BURO HAPPOLD

Pigeon Triangle

Geoenvironmental Interpretive Report and Remediation Strategy

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Executive Summary

Background

This report presents the results of a Geoenvironmental Interpretive Assessment and Remediation Strategy for Pigeon Triangle (the 'Site'), prepared by Buro Happold on behalf of Mayfield Partnership (the Client). The Site is located in Manchester City Centre to the immediate southeast of Manchester Piccadilly Railway Station, centred on National Grid Reference SJ 84930 97730.

Site Setting

The Site covers some 0.07ha and is currently occupied by a triangular parcel of land comprising:

- an unused gravel covered area to the east with concrete legato bricks and wooden planters;
- part of an asphalt covered carpark (Travis Street Carpark) to the west; and
- Baring Street intersecting the east and west portions in a northwest to southeast direction with footpaths running along each side.

The Site is bound to the north by Fairfield Street with Piccadilly Station beyond, to the south by Travis Street, to the east by the convergence of Travis Street onto Fairfield Street and to the west by the rest of Travis Street carpark.

History

The Site was formerly housing in the 1800s, later cleared as surrounding industry expanded. A small garage was present on Site between 1948 and 1950 before being demolished. A historic timber yard was located immediately northwest of the Site between 1889 and 1908. Since the late 1980s, the Site has largely remained vacant, with a car park developed on the western portion and open ground to the east. By 2000, the eastern portion was grassed with footpaths, and more recently the grass has been replaced with some concrete hardstanding on the eastern portion overlain by gravel and concrete legato blocks.

Geological Setting

Made Ground is present across the Site to varying depths, generally between 1.03 and 1.68 mbgl and locally thicker (>2.75 mbgl). Below the Made Ground, the natural strata comprise stiff silty clay consistent with the Devensian Till. The full thickness of this unit was not proven within the shallow excavations. Bedrock beneath the Site is anticipated to comprise red sandstone of the Chester Formation. However, this was not encountered due to the limited depth of the investigation.

Ground Investigation

The Ground Investigation was carried out on the 14th and 15th of January 2026 and comprised 5no. machine excavated trial pits up to 2.75mbgl with associated geoenvironmental and geotechnical testing and sampling and two infiltration tests.

Contamination Risk Assessment

The Ground Investigation encountered Made Ground (~1-1.7m thick) across the Site comprising anthropogenic materials including brick, clinker, coal, ceramic, concrete, plastic and glass and ashy material. Locally thicker (>2.75m) Made Ground was encountered to the north of the former garage on the eastern portion of the Site where below ground structures (brick/concrete foundations, ducting chamber) were encountered from ~1.1 m bgl. Hydrocarbon odours and pockets of soft, black, oily hydrocarbon impacted material were observed in trial pits in the eastern portion of the Site. No gross contamination was reported during the ground investigation. No exceedances of the relevant soil POS2 criteria were recorded for organic determinands, and the majority of inorganic determinands were also below relevant criteria with the exception of one slight exceedance for lead.

Suspected asbestos containing material (ACM) was visually identified at one location during the ground investigation, comprising a fragment of asbestos insulation board; laboratory analysis confirmed presence of chrysotile. Some Made Ground samples reported amosite asbestos as microscopic board fragments and fibre bundles at low concentrations (<0.001% to 0.006%).

Slight exceedances of heavy metals and PAHs in the leachate analysis indicate a limited potential for contaminant mobilisation within the Made Ground. The slight impacts to the Made Ground are associated with anthropogenic material and hydrocarbon odours reported within the Made Ground.

A limited number of determinands exceeded the criteria for PVC and PE pipework for potable water supply (EC10-EC16 aliphatic and aromatic hydrocarbons and total VOCs) and results were below the phytotoxicity criteria, except for zinc in 2no. samples.

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Summary of Risks	Most risks to sensitive receptors (below ground concrete, potable water supply, flora, Principal Aquifer and buildings / structures) have been assessed as suitably low such that they can be mitigated by standard good construction, design or health and safety practice. The risks assessed as above Low are summarised below • Without mitigation, there is a Moderate risk to construction workers due to the potential for exposure to Made Ground (including asbestos) and potential for encountering underground tanks during earthworks / construction; and • Without mitigation, there is a Moderate / Low risk to future site users from inhalation and direct/dermal contact of site soils. UXO mitigation measures as recommended in the UXO Mitigation Strategy will also be needed.
Remediation and Verification	The remedial/ mitigation requirements to manage these risks and allow safe redevelopment are outlined in the report together with a description of the planned verification activities and Verification Report.

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1 Introduction

1.1 Background and Commission

This report presents the results of a Geoenvironmental Interpretive Assessment and Remediation Strategy for Pigeon Triangle (hereafter referred to as the 'Site'), prepared by Buro Happold on behalf of Mayfield Partnership (the Client).

The Site is located in Manchester City Centre to the immediate southeast of Manchester Piccadilly Railway Station, centred on National Grid Reference SJ 84930 97730. The outline of the Site and the current site layout is shown in Figure 1-1.



Figure 1-1 Site layout (Google Earth Pro, 2025).

Buro Happold previously published a Desk Study report for the Site [1] and subsequently scoped requirements for an exploratory ground investigation [2]. This current report presents the data from that investigation and establishes the environmental, geological, hydrological, and hydrogeological conditions that may result in contamination risks relevant to the proposed development.

1.2 Aims and Objectives

The aim of the ground investigation was to assess the geological and geoenvironmental conditions for the Site. This report details the geoenvironmental aspects of the investigation and aims to provide a Conceptual Site Model (CSM) and an assessment of the contamination related risks for current and future site usage.

To achieve the above aims, the objectives of the investigation at the Site are to provide an assessment of the following conditions:

- Provide information on the underlying stratigraphy and ground conditions;
- Investigate the potential location, nature and extent of contamination (soil); and
- Assess the nature and extent of contamination within the soil with the potential to leach into underlying groundwater.

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The objectives of the Report are to:

- Identify constraints associated with the ground and/or below ground infrastructure on the basis of available information;
- Provide a CSM and an assessment of contamination-related risks for current and future usage;
- Assess potential risks to people and the environment (natural and built) associated with ground contamination (soil) during construction and for future site use;
- Provide remediation strategy and verification plan on the basis of the ground investigation results; and
- Provide recommendations for additional works (if needed).

The work was carried out in general accordance with relevant British Standards and other current good practice guidance. This report provides information relevant for the future use of the Site in accordance with the requirements of the National Planning Policy Framework (NPPF) [3].

The investigation was undertaken in accordance with the principles outlined in the Land Contamination Risk Management (LC:RM) guidance [4] the relevant British Standards (BS) [5] & [6], Groundwater Protection Technical Guidance [7], and other current good practice guidance.

A geotechnical assessment for design purposes and an Earthworks Specification will be provided under separate cover.

1.3 Information Sources

The principal source of historic information and regulatory data is the Desk Study prepared by Buro Happold for the Pigeon Triangle Site [1]. This Report is therefore based upon information obtained from third-party sources, together with data obtained from the recent ground investigation. The third-party data has been accepted at face value and has not been independently verified. Buro Happold can therefore give no warranty, representation, or assurance as to the accuracy or completeness of such information.

1.4 Competencies

The work reported here was carried out by an appropriately qualified geoenvironmental scientist with relevant qualifications, training and experience. The geoenvironmental work was overseen by a chartered Associate Director with experience in the assessment of land affected by contamination, a registered SiLC (Specialist in Land Contamination) and SQP (Suitably Qualified Person).

1.5 Limitations

The scope and design of the site investigation has reflected the known history of site use, the results of previous studies and the limited scope requested by the Client. On this basis the spacing of the exploratory holes and the sampling and analysis plan for this investigation are considered to have provided a reasonable level of certainty about the ground conditions relative to the proposed development.

No investigation, however comprehensive, can be expected to determine absolutely the nature and variation of all the geology or contamination which could be present on any site. There will always be an element of uncertainty about the ground conditions including contamination. This potential for currently undetected contamination or variations in geology must therefore be taken into account not only in the risk assessment presented here but also in consideration of future development activities, for example, health and safety planning, financial planning and risk management and in the implementation of the below ground works during construction.

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2 Site Setting

2.1 Information Sources

The site setting was informed by the Geoenvironmental Desk Study Report prepared by Buro Happold:

- Desk Study – Mayfield Pigeon Triangle, Geoenvironmental Desk Study Report. 0046688-BHE-XX-XX-RP-YG-0001. Buro Happold, 8th December 2025 [1].

Other than the recent ground investigation, no works have occurred at the Site since the desk study was undertaken.

The following sections present a review of the information consulted at desk study stage.

2.2 Site Location

The Site is located in Manchester City Centre to the southeast of Manchester Piccadilly Railway Station, centred on National Grid Reference SJ 84930 97730. The Site covers some 0.07ha and is currently occupied by a triangular parcel of land comprising:

- an unused gravel covered area to the east with concrete legato bricks and wooden planters;
- part of an asphalt covered carpark (Travis Street Carpark) to the west; and
- Baring Street intersecting the east and west portions in a northwest to southeast direction with footpaths running along each side.

The Site is bound to the north by Fairfield Street with Piccadilly Station beyond, to the south by Travis Street, to the east by the convergence of Travis Street onto Fairfield Street and to the west by the rest of Travis Street carpark.

2.3 Current Site and Surrounding Area Uses

Buro Happold undertook a site walkover on 17th November 2025. The eastern portion of the Site comprises a triangular parcel of undeveloped land laid to gravel hardstanding, with concrete legato blocks and wooden planters around its vicinity. Baring Street bisects the Site in a slight northwest-to-southeast orientation, connecting Fairfield Street to Travis Street, and is lined with pavement to the east and west. The western extent of the Site marginally extends into Travis Street car park, which was in active use at the time of the walkover. No sharps were noted within the Pigeon Triangle area during the walkover

The Site is located in an urban area with the immediate and near surroundings comprising roads, Manchester Piccadilly Train station, car parking, entertainment venue, a hotel, a pub and student accommodation.

North: Fairfield Street runs along the northern boundary of the Site with Piccadilly Station beyond. A railway viaduct crosses Fairfield Street, running southwest from Piccadilly Station, approximately 10m from the northwest edge of the Site.

East: Travis Street crosses Fairfield Street. The Star & Garter pub (unoccupied) is approximately 30m east and railway viaduct runs southeast from Piccadilly Station over Fairfield Street, approximately 190m east.

South: Travis Street is immediately to the south, with the former Mayfield Depot buildings now used as the 'Supermassive' Manchester immersive AV experience located just beyond, approximately 15 m from the Site. Beyond Travis Street to the southwest is a carpark for the Manchester Marriott Hotel. Baring Street runs through the Site and

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continues southeast, towards Mancunian Way ring road. There is a cluster of student accommodation buildings from approximately 65m southwest of the Site and Mayfield Park is from approximately 130m southeast. The River Medlock meanders east to west through Mayfield Park and is approximately 126m to the south of the Site at its closest point.

West: Travis Street carpark extends to 80m west of the Site and within the west half of the carpark is a warehouse building that was noted to be derelict during site walkover. The Manchester Marriott Hotel is located beyond Travis Street carpark, approximately 85m west of the Site.

2.4 Site History

From 1848, the Site comprised residential houses, intersected by Boardman Street (same orientation to Baring Street is today) with the Star and Garter pub intersecting the site on the northern site boundary. Note: the Star and Garter pub moved to its current location ~40m E of the Site in the late 1800s/early 1900s and is now disused. By 1908, housing was cleared on the eastern portion of the site as surrounding industry expanded. By 1922 a small square structure is shown on the mapping on the eastern portion of the Site to the north. By 1932 a small T-shaped building was present to the east of Baring Street and historical mapping recorded this as 'Fairfield Street Garage' between 1948–1950. This T-shaped building was cleared by 1984. By 1932 the residential houses on the western portion of the Site were reconfigured and by 1948 were shown as cleared. The Site appears to have generally remained in this cleared state since then, with the exception of the area to the west of Baring street being redeveloped as a car park sometime between 1974 and 1984. By 2000, the eastern portion was grassed with footpaths, and more recently the grass has been replaced with gravel and concrete legato blocks.

By the late 19th century the surrounding area transitioned from mixed housing and small industry to a major transport and industrial hub, dominated by London Road Railway Station (now Manchester Piccadilly Railway Station) to the immediate north of the site associated with extensive railway sidings, and mills, dye works, and rubber works along the River Medlock to the south.

Mayfield Railway Station (located ~15m south of the Site at its nearest point) opened in the early 20th century. From the mid-20th century, goods yards and factories prevailed, while housing was cleared. By the 1970s, the railway sidings to the immediate north of the site were replaced by car parks and Mancunian Way (~200m S) was built. Since 2000, large-scale regeneration mainly to the south and southwest of the Site has introduced student accommodation, warehouses, and Mayfield Park (2023) on the former industrial land, though the Site itself has remained largely unchanged.

2.5 Proposed Development

The proposed development comprises the creation of a public green space (see Appendix A for the Landscape General Arrangement). There will be a mix of hard and soft landscaping with soft landscaped areas consisting of tree, shrub and herbaceous planting areas, crevice and cascade gardens and sunken rain gardens. Hard landscape components are envisaged to comprise permeable paving, stepping stones, concrete legato blocks, steel bar edging and log benches. It is anticipated that material will be excavated up to 1.5 mbgl with the intention of reusing suitable material where possible. Permeable paving and the sunken rain gardens are proposed to be tanked with sealed drainage.

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2.6 Anticipated Ground Model

2.6.1 Geology

The anticipated sequence of strata beneath the Site taken from the Desk Study based on third party investigations and information is presented in Table 2-1.

Table 2-1 - Summary of Anticipated Geology

Strata	Description	Depth to top [Approximate Thickness]	Aquifer status
Made Ground	Asphalt (car park and road) or gravel (unused area) onto grey silty gravelly SAND with gravel of ash, hardcore, tarmac, brick, and concrete	Surface [up to 0.8m, thickness not proven due to concrete obstruction]	N/A
Devensian Till	Gravelly clay / stiff clay / sand and clay.	0.60m [<1.80 m]	Secondary Aquifer (undifferentiated)
Chester Formation – sandstone	Red sandstone	1.52 to 3.4 [>8.54m thickness unproven]	Principal

2.6.2 Hydrogeology

The Devensian Till is classified as a Secondary Undifferentiated Aquifer which is assigned when it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of both rock types.

The Chester Formation sandstone is classified as a Principal Aquifer. These are layers of rock deposits that have high intergranular and/ or fracture permeability, meaning they usually provide a high level of water storage and may support water supply and/ or river base flow on a strategic scale.

Groundwater flow direction is likely to be to the south/southwest towards the River Medlock based on topography and proximity of the river to the south. From previous investigation in the wider Mayfield area, groundwater is not anticipated above ~4m bgl at the Site (no groundwater was encountered during the 2009 investigation up to a termination depth of 3.8m bgl).

There are ten records of groundwater abstractions within 1km of the Site. The nearest is 341m southeast and is for general cooling at Mosely Rubber Co. Ltd. The record is marked as historical but no end date is given. The nearest groundwater abstraction that is active is 966m southwest and is related to a heat pump at Manchester Metropolitan University. The Site is not within a Source Protection Zone. There are nine records of potable abstractions within 2km of the Site. They are all located between 1817m and 1848m NW and associated with commercial/ industrial/ public services at Interbrew UK Ltd. All the records are marked as historical with the most recent expiry date being March 2023.

The Site is classified as having Low vulnerability of groundwater in the secondary aquifer superficial geology and in the principal bedrock aquifer. This is defined as areas that provide the greatest protection from pollution and are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

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2.6.3 Hydrology

The nearest surface water feature is the River Medlock which is located 126m south of the Site at its nearest point and runs approximately east to west. Additionally, Ashton Canal is located 391m north of the Site at its nearest point.

2.7 Flood Risk

Groundsure data indicates the Site is not located within a flood risk zone. The risk of surface flooding at the Site has been determined as negligible for a 1 in 1000 year return period. Additionally, the highest risk of groundwater flooding on site or within 50m of the Site has been determined as Low.

2.8 Natural Hazards

Regulatory data relating to ground stability for the Site is summarised in Table 2-2 below with the full information presented in in Appendix C of the Desk Study [1].

Table 2-2 Potential natural hazards based on BGS Geosure data

Potential Hazard	Hazard Rating
Shrink swell	Very Low
Landslide	Very Low
Soluble Rocks	Negligible
Compressible Ground	Very Low
Collapsible Rocks	Very Low
Running Sand	Very Low

2.9 Radon

The Groundsure reports that the Site is not within a radon affected area as less than 1% of properties are above the Action Level (1:50,000 scale). Therefore, it is considered that no radon protection measures are required.

2.10 Unexploded Ordnance

A Preliminary Unexploded Ordnance (UXO) Risk Assessment was carried out by Buro Happold in accordance with CIRIA C681 [8], included as Appendix D of the Desk Study [1]. The assessment concluded the risks associated with UXO to be Moderate. Accordingly, a Risk Mitigation Strategy was commissioned from RMS UXO [9] which concluded there to be a Low risk with recommended risk mitigation measures including a virtual UXO safety briefing to personnel conducting site investigation intrusive works. For the main construction works, an Emergency Response Plan, Safety Awareness Briefings for on-site personnel and an on-call EOD Engineer were recommended.

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3 Preliminary Geoenvironmental Risk Assessment

The following section provides a summary of the initial conceptual site model and potential risks identified as part of the Desk Study [1].

3.1 Sources

The potential contamination sources at the Site were identified and summarised in the Desk Study [1] as per Table 3-1 below.

Table 3-1 Summary of potential sources of contamination and contaminants of concern.

Potential Source	Location	Likely Age	Potential Contaminants of Concern
Made Ground: associated with historical developments.	On site	>100 years	Asbestos, heavy metals, PAHs.
On site uses: historical garage, carparking.	On site	>80 years to present.	Asbestos, heavy metals, PAHs, TPHs, fuels and oils, VOCs and SVOCs.
Surrounding historical industrial uses: timber yard.	From adjacent	>100 years	Heavy metals, PAHs, TPHs, fuels and oils.

Note: Ground gas is not considered to present a risk to the proposed end use, as there is no likely source of ground gas at the Site. In addition, no structures are proposed, so there would be no opportunity for ground gases to accumulate. Therefore, ground gas monitoring was not included within the scope of the 2025 ground investigation; see the Desk Study [1] for further detail.

3.2 Pathways and Receptors

Those receptors and the pathways that could link them to the sources identified in Table 3-1 are summarised in the Desk Study [1] as per Table 3-2 below.

Table 3-2 Summary of potential receptors and potential pathways.

Receptor		Sensitivity	Pathway
Human Health	Investigation and construction workers	High	Direct/ dermal contact. Ingestion/ inhalation of soils.
	Future site users / visitors	High	Direct/dermal contact. Inhalation of contaminated dusts.
	Off-site occupiers / visitors of neighbouring land	High	Inhalation of contaminated dusts.
Controlled Waters	Principal aquifer (Chester formation sandstone)	Moderate	Migration via permeable strata and preferential pathways
	River Medlock	Moderate	Migration via permeable strata and preferential pathways
	Secondary Aquifers (Devensian Till)	Low	Migration via permeable strata and preferential pathways
Ecology	Flora and fauna	Low	Root uptake
Built environment	Buried concrete foundations. Potable water supply pipework	Moderate	Direct contact with contaminated material/ aggressive attack

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3.3 Contamination Risks

The above potential contamination sources and receptors were identified in the Desk Study [1] and a Preliminary Risk Assessment was carried out for the Site based on this data. A summary of the potentially significant risks (i.e., greater than Low), as concluded in the Desk Study is presented in Table 3-3.

Table 3-3 Summary of potential risks identified in preliminary risk assessment.

Receptor	Source	Potential risk
Investigation and construction workers	Made Ground associated with historical developments On site uses: historical garage, carparking. Surrounding historical industrial uses: timber yard	Moderate/ low
Future site users		
Controlled waters (Chester Formation, Principal Aquifer)		

Based on the above, a ground investigation was recommended for both geotechnical and geoenvironmental purposes. The following sections provide the results of the ground investigation and an assessment of the geoenvironmental conditions at the Site. Geotechnical assessment will be provided under separate cover.

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4 Ground Investigation

4.1 General

The ground investigation was undertaken on the 14th and 15th of January 2026 and was designed and supervised by Buro Happold, with contractor services provided by Argyle Ltd under instruction from Eric Wright Group. The scope of the ground investigation was designed to meet the aims and objectives outlined in Section 1.2.

4.2 Scope of Works

The scope of the investigation works was as follows:

- Six machine-excavated trial pits to prove natural ground (up to a maximum of 5 mbgl);
- In-situ soakaway testing within two trial pits in accordance with BRE 365;
- Recovery of soil samples from exploratory positions; and
- Soil samples to be submitted for geotechnical and geoenvironmental laboratory testing, including leachate testing to understand the potential leachability of contaminants in soil into underlying groundwater.

