3 [1]<br>203-580-5 [2]<br>203-397-0 [3]<br>246-698-2 [4] | 95-49-8 [1]<br>108-41-8 [2]<br>106-43-4 [3]<br>25168-05-2 [4] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.139 % | | |

| 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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0381%)

## Classification of sample: FP01--12122024-0.00

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

## Sample details

Sample name:
**FP01--12122024-0.00**
Moisture content:
**13%**
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

## Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

zinc chromate (compound conc.: 0.121%)

## Determinands

Moisture content: 13% 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 | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 17 mg/kg | 1.32 | 19.528 mg/kg | 0.00195 % | ✓ | |
| 2 | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 4.5 mg/kg | 2.775 | 10.865 mg/kg | 0.00109 % | ✓ | |
| 3 | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 1.6 mg/kg | 3.22 | 4.482 mg/kg | 0.000448 % | ✓ | |
| 4 | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 7.4 mg/kg | 1.142 | 7.354 mg/kg | 0.000735 % | ✓ | |
| 5 | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 21 mg/kg | 1.462 | 30.693 mg/kg | 0.00307 % | | |
| 6 | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 mg/kg | 1.923 | <3.462 mg/kg | <0.000346 % | | <LOD |
| 7 | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 230 mg/kg | 1.126 | 225.29 mg/kg | 0.0225 % | ✓ | |
| 8 | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 46 mg/kg | 1.56 | 62.424 mg/kg | 0.004 % | ✓ | |
| 9 | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | 2.3 mg/kg | 1.353 | 2.708 mg/kg | 0.000271 % | ✓ | |
| 10 | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 53 mg/kg | 2.976 | 137.236 mg/kg | 0.0137 % | ✓ | |
| 11 | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | 1.6 mg/kg | 2.554 | 3.555 mg/kg | 0.000355 % | ✓ | |
| 12 | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 500 mg/kg | 2.774 | 1206.754 mg/kg | 0.121 % | ✓ | |
| 13 | TPH (C6 to C40) petroleum group | | | TPH | | 450 mg/kg | | 391.5 mg/kg | 0.0391 % | ✓ | |

| # | | 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 | | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 15 | | benzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 16 | | toluene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 17 | | ethylbenzene | | | | <0.005 | mg/kg | | <0.005 | mg/kg | <0.0000005 % | | <LOD |
| | | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 18 | | 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 | | | | | | | | | | | |
| 19 | | pH | | | | 7.9 | pH | | 7.9 | pH | 7.9 pH | | |
| | | | | PH | | | | | | | | | |
| 20 | | naphthalene | | | | 28 | mg/kg | | 24.36 | mg/kg | 0.00244 % | ✓ | |
| | | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 21 | | acenaphthylene | | | | 1.8 | mg/kg | | 1.566 | mg/kg | 0.000157 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 22 | | acenaphthene | | | | 0.22 | mg/kg | | 0.191 | mg/kg | 0.0000191 % | ✓ | |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 23 | | fluorene | | | | 0.97 | mg/kg | | 0.844 | mg/kg | 0.0000844 % | ✓ | |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 24 | | phenanthrene | | | | 1.2 | mg/kg | | 1.044 | mg/kg | 0.000104 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 25 | | anthracene | | | | 0.18 | mg/kg | | 0.157 | mg/kg | 0.0000157 % | ✓ | |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 26 | | fluoranthene | | | | 0.42 | mg/kg | | 0.365 | mg/kg | 0.0000365 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 27 | | pyrene | | | | 0.38 | mg/kg | | 0.331 | mg/kg | 0.0000331 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 28 | | benzo[a]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <LOD |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 29 | | chrysene | | | | 0.51 | mg/kg | | 0.444 | mg/kg | 0.0000444 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 30 | | benzo[b]fluoranthene | | | | 1 | mg/kg | | 0.87 | mg/kg | 0.000087 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 31 | | benzo[k]fluoranthene | | | | 0.41 | mg/kg | | 0.357 | mg/kg | 0.0000357 % | ✓ | |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 32 | | benzo[a]pyrene; benzo[def]chrysene | | | | 0.66 | mg/kg | | 0.574 | mg/kg | 0.0000574 % | ✓ | |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 33 | | indeno[123-cd]pyrene | | | | 0.52 | mg/kg | | 0.452 | mg/kg | 0.0000452 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 34 | | dibenz[a,h]anthracene | | | | 0.15 | mg/kg | | 0.13 | mg/kg | 0.000013 % | ✓ | |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 35 | | benzo[ghi]perylene | | | | 0.63 | mg/kg | | 0.548 | mg/kg | 0.0000548 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 36 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | | | | P1186 | | | | | | | | | |
| 37 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 51 | mg/kg | 1.785 | 79.209 | mg/kg | 0.00792 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| 38 | | o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4] | | | | <0.013 | mg/kg | | <0.013 | mg/kg | <0.0000013 % | | <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] | | | | | | | | | |
| | | | | | | | | | | Total: | 0.22 % | | |

| Key | |
|---|---|
| | User supplied data |
| | Determinand values ignored for classification, see column 'Conc. Not Used' for reason |
| | Hazardous result |
| | 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: 500 mg/kg (0.05%) because: Total TPH

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0391%)

