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Generic Quantitative Risk Assessment

Stairfoot Glassworks, Wombwell Lane, Barnsley

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Generic Quantitative Risk Assessment

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Executive Summary

Ramboll UK Limited (Ramboll) has been instructed by Potters-Ballotini Limited (the "Client") to prepare a Generic Quantitative Risk Assessment for the Stairfoot Glassworks, Wombwell Lane, Barnsley (the "Site") (437880, 405014). This assessment has been undertaken on the basis that the site will be redeveloped for an end-use comprising a glass and metal recycling facility with associated buildings and outside yard areas. The buildings will include the construction of a clad building for internal processing works (from herein "processing building"), construction of a workshop and admin building, construction of; a gatehouse, external cullet bays, external processing area, lorry park, storage areas, car park and access. The nature of the development will mean there is limited potential for future site users to be exposed to soils as the majority of the site will be yard areas. A reasonable amount of the site will be left as 'soft' landscaping and this would need to be managed appropriately. A Site Location Plan is provided in Figure 1.

This report includes the objectives and reasons for undertaking a Generic Quantitative Risk Assessment, provides a summary of relevant background information, details how a ground investigation was designed and findings of that investigation, specifies how relevant generic assessment criteria were selected, provides a risk assessment and conceptual site model and identifies data gaps and further actions which are required.

Potential contaminant linkages (PCLs) were identified at Preliminary Risk Assessment (PRA) stage through development of a preliminary conceptual site model (CSM). The PRA information is provided in a separate report by Ramboll[1] and also summarised in this report. The GQRA environmental site investigation was designed to provide information to further assess those PCLs that were considered to be significant and to update the CSM. Those PCLs assessed mainly relate to the site's former use for landfilling and as part of a Brickworks with associated rail lines.

The ground conditions encountered by the GQRA comprised surfacing of reinforced concrete or bituminous tarmacadam (up to a maximum depth of 0.25m thick). Beneath the surfacing was Made Ground consisting of silty sandy gravels of part brick, clinker, ashy material and concrete which was generally 2.90m thick (although did vary and was greater than 4m in places). The Made Ground was underlain by soft to stiff silty, sandy clays with gravel of lithorelicts, overlying light brown mottled grey extremely friable mudstone, sandstone and siltstones to a maximum proven depth of 4.00m below ground level (bgl). The ground conditions are comparable to the regional British Geological Society (BGS) map of the area which identifies Made Ground and Coal Measures directly beneath the site.

Perched groundwater was encountered in the Made Ground at various levels (i.e. water perched on low permeability horizons above the main water table). Groundwater within the bedrock was not encountered and is considered to be at depth. The perched groundwater is not likely to be continuous or a viable water resource (which reduces its sensitivity).

Field observations of potential soil contamination were limited to slight hydrocarbon odours at various locations and the presence of Made Ground. An exception was evidence of moderate hydrocarbon odours and black oily staining observed in borehole location WS104. This oily staining appears to be localised based on other nearby sampling points. The oily staining did not appear to extend into the natural bedrock.

[1] Ramboll UK Limited, 2024. Potters Stairfoot Preliminary Risk Assessment (Ref 1620015371-002).

The soil analytical results were screened against a commercial & industrial end-use generic assessment criteria (GAC). None of the results exceeded the GAC and therefore no environmental remedial action is needed for the proposed development. Evidence of a hydrocarbon contamination hotpots was found in WS104 (albeit still below GAC). This appears to be isolated based on chemical analysis of nearby soil samples.

Two detections of asbestos were encountered relating to fibrous chrysotile in WS101A and TP108 soil samples. Asbestos in Made Ground is common and likely related to demolition materials or landfilling. Typically, a competent contractor would be able to manage asbestos in soils during redevelopment work (although appropriate procedures and method statements will need to be prepared). It is noted that fragments of asbestos may still be present throughout the site and some visual evidence of this was noted from past site walkovers. This would need to be considered by the development's design team and contractors.

Groundwater sampling identified some elevated contaminant concentrations in isolated areas when compared to conservative screening criteria. In general, evidence of significant pollution of Controlled Waters was not found. Of note, was hydrocarbon impacted groundwater in WS104 (as expected given the shallow water table and results of the soil sampling). Ammonia was found in the area of a former landfill, although was not site wide (ammonia is an indicator of landfill leachate). Groundwater has the capacity for natural attenuation, as evident from geochemical parameters including dissolved oxygen and iron, which reduces pollution risks. Overall, the perched water analytical results do not indicate a significant mobile source of contamination at the site.

Ground gas monitoring was conducted over six rounds of varying atmospheric conditions. The majority of wells (including under and around the proposed development) were Characteristic Situation 1 (CS1) (very low risk). WS102 (under the proposed admin building) and WS104 (under the proposed processing building) had consistent carbon dioxide concentrations over 5% volume with a negligible steady state flow rate. Although only a marginally elevated reading, Ramboll consider it prudent for the admin building to be classified as CS2 (low risk) given the proximity of landfills and levels of ground gas elsewhere on the site. Given the scale of the office the addition of basic gas protection measures should not be an onerous undertaking (for example, this could be achieved through installing a gas membrane or venting beneath the building). Given the activities and construction type of the proposed processing building (large open warehouse), the gas risk could remain at CS1 (very low risk); however, any enclosed rooms such as offices it may be prudent to increase the classification to CS2 (low risk).

Ramboll's PRA identified that basic Radon protection measures are required in newly constructed / extended residential properties. Further, assessment is required to determine if gas radon protective measures are required in commercial buildings e.g. the offices; however, it may be prudent to install radon protective measures during construction.

Higher concentrations of methane and carbon dioxide were recorded at WS103, CP1 and occasionally CP2 towards the south-east of the site (in the area of Old Field landfill) and this area is classified as CS3 (medium risk); although no development is planned in the area.

In conclusion, the GQRA has not identified significant ground contamination. The PRA had raised concerns that contamination may be present largely due to past landfilling, however no significant Mage Ground was evident within the development area of the site. No remedial action is considered necessary to protect the environment. However, standard brownfield mitigation measures will be needed for the proposed development, including basic gas protection in some

buildings and management of waste soils generated through ground works. There could be abnormal costs associated with, for example, disposal of contaminated and surplus soils and other materials deposited onto the site. Appropriate development and contractor method statements and risk assessments should be prepared, including an asbestos management plan.

Ramboll recommends that the area of the site that is to remain as soft landscaping should be thoroughly inspected and cleared of wastes and materials that could cause a contaminant or physical hazard if accessed by future site users. Managing the landscaping in a nature positive way would increase biodiversity at the site.

A remediation strategy should also be prepared to formalise those actions needed for the proposed development (including gas protection measures, procedures for unexpected contamination and contractor responsibilities).

1. Introduction

1.1 Brief

Ramboll UK Limited (Ramboll) has been instructed by Potters-Ballotini Limited (the "Client") to prepare a Generic Quantitative Risk Assessment (GQRA) for the former Stairwell Brickworks, Barnsley, Wombwell Lane, S70 3NS (the "site"). The GQRA has been undertaken in connection with the development of the site for a proposed industrial end use. This assessment has been undertaken on the basis that the site will be redeveloped for an end-use comprising a glass and metal recycling facility with associated buildings and outside yard areas. A Site Location Plan is provided in Figure 1, Appendix 1.

This GQRA is produced with consideration to Tier 2 of Stage 1 (Risk Assessment) of Land Contamination Risk Management (LCRM) published by the Environment Agency (EA) in 2021. As such, the brief is to present the objectives, define the scope of investigation, define suitable generic assessment criteria to which results of investigation can be compared, present investigation findings and assessment of results, and update the preliminary conceptual site model (CSM) for the site which was produced at the Preliminary Risk Assessment (PRA) stage (Ramboll, March 2024 (Ref 1620015371-002_2.0)). The conclusions of the report are intended to inform what further action may be needed.

1.2 Proposed Development

The proposed development is a waste glass recycling and repurposing facility. The facility will operate in accordance with circular economy principles for the recycling and repurposing of mainly clean glass or cullet, particularly flat glass, diverting it back to the market for use as a raw material. The site would be operated and regulated under an Environmental Permit from the Environment Agency, incorporating a management system.

The proposed development will enable Potters to merge its existing Barnsley site located at Hoyle Mill and its INGS environmental Processing Facility at Groveport, Scunthorpe onto a purpose designed and modernised site. The proposal is anticipated to significantly reduce volumes of road miles per annum when compared to the current operational practices (which supports the United Nations (UN) Sustainable Development Goals (SGD), see Section 1.4.

The proposed development includes the processing building and glass processing equipment infrastructure along with an office and welfare block, parking, a double weighbridge, an electricity substation, and ancillary features such as storage bays (interlocking moveable blocks), site entrance (two-way access) and perimeter fencing.

The purpose of the proposed development is to recycle glass delivered to the site through processing pure and mixed glass. Clean glass is crushed to a certain size and any metals present within the glass (small amounts can be present in glass) are removed. Purified glass is sold to selected customers in the UK.

Mixed glass consists of higher proportions of other materials such as rubber, aluminium, and iron. Processing mixed glass therefore requires a separation process to split components into different products. Once purified, glass can be sold to UK customers, predominantly for the production of insulation (glass wool). Removed materials as part of the separation process would also be sold to appropriate recycling industries.

1.3 Objectives

The objectives of this report build upon the PRA and consider LCRM; specifically the objectives include:

- Confirm which potential contaminant linkages identified at PRA stage are to be assessed;
- Document how the ground investigation was designed to assess those potential contaminant linkages and any constraints on the ground investigation;
- Document findings of the ground investigation, and interpret the environmental ground conditions encountered during ground investigation;
- Document details of presence of structures and buried services that could influence the conceptual site model, where these have been identified through the investigation;
- Establish appropriate generic assessment criteria and a standard set of generic assumptions to assess the risks;
- Assess the potential for risks to both human health and environmental receptors (including controlled waters) based on the data collected;
- Carry out a contaminated land risk assessment based on a source-pathway-receptor methodology;
- Present a refined Conceptual Site Model (CSM) based on the findings of the ground investigation;
- Identify potential for changes to ground conditions due to weather conditions and seasonal / climatic patterns and how these changes may affect the CSM;
- Assess the suitability of the re-use of stockpiles and Made Ground soils at the site;
- Provide a commentary on contaminated land risks; and
- Assess what further action is needed.

1.4 Sustainability

The United Nations (UN) 2030 Agenda for Sustainable Development sets 17 Sustainable Development Goals (SDGs) which are designed to promote the achievement of a better and more sustainable future for all.

Contamination and pollution are recognised by the United Nations as risks to human health and wellbeing as well as sustainability of the places where we live. A target to substantially reduce those risks is enshrined in the UN Sustainable Development Goal (SDG) No 3: Good Health and Wellbeing, as well as SDG No. 11: Sustainable Cities and Communities, which also emphasises sustainable management of waste. Pollution is likewise recognised as a potential threat to water quality, both for human consumption and for its ability to support water-related ecosystems (UN SDG No. 6: Clean Water and Sanitation).

Contamination and pollution within soils, water and air at the site have been identified through the conceptual site model development process and strategic sampling and analysis. Characterisation and, if recommended as a result of the assessment contained within this report, remediation of contamination at the site thus directly support achievement of UN strategy. Implemented through technically robust investigation and risk assessment this focusses the proposals for remedial works where there is a scientifically justifiable need, thus minimising the carbon footprint of works carried out (supporting SDG No 13: Climate Action) as well as production of waste (SDG No. 11).

In order to recognise where the GQRA works completed are of relevance to the progression of the UN's SDG objectives, reference is made in this report to relevant SDGs.

1.5 Constraints and Limitations

This report has been prepared by Ramboll exclusively for the intended use by the client in accordance with the agreement (email between Ramboll and the client), dated 10 July 2023, defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended, or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

Unless otherwise stated in this report, the scope of services, assessment and conclusions made assume that the site will continue to be used for its current purpose and end-use without significant changes either on-site or off-site.

The ground investigation works were undertaken during a discrete period of time. The findings and conclusions presented in this report are accordingly factually limited by these circumstances and, unless stated otherwise in the report, are preliminary. The field investigations were restricted to a level of detail necessary to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant period of time has elapsed since the sampling took place. The interpretation of the geological and environmental quality conditions is based on extrapolation from point-source data in a heterogeneous environment. Accordingly, more detailed investigation may be appropriate dependent upon the client objectives.

The ground investigation was limited by the following factors:

- It was not possible to progress WS101 to the south of the site due to the presence of underground services. WS101 was terminated and moved to WS101A.
- The advancement of WS109 was prevented where concrete obstructions are present at shallow depths of 1.10m bgl.
- It was not possible to undertake excavations into the stockpile of demolition materials in the north-west of the site, due to access and stability. The materials were visually observed to comprised of blocks of concrete, brick and rebar.

Overall, Ramboll was able to investigate the majority of identified potential contaminant sources and it is considered that the exploratory holes provide an appropriate coverage across the accessible areas of the site.

2. Summary of Preliminary Risk Assessment

2.1 Introduction

This section summarises information gathered from Ramboll's PRA[2].

2.2 History

Historically, the site was occupied by agricultural fields and a Railway line from the 1850s. By the 1900s Stairfoot Brickworks was present on-site, with associated Clay Pits. The Brickworks and Clay Pits expanded until the late 1990s, when the Clay Pits had been infilled or used as landfills.

There are five landfills encroaching on to the site; North Field Phase I and II (to the north-west), South Field (to the north-north-east), Old Field (to the south-south-east) and Disused Railway Cutting (to the south-east). The site is currently vacant following the demolition of the Brickworks in 2016.

Potentially contaminative land uses within the surrounding area have included clay pits, landfills and the Oaks Chemical Plant (with associated Tanks and Gasometers) dating from 1930s until the 1980s. A Tesco branded petrol filling station (PFS) is located 70m west.

2.3 Site Setting

The site's National Grid Reference is 437880, 405014 (Figure 1). It comprises an irregular plot of land of approximately 6.39 hectares (ha). The topography of the site and surrounding area slopes towards the south-west with the nearest surface watercourse being the Dob Sike, located 110m south-west from the site.

Presently, the site is undeveloped comprising hard surfacing of concrete in the centre and the far east of the site, with soft landscaping generally contained to the periphery of the site. The north and south-east of the site comprise areas of either loose gravel and / or soft landscaping, which were historically landfills (North Field Phase I and Phase II (north-west), South Quarry (north) and Old Field landfill (south-west)). Impermeable surfacing occupies approximately 30% of the area of the site.

2.4 Environmental Receptors

The following sites have been designated as being environmentally sensitive, and were identified in the PRA report as potential sensitive environmental receptors:

- Stairfoot Brickworks is a designated Site of Special Scientific interest and is located at the eastern end of the site, adjacent to the site boundary.
- The Dearne Valley Park is a designated Local Nature Reserve (located 1.69 km north-west). There are three Green Belt areas within 2 km of the site (closest 15 m south-west) and two Nitrate Vulnerable Zone (closest is River Dearne NVZ pertaining to surface water located on-site) within 2 km of the site.

2.5 Geology, Hydrogeology and Hydrology

A summary of the expected geological conditions at the site is provided in Table 2.1, this information was sourced from the British Geological Society regional mapping.

[2] Ramboll, March 2024: Preliminary Risk Assessment - Former Stairfoot Brickworks, Wombwell Lane, Barnsley (1620015371-002 Potters Stairfoot PRA_2.0).

Table 2.1 Anticipated Geology and Hydrogeology

Stratum	Estimated Top of Stratum (metres below ground level (m bgl))	Estimated Average Thickness (m)	Description	Aquifer Designation
Made Ground	Ranges between ground level to 11.50	3.50m	Variable, but generally brick rubble fill and landfill material (domestic and commercial waste)	Unclassified
Pennine Middle Coal Measure	Ranges between 0.1 proven to 12.45	300m	Brown mottled grey clay overlying light brown friable interbedded mudstone / siltstone / sandstone	Secondary A

The site is in a moderately sensitive setting with regard to groundwater resources due to the underlying Secondary A aquifer. The site is not located within a Groundwater Source Protection Zone. There are three licensed groundwater abstractions within 2km of the site, and none are deemed to be for sensitive use.

The site is in a low to moderate sensitive setting with regard to surface water due to Dob Sike 110m south-west. There is one surface water abstraction within 2km and is not deemed to be for sensitive use.

2.6 Other Site Investigations

There have been previous ground investigations at the site (in 2011 and 2021) that have demonstrated that the site is not significantly contaminated with regards to the current commercial end use. However, the presence of the former landfills presents a risk due to ground gas and leachates. Gas mitigation measures including a venting trench have been implemented in the south-east of the site, outside of the proposed development area. During the 2021 ground investigation by Ashton Bennett Consultancy, ground gases were only monitored at four locations underneath the proposed development.

2.7 Current and Former Land Uses with Potential for Contamination

Current and Former Land Uses with Potential for Contamination include:

- Railway line from the 1850s.
- Brickworks, with associated Clay Pits extending off-site from 1900s to 2000s.
- Five Landfills extending from the site between 1980s and 1990s (accepted industrial, commercial and household waste).

2.8 Preliminary Conceptual Site Model

The main environmental legislation relating to contaminated land in the UK is Part 2A of the Environmental Protection Act 1990. The philosophy behind Part 2A is the source-pathway-receptor potential contaminant linkage; for land to be contaminated all three aspects of this linkage must be present (i.e. a contaminant must be present and able to move along a pathway and impact a receptor). Further details are provided in Appendix 2.

A preliminary conceptual site model that identifies those potential contaminant linkages forms the output of the PRA and is a simplified representation of the environmental conditions at the site, and in the vicinity of the site, and is used to initially identify potentially sensitive receptors and potential pollutant linkages).

A key aspect of LCRM is that the GQRA should assess the potential contaminant linkages identified in the preliminary conceptual site model. Those PCLs which were identified in the PRA's CSM as being significant and thus warranting further investigation are presented below:

- PCL1 Potential contaminant linkage via contact or inhalation / ingestion of soils and soil dusts during construction, posing a risk to construction workers and nearby land users e.g. from lead, benzo(a)pyrene and asbestos; site-wide.
- PCL2 Potential contaminant linkage to groundwater body in the underlying Secondary A Aquifer from soil contamination by metals, polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH) arising from Made Ground across the site.
- PCL3 Potential contaminant linkage to surface water arising from the migration of contaminants from groundwater at the site to Dob Sike 110m south-west.
- PCL4 Potential contaminant linkage to future site users of the proposed new development from vapours or landfill gas arising from soil and groundwater contamination across the whole site, including the proposed development and former landfills.