4.3 Variations to Scope

- TP03 was not completed due to access restrictions and to meet the required investigation programme; and
- TP02 was unable to be excavated to prove natural strata due to encountering subsurface obstructions, including brick foundations and a suspected service duct void. See Section 5.3 for further detail.

4.4 Laboratory Testing

4.4.1 Geotechnical Testing

Disturbed, bulk and undisturbed soil samples were collected for geotechnical testing. A summary of the geotechnical testing results and their interpretation is included under separate cover.

4.4.2 Geoenvironmental Testing

Soil samples for geoenvironmental analysis were collected from trial pits at regular intervals or change of strata. Selected samples were scheduled for testing by Buro Happold following a review of exploratory hole logs. The results of the soil data obtained is discussed in Sections 7, 8 and 9.

4.5 Utility Survey

The detection of underground services followed the guidelines of PAS 128:2014 [18]. Prior to boring / excavation commencing, exploratory hole locations were checked for utilities / buried services using a CAT and genny, existing utility information. Where surface concrete was encountered, it was removed using a concrete breaker.

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5 Ground Conditions

5.1 Encountered Ground Conditions

Made Ground was encountered in all trial pits excavated, with thicknesses ranging from 1.03 to 1.68m bgl (>2.75m bgl in TP02). Although the Made Ground depth was broadly consistent within the eastern and western portions of the Site respectively, its composition differed between these two areas. The trial pit logs are presented in Appendix B.

Made Ground within the eastern portion of the Site typically comprised Type 1 gravels of angular to subangular limestone fragments at the surface over dark brown loose slightly clayey sandy angular to subangular gravels of brick, coal, clinker, ceramic, and concrete. A fragment of possible asbestos insulation board was observed and recovered within this material (0.3 m bgl) from TP02; laboratory results detected asbestos in this sample (see Section 7 for more details).

A reinforced concrete slab of approximately 0.2m thick, underlain with brick was encountered in 3no. trial pits (TP01, TP02 and TP03) in the eastern portion of the Site below the surface gravels. The concrete slab was encountered in TP03; however, this trial pit was not progressed further due to time constraints.

Beneath the concrete slab, Made Ground typically comprised slightly clayey sandy gravel and dark brown gravelly clay with occasional pockets of softer clay and angular to subangular to angular gravels of brick, concrete, clinker and occasional ashy gravels. Pockets of soft, black, oily material were noted to have a hydrocarbon odour within trial pits TP01 and TP02 within the Made Ground below the reinforced concrete slab, with low PID headspace readings between 2.5-7.4ppm. Similar odorous material was reported within the Made Ground and top of the Till at TP04 at similar depths with slightly higher PID headspace readings of up to 45ppm.

Concrete slab was not encountered within TP04 but Made Ground was observed to be consistent with that described at other locations within the eastern portion of the Site. Additionally, in TP04, slight water ingress was noted at approximately 1.05 mbgl from the eastern edge of the trial pit. The water was noted to have an oily sheen, likely due to contact with observed pockets of hydrocarbon impacted material. Below the concrete slab in TP02 comprised rubble fill in a reddish brown sand matrix surrounding the buried brick foundations encountered from 1.3mbgl and suspected service duct void. The rubble fragments comprised medium to boulder sized fragments of concrete, limestone and brick and occasional plastic, glass and clinker and infrequent coal.

Within the western part of the Site (carpark) tarmacadam was encountered at the surface (0.08m thick) underlain by Made Ground comprising loose, dark, greyish black sandy gravels of limestone, granite and brick. Yellow, coarse sand sub-base was encountered in TP06, overlying layers of reddish brown sandy gravel and soft orangey brown stiff, silty, clay Made Ground and at 0.69-0.89 m bgl reddish brown cobbles to boulders of brick and concrete bound by a weakly cemented medium were encountered. Within TP05, the tarmac hardstanding at the surface was underlain by a dark greyish black, slightly clayey gravelly sand with gravels of limestone and cobbles of brick with occasional fragments of ceramics, glass and wood. This layer was underlain by a brown, stiff, gravelly clay with black, ashy gravels and occasional wood and brick.

Natural ground was encountered in each trial pit, except for TP02, and consisted of dark brown and mottled grey stiff silty clay. The material was consistent across the Site and is considered representative of the Devensian Till Superficial Deposits. Trial pits were terminated on confirmation of natural strata so the full thickness of the clay was not proven.

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5.2 Visual and Olfactory Evidence of Contamination

Anthropogenic components were recorded in the Made Ground, including concrete, brick, ceramics, plastic, glass, metal (rebar), clinker and coal. No gross contamination was recorded in the Made Ground or natural strata. See Table 5-1 for a summary of visual and olfactory evidence of contamination observed during the ground investigation.

Table 5-1 Summary of visual and olfactory evidence of contamination

Exploratory Hole ID	Depth (mbgl)	Description	Laboratory result (see Section 7)
TP01	0.0-0.17	Coal and clinker	No soil samples analysed.
	0.42-0.80	Hydrocarbon odour, clinker	Soil sample from 0.5 mbgl analysed; no exceedances of POS2 criteria recorded for organic or inorganic determinands; asbestos detected in sample at low concentration (0.002%).
	0.80-1.30	Pockets of black, soft, oily material with hydrocarbon odour, ashy gravels, clinker	Soil sample from 1 mbgl analysed; no exceedances of POS2 criteria for organic or inorganic determinands; speciated PAHs and TPH CWG less than laboratory limits of detection; no asbestos detected in sample.
TP02	0.0-0.32	Coal and clinker Possible ACM fragment at 0.3mbgl	Soil sample from 0.2 mbgl analysed; no exceedances of POS2 criteria for organic or inorganic determinands; asbestos detected in sample at low concentration (0.001%). Possible ACM fragment from 0.3mbgl confirmed to contain chrysotile; no quantification undertaken on fragment.
	0.5-2.7	Clinker, coal, black, soft, oily material with hydrocarbon odour at 2.5 mbgl	Soil samples from 0.6mbgl and 2.5 mbgl analysed; no exceedances of POS2 criteria for organic or inorganic determinands; asbestos detected in sample from 2.50 mbgl at less than laboratory limit of detection (<0.001%).
TP04	0.0-0.46	Coal, clinker.	Soil sample from 0.10 mbgl analysed; slight exceedance of POS2 for lead; other inorganic and organic determinands analysed below POS2 criteria; asbestos detected in sample at low concentration (0.002%).
	0.46-1.45	Ashy gravels, pockets of black, soft, oily material with strong hydrocarbon odour. Water seepage with oily sheen at 1.05 mbgl	Soil sample from 0.5 mbgl analysed; no exceedances of POS2 criteria for organic or inorganic determinands; no asbestos detected in sample.
TP05	0.43-1.03	Ashy gravels	Soil sample from 0.5 mbgl analysed; no exceedances of POS2 criteria for organic or inorganic determinands; no asbestos detected in sample.

5.3 Below Ground Obstructions and Features

Below ground obstructions were encountered in several trial pits within the eastern portion of the Site, see Appendix A for the Constraints and Remediation Plan.

- A concrete slab approximately 0.2 m thick, reinforced with rebar and underlain by brick, was recorded in three trial pits (TP01, TP02 and TP03) at depths between 0.12 m and 0.32 m bgl. The slab required breaking out with a mechanical breaker to allow excavation to continue, with the exception of TP03 where this was not possible due to time constraints. See Figure 5-1 for images of the concrete slab encountered.

- In TP02, additional obstructions comprising extensive brick and concrete were encountered. Brick corbelled foundations were exposed from 1.13 m bgl at the western end of the excavation, while a thick concrete wall was present at the eastern end. The full thickness of the concrete could not be proven as excavation was terminated at approximately 1.6 m bgl upon discovery of a subsurface void at the western edge of the trial

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pit, considered likely to represent a redundant service duct. A dip meter lowered from the surface into the void recorded an approximate depth of 1.4 m bgl to the base of the void. See Figure 5-3 and Figure 5-4 for images of the excavation in TP02.



Figure 5-2 Concrete slab encountered within TP01



Figure 5-1 Concrete slab encountered within TP03.



Figure 5-3 View from western edge of TP02 looking at the eastern edge where brick foundations and void were encountered. Also evident is the concrete slab encountered below the surface.



Figure 5-4 View from eastern edge of TP02 looking at the western edge where brick foundations and void were encountered. Also evident is the concrete slab encountered below the surface.

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6 Geoenvironmental Risk Assessment Criteria

6.1 Soil Risk Assessment Criteria

To perform a Generic Quantitative Risk Assessment (GQRA), the soil results were compared to relevant thresholds (see sections 7 and 8). This process is summarised below.

6.1.1 Risks to Human Health

Chronic: For human health risk assessment, soil results were assessed using relevant GACs, S4ULs, C4SLs and SGVs for the Contaminated Land Exposure Assessment (CLEA) residential with plant uptake ($Resi_1$ scenario), Public Open Space 1 (POS1) and Public Open Space 2 (POS2) land use scenarios as detailed in Appendix C. The residential with plant uptake and Public Open Space 1 scenarios are applied to give context to the data and to provide indicative lower bounds for discussion purposes only. Public Open Space 2 land use (i.e. the Park scenario) is considered to be the most appropriate land use scenario against which the data is to be compared to establish suitability for use.

Acute: For acute risks to human health, soil results were assessed using the SoBRA Acute Generic Assessment Criteria (AGAC) [10]. These AGACs have been derived for seven determinands: arsenic, benzene, cadmium, free cyanide, phenol, trichloroethylene (TCE) and vinyl chloride (VC). Lead was also considered but due to the limited toxicological data available, no threshold was determined. The exposure scenarios modelled were:

- General public exposure (or trespasser) via a single large dose (or potentially sum of several smaller doses over a short duration) of a 1-2 year old female child (averaged across ages of 0-6 years).
- Occupational exposure of female adult commercial/industrial worker exposed to contaminated soil during their work, such as construction, utility, site investigation or remediation worker over the working day.

Acute exposure was defined and modelled based on an irregular (i.e. not repeated) exposure of up to 24 hours duration based on the assumption lasting for 30 minutes or less.

6.1.2 Plant Health (Phytotoxicity)

To account for the possibility that direct planting may take place within the material currently on the Site in the proposed soft landscaping areas, soil test results indicating phytotoxicity are assessed using the British Standards Specification for Topsoil (BS 3882) [11].

6.1.3 Risks to Below Ground Structures

Soil samples were assessed with reference to the UK Water Industry Research (UKWIR) Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites [12] to assess risks to below ground water supply pipework. The most recent guidance published by Water UK [13] has been adopted as best practice but is not mandatory. The assessment as required by United Utilities has also been completed and sent under separate cover for consideration by the utility provider.

The risk from chemical attack on concrete has been assessed using BRE guidance [14] and will be provided within the Geotechnical assessment under separate cover.

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6.2 Controlled Waters Risk Assessment Criteria

To perform a controlled waters generic quantitative risk assessment to assess the potential for leaching into groundwater from soil, soil leachate data is assessed using World Health Organisation (WHO) [15] Drinking Water Guidelines, UK Drinking Water Standards (DWS) [16] and the Freshwater EQS Annual Average (AA) values [17]. See Section 8 for a summary of the soil leachate results.

6.3 Preliminary Waste Classification

To determine the likely waste classification, soil test results were assessed using the Environment Agency 'Technical Guidance WM3, Guidance on the classification and assessment of waste', 2021 [18].

See Section 9 for a summary of the waste characterisation assessment and Appendix F for the HazWasteOnline results.

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7 Analytical Results for Soil

7.1 Analytical Scope for Soil

Chemical analysis was undertaken on a total of 14no. samples collected during the intrusive ground investigation: 11no. samples were of Made Ground, 1no. sample was of tarmac hardstanding and 2no. samples were of natural strata. The testing suites are summarised in Table 7-1.The soil assessment screening spreadsheet is included in Appendix D.

Table 7-1 Laboratory testing suites for soil

Suite Reference	Contaminant Analysis Suite
Suite 1 - Made Ground	pH, asbestos screen, CLEA metals, total cyanide*, total mercury, speciated PAHs, TPH CWG including BTEX, VOCs, SVOCs, Soil Organic Matter *Free cyanide was additionally analysed for on samples recording total cyanide concentrations greater than laboratory detection limit.
Suite 2 - Natural Ground	pH, CLEA metals, total cyanide, total mercury, speciated PAHs, TPH CWG including BTEX
Suite 3 -Full WAC	WAC analysis

7.2 Chronic Risks to Human Health

7.2.1 Made Ground

7.2.1.1 Inorganic Determinands

A total of 11no. samples of Made Ground were analysed for the inorganic determinands listed in Suite 1 in Table 7-1. The data for which exceedances were recorded is summarised in Table 7-2 and the following text.

Table 7-2 Summary of data for inorganic determinands in Made Ground samples, concentrations in mg/kg

Determinand	No. of samples	Assessment criteria (No. of exceedances)			Concentrations	
		$Resi_1$	POS1	POS2	Min.	Max.
Arsenic	11	3 **(1)**	79 **(1)**	168 (0)	5.3	120
Beryllium	11	1.7 **(1)**	2.2 (0)	63 (0)	0.3	1.9
Lead	11	200 **(3)**	630 **(1)**	1300 **(1)**	12	1400

The majority of samples recorded concentrations of inorganic determinands below the most conservative thresholds (i.e. $Resi_1$ and POS1).

Limited samples recorded concentrations of arsenic, beryllium and lead (9-27% of the dataset) in exceedance of the more conservative $Resi_1$ and POS1 thresholds but were well below the criteria relevant for the Site i.e., well below POS2 thresholds.

1no. sample (9% of the dataset) recorded a concentration of lead in slight exceedance of the relevant POS2 screening criteria of 1300 mg/kg. The recorded concentration was 1400 mg/kg (1.1 times the screening threshold) in the sample taken from TP04 at 0.10 mbgl.

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7.2.1.2 Asbestos

Asbestos Containing Materials (ACMs) were visually identified in one exploratory hole location during the ground investigation:

- In TP02, a fragment of possible asbestos insulation board (AIB) was observed at 0.3 mbgl. The fragment was screened by the laboratory and was confirmed to contain chrysotile. No quantification was undertaken.

Laboratory screening for asbestos was undertaken on a total of 11no. samples taken from the Made Ground. Asbestos was detected in 6no. samples (55% of the dataset) as amosite present as either fibre bundles or microscopic board fragments. The maximum total mass of asbestos within a soil sample was 0.006% in TP06 at 0.20 m bgl. See Table 8-3 for a summary of the asbestos screening and quantification results.

Table 7-3 Summary of asbestos screening results

Exploratory Hole ID	Sample Depth	Asbestos Type	% Asbestos in ACM	Total Mass of Asbestos (%) in sample
TP01	**0.50**	**Amosite present in microscopic board fragment**	**40**	**0.002**
	1.0	Not detected	N/A	N/A
TP02	**0.2**	**Amosite present as fibre bundles**	**N/A**	**0.001**
	0.60	Not detected	N/A	N/A
	2.50	**Amosite present as fibre bundles**	**N/A**	**<0.001**
TP04	**0.10**	**Amosite present in microscopic board fragments**	**40**	**0.002**
	0.50	Not detected	N/A	N/A
TP05	0.50	Not detected	N/A	N/A
TP06	**0.20**	**Amosite present as fibre bundles**	**N/A**	**0.006**
	0.50	**Amosite present as fibre bundles**	**N/A**	**0.004**
	1.0	Not detected	N/A	N/A

7.2.1.3 pH in Made Ground

Measurements of soil pH were typically alkaline with an average pH of 9.3 and a maximum recorded of 11.6. The alkaline conditions are likely to be related to concrete and bricks present within the Made Ground across the Site.

7.2.1.4 Organic Determinands

A total of 11no. samples of Made Ground were analysed for the organic determinands listed in Suite 2 in Table 7-1. The data for which exceedances were recorded is summarised in Table 7-4 and the following text.

Table 7-4 Summary of data for organic determinands in Made Ground samples, concentrations in mg/kg.

Determinand	No. of samples	Assessment criteria (No. of exceedances)			Concentrations	
		$Resi_1$	POS1	POS2	Min.	Max.
Benzo[a]anthracene	11	7.2 **(1)**	29 (0)	49 (0)	< LOD	8.8
Benzo[b]fluoranthene	11	2.6 **(3)**	7.1 (0)	13 (0)	< LOD	7.0
Benzo[a]pyrene	11	2.2 **(6)**	5.7 **(2)**	11 (0)	< LOD	9.5
Dibenzo[ah]anthracene	11	0.24 **(4)**	0.57 **(1)**	1.1 (0)	< LOD	0.64

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The majority of samples recorded concentrations of organic determinands below the most conservative thresholds (i.e. $Resi_1$ and POS1), with many below the laboratory limit of detection.

Limited samples recorded concentrations of benzo[a]anthracene, benzo[b]fluoranthene, benzo[a]pyrene and dibenzo[ah]anthracene (9-55% of the dataset) in exceedance of the more conservative $Resi_1$ and POS1 thresholds but were below the criteria relevant for the Site i.e., well below POS2 thresholds.

No samples recorded concentrations of organic determinands in exceedance of the relevant POS2 screening criteria.

7.2.2 Tarmac

1no. sample of tarmac (taken from TP06 at 0.05 m bgl) was analysed for CLEA metals, speciated PAHs and TPH CWG. No concentrations were recorded in exceedance of $Resi_1$, POS1 or POS2 screening criteria with the majority of concentrations of organic determinands, including PAHs, below screening criteria indicating that the tarmac present on Site within the carpark area does not contain coal tar. See Section 9 for preliminary waste classification.

Note: Benzene, phenol, trichloroethylene (TCE) and vinyl chloride (VC) were not included within the suite of determinands analysed on the tarmac sample as only CLEA metals, speciated PAHs and TPH CWG were requested for the purpose of identifying possible coal tar.

7.2.3 Natural Strata

A total of 2no. samples of underlying natural strata were analysed for the inorganic and organic determinands listed in Suite 2 in Table 7-1. None of the samples recorded concentrations of determinands analysed in exceedance of the relevant thresholds.

7.3 Acute Risks to Human Health

The majority determinands analysed within the 14.no soil samples were recorded at concentrations below the SoBRA Acute Generic Assessment Criteria (AGAC) [10] for both adult receptors and the more sensitive child receptor. One exceedance of the child criteria for arsenic was recorded for the sample taken from TP01 at 1 m bgl where a concentration of 120 mg/kg was recorded. The results are presented in Table 7-5.

Table 7-5 Summary of SoBRA AGAC

Determinand	AGAC (mg/kg)	
	Child (no. of exceedences)	Adult (no. of exceedences)
Arsenic	80 **(1)**	7,000 (0)
Benzene	47 (0)	370 (0)
Cadmium	140 (0)	12,000 (0)
Phenol	2,000 (0)	175,000 (0)
Trichloroethylene	16,000 (0)	33,000 (0)
Vinyl chloride	110 (0)	220 (0)

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7.4 Phytotoxicity Risks

The soils data were compared with phytotoxicity screening values for heavy metals (copper, nickel and zinc). The average pH of Made Ground samples was 9.2, so the phytotoxicity criteria for pH > 7 was used. The results are presented in Table 7-6 below and briefly described in the following text.

Table 7-6 Summary of soils data with respect to phytotoxicity screening values for pH > 7 (concentrations in mg/kg)

Determinand	No. of samples	Phytotoxicity criteria, pH >7 (no. of exceedances)	Concentrations	
			Min.	Max.
Copper	14	200 (0)	9.0	110
Nickel	14	110 (0)	4.8	35
Zinc	14	300 **(2)**	31	510

Phytotoxicity criteria was not exceeded for copper or nickel, with two exceedances for zinc:

- **Zinc** - 2no. samples (14% of the dataset) exceeded the phytoxicity criteria for zinc of 300 mg/kg. The recorded concentrations were 500 mg/kg and 510 mg/kg (both approximately 1.7 times the phytotoxicity criteria), taken from TP01 at 0.50 m bgl and TP04 at 0.10 m bgl, respectively.

7.5 Risks to Below Ground Structures

Some determinands (in particular organic compounds) have the potential to impact not only human health but also below ground water supply due to permeation of plastic pipes leading to tainting water supply if those pipes are laid in contact with contaminated soils.

13no. samples taken from the Made Ground and underlying natural strata were assessed against criteria set out in Water Supply Industry Guidance [12] [13]. The results of the assessment are summarised in Table 7-7 and discussed below.

Table 7-7 Water UK & HBF screening assessment. All values in mg/kg.