## Classification of sample: FP02--12122024-1.20

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

## Sample details

Sample name:
**FP02--12122024-1.20**
Moisture content:
**8.1%**
(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: 8.1% 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 | | arsenic { arsenic trioxide } | 033-003-00-0 | 215-481-4 | 1327-53-3 | | 4.7 | mg/kg | 1.32 | 5.703 | mg/kg | 0.00057 % | ✓ | |
| 2 | | beryllium { beryllium oxide } | 004-003-00-8 | 215-133-1 | 1304-56-9 | | 0.45 | mg/kg | 2.775 | 1.148 | mg/kg | 0.000115 % | ✓ | |
| 3 | | boron { diboron trioxide } | 005-008-00-8 | 215-125-8 | 1303-86-2 | | 0.9 | mg/kg | 3.22 | 2.663 | mg/kg | 0.000266 % | ✓ | |
| 4 | | cadmium { cadmium oxide } | 048-002-00-0 | 215-146-2 | 1306-19-0 | | 0.5 | mg/kg | 1.142 | 0.525 | mg/kg | 0.0000525 % | ✓ | |
| 5 | | chromium in chromium(III) compounds { chromium(III) oxide } | | 215-160-9 | 1308-38-9 | | 9 | mg/kg | 1.462 | 13.154 | mg/kg | 0.00132 % | | |
| 6 | | chromium in chromium(VI) compounds { chromium(VI) oxide } | 024-001-00-0 | 215-607-8 | 1333-82-0 | | <1.8 | mg/kg | 1.923 | <3.462 | mg/kg | <0.000346 % | | <**LOD** |
| 7 | | copper { dicopper oxide; copper (I) oxide } | 029-002-00-X | 215-270-7 | 1317-39-1 | | 13 | mg/kg | 1.126 | 13.451 | mg/kg | 0.00135 % | ✓ | |
| 8 | | lead { lead chromate } | 082-004-00-2 | 231-846-0 | 7758-97-6 | 1 | 13 | mg/kg | 1.56 | 18.635 | mg/kg | 0.00119 % | ✓ | |
| 9 | | mercury { mercury dichloride } | 080-010-00-X | 231-299-8 | 7487-94-7 | | <0.3 | mg/kg | 1.353 | <0.406 | mg/kg | <0.0000406 % | | <**LOD** |
| 10 | | nickel { nickel chromate } | 028-035-00-7 | 238-766-5 | 14721-18-7 | | 10 | mg/kg | 2.976 | 27.352 | mg/kg | 0.00274 % | ✓ | |
| 11 | | selenium { nickel selenate } | 028-031-00-5 | 239-125-2 | 15060-62-5 | | <1 | mg/kg | 2.554 | <2.554 | mg/kg | <0.000255 % | | <**LOD** |
| 12 | | zinc { zinc chromate } | 024-007-00-3 | 236-878-9 | 13530-65-9 | | 41 | mg/kg | 2.774 | 104.527 | mg/kg | 0.0105 % | ✓ | |
| 13 | | 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** |
| 14 | | pH | | | PH | | 8.5 | pH | | 8.5 | pH | 8.5 pH | | |
| 15 | | naphthalene | 601-052-00-2 | 202-049-5 | 91-20-3 | | 0.65 | mg/kg | | 0.597 | mg/kg | 0.0000597 % | ✓ | |

| # | | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EU CLP index number | EC Number | CAS Number | | | | | | | | | |
| 16 | | acenaphthylene | | | | 0.14 | mg/kg | | 0.129 | mg/kg | 0.0000129 % | ✓ | |
| | | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 17 | | acenaphthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 18 | | fluorene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 19 | | phenanthrene | | | | 0.34 | mg/kg | | 0.312 | mg/kg | 0.0000312 % | ✓ | |
| | | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 20 | | anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 21 | | fluoranthene | | | | 0.4 | mg/kg | | 0.368 | mg/kg | 0.0000368 % | ✓ | |
| | | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 22 | | pyrene | | | | 0.36 | mg/kg | | 0.331 | mg/kg | 0.0000331 % | ✓ | |
| | | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 23 | | benzo[a]anthracene | | | | 0.22 | mg/kg | | 0.202 | mg/kg | 0.0000202 % | ✓ | |
| | | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 24 | | chrysene | | | | 0.16 | mg/kg | | 0.147 | mg/kg | 0.0000147 % | ✓ | |
| | | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 25 | | benzo[b]fluoranthene | | | | 0.29 | mg/kg | | 0.267 | mg/kg | 0.0000267 % | ✓ | |
| | | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 26 | | benzo[k]fluoranthene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 27 | | benzo[a]pyrene; benzo[def]chrysene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 28 | | indeno[123-cd]pyrene | | | | 0.09 | mg/kg | | 0.0827 | mg/kg | 0.00000827 % | ✓ | |
| | | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 29 | | dibenz[a,h]anthracene | | | | <0.05 | mg/kg | | <0.05 | mg/kg | <0.000005 % | | <**LOD** |
| | | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 30 | | benzo[ghi]perylene | | | | 0.13 | mg/kg | | 0.119 | mg/kg | 0.0000119 % | ✓ | |
| | | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 31 | | monohydric phenols | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <**LOD** |
| | | | | P1186 | | | | | | | | | |
| 32 | | vanadium { divanadium pentaoxide; vanadium pentoxide } | | | | 16 | mg/kg | 1.785 | 26.249 | mg/kg | 0.00262 % | ✓ | |
| | | 023-001-00-8 | 215-239-8 | 1314-62-1 | | | | | | | | | |
| | | | | | | | | | | Total: | 0.0219 % | | |