The ground investigation was designed to assess the PCLs above. The following sections describe the ground investigation strategy, the results of laboratory chemical analysis and monitoring and a qualitative source-pathway-receptor risk assessment. A revised conceptual model is then presented.

3. Ground Investigation

3.1 Design

The ground investigation was designed to investigate soil, ground gas and groundwater at the site and to test the preliminary conceptual site model, focussing on the assessment of PCLs identified in Section 2.

A Ramboll engineer attended the site in September 2023 to assess the current condition of the site and to perform a well integrity check. It was apparent from the visit that the several of the previously installed boreholes by Ashton Bennett in 2021 were damaged and/or no longer functional.

3.2 Ground Investigation Activities

The intrusive ground investigation was supervised by Ramboll, and was undertaken during 6th to 11th October 2023, with subsequent monitoring of groundwater undertaken on 13th October 2023. Six ground gas monitoring rounds were undertaken between 13th October 2023 to 30th November 2023. Factual records relating to the ground investigation are provided in Appendix 3.

The ground investigation was undertaken in general accordance with:

- BS 5930 Code of Practice for Ground Investigation[3]; and
- BS 10175 Investigation of Potentially Contaminated Sites – Code of Practice[4].

The level of investigation designed for is considered by Ramboll to be Detailed with respect to BS 10175.

A summary of the scope of the investigation undertaken at the site is presented in Table 3.1. Exploratory locations are shown on Figure 2. Borehole logs (including monitoring well details) are provided in Appendix 3.

Table 3.1 Summary of Intrusive Works

Item	No.	Comments
Utilities Clearance Survey	Item	Prior to intrusive works a specialist service location contractor, RP Drilling Ltd was contracted to locate below ground services and mark out drilling locations. The cleared locations along with the accessible previous monitoring wells were levelled to ordnance datum (m AOD).
Window Sample Boreholes	12 No.	Rig type: Terrier Rig Depth range (m): 1.1 m to 4.0 m
Trial Pitting	8 No.	Method: JCB 3CX Excavator fitted with a 0.6m wide bucket Depth range (m): 1.44 m to 3.90 m
Hand Pitting	9 No.	Hand pits were dug to approximately 0.3m below ground level (bgl) to assess the ground conditions at the perimeter of the site where soil surface will remain.
Soil Sampling and Screening	30 No.	During the ground investigation, soil samples were recovered from each exploratory hole location (30 in total) and screened on-site using a handheld photo-ionisation detector (PID) (MiniRae Lite) for the presence of volatile organic compounds (103 samples screened).
Groundwater Sampling and Monitoring	6 No.	An oil / water interface probe was used to check for free-phase hydrocarbons and resting groundwater levels were monitored.
Gas Monitoring	6 No.	Ground gas monitoring was undertaken using a portable gas analyser (GFM 430 Series) and PID (MiniRae Lite).

[3] British Standards (2015) Code of Practice for site Investigation BS5930:2015+A1:2020

[4] British Standards (2017) Code of Practice for the Investigation of Potentially Contaminated sites. BS10175:2011 + A2:2017

Item	No.	Comments
Waste Characterisation for Disposal	Item	All soil and groundwater arisings along with general waste generated during the works were stored in dedicated drums and skips during the investigation. A representative sample of the waste was submitted for chemical testing and was characterised for waste disposal purposes waste (i.e. hazardous or non-hazardous waste). Once characterised, the wastes (soil, water and general waste) were collected by Acorn Waste, who (under appropriate consignment notes) arranged for disposal to a suitably licenced facility.

3.3 Sample Location Rationale

The rationale for positioning the sampling locations is described in Table 3.2.

Table 3.2 Exploratory Hole Rationale

Exploratory Hole	Rationale
WS101A	To determine the shallow soil and ground gas conditions in the southern central area of the site within the vicinity of the proposed admin building.
WS102	To determine shallow soil and ground gas conditions in the vicinity of the proposed admin building.
WS103	To determine the shallow soil and ground gas conditions in the area of Old Field landfill.
WS104	To determine the shallow soil, groundwater and ground gas conditions in the in the vicinity of the proposed processing building.
WS105	To determine the shallow soil and ground gas conditions in the central area of the site.
WS106	To determine the shallow soil and ground gas conditions in the vicinity of the proposed processing building.
WS107 – WS108	To determine the shallow soil and ground gas conditions in the western area of the site.
WS109	To determine the shallow soil, groundwater and ground gas conditions in the vicinity of the former overground Tank.
WS110	To determine the shallow soil and ground gas conditions in the north-western area of the site.
WS111	To determine the shallow soil and ground gas conditions in the north area of the site.
WS112	To determine the shallow soil, groundwater and ground gas conditions in the vicinity of the proposed processing building.
TP101	To determine the shallow soil conditions in the north-western stockpile for waste classification purposes.
TP102	To determine the shallow soil conditions in the north-western area of the site in the western soil bund.
TP103	To determine the shallow soil conditions in the stockpiled materials for waste classification purposes.
TP104 – TP106	To determine the shallow soil conditions in the northern soil bund.
TP107	To determine the shallow soil conditions in the area of Old Field landfill located on the loose gravel.
TP108	To determine the shallow soil conditions in the southern stockpile for waste classification purposes.
HD1 – HD9	To determine the shallow soil conditions of retained soils across the proposed development area.

Ramboll also monitored / sampled a further nine monitoring wells located during the initial walkover. Details of the construction and response zones of the wells is provided in Table 5.3 (see Section 5.4).

3.4 Sampling and Monitoring

Details of the Ramboll's general sampling and monitoring methods utilised during the investigation are provided in Appendix 4. Project-specific details are summarised below.

Soil samples were recovered from each of the exploratory locations based at regular intervals and / or changes of strata. The soil samples were tested on-site for the presence of volatile

organic compounds (VOCs) using a photo-ionisation detector (PID), calibrated in accordance with Ramboll's Quality Management procedures. Each soil sample tested was placed into a sealed plastic bag and agitated. The PID was then inserted into the headspace and the total VOC reading recorded. The PID screens for a wide range of VOCs but does not indicate a specific compound; therefore, the results of the PID screening provide a semi-quantitative indication of the concentration of VOCs present in soil pore spaces.

Selected samples were placed in appropriate containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation to an independent Ramboll approved MCERTS accredited analytical laboratory (Element Materials Laboratory (Element)).

Groundwater sampling was undertaken on 13th October 2023 following the completion of the site investigation intrusive works.

Prior to sampling, the depth to the resting groundwater level (where present) and base of the monitoring wells were measured using an electronic interface probe. The monitoring wells were then purged of at least three times the saturated well volume prior to groundwater sampling. Where wells were purged dry, a sample was collected following a period of recovery. Purging and sampling was undertaken using a peristaltic pump with inert tubing for each well to prevent cross contamination.

The recovered samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. Samples were dispatched accompanied by chain of custody documentation to Ramboll's subcontracted and suitably accredited laboratory (Element) for analysis.

On-site measurement of groundwater parameters was undertaken on selected wells using a YSI Professional Plus Portable Multi-Parameter Water Quality Meter, including temperature, dissolved oxygen (DO), specific conductivity, pH, redox potential, total suspend solids and salinity. Details of the groundwater monitoring, together with the on-site field parameters are presented in Appendix 3. Grab samples were obtained due to the slow recharge rates at WS104, WS112 and CP7.

Monitoring of ground gas was undertaken at all newly drilled locations, as well as nine existing wells drilled during the 2021 ground investigation. Due to limited groundwater being encountered within the monitoring wells, groundwater samples were collected from three of the newly drilled locations (WS104, WS109 and WS112) and three existing boreholes (CP7, WS8 and WS9). Details of the monitoring locations are summarised in Table 3.3.

Table 3.3 Monitoring Locations

Monitoring Wells				
Monitoring Position	Response Zone (m bgl)	Response Zone (m AOD)	Response Zone Strata	Monitoring Purpose
WS101A	0.50 – 1.15	47.02 – 46.37	Weathered Coal Measures	Ground gas
WS102	1.00 - 3.00	46.42 - 44.42	Made Ground	Ground gas
WS103	1.00 – 4.00	46.46 – 43.46	Made Ground	Ground gas
WS104	1.00 - 3.00	46.88 - 44.88	Made Ground	Groundwater / ground gas
WS105	0.40 – 1.50	47.75 – 46.65	Made Ground	Ground gas
WS106	0.30 – 0.85	47.84 – 47.29	Made Ground	Ground gas
WS107	1.40 – 2.80	46.48 – 45.08	Weathered Coal Measures	Ground gas
WS108	0.30 – 1.30	47.84 – 46.84	Made Ground	Ground gas

Monitoring Wells				
Monitoring Position	Response Zone (m bgl)	Response Zone (m AOD)	Response Zone Strata	Monitoring Purpose
WS109	0.50 – 1.10	47.62 – 47.02	Made Ground	Groundwater / ground gas
WS110	1.50 – 2.95	46.56 – 45.11	Weathered Clay	Ground gas
WS111	0.50 – 2.50	49.09 – 47.09	Made Ground	Ground gas
WS112	1.30 – 2.00	47.10 – 46.40	Weathered Coal Measures	Groundwater / ground gas
CP1*	1.00 – 7.00	49.48 – 43.48	Made Ground	Ground gas
CP2*	1.00 – 9.00	48.77 – 40.77	Made Ground	Ground gas
CP7*	0.50 – 3.00	47.60 – 45.10	Made Ground / Clay / Siltstone**	Groundwater / ground gas
CP11*	0.50 – 3.00	49.83 – 47.33	Made Ground / Clay**	Ground gas
WS6*	1.00 – 3.00	51.03 – 49.03	Made Ground / Siltstone**	Ground gas
WS7*	1.00 – 2.00	51.19 – 50.19	Made Ground	Ground gas
WS8*	1.00 – 6.50	50.31 – 44.81	Made Ground	Groundwater / ground gas
WS9*	1.00 – 3.50	49.58 – 47.08	Made Ground / Clay / Siltstone**	Groundwater / ground gas
WS12*	0.60 – 1.30	47.22 – 47.52	Made Ground / Clay / Siltstone**	Ground gas

*Borehole from previous ground investigation

**Response zone crosses multiple strata

Table 3.4 summarises the analytical schedule for the samples tested together with the rationale for analysis.

Table 3.4 Analytical Strategy

Analytical Suite	Rationale	Number of Samples Tested	
		Soil	Groundwater
Asbestos Screen	Commonly associated with Made Ground.	21	-
Metals (including arsenic, cadmium, chromium, lead, mercury, copper, nickel, zinc vanadium, boron, beryllium and selenium)	Typically associated with brownfields sites historically used for industrial purposes.	30	6
Total Petroleum Hydrocarbons Carbon Working Group (TPH CWG) including BTEX	Typically associated with fuels and oils	29	6
Total cyanide, phenols	Typically associated with historical industrial sites and brownfield land.	29	6
Water soluble sulphate	Typically associated with Made Ground.	28	6
Polycyclic Aromatic Hydrocarbons (PAH)	Typically associated with fuels and oils.	30	6
Polychlorinated Biphenyls (PCBs)	Associated with electrical equipment.	3	-
Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs)	Typically associated with fuels and oils (like PAHs)	7	6

Analytical Suite	Rationale	Number of Samples Tested	
		Soil	Groundwater
Dissolved Ions (calcium, iron, magnesium, potassium and sodium)	To assess ion composition within underlying groundwater and landfill.	-	6
Total hardness (as calcium carbonate)	Used to characterise the soils and derive an assessment criteria for some metals.	-	6

3.5 Field Observations

3.5.1 Ground Conditions

Ground conditions identified by the investigation are summarised in Table 3.5. A full lithological description is recorded on the logs, which are provided as Appendix 3.

Made Ground is variable across the site, but generally thicker towards the north, north-east, north-west and south-east of the site (i.e. areas of former landfill). These areas comprise Made Ground of infilled material, waste, ashy material and bricks. The thickness of Made Ground beneath the concrete hardstanding is variable but is generally shallower when compared to areas of soft landscaping.

Table 3.5 Ground Conditions Encountered

Stratum	Description	Depth to Base (m bgl)	Approximate Average Thickness (where encountered) (m)
Reinforced Concrete / bituminous tarmacadam	Reinforced concrete was encountered at seven locations (excluding WS101A, WS103, WS111 and WS112), ranging in thickness between 0.15m to 0.25m. Bituminous tarmacadam was located at WS112 with a thickness of approximately 0.20m.	0.25	0.23 / 0.20
Made Ground	Made Ground was present in all exploratory locations with depths ranging from 0.1m to 4.0m bgl. The Made Ground generally comprised a silty sandy gravel of part brick, concrete, clinker and ashy material. Rare glass, wood fragments, clothing textiles and confectionary wrappers were observed in WS103 (Old Field landfill). Trial pits generally targeted the above ground stockpiles and soil bunds, with the thicknesses of Made Ground ranging from 1.5m above ground level (TP101) to 3.2m bgl (TP102). The stockpiles and soil bunds generally comprised brown clay with gravels of mudstone, siltstone and coal, and rare plastic and metal fragments. One of the stockpiles in the north-west of the site comprised of demolition materials e.g. brick and concrete blocks, with rebar.	0.10 – 4.00 variable across the site	2.90
Pennine Middle Coal Measures	Generally encountered as soft to stiff silty / sandy clay with gravel of lithorelicts over light brown mottled grey extremely friable mudstone / sandstone / siltstone.	Between 0.10 – 4.00 (proven)	0.75

The ground conditions encountered across the site are generally comparable to the geology described in the regional British Geological Survey (BGS) map and previous third-party intrusive investigations at the site.

A total of 103 soil samples were screened in the field for volatile organic compound (VOC) contamination by headspace analysis using a photoionisation detector (PID). Results from 95 of the samples recorded low concentrations of VOCs, i.e. less than 10ppm. All eight PID samples that exceeded 10ppm were located at WS104; with a maximum VOC reading of 172.9ppm in WS104 at 2.80m bgl. This corresponds with visual and olfactory evidence of hydrocarbons (a sample was also analysed by the laboratory, as discussed in the next section).

Table 3.6 provides information of where notable visually or olfactory impacted soils were recorded, and any associated PID readings to correlate with the location of possible volatile substances.

Table 3.6 Observations in Soils

Exploratory Location	Observations	PID Reading (parts per million (ppm))
Made Ground		
WS102	Visual evidence of black oily staining and a slight hydrocarbon type odour at 3.8m bgl.	3.80m bgl (0.3ppm)
WS103	Slight hydrocarbon type odour between 0.30m bgl to 0.60m bgl	0.50m bgl (1.1ppm)
WS104	Visual evidence of black oily staining and moderate hydrocarbon type odours between 0.25m bgl to 1.30m bgl	0.30m bgl (46ppm) 0.50m bgl (73ppm) 0.65m bgl (106ppm) 0.85m bgl (41ppm) 1.20m bgl (10ppm)
	Visual evidence of and black oily staining material and moderate hydrocarbon type odours between 2.50m bgl to 2.95m bgl.	2.50m bgl (53ppm) 2.80m bgl (173ppm)
WS108	Slight hydrocarbon type odour between 1.20m bgl and 1.30m bgl.	1.20m bgl (0.5ppm)
WS110	Slight hydrocarbon type odour between reworked clay between 0.8m m bgl to 1.2m bgl.	0.90m bgl (0.7ppm)
TP107	Slight hydrocarbon type odour between 0.4m bgl to 1.70m bgl.	0.60m bgl (0.5ppm)
Natural Soils		
WS104	Slight hydrocarbon type odour at 2.95m bgl to 3.00m bgl in grey weathered mudstone.	2.95m bgl (11ppm)

3.5.2 Groundwater

The depth to resting groundwater levels were recorded during the groundwater and ground gas monitoring rounds. No Non-Aqueous Phase Liquid (NAPL) was identified during the monitoring. A summary of the groundwater levels and evidence for contamination observed throughout the monitoring period is provided in Table 3.7.

Table 3.7 Groundwater Observations

Monitoring Well	Range in Depth to Groundwater (m bgl)	Range in Groundwater Elevation (m AOD)	Inferred Aquifer Containing Groundwater[1]	Evidence for Contamination	Range of PID readings (ppm)	Number of Monitoring Rounds
WS101A	0.96 - DRY	46.40 – 47.52	Perched Water	None.	0.50 – 0.60	6
WS102	DRY – 3.14	44.28	Perched Water	None.	0.20 – 0.40	6

Monitoring Well	Range in Depth to Groundwater (m bgl)	Range in Groundwater Elevation (m AOD)	Inferred Aquifer Containing Groundwater[1]	Evidence for Contamination	Range of PID readings (ppm)	Number of Monitoring Rounds
WS103	DRY	DRY	Perched Water	None.	0.30 – 6.50	6
WS104	2.40 - 2.53	45.35 - 45.48	Perched Water	Moderate hydrocarbon odour and oily sheen.	0.70 - 173	7
WS105	0.94 - 1.36	46.79 - 47.21	Perched Water	None.	0.20	6
WS106	0.29 - 0.69	47.45 – 47.88	Perched Water	None.	0.20 – 2.40	6
WS107	1.47 - 1.94	45.94 - 46.41	Perched Water	None.	0.10 – 0.20	6
WS108	1.08 - 1.29	46.85 - 47.06	Perched Water	None.	0.40 – 0.80	6
WS109	0.41 - 0.72	47.47 - 47.71	Perched Water	Slight hydrocarbon odour and oily sheen.	0.50	7
WS110	0.38 - 0.88	47.71 - 47.17	Perched Water	None.	0.30 – 0.70	6
WS111	1.68 - 1.84	47.75 - 47.91	Perched Water	None.	0.00 0.20	6
WS112	0.15 - 0.45	46.98 – 48.25	Perched Water	Oily seen noted.	0.40 – 0.80	7
CP1*	7.02 - 7.82	42.66 - 43.46	Perched Water	Acrid smell and black staining with slightly hydrocarbon odour.	NA	6
CP2*	6.45 - DRY	43.32 - DRY	Perched Water	Sawdust-like material on probe.	NA	6
CP7*	0.00 - 0.93	47.18 - 48.10	Perched Water	None.	NA	7
CP11*	0.91 - 1.22	49.11 - 49.41	Perched Water	Frequent hairs encountered on probe along with acrid smell.	NA	6
WS6*	2.07 - 2.55	49.48 - 49.96	Perched Water	None.	NA	6
WS7*	1.47 - 1.91	50.28 - 50.70	Perched Water	Very slight hydrocarbon-like odour during Round 2.	NA	6
WS8*	1.91 - 3.12	48.19 - 49.40	Perched Water	None.	NA	7
WS9*	0.38 - 2.66	47.92 - 50.20	Perched Water	None.	NA	7
WS12*	0.50 - 0.63	47.19 - 47.33	Perched Water	None.	NA	6

Notes:

1 The inferred horizon has been identified by comparing the resting groundwater levels against the exploratory hole logs and monitoring well design.