Test Group	Determinand used	PE Threshold (No. of samples exceeding)	PVC threshold (No. of samples exceeding)	Maximum
EC5-EC10 aliphatic and aromatic hydrocarbons	Aliphatic and Aromatic C5-C10	2 (0)	1.4 (0)	< 0.01
EC10-EC16 aliphatic and aromatic hydrocarbons	Aliphatic and Aromatic C10-C16	10 **(2)**	-	12
EC16-EC40 aliphatic and aromatic hydrocarbons	Aliphatic and Aromatic C16-C35	500 (0)	-	245.3
Total BTEX	Total BTEX	0.1 (0)	0.03 (0)	< 0.01
Total VOCs	Naphthalene Benzo(a)pyrene	0.5 **(2)** 0.5 **(6)**	0.125 **(5)** 0.125 **(7)**	0.87 9.5

***PAHs, ethers, nitrobenzene, ketones, aldehydes, phenols, cresols and chlorinated phenols (phenols , cresols and chlorinated phenols are given their own assessment criteria)*

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Aliphatic and Aromatic C5-C10 – Samples analysed recorded concentrations below the limit of detection (<0.01mg/kg).

Aliphatic and Aromatic C10-C16- 2no. sample (15% of the dataset) recorded concentrations of aliphatic and aromatic C10-C16 elevated above the UK threshold for PE pipework (10mg/kg). These samples were taken from TP02 at 2.5 mbgl and TP04 at 1.5 mbgl with concentrations of 12 mg/kg and 11 mg/kg, respectively.

Aliphatic and Aromatic C16-C35- No samples analysed recorded concentrations above the relevant Water UK threshold for PE pipework (500mg/kg).

Total BTEX - Samples analysed recorded concentrations below the limit of detection (<0.01 mg/kg).

Total VOCs – The assessment on total VOCs was carried out using the concentrations recorded for naphthalene and benzo(a)pyrene within the Made Ground. A maximum of 6no. samples (46% of the dataset) exceeded the Water UK threshold of 0.5mg/kg for PE pipes and a maximum of 7no. samples (54% of the dataset) exceeded the threshold for PVC pipes of 0.125 mg/kg.

Based on the encountered ground conditions and chemical data obtained during the ground investigation, PE and PVC are unlikely to be suitable if potable water supply pipework is to be laid in the existing Made Ground soils. If pipes are laid in Made Ground, barrier pipe materials are likely to be required unless otherwise agreed with the utility company. The assessment as required by United Utilities has also been completed and sent under separate cover for their consideration.

7.6 Soil Results Summary

Chemical analysis was undertaken on a total of 14 samples. The results described above are generally consistent with the visual observations made of the Site. Made Ground was encountered across the Site, ranging in thickness from 1.03 m to 1.68 m. A greater thickness of Made Ground was recorded in the north of the eastern portion of the Site, (>2.75 m), around the area of the former public house. In this location, various structures including brick foundations, a ducting chamber and concrete were encountered from 1.13 metres below ground level, which prevented safe progression of the trial pit to natural strata. As a result, the full extent of the Made Ground in TP02 could not be confirmed.

The majority of analysed soil samples recorded concentrations of determinands below the relevant Public Open Space 2 criteria (i.e. Park scenario) for chronic risks to human health. One slight exceedance of the relevant Public Open Space 2 criteria was recorded for lead in the Made Ground sample taken from TP04 at 0.1 m bgl and is associated with anthropogenic material noted within Made Ground, comprising brick, coal, clinker, ceramic, concrete, plastic and wood.

Underlying Made Ground at this location (TP04 0.46-1.45 mbgl) was noted to comprise pockets of soft, black, oily material with hydrocarbon odour as well as slight water seepage with an oily sheen at 1.05 mbgl. However, chemical analysis of the sample from this layer (taken from 1 mbgl) did not record exceedances of the relevant POS2 criteria for inorganic or organic determinands, and speciated PAH concentrations were less than the laboratory limits of detection. Pockets of soft, black, oily material with hydrocarbon odours were also observed in TP01 and TP02 but corresponding lab results did not record exceedances of the POS2 criteria with many organic determinands reported as less than the laboratory limits of detection. See Table 5-1 for a summary of visual and olfactory evidence of contamination encountered during the ground investigation and the corresponding lab results.

Suspected asbestos containing material (ACM) was visually identified at one location during the ground investigation, comprising a fragment of possible asbestos insulation board. Subsequent laboratory analysis confirmed the fragment to contain chrysotile. In addition, laboratory screening of Made Ground samples detected amosite asbestos in 6no.

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samples from across the Site, present as microscopic board fragments and fibre bundles in relatively low concentrations (<0.001% to 0.006%).

Laboratory analysis of 1no. tarmac sample from TP06 recorded no exceedances of the relevant screening criteria, with most organic determinands recording concentrations below laboratory detection limits.

The samples analysed recorded concentrations below the relevant criteria for acute risks to human health with the exception of arsenic in one sample (TP01 at 1 m bgl) exceeding the criteria for a child receptor but below the adult receptor criteria. The majority of samples also recorded concentrations below the phytotoxicity criteria with the exception of zinc in two samples (TP01 at 0.5 m bgl and TP04 at 0.1 m bgl). A limited number of determinands exceeded the criteria for PVC and PE pipework for potable water supply (EC10-EC16 aliphatic and aromatic hydrocarbons and Total VOCs).

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8 Analytical Results for Soil Leachate

8.1 Analytical Scope for Soil Leachate

Soil leachate analysis was undertaken on five samples of Made Ground. The chemical testing suite is provided in Table 8-1.

Table 8-1 Chemical testing suite used for soil leachate analysis.

Suite reference	Contaminants
Suite 5- Soil leachate	CLEA metals suite, speciated PAHs, TPH CWG, total mercury, total cyanide

8.2 Soil Leachate Analysis

8.2.1 Inorganic Determinands

A number of samples recorded concentrations of inorganic determinands slightly above the screening thresholds (WHO Drinking Water Guidelines [WHO DWS] [15], Freshwater Environmental Quality Standard [Freshwater EQS] [17] and UK Drinking Water Standards [UK DWS] [16]. Concentrations recorded in exceedance of the screening thresholds are summarised in Table 8-2 and discussed in the text below.

Table 8-2 Summary of leachate data for inorganic determinands. Concentrations in µg/l.

Determinand	No. of samples	GAC (No. of exceedances)			Concentrations	
		WHO DWS	Freshwater EQS	UK DWS	Min.	Max.
Copper	5	2000 (0)	1 **(5)**	2000 (0)	3.67	7.73
Lead	5	10 **(2)**	1.2 **(5)**	10 **(2)**	1.84	34.26
Nickel	5	70 (0)	4 **(3)**	20 (0)	1.58	5.68
Zinc	5	N/A	10.9 **(4)**	N/A	7.89	30.89

Samples analysed recorded concentrations of arsenic, cadmium, barium, boron, mercury, vanadium, selenium and chromium below the selected screening thresholds. Slight exceedances of the freshwater EQS were frequently recorded for copper, lead, nickel and zinc and occasional samples recorded slight exceedances of the WHO DWS and UK DWS for lead.

Copper – The five samples (100% of the dataset) recorded concentrations of copper in exceedance of the freshwater EQS for copper of 1 µg/L. The maximum recorded concentration was 7.73 µg/L (approximately 8 times the EQS), recorded in the sample from TP02 at 0.2 m bgl.

Lead – The five samples (100% of the dataset) recorded concentrations of lead in exceedance of the freshwater EQS for lead of 1.2 µg/L. Additionally, two samples (40% of the dataset) recorded concentrations in exceedance of the UK DWS and WHO DWS of 10 µg/L. The maximum recorded concentration of lead was 34.26 µg/L (approximately 3.4 times the UK DWS and WHO DWS), recorded in the sample from TP02 at 0.2 m bgl.

Nickel – Three samples (60% of the dataset) recorded concentrations of nickel in exceedance of the freshwater EQS for nickel of 4 µg/L. The maximum recorded concentration of nickel was 5.68 µg/L, recorded within the sample taken from TP05 at 0.5 m bgl.

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Zinc – Four samples (80% of the dataset) recorded concentrations of zinc in exceedance of the freshwater EQS for zinc of 10.9 µg/L. The maximum recorded concentration was 30.89 µg/L (approximately 3 times the freshwater EQS), recorded within the sample taken from TP02 at 0.2 m bgl. There are no UK DWS or WHO DWS values for zinc.

Note: The five samples recorded concentrations of cyanide as less than the laboratory detection limit (< 40 µg/l). However, the detection limit for cyanide (<40 µg/l) is greater than the Freshwater EQS for cyanide of 1 µg/l and thus could be considered a potential exceedance. The WHO DWS and UK DWS for cyanide are 70 µg/l and 50 µg/l, respectively, of which no exceedances were recorded.

8.2.2 Organic Determinands

The samples were also tested for a range of organic determinands, as per Table 8-1. The majority of organic determinands recorded concentrations below the relevant thresholds with many below the laboratory detection limit. Exceedances of the relevant thresholds were recorded for two PAHs, summarised in Table 8-3 and discussed in the text below.

Table 8-3 Summary of leachate data for organic determinands. Concentrations in µg/l.

Determinand	No. of samples	GAC (No. of exceedances)			Concentrations	
		WHO DWS	Freshwater EQS	UK DWS	Min.	Max.
Fluoranthene	5	N/A	0.0063 **(5)**	N/A (0)	0.02	0.16
Benzo[a]pyrene	5	0.7 (0)	0.00017 **(4)**	0.01 **(3)**	<LOD	0.17

Fluoranthene – The five samples (100% of the dataset) recorded concentrations in exceedance of the Freshwater EQS for fluoranthene of 0.0063 µg/l. The maximum recorded concentration was 0.16 µg/l (25 times the freshwater EQS), recorded within the sample taken from TP02 at 0.2 m bgl. There are no WHO DWS or UK DWS values for fluoranthene.

Benzo[a]pyrene – Four samples (80% of the dataset) recorded concentrations of benzo[a]pyrene in exceedance of the freshwater EQS for benzo[a]pyrene of 0.00017 µg/l. Additionally, three samples (60% of the dataset) recorded concentrations in exceedance of the UK DWS of 0.01 µg/l. The maximum recorded concentration was 0.17 µg/l (17 times the UK DWS) recorded within the sample taken from TP02 at 0.2 m bgl.

8.3 Soil Leachate Results Summary

Leachate analysis was undertaken on five samples of Made Ground. Slight exceedances of the conservative groundwater screening criteria were recorded for 4no. heavy metals (copper, lead, nickel and zinc) and 2no. PAHs (fluoranthene and benzo[a]pyrene) across most samples. Concentrations of other inorganic determinands were below relevant criteria with the majority of other organic determinands below the laboratory limits of detection.

The results of the leachate analysis are generally consistent with the soil chemical results presented in Section 7, where slightly elevated concentrations of some PAHs and heavy metals were identified in Made Ground associated with anthropogenic materials and pockets of hydrocarbon-impacted material. Although the majority of bulk soil concentrations were below the relevant criteria, the leachate results indicate that some contaminants present within the Made Ground have limited potential to mobilise under test conditions.

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9 Preliminary Waste Classification

9.1 Code of Waste

The data from the site investigation has been assessed based on the Hazard Properties of the contaminants using the online tool HazWasteOnline™. The software follows the lasts Environment Agency guidance and European regulations. HazWasteOnline™ provides an audible tool for the classification of potentially hazardous waste materials such as contaminated soils.

The most applicable codes for the material on the Site (Made Ground) are 17 05 03 (soil and stone containing hazardous materials) and 17 05 04 (soil and stone other than those mentioned in 17 05 03). These are mirror codes that require further assessment for clarification (and thus enable appropriate disposal). Uncontaminated natural soils would be classified as Inert (17 05 04).

9.2 Management of Soil Materials

Prior to off-site disposal of soil arisings generated during the redevelopment of the Site, consideration should be made to the possible reuse or recycling of these materials. The National Planning Policy Framework (NPPF) [3] requires new developments to contribute to 'mitigating and adapting to climate change'. As such the possible retention, reuse or recycling of excavated materials can greatly reduce vehicle movements and can help to achieve these requirement set out by the NPPF.

Significant reductions in waste can be made by adopting good construction practice which can include the implementation of a waste hierarchy system, and by the adoption of the circular economy concept. Where waste can be reduced this action simultaneously reduces environmental impacts as well as the cost of the construction process.

Further value can be added to development projects by incorporating soil reuse or importing recycled material (e.g., hardcore and aggregates) which will help to meet climate / carbon requirements and achieve new build certification.

9.3 Chemical Composition of Waste

Chemical analysis was undertaken on 14no. soil samples which has been used to inform preliminary waste classification. The results of the classification indicate that 12no. of the samples would be classified as 17 05 04 (Non-hazardous waste) while 2no. of the samples would be classified as 17 05 03* (Hazardous Waste). The reasoning for Hazardous classification is detailed below in Table 9-1. The full assessment information is provided in Appendix F.

Table 9-1 Summary of samples classified as hazardous waste.

Exploratory Hole ID	Depth (mbgl)	Contaminant	Hazard Properties	Visual and olfactory indications of impact
TP01	0.50	pH	HP8 - Corrosive	Brick, clinker, ceramics, slate, concrete
TP04	0.10	Lead	HP7 - Carcinogenic	Brick, coal, clinker, ceramics, concrete, plastic

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9.4 Waste Acceptance Criteria

If waste soils are to be disposed of to landfill, the material must also meet the relevant Waste Acceptance Criteria (WAC) for the receiving facility. WAC analysis was undertaken on 6no. samples and the results are summarised in Table 9-2.

Table 9-2 Summary of WAC analysis

Location ID	Depth (mbgl)	WAC results	Visual and olfactory indicators of impact
TP01	0.50	TOC (3.2%) – exceeds inert waste landfill but would be accepted at non-hazardous landfill. Mineral oil (750 mg/kg) – exceeds inert waste landfill. No limit values provided for stable non-reactive hazardous waste landfill or hazardous waste landfill.* *Sample classified as hazardous waste (see* Table 9-1*)*	Brick, clinker, ceramics, slate, concrete.
TP02	0.20	TOC (5.5%) – exceeds inert waste and non-hazardous landfill.	Plastic, ceramics
TP02	0.60	Meets inert waste landfill criteria.	N/A
TP04	0.50	Meets inert waste landfill criteria.	N/A
TP05	0.50	Meets inert waste landfill criteria.	N/A
TP06	0.20	TOC (9.7%) – exceeds hazardous waste landfill criteria. Chloride (1348 mg/kg) – exceeds inert waste landfill criteria but would be accepted at non-hazardous landfill.	Limestone, granite and brick.

*This result is inconsistent with the laboratory data for solid soil analysis for this sample. When queried with the laboratory, they provided the following explanation, '*The discrepancy between the two set of results is not unlikely. Ali Aro are extracted in Hexane and splitted with SPE technique. TPH are extracted in DCM, stronger solvent than hexane. Should the client wish, it would be recommended to repeat both tests in the sample.*' Buro Happold has requested a repeat of the sampling for completeness. However, the results of the repeat testing are unlikely to change the conclusions of our assessment as 750mg/kg is still below the POS2 criteria for the most conservative hydrocarbon fraction.

9.5 Preliminary Waste Classification Summary

The available data indicates that the majority of arisings from the Made Ground would be classified as non-hazardous with some as hazardous waste. Non-impacted natural arisings would be classified as inert.

It should be noted that variations in different landfill licenses could result in some landfills applying different classification to spoil for disposal. Furthermore, notwithstanding this preliminary assessment, it is the earthwork contractor's responsibility, in association with the operator and/ or owner of the landfill to classify the materials in line with current guidance.

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10 Geoenvironmental Risk Assessment

10.1 General Approach

In the UK, the assessment of risk from contamination follows the source-pathway-target approach. If one of these three elements is absent it is considered that there is no risk of harm. If, however, there is considered to be a linkage between a given source and a given target / receptor then a risk-based approach is used to assess the significance or impact of this linkage.

Source The contaminants that have the potential to negatively affect human health and/or the health of the environment (i.e. the hazard).

Pathway The potential route by which a receptor may come into contact with the source.

Receptor The specific group of human beings or aspect of the environment (e.g. controlled waters) that could be affected by the source.

Risks are defined as the probability of an event occurring combined with the severity of the consequence of that event occurring. Particularly, to assess the risk to site end users posed by a given source, the sensitivity of each receptor is considered. For example, the concentration of contamination acceptable at a site to be developed as a residential property, with a garden used to grow vegetables and accessible to young children, is set lower than that for a commercial site where soil is exposed in minor areas of landscaping and the only long-term users of the site are adults. Similarly, a site overlying a major aquifer supplying potable water to a large population will be considered more stringently than a site overlying an impermeable geology with only minor seepages of groundwater.

10.2 Climate Change

It is accepted that the climate is changing and that this will affect future weather patterns. The Environment Agency [4] requires factoring climate change into risk assessments and remedial solutions. The British Standard, 'Adaptation to Climate Change – Principles, Requirements and Guidelines' [19] states that 'climate change impacts shall be assessed comprehensively…including…contamination' and should focus 'upon understanding the implications of future climate change trends and climate events over the full lifespan of a decision'. The National Planning Policy Framework [3] requires new development to contribute to 'mitigating and adapting to climate change' and to 'minimise vulnerability and increase resilience' to the range of impacts arising from climate change.

The changes to weather patterns in the UK may include: an increase in warmer weather; an increase in the frequency and intensity of rainfall events; and an increase in the duration or frequency of dry spells in the summer. Such events are also likely to become more extreme. There is the potential for these scenarios to impact upon potential contaminant migration pathways in particular with respect to both hazardous ground gas and contaminated groundwater via permeable strata, during both construction and operation of the proposed development. As ground conditions at the proposed development may be vulnerable to extreme weather events due to climate change during the demolition, construction and operation phases, these potential impacts have been considered and embedded in the risk assessment.

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10.3 Conceptual Site Model (CSM)

The potential risks posed to the environmental receptors, human health and the environment by ground contamination at this site have been evaluated by a generic quantitative risk assessment which incorporates the 'source-pathway-receptor' identification and assessment methodology in accordance with the Land Contamination Risk Management [4]. The risk assessment process therefore involves the identification of each source based on the site setting information and ground investigation results and the identification of the relevant exposure pathway and each potential receptor. The potential risks to the receptors are then assessed by considering the potential effect of the source on the receptor as well as the likelihood of a pathway linking the two, i.e. a contaminant linkage as discussed above. The CSM is based on the proposed public green space use of the Site.

10.4 Contamination Sources

Potential contamination sources identified within the Desk Study [1] and summarised in Table 3-3 can now be rationalised with the data obtained from the ground investigation, as per Table 10-1.

Table 10-1 Rationalisation of sources of contamination

Potential Source	Potential Contaminants of Concern (PCOC's)	Rationale	PCOC's Taken to Risk Assessment
Made Ground (associated with historical developments)	Asbestos, heavy metals, PAHs.	Asbestos visually identified and detected in Made Ground samples across the Site. One exceedance of POS2 criteria for lead and one exceedance of child AGAC for arsenic associated with anthropogenic materials identified within Made Ground. Zinc greater than phytotoxicity criteria in soil. Slight exceedances for 4no. heavy metals and 2no. PAHs from soil leachate analysis indicates limited mobilisation potential for contaminants within Made Ground. Slightly elevated PAHs, albeit below the POS2 criteria, associated with localised pockets of soft, black, oily hydrocarbon impacted material and associated hydrocarbon odours observed within Made Ground.	Asbestos, heavy metals, PAHs
On site uses (historical garage, carparking)	Asbestos, heavy metals, PAHs, TPHs, fuels and oils, VOCs and SVOCs.		
Surrounding historical industrial uses (timber yard)	Heavy metals, PAHs, TPHs, fuels and oils.		

Note: The possible presence of below ground tanks associated with the former garage cannot be ruled out at this stage, as the extent of Made Ground thickness and any deeper structures within TP02 (in the area of the former garage) could not be proven due to subsurface obstructions, including brick foundations and a suspected service duct void.

10.5 Pollutant Linkages

A contaminant linkage must be present for there to be a source-pathway-receptor relationship. Without a linkage, there is not a risk. The receptors and potential pathways taken from the Desk Study are presented in Table 3-2. Site-specific pathway-receptor linkages have been identified with respect to the sources outlined in Table 10-1 and the anticipated future use and are presented in Table 10-2.

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Table 10-2 Summary of pathways and receptors

Receptor		Sensitivity	Pathway
Human Health	Investigation and construction workers	High	Direct/ dermal contact. Ingestion/ inhalation of soils.
	Future site users / visitors	High	Direct/dermal contact. Inhalation of contaminated dusts.
	Off-site occupiers / visitors of neighbouring land	High	Inhalation of contaminated dusts.
Controlled Waters	Principal aquifer (Chester formation sandstone)	Moderate	Migration via permeable strata and preferential pathways
	River Medlock	Moderate	Migration via surface water drainage, overland flow, permeable strata and preferential pathways
	Secondary Aquifers (Devensian Till)	Low	Migration via permeable strata and preferential pathways
Ecology	Flora and fauna	Low	Root uptake
Built environment	Buried concrete foundations. Potable water supply pipework	Moderate	Direct contact with contaminated material/ aggressive attack

10.6 Geoenvironmental Risk Assessment

The geoenvironmental risk assessment is presented in Table 10-3 below.