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

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

Description/Comments: Data from ECHA's C&L inventory database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

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

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

**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

**1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

**monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

**bromodichloromethane** (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

**n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

**2,2-dichloropropane** (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

**1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

**hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

**tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

**1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

**trichlorofluoromethane** (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

**trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

**1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

**bis(2-chloroethoxy)methane** (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

**4-bromophenylphenylether** (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

**2-chloronaphthalene** (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

**dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

**diethyl phthalate** (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

**dimethyl phthalate** (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

**hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

**2-methyl naphthalene** (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

**4-chlorophenylphenylether** (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

## Appendix B: Rationale for selection of metal species

**arsenic {arsenic trioxide}**

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds

**beryllium {beryllium oxide}**

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics

**boron {diboron trioxide}**

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass

**cadmium {cadmium oxide}**

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history

**chromium in chromium(III) compounds {chromium(III) oxide}**

not worst case scenario

**chromium in chromium(VI) compounds {chromium(VI) oxide}**

Conversion factor

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

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

**lead {lead chromate}**

Worst case CLP species based on hazard statements/molecular weight.

**mercury {mercury dichloride}**

Worst case CLP species based on hazard statements/molecular weight.

**nickel {nickel chromate}**

Worst case CLP species based on hazard statements/molecular weight.

**selenium {nickel selenate}**

Worst case CLP species based on hazard statements/molecular weight.

**zinc {zinc chromate}**

unreactive with water

**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]

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

Worst case

## Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 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

# GAC derivation

## Background

Initially, the Hydrock GAC were derived following the publishing of soil guideline values (SGV), toxicological (TOX) reports and associated publications by the Environment Agency (EA) in 2009 referenced under Science Report SC050021 (EA, 2009a, b, c, d). The Hydrock GAC have then been periodically updated following publication of new information on toxicological, physico-chemical, land use or receptor parameters, namely:

- LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathanial, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.
- CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.
- CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010. Contaminated Land: Applications in Real Environment.
- LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F.
- CL:AIRE, 2021-2024. 'C4SL Phase 2 Technical Reports'. Contaminated Land: Applications in Real Environment.
- CL:AIRE, 2022. C4SL Phase 2 Technical Report for 1,2-dichloroethane. Contaminated Land: Applications in Real Environment.
- CL:AIRE, 2024. C4SL Phase 2 Technical Reports for cis-1,2-dichloroethene, trans-1,2-dichloroethene and naphthalene. Contaminated Land: Applications in Real Environment.

## Land use scenarios

Hydrock has derived generic assessment criteria (GAC) for human health based on the six exposure scenarios defined in CL:AIRE (2014) using generic default assumptions from published guidance. GAC for each exposure scenario have been derived for three soil organic matter (SOM) contents, 1%, 2.5% and 6%.

All GAC have been rounded to two significant figures.

## Exposure parameters

The exposure parameters used for the Hydrock GAC are the default parameters stated in SR3, unless updated in CL:AIRE (2014) where the CL:AIRE (2014) values have been adopted.

## Approach to consumption rates

Hydrock have adopted the 90$^{th}$ percentile consumption rates from Table 3.4 of CL:AIRE (2014) for all produce types. This is noted to be more conservative than the "top two" approach taken in the derivation of C4SLs.

## Approach to plant uptake for GAC omitted in CL:AIRE (2010)

Plant uptake factors were not identified in CL:AIRE (2010) for antimony, barium and molybdenum. Hydrock has sourced the required parameter values from ORNL (1984) in order to derive GAC that are inclusive of the homegrown produce exposure pathway.

### Chemical and toxicity parameters

The chemical and toxicity parameters have been adopted based on the following documents:

- IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.
- LQM/CIEH, 2015.
- ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.
- CL:AIRE, 2010.
- RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.
- LQM/CIEH, 2009.
- EA, 2009a.

### Approach to Cyanide GAC

The Hydrock GAC for free cyanide have been derived based on ingestion of a bolus of contaminated soil. The GAC are derived for acute exposure of a child (0-6 years old) for all land uses except commercial, where the GAC are derived for acute exposure of an adult (16-65 years old). For the purpose of GQRA, the child value may be adopted for all land use scenarios.

For complex cyanide, the GAC have been derived based on chronic exposure, using the default exposure scenarios but excluding the consumption of homegrown produce, soil attached to homegrown produce, indoor vapour and outdoor vapour pathways. The chronic health criteria value (HCV) for complex cyanide is based on the EA (2009a) HCV for free cyanide and the ratio of toxicity between free and complex cyanide proposed by RIVM (2001).

### Approach to Phenol GAC

In accordance with the EA Science Report SC050021 / Phenol SGV, a $GAC_{ing/inh}$ has been derived for ingested and inhaled phenol using the CLEA model, with a $GAC_{derm}$ derived for dermal contact using Equation 5.7 within SR3. The lower of the $GAC_{ing/inh}$ and $GAC_{derm}$ has been adopted as the final GAC.