Groundwater monitoring data taken during the first gas monitoring round in newly drilled wells have been excluded from the groundwater level column. The majority of wells were dry as the wells had only recently been drilled.

NA = Not Analysed due to previous ground investigation

*Borehole from previous ground investigation

**Response zone crosses multiple strata

Perched water was found at a variety of different levels and this reflects the heterogeneity of the Made Ground and likely discontinuity in perched water bodies. Flow of perched water was tentatively towards the south-south-west and Dob Syke (located 110m south-west); however, there is likely to be a complex flow pattern due to the heterogenous Made Ground.

The range in recorded groundwater elevations was 50.20m AOD (at WS9) to 42.66m AOD at CP1.

It is assumed that the drilled borehole close to the edge of the concrete hardstanding (i.e. WS110 and WS112) may be influenced by the areas of surface water flooding during the monitoring. The resting water level in these two locations was near ground level during all but the first gas monitoring round.

The field parameters measured during the groundwater monitoring are summarised as follows:

- Dissolved oxygen was recorded at concentrations between 0.54mg/l (WS8) and 7.06mg/l (CP7). The values indicate mildly aerobic to aerobic conditions, not typical of a landfill leachate;
- Oxygen Redox potential ranged between -32.2mV (WS8) and 207.7mV (WS112), which indicates mildly reducing to oxidising conditions;
- pH values ranged between pH 6.43 (WS112) and pH 7.91 (WS109), which is near neutral; and
- Electrical conductivity ranged from 439µs/cm (WS9) and 2,315µs/cm (WS8). This is not indicative of a typical landfill leachate.

In general, the geochemical parameters recorded during the groundwater monitoring show no clear trends or evidence of substantial landfill leachates.

4. Human Health Assessment

4.1 Assessment Approach

This assessment has been undertaken in general accordance with the current UK framework and comprises a GQRA as defined in LCRM[16]. Ramboll's assessment methodology is based on the Contaminated Land Exposure Assessment (CLEA) approach, further details of which are presented in Appendix 2.

LCRM states that the use of Generic Assessment Criteria (GAC) is appropriate for a range of management and site-specific technical factors. In choosing the GAC for human health assessment, Ramboll has considered stakeholder requirements, the complexity of the conceptual site model, combined and cumulative factors, potential changes in site circumstances, uncertainties and limitations.

Ramboll has derived GAC for the interpretation of soil and groundwater chemical analyses. The GAC are threshold-based screening criteria below which a significant risk is not considered to be present. Contaminants at concentrations above the GAC do not infer an unacceptable risk; rather that further assessment is required to more fully understand potential contamination risks (as discussed below).

GAC have been adopted for a commercial / industrial land use. This is based upon the proposed end use of the site. A soil organic matter (SOM) of 1% has been adopted for the assessment and this is based on Ramboll's GAC values based on Environment Agency guidance and software.

Chemical analyses are discussed below and are provided in full in Appendix 5. Laboratory certificates are provided in Appendix 6.

4.2 Analytical Results - Soils

No contaminants that were screened to a commercial / industrial end use exceed the GAC.

Metals were generally found at levels typical for a brownfield site with no obvious hotspots or elevated patterns.

PAHs were generally at low concentrations of <20mg/kg (total PAHs). The exception being two detections in TP107 and WS104 at concentrations of 83.1mg/kg and 106.4mg/kg respectively. These two soil samples were from Made Ground material within the former south-eastern landfill (TP107) and Made Ground where observations of hydrocarbon contamination was noted (WS104). These concentrations are isolated and not indicative of widespread contamination.

Similar to the PAHs, TPH was generally much less than 1,000mg/kg (total TPH) with the exception of detections in WS104 at 0.4m and 2.7m, and WS103 at 2.8m (8,584mg/kg, 6,136mg/kg and 1,020mg/kg respectively). The TPH detected is largely related to 'heavy' end hydrocarbons, which are typically less toxic and mobile in the environment (which is partly why the GACs are higher for these hydrocarbon fractions). As with the PAHs, the more elevated concentrations of hydrocarbons are localised to WS104 and not considered a significant risk to the proposed development.

VOCs were detected at trace concentrations which is consistent with low PID readings measured in the field. No obvious hotspot of VOC contamination was detected. sec-Butylbenzene (0.212mg/kg) was the highest VOC detected in WS104 (consistent with the highest PID readings detected. Total cyanide and phenol were also sporadically detected at low concentrations.

The stockpiled material and soil bunds at the site generally comprise brown clays with gravels of mudstone, siltstone and coal. Rare fragments of plastic and metal were also detected. The stockpiled material generally had metals and PAHs at levels typical for a brownfield site with no obvious hotspots or elevated patterns.

4.3 Asbestos

Table 4.1 provides a summary of the locations at which asbestos was detected, the outcome of the laboratory testing and details of observations made on site. Concentrations of asbestos below 0.01% are considered to represent very low quantities, in accordance with current UK guidance provided by CL:AIRE[5].

Fragments of suspected cement-bound asbestos containing material (ACM) were detected during Ramboll's initial walkover and during the ground investigation. The ACMs were generally on the ground surface and within the soil bund in the west of the site.

Table 4.1 Asbestos Results - Detections

Location	Depth (m bgl)	Stratum	Asbestos Containing Material (ACM) Types Detected	Total % Asbestos in Sample
WS101A	0.10	Made Ground	Chrysotile Loose fibrous debris	<0.001
TP108	0.30 – 0.60	Made Ground	Chrysotile Loose fibrous debris	<0.001

From the 21 soil samples submitted for asbestos identification testing from across the site, two samples (WS101A and TP108) detected loose fibrous chrysotile debris. Both samples were submitted for quantification, with asbestos concentrations recorded of <0.001%.

4.4 Analytical Results - Groundwater (Human Health)

The groundwater analytical results obtained during this investigation have been screened against the GAC for the protection of human health via volatilisation pathways from groundwater for commercial / industrial end use.

No determinands exceeded their relevant GAC.

4.5 Human Health Discussion

No contaminants were detected above a commercial / industrial end use GAC. This is consistent with past investigations and does not indicate a need for environmental remediation. Contaminants are still present at concentrations below the GAC, however, which may have implications for soil waste management and construction worker health and safety. As is standard, and common to many brownfield sites, specific risk assessments and method statements will still be need to manage the contamination detected in the soil.

Asbestos was detected within two samples (WS101A and TP108) in Made Ground. Both the detections of asbestos were recorded as chrysotile fibre bundles. Potential ACMs in the form of

[5] CL:AiRE 2016 Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials. Joint Industry Working Group CAR-SOIL

asbestos small grey fragments of cement sheets were observed on the surface of the concrete hardstanding and on the soil bund in the west of the site within the vicinity of WS111.

Evidence of contamination generally comprised limited visual / olfactory evidence of slight to moderate hydrocarbons odours. Oily staining was encountered at in WS102 (at 3.8m bgl) and WS104 (at 0.4m bgl and between 2.50m bgl to 2.95m bgl). Elevated PID readings were recorded in WS104 with 106ppm at 0.65m bgl and 173ppm at 2.80m bgl. Whilst no exceedances of TPH or phenolic compounds were detected in soils samples from these locations, concentrations were above the laboratory detection limit (total aliphatic and aromatic TPH concentrations of 47mg/kg was recorded in WS102 (at 3.80m bgl), 8,584mg/kg in WS104 at 0.4m bgl and 6,136mg/kg in WS104 at 2.70m bgl). There were also numerous detections of PAHs, BTEX, VOCs and SVOCs at these three sample locations, although the concentrations were significantly below the GAC.

TPH, PAH, VOCs and SVOCs were also detected at WS103 at 2.80m bgl in the former Old Field landfill area (total aliphatic and aromatic TPH concentrations were 1,020mg/kg), although no exceedances of the GAC were detected.

The hydrocarbon impacted soils are deemed to be localised and to not pose a significant threat to human health for the future development of the site.

4.6 Construction Workers

This report and the GAC consider long term and chronic risk to humans based on defined exposure scenarios set out in the CLEA model and in CAR-SOIL for asbestos impacts. In some cases, contaminants may also pose acute hazards to workers at a site, or a worker's exposure scenario may differ from the scenarios considered when deriving the GAC.

As exposure times for construction workers are generally short term, risks from site contamination are generally addressed through the use of appropriate working procedures and the use of personal protective equipment (PPE) in line with the Management of Health and Safety at Work Regulations[6], Construction (Design and Management) Regulations[7] (for some sites) and the Control of Substances Hazardous to Health Regulations[8].

An Asbestos in Soils Management Plan would be required to provide a full assessment of risks to ground workers during construction and maintenance activities.

[6] UK Statutory Instruments (1999) The Management of Health and Safety at Work Regulation No. 3242

[7] UK Statutory Instruments (2015) Construction (Design and Management) Regulations No. 51

[8] UK Statutory Instruments (2002) Control of Substances Hazardous to Health Regulations No. 2677

5. Water Environment Assessment

5.1 Assessment Approach

The potential risk to the aquatic environment from entry of pollutants (either directly or via a groundwater pathway) has been assessed using commonly accepted UK guidelines including country specific water regulations and the Environmental Quality Standards (EQS) defined in European legislation such as the Water Framework Directive (WFD) (2000/60/EC).

The potential receptors in the water environment which have been identified comprise:

- Groundwater in Pennine Middle Coal Measures (Secondary A Aquifer).
- Surface water within Dob Sike (110m south-west).

Assessment of the risk to these receptors is required using the appropriate GAC which are protective of that specific receptor. The GAC selected to assess the above receptors are detailed below in Table 5.1 and Table 5.2.

For those determinands included in the analytical suite which do not have corresponding European screening criteria derived from the above sources, UK-specific GAC are utilised. Where these are not available reference is made to other international guidance, further details of which are provided in Appendix 3.

5.2 Analytical Results

The results of the screening against relevant GACs are summarised in Table 5.1 and Table 5.2. Results are provided in full in Appendix 5. Exceedances of screening criteria do not infer that an unacceptable risk is present; the outcome of the screening is assessed further in the context of a qualitative source-pathway-receptor risk assessment.

All determinands omitted from Table 5.1 and Table 5.2 did not exceed the screening criteria for either groundwater or surface water. Therefore, there is no significant risk to either groundwater or surface water receptors.

Table 5.1 Exceedances of Groundwater GAC in Groundwater

Contaminant	No. of Samples	GAC (µg/l) [Source]	Number of Exceedances of GAC	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	Distribution Comment
Sulphate	6	188,000 [G1]	1	67,800	424,500	A singular exceedance was recorded at WS112.
Ammoniacal nitrogen	6	290 [G2]	1	<LOD	42,200	A singular exceedance was recorded at WS8 (adjacent to South Field Quarry landfill).
Arsenic	6	5 [G1]	1	<LOD	18.8	A singular exceedance was recorded at WS8 (adjacent to South Field Quarry landfill).
Nickel	6	15 [G1]	1	<LOD	16.0	A singular exceedance was recorded at WS112.
Fluoranthene	6	0.075 [G1]	1	<LOD	0.15	A singular exceedance was recorded at WS104.
Benzo(b)fluoranthene	6	0.05 [G1]	1	<LOD	0.09	A singular exceedance was recorded at WS104.
Benzo(a)pyrene	6	0.005 [G1]	1	<LOD	0.06	A singular exceedance was recorded at WS104.
Petroleum Hydrocarbons (Aliphatic C_{12} – C_{16})	6	300 [G1]	1	<LOD	400	A singular exceedance was recorded at WS104.
Petroleum Hydrocarbons (Aromatic C_{12} – C_{16})	6	90 [G1]	1	<LOD	210	A singular exceedance was recorded at WS104.
Petroleum Hydrocarbons (Aromatic C_{16} – C_{21})	6		1	<LOD	520	A singular exceedance was recorded at WS104.
Petroleum Hydrocarbons (Aromatic C_{21} – C_{35})	6		1	<LOD	260	A singular exceedance was recorded at WS104.

Table 5.2 Exceedances of Surface Water GAC in Groundwater

Contaminant	No. of Samples	GAC (µg/l) [Source]	Number of Exceedances of GAC	Minimum Concentration (µg/l)	Maximum Concentration (µg/l)	Distribution Comment
Cyanide	6	1.0 [S2]	2	<LOD	20.0	Concentrations of cyanide that exceed the GAC were recorded at WS112 and WS8, both at a concentration of 20µg/l.
Sulphate	6	400,000 [S2]	1	67,800	424,500	A singular exceedance was recorded at WS112.
Ammoniacal nitrogen	6	1,100 [G2]	1	<LOD	42,200	A singular exceedance was recorded at WS8 (adjacent to South Field Quarry landfill).
Iron	6	1,000 [S2]	2	<LOD	14,302	Exceedances of iron over the GAC were recorded at WS8 and WS104 (Made Ground).
Fluoranthene	6	0.0063 [S1]	1	<LOD	0.148	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.
Benzo(b)fluoranthene	6	0.00017 [S1]	1	<LOD	0.088	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.
Benzo(k)fluoranthene	6	0.00017 [S1]	1	<LOD	0.035	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.
Benzo(a)pyrene	6	0.00017 [S1]	1	<LOD	0.066	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.
Indeno(123-cd)pyrene	6	0.00017 [S1]	1	<LOD	0.02	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.
Benzo(ghi)perylene	6	0.00017 [S1]	1	<LOD	0.013	A singular exceedance was recorded at WS104 (Made Ground). All other concentrations were below MRL.

Notes relating to Tables above

The following criteria have been used to select GAC:

G1 – Hazardous substances in groundwater for waterbodies at 'High' WFD status: UKTAG Technical Report on Groundwater Hazardous Substances Sept 2016 plus accompanying Confirmed Hazardous Substances List (January 2018); or in the absence the following GAC were selected: Limits of quantification (minimum reporting values) represent best available values at the Environment Agency laboratories, based on the requirement of the QA/QC Directive and Concentration in Groundwater Below Which Danger of Deterioration in Receiving Groundwater is Avoided: Concentrations recorded as annual average.

G2 - The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

S1 – The Annual Average (AA) Environmental Quality Standard (EQS) provides protection against long term exposure to chemicals

S2 – Specific and other pollutants in surface water: EA EQSs to be utilised in surface water risk assessments as part of environmental permit applications and WFD assessments of works in coastal and transitional waters in England.

NC – No criteria available
N/A – Not applicable
<LOD – Below limit of detection

5.3 Controlled Waters Discussion

Groundwater samples were obtained from six wells in total, including three new wells (WS104, WS109 and WS112) and three existing (CP7, WS8 and WS9).

Various heavy-end TPHs were detected within the shallow perched water at WS104 only. These include fluoranthene, benzo(b)fluoranthene and benzo(a)pyrene and TPH fractions aliphatic C_{12} – C_{16}, aromatic C_{12} – C_{16}, aromatic C_{16} – C_{21} and aromatic C_{21} – C_{35}. The total TPH aliphatic and aromatic concentrations detected at WS104 were 2,765µg/l.

Trace concentrations of SVOCs were also detected at WS104, including (2-methylphenol (10.6µg/l, 2,4-dimethylphenol (19µg/l), 4-methylphenol (12 µg/l), phenol (2µg/l), carbazole (1.2 µg/l) and dibenzofuran (0.6µg/l).

The elevated TPH, PAHs and SVOCs at WS104 are consistent with the oily material and the higher TPH concentrations in soil at this location). Evidence from the soil sampling and other groundwater samples indicate that the extent of hydrocarbon contamination is limited and not likely to cause significant pollution. Exploratory locations in the vicinity down hydraulic gradient of WS104 recorded visual and olfactory evidence of impacts in soils e.g. oil staining and faint hydrocarbon type odours WS102 only, with impacts observed in WS106 or TP108. Groundwater in WS102, was only detected in one of the water level monitoring rounds with no visual or olfactory evidence of contamination. This indicates that the groundwater within WS104 is localised and is not migrating off-site.

The bedrock at WS104 is a stiff bluish grey extremely friable very silty mudstone, which had a slight hydrocarbon odour and a corresponding PID reading of 11ppm. No staining was observed on the bedrock and the PID readings are much less than the Made Ground. Therefore, based on this evidence, the hydrocarbon contamination appears to be restricted to the Made Ground and has not extended vertically downwards.

Other GAC exceedances in groundwater related to sulphate and nickel at WS112 and ammoniacal nitrogen and arsenic at WS8. The elevated concentrations of sulphate (424,500µg/l) may be attributed to the naturally high sulphate concentrations in mudstones. The high ammoniacal nitrogen concentrations at WS8 (42,200µg/l) is localised, as significantly lower concentrations were detected as WS9 (40µg/l), located 40m down hydraulic gradient. Ammonia is an indicator of landfill leachate, but the concentration detected does not indicate a substantial source of landfill leachates. There were also two detections of cyanide slightly above the GAC (20µg/l in both WS112 and WS8).

Nickel, arsenic and cyanide only marginally above the GAC and not considered significant or widespread.

Iron was detected at elevated concentrations at WS8 (14,302µg/l) and WS104 (2,548µg/l) both over the GAC of 1,000µg/l. Iron is often an indicator of anaerobic conditions and is likely to reflect reducing conditions created by the hydrocarbons detected in WS104 and evidence of ammonia (leachate indicator) in WS8. Other groundwater samples are more oxidising and this is reflected in the lower concentrations of iron elsewhere including the nearby WS9 (40m south). This provides evidence that natural attenuation is occurring and the hydrocarbons and ammonia are breaking down naturally (further reducing the risk of significant pollution occurring).

6. Ground Gas Assessment

6.1 Assessment Approach

Ground gases can be produced as a result of the decomposition of organic materials and may also originate from natural sources, such as coal seams and organic-rich soils. The principal components of ground gas are methane and carbon dioxide, although other gases may be present in trace concentrations. Ground gases can present a hazard to site occupants and property as result of flammable / explosive hazards, physiological effects, odour and effects on vegetation.

The ground gas assessment included in this report is provided for indicative purposes only and is not intended for use as a detailed ground gas risk assessment. Ramboll has applied a semi-quantitative method in line with current good practice guidance on risk assessment to assess ground gas risks. Full details of Ramboll's assessment methodology are presented in Appendix 2.