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Table 10-3 Geoenvironmental Risk Assessment

Source		Receptor / Pathway	Risk Assessment (following CIRIA C552)			Comment on hazard realisation *Potential mitigation measures*
Origin	Contaminants of concern		Consequence	Probability	Risk	
Made Ground: associated with historical developments. On site uses (historical garage, carparking) Surrounding historical industrial uses (timber yard)	Asbestos, metals, PAHs	**Description of the Source:** From the mid-1800s the Site comprised housing along Boardman Street with the Star and Garter pub on the northern boundary before its relocation off-Site to the east by the early 1900s. By the late 1800s, housing was cleared as surrounding industry expanded, leaving the Site largely vacant. A small building is shown on the mapping in 1932 and was later used as Fairfield Street Garage (1948–1950) before being cleared between 1974 and 1984. Boardman Street became Baring Street in the 1960s, and the Site remained mostly vacant. In the late 1980s, the last building was removed and a car park constructed on the western edge. By 2000, the eastern portion was grassed with footpaths, while the west continued as car park. Recent changes include replacing grass with gravel, reinforced concrete across part of the eastern portion of the Site and addition of concrete legato blocks. A timber yard was present adjacent to the northwest of the Site from 1889 until 1908. The Ground Investigation encountered Made Ground (~1-1.7m thick) across the Site comprising anthropogenic materials including brick, clinker, coal, ceramic, concrete, plastic and glass and ashy material. Locally thicker (>2.75m) Made Ground was encountered to the north of the former garage (TP02) where below ground structures (brick/concrete foundations, ducting chamber) were encountered from ~1.1 m bgl (location terminated in Made Ground at 2.7m bgl due to obstructions). No gross contamination was reported during the ground investigation. Hydrocarbon odours and pockets of soft, black, oily hydrocarbon impacted material were observed in trial pits in the eastern portion of the Site, although concentrations of organics were reported below POS2 criteria. Suspected asbestos containing material (ACM) was visually identified at one location during the ground investigation, comprising a fragment of asbestos insulation board; laboratory analysis confirmed presence of chrysotile. Laboratory screening of Made Ground samples detected amosite asbestos in 6no. samples from across the Site, present as microscopic board fragments and fibre bundles at low concentrations (<0.001% to 0.006%). No exceedances of the relevant soil POS2 criteria were recorded for organic determinands, and the majority of inorganic determinands were also below relevant criteria with the exception of one slight exceedance for lead. Most samples recorded concentrations below the acute human health criteria, except for arsenic in one sample for a child. Slight exceedances for 4no. heavy metals and 2no. PAHs in the leachate analysis indicate a limited potential for contaminant mobilisation within the Made Ground. The slight impacts to the Made Ground are associated with anthropogenic material and hydrocarbon odours reported within the Made Ground. UXO mitigation measures will be needed. A limited number of determinands exceeded the criteria for PVC and PE pipework for potable water supply (EC10-EC16 aliphatic and aromatic hydrocarbons and total VOCs) and results were below the phytotoxicity criteria, except for zinc in 2no. samples.				
		Investigation and construction workers Direct / dermal contact. Ingestion / inhalation of soils.	Medium	Likely	**Moderate risk**	Proposed development will require earthworks. Potential for exposure including from asbestos during earthworks/ construction. Previously unidentified contamination could be present but unlikely to be gross or widespread. Period of exposure relatively limited. Standard health and safety precautions will be used. *Mitigation can be achieved by adoption of good construction practice and appropriate health and safety controls, including the control of asbestos (where encountered) in accordance with the Control of Asbestos Regulations 2012 and industry guidance. A watching brief for unexpected contamination and possible presence of below ground tanks should be maintained during earthworks.*
		Future site users / visitors Direct / dermal contact. Inhalation of contaminated dusts.	Mild	Likely	**Moderate/ low risk**	The proposed development comprises the creation of a public green space with a mix of soft and hard landscaping. Within soft landscaping areas, suitable thickness of imported soils will be required (from a geoenvironmental, geotechnical and horticultural perspective) with a permeable visual marker layer to demarcate the underlying soils. Site won soil to be re-used where possible below hard standing buildups and below marker layer in soft landscaping areas to meet geoenvironmental and geotechnical specifications. *Within soft landscaping areas, importation of suitable soil materials (thickness and quality) will be undertaken to meet geoenvironmental, geotechnical and horticultural requirements. Presence of marker layer and suitable material for soft landscaping areas will remove pathway for exposure across the Site area.*
		Off-site occupiers / visitors of neighbouring land Inhalation of contaminated dusts.	Mild	Low	**Low risk**	Potential for contaminated dusts during earthworks to migrate offsite. Site is located in an urban area with immediate surroundings comprising roads but with student accommodation from ~65m southwest. Limited potential for exposure to dusts generated via. earthworks and relatively limited period of exposure. Importation of chemically suitable soil above a marker layer as part of development reduces risk for contaminated dusts migrating off-site following construction to low. *Mitigation during construction can be achieved by the adoption of good construction practice, including the use of dust suppression measures and suitable management of spoil from excavations.*
		Buried concrete foundations Aggressive attack	Mild	Low	**Low risk**	Potential for aggressive attack to below ground concrete structures due to direct contact with aggressive ground conditions. *Mitigation can be achieved by use of appropriately specified below ground concrete with specification to be provided under separate cover.*
		Potable water supply Direct contact and permeation	Mild	Low	**Low risk**	New potable water supply pipework will be required to supply redeveloped site. Contamination profile suggests permeation of PE or PVC water supply could occur if laid in direct contact with existing Made Ground soils. *Risk is considered low as it is assumed that mitigation will be achieved by suitable material selection including use of barrier pipe materials, in agreement with the utility provider.*
		Flora Direct contact and root uptake.	Mild	Low	**Low risk**	Made Ground has some phytotoxic element; therefore, within soft landscaping areas, a suitable thickness of imported soils will be required from a geoenvironmental, geotechnical and horticultural perspective with a visual marker layer to demarcate the underlying soils. This approach will minimise the direct contact pathway between site soils and flora. *Risk is considered low as it is assumed that mitigation will be achieved by installing a marker layer and using imported soils in soft landscaping that are considered suitable for use (from a geoenvironmental, geotechnical and horticultural perspective).*
		Controlled waters (Principal aquifer – Chester formation sandstone) Migration via permeable strata and preferential pathways (e.g., earthworks)	Medium	Unlikely	**Low risk**	During earthworks and construction, there is potential for increased infiltration, and promotion of leaching from the Made Ground. Results of ground investigation indicate that leaching potential of Made Ground is limited and underlying natural strata is of low permeability, limiting potential downward migration of contaminants. Additionally, proposed development will not require excavation beyond Glacial Till for hardstanding or soft landscaping buildups or proposed shallow foundations e.g. for lighting columns, limiting preferential migration. Previously unidentified contamination could be present but unlikely to be gross or widespread. Some Made Ground likely to be removed as part of development, leading to betterment. Site is not within a Source Protection Zone and there are no local groundwater or active potable supply abstractions. *Mitigation is achieved by the ground conditions encountered with limited leaching potential from the Made Ground and low permeability of underlying natural material. Mitigation can be achieved by adoption of good construction practice (including management of stockpiles / excavations and temporary surface water drainage management during construction), and permanent surface water drainage strategy below raingardens and permeable paving during operation. A watching brief for unexpected contamination should be maintained during earthworks.*
		Controlled waters (River Medlock) Migration via, permeable strata, lateral migration and preferential pathways (e.g., earthworks)	Mild	Unlikely	**Low risk**	Potential for contaminated groundwater to migrate via drainage and surface run-off. Due to the distance of the River Medlock (126m south of the Site), risk is considered to be low. *Mitigation can be achieved by adoption of good construction practice (including management of stockpiles / excavations and temporary surface water drainage management during construction), and permanent surface water drainage strategy below raingardens and permeable paving during operation. A watching brief for unexpected contamination should be maintained during earthworks.*

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11 Risk Assessment Conclusions and Recommendations

11.1 Geoenvironmental Risk Assessment Summary

A ground investigation to assess contamination-related risks associated with the Pigeon Triangle Site was completed. The locations of the exploratory holes were positioned to provide general coverage of the site and to target potential sources of contamination identified by the desk study. The distribution of the exploratory holes is considered to provide a reasonable level of certainty with respect to ground conditions. The results from the investigation have been assessed in a Generic Quantitative Risk Assessment (GQRA) and with respect to industry standard values / using industry standard methodology.

Most risks to sensitive receptors (below ground concrete, potable water supply, flora, Principal Aquifer and buildings / structures) have been assessed as suitably low such that they can be mitigated by standard good construction or health and safety practice. The risks assessed as above Low are summarised in Table 13-1, and below which can be mitigated by adoption of the recommendations listed in Section 13.2.

- Without mitigation, there is a Moderate risk to construction workers due to the potential for exposure to Made Ground (including asbestos) and potential for encountering underground tanks during earthworks / construction; and
- Without mitigation, there is a Moderate / Low risk to future site users from inhalation and direct/dermal contact of site soils.

UXO mitigation measures as recommended in the UXO Mitigation Strategy will also be needed.

11.2 Geoenvironmental Recommendations

The following are recommended to mitigate the risks as identified in the geoenvironmental risk assessment:

- Development of a remediation strategy and verification plan (see from Section 12) to include:
    - Implementation of standard good construction practice, health and safety and environmental controls during construction (e.g., dust suppression, surface water management, suitable management of spoil from excavations);
    - Excavation of a trench (north-south) adjacent to the former garage to investigate potential underground fuel tanks from the historical garage;
    - Site won soil to be re-used where possible below hard standing buildups and below marker layer in soft landscaping areas to meet geoenvironmental, geotechnical and horticultural specifications;
    - Within soft landscaping areas, importation of a suitable thickness of imported soils to meet geoenvironmental, geotechnical and horticultural requirements with a visible marker layer to demarcate the underlying soils;
    - A watching brief for unexpected contamination during earthworks;
    - Suitable material selection including service trenches or use of barrier pipe materials, in agreement with the utility provider;
    - Use of appropriately specified below ground concrete; and
    - Implementation of UXO mitigation measures.

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12 Remedial Objectives and Options Appraisal

12.1 General

Based on the information to date, there are some potentially unacceptable risks to people, the natural and built environment associated with the proposed development of Pigeon Triangle relating to the presence of residual contamination as detailed in Section 11.1. This current section lists the relevant contaminant linkages, which are then addressed by a series of remedial objectives which are necessary to achieve safe development. Considerations are then given to the options available to meet those objectives, taking into account the nature of the development.

12.2 Remediation Objectives

As detailed above, there are potentially unacceptable risks to people associated with the presence of Made Ground and the potential for underground tanks associated with the former garage. This strategy aims to support the safe construction of the development without ground contamination giving rise to unacceptable risks to workers, neighbours and other off-site receptors, in accordance with the National Planning Policy [3]. The specific remedial objectives should address all of the significant contaminant linkages, defined in three categories; (i) contamination related, (ii) engineering related and (iii) management / amenity related. The engineering objectives will be met by the construction of the proposed development and the various geotechnical assessments and have not been considered further in this report.

12.2.1 Contamination Related Objectives

The contamination related objectives are;

- To minimise the potential for workers engaged in enabling works/ redevelopment to contamination in the soil at concentrations that could pose acute risks;
- To minimise the potential for site neighbours to be exposed to contamination in dusts during development at concentrations that could give rise to acute risks;
- To minimise the potential for future site users to be exposed to concentrations of contamination that could give rise to acute or chronic risks;
- To minimise the potential for contamination to migrate through infiltration or leaching into underlying soils or groundwater, where it could pose risks to controlled waters or off-site receptors;
- To minimise the potential for soils in areas of soft landscaping to not meet the appropriate physical, chemical and horticultural criteria to enable health/ growth of on-site plants; and
- To minimise the likelihood that the redeveloped site could be determined as “Contaminated Land”

12.2.2 Management and Amenity Related Objectives

The management and amenity related objectives are;

- To deliver the redeveloped site to time and budget;
- To integrate remediation with enabling works and development proposals;
- To support discharge of the relevant planning conditions;
- To minimise environmental impacts and ensure that “nuisance” effects to neighbours are mitigated to acceptably low levels;

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- To support that the remedial works undertaken are cost effective; and
- That spoil materials are subject to appropriate re-use or off-site removal / disposal.

12.3 Consideration of Remedial Options

12.3.1 General

For remediation projects, LCRM [4] advises that consideration should be given to the full range of remedial / design measures that are potentially capable of meeting the remedial objectives. Appraisal of these options is then carried out to determine which particular remediation options are feasible and likely to be effective for the particular site and circumstances under consideration (i.e. the development proposals and relevant pollutant linkages). A systematic review and evaluation of these options would then be carried out. There are three main types of control for achieving the remedial objectives. These comprise;

- Source control – the removal or treatment of the source(s) of contamination;
- Pathway control – (i) the construction of a barrier to prevent contact to contaminated materials by sensitive receptors. (ii) The construction of a barrier to prevent the migration of contamination to sensitive receptors; and
- Receptor control – restricting the presence / access of sensitive receptors to the source(s) of contamination.

The criteria by which remedial actions for each of these control systems are assessed can be summarised under three headings;

- Practicality – e.g., technicality, site, time, regulatory constraints
- Effectiveness – e.g., in achieving the remedial targets, and
- Durability – e.g., in remaining effective over the longer term.

However, it is recognised, that because of the nature of the proposed development (the creation of a public green space) and the incorporation of remediation into the enabling works, there are a relatively small range of suitable remedial actions capable or suitable for meeting the remediation objective identified above, all of which can be achieved by virtue of measures undertaken primarily for the purposes of the proposed development. Accordingly, no formal detailed evaluation of remedial options is required / appropriate for this site under the development proposals. This situation, where effectively there is only one feasible remediation option, is recognised by the guidance [4] which advises that in such circumstances a formal evaluation of "options" is not appropriate, and that consideration should be given to the broad practicalities of implementing the only plausible remediation strategy. That consideration is set out in the following chapters.

12.3.2 Particular issues for Pigeon Triangle

Most risks to sensitive receptors (below ground concrete, potable water supply, flora, Principal Aquifer and buildings / structures) have been assessed as suitably low such that they can be mitigated by standard good construction, design or health and safety practice.

The main residual issues are related to the presence of asbestos, albeit at low concentrations, and limited contaminants slightly exceeding relevant thresholds (POS2, phytotoxicity and EQS) within the Made Ground, as well as the potential for underground fuel storage tanks to be present. There are no practicable treatment methods capable of degrading asbestos, so mitigation will rely on pathway control during construction (i.e., implementation of enhanced construction and health and safety practices to prevent dust generation and potential exposure, and

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providing a marker layer above residual material) in combination with source control where necessary (i.e., picking of visible fragments of asbestos and appropriate excavation management). These measures are expected to reduce the risks associated with impacted Made Ground and unforeseen organic or inorganic contaminants encountered during development. Although no evidence both within the desk study or ground investigation has indicated the presence of underground tanks, it is considered prudent that during enabling works a trench adjacent to the garage is excavated to investigate their potential presence.

The specific remedial/ mitigation measures to be implemented are defined in Sections 13 and 14.

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13 Remediation Strategy

13.1 Remedial Design and Mitigation Measures

The following text provides the written method statement for the tasks required to meet the remedial objectives set out in Section 12. The receptors are addressed in order of the contaminant linkages described in Section 12.2.

13.2 Construction Workforce and Site Neighbours

The potential for dust inhalation (including asbestos fibres) by the construction workforce and site neighbours during the enabling ground works and subsequent below ground construction will be mitigated by the contractor adopting a combination of the measures detailed below. These measures should be reflected in the contractor's method statements, which should adhere to the requirements of the Control of Asbestos Regulations [20]. Additionally, the contractor should make specific reference to guidance relevant to the management of construction dusts – including those prepared by BRE [21] and HSE [22].

- Raising awareness of the potential for encountering contamination (including asbestos) amongst the construction workforce. This should include provision of a site induction and toolbox talks, with descriptions of the potential for and nature of potential contaminants and setting out the mitigation measures being implemented on site.
- Implementation of good construction practice and health and safety controls to prevent the generation of dusts. This should include the following, which should be reflected in subsequent relevant method statements.
    - Plan site layout. Machinery and dust causing activities should be located away from receptors as far as practicably possible.
    - Erect soil screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site.
    - Avoid site runoff of water or mud (discharge of wastewater from site generated during the redevelopment works must be done so under an approved discharge consent).
    - Damping down of stockpiles / excavations and removal of soil arisings as required. Stockpiled soil arising should be sheeted pending appropriate disposal.
    - Ensure vehicles entering and leaving site are securely covered to prevent escape of materials during transport.
- Proving an appropriate level of Personal Protective Equipment (PPE) and ensuring this is worn at all times. Supplementary PPE/RPE should be made available.
- Where required, use of competent personnel to guide excavations and stockpile management and identify and 'pick' visible ACM fragments as per the requirements and licences (if needed) required by the Control of Asbestos Regulations [20];
- Making plans and provisions for unforeseen contamination (see Section 13.3).

13.3 Unforeseen Contamination

The 2026 ground investigation did not identify the presence of widespread and / or gross contamination. However, there is a potential that unforeseen contamination and possible below ground tanks associated with the former garage that may be present beneath the Site which may be encountered during the planned below ground works. Nevertheless, potential risks can be mitigated by the adoption of the following procedures:

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- A 'watching brief' will be held by the contractor during excavation of the trench to investigate the presence of underground tanks and during general enabling and earthworks to involve periodic inspection, appropriately recorded in a site diary.
- The contractor's toolbox talk will alert the construction workforce to the potential for such unforeseen contamination. Encountering any such contamination will require immediate cessation of excavation and notification of the contractor's Site Manager and the Engineer.
- In the event of encountering unexpected contamination, an appropriately qualified environmental specialist from the Engineer will be contacted and will visit the site as soon as practicable. Proposals for any such action (investigation, analysis modelling, monitoring or remedial action, if appropriate) will be discussed and agreed with the Local Authority and / or Environment Agency prior to implementation.
- Any such action will be appropriately recorded and included in the Verification Report (see Section 15).

Where any dewatering of excavations and / or the discharge of surface waters are required during the redevelopment works, discharges of wastewater should be done so by lorry tanker or via foul water drainage under an approved discharge consent.

13.4 Future Site Users and Flora

The Site footprint will be occupied by a mix of soft and hard landscaping with soft landscaped areas consisting of tree, shrub and herbaceous planting areas, crevice and cascade gardens and sunken rain gardens. Hard landscape components are envisaged to comprise permeable paving, stepping stones, concrete legato blocks, steel bar edging and log benches. It is anticipated that material will be excavated up to 1.5 mbgl with the intention of reusing suitable material where possible.

The presence of hardstanding will effectively isolate future site users from underlying ground in those areas, therefore mitigating the potential for dust generation. Areas of soft landscaping will use imported 'clean', chemically suitable topsoil and sub-soil materials overlying a visible marker layer separating the imported soil with the underlying Made Ground. This is in part for horticultural reasons but will also act as part of an effective barrier between future site users and potential remaining underlying Made Ground. The particular requirements with respect to soft landscaping are detailed in Section 14.2.

13.5 Sub-Surface Concrete

The potential for aggressive attack on below ground concrete will be mitigated by designing the below ground concrete in accordance with BRE Special Digest [24]. The design will therefore take account of the ground conditions in classification of the Design Sulphate Class and the Aggressive Chemical Environment for Concrete (ACEC). Reference should be made to the assessment of the design of buried concrete provided under separate cover. Buried concrete within this area should abide with these parameters.

13.6 Potable Water Supply

The potential for contamination permeation of water supply pipework will be mitigated by selection of suitable pipework materials for the known ground conditions, based on Water UK [25] guidance and supplementary requirements of the water utility provider.

Based on the known site history, the encountered ground conditions and chemical data obtained during the ground investigation, it is likely that Polyethylene (PE) and / or copper pipework will not be suitable if potable water supply pipework is to be laid in existing Made Ground soils. If pipework is to be laid in existing Made Ground, barrier pipe materials are likely to be required unless prior agreement with the water supply company is obtained. Notwithstanding

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this assessment, it is the responsibility of the contractor to apply for the new water supply connection and agree the material selection with the utility provider.

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14 Earthworks and Soft Landscaping

14.1 Earthworks

14.1.1 General

As summarised in Section 2.10, a UXO Risk Mitigation Strategy [9] was completed which concluded there to be a Low risk but that mitigation measures would be needed for any intrusive work including site investigation and main construction works. For the enabling and earthworks for this project, an Emergency Response Plan, Safety Awareness Briefings for on-site personnel and an on-call EOD Engineer will be required.