### Approach to PCB GAC

GAC for assessing the non-dioxin-like risk from PCBs have been based on the "Dutch 7". As the TDI used by the authors of the Dutch guidance is for the sum of the 7 individual congeners, the TDI has been divided by 7 to create a TDI for each congener. The non-dioxin-like risk from PCBs is therefore assessed using a Hazard Index approach as for total petroleum hydrocarbons (TPH).

### Sub-surface soil to indoor air correction factors

Reflecting the approach taken by the Environment Agency in the development of revised SGV in 2009 for BTEX, a sub-surface soil to indoor air correction factor of 10 has been applied for petroleum hydrocarbons in order to account for over-prediction of vapour intrusion into building using the Johnson and Ettinger approach.

The correction factor of 10 has been applied to the following petroleum hydrocarbons (it makes negligible difference to less volatile TPH and PAH compounds):

- TPHCWG fractions, namely aliphatic EC>5-44 and aromatic EC>6-44;
- PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene), benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h,)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, pyrene);
- BTEX;
- Isopropylbenzene;

- Propylbenzene;
- 1,2,4- and 1,3,5-trimethylbenzene; and
- Styrene.

### Approach to saturation limits

The CLEA model includes a traffic light colour system to highlight when saturated soil conditions have potentially been exceeded for the vapour pathways during calculation of assessment criteria. The colours represent:

- Green: the assessment criteria do not exceed the saturated soil concentration.
- Amber: the assessment criteria exceed the saturated soil concentration but the contribution of the indoor and outdoor vapour pathway to total exposure is less than 10% and will not significantly affect the assessment criteria.
- Red: the assessment criteria exceed the saturated soil concentration and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10% and will significantly affect the assessment criteria.

Hydrock have not applied any further calculations or assessment in relation to saturation limits during GAC derivation, with the CLEA-modelled GAC being presented as the GAC. Consideration of saturation limits is undertaken during the data assessment stage.

### References

CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.

CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010. Contaminated Land: Applications in Real Environment

CL:AIRE, 2021-2024. C4SL Phase 2 Technical Reports for tetrachloroethene, trichloroethene and vinyl chloride. Contaminated Land: Applications in Real Environment.

CL:AIRE, 2022. C4SL Phase 2 Technical Report for 1,2-dichloroethane. Contaminated Land: Applications in Real Environment.

CL:AIRE, 2024. C4SL Phase 2 Technical Reports for cis-1,2-dichloroethene, trans-1,2-dichloroethene and naphthalene. Contaminated Land: Applications in Real Environment.

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# *Appendix G Geotechnical risk register*

**Geotechnical Hazard Identification – Following Ground Investigation**

The preliminary Geotechnical Risk Register following Ground Investigation is set out in Table F.3.

The probability and impact of a hazard have been judged on a qualitative scale as set out in Table F.2. The degree of risk (R) is determined by combining tan assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard and associated mitigation it will require if it occurs (R = P x I).

*Table F.2: Qualitative assessment of hazards and risks*

| P = Probability | | I = Impact | | R = Risk Rating (P x I) | |
|---|---|---|---|---|---|
| 1 | Very unlikely (VU) | 1 | Very Low | 1 – 4 | None / negligible |
| 2 | Unlikely (U) | 2 | Low | 5 – 9 | Minor |
| 3 | Plausible (P) | 3 | Medium | 10 – 14 | Moderate |
| 4 | Likely (Lk) | 4 | High | 15 – 19 | Substantial |
| 5 | Very Likely (VLk) | 5 | Very High | 20 - 25 | Severe |