6.2 Ground Gas Monitoring Results

Potential ground gas sources at or in the vicinity of the site, and subject to assessment are detailed in Table 8.1 below:

Table 6.1 Ground Gas Sources

Potential Source	Source	Applicable Monitoring Locations
Potential Source 1	Made Ground - under the proposed development	WS102, WS104, WS105, WS106, WS107 (screened natural clay), WS112 (screened natural clay) and CP7
Potential Source 2	On-site landfill - south-eastern area of the site	WS103, CP1 and CP2
Potential Source 3	Off-site landfills – impacts to northern raised area	WS111, WS6, WS7, WS8, WS9 and CP11

In order to characterise the ground gas regime, six monitoring rounds were carried out between 12 October 2023 to 30 November 2023 . The number and frequency of monitoring rounds was based on guidance provided within CIRIA C655[9]. The ground gas monitoring results are provided in full in Appendix 3.

6.3 Results and Discussion

During the monitoring the following wells were recorded as flooded (where the resting groundwater is above the monitoring wells response zone) and therefore caution should be applied to the gas monitoring results:

[9] Assessing risks posed by hazardous ground gases to buildings; CIRIA C665, 2007

- WS106 during Round 2;
- WS109 during Rounds 2 and 3;
- CP7 during Rounds 2, 3 and 4; and
- WS9, WS12, WS110 and WS112 during Rounds 2, 3, 4, 5 and 6.

6.3.1 Atmospheric Pressure

All monitoring rounds were undertaken during periods of falling atmospheric pressure with the exception of Round 6 which was undertaken during steady atmospheric conditions. During Round 3, the atmospheric pressure fell more than 23mb within a 24 hour period prior to monitoring, hence giving a worst-case scenario.

Rounds 1, 5 and 6 were undertaken under high atmospheric pressure conditions (1012mb, 1017mb and 1003mb respectively); whereas Rounds 2, 3 and 4 were conducted under low atmospheric pressure (987mb, 960mb and 990mb respectively).

6.3.2 Flow Rates

In general steady state gas flow rates were recorded below or near to the instruments detection level of 0.1 litres per hour (l/hr). Only two locations recorded a flow rate of greater than 1.0l/hr; with 3.1l/hr recorded in WS103 and 3.5l/hr in CP1, both during Round 5.

The very low to negligible flow rates recorded over the six monitoring rounds do not indicate that large volumes of ground gases are being produced at the site or under the proposed development area. The area to the south-east (i.e. WS103, CP1 and CP2) in the vicinity of Old Field landfill has recorded elevated flow rates and ground gas concentrations (see Section 6.3.3 and 6.3.4). However, this area is outside of the development area and ground gas venting measures are currently in place (Ashton Bennett Consultancy, April 2022).

6.3.3 Methane

Methane recorded above the instrument detection limit (<0.1% volume by volume (v/v)) during the six monitoring rounds is discussed below.

Potential Source 1: Made Ground – Proposed Development Area

No significant methane concentrations were recorded within the vicinity of the proposed development. WS110 (located in the proposed service yard) detected peak methane concentrations of 0.1% v/v in Round 1 (no methane was detected in the following rounds).

Elevated lower explosive limit (LEL) concentrations were also measured during the monitoring. Wells screened within the Made Ground that exceeded LEL concentrations over the detection limit were limited to WS104 (7.7%) during Round 1 only, close to the proposed processing building. Further minor LEL concentrations were recorded in the service yard during Round 1; WS109 (0.5%) and WS110 (3.1%).

During Ashton Bennett's gas monitoring rounds in 2021, CP6 was located close to the proposed processing building and recorded a maximum methane concentrations at 0.2% v/v. WS18 was located close to the proposed admin building and recorded a maximum methane concentrations at 1.0% v/v.

Potential Source 2: On-site Landfill

Elevated methane concentrations were consistently recorded in the area of Old Field landfill (south-east of the site) in WS103, CP1 and occasionally CP2. At WS103, methane concentrations ranged between 29.2% v/v (Round 5) and 45.4%v/v (Round 3); CP1 ranged between 19.1 v/v (Round 4) and 31.1% v/v (Round 6). CP2 ranged between <0.1% v/v (Round 4 and 5) and 11.2% v/v (Round 3). The detections of methane generally corresponded with LEL of extremely flammable. All of these wells are screened within Made Ground material.

Potential Source 3: Off-site Landfill

WS7 and WS8 both recorded peak methane concentrations of 0.1% v/v during Round 1 (no methane was detected in following rounds).

The following elevated LEL concentrations were also recorded during Round 1:-

- WS111 (0.9%)
- CP11 (0.8%)
- WS6 (1.0%)
- WS7 (2.7%)
- WS8 (2.8%)
- WS9 (1.7%)

No further LEL concentrations were recorded above the instrument detection limit at any of the locations located on the northern raised area.

6.3.4 Carbon Dioxide

Carbon dioxide concentrations were variable throughout the site. Elevated carbon dioxide concentrations above 5% were recorded at the following locations:

Potential Source 1: Made Ground – Proposed Development Area

- WS102, located under the proposed admin building (during all monitoring rounds except Round 6, maximum concentration 13.3% v/v during Round 1);
- WS104, located close to the proposed processing building (during monitoring Rounds 1, 2 and 3, maximum concentration of 9% v/v during Round 3); and
- WS108, located in the proposed service yard (during monitoring Round 2, concentration of 6.9% v/v).

The location of the proposed admin building recorded carbon dioxide concentrations over 5% v/v during all monitoring rounds except Round 6 (WS102). This location recorded a negligible flow rate during all rounds except Round 6.

During Ashton Bennett's gas monitoring rounds in 2021, CP6 was located close to the proposed processing building and recorded a maximum carbon dioxide concentrations at 0.3% v/v. WS18 was located close to the proposed admin building and recorded a maximum carbon dioxide concentrations at 1.2% v/v.

Potential Source 2: On-site Landfill

- WS103 (during all monitoring rounds, maximum concentration of 23.8% v/v during Round 3);
- CP1 (during all monitoring rounds, maximum concentration of 18.9% v/v during Round 1); and
- CP2 (during monitoring Rounds 2, 3, 4 and 6, maximum concentration of 16.9% v/v during Round 2).

Potential Source 3: Off-site Landfill

- WS111 (during monitoring Rounds 2 and 4, maximum concentration of 9.1% v/v during Round 2); and
- WS8 (during monitoring Rounds 2 and 3, maximum concentration of 9.2% v/v during Round 2).

With the exception of WS103, CP1 and CP2 (Old Field Landfill), the majority of the locations did not record any steady state flow rates over the instrument detection limit corresponding with the maximum carbon dioxide concentrations.

Carbon dioxide concentrations were recorded under 5% v/v at a number of other locations, including locations in the vicinity of the proposed processing building (i.e. WS107, WS108 and WS109), with negligible flow rate detected at these locations.

It is assumed that the elevated carbon dioxide concentrations (i.e. above 5%) are considered likely to be associated with the frequent ashy clinker and brick deposits within the Made Ground and / or infilled ground throughout the site. The elevated concentrations at WS104 correlate with the field observations of hydrocarbon impacted shallow soils. It is considered likely that the degradation of hydrocarbons in soil and / or groundwater at WS104 is the source of the elevated ground gases.

6.3.5 Oxygen

Oxygen concentrations varied from <0.1 % by volume in WS103 and CP1 (south-east of the site within the vicinity of Old Field landfill) and 24.8 % by volume in WS7 (north of the site). Oxygen levels were recorded to be below 18 % by volume in wells screened in Made Ground consistently throughout the site, indicating that indicating depleted oxygen concentrations are present in the shallow ground.

Depleted oxygen concentrations were recorded during all monitoring rounds in select boreholes that generally correspond with the highest recorded methane and carbon dioxide concentrations and is likely to be a result of the carbon dioxide and methane concentrations displacing the oxygen.

Elevated oxygen levels recorded during Round 6 are likely to be affected by an instrument error on the oxygen sensor.

6.3.6 Carbon Monoxide

Carbon monoxide was generally detected at low concentrations (1ppm or <1ppm) at the majority of locations during all monitoring rounds. During Round 1, elevated carbon monoxide concentrations were detected at WS105 (11ppm), WS108 (3ppm), WS110 (31ppm), WS111 (7ppm), WS112 (47ppm). The following rounds did not record any carbon dioxide concentrations over 4ppm (WS111 during Round 3; WS109 during Round 4; WS102 and WS103 during Round 5 and WS105 during Round 6).

6.3.7 Hydrogen Sulphide

Hydrogen sulphide was generally detected at low concentrations (1ppm or <1ppm) at the majority of locations during all monitoring rounds. Elevated hydrogen sulphide concentrations were detected in boreholes located within the vicinity of Old Field landfill (i.e. WS103, CP1 and CP2) with a maximum concentration of 24ppm at WS103 during Round 3. The concentrations were variable, as all locations did not record any hydrogen sulphide concentrations above the instrument detection limit in Round 5 and 6. Within the remainder of the site, hydrogen sulphide concentrations follow a similar trend to carbon monoxide, where elevated concentrations were

detected during Round 1 (maximum 8ppm at WS112). The peak concentration following Round 1 was 2ppm.

6.3.8 Volatile Organic Compounds (VOCs)

During the ground gas monitoring a photo-ionisation detector (PID) was used to screen for the potential presence of VOCs within the monitoring wells. PID readings were typically recorded below the instrument detection limit or at low concentrations (below 1ppm). The borehole with the highest recorded VOC concentrations during all monitoring rounds was WS104 (maximum concentration of 3.3ppm during Round 4). The highest readings correspond with the evidence of hydrocarbon impact to soil and groundwater at this location.

6.4 Classification of Ground Gases

Details of Ramboll's assessment methodology is presented in Appendix 2 and a discussion of the results is provided below. The risk posed by ground gases has been assessed by calculating a Gas Screening Value (GSV). Details of Ramboll's GSV assessment are provided in Appendix 7.

A worst case GSV has been calculated based on the worst-case scenario, i.e. maximum ground gas concentrations and maximum steady state flow rates and applied as relevant to each of the potential sources; as summarised in Table 6.2. The GSV is used to support assessment of the site's characteristic situation (CS).

BS8485 guidance asks that a 'worst case' gas assessment be carried out by using the maximum flow / maximum concentration for each strata and zone to determine the GSV. Both BS8485 and NF94[10] highlights that the assessor should be confident that this is a prudent and reasonable approach and does not result in over-conservatism. Multiple lines of evidence should be used to derive the GSV. A worst-case assessment is not appropriate where continuous monitoring has been used.

Table 6.2 Ground Gas Assessment

Potential Source	Maximum Steady State Flow Rate (l/hr)	CO_2		CH_4		Characteristic Situation
		Maximum Steady State Gas Concentration (% v/v)	GSV (l/hr)	Maximum Steady State Gas Concentration (% v/v)	GSV (l/hr)	
Potential Source 1 (proposed processing building)	0.1	9.0	0.009	0.1	0.0001	CS1
Potential Source 1 (proposed admin building)	-0.3	13.3	-0.040	0.1	0.0003	CS2
Potential Source 2	3.5	45.4	1.589	24.1	0.8435	CS3
Potential Source 3	-0.6	9.2	-0.055	0.1	-0.0006	CS1

Based on BS8485[7]

Current guidance[11] indicates that where methane is typically greater than 1% and/or carbon dioxide is typically greater than 5%, consideration should be given to increasing the classification

[10] Hazardous Ground Gas - An essential guide for housebuilders (NF94). NHBC, April 2023.

[11] British Standard Institute (2015) Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Building 8485:2015+A1:2019

from CS1 to CS2. In such circumstances of increase in classification, gas protection measures would be required.

Potential Source 1: Made Ground – Proposed Development Area

The carbon dioxide GSV ranged between 0.009 l/hr and -0.040 l/hr . All GSVs correspond to 'Characteristic Situation 1' (CS1, very low hazard) in BS8485. However, due to the consistent elevated carbon dioxide concentrations at WS102 (under the proposed admin building), Ramboll considers it prudent to raise the GSV to CS2 (low hazard), with basic gas protection measures incorporated into the development. This is also partly due to the landfill material at and nearby to this location.

The methane GSV ranged between 0.0001l/hr and 0.0003l/hr. All GSVs correspond to 'Characteristic Situation 1' (CS1, very low hazard) in BS8485.

Carbon dioxide concentrations slightly above 5% were recorded in WS104 (beneath the eastern side of the proposed processing building) during three of the six monitoring rounds. WS104 encountered Made Ground to 2.95m bgl comprising clay with varying amounts of brick and concrete, with visual and olfactory evidence of hydrocarbons. It is likely that the carbon dioxide is a result of biodegradation of localised impacts of hydrocarbons, as no significant quantities of putrescible materials were observed in this location. No flow was recorded in WS104 during any of the monitoring rounds indicating that only limited volumes of ground gas are being generated. Furthermore, no significant quantities of carbon dioxide were recorded in the other three locations (WS105, WS106 and WS112) in the vicinity of the proposed processing building. Whilst a GSV of CS1 (very low risk) has been calculated for the area around the proposed processing building, Ramboll considers it prudent to recommend a GSV of CS2 (low risk) for any enclosed rooms such as offices.

Carbon dioxide concentrations slightly above 5% have been consistently encountered in WS102 (beneath the proposed office building) during the monitoring rounds. WS102 encountered Made Ground to 4.0m bgl comprising ashy material in the Made Ground which is unlikely to contain any significant quantities of degradable organic material. Only very low borehole flow rates were recorded during the final round (-0.3l/hr during Round 6) indicating that only limited volumes of ground gas are being generated. Despite WS102 calculating a GSV of CS1 (very low risk), Ramboll considers it prudent to recommend a GSV of CS2 (low risk) for the proposed office building given the carbon dioxide concentrations and proximity to the former Old Field landfill.

Potential Source 2: On-site Landfill

The calculated carbon dioxide GSV 1.589l/hr. This GSV correspond to 'Characteristic Situation 3' (CS3, medium hazard) in BS8485. The calculated methane GSV is 0.8435l/hr. This GSVs correspond to 'Characteristic Situation 3' (CS3, medium hazard) in BS8485.

Potential Source 2 is located adjacent to the proposed admin and processing buildings. Elevated readings of carbon dioxide and methane on-site were recorded within the on-site landfill, with lower readings recorded outside of this source area. This indicates that landfill gas migration is not considered to be occurring at significant rates.

Methane concentrations above 1% have been encountered at WS103 and CP1 during one or more of the monitoring rounds. All of these wells are located within the footprint of the former Old Field landfill where deeper Made Ground is present (up to 11.5m bgl). The higher concentrations

of methane are considered to be associated with degradable organic landfill material. Maximum borehole flow rates at WS103 (3.1l/hr during Round 5) and CP1 (3.5l/hr during Round 5) indicates that a continuous ground gas source is present within the south-east of the site. There are gas mitigation measures in place to vent the ground gases, and the ground gas does not seem to have migrated towards the west and the proposed development.

Potential Source 3: Off-site Landfill

In the northern area of the site, the calculated GSV for carbon dioxide (-0.055l/hr) and for methane (-0.0006l/hr) correspond to 'Characteristic Situation 1' (CS1, very low hazard) in BS8485.

Ashton Bennett Gas Monitoring GSV

The Ashton Bennett report from 2021 calculated the GSV of the entire site to be 0.017 (CS1 (very low hazard)). However, they suggested that the site be classified as CS2 (low risk) due to elevated concentrations of methane and carbon dioxide. The report did not zone the site into separate areas that could be classified individually.

6.5 Future Development

The design of future buildings on site will need to take into account the findings of this gas risk assessment and will need to consider the incorporation of ground gas protection measures for the proposed use of the site (the proposed admin building and any enclosed rooms/offices of the proposed processing building). The requirement (or otherwise) and design of gas protection measures will need to be agreed in consultation with the building control authority prior to construction and implemented in line with guidance provided in BS8485 which includes consideration for the building's construction and use.

7. Source-Pathway-Receptor Risk Assessment

7.1.1 Qualitative Risk Assessment

The PCLs which were identified at PRA stage as posing a potentially significant risk are considered further by reassessment based on the ground investigation findings. This forms a qualitative risk assessment.

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed in Appendix 2. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways between them.

This qualitative risk assessment has been undertaken by definition of risk categories in accordance with NHBC and EA guidance, further details of which are provided in Appendix 2.

Table 7.1 summarises the updated assessment of PCLs and risk categories associated with the proposed development as assessed following interpretation of the results of the ground investigation.

Table 7.1 Updated Conceptual Site Model

Potential Contaminant Linkage	Source	Distribution	Contaminants of Concern	Pathway	Receptor	Probability of Risk being Realised	Consequence of Risk being Realised	Risk Classification
PCL1	Made Ground soils	No significant soil contamination, two detections of asbestos in Made Ground. Potential for asbestos elsewhere including fragments observed on the site surface	TPH and asbestos	Contact or inhalation/ingestion of soils and soil dust	Construction workers and nearby land users	Low	Mild	Low, risk mitigated during construction by appropriate Risk assessments and method statements
PCL2	Leaching of TPH and PAHs into shallow perched water	In soil and perched groundwater at WS104, localised exceedances of TPH and PAHs exceed the GAC in groundwater	Localised TPH / PAHs	Vertical migration of contamination groundwater	Secondary A Aquifer	Low	Mild	Low, significantly mobile contamination not detected
PCL3				Migration of contaminanted groundwater to watercourse(s)	Surface water	Low	Minor	Low, receptor is 110m south-west and no evidence of significant lateral contaminant migration
PCL4	Vapours arising from soil and groundwater contamination	Mainly centred around the proposed development (processing building and admin building)	Carbon dioxide, methane and VOCs	Migration of vapours/ground gases into buildings and structures	Future buildings	Low	Medium	Low to Moderate, no significant sources of ground gases have been identified in the development area. Basic gas protection measures in new buildings would be prudent (CS2).

Risks identified as being moderate/low or higher are considered to be significant and are therefore PCLs of concern for which further actions are required.

7.2 Climate Change Considerations

The UK Government and devolved administrations have produced climate change adaptation programmes, including plans for both mitigating and adapting to climate change. SDGs support the development of Sustainable Cities and Communities (SDG No. 11), Clean Water and Sanitation (SDG No.6), sustainable ecosystems (SDG No.14. Life below Water and SDC No. 15 Life on Land). It is therefore important to recognise how changes in weather / season / climate could affect the ground conditions that were encountered during the investigation.