14.1.2 Obstructions

The Ground Investigation identified sub-surface obstructions within the eastern portion of the Site, including reinforced concrete slabs, corbelled brick foundations and potential service ducting, which are reflective of the historical developments on Site (see Section 5.3 for detail). Due to these obstructions, the extent of Made Ground could not be proven within TP02.

The following will be undertaken to facilitate the removal of below ground obstructions and enable formation levels to be completed for the proposed development:

- Site strip of 0.6m bgl (on both western and eastern portions of the site) to remove surface obstructions, identify potential unexpected contamination and to provide levels for suitable buildups;
- Excavation in the vicinity of TP02 to investigate and remove obstructions to depth necessary to enable development (see Appendix A Constraints and Remediation Plan for location);
- Excavation of a 1m wide trench excavated to 1m bgl in a north–south strip adjacent to the former garage to investigate the potential for the presence of underground tanks (see Appendix A Constraints and Remediation Plan for location).

Photographs and logs with measurements will be required before removal, to record such features and to delineate the extent, size and orientation of the previous building foundations, other historic obstructions or redundant buried structures.

14.1.3 Made Ground

Made Ground arisings will be produced during the development e.g., from site strip and/or from arisings from local excavation (e.g., from service trenches, rain garden areas). These arisings will be subject to re-use on Site if suitable or to off-site treatment/ disposal at an appropriately licensed and permitted facility.

The preliminary waste classification undertaken as part of the 2026 Ground Investigation reported that the majority of Made Ground intended to be discarded from the Site is likely to be classified as non-hazardous with some as hazardous waste. Although, this is to be assessed and confirmed by contractor prior to disposal in accordance with Waste Management Legislation [18].

Made Ground impacted by visible ACM and ACM fibres (following confirmatory testing against criteria set out in Appendix G) will require segregation and, if considered unacceptable, taken for separate disposal/treatment accordingly. In line with current good practice, where appropriate, these waste streams will be separated on excavation while confirmatory testing is carried out. This will ensure correct classification and disposal / treatment of any hazardous materials. It is the earthworks contractor's responsibility, in association with the operator and / or owner of the landfill to classify and record any such materials for disposal in line with current regulation and guidance. Waste

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classification and landfill Waste Acceptance Criteria (WAC) leachate testing should be undertaken prior to disposal to landfill to meet the requirements of the disposal facilities licence. All disposal tickets should be retained for inclusion within the final Verification Report.

Made Ground derived from Site excavations during enabling works which meets the re-use standards set out in in Appendix G can be re-used on Site. No Made Ground shall be reused above the marker layer within the soft landscaping areas. Only suitable imported topsoil that meets the relevant chemical, geotechnical and horticultural requirements as set out in Appendix G will be used in soft landscaping buildups. During the works, the risks of potential asbestos containing material becoming airborne will be mitigated by on-Site controls such as dust suppression and appropriate PPE/RPE. If 'pickable' asbestos fragments are identified, they will be picked by competent and trained personnel, removed, double bagged and placed into a clearly labelled covered skip (or similar), prior to off-site disposal to an appropriately licensed facility by a competent and licenced contractor. This will be defined in the Contractors Method Statement and will be in accordance with the Control of Asbestos Regulations 2012 and industry guidance.

It is the earthwork contractor's responsibility, in association with the operator and / or owner of the landfill to classify the materials for disposal in line with current guidance. All disposal tickets should be retained for inclusion within the final Verification Report.

14.1.4 Natural strata

There is potential for spoil arisings of natural material to be generated from limited deeper excavations that may be required (e.g., substructures or proposed sunken rain gardens). This material, provided it has not been impacted by unforeseen contamination from the overlying Made Ground, would be classified as Inert and chemically suitable for re-use either on or off-site (subject to geotechnical suitability and appropriate certification). Only suitable imported topsoil and subsoil that meets the relevant chemical, geotechnical and horticultural requirements, as set out in Appendix G will be used in soft landscaping.

14.1.5 Re-use of Site Won Materials for Earthworks Purposes

Soils subject to re-use for earthworks purposes must be suitable for use in that given location and be managed and placed in accordance with the Earthworks Specification (provided under separate cover) and a Materials Management Plan (MMP) as undertaken by the Principal Contractor. Only suitable site-won material that meets the relevant chemical requirements for material re-use, as set out in Appendix G will be re-used on Site.

14.1.6 Sampling and Testing Regime for Imported Aggregates

Chemical testing on non-natural imported soil / aggregate materials will be undertaken at a rate of one sample per 250m^3 or five samples per source (whichever is greater). Analysis will be undertaken for the determinands detailed in Appendix G. No such chemical testing is required on natural "primary" aggregate.

14.2 Soft Landscaping

14.2.1 Clean Cover System

Soft landscaping proposals includes tree, shrub and herbaceous planting at ground level and within cascade, crevice and rain gardens. Site-won Made Ground is considered unsuitable as a topsoil or subsoil (i.e., likely not complying with the physical and chemical parameters set out in this specification) and therefore will not be re-used on Site in soft landscaped areas.

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An appropriate thickness of imported topsoil/subsoil will be required within soft landscaping areas, primarily for horticultural/ landscaping reasons. Imported soils must comply with the physical, chemical or horticultural properties set out in Appendix G, in addition to any suitability requirements set out by the landscape architect.

Where areas of soft landscaping are to be placed over residual Made Ground, a high visibility separation layer (i.e., a highly visible geotextile) will be required below imported soil above. This will act as a visual barrier, separating the existing Site soils from the chemically suitable soils used for the soft landscaping.

Existing Made Ground soils are unlikely to meet the criteria for landscaping purposes and will not be re-used above the marker layer in landscaped areas. However, site-won materials, where suitable, may be used below the marker layer to create formation levels. The horticultural specification will define the thickness requirement for imported soils.

14.3 Imported material

Imported topsoil must comply with the requirements from a landscape architect and / or the British Standards 3882:2015 [26] as a multipurpose soil (as set out in Table 1 of the standard). The soil should be a clay loam as defined in Figure 1 of the standard. The soil is to have a defined granular or blocky structure and be free from non-soil material i.e., brick, other building materials, wastes, hydrocarbons, plant matter, roots, rhizomes of perennial weeds and any other foreign matter or material of substance that would render to topsoil unsuitable for use.

For the protection of human health, imported topsoil and sub-soil will comply with the parameters set out below. In addition to the requirements from the British Standard, the horticultural specialist will set out a specification for depths, any additional parameters relating to soil quality and suitability for use from a landscaping perspective. The maximum permissible "average" concentration for imported soil material are set out in Appendix G. In the first instance the values have been derived from the Category 4 Screening Levels [27] however, if the LQM Suitable for Use Levels [28] or phytotoxic values [26] are lower than the C4SL then these have been adopted. Elevated concentrations of hydrocarbons are not anticipated in imported sub-soil and topsoil materials. However, in the event that elevated concentrations of Total Petroleum Hydrocarbons are recorded (i.e., above the 1000mg/kg set out in Appendix G), then speciated TPH CWG testing will be undertaken to determine if the materials are suitable. The thresholds for this additional testing are detailed in Table F-2.

14.4 Sampling and Testing Regime For Topsoil / Subsoil

Topsoil material imported from off-site sources can be tested at source and prior to import, allowing the suitability of the material to be confirmed prior to transport to site and placement. Topsoil will also be tested in-situ for verification purposes. In-situ testing will be at a frequency of one sample per 250m^3 or a minimum of five samples per source (whichever is greater). This data will supplement any chemical batch data provided by the topsoil supplier. The depth of the samples will be dependent upon the thickness of the subsoil / topsoil at the location but typically for a 300mm thick topsoil samples would be taken at 0-150mm; and 200-300mm – commensurate with the nature of the material, its homogeneity and the overall frequency of 1 sample per 250m^3.

If in-situ testing shows that some areas of topsoil fail the criteria (i.e., average concentration exceed thresholds), the contractor will be required to either carry out further testing to demonstrate compliance or to excavate and remove the non-compliant soils and replace them with fresh imported topsoil. Further sampling of the fresh imported material will then be required to confirm suitability. Non-compliant material will be determined on the basis of the average values (mean or 90% confidence interval as appropriate) for each batch / source topsoil. Exceedance of this average would either result in rejection of that material and its removal and replacement with compliant material or in further testing to confirm non-compliance and / or delineate any particular contaminant 'hotspot'. The potential for non-compliance will be reduced by the contractor obtaining data from the supplier prior to importation.

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15 Verification plan

15.1 General

The Verification Report will be prepared on completion of relevant works and will comply with relevant Environment Agency guidance [29]. The objective of the report is to provide authoritative documentary evidence of the remedial works and enable discharge of the relevant planning conditions. The report will describe the remediation objectives, the techniques or processes employed and the verification / monitoring data in succinct text supported by as-built drawings, figures, photographs etc.

15.2 Verification Report Process

It is anticipated that completion of earthworks, soft landscaping, and handover will be at a similar time. The Verification Report will therefore combine both Groundworks and Landscaping. This will be prepared in accordance with LCRM [4] and other relevant guidance [29] and will describe the activities or information / data requirements necessary to demonstrate achievement of the remedial objectives.

15.2.1 Groundworks

The objective of this section is to provide authoritative documentary evidence of the remedial works undertaken during the enabling groundworks. It will provide evidence that:

- Planning / permit / license conditions have been met; and
- Environmental management goals have been met.

The records will comprise:

- The collection of relevant information available from existing reports;
- Review of Contractor's site records;
- Periodic site inspections by the Engineer, with review of any data and assessment in relation to the completed construction; and
- Details of remedial works undertaken and liaison with the local authority where required.

15.2.2 Water Supply Pipework

PE and PVC pipes may not be suitable, therefore barrier pipes or clean backfilled trenches should be used for new water supply pipework. This should be agreed with the local water authority prior to installation.

15.2.3 Below Ground Concrete

Below ground concrete should conform with the geotechnical assessment and Earthworks Specification (provided under separate cover).

15.2.4 Waste Disposal Data

Waste Acceptance Criteria (WAC) testing will be required to characterise Site soils and inform on correct disposal pathway to landfill. Subsequently relevant haulage / disposal tickets will be kept throughout the duration of works and made available on request. The Verification Report will contain a record of materials removed from site, including

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where the material arose from (e.g. in-situ location), volumes of excavated material, waste classification supported by chemical testing certificates, relevant haulage tickets and disposal site reference.

15.2.5 Landscaping

The objective of this section is to provide authoritative documentary evidence of the final landscape works and would be prepared towards the end of the construction period to coincide with placement of soft landscaping. This section will describe the verification data for the imported soils in succinct text, supported by as-built drawings, figures, photographs etc. The source data will accompany this text as Appendices to the final report. The scope of works will comprise:

- Review of the landscape drawings;
- Examination of total volumes of topsoil and subsoil and records of the sources;
- Confirmation of installation of high visibility marker layer;
- Validation of topsoil thickness as required by the landscape architect; and
- Review of the chemical data in soil from confirmatory testing to confirm its suitability for use and meets specification requirements.

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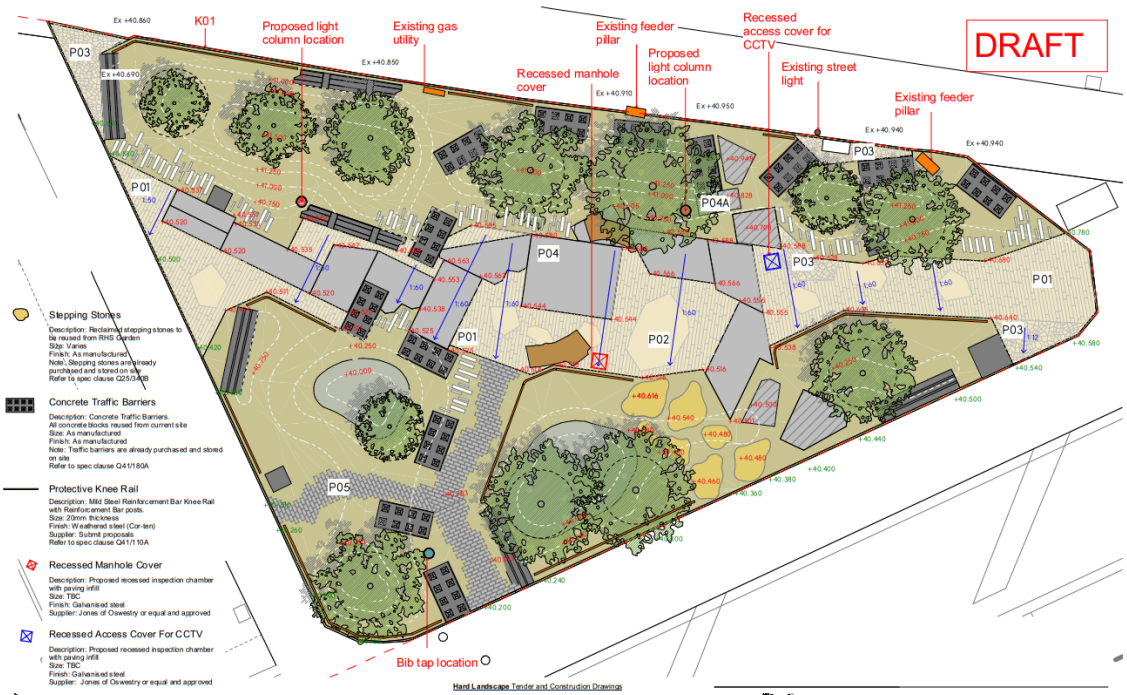
Appendix A Relevant Drawings

A.1 Landscape General Arrangement

A.2 Constraints and Remediation Plan

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DRAFT



Key

- Planning boundary
- +0.000 Proposed levels
- +0.000 Proposed levels from S278 works. Levels to be confirmed on site following completion of external works
- Ex +00.000 Existing levels
- 1:6.0 Proposed falls

Hard Landscape

P01 — Paving Type 01
Description: Natural Stone Plank Paving
Size: Random lengths - min 200mm, max. 600mm with joints staggered by minimum 75 mm in a random arrangement
Finish: Sawn surface
Supplier: Hardscape
Refer to spec clause Q25/310A

P02 — Paving Type 02
Description: Natural Stone off-cut specials
Size: Large and special Woodkirk Natural Stone offcuts.
Finish: As selected mostly sawn as per manufacturing process
Size: Sizes and shape vary depending on off-cuts of stone selected.
Hardscape to confirm appearance and finish prior to selection.
Supplier: Hardscape
Refer to spec clause Q25/310B

P03 — Paving Type 03
Description: Mosaic paving offcuts from Woodkirk Sett Production
Size:Irregular shape and sizes, no smaller than 50mm, no larg er than 150mm, depths to be 100mm as sawn.
Finish: Sawn surface, cut or broken edges as sourced from sett production or unit cutting.Hardscape to confirm appe arance and finish prior to selection.
Supplier: Hardscape
Refer to spec clause Q25/310C

P04 — Paving Type 04
Description: Reclaimed concrete slabs to be reused from RHS Garden.
Size: As drawn
Finish: As manufactured
Note: Concrete slabs are already purchased and stored on site
Refer to spec clause Q25/345A

P04A — Paving Type 04A
Description: Reclaimed concrete slabs to be reused from RHS Garden. To be cut to size shown on plan.
Size: As drawn
Finish: As manufactured
Note: Concrete slabs are already purchased and stored on site
Refer to spec clause Q25/345B

P05 — Paving Type 05
Description: Stone cobbles reclaimed from beneath macadam road surface & stored on site following S278 works.
Size: As manufactured
Finish: As manufactured
Refer to spec clause Q25/340A

Paving Type 06
Description:
Large and special Woodkirk Natural Stone offcuts.
100mm thick - special sizes
Laid on edge within soft landscaping - unsawn profile as decorative face. Minimum upstand 150mm
Unsawn profile as decorative face. Sizes and shape vary depending on off-cuts of stone selected.
Hardscape to confirm appearance and finish prior to selection.
Supplier: Hardscape
Refer to spec clause Q25/310D

K01 — Kerb Type 01
Description: Woodkirk Flush Pin Kerb
Size: 50 x 150 x 915 mm
Finish: Sawn surface finish
Supplier: Hardscape
Refer to spec clause Q10/120A

ED01 — Edge Type 01
Description: Rigid Metal Edge – finish 25mm below top of stone
Size: Thickness 4mm. Unit Length 2500mm
Finish: Hot Dipped Galvanised
Refer to spec clause Q10/200A

Stepping Stones
Description: Reclaimed stepping stones to be reused from RHS Garden
Size: Varies
Finish: As manufactured
Note: Stepping stones are already purchased and stored on site
Refer to spec clause Q25/340B

Concrete Traffic Barriers
Description: Concrete Traffic Barriers.
All concrete blocks reused from current site
Size: As manufactured
Finish: As manufactured
Note: Traffic barriers are already purchased and stored on site
Refer to spec clause Q41/180A

Protective Knee Rail
Description: Mild Steel Reinforcement Bar Knee Rail with Reinforcement Bar posts.
Size: 20mm thickness
Finish: Weathered steel (Cor-ten)
Supplier: Submit proposals
Refer to spec clause Q41/110A

Recessed Manhole Cover
Description: Proposed recessed inspection chamber with paving infill
Size: TBC
Finish: Galvanised steel
Supplier: Jones of Oswestry or equal and approved

Recessed Access Cover For CCTV
Description: Proposed recessed inspection chamber with paving infill
Size: TBC
Finish: Galvanised steel
Supplier: Jones of Oswestry or equal and approved

Furniture Type 01 - Timber Benches
Description: Timber benches to be reused from RHS Garden
Size: As manufactured
Finish: As manufactured
Note: Timber benches are already purchased and stored on site

Furniture Type 02 - Lighting Columns
Description: Proposed lighting column. To match lighting columns located in Mayfield Park.
Size: 5m high
Finish: RAL 7021
Supplier: Fagerhult

Bib Tap
Description: Recessed bib tap
Size: TBC
Material: Galvanised Steel
Finish: Powder-coated colour to match RAL colour of lighting columns.
Refer to spec clause Q50/390B

Existing Feeder Pillars
Description: Existing Feeder Pillars to be retained

Existing Street Lights
Description: Existing Street Lights to be retained

Soft Landscape

Semi-mature Tree Planting
Rootballed and guyed trees
Refer to detailed planting plans 0424-SEW-ZZ-ZZ-DR-L-00103 & 0424-SEW-ZZ-ZZ-DR-L-001104 for further details.All proposed trees reused from RHS Garden.

Planted Areas
Shrub and herbaceous planting. Refer to detailed planting plans 0424-SEW-ZZ-ZZ-DR-L-001103 & 0424-SEW-ZZ-ZZ-DR-L-001104 for further details.

Sunken rain garden / swale
Seasonally wet and dry with planting designed to tolerate these conditions. Refer to detailed planting plans 0424-SEW-ZZ-ZZ-DR-L-001103 & 0424-SEW-ZZ-ZZ-DR-L-001104 for further details.