*Table F.3: Geotechnical hazards*

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| Uncontrolled Made Ground (variable strength and compressibility). | There is Made Ground due to historical construction activity at the site.<br>The Made Ground is up to 2.10m thick. | Residential Dwellings. | Bearing capacity failure, settlement (total and differential). | 4 | 4 | 16 | Design foundations to found below unsuitable strata. |
| | | | Floor slab failure. | 4 | 4 | 16 | Design floor slabs as suspended. |
| | | Roads and Pavements. | Settlement (total and differential) of roads and pavements. | 4 | 2 | 8 | Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. |
| | | Services. | Settlement (differential), causing damage to services. | 4 | 2 | 8 | Anticipated settlements are significant with regard to services.<br>It is also advisable to steepen falls in drainage to prevent back fall and use rocker boxes and flexible couplings. |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| | | Soft landscaping. | Settlement (differential), in soft landscaping | 4 | 2 | 8 | It is unlikely that settlements will be significant with regard to gardens and Public Open Spaces areas |
| | | Construction staff, vehicles and plant operators. | Trafficking of the site in temporary conditions.<br>Overturning of plant during construction. | 4 | 3 | 12 | Where soft spots encountered, over-excavation and replacement with suitable fill.<br>Outline design of working platform to include geo-grid.<br>Site inspection and watching brief by Contractor to review working platform frequently and regularly. |
| Soft / loose ground<br>(low strength and high settlement potential). | The shallow natural soils comprise soft Alluvium deposits and loose sand of the Upnor Formation. | Residential Dwellings. | Foundation bearing capacity failure, settlement (total and differential). | 4 | 4 | 16 | Design foundations to found below any unsuitable material. |
| | | | Floor slab failure. | 4 | 4 | 16 | Design floor slab as suspended. |
| | | Roads and Pavements. | Settlement (total and differential), of roads and pavements. | 4 | 3 | 12 | Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.<br>If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace soft soils. |
| | | Services. | Settlement (differential), causing damage to services. | 4 | 3 | 12 | Ground levels are being changed and settlements may be significant. Ground improvement may be required to reduce post construction settlements to tolerable levels. |
| | | Gardens. | Settlement (differential), in gardens and Public Open Space. | 4 | 3 | 12 | |
| | | Construction staff, vehicles and plant operators. | Trafficking of the site in temporary conditions.<br>Overturning of plant during construction. | 4 | 3 | 12 | Where soft spots encountered, over-excavate and replace with suitable fill.<br>Design working platform to suit the ground conditions. |
| Shrinkage / swelling of the clay fraction of | The clays of the Upnor Formation are | Foundations. | Shrinkage or heave of soils and associated damage to foundations. | 4 | 3 | 12 | Design foundations in accordance with NHBC standards.<br>Deepen foundations due to trees as appropriate. |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| soils under the influence of vegetation. | medium heave potential. | Floor slabs. | Floor slab failure. | 4 | 4 | 16 | Design floor slabs in accordance with NHBC standards.<br>Design floor slab as suspended with a void, unless the warranty provider is satisfied the soil is not desiccated, or slabs are constructed when soils are not seasonally desiccated (i.e. during winter and spring). |
| Variable lateral and vertical changes in ground conditions. | The Made Ground soils vary laterally and vertically, both in composition and strength.<br>The shallow soils comprise soft Alluvium Deposits and loose sand of the Upnor Formation. which vary laterally and vertically between soft clay and sand with a loose relative density. | Residential Dwellings. | Foundation bearing capacity failure, settlement (total and differential). | 4 | 4 | 16 | Design foundations to found below unsuitable material. |
| | | | Floor slab failure. | 4 | 4 | 16 | Design floor slab as suspended. |
| | | Roads and Pavements. | Settlement (total and differential), of roads and pavements. | 4 | 4 | 16 | Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.<br>If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace unsuitable soils. |
| | | Services. | Settlement (differential), causing damage to services. | 4 | 4 | 16 | Settlements may be significant with regard to services. |
| | | Gardens. | Settlement (differential), in soft landscaping | 4 | 4 | 16 | It is unlikely that settlement will be significant with respect to soft landscaping. |
| | | Construction staff, vehicles and plant operators. | Trafficking of the site in temporary conditions.<br>Overturning of plant during construction. | 4 | 4 | 16 | Where soft spots encountered, over-excavate and replace with suitable fill.<br>Design working platform to suit the ground conditions. |
| Obstructions. | Obstructions have been proven by the investigation and there is a potential for additional obstructions to be present due to | Construction staff, vehicles and plant operators. | Risk of collapse of excavation as obstructions are pulled out. | 4 | 3 | 12 | Undertake Enablement Works and remove all obstructions or allow for a breaker to be present during construction and remove obstructions where encountered during construction. |
| | | Roads and Pavements. | Hard spots in externals and roads / pavements. | 4 | 2 | 8 | |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| | historical construction activity, or unknown fill in Made Ground. | Residential Dwellings. | Impact on piling resulting in additional piles and re-design of foundations. | 4 | 3 | 12 | |
| Shallow groundwater. | The ground investigation has indicated a shallow groundwater table (at approximately 1.7m – 3.20m bgl). | Construction staff, vehicles and plant operators. | Difficulty with excavation. | 4 | 3 | 12 | Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011.<br>Temporary Works Designer to consider in their analysis the impact of, and requirements for, de-watering of excavations.<br>Any water that collects at the base of excavations to be removed as soon as practicable. |
| | | | Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill. | | | | |
| | | Slopes | Serviceability issues. | 4 | 2 | 8 | Contractor to appoint competent Temporary Works Designer to design temporary works, as required in accordance with BS 5975:2008+A1:2011.<br>The shallow groundwater is to be taken into account during geotechnical design of the permanent works. |
| Changing groundwater conditions. | Monitoring is currently being undertaken, it is unknown at this stage if the groundwater table is highly variable, but this is highly likely | Construction staff, vehicles and plant operators. | Difficulty with excavation.<br>Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill. | 3 | 3 | 9 | Contractor to appoint competent Temporary Works Designer to design temporary works as required, in accordance with BS 5975:2008+A1:2011.<br>Temporary Works Designer to consider in their analysis the impact of a variable water table. |
| | | Slopes and retaining. | Serviceability issues. | 3 | 3 | 9 | Contractor to appoint competent Temporary Works Designer to design temporary works, as required in accordance with BS 5975:2008+A1:2011.<br>Design drainage for retaining walls to account for fluctuating groundwater levels.<br>The shallow groundwater is to be taken into account during geotechnical design of the permanent works. |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| Subject to risk from flooding. | The site is nearby to an existing river (River Kennet). The site is situated within Flood Zone 1 with a low probability of flooding from rivers or seas. However, a moderate risk from groundwater flooding has been indicated. | The entire development. | Damage to houses, gardens roads and services. | 3 | 4 | 12 | The planning of the site needs to take into account the potential risk of groundwater flooding. |
| Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls. | The ground investigation has indicated that there is a potential for loose soils and Made Ground to be present at the site. | Construction staff, vehicles and plant operators. | Ground failure, instability of plant and machinery. | 4 | 4 | 16 | As instability has been noted within some of the boreholes undertaken on site within the sandy deposits of the Upnor Formation.<br>Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011.<br>Temporary Works Design to include recommendations for inspection of excavations. No person entry to unsupported excavations. |
| | | | Risk of collapse of excavation. | 4 | 4 | 16 | |
| Earthworks – Settlement (due to placement of fill on soft / loose ground / Deep Made Ground). | The ground conditions at the site include Made Ground, soft Alluvium deposits and very loose sands of the Upnor Formation. | Residential dwellings. | Foundation bearing capacity failure, settlement (total and differential). | 5 | 4 | 20 | Design foundations to found below unsuitable deposits. |
| | | | Floor slab failure. | 5 | 4 | 20 | Design floor slab as suspended. |
| | | Roads and pavements. | Settlement (total and differential), of roads and pavements. | 4 | 4 | 16 | Settlements are anticipated to be significant with regard to roads and pavements.<br>Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. |
| | | Services. | Settlement (differential), causing damage to services. | 4 | 4 | 16 | Settlements are anticipated to be significant with regard to services.<br>Detailed design works are required to assess the impact and design mitigation measures. |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| | | Soft landscaping | Settlement (differential), in soft landscaping | 2 | 3 | 6 | It is unlikely that settlement will be significant with respect to soft landscaping. |
| | | Construction staff, vehicles and plant operators. | Trafficking of the site in temporary conditions.<br>Overturning of plant during construction. | 4 | 3 | 12 | Where soft spots encountered, over-excavate and replace with suitable fill.<br>Design working platform to suit the ground conditions. |
| Earthworks – Unsuitability of site won material to be reused as fill. | There is likely a requirement for cut to fill to create the development platform and filling of remediation excavations.<br>This will require reuse of soils excavated from the site. | Earthworks control, inability to place and compact fill. | Service limit state failure, excessive and intolerable total and differential settlement. | 3 | 4 | 12 | The design is to describe the processes required to produce suitable fill for reuse.<br>Contractor to design site control measures, plant, equipment and arrangement to comply with processing requirements.<br>Site testing to be undertaken to confirm the works are in accordance with the design.<br>A suitable watching brief and independent verification.<br>Adequate investigation required of soil types and characterisation of the soils to be undertaken during investigation.<br>Some fill may be unsuitable for use. |
| | | Project Budgets - Insufficient fill to complete earthworks. | Additional Costs, due to importation of fill or having to modify designs. | 3 | 4 | 12 | |
| Problematic soils (silts.). | Silts recorded in Alluvium deposits | Residential Dwellings. | Foundation bearing capacity failure, settlement (total and differential). | 3 | 4 | 12 | Design foundations to found below any problematic soils. |
| | | | Floor slab failure. | 3 | 4 | 12 | Design floor slab as suspended. |
| | | Roads and Pavements. | Settlement (total and differential), of roads and pavements. | 2 | 4 | 8 | Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.<br>If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace soft soils or undertake ground improvement. |