Climate change projections[12] demonstrate that in the UK the following conditions are expected to result from future climate change: drier and hotter summers, wetter and milder winters, a higher frequency of intense rainfall periods and sea level rise. The following are considered relevant to the assessment:

- Drier, hotter weather – potential for low permeability horizons to desiccate and permit a higher rate of infiltration, loss of Groundwater Dependent Terrestrial Ecosystems (GWDTEs), migration of contaminants from surface into subsurface, increase in groundwater abstractions causing change in flow paths or introducing new receptors, reduced leaching, loss of vegetation
- Wetter weather – causing increased leaching and runoff, increased contaminant mobilisation, changes to locations of surface water receptors
- Higher water table – mobilisation of contaminants which are currently within the unsaturated zone, mobilisation through pathways such as service / drainage routes that previously were above the water table, new groundwater-surface water interaction, introduction of new GWDTEs
- Greater fluctuation of water table – changes to groundwater discharge locations and flow directions
- Temperature changes – changes to the stability / degradation and volatilisation rate of contaminants in soil / groundwater

Based on the above considerations, the updated CSM presented in Table 7.1 could be affected such that there is a change in the following risks:

- The CSM may be influenced by wetter weather and changes in shallow water table. The potential for the leaching / mobilisation of contaminants into perched water may be exacerbated by adverse weather over the next 100 years. Although this cannot be ruled out, the likelihood of significant changes to the CSM is not expected at the site due to groundwater anticipated at depth.

[12] Meteorological Office UK (2018). UKCP18 Land Projections: Science Report. Updated March 2019.

8. Preliminary Waste Assessment

8.1 Methodology

The assessment has been undertaken using available soil chemical data and HazWasteOnline, a web-based tool for classifying waste. The software utilises EA guidance and European regulations to classify samples in line with current requirements. Further details of the waste classification methodology are provided in Appendix 2.

8.2 Soils Assessment

Samples collected during the ground investigations were submitted for laboratory analysis for a range of contaminants based on the history of the site. The results were combined and entered into the HazWasteOnline assessment tool, including:

- 31 samples of Made Ground; and
- Two samples of natural clay and sand, and a sample of friable mudstone (from the Weathered Coal Measures).
- Four samples were submitted for Waste Acceptance Criteria (WAC) results (WS108, WS111 and TP108 (Made Ground) and WS110 (natural sandstone)).

The results of the four WAC results undertaken are shown in Table 8.1, along with any potential hazardous results obtained from the HazWasteOnline assessment. The HazWasteOnline output sheets for all the screened samples are provided in Appendix 8.

The Hazardous Waste (England and Wales) Regulations[13] requires that any waste having an asbestos content greater than 0.1 % w/w be classified as Hazardous Waste. Any waste with a total asbestos content of less than 0.1 % w/w can be classified as non-hazardous waste, unless there are other contaminants present which would make the waste hazardous. Details of asbestos testing are provided in Table 10.1.

Table 10.1 Preliminary Waste Classification Assessment

ID	Depth (m bgl)	Waste Classification (European Waste Management Regulations)	Hazardous Properties	Asbestos (x/✓)	Landfill Type Based on WAC Results	Waste Assessment Outcome
Made Ground						
WS104	0.40 – 2.70	Hazardous	HP 7; HP 11	✗	Hazardous	Hazardous
WS108	0.30	Non-hazardous	NA	✗	Inert	Inert
WS111	2.20	Non-hazardous	NA	✗	Inert	Inert
TP108	0.30 – 0.60	Non-hazardous	NA	✓ <%0.001	Stable non-reactive hazardous	Stable non-reactive hazardous

[13] UK Statutory Instruments (2005) Hazardous Waste (England and Wales) Regulations. No. 894

ID	Depth (m bgl)	Waste Classification (European Waste Management Regulations)	Hazardous Properties	Asbestos (x/✓)	Landfill Type Based on WAC Results	Waste Assessment Outcome
Natural Strata						
WS110 (Weathered Coal Measures)	1.40	Non-hazardous	NA	✗	Inert	Inert

In all four WAC tests, the pH exceeds >6 guideline for a 'stable non-reactive hazardous waste in non-hazardous landfill' criteria limit. All other results are below or fall into an 'inert waste landfill', so if material was to be exported off-site it is likely that it would be accepted by an inert landfill.

8.3 Discussion

The preliminary waste assessment suggests that the majority of the underlying Made Ground beneath the concrete hardstanding, as well as the stockpiled material throughout the site is suitable for re-use on-site. If unexpected contamination is detected, appropriate soil sampling will need to be undertaken to assess the suitability of the material and to assess potential disposal methods.

Note that the indicative waste classifications provided as a part of this assessment should be confirmed by any receiving facility prior to disposal, under Duty of Care, following discussions with the producer of the waste. Additional WAC analysis is likely to be required to be undertaken by the contractor prior to disposal, under current legislative requirements post excavation.

Should the re-use of site won materials be considered suitable, consideration should be given to the risk to human health and the environment that any such material may pose as part of its new use. This could be under for example, the provisions of the CL:AIRE Definition of Waste Development Industry Code of Practice[14].

[14] CL:AIRE (2011) The Definition of Waste: Development Industry Code of Practice Version 2. ISBN 978-1-905046-23-2

9. Water Supply Pipes Assessment

This preliminary water supply pipes assessment has been completed in accordance with the principles outlined in the UK Guidance for the Specification of Water Supply Pipes to be used in Brownfield Sites (UK Water Industry Research Ltd. UKWIR, 2010 and 2014[15]). This preliminary water supply assessment is a guide to inform the local water authority, therefore further assessment will be required to fulfil the UKWIR recommendations.

This guidance provides threshold concentrations for different pipe material for various chemical groups which site conditions have been compared to. A full assessment for suitable water supply pipes would require knowledge of pipe routes and is beyond the scope of this report.

The pipeline materials considered by the guidance are polyethylene (PE), polyvinyl chloride (PVC), wrapped steel, wrapped ductile iron or copper pipe and barrier pipe. PE and PVC are assessed using threshold concentrations for various chemical groups including VOCs with tentatively identified compounds (TICs), SVOCs with TICs, and mineral oils. Wrapped steel, wrapped ductile iron and copper pipe are assessed using corrosive soil properties.

Site specific results have been assessed in outline, in general accordance with UKWIR methods. Findings are summarised in Table 11.1.

Table 11.1 Water Pipe Assessment

Test Group	Testing Required?	Threshold – PE/PVC Pipes mg/kg	Threshold - Metal Pipes/ Barrier Pipe	Maximum Concentration mg/kg	Pipe Suitability
Total VOCs	Where Preliminary Risk Assessment (PRA) has identified land potentially affected by contamination	0.5	Pass	0.212	PE/PVC or metal/barrier pipe suitable
Total BTEX & MTBE		0.1	Pass	0.02	PE/PVC or metal/barrier pipe suitable
Total SVOCs (excluding PAHs and those substances marked with an *)		2	Pass	0.93	PE/PVC or metal/barrier pipe suitable
EC5-EC10 aliphatic and aromatic hydrocarbons		2	Pass	1.4	PE/PVC or metal/barrier pipe suitable
EC10-EC16 aliphatic and aromatic hydrocarbons		10	Fail	993	Metal / barrier pipe only suitable
EC16-EC40 aliphatic and aromatic hydrocarbons		500	Fail	3,968	Metal / barrier pipe only suitable
Phenols* (from SVOC analysis)		2	Pass	0.035	PE/PVC or metal/barrier pipe suitable
Cresols and chlorinated phenols* (from SVOC analysis)		2	Pass	0.048	PE/PVC or metal/barrier pipe suitable

Note [1] Threshold:

- For wrapped steel, corrosive if pH<7 and conductivity > 400µS/cm

[15] UKWIR 2010 and 2014 Update. Guidance for the Selection of Water Supply Pipes to be Used in Brownfield Sites 10/WM/03/21

- For wrapped ductile iron corrosive if pH<5, Eh not neutral and conductivity > 400µS/cm

Areas that failed the EC10-EC16 aliphatic and aromatic hydrocarbons PE/PVC pipe threshold of 10mg/kg were HD6, HD9, TP107, WS104 and WS103. HD6, HD9 and TP107 are located on the south-western boundary or within Old Field landfill. WS103 and WS104 are located south-central or central to the site.

Areas that failed the EC16-EC40 aliphatic and aromatic hydrocarbons PE/PVC threshold of 500mg/kg were TP107, WS104 and WS103. WS103 and WS104 are located south-central or central to the site.

The other areas of the site would be suitable for PE/PVC pipe, although it may be prudent to undertake further testing in the areas of proposed service trenches to further assess the suitability of plastic pipes.

This constitutes a preliminary assessment relating to the selection of suitable water supply pipe materials. Details contained within this preliminary assessment should be provided to the local planning authority and the local water authority to inform discussion with them and to agree suitable water supply pipe materials to be used for the development.

10. Conclusions and Recommendations

10.1 Conclusions

Ramboll has undertaken a GQRA at the Stairfoot Glassworks, Barnsley. This assessment has been undertaken on the basis that the site will be redeveloped for an end-use comprising a glass and metal recycling facility with associated buildings and outside yard areas. The buildings will include the construction of a clad building for internal processing works (from herein “processing building”), construction of a workshop and admin office building, construction of; a gatehouse, external cullet bays, external processing area, lorry park, storage areas, car park and access.

The scope comprised twelve window samples drilled to a maximum depth of 4.0m bgl, eight trial pits excavated to depths ranging between 1.50m above ground level to 3.20m bgl and nine hand dug pits to 0.30m bgl. Groundwater and gas monitoring standpipes were installed at all window sample locations. One groundwater monitoring round and six gas monitoring rounds were undertaken on newly installed monitoring wells and accessible previously installed monitoring wells following the commencement of the site investigation.

The geology encountered at the site comprised reinforced concrete or bituminous tarmacadam within the centre of the site, underlain by Made Ground soils comprising silty sandy soils with brick, concrete, clinker and ashy material to a maximum depth of 4.0m bgl. Rare glass, clothing and confectionary wrappers were detected in WS103 in the area of Old Field landfill. Bedrock geology of the Pennine Middle Coal Measures was identified underneath weathered soft to stiff silty / sandy clays with gravels of lithorelicts overlying brown mottled grey friable mudstone / sandstone and siltstones.

Up to 30 soil samples were submitted for chemical testing. Soil samples were screened against GAC protective of human health in a commercial / industrial end use. No exceedances of GACs were detected in any soil samples. Asbestos fibres in the form of fibrous chrysotile bundles were only detected in two of the 21 samples submitted for asbestos screening (WS101A and TP108). Subsequent quantification analysis on samples from WS101A and TP108 did not record asbestos fibres above the detection limit <0.001%. Visual / olfactory evidence of soil contamination was limited to slight hydrocarbon type odours, although oily stained material was detected in WS102 (at 3.8m bgl) and in WS104 (between 0.25m bgl to 1.30m bgl and 2.50m bgl and 2.95m bgl) in Made Ground soils. TPH concentrations along with phenolic compounds were detected in samples from WS104 although no concentrations exceeded their respective GAC.

Six groundwater samples were obtained and screened against GAC / EQS for the protection of the underlying Secondary A Aquifer and surface water receptors (Dob Sike, 110m south-west). The risk to both receptors is deemed to be *low to moderate*, despite some marginal TPH, PAH, metal and inorganic compound exceedances over the GAC and EQS. Vertical migration into deeper groundwater is unlikely from perched water due to anticipated groundwater being at depth and a clay confining layer from the weathered Coal Measures being present. The impacts to shallow perched water are generally localised and are not widely detected throughout the site.

Ground gas monitoring was conducted over six rounds of varying atmospheric conditions. The majority of wells (including under and around the proposed development) were Characteristic Situation 1 (CS1) (very low risk). WS102 (under the proposed admin building) and WS104 (under the proposed processing building) had consistent carbon dioxide concentrations over 5% volume with a negligible steady state flow rate. Although only a marginally elevated reading, Ramboll consider it prudent for the admin building to be classified as CS2 (low risk) given the proximity of

landfills and levels of ground gas elsewhere on the site. Given the scale of the admin building the addition of basic gas protection measures should not be an onerous undertaking (for example, this could be achieved through installing a gas membrane or venting beneath the building). Given the activities and construction type of the proposed processing building (large open warehouse), the gas risk could remain at CS1 (very low risk); however, any enclosed rooms such as offices it may be prudent to increase the classification to CS2 (low risk).

Higher concentrations of methane and carbon dioxide were recorded at WS103, CP1 and occasionally CP2 towards the south-east of the site (in the area of Old Field landfill) and this area is classified as CS3 (medium risk); although no development is planned in the area.

Following WAC testing and a waste assessment using available soil chemical data using HazWasteOnline, the Made Ground impacted soils at WS104 would be classified as hazardous waste. All other soil samples located throughout the site assessed were classified as non-hazardous.

The water supply pipe assessment has indicated that the threshold for metal pipes or barrier pipes has failed for EC_{10}-EC_{16} and EC_{16}-EC_{40} aliphatic and aromatic carbons, within the area of HD6, HD9, TP107, WS103 and WS104. The assessment indicates that metal / barrier pipe is only suitable within these areas.

Overall, Ramboll has sufficiently characterised the soil, groundwater and ground gas regime at the site. With respect to soil and groundwater the risk posed to human health and environmental receptors is deemed to be *low to moderate*.

In conclusion, the GQRA has not identified significant ground contamination. The PRA had raised concerns that contamination may be present largely due to past landfilling; however no significant Made Ground was evident within the development area of the site. No remedial action is considered necessary to protect the environment. However, standard brownfield mitigation measures will be needed for the proposed development, including basic gas protection in some buildings and management of waste soils generated through ground works. There could be abnormal costs associated with, for example, disposal of contaminated and surplus soils and other materials deposited onto the site. Appropriate development and contractor method statements and risk assessments should be prepared, including an asbestos management plan.

Ramboll recommends that the area of the site that is to remain as soft landscaping should be thoroughly inspected and cleared of wastes and materials that could cause a contaminant or physical hazard if accessed by future site users. Managing the landscaping in a nature positive way would increase biodiversity at the site and may provide additional credits for the site or wider business.

A remediation strategy should also be prepared to formalise those actions needed for the proposed development (including gas protection measures, procedures for unexpected contamination and contractor responsibilities).

10.2 Sustainability

The findings discussed within this report support sustainable development of the site; through strategic sampling and analysis of various environmental media including soil and groundwater, combined with technically robust investigation and risk assessment processes. This facilitates proportionate and scientifically justifiable recommendations to reduce risks to humans and

ecosystems alike. It allows for development of sustainable remedial measures and management of soils.

10.3 Recommendations

The assessments undertaken herein have resulted in the identification of one plausible pollutant linkages that require further investigation or remedial intervention in order to deliver a site that is suitable for use for the proposed development.

The recommended next steps are summarised in Table 10.1.

In accordance with good practice in developing brownfield land, it is recommended that a watching brief is implemented during ground works to identify unforeseen ground conditions or localised contamination hotspots (e.g. concentrated pockets of ash, asbestos or hydrocarbons). If previously unforeseen contamination is identified, the risk assessment should be updated accordingly.

Table 10.1 Recommended Next Steps

Potential Contaminant Linkage (PCL) of Concern	Recommendation	Timescales	Implications	Likely Interactions and Stakeholders
PCL1 Contact or inhalation/ingestion of soils and soil dusts during construction, posing a risk to construction workers and nearby land users e.g. from lead, BaP and asbestos; site-wide.	Risk management measures required to address potential risks to human health during and after construction. Mitigated with standard PPE and provision of dust control measures. Such measures would need to be included within a construction environmental management plan (CEMP).	Prior to development	Construction	Development contractor
PCL2 and PCL3 Leaching of hydrocarbons and PAHs from Made Ground into underlying groundwater affecting water quality across the site, and potentially affecting surface waters	Impacts in the Made Ground are not widespread. Should the development required movement of excavated soils within the site, then a Material Management Plan (MMP) should be implemented to control the risks of moving impacted soils currently under hardstanding to open unsurfaced areas.	Prior to development	Design	EA, local authority and development contractor
PCL4 Release of ground gases, and build-up of these in confined spaces. Inhalation of gases in the proposed new buildings or confined spaces.	Gas mitigation measures are required to be incorporated into the development design for the admin building. This is required due to consistent carbon dioxide concentrations over 5% (maximum 13.3% v/v) and the location being located within the vicinity of the Old Field landfill. Risk management measures required in remedial strategy. Gassing regime may become more onerous as a result of development causing lateral migration of ground gas or increased gas generation.	Prior to development	Design	Local authority and development contractor

Ramboll's PRA identified that basic radon protection measures are required in newly constructed / extended residential properties. Further, assessment is required to determine if gas radon

protective measures are required in commercial buildings e.g. the offices; however, it may be prudent to install radon protective measures during construction.