Hard Landscape Tender and Construction Drawings

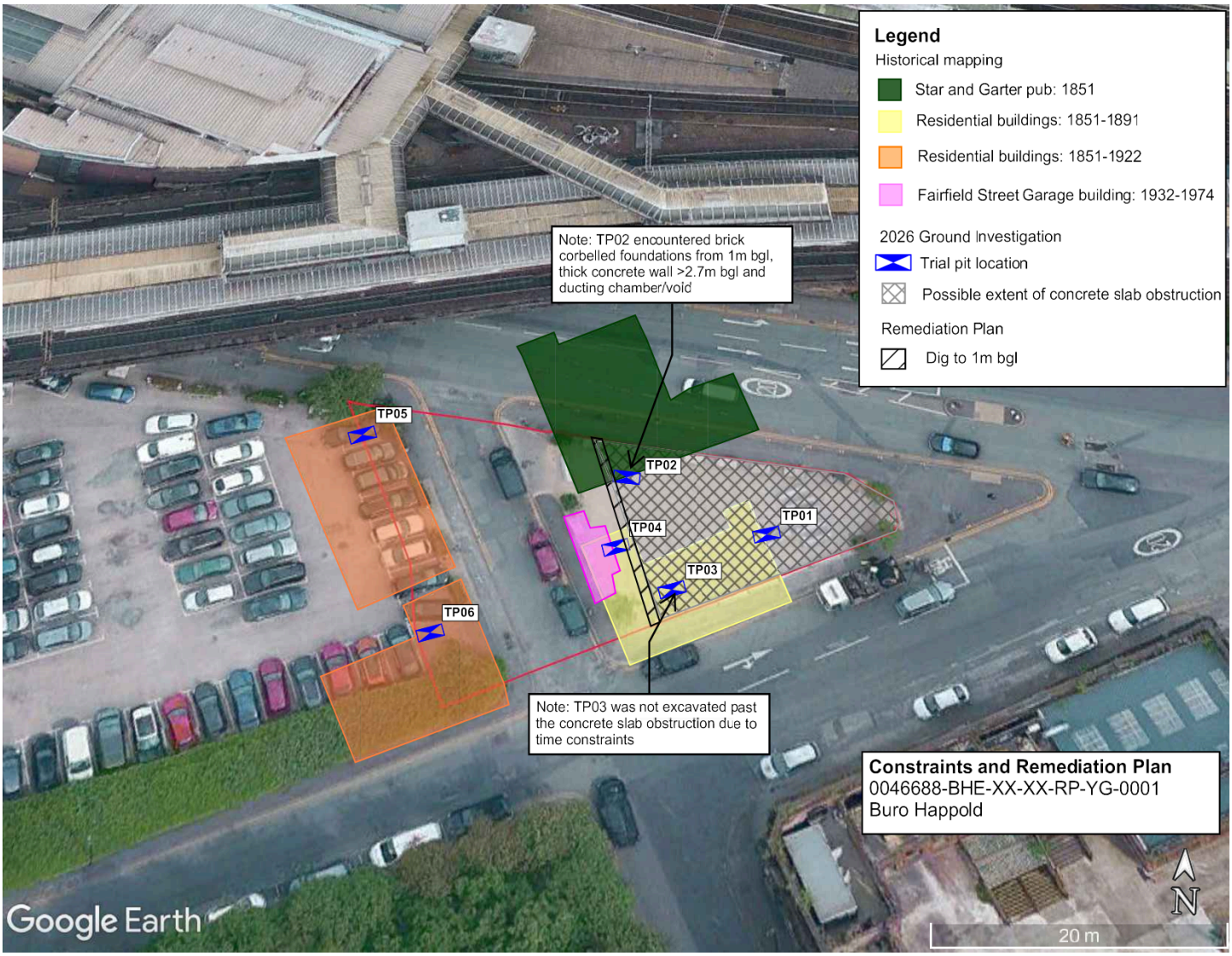
TENDER GENERAL NOTES:

1. Do not scale from this drawing
2. Dwgs not to be scaled. Used dimensioned measurements only. Contractor to check and confirm.
3. Allsetting out, levels and dimensions to be agreed on site. Any conflicts found within the complete set of drawings and existing site conditions must be reported to the principal consultant immediately. All discrepancies must be reported to and resolved by the Landscape architect before any orders are made.
4. The dimensions of all materials must be checked on site before being laid out.
5. This drawing must be read with the relevant specification clauses and detail drawings.
6. Order of construction and setting out to be agreed on site.
7. AllDimensions are in millimetres unless Otherwise Stated
8. Alldimensions are to finished surface levels
9. Services are present in the area.Contractor to establish the precise line and Depth of all services prior to commencing any excavation works.
10. Allstructural concrete/ building work to Engineer's/Architect's details & dwgs
11. Allwaterproofing and protection layers to Engineer's/Architect's details & dwgs
12. Allsub-surface build-ups to Engineer's details
13. Where indicated Design Intent – Contractor is to submit drawings and schedules in accordance with the designated code of practice and to satisfy the performance criteria specified in the Hard Landscaping Specification.
14. Alldiscrepancies must be reported to and resolved by the Landscape Architect before works commence
15. Allworks and materials to be in accordance with current applicable statutory legislation and to comply with all relevant Codes of Practice & British Standards.
16. This drawing is copyright protected and may not be reproduced in whole or part without written authority.
17. This drawing is not for Construction and is to be used for Tender only

Studio Egret West
3 Brewhouse Yard
London, EC1V 4JQ
hello@egretwest.com
+44 (0) 20 7549 1730

0 5m
@ 1:100

Drawing No:	**0424-SEW-ZZ-ZZ-DR-L-001102**		
Project Name:	**Mayfield Threshold**		
Title:	**Landscape General Arrangement Sheet 2**		
Status:	**Stage 5**		
Date:	**20/02/26**	**Project No:**	**0424-**
Drawn by:	**SH**	**Scale @A3:**	**As indicated**
Comments:			


Legend
Historical mapping
Star and Garter pub: 1851
Residential buildings: 1851-1891
Residential buildings: 1851-1922
Fairfield Street Garage building: 1932-1974
2026 Ground Investigation
Trial pit location
Possible extent of concrete slab obstruction
Remediation Plan
Dig to 1m bgl
Note: TP02 encountered brick corbelled foundations from 1m bgl, thick concrete wall >2.7m bgl and ducting chamber/void
Note: TP03 was not excavated past the concrete slab obstruction due to time constraints
TP01
TP02
TP03
TP04
TP05
TP06
Constraints and Remediation Plan
0046688-BHE-XX-XX-RP-YG-0001
Buro Happold
Google Earth
N
20 m

Appendix B Trial Pit Logs

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Trial Pit Log

Trialpit No: **TP01**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384947.00 - 397730.00	Date 14/01/2026
Location: Manchester, UK		Dimensions (m): Depth 2.32 — 0.42 × 2	Scale 1:25
Client:		Level:	Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.17			MADE GROUND: Type 1 comprising gravels of angular to subangular fine to coarse limestone fragments over Type 2 comprising dark brown loose slightly clayey sandy GRAVEL. Gravels comprise angular to subangular fine to coarse fragments of brick, coal, ceramic and clinker. PID at 0.1 mbgl = 4ppm
				0.42			Reinforced concrete slab underlain by brick.
	0.50	B					MADE GROUND: Brown slightly clayey sandy GRAVEL. Gravel is angular to sub angular fine to medium comprising brick, clinker, ceramics and slate. Pockets of black, soft, oily material with hydrocarbon odour. PID at 0.5 mbgl = 4.6ppm
	0.50	D					
	0.50	ES		0.80			
	1.00	D					MADE GROUND: Firm, dark brown, fine to coarse slightly gravelly CLAY with angular to sub angular fragments of brick and ashy clinker. Pockets of black, soft, oily material with hydrocarbon odour. PID at 1 mbgl = 2.9ppm
	1.00	ES					
			HVR=116				
			HVR=88				
			HVR=92	1.30			Firm, dark brown, mottled grey CLAY. PID at 2 mbgl = 4.9ppm
			HVR=106				TILLD
			HVR=128				
			HVR=84				
	2.00	ES					
	2.00	LB					
			HVR=138				
			HVR=140				
			HVR=140	2.32			End of pit at 2.32 m

Remarks: Terminated on confirmation of natural ground.

Stability:

Trial Pit Log

Trialpit No: **TP02**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384934.00 - 397734.00 Level:	Date 15/01/2026
Location: Manchester, UK		Dimensions (m): 2.34 x 0.46 Depth 2.70	Scale 1:25
Client:			Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10			MADE GROUND: Type 1 comprising gravels of angular to subangular limestone fragments.
	0.30	ES		0.32			MADE GROUND: Type 2 comprising dark brown loose slightly clayey sandy GRAVEL. Gravels comprise angular to subangular fine to coarse fragments of brick, coal, ceramic and clinker. Possible ACM fragment at 0.3mbgl - laboratory analysis confirmed chrysotile cement. PID at 0.2 mbgl = 0.0ppm
	0.60	B		0.50			Reinforced concrete slab underlain by brick.
	0.60	ES					Rubble fill in a reddish brown sand matrix. Rubble fragments include medium to boulder size fragments of concrete, limestone and brick. Occasional plastic, glass and clinker and infrequent coal. Brick corbelled foundations from 1.13 mbgl and 1.4m deep void (likely redundant service duct) at 1.6mbgl. At 2.5 mbgl, pocket of black, soft, oily material with strong hydrocarbon odour. PID at 0.6 mbgl = 2.5ppm. PID at 1.5 mbgl = 0.4. PID at 2.5 mbgl = 7.4 ppm.
	1.50	ES					
	1.50	LB					
	2.50	B					
	2.50	ES		2.70			End of pit at 2.70 m

Remarks: Terminated due to encounter of multiple obstructions.

Stability:

Trial Pit Log

Trialpit No: **TP03**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384940.00 - 397727.00 Level:	Date 14/01/2026
Location: Manchester, UK		Dimensions (m): 2 × 0.42 Depth 0.12	Scale 1:25
Client:			Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.12			MADE GROUND: Type 1 comprising gravels of angular to subangular limestone fragments over Type 2 comprising dark brown loose slightly clayey sandy GRAVEL. Gravels comprise angular to subangular fragments of brick, coal, ceramic and clinker. End of pit at 0.12 m

Remarks: Terminated on encounter of concrete obstruction.

Stability:

Trial Pit Log

Trialpit No: **TP04**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384936.00 - 397729.00	Date 14/01/2026
Location: Manchester, UK		Dimensions (m): 2.54 × 0.45	Scale 1:25
Client:		Depth 2.05	Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	B		0.08			MADE GROUND: Type 1 comprising gravels of angular to subangular limestone fragments.
	0.10	ES					MADE GROUND: Type 2 comprising dark brown loose slightly clayey sandy GRAVEL. Gravels comprise angular to subangular, medium to cobble sized fragments of brick, coal, ceramic, clinker, plastic, wood and glass. PID at 0.1 mbgl = 3.5ppm.
	0.50	ES	HVR=48 HVR=68 HVR=72	0.46			MADE GROUND: Stiff, dark brown, gravelly CLAY. Gravel is ashy angular to subangular fine to medium brick, concrete and ceramic fragments. Frequent brick boulders. Pockets of black, soft, oily material with hydrocarbon odour. Water seepage at 1.05 mbgl noted to have oily sheen. PID at 0.5 mbgl = 41.2ppm. PID at 1 mbgl = 7.2 ppm.
	1.00	D					
	1.00	ES					
	1.00	LB	HVR=102 HVR=88 HVR=98				
	1.50	B		1.45			Firm, dark brown, mottled grey CLAY. PID at 2 mbgl = 45.3ppm. TILLD
	1.50	ES	HVR=118 HVR=122 HVR=130				
			HVR=138 HVR=140 HVR=140	2.05			End of pit at 2.05 m

Remarks: Terminated on confirmation of natural ground.

Stability:

Trial Pit Log

Trialpit No: **TP05**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384912.00 - 397738.00 Level:	Date 15/01/2026
Location: Manchester, UK		Dimensions (m): 2.46 x 0.44 Depth 1.76	Scale 1:25
Client:			Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.08			MADE GROUND: TARMACADAM
	0.20 0.20	B ES					MADE GROUND: Dark greyish black, slightly clayey gravelly SAND. Gravel is subangular fine to coarse limestone and brick with cobbles. Sand is coarse. Occasional roots and glass, ceramic and wood fragments. PID at 0.2 mbgl = 0.1 ppm
			HVR=140 HVR=140 HVR=140	0.43			MADE GROUND: Brown, stiff gravelly CLAY. Gravel is fine to coarse and ashy. Frequent brick and occasional wood fragments. PID at 0.5 mbgl = 0.0ppm.
	0.50 0.50	D ES					
			HVR=120 HVR=130 HVR=132	1.03			Stiff dark brown mottled grey silty CLAY with occasional subangular to rounded fine stones. PID at 1.5 mbgl = 0.0ppm TILLD
	1.50 1.50	ES LB					
			HVR=122 HVR=126 HVR=140	1.76			End of pit at 1.76 m

Remarks: Terminated on confirmation of natural ground.

Stability:

Trial Pit Log

Trialpit No: **TP06**
Sheet 1 of 1

Project Name: Mayfield Pigeon Triangle	Project No. 046688	Co-ords: 384919.00 - 397720.00	Date 15/01/2026
Location: Manchester, UK		Dimensions (m): 2.38 × 0.42	Scale 1:25
Client:		Depth 2.70	Logged EM

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05	ES		0.08			MADE GROUND: TARMACADAM. PID at 0.05 mbgl = 0.0 ppm
	0.20	B					MADE GROUND: Loose dark greyish black sandy GRAVEL. Gravels comprise subangular medium to coarse fragments and cobbles of limestone, granite and brick. PID at 0.2 mbgl = 0.1ppm.
	0.20	D		0.32			
	0.20	ES		0.40			MADE GROUND: Coarse yellow sand SUBBASE.
	0.50	ES					MADE GROUND: Dark reddish brown sandy GRAVEL. Gravels comprise subangular medium to coarse fragments of limestone, brick, concrete and ceramics. PID at 0.5 mbgl = 0.1 ppm.
	0.50	LB	HVR=36 HVR=42 HVR=42	0.60			
				0.69			MADE GROUND: Soft orangey brown mottled grey silty CLAY.
	1.00	B		0.89			MADE GROUND: Reddish brown cobbles of brick and concrete and coarse sand bound by a weakly cemented matrix
	1.00	ES	HVR=20 HVR=44 HVR=68				MADE GROUND: Soft orangey brown mottled grey silty CLAY. PID at 1 mbgl = 0.0ppm
			HVR=20 HVR=40 HVR=62	1.68			Stiff dark brown mottled grey silty CLAY with occasional subangular to rounded fine stones. PID at 2 mbgl = 0.1ppm. TILLD
	2.00	ES	HVR=72 HVR=80 HVR=84				
			HVR=120 HVR=128 HVR=138	2.70			End of pit at 2.70 m

Remarks: Terminated on confirmation of natural ground.

Stability:

Appendix C Contamination Risk Assessment Criteria

Introduction

A risk-based approach is used for the assessment of contamination, requiring identification of a contaminant source, a receptor and a realistic pathway via which the contaminant may reach the receptor. The key receptors considered in this assessment are site end-users, construction workers and controlled waters. In order to perform a generic quantitative risk assessment, the soil test results have been compared with available Category 4 Screening Levels (C4SLs), SoBRA Acute Generic Assessment Criteria (AGAC), BuroHappold and other industry Generic Assessment Criteria (GAC).

As noted in the SP1010 document for the development of C4SL (Reference. 1), *where a valid Soil Guideline Value (SGV) exists for a contaminant where a C4SL has also been derived, it is anticipated that risk assessors will use the C4SL in line with the Part 2A Statutory Guidance.*

In the absence of a suitable C4SL, risk assessors should identify and select appropriate generic assessment criteria in accordance with established good practice. It is for the Environment Agency to decide whether or not the Soil Guideline Values will be updated in the light of more recent toxicological data or whether a particular Soil Guideline Value should be withdrawn (as has already been the case with the SGV for lead).

General Contaminants – Chronic Risk

Analytical data derived from the investigation has been put into context by comparison with published guidance or derived thresholds values. Current UK guidance published thresholds for long term (chronic) exposure comprise C4SLs, which are available for a limited number of determinands (Reference. 1 to Reference. 6) and land uses. For contaminants without published C4SLs or where soil conditions are different to those assumed for the published guideline values (6% soil organic matter content and sandy loam soil), GACs have been derived. The derivation of GACs has been carried out with consideration of the most sensitive receptors in the respective CLEA standard land-uses scenarios (the 0 to 6 year old child for the residential with plant uptake ($Resi_1$) and residential without plant uptake ($Resi_2$) scenarios and the adult for the commercial/ industrial land-use scenario) using the software model "CLEA 1.071" and associated handbook (Reference. 7). In the absence of SGV reports, contaminant specific input values have been selected as suggested by SC050021/SR7 (Reference. 8) and / or the LQM reports (Reference. 9) and/or the EIC/AGS report (Reference. 10).

Cyanide

Assessment criteria for cyanide is based on the GAC derived using the methodology above using published statutory guidance documents.

Lead

Assessment criteria for lead have been adopted as derived and detailed in the C4SL documents.

Nickel

Following the report by the European Food Safety Authority (EFSA) in February 2015 (Reference. 11) the Environment Agency withdrew the Soil Guideline Value (SGV) for nickel.

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Mercury

Assessment criteria for mercury is based on the published S4UL (Reference. 9), these have been produced for elemental, inorganic and methyl mercury. Inorganic mercury is the most common form of mercury in the environment. It is recommended by the Environment Agency that elemental and methyl mercury are used as thresholds where the Desk Study has identified a potential source otherwise inorganic mercury should be used. Concentrations of elemental mercury will also be considered where concentrations are notably higher than 'natural' background concentrations (e.g. 20mg/kg).

Chromium

Assessment criteria for chromium is based on the published threshold C4SL and LQM value (Reference. 2 and Reference. 9) and have been produced for chromium III (trivalent) and chromium VI (hexavalent). Chromium III is the most common form of chromium in the environment, chromium VI is produced by the oxidation of chromium III through industrial processes. Therefore chromium VI should only be assessed where the Desk Study has identified a potential source otherwise chromium III should be used.

Acute Exposure

For acute risks to human health, soil results will be assessed using the SoBRA Acute Generic Assessment Criteria (AGAC) (Reference. 12). These AGACs have been derived for seven determinands: arsenic, benzene, cadmium, free cyanide, phenol, trichloroethylene (TCE) and vinyl chloride (VC). Lead was also considered but due to the limited toxicological data available, no threshold was determined. The exposure scenarios modelled are:

- General public exposure (or trespasser) via a single large dose (or potentially sum of several smaller doses over a short duration) of a 1-2 year old female child (averaged across ages of 0-6 years).
- Occupational exposure of female adult commercial/industrial worker exposed to contaminated soil during their work, such as construction, utility, site investigation or remediation worker over the working day.

Acute exposure has been defined and modelled based on an irregular (i.e. not repeated) exposure of up to 24 hours duration based on the assumption lasting for 30 minutes or less.

For determinands other than the 7 modelled by SoBRA, maximum concentrations (not the average concentration which is relevant to chronic / long term risk) were considered. Comparison of maximum concentrations are made with the other C4SLs, GACs and other screening values which provides a conservative benchmark for such short term risks (as the values are based on long term exposure).

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Appendix References

Reference. 1. Department for Environment, Food and Rural Affairs. 2014. SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document. March 2014.

Reference. 2. Contaminated Land: Applications in Real Environments. 2013 SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report. 20th December 2013.

Reference. 3. Contaminated Land: Applications in Real Environments. 2021. Category 4 Screening Levels: Tetrachloroethene (PCE)

Reference. 4. Contaminated Land: Applications in Real Environments. 2021. Category 4 Screening Levels: Trichloroethene (TCE)

Reference. 5. Contaminated Land: Applications in Real Environments. 2021. Category 4 Screening Levels: Vinyl Chloride

Reference. 6. Contaminated Land: Applications in Real Environments. 2022. Category 4 Screening Levels: 1,2-Dichloroethane

Reference. 7. Environment Agency 2015. CLEA Software (Version 1.071), Retrieved from the internet: https://www.gov.uk/government/publications/contaminated-land-exposure-assessment-clea-tool

Reference. 8. Environment Agency. 2008. Science report SC050021/SR7 - Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values. Bristol: Environment Agency.

Reference. 9. LQM/CIEH. 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, Nottingham.

Reference. 10. Environmental Industries Commission (EIC), The Association of Geotechnical and Geoenvironmental Specialists (AGS) and Contaminated Land: Applications in Real Environments (CL:AIRE), Soil Generic Assessment Criteria for Human Health Risk Assessment, January 2010.

Reference. 11. European Food Safety Authority (EFSA), 2015. Scientific Opinion on the Public Health Risks from the Presence of Nickel in Food and Drinking Water. EFSA Journal 2015;13(2):4002.

Reference. 12. SoBRA. 2020 (Version 2) Development of Acute Generic Assessment Criteria for Assessing Risks to Human Health from Contaminants in Soil.