| Hazard | Comments | Who is at Risk | Consequence | Risk Before Mitigation | | | Actions Required |
|---|---|---|---|---|---|---|---|
| | | | | P | I | R | |
| | | Services. | Settlement (differential), causing damage to services. | 2 | 4 | 8 | Ground levels changing and settlements may be significant. Ground improvement may be required to reduce post construction settlements to tolerable levels. |
| | | Soft landscaping | Settlement (differential), in soft landscaping | 2 | 4 | 8 | |
| | | Construction staff, vehicles and plant operators. | Trafficking of the site in temporary conditions.<br>Overturning of plant during construction. | 3 | 3 | 9 | Where soft spots encountered, over-excavate and replace with suitable fill.<br>Design working platform to suit the ground conditions. |
| Unforeseen ground conditions - risk associated with limited data. | Ground investigation has been undertaken. However, additional information will be obtained during construction. Ground conditions are only defined at exploratory hole locations. | All aspects of the development | | 4 | 4 | 16 | Designers to be contacted if conditions encountered are different to those identified during investigation.<br>Regular inspections of excavations and earthworks for evidence of stability.<br>Adequate investigation required to characterise the site and understand the potential risks. |

Whilst the probability and impact of the hazard occurring can be reduced to a minimum by geotechnical design, the impact cannot be reduced below very low. The risk register will need to be up-dated, as necessary, to reflect design, additional information, data and experience as it is gained through the construction process.

Impacts of the design with regard to health and Safety considerations will need to be included by the designer at design stage.

# Appendix H Plausible source-pathway-receptor contaminant linkages

**Summary of potential contaminant linkages**

Table H.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2023) and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but modified to add a 'no linkage' category and to remove low/moderate risk (See Table H.1).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

*Table H.1: Consequence versus probability assessment.*

| | | Consequence | | | |
|---|---|---|---|---|---|
| Probability | | Severe | Medium | Mild | Minor |
| | High Likelihood | Very high risk | High risk | Moderate risk | Low risk |
| | Likely | High risk | Moderate risk | Low risk | Very low risk |
| | Low Likelihood | Moderate risk | Low risk | Low risk | Very low risk |
| | Unlikely | Low risk | Very low risk | Very low risk | Very low risk |
| | No Linkage | No risk | | | |