Appendix 1

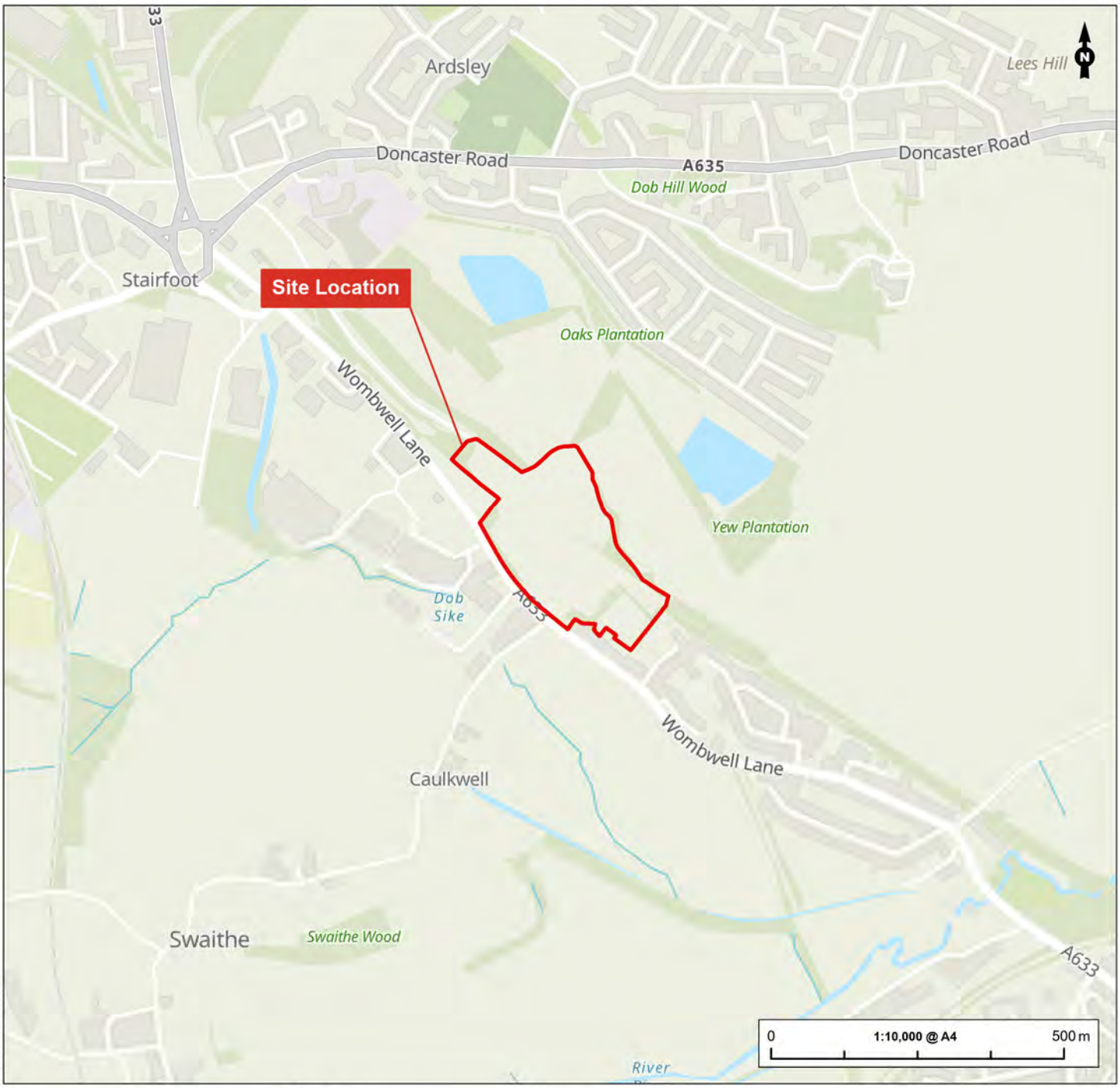
Figure 1: Site Location

Figure 2: Site Layout

Figure 3: Site Investigation Locations

Figure 4: Proposed Development Overlay

Figure 5: Groundwater Levels



RAMBOLL	Figure Title: Site Location	Project Name: Stairfoot Glassworks	Date: March 2024
			Prepared By: MP / Figure No.: 1
	Client: **Potters Ballotini Limited**	Project No./Filery ID: 1620015371-002 / REH2023N03396	Scale: As Shown / Revision: 1.0

1620015371_002_RAM-MA-CS-00001_SiteLoc_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

Site Boundary

Figure Title
Site Layout

Project Name
Stairfoot Glassworks

Project No./Filery ID
1620015371-002 / REH2023N03396

Date	Figure No.	Revision
March 2024	2	1.0

Prepared By	Scale
MP	1:2,500 @A4

Client
Potters Ballotini Limited

RAMBOLL

1620015371_002-RAM-MA-CS-00002_SiteLayout_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

- Site Boundary
- Hand Dug Pit
- Trial Pit
- Window Sample
- Ashton Bennett Borehole

Figure Title
Borehole Location

Project Name
Stairfoot Glassworks

Project No./Filery ID
1620015371-002 / REH2023N03396

Date	Figure No.	Revision
March 2024	3	1.0

Prepared By	Scale
MP	1:2,000 @A3

Client
Potters Ballotini Limited

RAMBOLL

1620015371_002-RAM-MA-CS-00003_BHLocation_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

- Hand Dug Pit
- Trial Pit
- Window Sample
- Ashton Bennett Borehole
- Site Boundary

Site Plan Key

1. Existing hard-standing.
2. Hard landscaping as Landscape Architect design.
3. Soft Landscaping as Landscape Architect design.
4. Tarmac surfacing to form access road.
5. External plant area.
6. Approved 2.4m high weldmesh fence, powder coated green RAL 6005. See Planning approval 20221218 for more detail.
7. Bin store enclosure.
8. 1m high retaining brick wall.
9. 2.5m high wall.
10. External client processing machinery shown indicatively.
11. Pedestrian gate.
12. Approved main access 2.4m high cantilever sliding gate. see Planning approval 20221218 for more detail.
13. Site level reduced to accomodate cullet bays.
14. 5m high concrete panels form acoustic barrier around cullet bay.
15. Sedum roof.
16. Cycle shelter.

Figure Title
Proposed Development Overlay

Project Name
Stairfoot Glassworks

Project No./Filery ID
1620015371-002 / REH2023N03396

Date	Figure No.	Revision
March 2024	4	1.0

Prepared By	Scale
MP	1:2,000 @A3

Client
Potters Ballotini Limited

RAMBOLL

1620015371_002-RAM-MA-CS-00004_ProposedDevelopmentOverlay_03.pagx

Proposed Site Plan 965-D5A-XX-XX-DR-A-0003-Proposed_Site_Plan-A3-C01.dwg crated by D5 Architecs LLP

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

- Site Boundary
- Groundwater Contour
- Ashton Bennett Borehole
- Window Sample
- Groundwater Flow Direction

Figure Title
Groundwater Level 09.11.2023

Project Name
Stairfoot Glassworks

Project No./Filery ID
1620015371-002 / REH2023N03396

Date	Figure No.	Revision
March 2024	5	1.0

Prepared By	Scale
MP	1:2,000 @A3

Client
Potters Ballotini Limited

RAMBOLL

1620015371_002-RAM-MA-CS-00005_GroundwaterContourPlot_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Appendix 2
Legislative Context and Methodology

Legislative Context

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently revoked with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380) (as amended), which came into force in August 2006, and consolidated the previous regulations and amendments. Revised statutory guidance ("the Guidance") for local authorities on how to implement the regime, including the decision-making process on whether land is contaminated land in the legal sense, has been published by Defra and entered into force in April 2012.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… to be in such a condition, by reason of substances in, on or under the land, that:

a) significant harm is being caused or there is a significant possibility of such harm being caused[1]; or
b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused".

"Significant harm" is defined in the Guidance on risk-based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land. The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. Under the Guidance, a 'significant contaminant linkage' is one which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land. Should the authority consider that there is an unacceptably high probability, supported by robust science-based evidence that significant harm would occur if no action is taken to stop it, the land should be deemed a Category 1: Human Health. Land should be placed into Category 2 if the authority concludes, on the basis that there is a strong case for considering that the risks from the land are of sufficient concern, that the land poses a significant possibility of significant harm. Both Category 1 and Category 2 cases would be capable of being determined as contaminated land under Part 2A on the grounds of significant possibility of significant harm to human health. If the legal test for significant possibility of significant harm is not met, the authority should place the land into Category 3. If the local authority considers that there is no risk or that the level of risk posed is low, the land should be placed into Category 4.

The pollution of controlled waters is defined in Section 78A(9) of the Act as "the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter". The new Guidance stresses that the Part 2A regime is designed to identify and deal with 'significant pollution' and not lesser levels of pollution. As with human health risk, Categories 1 and 2 comprise land where the local authority considers that a significant possibility of significant pollution of controlled waters exists and Categories 3 and 4 comprises cases where the authority considers that a significant possibility of such pollution does not exist. The local authority should be satisfied that a substance is continuing to enter controlled waters or is likely to enter controlled waters.

Risk Assessment Framework

"Significant harm" or "significant pollution of controlled waters" is defined in the Guidance on risk-based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land.

The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. For a risk

[1] Water Act 2003 (Commencement No. 11) Order 2012

of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A source - a substance that is capable of causing pollution or harm;
- A receptor - something which could be adversely affected by the contaminant; and
- A pathway - a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

The Land Contamination: Risk Management[2] (LCRM) provides the technical framework for structured decision making about land contamination. LCRM advocates a phased approach, commencing with Stage 1 Risk Assessment comprising:

- Preliminary Risk Assessment (PRA) – desk study and qualitative assessment to develop of an outline Conceptual Site Model (CSM);
- Generic Quantitative Risk Assessment (GQRA) – an estimation of risk through assessment of contaminant concentrations against generic assessment criteria; and
- Detailed Quantitative Risk Assessment (DQRA) – an estimation of risk through detailed site-specific risk assessment and development of site-specific assessment criteria (SSAC) and site-specific risk assessment.

Each stage of assessment is focussed upon the development and refinement of a conceptual site model, which identifies Source-Pathway-Receptor linkages. The conceptual site model has been developed with consideration to guidance including BS EN ISO 21365:2020 Soil quality – Conceptual site models for potentially contaminated sites.

Risk Estimation

An assessment of environmental risks is made for each potential pollutant linkage identified.

Risk estimation has been completed in accordance with the guidance provided in:

- NHBC and Environment Agency 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008.

The following is taken directly from NHBC/EA 2008. The key to the classification is that the designation of risk is based upon the consideration of both:

- the magnitude of the potential consequence (i.e. severity) [takes into account both the potential severity of the hazard and the sensitivity of the receptor]; and
- the magnitude of probability (i.e. likelihood) [takes into account both the presence of the hazard and receptor and the integrity of the pathway].

[2] Land Contamination: Risk Management (LCRM), published by the Environment Agency on 8 October 2020

Table 1: Classification of Consequence (after NHBC/EA 2008)

Category	Definition
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to **EA Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.
Mild	Exposure to human health **unlikely** to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Table 2: Classification of Probability (after NHBC/EA 2008)

Category	Definition
High Likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
Low Likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place and is less likely in the shorter term.
Unlikely	There is pollutant linkage, but circumstances are such that it is improbable that an event would occur even in the very long-term.

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Table 3: The Classification of Risk (after NHBC/EA 2008)

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	**Very high**	High	Moderate	Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/ Low	Low	Very low
	Unlikely	Moderate/ Low	Low	Very low	Very low

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier

would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk
It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk
There is no potential risk if no pollution linkage has been established.

GQRA Methodologies

In order to assess the significance of contaminant concentrations, Ramboll has derived Generic Assessment Criteria (GAC) for screening purposes. GAC are derived for each critical receptor identified. Receptors are considered in relation to:

- Human health receptors (e.g. site users); and
- The water environment (e.g. groundwater and surface water).

Potential risks to human health are considered primarily using measured concentrations of contaminants in soil. Potential risks to the water environment are considered primarily using groundwater and soil leachate (most commonly in the absence of groundwater) concentrations as indicative of the potentially mobile fraction of any soil impact.

Additional receptors may be relevant, dependent on the site e.g. flora/fauna, agricultural use, water supply pipes, buried concrete etc. These are considered separately on a site specific basis if relevant.

Soil Human Health Risk Assessment

The Ramboll GAC for human health risk assessment of soils are based on the generic scenarios outlined in the Defra[3] SP1010 guidance, Contaminated Land Exposure Assessment (CLEA) methodology and associated guidance documents. The Ramboll GAC have been calculated by use of two proprietary risk assessment models (CLEA Version 1.071 and the ASTM RBCA[4] Tool Kit Version 2.6 for Chemical Releases) which have been altered, where necessary, to reflect the current UK approach to human health risk assessment as set out in LCRM, DEFRA SP1010 guidance, and the CLEA guidance documents (incorporating Science Reports SC050021/SR2 (January 2009), SR3 (January 2009), SR4 (September 2009) and the SGV reports (2009)). The Ramboll GAC include the conservative assumptions of a sandy soil type and 1% soil organic matter.

A methodology for derivation of screening values, the Category 4 Screening Levels, or C4SLs, has been developed and endorsed for use by Defra that describe a low level of risk just below the Category 3/4 boundary set in the Statutory Guidance, i.e. where concentrations are below the C4SL, there is no risk or the level of risk is acceptably low. Initially, C4SLs were developed for six common contaminants (benzo(a)pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead). The Environment Agency states under their LCRM approach that they expect C4SL values to be used in risk assessments for land contamination. C4SLs for additional compounds are being developed by Contaminated Land: Applications in Real Environments (CL:AIRE) and are published on their website when approved for publication[5]. Currently additional C4SLs have been published for vinyl chloride, trichloroethene, tetrachloroethene and 1,2-dichloroethane.

[3] SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, Defra, revised December 2014.
[4] American Society for Testing Materials – Risk Based Corrective Action Model, Version 2.6
[5] C4SL (claire.co.uk)

Defra's SP1010 Policy Companion document states that it is anticipated that risk assessors will use the C4SL values, where derived, in line with 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. On this basis, Ramboll has adopted the use of C4SLs where available, however minimal risk (instead of the 'low' level of risk) toxicological assumptions have been applied for in-house Ramboll GAC for other contaminants of concern within our screening assessments.

For contaminants which do not have published C4SLs, the physiochemical and toxicological data has been taken from or derived using the methodology detailed in SR7 (November 2008) and SGV reports (2009), where feasible. Ramboll also attended the Land Quality Management and Chartered Institute of Environmental Health workshop for the collaborative development of 'Suitable 4 Use Levels' (S4ULs) and reference has been made to their publication 'The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015'. Review of additional UK organisation guidance including CL:AIRE and partners GAC, including addendums up until 10 April 2012 has also been made. Finally, where necessary, other published sources of (non-UK) information, such as the RBCA V2.6 database have also been reviewed.

Assessment of Impact to Waters

Assessment of risks to water resources (referred to as "controlled waters" in England & Wales) is completed in general accordance with guidance provided in the Environment Agency's Approach to groundwater protection (2018[6]).

Generic assessment criteria for waters have been selected by Ramboll to assess potential risks to the identified environmental receptors. A hierarchical approach has been taken to the use of assessment criteria based on adoption of published water quality standards at European level and UK specific standards, with those standards being chosen based on the conceptual site model and identified critical receptors. For those determinants included in the analytical suite which do not have a corresponding UK drinking water or environmental screening criteria, reference is made to international guidance in accordance with Environment Agency recommendations.

Where such standards are unavailable, standards taken from other organisations, for example the World Health Organisation or OSPAR, have been used.

The list of critical legislation used in this approach is described below.

European Assessment Criteria:

- 2000/60/EC: Water Framework Directive;
- 2006/118/EC: On the Protection of Groundwater Against Pollution and Deterioration; and
- 2013/39/EU: Priority Substances in the Field of Water Policy Directive.

UK Assessment Criteria:

- UKTAG Groundwater Hazardous Substances Standards 2016, annex 2018.

English and Welsh Criteria:

- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015;
- The Groundwater (Water Framework Directive) (England) Direction 2016; and
- The Water Supply (Miscellaneous Amendments) Regulations (England and Wales) 2010.

Other Criteria:

- World Health Organisation (WHO) Drinking Water Regulations 4th edition 2011;

[6] The Environment Agency's approach to groundwater protection; February 2018; Version 1.2.

- World Health Organisation (WHO): Petroleum Products in Drinking-water. Background document for development of WHO Guidelines for Drinking-water Quality 2008;
- USEPA National Primary Drinking Water Regulations; and
- OSPAR: Establishment of a List of Predicted No Effect Concentrations (PNECs) for Naturally Occurring Substances in Produced Water. OSPAR Agreement 2014-2015.

Minimum reporting values are also considered for hazardous substances for assessment of risks to groundwater resources in order to comply with the requirements of the guidance to 'prevent' input of hazardous substances to groundwater.

Assessment of Water Impact to Human Health

A methodology for the generation of the GAC for groundwater vapours (GACgwvap) was published by the Society of Brownfield Risk Assessment (SoBRA) in February 2017[7], which is based on the CLEA model. Ramboll has adopted SoBRA's approach and modified the model input parameters to reflect site conditions and generate site SSAC for groundwater contaminant sources designed to be protective of site users for a residential and/or commercial/industrial scenario as appropriate.

The SoBRA (GACgwvap) methodology uses the Environment Agency's CLEA software model. The CLEA software was originally provided for deriving assessment criteria for soils, not groundwater; however, groundwater assessment criteria can be extracted from the calculations within CLEA. CLEA assumes a steady state equilibrium between the sorbed, water and vapour phase concentrations in soil. Consequently, as part of the process of calculating soil phase concentrations, the software also calculates the vapour phase concentration and the pore water dissolved concentration (soil solution concentration) at the soil GAC. Therefore, for given soil assessment criteria derived to be protective of health, a soil solution concentration is also available within the CLEA calculations which would give rise to this vapour concentration at the tolerable risk level. This soil solution concentration is used as an inferred groundwater SSAC.

The proprietary risk assessment model, the ASTM RBCA[8] Tool Kit Version 2.6 for Chemical Releases, has been used for compounds which could not be run in CLEA. The RBCA model has been altered where necessary to reflect the current UK approach to human health risk assessment, as appropriate.

Contaminant Distribution Assessment

Concentrations above the GAC are considered further in relation to vertical and lateral distribution across the site. Where relevant, statistical analysis has been used with consideration to guidance provided in CL:AIRE statistical assessment guidance[9].

Ground Gas Risk Assessment

The assessment of risks from ground gas is based on current best practice guidance provided in the following documents:

- BS8485:2015+A1:2019. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings; and
- NF94, NHBC2023. Hazardous ground gas – an essential guide for housebuilders

Derivation of Characteristic Situation

[7] SoBRA (2017) Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater. Version 1.0

[8] American Society for Testing Materials – Risk Based Corrective Action Model, Version 2.6

[9] CL:AiRE (2020) Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration

The risk posed by ground gases using the approaches outlined in the documents above are assessed by calculating a Gas Screening Value (GSV). Derivation of the GSV is calculated by multiplying the steady state borehole flow rate (l/hr) with the peak carbon dioxide and methane concentrations for each well. Where required, a 'worst case' condition is also calculated by multiplying the maximum recorded steady state borehole flow rate with the peak carbon dioxide and methane concentrations for different strata across the entire site or zone (as applicable).

The calculated GSV is used to derive a 'Characteristic Situation' which ranges between CS1 (very low hazard potential) to CS6 (very high hazard potential) as defined within BS8485. This approach is applicable to commercial, industrial, and both high-rise and (since 2023) low-rise residential buildings (replacing the former NHBC traffic light system).

Requirement for Gas Protection Measures

The British Standards Characteristic Situation is used to determine the gas protection measures needed for a building. Gas protection measures are generally not required for CS1 (very low risk)sites unless the Conceptual Site Model indicates a need for further consideration. Although BS8485 relates to assessment for new buildings the same assessment methodology can be applied for appraisal of existing site buildings.

BS8485 requires a gas protection score to be identified for a proposed development. This is categorised based on the 'building type' from Type A to D, based on factors including construction and use of the building, together with the control of future structural changes to the building and its maintenance, since potential risks posed by ground gases are strongly influenced by these factors. Gas protection measures are selected to meet the required gas protection score in BS8485, although for some developments in higher Characteristic Situations the gas hazard is considered too high to use the method outlined in BS8485 to define the gas protection measures and further detailed quantitative gas risk assessment is required.