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Appendix D Soil Chemical Assessment

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Project Pigeon Triangle
Project Number 46688
Date Feb-2026

Asbestos

Asbestos Screen	No. Sampl	No. samples detected	No. samples ND	% of samples detect
	11	6	5	54.55
Asbestos Quantification	No. Quant	No. samples <0.001%	No. samples >0.001% <0.01 %	No. samples >0.01%
	6	1	5	0

Human Health

Soil Organic Matter 1%
N/A = no screening criteria available

No. samples exceeding

		Residential with Uptake	Public Open Space 1	Public Open Space 2	Residential with Uptake	Public Open Space 1	Public Open Space 2	No Test	No <LOD	Min	Max	Location of Maximum
Cyanide	mg/kg	46	N/A	N/A				13	11	0.10	0.60	TP04 0.10mbgl
Free Cyanide	mg/kg	46	N/A	N/A				2	2			
Arsenic	mg/kg	37	79	168		1	1	14		1.00	120.00	TP01 1.00mbgl
Barium	mg/kg	N/A	N/A	N/A				14		21.00	860.00	TP04 0.10mbgl
Beryllium	mg/kg	1.7	2.2	63	1			14	1	0.80	1.90	TP06 0.20mbgl
Boron	mg/kg	290	21000	46000				14	3	0.20	1.30	TP02 2.50mbgl
Cadmium	mg/kg	26	120	532				14		0.10	7.80	TP01 0.50mbgl
Chromium	mg/kg	910	1500	33000				14		7.10	24.00	TP06 0.20mbgl
Copper	mg/kg	2400	12000	44000				14		9.00	110.00	TP06 0.50mbgl
Lead	mg/kg	200	630	1300	1	1	1	14		11.00	1400.00	TP04 0.10mbgl
Mercury (inorganic)	mg/kg	40	120	240								
Nickel	mg/kg	130	230	800				14		4.80	35.00	TP06 0.20mbgl
Selenium	mg/kg	250	1100	1800				14	13	0.60	0.60	TP06 0.20mbgl
Vanadium	mg/kg	410	2000	5000				14		15.00	50.00	TP06 0.20mbgl
Zinc	mg/kg	3700	81000	170000				14		31.00	510.00	TP04 0.10mbgl
TPH	mg/kg	N/A	N/A	N/A				14	7	23.00	1400.00	TP06 0.05mbgl
Benzene	mg/kg	0.087	72	90				13	13			
Toluene	mg/kg	130	56000	87000				13	13			
Ethyl Benzene	mg/kg	47	24000	17000				13	13			
m/p Xylenes	mg/kg	56	41000	17000								
o Xylenes	mg/kg	60	41000	17000								
Xylenes	mg/kg	56	41000	17000				13	13			
MTBE	mg/kg	N/A	N/A	N/A								
Naphthalene	mg/kg	2.3	4900	1200				14	9	0.17	0.87	TP06 1.00mbgl
Acenaphthylene	mg/kg	170	15000	29000				14	12	0.17	0.40	TP04 0.10mbgl
Acenaphthene	mg/kg	210	15000	29000				14	8	0.42	1.80	TP06 1.00mbgl
Fluorene	mg/kg	170	9900	20000				14	8	0.56	1.60	TP04 0.10mbgl
Phenanthrene	mg/kg	95	3100	6200				14	7	0.98	11.00	TP04 0.10mbgl
Anthracene	mg/kg	2400	74000	150000				14	8	0.31	2.20	TP04 0.10mbgl
Fluoranthene	mg/kg	280	3100	6300				14	7	1.80	18.00	TP01 0.50mbgl
Pyrene	mg/kg	620	7400	15000				14	7	1.30	19.00	TP01 0.50mbgl
Benzo(a)anthracene	mg/kg	7.2	29	49	1			14	7	0.60	8.80	TP01 0.50mbgl
Chrysene	mg/kg	15	57	93				14	7	0.49	8.60	TP01 0.50mbgl
Benzo(b)fluoranthene	mg/kg	2.6	7.1	13	1			14	7	0.36	7.00	TP01 0.50mbgl
Benzo(k)fluoranthene	mg/kg	77	190	370				14	7	0.22	3.80	TP01 0.50mbgl
Benzo(a)pyrene	mg/kg	2.2	5.7	11	6	2		14	7	0.50	9.50	TP01 0.50mbgl
Indeno(123-cd)pyrene	mg/kg	27	82	150				14	7	0.45	6.70	TP01 0.50mbgl
Dibenz(ah)anthracene	mg/kg	0.24	0.57	1.1	4	1		14	7	0.12	0.64	TP01 0.50mbgl
Benzo(ghi)perylene	mg/kg	320	640	1400				14	7	0.27	5.30	TP01 0.50mbgl
Total USEPA 16 PAHs	mg/kg	N/A	N/A	N/A				14	7	7.40	96.00	TP01 0.50mbgl
Aliphatic C5 - C6	mg/kg	42	570000	95000				14	14			
Aliphatic C6 - C8	mg/kg	100	60000	150000				14	14			
Aliphatic C8 - C10	mg/kg	27	13000	14000				14	14			
Aliphatic C10 - C12	mg/kg	130	13000	21000				14	14			
Aliphatic C12 - C16	mg/kg	1100	13000	25000				14	11	4.10	12.00	TP02 2.50mbgl
Aliphatic C16 - C21	mg/kg	65000	250000	450000				14	6	2.70	19.00	TP02 2.50mbgl
Aliphatic C21 - C35	mg/kg	65000	250000	450000				14	8	8.90	380.00	TP06 0.05mbgl
Total Aliphatic	mg/kg	N/A	N/A	N/A				14	7	23.00	380.00	TP06 0.05mbgl
Aromatic C5 - C7	mg/kg	70	56000	76000				14	14			
Aromatic C7 - 8	mg/kg	130	56000	87000				14	14			
Aromatic C8 - C10	mg/kg	34	5000	7200				14	14			
Aromatic C10 - 12	mg/kg	74	5000	9200				14	14			
Aromatic C12 - C16	mg/kg	140	5000	10000				14	13	1.00	1.00	TP02 0.20mbgl
Aromatic C16 - C21	mg/kg	260	3800	7600				14	10	1.40	15.00	TP02 0.20mbgl
Aromatic C21 - C35	mg/kg	1100	3800	7800				14	9	32.00	1000.00	TP06 0.05mbgl
Total Aromatic	mg/kg	N/A	N/A	N/A				14	9	35.00	1000.00	TP06 0.05mbgl
Total Aliphatic and Aro	mg/kg	N/A	N/A	N/A				14	7	23.00	1400.00	TP06 0.05mbgl
Phenol	mg/kg	380	1300	1300				13	12	0.30	0.30	TP04 0.10mbgl
1,2-dichloroethane (DCA)	mg/kg	0.018	29	20				13	13			
tetrachloroethylene (PCE)	mg/kg	0.8	1400	1300				13	13			
carbon tetrachloride, tetrachlor	mg/kg	0.13	950	400				13	13			
trichloroethylene, trichloroeth	mg/kg	0.072	120	120				13	13			
vinyl chloride, chloroethylene	mg/kg	0.0014	3.5	4.8				13	13			
PCB28 + PCB 31	mg/kg	0	0	0								
PCB52	mg/kg	0	0	0								
PCB101	mg/kg	0	0	0								
PCB118	mg/kg	0	0	0								
PCB153	mg/kg	0	0	0								
PCB138	mg/kg	0	0	0								
PCB180	mg/kg	0	0	0								
PCB7 Total	mg/kg	0	0	0								

Appendix E Soil Leachate Chemical Assessment

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Soil Leachate Chemical Assessment

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	Threshold Values			Number of exceedences			Summary			
Determinand	World Health Organisation (WHO) Drinking Water Guidelines 2017 (Refs 3 & 6) Potable	Environmental Quality Standards 2015 (Refs 2, 4 & 5) AA or Long Term (Mean) Fresh	Water Supply Regulations 2018 (Ref 1) Potable	World Health Organisation (WHO) Drinking Water Guidelines 2017 (Refs 3 & 6) Potable	Environmental Quality Standards 2015 (Refs 2, 4 & 5) AA or Long Term (Mean) Fresh	Water Supply Regulations 2018 (Ref 1) Potable	Total tests	Total <LoD	Maximum concentration	Location of maximum concentration
pH			6.5 - 9.0							
Conductivity (uS/cm at 20 degrees centigrad			2500							
Dissolved Oxygen										
BOD										
Total Dissolved Solids										
Hardness										
Ammoniacal Nitrogen (NH4+ & NH3 as N)		200			0					
Ammonia (NH3 as N i.e. unionised)										
Ammonium (as NH4+)			500							
Nitrate (NO3-)	50000		50000	0						
Nitrite (NO2-)	3000		500	0						
Chloride		250000			0					
Sulphate		400000			0					
Cyanide	70	1	50	0	0	0	5	5		
Mercury	6		1	0		0	5	3	0.25	TP02
Arsenic	10	50	10	0	0	0	5	0	4.07	TP02
Barium	1300			0			5	0	32.74	TP04
Beryllium							5	1	0.28	TP05
Boron	2400	2000	1000	0	0	0	5	2	65.52	TP01
Cadmium (Class 1)[1]	3	0.08	5	0	0	0	5	4	0.06	TP02
Cadmium (Class 2)[2]	3	0.08	5	0	0					
Cadmium (Class 3)[3]	3	0.09	5	0	0					
Cadmium (Class 4)[4]	3	0.15	5	0	0					
Cadmium (Class 5)[5]	3	0.25	5	0	0					
Chromium (III)		4.7			0					
Chromium (VI)		3.4			0					
Chromium (total)	50		50	0		0	5	0	8.04	TP04
Copper	2000	1	2000	0	5	0	5	0	7.73	TP02
Lead	10	1.2	10	2	5	2	5	0	34.26	TP02
Nickel	70	4	20	0	3	0	5	0	5.68	TP05
Selenium	40		10	0		0	5	5		
Vanadium (<200mg/L CaCO3)		20			0		5	0	9.95	TP04
Vanadium (>200mg/L CaCO3)		60			0					
Zinc		10.9			4		5	0	30.89	TP02
Naphthalene		2			0		5	3	0.08	TP06
Acenaphthene							5	3	0.03	TP06
Acenaphthylene							5	3	0.04	TP02
Fluoranthene		0.0063			5		5	0	0.16	TP02
Anthracene		0.1			0		5	3	0.02	TP02
Phenanthrene							5	0	0.08	TP06
Fluorene							5	3	0.02	TP06
Chrysene							5	2	0.09	TP02
Pyrene							5	0	0.23	TP02
Benzo(a)anthracene							5	1	0.1	TP02
Benzo(b)fluoranthene							5	1	0.19	TP02
Benzo(k)fluoranthene							5	2	0.07	TP02
Benzo(a)pyrene	0.7	0.00017	0.01	0	4	3	5	1	0.17	TP02
Dibenzo(a,h)anthracene							5	3	0.03	TP02
Benzo(g,h,i)perylene							5	2	0.12	TP02
Indeno(1,2,3-cd)pyrene							5	2	0.11	TP02
PAH, Total Detected USEPA 16							5	2	1.4	TP02
Sum of UK DWS four[6]			0.1							
Methyl tertiary butyl ether (MTBE)	15			0						
Benzene	10	10	1	0	0					
Toluene	700	74		0	0					
Ethylbenzene	300	20		0	0					
m,p-Xylene										
o-Xylene										
Sum of o,m,p Xylenes	500	30		0	0					
Sum of detected BTEX										
Aliphatics >C5-C6										
Aliphatics >C6-C8										
Aliphatics >C8-C10										
Aliphatics >C10-C12										
Aliphatics >C12-C16										
Aliphatics >C16-C21										
Aliphatics >C21-C35										
Total Aliphatics >C12-C35										
Aromatics >EC5-EC7										
Aromatics >EC7-EC8										
Aromatics >EC8-EC10										
Aromatics >EC10-EC12										
Aromatics >EC12-EC16										
Aromatics >EC16-EC21										
Aromatics >EC21-EC35										
Total Aromatics >EC12-EC35										
Total Aliphatics & Aromatics >C5-35										
Phenol		7.7			0					
Tetrachloroethylene (PCE)	40	10		0	0					
Tetrachloroethane (TCA)		140			0					
Tetrachloromethane			3							
Trichloroethylene (TCE)	20	10		0	0					
1,2-Dichloroethylene (DCE)	50			0						
1,2 - Dichloroethane (DCA)	30	10	3	0	0					
Dichloromethane	20	20		0	0					
Trichloromethane/chloroform		2.5			0					
Pentachlorophenol (PCP)	9	0.4		0	0					
2,4-Dichlorophenol		4.2			0					
Vinyl choride (VC)	0.3		0.5	0						
Carbon tetrachloride / tetrachloromethane	4	12		0	0					
Sum of PCE and TCE			10							
Tributyl tin (cation)		0.0002			0					
Perfluorooctane sulfonic acid and its derivatives (PFOS)		0.00065			0					

Appendix F Preliminary Waste Classification

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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.

X7T46-43S24-FINE7

Report is invalid if pages are removed.

Job name

Pigeon Triangle

Description/Comments

Project

046688

Site

Mayfield Pigeon Triangle, Manchester

Classified by

Name:
Emma McGugan
Date:
16 Feb 2026 11:53 GMT
Telephone:
01225 320600

Company:
Buro Happold
Camden Mill
230 Lower Bristol Road
Bath
BA23DQ

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

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	03 Apr 2025

Next 3 year Refresher due by Apr 2028

Purpose of classification

2 - Material Characterisation

Address of the waste

Land to the southeast of Manchester Piccadilly Train Station. 53°28'33.99"N 2°13'42.91"W **Post Code** M1 2AD

SIC for the process giving rise to the waste

41100 Development of building projects

Description of industry/producer giving rise to the waste

Redevelopment of existing carpark and unused land.

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

Waste created during enabling works for proposed development.

Description of the waste

Made Ground and underlying shallow superficials.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01	0.50	Hazardous	HP 8	3
2	TP01[2]	1.00	Non Hazardous		6
3	TP01[3]	2.00	Non Hazardous		9
4	TP02	0.20	Non Hazardous		12
5	TP02[2]	0.60	Non Hazardous		15
6	TP02[3]	2.50	Non Hazardous		18
7	TP04	0.10	Hazardous	HP 7	21
8	TP04[2]	0.50	Non Hazardous		24
9	TP04[3]	1.50	Non Hazardous		27
10	TP05	0.50	Non Hazardous		30
11	TP06	0.05	Non Hazardous		33
12	TP06[2]	0.20	Non Hazardous		35

Related documents

#	Name	Description
1	2022 Geoff	waste stream template used to create this Job

Report

Created by: Emma McGugan

Created date: 16 Feb 2026 11:53 GMT

Appendices	Page
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Classification of sample: TP01

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

Sample details

Sample name:
TP01
Sample Depth:
0.50 m
Moisture content:
9.9%
(no 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 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH (conc.: 11.6 pH)

Determinands

Moisture content: 9.9% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.002 mg/kg		0.002 mg/kg	0.0000002 %		
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.3 mg/kg	1.32	6.998 mg/kg	0.0007 %		
3		barium { barium oxide }		215-127-9	1304-28-5		230 mg/kg	1.117	256.796 mg/kg	0.0257 %		
4		beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.3 mg/kg	2.775	0.833 mg/kg	0.0000833 %		
5		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.3 mg/kg	3.22	4.186 mg/kg	0.000419 %		
6		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		7.8 mg/kg	1.142	8.91 mg/kg	0.000891 %		
7		chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				10 mg/kg	2.27	22.7 mg/kg	0.00227 %		
8		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19 mg/kg	1.126	21.392 mg/kg	0.00214 %		
9		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	74 mg/kg		74 mg/kg	0.0074 %		
10		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.31 mg/kg	1.353	0.42 mg/kg	0.000042 %		

#	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
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.6	mg/kg	2.976	28.572	mg/kg	0.00286 %		
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		16	mg/kg	1.785	28.563	mg/kg	0.00286 %		
14	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		500	mg/kg	2.085	1042.261	mg/kg	0.104 %		
15	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				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<LOD
16	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20	TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
21	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	acenaphthene		201-469-6	83-32-9		0.47	mg/kg		0.47	mg/kg	0.000047 %		
24	fluorene		201-695-5	86-73-7		0.61	mg/kg		0.61	mg/kg	0.000061 %		
25	phenanthrene		201-581-5	85-01-8		5.8	mg/kg		5.8	mg/kg	0.00058 %		
26	anthracene		204-371-1	120-12-7		1.8	mg/kg		1.8	mg/kg	0.00018 %		
27	fluoranthene		205-912-4	206-44-0		18	mg/kg		18	mg/kg	0.0018 %		
28	pyrene		204-927-3	129-00-0		19	mg/kg		19	mg/kg	0.0019 %		
29	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		8.8	mg/kg		8.8	mg/kg	0.00088 %		
30	chrysene	601-048-00-0	205-923-4	218-01-9		8.6	mg/kg		8.6	mg/kg	0.00086 %		
31	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		7	mg/kg		7	mg/kg	0.0007 %		
32	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		3.8	mg/kg		3.8	mg/kg	0.00038 %		
33	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		9.5	mg/kg		9.5	mg/kg	0.00095 %		
34	indeno[123-cd]pyrene		205-893-2	193-39-5		6.7	mg/kg		6.7	mg/kg	0.00067 %		
35	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.64	mg/kg		0.64	mg/kg	0.000064 %		
36	benzo[ghi]perylene		205-883-8	191-24-2		5.3	mg/kg		5.3	mg/kg	0.00053 %		

#		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									
37		pH				11.6	pH		11.6	pH	11.6 pH		
				PH									
38		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
39		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
40		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
41		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
42		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
43		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.159 %		

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 Determinand - 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: TP01[2]

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

Sample details

Sample name:
TP01[2]
Sample Depth:
1.00 m

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: None

#	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		120 mg/kg	1.32	158.439 mg/kg	0.0158 %		
2	barium { barium oxide }		215-127-9	1304-28-5		130 mg/kg	1.117	145.146 mg/kg	0.0145 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7 mg/kg	2.775	1.943 mg/kg	0.000194 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.3 mg/kg	3.22	4.186 mg/kg	0.000419 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				17 mg/kg	2.27	38.59 mg/kg	0.00386 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	31.525 mg/kg	0.00315 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	12 mg/kg		12 mg/kg	0.0012 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23 mg/kg	2.976	68.454 mg/kg	0.00685 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		22 mg/kg	1.785	39.274 mg/kg	0.00393 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		52 mg/kg	2.085	108.395 mg/kg	0.0108 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.1 mg/kg	1.884	<0.188 mg/kg	<0.0000188 %		<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									
15		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17	*	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	*	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
20		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21	*	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
22	*	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
23	*	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
24	*	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
25	*	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
26	*	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
27	*	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33	*	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35	*	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
36	*	pH				9	pH		9	pH	9pH		
				PH									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38	*	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
41		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
42		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									

#		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							
								Total:	0.0608 %		

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: TP01[3]

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

Sample details

Sample name:	LoW Code:	
TP01[3]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
2.00 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: None

#	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		7	mg/kg	1.32	9.242	mg/kg	0.000924 %		
2	barium { barium oxide }		215-127-9	1304-28-5		110	mg/kg	1.117	122.816	mg/kg	0.0123 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7	mg/kg	3.22	2.254	mg/kg	0.000225 %		
5	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 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				19	mg/kg	2.27	43.13	mg/kg	0.00431 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	11	mg/kg		11	mg/kg	0.0011 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26	mg/kg	2.976	77.383	mg/kg	0.00774 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		23	mg/kg	1.785	41.059	mg/kg	0.00411 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		60	mg/kg	2.085	125.071	mg/kg	0.0125 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<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
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
20	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	fluorene		201-695-5	86-73-7		0.83	mg/kg		0.83	mg/kg	0.000083 %		
24	phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	fluoranthene		205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	pyrene		204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35	benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
36	pH			PH		8.8	pH		8.8	pH	8.8 pH		
37	phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
38	1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
41	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
42	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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							
								Total:	0.046 %		

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 Determinand - 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: TP02

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

Sample details

Sample name:
TP02
Sample Depth:
0.20 m

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: None

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.001 mg/kg		0.001 mg/kg	0.0000001 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17 mg/kg	1.32	22.446 mg/kg	0.00224 %		
3	barium { barium oxide }		215-127-9	1304-28-5		290 mg/kg	1.117	323.787 mg/kg	0.0324 %		
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.5 mg/kg	2.775	1.388 mg/kg	0.000139 %		
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		5.8 mg/kg	3.22	18.675 mg/kg	0.00187 %		
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	2.17 mg/kg	0.000217 %		
7	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				18 mg/kg	2.27	40.86 mg/kg	0.00409 %		
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		66 mg/kg	1.126	74.309 mg/kg	0.00743 %		
9	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	240 mg/kg		240 mg/kg	0.024 %		
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2.4 mg/kg	1.353	3.248 mg/kg	0.000325 %		
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19 mg/kg	2.976	56.549 mg/kg	0.00565 %		
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		23 mg/kg	1.785	41.059 mg/kg	0.00411 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		92	mg/kg	2.085	191.776	mg/kg	0.0192 %		
15		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				0.1	mg/kg	1.884	0.188	mg/kg	0.0000188 %		
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20		TPH (C6 to C40) petroleum group			TPH		130	mg/kg		130	mg/kg	0.013 %		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		0.27	mg/kg		0.27	mg/kg	0.000027 %		
22		acenaphthylene		205-917-1	208-96-8		0.69	mg/kg		0.69	mg/kg	0.000069 %		
23		acenaphthene		201-469-6	83-32-9		0.37	mg/kg		0.37	mg/kg	0.000037 %		
24		fluorene		201-695-5	86-73-7		17.8	mg/kg		17.8	mg/kg	0.00178 %		
25		phenanthrene		201-581-5	85-01-8		8.5	mg/kg		8.5	mg/kg	0.00085 %		
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		9.9	mg/kg		9.9	mg/kg	0.00099 %		
28		pyrene		204-927-3	129-00-0		12	mg/kg		12	mg/kg	0.0012 %		
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		5.2	mg/kg		5.2	mg/kg	0.00052 %		
30		chrysene	601-048-00-0	205-923-4	218-01-9		5.2	mg/kg		5.2	mg/kg	0.00052 %		
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.6	mg/kg		3.6	mg/kg	0.00036 %		
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		2.1	mg/kg		2.1	mg/kg	0.00021 %		
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		5.5	mg/kg		5.5	mg/kg	0.00055 %		
34		indeno[123-cd]pyrene		205-893-2	193-39-5		3.5	mg/kg		3.5	mg/kg	0.00035 %		
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.43	mg/kg		0.43	mg/kg	0.000043 %		
36		benzo[ghi]perylene		205-883-8	191-24-2		2.7	mg/kg		2.7	mg/kg	0.00027 %		
37		pH			PH		9.3	pH		9.3	pH	9.3 pH		
38		phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
39		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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									
40		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
41		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
42		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
43		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.122 %		