*Table H.2: Exposure model – final source-pathway-receptor contaminant linkages*

| Sources | Possible Pathways | Receptors | Probability | Consequence | Risk Level | Comments | |
|---|---|---|---|---|---|---|---|
| *On-Site* | | | | | | | |
| Made Ground and Worked Ground, associated with historical brick works, construction activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos | Ingestion, inhalation or direct contact | Site users | Likely | Medium | Moderate | There is Made Ground below the site up to 2.10m bgl associated with historical activities with localised exceedances in | Site will be developed into a three-storey residential block with associated carparking and soft landscaping areas.<br>Contact with these materials is likely in soft landscaping areas. |

| Sources | Possible Pathways | Receptors | Probability | Consequence | Risk Level | Comments | |
|---|---|---|---|---|---|---|---|
| fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S1). | | | | | | metals, PAH, VOCs and SVOCs | Clean cover will be required to break the SPR linkage. |
| | Inhalation of fugitive dust | Neighbours | Low likelihood | Medium | Low | | The risk of significant generation of dust is likely only during site development process and can therefore be controlled by good site practices. |
| | Leaching through unsaturated zone | Groundwater | Likely | Medium | Moderate | | Laboratory testing of groundwater is yet to be undertaken. The results will be presented in revision to this report. |
| | Surface run-off | Aquatic ecosystems & Surface water bodies | Low likelihood | Medium | Low | | The River Kennet is situated down gradient (to the west) from site. However, due to the distance and with Waterloo Meadows in between, it is likely any site run-off will flow and drain within the Meadows. |
| | Base flow from contaminated groundwater | | Likely | Medium | Moderate | | Flow of groundwater may occur through soils to the aquifer at depth. |
| | Root uptake | Planting | Likely | Medium | Moderate | There is Made Ground below the site and exceedances of copper and nickel have been identified | Clean cover / growth medium will need to be placed in areas of proposed soft landscaping. |
| Made Ground, potentially containing asbestos fibres and Asbestos Containing Materials from demolition of kiln structures and buildings associated with the historical brick works (S2). | Inhalation from fugitive dust | Site users | Likely | Severe | High | There is Made Ground below the site and asbestos contamination has been identified measured at 0.001% in WS05 and 0.015%.in LWS02 | Contact with these materials is likely in soft landscaping areas surrounding WS05.<br>Mitigation may be required in the form of a cover system in soft landscaping area surrounding WS05 if Made Ground if not |

| Sources | Possible Pathways | Receptors | Probability | Consequence | Risk Level | Comments |
|---|---|---|---|---|---|---|
| | | | | | | removed. LWS02 is located under the footprint of the building and will therefore not pose a risk. |
| | | Neighbours | Unlikely | Severe | Low | The risk of significant generation of dust is likely only during site development process and can therefore be controlled by good site practices.<br>If discovered suppression should be included in control measures.<br>Works to be undertaken in accordance with CAR 2012. |
| Coal tar, potentially present in the bituminous bound pavements present within the car park area (S3). | Ingestion, inhalation or direct contact | Site users | No Linkage | Medium | No risk | Testing of the bituminous bound pavement has identified no coal tar to be present. |
| Ground gases (carbon dioxide and methane) from organic materials in the Made Ground / alluvial deposits (S4). | Migration, build up and asphyxiation | Site users | Low likelihood | Medium to Severe | Low to Moderate | There is Made Ground and Alluvium deposits below the site and ground gas monitoring is currently ongoing and this section will need to be updated once the monitoring programme has been completed. However, it should be noted from the initial visits that have been undertaken no concentrations of methane have been detected and low concentrations of carbon dioxide have been detected (0.50% - 2.10%). |
| | | Neighbours | | Medium | Low | |
| | Migration, build up and explosion | Site users | Low likelihood | Medium to Severe | Low to Moderate | |
| | | Neighbours | | | | |
| | | Buildings on site | | | | |

| Sources | Possible Pathways | Receptors | Probability | Consequence | Risk Level | Comments | |
|---|---|---|---|---|---|---|---|
| | | Buildings on adjacent sites. | | | | | |
| Asbestos fibres from insulation or asbestos-containing materials within the existing building (S5). | Fugitive dust. | On Site | Likely | Severe | High | Asbestos may be present in existing building due to being built in the 1950's. | Careful removal will be required from buildings during demolition. However, removal under controlled conditions should limit release of fibres to the air and the ground. |
| | | Neighbours | Unlikely | Severe | Low | | |
| *Off-site* | | | | | | | |
| Leachate from landfilled waste including household, commercial and industrial, asbestos located to the south west of site (S6). | Ingestion, inhalation or direct contact | Site users | Low likelihood | Medium | Low | The desk study and site walkover indicate a historical landfill exists on Waterloo Meadows. Currently known to have operated in the 1950's and accepted inert and industrial waste. From information provided by RBC, the makeup of the landfill has been identified to comprise Made Ground with waste that includes shoes, toothpaste, cloth, glass, wood, plastic, batteries and rubber. | The site is located up topographic (and hydraulic gradient) to the off-site landfill. |
| Possible Made Ground and Worked Ground placed within the surrounding area of the historical kiln works, former brick pits and during the construction of industrial estate warehouses located to the east of site off Elgar Road South, possibly including elevated concentrations of metals, metalloids, asbestos fibres, | Leaching through the unsaturated zone | Site users | Likely | Medium | Moderate | The records of worked ground extend beyond the site to the east, where the historical brick works was also located, known as the Waterloo Kilns. | The site is located up topographic (and hydraulic gradient) to the off-site landfill.<br>Groundwater sample and leachate testing to be undertaken to further define if mitigation measures will be required to break the SPR linkage. |