Water Supply Pipes

The assessment has been completed with consideration to the current UK guidance:

- Water UK. Jan 2014. Contaminated Land Assessment Guidance; and
- UKWIR UK Water Industry Research Ltd, 2010. Guidance for Selection of Water Supply Pipes to be used in Brownfield Sites.

This guidance provides threshold concentrations for different pipe material for various chemical groups.

The pipeline materials considered by the guidance are PE, PVC, wrapped steel, wrapped ductile iron or copper pipe and barrier pipe. PE and PVC are assessed using threshold concentrations for various chemical groups including volatile organic compounds (VOC) with tentatively identified compounds (TICs), semi-volatile organic compounds (SVOC) with TICs, and mineral oils. Wrapped steel, wrapped ductile iron and copper pipe are assessed using corrosive properties.

Regional water companies may have adopted additional more stringent thresholds which they apply locally, thus consultation with the water authority must always be completed prior to final determination of water supply pipe materials. Further, more detailed assessment may be required along the route of the proposed water supply pipes, once this is ascertained.

Appendix 3
Factual Site Investigation Information

RAMBOLL

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The Headrow
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LS1 8EQ
Tel: 0113 245 7552
https://www.ramboll.com/

Sheet 1 of 1

Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status:	Location ID:
FINAL	**WS101**

Location Type: Inspection pit

Coords: 437892E/405084N Level: 47.56m
Ordnance Survey Great Britain National Grid
Final Depth: **0.40 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.40	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
					0.40	(0.40) 47.16		MADE GROUND: Loose fine to coarse angular to subrounded Gravel of part brick, sandstone and concrete over brown silty soil. Frequent whole and half bricks. Frequent reddish brown ashy material. Dry.				
								End of works at 0.40m - Terminated due to potential electric service cable.				

1

2

Remarks:
Service encountered. Location terminated.

Borehole Diameter		Hammer Information		Scale 1:10
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
				Checked by: MH
		Install Response Zones		
Casing Diameter		Ref	From (m)	To (m)
				Project ID **1620015371-002**

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS101A**

Location Type: Inspection pit

Coords: 437901E/404926N Level: 47.52m

Ordnance Survey Great Britain National Grid

Final Depth: **1.15 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.15	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
				PID 0.05m 0.6ppm		(0.10)		MADE GROUND: Loose fine to coarse angular to subrounded Gravel of part brick, limestone, sandstone and concrete over brown silty soil. Dry.				
		0.10	ES		0.10	47.42						
				PID 0.30m 0.5ppm		(0.60)		Soft to stiff brownish grey friable very silty weathered CLAY. Dry.				
				PID 0.70m 0.5ppm	0.70	46.82						
		1.00	ES 1			(0.45)		Hard extremely friable brown gravelly very silty MUDSTONE. Gravel is fine to medium angular to subrounded of lithorelicts. [WEATHERED COAL MEASURES]				1
					1.15	46.37						
								End of works at 1.15m - Refusal on stiff bedrock.				2

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information	
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.
1.15	50		

Casing Diameter	

Install Response Zones		
Ref	From (m)	To (m)
1	0.50	1.15

Scale 1:10

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS102**

Location Type: Window sample

Coords: 437917E/404902N

Level: 47.42m

Ordnance Survey Great Britain National Grid

Final Depth: **4.00 m**

Orientation: 90°

Inclination: 0°

Date Start: 10/10/2023

Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	4.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
					0.23	(0.23) 47.18		Reinforced concrete.				
				PID 0.30m 0.2ppm	0.60	(0.37) 46.82		MADE GROUND: Loose brown to dark brown slightly clayey gravelly very silty CLAY. Gravel is fine to coarse angular to subrounded of part brick, coal, clinker and sandstone. Dry.				
		0.90	ES 1	PID 0.60m 0.2ppm	1.20	(0.60) 46.22		MADE GROUND: Loose red silty fine to coarse Gravel of part brick, coal, concrete and clinker. Frequent part brick cobbles. Rare fabric. Dry.				1
				PID 1.40m 0.4ppm	1.40	(0.20) 46.02		NO RECOVERY				
					2.00	(0.60) 45.42		MADE GROUND: Loose red very ashy very silty Cobbles of part and whole brick with occasional fine to coarse angular to subrounded Gravel of bricks, coal and clinker. Dry.	1.20 2.00	101	80	
				PID 2.40m 0.2ppm	2.40	(0.40) 45.02		NO RECOVERY				2
					3.00	(0.60) 44.42		MADE GROUND: Loose red very ashy very silty Cobbles of part and whole brick with occasional fine to coarse angular to subrounded Gravel of bricks, coal and clinker. Dry. *from 2.95 to 3.00m bgl - Soft multicoloured weathered Clay.*	2.00 3.00	92	60	
					3.60	(0.60) 43.82		NO RECOVERY	3.00 4.00	79	40	3
		3.80	ES 2	PID 3.80m 0.3ppm	4.00	(0.40) 43.42		MADE GROUND: Loose red very ashy very silty Cobbles of part and whole brick with occasional fine to coarse angular to subrounded Gravel of bricks, coal and clinker. Dry. *from 3.80 to 3.90m bgl - Black oily staining with slight hydrocarbon odour.*				4
								End of works at 4.00m - Refusal on stiff bedrock.				5

Remarks:

Refusal on stiff bedrock.
m bgl = meters below ground level.
Install to 3.25m bgl due to infilling of loose material.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
3.25	50			Checked by: MH

Casing Diameter		Install Response Zones		
		Ref	From (m)	To (m)
		1	1.00	3.00

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS103**

Location Type: Window sample

Coords: 437967E/404845N
Ordnance Survey Great Britain National Grid

Level: 47.46m

Final Depth: **4.00 m**

Orientation: 90°

Inclination: 0°

Date Start: 10/10/2023

Date End: 11/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	4.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
				PID 0.20m 0.3ppm	0.30	(0.30) 47.16		MADE GROUND: Loose grey fine to coarse angular to subrounded Gravel of part brick, limestone and concrete over dark brown silty soil. Frequent concrete cobbles. Dry. *0.10m bgl - Concrete layer.* *0.20m bgl - Large piece of rebar.*				
				PID 0.50m 1.1ppm	0.60	(0.30) 46.86		MADE GROUND: Loose black very silty fine to coarse angular to subrounded Gravel of part brick, clinker, concrete and coal. Slight hydrocarbon odour. Dry.				
				PID 0.70m 0.4ppm	1.20	(0.60) 46.26		MADE GROUND: Firm brown stained black silty very gravelly CLAY. Gravel is fine to coarse angular to subrounded of part brick, clinker, coal and sandstone. Rare patches of yellow fine sand. Slightly damp.				1
					1.50	(0.30) 45.96		No recovery				
				PID 1.50m 0.5ppm	1.85	(0.35) 45.61		MADE GROUND: Loose brown to yellowish brown sandy fine to coarse angular to subrounded Gravel of part brick, coal, clinker and sandstone. Slightly damp.	1.20 2.00	101	70	
				PID 2.00m 5.4ppm	2.00	(0.15) 45.46		MADE GROUND: Soft to firm brown stained black sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse very angular to subrounded of part brick, clinker, concrete and sandstone. Dry. [LANDFILL MATERIAL] *from 1.90 to 2.00m bgl - Frequent confectionary wrappers.*				2
					2.30	(0.30) 45.16		No recovery				
				PID 2.50m 6.5ppm	3.40	(1.10) 44.06		MADE GROUND: Black to reddish brown sandy clayey fine to coarse very angular to subrounded Gravel of part brick, clinker, coal, sandstone and concrete. Frequent clothing and grey ash. Rare glass and plastic fragments. Dry. [LANDFILL MATERIAL]	2.00 3.00	90	70	
		2.80	ES 1	PID 2.80m 1.4ppm								3
				PID 3.50m 1.5ppm	4.00	(0.60) 43.46		MADE GROUND: Soft to firm black sandy very gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse very angular to subrounded of part brick, clinker, coal, sandstone. Frequent wood and sandstone cobbles. Dry. *from 3.50 to 3.60m bgl - Large wood fragments.* *from 3.70 to 3.85m bgl - Becoming very brittly fine to medium angular to subrounded Gravel of sandstone.*	3.00 4.00	70	70	
				PID 4.00m 0.9ppm				End of works at 4.00m - Achieved termination depth.				4
												5

Remarks:
Target depth achieved.
No visual evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter	
Depth (m)	Diam (mm)
4.00	50

Casing Diameter	

Hammer Information	
Energy Ratio (%)	Serial No.

Install Response Zones		
Ref	From (m)	To (m)
1	1.00	4.00

Scale 1:25

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS104**

Location Type: Window sample

Coords: 437961E/404848N

Level: 47.88m

Ordnance Survey Great Britain National Grid

Final Depth: **3.00 m**

Orientation: 90°

Inclination: 0°

Date Start: 10/10/2023

Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	3.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
						(0.25)		Reinforced concrete.				
					0.25	47.63						
				PID 0.30m 45.7ppm		(0.40)		MADE GROUND: Soft black very gravelly very silty Clay. Gravel is fine to coarse very angular to subrounded of part brick, concrete, and mudstone. Moderate hydrocarbon odour and black staining. Damp.				
		0.40	ES 1									
				PID 0.50m 72.9ppm								
				PID 0.65m 106.3ppm	0.65	47.23						
						(0.65)		MADE GROUND: Loose greyish brown clayey very gravelly Silt. Gravel is fine Gravel is coarse angular to subrounded of part brick, mudstone, siltstone and concrete. Moderate hydrocarbon odour. Slightly damp.				
				PID 0.85m 41.0ppm								
				PID 1.20m 10.2ppm	1.30	46.58						
						(0.70)		MADE GROUND: Soft dark brown sandy very gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse very angular to subrounded of part brick, concrete, sandstone and mudstone. Frequent sandstone and brick cobbles. Damp.	1.20 2.00	101	90	
				PID 1.50m 0.7ppm								
					2.00	45.88						
						(0.40)		No recovery *2.00m bgl - Fine Sand of red brick.*				
				PID 2.40m 4.0ppm	2.40	45.48						
				PID 2.50m 52.7ppm	2.50	(0.10) 45.38		MADE GROUND: Grey very silty fine to coarse angular to subrounded Gravel of part brick, mudstone and sandstone. Damp.	2.00 3.00	92	60	
						(0.45)		*2.40m bgl - Concrete cobble.*				
		2.70	ES 2					MADE GROUND: Greyish black slightly silty gravelly Clay. Gravel is fine to coarse angular to subrounded of part brick, coal and clinker. Moderate hydrocarbon odour and black staining. Damp.				
				PID 2.80m 172.9ppm								
		2.90	ES 3									
				PID 2.95m 11.4ppm	2.95	44.93						
					3.00	(0.05) 44.88		Extremely friable bluish grey very silty MUDSTONE. Slight hydrocarbon odour. Dry. [WEATHERED COAL MEASURES]				
								End of works at 3.00m - Refusal on stiff bedrock				

Remarks:

Refusal on stiff bedrock.
m bgl = meters below ground level.

Borehole Diameter	
Depth (m)	Diam (mm)
3.00	50

Casing Diameter	

Hammer Information	
Energy Ratio (%)	Serial No.

Install Response Zones		
Ref	From (m)	To (m)
1	1.00	3.00

Scale 1:25

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS105**

Location Type: Window sample

Coords: 437885E/404978N

Level: 48.15m

Ordnance Survey Great Britain National Grid

Final Depth: **2.00 m**

Orientation: 90°

Inclination: 0°

Date Start: 09/10/2023

Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	2.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
						(0.25)		Reinforced concrete				
				PID 0.30m 0.2ppm	0.25	47.90						
						(0.25)		MADE GROUND Cream to brown silty very sandy fine to coarse very angular to subrounded Gravel of sandstone, part brick and mudstone. Frequent part brick cobbles. Dry.				
					0.50	47.65		*from 0.25 to 0.30m bgl - Damp*				
				PID 0.60m 0.2ppm		(1.10)		MADE GROUND: Red very gravelly fine to medium Sand. Gravel is fine to coarse of red brick, concrete and mudstone. Dry.				
		0.80	ES 1					*from 0.50 to 1.40m bgl - Orange fine to medium very gravelly Sand of brick dust and ash.*				
				PID 1.10m 0.2ppm								1
				PID 1.60m 0.2ppm	1.60	46.55			1.20 2.00	101	90	
						(0.40)		Very soft to soft brown gravelly silty CLAY. Gravel is fine to coarse very angular to subrounded of lithorelicts. [WEATHERED COAL MEASURES]				
					2.00	46.15						2
								End of works at 2.00m - Refusal on stiff bedrock.				
												3
												4
												5

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
1.50	50			Checked by: MH

Install Response Zones		
Ref	From (m)	To (m)
1	0.40	1.50

Casing Diameter

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS106**

Location Type: Window sample

Coords: 437905E/404962N
Ordnance Survey Great Britain National Grid

Level: 48.14m

Final Depth: **1.70 m**

Orientation: 90°

Inclination: 0°

Date Start: 09/10/2023

Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	1.70	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
					0.20	(0.20) 47.94		Reinforced concrete				
				PID 0.30m 2.4ppm	0.85	(0.65) 47.29		MADE GROUND: Brown silty very sandy fine to coarse very angular to subangular Gravel of clinker, part brick, sandstone and concrete. Frequent part brick cobbles. Damp. *0.60m bgl - Becoming dark brown very sandy fine to coarse angular Gravel of brick and clinker.*				
		0.60	ES 1	PID 0.60m 0.3ppm								
				PID 0.90m 0.2ppm	1.70	(0.85) 46.44		Soft to stiff grey friable slightly gravelly silty CLAY. Gravel is fine to medium very angular to subrounded of mudstone and siltstone. Dry.				
		1.40	ES 2	PID 1.30m 0.2ppm					1.20 1.70	101	90	
								End of works at 1.70m - Refusal on stiff bedrock				

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
0.85	50			Checked by: MH

Install Response Zones			Casing Diameter	
Ref	From (m)	To (m)		
1	0.30	0.85		

Project ID
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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS107**

Location Type: Window sample

Coords: 437862E/404953N
Ordnance Survey Great Britain National Grid

Level: 47.88m

Final Depth: **2.80 m**

Orientation: 90°

Inclination: 0°

Date Start: 09/10/2023

Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	2.80	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
						(0.15)		Reinforced concrete				
		0.20	ES	PID 0.20m 0.1ppm	0.15	47.73						
						(0.15)		MADE GROUND: Loose soft dark brown sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse very angular to subrounded of part brick, clinker, coal, concrete and sandstone. Slightly damp.				
				PID 0.40m 0.1ppm	0.30	47.58						
						(1.10)		MADE GROUND: Soft to firm light brown slightly gravelly silty Clay. Gravel is fine to medium angular to subrounded of part brick, coal and sandstone. Frequent organic rootlets. Dry. [REWORKED MATERIAL]				
				PID 0.90m 0.1ppm				*0.80m bgl - Becoming light brown mottled light grey and orange Clay.*				1
				PID 1.40m 0.2ppm	1.40	46.48			1.20 2.00	101	90	
						(0.70)		Firm to stiff light brown thinly laminated slightly gravelly silty CLAY. Gravel is fine to coarse very angular to subrounded of lithorelicts and coal. Slightly damp. [WEATHERED COAL MEASURES]				
				PID 1.90m 0.1ppm								
				PID 2.10m 0.1ppm	2.10	45.78						2
						(0.70)		Soft to firm light brown very thinly laminated gravelly very silty CLAY. Gravel is fine to coarse angular to subangular of siltstone, mudstone and coal. Dry. [WEATHERED COAL MEASURES]	2.00 2.80	92	90	
				PID 2.60m 0.1ppm				*2.70m bgl - Small pocket of very soft light grey wet CLAY.*				
					2.80	45.08		End of works at 2.80m - Refusal on stiff bedrock.				3
												4
												5

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter	
Depth (m)	Diam (mm)
2.80	50

Casing Diameter	

Hammer Information	
Energy Ratio (%)	Serial No.

Install Response Zones		
Ref	From (m)	To (m)
1	1.40	2.80

Scale 1:25

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS108**

Location Type: Window sample

Coords: 437835E/404994N Level: 48.14m

Ordnance Survey Great Britain National Grid

Final Depth: **4.00 m**

Orientation: 90° Inclination: 0°

Date Start: 11/10/2023 Date End: 11/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	4.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
					0.23	47.91 (0.23)		Reinforced concrete				
		0.30	ES	PID 0.30m 0.4ppm	0.40	47.74 (0.17)		MADE GROUND: Orangish brown very sandy fine to coarse angular to subrounded Gravel of limestone, part brick and sandstone. Sand is fine to medium. Damp.				
				PID 0.60m 0.5ppm	0.80	47.34 (0.40)		MADE GROUND: Loose cream very sandy fine to coarse angular to subrounded Gravel of limestone and part brick. Dry.				
				PID 0.80m 0.8ppm	1.20	46.94 (0.40)		MADE GROUND: Loose black and brown very sandy fine to coarse angular to subrounded Gravel of part brick, coal, clinker and sandstone. Sand is fine to medium. Dry. *from 1.10 to 1.20m bgl - Sandstone cobble.*				1
				PID 1.20m 0.5ppm	1.30	46.84 (0.10)		Soft brown gravelly very sandy CLAY. Sand is fine to medium. Gravel is fine to coarse very angular to subrounded of sandstone and limestone. Slight hydrocarbon odour. Dry. No recovery	1.20 2.00	101	30	
				PID 2.00m 0.8ppm	2.00	46.14 (0.70)						2
				PID 2.50m 0.6ppm		(2.00)		Stiff brown mottled orangish brown and light grey slightly silty gravelly CLAY. Gravel is fine to medium angular to subrounded of sandstone, mudstone and siltstone. Slightly damp. [WEATHERED COAL MEASURES]	2.00 3.00	92	90	
				PID 3.00m 0.5ppm								3
		3.40	ES 1	PID 3.50m 0.4ppm				*from 3.20 to 4.00m bgl - Becoming stiff brown mottled purplish brown Clay.*	3.00 4.00	79	90	
				PID 4.00m 0.5ppm	4.00	44.14						4
								End of works at 4.00m - Achieved termination depth.				5

Remarks:
Target depth achieved.
No visual evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information	
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.
1.30	50		

Casing Diameter	

Install Response Zones		
Ref	From (m)	To (m)
1	0.30	1.30

Scale 1:25

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS109**

Location Type: Inspection pit

Coords: 437844E/405020N Level: 48.12m

Ordnance Survey Great Britain National Grid

Final Depth: **1.10 m**

Orientation: 90° Inclination: 0°

Date Start: 11/10/2023 Date End: 11/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.10	IP	Hand Tools	0.80	5	-

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
						(0.25)		Reinforce concrete				
					0.25	47.87						
				PID 0.30m 0.5ppm		(0.85)		MADE GROUND: Orange sandy clayey fine to coarse very angular to subrounded Gravel of sandstone, part brick and coal. Frequent part brick and sandstone cobbles. Dry. *from 0.30 to 0.40m bgl - Occasional rebar.*				
		0.40	ES					*from 0.50 to 0.80m bgl - Becoming damp.*				
	▼			PID 0.80m 0.5ppm								1
		0.90	ES 1					*from 1.05 to 1.10m bgl - Concrete obstruction.*				
					1.10	47.02		End of works at 1.10m - Concrete obstruction at base of pit.				2

Remarks:
Refusal on concrete obstruction.
m bgl = meters below ground level.
Groundwater has oily sheen and hydrocarbon-like odour.