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 Determinand - 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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.013%)

Classification of sample: TP02[2]

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

Sample details

Sample name:	LoW Code:	
TP02[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.60 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: None

#	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		7	mg/kg	1.32	9.242	mg/kg	0.000924 %		
2	barium { barium oxide }		215-127-9	1304-28-5		110	mg/kg	1.117	122.816	mg/kg	0.0123 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.5	mg/kg	2.775	1.388	mg/kg	0.000139 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.8	mg/kg	3.22	2.576	mg/kg	0.000258 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				15	mg/kg	2.27	34.05	mg/kg	0.0034 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	25.895	mg/kg	0.00259 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	52	mg/kg		52	mg/kg	0.0052 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.39	mg/kg	1.353	0.528	mg/kg	0.0000528 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		20	mg/kg	2.976	59.525	mg/kg	0.00595 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		24	mg/kg	1.785	42.844	mg/kg	0.00428 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		79	mg/kg	2.085	164.677	mg/kg	0.0165 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<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
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
20	naphthalene	601-052-00-2	202-049-5	91-20-3		0.83	mg/kg		0.83	mg/kg	0.000083 %		
21	acenaphthylene		205-917-1	208-96-8		1.3	mg/kg		1.3	mg/kg	0.00013 %		
22	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	phenanthrene		201-581-5	85-01-8		8.6	mg/kg		8.6	mg/kg	0.00086 %		
25	anthracene		204-371-1	120-12-7		1.5	mg/kg		1.5	mg/kg	0.00015 %		
26	fluoranthene		205-912-4	206-44-0		6.9	mg/kg		6.9	mg/kg	0.00069 %		
27	pyrene		204-927-3	129-00-0		7.3	mg/kg		7.3	mg/kg	0.00073 %		
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.7	mg/kg		2.7	mg/kg	0.00027 %		
29	chrysene	601-048-00-0	205-923-4	218-01-9		2.7	mg/kg		2.7	mg/kg	0.00027 %		
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.6	mg/kg		1.6	mg/kg	0.00016 %		
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1	mg/kg		1	mg/kg	0.0001 %		
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.6	mg/kg		2.6	mg/kg	0.00026 %		
33	indeno[123-cd]pyrene		205-893-2	193-39-5		1.7	mg/kg		1.7	mg/kg	0.00017 %		
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.18	mg/kg		0.18	mg/kg	0.000018 %		
35	benzo[ghi]perylene		205-883-8	191-24-2		1.2	mg/kg		1.2	mg/kg	0.00012 %		
36	pH			PH		10.1	pH		10.1	pH	10.1 pH		
37	phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
38	1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
41	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
42	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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							
								Total:	0.0556 %		

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 Determinand - 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: TP02[3]

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

Sample details

Sample name:
TP02[3]
Sample Depth:
2.50 m

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: None

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.3 mg/kg	1.32	10.959 mg/kg	0.0011 %		
3	barium { barium oxide }		215-127-9	1304-28-5		100 mg/kg	1.117	111.651 mg/kg	0.0112 %		
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.4 mg/kg	2.775	1.11 mg/kg	0.000111 %		
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.3 mg/kg	3.22	4.186 mg/kg	0.000419 %		
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
7	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				15 mg/kg	2.27	34.05 mg/kg	0.0034 %		
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	31.525 mg/kg	0.00315 %		
9	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	50 mg/kg		50 mg/kg	0.005 %		
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.34 mg/kg	1.353	0.46 mg/kg	0.000046 %		
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15 mg/kg	2.976	44.644 mg/kg	0.00446 %		
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		25 mg/kg	1.785	44.63 mg/kg	0.00446 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		93	mg/kg	2.085	193.86	mg/kg	0.0194 %		
15		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				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<LOD
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20		TPH (C6 to C40) petroleum group			TPH		40	mg/kg		40	mg/kg	0.004 %		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		0.98	mg/kg		0.98	mg/kg	0.000098 %		
26		anthracene		204-371-1	120-12-7		0.31	mg/kg		0.31	mg/kg	0.000031 %		
27		fluoranthene		205-912-4	206-44-0		1.8	mg/kg		1.8	mg/kg	0.00018 %		
28		pyrene		204-927-3	129-00-0		1.3	mg/kg		1.3	mg/kg	0.00013 %		
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.6	mg/kg		0.6	mg/kg	0.00006 %		
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.49	mg/kg		0.49	mg/kg	0.000049 %		
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.36	mg/kg		0.36	mg/kg	0.000036 %		
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.22	mg/kg		0.22	mg/kg	0.000022 %		
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.5	mg/kg		0.5	mg/kg	0.00005 %		
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.45	mg/kg		0.45	mg/kg	0.000045 %		
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.12	mg/kg		0.12	mg/kg	0.000012 %		
36		benzo[ghi]perylene		205-883-8	191-24-2		0.27	mg/kg		0.27	mg/kg	0.000027 %		
37		pH			PH		10.6	pH		10.6	pH	10.6 pH		
38		phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
39		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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									
40	tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
41	carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
42	trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
43	vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
									Total:	0.0575 %		

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 Determinand - 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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.004%)

Classification of sample: TP04

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

Sample details

Sample name:	LoW Code:	
TP04	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.10 m	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:

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

Determinands

Moisture content: None

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.002 mg/kg		0.002 mg/kg	0.0000002 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
3	barium { barium oxide }		215-127-9	1304-28-5		860 mg/kg	1.117	960.195 mg/kg	0.096 %		
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7 mg/kg	2.775	1.943 mg/kg	0.000194 %		
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.2 mg/kg	3.22	7.084 mg/kg	0.000708 %		
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.713 mg/kg	0.000171 %		
7	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				23 mg/kg	2.27	52.21 mg/kg	0.00522 %		
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		52 mg/kg	1.126	58.546 mg/kg	0.00585 %		
9	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	1400 mg/kg		1400 mg/kg	0.14 %		
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2.1 mg/kg	1.353	2.842 mg/kg	0.000284 %		
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		17 mg/kg	2.976	50.597 mg/kg	0.00506 %		

#	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
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		27	mg/kg	1.785	48.2	mg/kg	0.00482 %		
14	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		510	mg/kg	2.085	1063.106	mg/kg	0.106 %		
15	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				0.6	mg/kg	1.884	1.13	mg/kg	0.000113 %		
16	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20	TPH (C6 to C40) petroleum group			TPH		60	mg/kg		60	mg/kg	0.006 %		
21	naphthalene	601-052-00-2	202-049-5	91-20-3		0.49	mg/kg		0.49	mg/kg	0.000049 %		
22	acenaphthylene		205-917-1	208-96-8		0.4	mg/kg		0.4	mg/kg	0.00004 %		
23	acenaphthene		201-469-6	83-32-9		1.1	mg/kg		1.1	mg/kg	0.00011 %		
24	fluorene		201-695-5	86-73-7		1.6	mg/kg		1.6	mg/kg	0.00016 %		
25	phenanthrene		201-581-5	85-01-8		11	mg/kg		11	mg/kg	0.0011 %		
26	anthracene		204-371-1	120-12-7		2.2	mg/kg		2.2	mg/kg	0.00022 %		
27	fluoranthene		205-912-4	206-44-0		13	mg/kg		13	mg/kg	0.0013 %		
28	pyrene		204-927-3	129-00-0		17	mg/kg		17	mg/kg	0.0017 %		
29	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		6.8	mg/kg		6.8	mg/kg	0.00068 %		
30	chrysene	601-048-00-0	205-923-4	218-01-9		7.2	mg/kg		7.2	mg/kg	0.00072 %		
31	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		4.9	mg/kg		4.9	mg/kg	0.00049 %		
32	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		2.9	mg/kg		2.9	mg/kg	0.00029 %		
33	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		7.1	mg/kg		7.1	mg/kg	0.00071 %		
34	indeno[123-cd]pyrene		205-893-2	193-39-5		4.5	mg/kg		4.5	mg/kg	0.00045 %		
35	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.43	mg/kg		0.43	mg/kg	0.000043 %		
36	benzo[ghi]perylene		205-883-8	191-24-2		3.4	mg/kg		3.4	mg/kg	0.00034 %		
37	pH			PH		8.8	pH		8.8	pH	8.8 pH		

#		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									
38		phenol				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		604-001-00-2	203-632-7	108-95-2									
39		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
40		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
41		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
42		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
43		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.381 %		

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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.006%)

Classification of sample: TP04[2]

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

Sample details

Sample name:
TP04[2]
Sample Depth:
0.50 m
Moisture content:
16%
(no 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: 16% No 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		6.6	mg/kg	1.32	8.714	mg/kg	0.000871 %		
2	barium { barium oxide }		215-127-9	1304-28-5		130	mg/kg	1.117	145.146	mg/kg	0.0145 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.3	mg/kg	3.22	4.186	mg/kg	0.000419 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				20	mg/kg	2.27	45.4	mg/kg	0.00454 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	16	mg/kg		16	mg/kg	0.0016 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26	mg/kg	2.976	77.383	mg/kg	0.00774 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		22	mg/kg	1.785	39.274	mg/kg	0.00393 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		56	mg/kg	2.085	116.733	mg/kg	0.0117 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,					<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<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
		ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5											
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	*	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	*	TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	*	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	*	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	*	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	*	phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	*	anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	*	fluoranthene		205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	*	pyrene		204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33	*	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35	*	benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
36	*	pH			PH		8.7	pH		8.7	pH	8.7 pH		
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
38	*	1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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									
41		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
		602-027-00-9	201-167-4	79-01-6									
42		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.048 %		

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 Determinand - 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: TP04[3]

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

Sample details

Sample name:
TP04[3]
Sample Depth:
1.50 m

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: None

#	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		6.1	mg/kg	1.32	8.054	mg/kg	0.000805 %		
2	barium { barium oxide }		215-127-9	1304-28-5		150	mg/kg	1.117	167.476	mg/kg	0.0167 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.3	mg/kg	3.22	7.406	mg/kg	0.000741 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				19	mg/kg	2.27	43.13	mg/kg	0.00431 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	15	mg/kg		15	mg/kg	0.0015 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.06	mg/kg	1.353	0.0812	mg/kg	0.00000812 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24	mg/kg	2.976	71.43	mg/kg	0.00714 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		22	mg/kg	1.785	39.274	mg/kg	0.00393 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		57	mg/kg	2.085	118.818	mg/kg	0.0119 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<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
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	TPH (C6 to C40) petroleum group			TPH		23	mg/kg		23	mg/kg	0.0023 %		
20	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	fluoranthene		205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	pyrene		204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35	benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
36	pH			PH		8.7	pH		8.7	pH	8.7 pH		
37	phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
38	1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
41	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
42	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<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							
								Total:	0.052 %		

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 Determinand - 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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0023%)

Classification of sample: TP05

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

Sample details

Sample name:
TP05
Sample Depth:
0.50 m
Moisture content:
15%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 15% No 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		7.4	mg/kg	1.32	9.77	mg/kg	0.000977 %		
2	barium { barium oxide }		215-127-9	1304-28-5		110	mg/kg	1.117	122.816	mg/kg	0.0123 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.4	mg/kg	3.22	4.508	mg/kg	0.000451 %		
5	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 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				17	mg/kg	2.27	38.59	mg/kg	0.00386 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25	mg/kg	1.126	28.147	mg/kg	0.00281 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	33	mg/kg		33	mg/kg	0.0033 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23	mg/kg	2.976	68.454	mg/kg	0.00685 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		21	mg/kg	1.785	37.489	mg/kg	0.00375 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		61	mg/kg	2.085	127.156	mg/kg	0.0127 %		
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,					<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<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									
		ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }											
		006-007-00-5											
15		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17	*	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	*	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
20		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21	*	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
22	*	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
23	*	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
24	*	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
25	*	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
26	*	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
27	*	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33	*	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35	*	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
36	*	pH				8.6	pH		8.6	pH	8.6 pH		
				PH									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38	*	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		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									
41		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
		602-027-00-9	201-167-4	79-01-6									
42		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.0472 %		

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: TP06

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

Sample details

Sample name:	LoW Code:	
TP06	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.05 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: None

#	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		1 mg/kg	1.32	1.32 mg/kg	0.000132 %		
2	barium { barium oxide }		215-127-9	1304-28-5		21 mg/kg	1.117	23.447 mg/kg	0.00234 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.2 mg/kg	2.775	<0.555 mg/kg	<0.0000555 %		<LOD
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.4 mg/kg	3.22	4.508 mg/kg	0.000451 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
6	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				7.1 mg/kg	2.27	16.117 mg/kg	0.00161 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9 mg/kg	1.126	10.133 mg/kg	0.00101 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	17 mg/kg		17 mg/kg	0.0017 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08 mg/kg	1.353	0.108 mg/kg	0.0000108 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4.8 mg/kg	2.976	14.286 mg/kg	0.00143 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		15 mg/kg	1.785	26.778 mg/kg	0.00268 %		
13	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		31 mg/kg	2.085	64.62 mg/kg	0.00646 %		
14	TPH (C6 to C40) petroleum group			TPH		1400 mg/kg		1400 mg/kg	0.14 %		
15	confirm TPH has NOT arisen from diesel or petrol			TPH_CONFIRM		☑					

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
17		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
18		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
19		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
20		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
22		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
23		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
24		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
25		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
26		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
28		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
29		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
30		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
31		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
										Total:	0.158 %		

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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.14%)

Classification of sample: TP06[2]

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

Sample details

Sample name:
TP06[2]
Sample Depth:
0,20 m
Moisture content:
19%
(no 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: 19% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.006 mg/kg		0.006 mg/kg	0.0000006 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14 mg/kg	1.32	18.485 mg/kg	0.00185 %		
3	barium { barium oxide }		215-127-9	1304-28-5		220 mg/kg	1.117	245.631 mg/kg	0.0246 %		
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.9 mg/kg	2.775	5.273 mg/kg	0.000527 %		
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.6 mg/kg	3.22	5.152 mg/kg	0.000515 %		
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
7	chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				24 mg/kg	2.27	54.48 mg/kg	0.00545 %		
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		83 mg/kg	1.126	93.449 mg/kg	0.00934 %		
9	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	63 mg/kg		63 mg/kg	0.0063 %		
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.26 mg/kg	1.353	0.352 mg/kg	0.0000352 %		
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35 mg/kg	2.976	104.169 mg/kg	0.0104 %		
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.6 mg/kg	1.405	0.843 mg/kg	0.0000843 %		

#	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
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		50	mg/kg	1.785	89.259	mg/kg	0.00893 %		
14	zinc { zinc chloride }	030-003-00-2	231-592-0	7646-85-7		64	mg/kg	2.085	133.409	mg/kg	0.0133 %		
15	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				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<LOD
16	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20	TPH (C6 to C40) petroleum group			TPH		100	mg/kg		100	mg/kg	0.01 %		
21	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	fluoranthene		205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	pyrene		204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
34	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
36	benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
37	pH			PH		8	pH		8	pH	8pH		
38	phenol	604-001-00-2	203-632-7	108-95-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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									
39		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
40		tetrachloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
41		carbon tetrachloride; tetrachloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
42		trichloroethylene; trichloroethene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
43		vinyl chloride; chloroethylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
										Total:	0.0914 %		

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 concentration of: 5000 mg/kg (0.5%) because: Unlikely to be flammable in soil below 5000 mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.01%)

Appendix A: Classifier defined and non GB MCL determinands

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

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

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

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

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

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

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

Description/Comments: Unknown Oil

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

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

pH (CAS Number: PH)

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

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

confirm TPH has NOT arisen from diesel or petrol (CAS Number: TPH_CONFIRM)

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

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 (edit as required)

barium {barium oxide}

Most likely form present

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

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 (edit as required)

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. (edit as required) 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 (edit as required)

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

Worst case scenario

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. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

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

Most likely worst case. Not enough metal or Cr to make lead chromate

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst Case Scenario

zinc {zinc chloride}

Wort case. Not enough metal to make metal chromate

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

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

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2026.26.6955.12551 (26 Jan 2026)
HazWasteOnline Database: 2026.27.6959.12557 (27 Jan 2026)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

Appendix G Material Re-use and Import Criteria

Table F-1 Material re-use and import criteria - general

Determinand	Site Won Material (mg/kg)	Imported Material (mg/kg)
Asbestos	See Note *	See Note *
Cyanide	760 – See Note **	760[1]
Beryllium	63[2]	1.7[2]
Boron	46,000[2]	11,000[2]
Arsenic	168[1]	35[3]
Cadmium	532[2]	85[2]
Copper	44,000[2]	6200[3]
Chromium (total)	33,000[2]	630[3]
Chromium (VI)	220[2]	4.3[3]
Lead	1,300[1]	310[1]
Mercury	240[2]	56[2]
Vanadium	5,000[2]	190[3]
Zinc	170,000[2]	40,000[2]
Nickel	800[2]	130[2]
Selenium	1,800[2]	430[2]
pH	5<pH<9	5<pH<9
Polycyclic Aromatic Hydrocarbons (USEPA 16)	See Table 3-3	See Table 3-3
TPH	1,000 – See Note ***	1,000 – See Note ***
Phenol Index	440 – See Note ****	1,200 – See Note ****

* Site won material: free fibres <0.01 % and no cement bound asbestos. Imported material: none detectable.

** Conservative value based on residential without plant uptake as no Public Open Space 2 value available.

*** If total TPH exceeds 1,000mg/kg, then BTEX and speciated TPH testing shall be undertaken - see Table 3-2.

**** Based on 6% Soil Organic Matter as no 1% Soil Organic Matter criteria available.

[1] C4SL [2] S4UL [3] SGV/GAC

Note: Public Open Space 2 thresholds apply for site won materials and materials placed below the marker layer. Residential without plant uptake thresholds apply for imported materials and materials placed above the marker layer.

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Table F-2 Material re-use and import criteria - Hydrocarbons

Determinand		Site Won Material (mg/kg)	Imported Material (mg/kg)
Aliphatic	C5-C6	95,000[2]	42[2]
	C6-C8	150,000[2]	100[2]
	C8-C10	14,000[2]	27[2]
	C10-C12	21,000[2]	130[2]
	C12-C16	25,000[2]	1,100[2]
	C16-C21	450,000[2]	65,000[2]
	C21-C35	450,000[2]	64,000[2]
Aromatic	C5-C7	76,000[2]	370[2]
	C7-C8	87,000[2]	860[2]
	C8-C10	7,200[2]	47[2]
	C10-C12	9,200[2]	250[2]
	C12-C16	10,000[2]	1,800[2]
	C16-C21	7,600[2]	1,900[2]
	C21-C35	7,800[2]	1,900[2]
Benzene		90[2]	0.38[2]
Ethylbenzene		17,000[2]	83[2]
Toluene		87,000[2]	880[2]
Xylene		17,000[2]	79[2]

[1] C4SL [2] S4UL

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Table F-3 Material re-use and import criteria - PAHs

Determinand	Site Won Material (mg/kg)	Imported Material (mg/kg)
Naphthalene	1,200[2]	1.5[3]
Acenaphthylene	29,000[2]	170[3]
Acenaphthene	29,000[2]	210[3]
Fluorene	20,000[2]	160[3]
Phenanthrene	6,200[2]	92[3]
Anthracene	150,000[2]	2300[3]
Fluoranthene	6,300[2]	260[3]
Pyrene	15,000[2]	560[3]
Benzo(a)anthracene	49[2]	3.1[3]
Chrysene	93[2]	6[3]
Benzo(b)fluoranthene	13[2]	3.9[2]
Benzo(k)fluoranthene	370[2]	8.5[3]
Benzo(a)pyrene	11[2]	0.83[3]
Indeno(123-cd)pyrene	150[2]	3.2[3]
Dibenzo(ah)anthracene	1.1[2]	0.31[2]
Benzo(ghi)perylene	1,400[2]	44[3]

[1] C4SL [2] S4UL [3] SGV/GAC

Soluble sulphate content (SO_4) of imported materials to be confirmed within earthworks specification.

Other unsuitable materials include: material from marshes or bogs, peat, logs, stumps, slurry, mud and perishable material, material susceptible to spontaneous combustion, material in a frozen condition, clays of liquid limit exceeding 80% and/or plasticity index exceeding 55, material with excessive moisture content, chalk.

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