| Sources | Possible Pathways | Receptors | Probability | Consequence | Risk Level | Comments |
|---|---|---|---|---|---|---|
| Asbestos Containing Materials, PAH and petroleum hydrocarbons (S7). | | | | | | |
| Ground gases (carbon dioxide and methane) from organic/landfill materials in the historical landfill located 2m south west (S8). | Inhalation, asphyxiation, explosion | Site users | Low Likelihood | Severe | Moderate | The desk study and site walkover indicated a historical landfill exists. Gas monitoring conducted within the landfill by Enviros confirmed an area of elevated carbon dioxide and that ground gas protection measures would need to be required on that site.<br>There is Made Ground and Alluvium deposits below the site and ground gas monitoring is currently ongoing and this section will need to be updated once the monitoring programme has been completed. However, it should be noted from the initial visits that have been undertaken no concentrations of methane have been detected and low concentrations of carbon dioxide have been detected (0.50% - 2.10%). |

# Appendix I Climate Change Considerations for C-S-M

Table I.1 summarises the considerations that have been made in relation the possible implications of predicted climate change. These considerations have been made with reference to prevailing guidance on climate change and land contamination (SoBRA (2022), CL:AIRE (2022), Environment Agency (2010)), and climate change information published by the Met Office and the Environment Agency.

*Table I.1: Possible CSM considerations related to climate change.*

| Climate change type | Potential climate change induced effect | Possible considerations on CSM |
|---|---|---|
| Increase in frequency and severity of extreme rainfall events | Temporary increasing in groundwater levels | It is possible that future groundwater level rise could be sufficient to impact identified contaminant linkages. The risk of groundwater flooding is increased, due to shallow groundwater identified within the Upnor Formation (Lambeth Group) which was also noted to be under sub-artesian pressure. It is unlikely to result in groundwater flooding at this stage given the current depth to groundwater approximately 1.70m bgl to 3.20m bgl. |
| | Increased surface run-off | Site is covered in concrete and bituminous bound pavement hardstanding with associated surface water drainage. Surface water run-off will impact drainage network (in terms of volume of water) but is not expected to impact underlying ground conditions. |
| | Land-based erosion | Potentially relevant given of the proximity of the site to the river. River bank erosion caused by extreme river level events or surface erosion caused by the flooding of the culverted stream is plausible. |
| | River flooding | The site is currently located within a Flood Zone 1, which means it is at low risk of flooding (>1% chance per year). However, due its proximity to the River Kennet, this could change with an increase in frequency and severity of extreme rainfall events and could increase this risk further. |
| Increase in frequency and severity of extreme cold and hot weather events | Soil freezing | Could cause failure of surface water drainage network (requiring repair) due to freeze/thaw action but not evident that this would cause a significant change to identified contaminant linkages. |
| | Soil desiccation/shrinkage | The superficial alluvium deposits have been recorded to be cohesive in nature as well as the Upnor Formation (Lambeth Group) being cohesive and granular in nature with medium volume potential. This could suggest a risk from shrinkage-related subsidence. |
| | Land fires | Not relevant to current nature and location of site. |
| | Temporary drop in water (GW and/or SW) levels due to increased water abstraction demand | Underlying shallow aquifer does not have any licenced abstractions registered within 1km of the site. Impact of a drop in water levels in the Chalk Aquifer not expected to adversely affect identified contaminant linkages. |
| | Temporary drop in water levels (GW and/or SW) due to lower rainfall. | Water levels in the shallow aquifer may fall further in drier summer months. Further drops in the groundwater levels during summer heatwaves are unlikely to result in the unsaturation of the superficial deposits. |
| Long-term sea level rise | Coastal erosion | Not relevant given site location. |

| | | |
|---|---|---|
| | Saline intrusion and marine inundation | RCP8.5 predicts a sea level rise of 0.7m by 2100. An increase in sea level could result in an increase in tidally influenced groundwater fluctuation and changes in groundwater flow patterns. The predicted rise in sea level could increase the potential for saline intrusion within the chalk. |
| Long-term increase in rainfall | Increase in groundwater levels | The site is located within a river catchment that eFLAG predicts will see an increase of 0.233mm per day in groundwater recharge in winter months. No predicted changes in water levels are expected within the chalk but there is a potential for increased levels in the Alluvium deposits and the Lambeth group. |
| Long-term decrease in rainfall | Decrease in groundwater levels | See comment above for temporary decrease in groundwater levels above. Whilst it is expected that there will be an increase in winter rainfall it is also expected that there will be a reduction in summer rainfall such that there will be a long-term increase in the expected seasonal fluctuation in shallow groundwater depth. |
| Long-term change in seasonal temperatures | Change in soil temperature | Worst-case (RCP8.5) prediction for average summer temperatures in 2060-2080 in this area is 3.5-5 degrees Celsius. Soil temperature at depth below the site (considering the surface cover of buildings and concrete hardstanding) is not expected to rise by this amount and may see a much smaller rise in average temperature as a result of seasonal variation in temperature. A small increase in average soil temperature is not expected to have a significant effect on contaminant fate and transport. |