Borehole Diameter		Hammer Information	
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.
1.10	50		

Casing Diameter

Install Response Zones

Ref	From (m)	To (m)
1	0.50	1.00

Scale 1:10

Logger(s): ER

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS110**

Location Type: Window sample

Coords: 437822E/405042N
Ordnance Survey Great Britain National Grid

Level: 48.06m

Final Depth: **2.95 m**

Orientation: 90°

Inclination: 0°

Date Start: 11/10/2023

Date End: 11/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	2.95	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
					0.30	(0.30) 47.76		Reinforced concrete				
		0.30	ES	PID 0.30m 0.7ppm	0.60	(0.30) 47.46		MADE GROUND: Soft black and cream very sandy very gravelly Clay. Sand is fine to medium. Gravel is fine to coarse of part brick, sandstone and coal. Frequent sandstone and part brick cobbles. Wet.				
				PID 0.60m 0.7ppm	0.80	(0.20) 47.26		MADE GROUND: Soft to firm greyish brown slightly gravelly Clay. Gravel is fine coarse angular to subangular of sandstone, part brick and concrete. Occasional organics. Slightly damp. [REWORKED MATERIAL]				
				PID 0.90m 0.7ppm	1.40	(0.60) 46.66		MADE GROUND: Soft to firm light grey mottled orange slightly gravelly slightly silty Clay. Gravel is fine angular to subrounded of concrete. Slight hydrocarbon odour. Slightly damp. [REWORKED MATERIAL]				1
				PID 1.30m 0.6ppm					1.20 2.00	101	90	
				PID 1.70m 0.6ppm	2.00	(0.60) 46.06		Firm to stiff brown mottled grey and orange silty gravelly CLAY. Gravel is fine to coarse very angular to subrounded of sandstone, coal, mudstone and siltstone. Slightly damp. [WEATHERED COAL MEASURES]				
				PID 2.00m 0.4ppm								2
				PID 2.50m 0.3ppm	2.60	(0.60) 45.46		Stiff brown mottled reddish brown silty gravelly CLAY. Gravel is fine to coarse angular to subrounded of sandstone, coal and mudstone. Dry. [WEATHERED COAL MEASURES] *from 2.00 to 2.30m bgl - Stiff to very stiff Clay.*	2.00 2.95	92	90	
		2.70	ES 1	PID 2.70m 0.7ppm	2.95	(0.35) 45.11		Extremely friable light brown gravelly very silty fine to coarse SAND. Gravel is fine to coarse angular to subrounded of sandstone and mudstone. Dry. [WEATHERED COAL MEASURES]				
								End of works at 2.95m - Refusal on stiff bedrock.				3
												4
												5

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
2.95	50			Checked by: MH

Install Response Zones		
Ref	From (m)	To (m)
1	1.50	2.80

Casing Diameter	

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS111**

Location Type: Window sample

Coords: 437861E/405083N Level: 49.59m

Ordnance Survey Great Britain National Grid

Final Depth: **3.40 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	3.40	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
				PID 0.10m 0.0ppm	0.10	(0.10) 49.49		MADE GROUND: Soft to firm dark brown slightly gravelly silty Clay. Gravel is angular to subrounded fine to coarse of sandstone, mudstone and part brick. Slightly damp.				
		0.30	ES 1	PID 0.30m 0.2ppm		(0.80)		MADE GROUND: Light brown clayey very sandy fine to coarse Gravel of sandstone, mudstone, siltstone and coal. Rare sandstone and siltstone cobbles. [REWORKED MATERIAL]				
				PID 0.80m 0.1ppm	0.90	48.69						
				PID 1.20m 0.1ppm		(1.90)		MADE GROUND: Firm to stiff light brown and brown clayey very sandy fine to coarse very angular to subrounded Gravel of sandstone, mudstone, siltstone and part brick. Sand is fine to medium. Frequent part brick cobbles.				1
									1.20 2.00	101	90	
								1.80m bgl - Becoming very gravelly and brittle.				2
		2.20	ES 2	PID 2.20m 0.1ppm					2.00 3.00	92	90	
				PID 2.90m 0.1ppm	2.80	46.79						
						(0.40)		MADE GROUND: Firm to stiff greyish brown very gravelly Clay. Gravel is fine to coarse angular to subrounded of mudstone and sandstone. Rare pockets of yellow fine sand. [REWORKED MATERIAL]				3
					3.20	46.39			3.00 3.40	79	90	
						(0.20)		Stiff light brown mottled greyish brown and black clayey fine to coarse angular to subrounded GRAVEL of lithorelicts. Slightly damp. (WEATHERED COAL MEASURES]				
					3.40	46.19		End of works at 3.40m - Refusal on stiff bedrock				4
												5

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
2.50	50			Checked by: MH

Casing Diameter		Install Response Zones		
		Ref	From (m)	To (m)
		1	0.50	2.50

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **WS112**

Location Type: Window sample

Coords: 437935E/405015N
Ordnance Survey Great Britain National Grid

Level: 48.40m

Final Depth: **2.00 m**

Orientation: 90°

Inclination: 0°

Date Start: 10/10/2023

Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.20	IP	Hand Tools			
1.20	2.00	WLS	Dando Terrier			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Window Sampling: WS Run (m)	Diam (mm)	Recovery (%)	Depth (m)
		0.20	ES		0.20	(0.20) 48.20		Bituminous tarmacadam.				
				PID 0.30m 0.8ppm	0.40	(0.20) 48.00		MADE GROUND: Black slightly silty very ashy fine to coarse very angular to subrounded Gravel of brick, clinker and sandstone. Wet.				
				PID 0.50m 0.6ppm	0.60	(0.20) 47.80		MADE GROUND: Soft to firm brown mottled grey and orangish brown slightly gravelly Clay. Gravel is fine to coarse very angular to subrounded of mudstone, siltstone and sandstone. Rare organic rootlets. Slightly damp. [REWORKED MATERIAL]				
				PID 0.70m 0.7ppm	0.90	(0.30) 47.50		MADE GROUND: Firm grey slightly gravelly silty Clay. Gravel is fine to medium angular to subrounded of mudstone and siltstone. Dry. [REWORKED MATERIAL]				
				PID 1.00m 0.6ppm	1.30	(0.40) 47.10		MADE GROUND: Soft to firm orangish brown slightly gravelly Clay. Gravel is fine to medium angular to subangular of lithorelicts. Slightly damp. [REWORKED MATERIAL]				1
				PID 1.40m 0.4ppm	1.65	(0.35) 46.75		Soft to firm orangish brown mottled grey gravelly very sandy CLAY. Sand is fine to medium. Gravel is fine to medium very angular to subrounded of mudstone and sandstone. Damp. [WEATHERED COAL MEASURES] *from 1.40 to 1.50m bgl - Becoming very loose fine to medium angular to subrounded Gravel of sandstone.*	1.20 2.00	101	90	
		1.70	ES 1	PID 1.70m 0.7ppm	2.00	(0.35) 46.40		Very friable orangish brown very gravelly fine to medium Sand. Gravel is fine to coarse of sandstone and mudstone. Dry. [WEATHERED COAL MEASURES]				2
								End of works at 2.00m - Refusal on stiff bedrock.				3
												4
												5

Remarks:

Refusal on stiff bedrock.
No visual or olfactory evidence of contamination.
m bgl = meters below ground level.

Borehole Diameter		Hammer Information		Scale 1:25
Depth (m)	Diam (mm)	Energy Ratio (%)	Serial No.	Logger(s): ER
2.00	50			Checked by: MH

Install Response Zones		
Ref	From (m)	To (m)
1	1.30	2.00

Casing Diameter	

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.50	TP	JCB			

Status: **FINAL**

Location ID: **TP101**

Location Type: Trial pit

Coords: 437808E/405100N Level: 51.05m

Ordnance Survey Great Britain National Grid

Final Depth: **3.50 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 1.00m 0.1ppm		(1.50)		MADE GROUND: Firm to stiff greyish to pale brown very gravelly Clay. Gravel is fine to coarse subang ular of mudstone, siltstone and rare coal. [STOCKPILED MATERIAL]	
		1.50	ES 1		1.50	49.55			1
				PID 2.70m 0.1ppm		(1.50)		MADE GROUND: Orangish brown fine to coarse and occasionally cobble and boulder sized subangular Grav el of siltstone.	
				PID 3.00m 0.1ppm	3.00	48.05			2
						(0.50)		MADE GROUND: Firm to stiff grey very gravelly Clay with fine to coarse and occasionally cobble sized subangular gravel of brick and siltstone. Rare pockets of orange medium sand.	3
					3.50	47.55		End of works at 3.50m - Achieved termination depth.	4
									5

Remarks:

Trial pit advanced into the stockpile approximately 1.50 m above ground level and advanced to 2.0 m bgl (total excavated depth of 3.50 m). Environmental sample taken from the stockpile material and depth is referenced as +1.50 - 0.00 m. No groundwater encountered. No ACMs or signs of potential contamination recorded.

Depth Related Exploratory Hole Information

Stability	Shoring	Length (m)	Width (m)
Stable	None	2.50	1.00

Scale 1:25

Logger(s): VG

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **TP102**

Location Type: Trial pit

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.20	TP	JCB			

Coords: 437850E/405064N Level: 49.08m
Ordnance Survey Great Britain National Grid
Final Depth: **3.20 m**
Orientation: 90° Inclination: 0°
Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 0.50m 0.1ppm		(1.65)		MADE GROUND: Moss, scarce vegetation and brick over orange brown slightly clayey very gravelly fine to coarse Sand. Gravel is fine to boulder-sized subangular of whole and half bricks and fine grained sandstone.	
					1.65	47.43			1
		2.20 - 2.40	ES 2	PID 2.20m 0.1ppm		(0.80)		MADE GROUND: Soft orange and grey sandy very gravelly Clay with fine to coarse and boulder sized subangular gravel of brick and sandstone. Sand is fine to coarse. *2.00m bgl - Seepage*	2
					2.45	46.63			
				PID 3.00m 0.1ppm		(0.75)		MADE GROUND: Soft to firm grey very gravelly Clay with fine to coarse and cobble sized subangular gravel of siltstone, brick and coal. Rare siltstone boulder.	3
					3.20	45.88			
								End of works at 3.20m - Achieved termination depth.	4
									5

Remarks:
Trial pit completed at 3.20 m bgl. Seepage noted from 2.0 m bgl. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	4.50	2.00

Scale 1:25
Logger(s): VG
Checked by: MH
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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **TP103**

Location Type: Trial pit

Coords: 437806E/405125N Level: 50.88m

Ordnance Survey Great Britain National Grid

Final Depth: **3.00 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.00	TP	JCB			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 0.70m 0.1ppm	0.90	(0.90) 49.98		TOPSOIL: Grass and scattered brick over soft light brown slightly sandy gravelly Clay. Gravel is fine to coarse subrounded to sub-ngular of brick and sandstone. Rare plastic fragments and metal rod. Sand is fine to coarse. [STOCKPILED MATERIAL]	
		0.90	ES 3						
				PID 1.90m 0.2ppm	2.10	(1.20) 48.78		MADE GROUND: Orangeish brown very gravelly Silt with fine to coarse subrounded to subangular gravel of brick, sandstone and siltstone.	1
				PID 2.80m 0.2ppm	3.00	(0.90) 47.88		MADE GROUND: Soft to firm dark grey to blueish grey very gravelly silty Clay. Gravel is fine to coarse subangular to angular of mudstone, siltstone and brick.	2
								End of works at 3.00m - Achieved termination depth.	3
									4
									5

Remarks:

Trial pit advanced into the stockpile approximately 0.90 m above ground level and advanced to 2.1 m bgl (total excavated depth of 3.00 m). Environmental sample taken from the stockpile material and depth is referenced as +0.90 - 0.00 m. No groundwater encountered. No ACMs or signs of potential contamination recorded.

Depth Related Exploratory Hole Information

Stability	Shoring	Length (m)	Width (m)
Stable	None	2.40	1.00

Scale 1:25

Logger(s): VG

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **TP104**

Location Type: Trial pit

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.20	TP	JCB			

Coords: 437954E/405133N Level: 53.54m
Ordnance Survey Great Britain National Grid
Final Depth: **3.20 m**
Orientation: 90° Inclination: 0°
Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 0.70m 0.1ppm	0.90	(0.90) 52.64		MADE GROUND: Firm grey very gravelly Clay Gravel is fine to coarse and occasionally cobble and boul der sized of sub angular to angular mudstone. [SOIL BUND MATERIAL]	
		0.90	ES		1.50	(0.60) 52.04		MADE GROUND: Firm light brown very gravelly clayey Clay. Gravel is fine to cobble sized angular to s ub angular of brick.	1
				PID 1.90m 0.1ppm	2.50	(1.00) 51.04		MADE GROUND: Reddish brown fine to cobble sized sub angular very sandy Gravel of brick and occasiona lly sandstone. Sand is fine to coarse.	2
				PID 2.90m 0.3ppm	3.20	(0.70) 50.34		MADE GROUND: Soft to firm very dark grey gravelly Clay with fine to cobble sized angular to sub angu lar gravel of brick, siltstone and concrete.	3
								End of works at 3.20m - Achieved termination depth.	4
									5

Remarks:

Trial pit advanced into the stockpile approximately 0.90 m above ground level and advanced to 2.30 m bgl (total excavated depth of 3.20 m). Environmental sample taken from the stockpile material and depth is referenced as +0.90 - 0.00 m. No ACMs recorded.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	3.50	1.00

Scale 1:25

Logger(s): VG

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.90	TP	JCB			

Status: **FINAL**

Location ID: **TP105**

Location Type: Trial pit

Coords: 437900E/405128N Level: 52.08m

Ordnance Survey Great Britain National Grid

Final Depth: **3.90 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 1.00m 0.1ppm		(1.30)		MADE GROUND: Firm grey very gravelly Clay. Gravel is fine to coarse and occasionally cobble and boul der sized of subangular to angular mudstone. [SOIL BUND MATERIAL]	
		1.30	ES		1.30	50.78			
						(1.30)		MADE GROUND: Firm light brown very gravelly clayey Clay. Gravel is fine to cobble sized angular to s ubangular of brick. Rare subangular concrete boulder. *1.30m bgl - Seepage*	
				PID 3.10m 0.1ppm PID 3.60m 0.2ppm	2.60	49.48			
						(1.30)		MADE GROUND: Soft to firm very dark grey gravelly Clay with fine to cobble sized angular to subangul ar gravel of brick, siltstone and concrete. *from 2.60 to 3.90m bgl - Slight organic odour.*	
					3.90	48.18			
								End of works at 3.90m - Achieved termination depth.	

Remarks:

Trial pit advanced into the stockpile approximately 1.30 m above ground level and advanced to 2.60 m bgl (total excavated depth of 3.90 m). Environmental sample taken from the stockpile material and depth is referenced as +1.30 - 0.00 m. No groundwater encountered. No ACMs or signs of potential contamination recorded.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	3.50	1.00

Scale 1:25

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.40	TP	JCB			

Status: **FINAL**

Location ID: **TP106**

Location Type: Trial pit

Coords: 437972E/405079N Level: 52.09m

Ordnance Survey Great Britain National Grid

Final Depth: **3.40 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 1.00m 0.3ppm		(1.40)		MADE GROUND: Firm grey very gravelly Clay. Gravel is fine to coarse and occasionally cobble and bou lder sized of subangular to angular mudstone. [SOIL BUND MATERIAL]	
		1.40	ES		1.40	50.69			
						(1.30)		MADE GROUND: Orangish and pale brown very gravelly Silt. Gravel is fine to coarse and frequently cob ble sized subangular of siltstone and brick.	
					2.70	49.39			
				PID 3.30m 0.6ppm		(0.70)		MADE GROUND: Reddish brown fine to cobble sized subangular very sandy Gravel of brick and occasional ly sandstone. Sand is fine to coarse.	
					3.40	48.69			
								End of works at 3.40m - Achieved termination depth.	

Remarks:

Trial pit advanced into the stockpile approximately 1.40 m above ground level and advanced to 2.00 m bgl (total excavated depth of 3.40 m). Environmental sample taken from the stockpile material and depth is referenced as +1.40 - 0.00 m. No groundwater encountered. No ACMs or signs of potential contamination recorded.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	3.00	1.30

Scale 1:25

Logger(s): VG

Checked by: MH

Project ID

1620015371-002

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Sheet 1 of 1

Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **TP107**

Location Type: Trial pit

Coords: 437954E/404886N
Ordnance Survey Great Britain National Grid

Level: 47.56m

Final Depth: **1.44 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	1.44	TP	JCB			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Type/ Ref	Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
				PID 0.10m 0.7ppm	0.15	(0.15) 47.42		MADE GROUND: Moss and scattered vegetation over dark brown very gravelly fine to coarse Sand. Gravel is fine to coarse subrounded to subangular or brick, coal, concrete and mudstone.	
					0.40	(0.25) 47.16		MADE GROUND: Grey slightly clayey gravelly fine to coarse Sand with fine to coarse subrounded to sub angular gravel of concrete and brick.	
		0.60 - 0.70	ES	PID 0.60m 0.5ppm	0.60	(0.20) 46.96		MADE GROUND: Very dark brown slightly clayey very gravelly fine to coarse Sand. Gravel is fine to coarse and occasionally cobble sized subangular to angular of brick, coal, concrete and occasional glass, textile, wood and plastic fragments. *from 0.40 to 0.70m bgl - Slight hydrocarbon odour.*	
					0.70	(0.10) 46.86		MADE GROUND: Firm to stiff very dark brown Clay. [POTENTIALLY CAPPING MATERIAL]	
					1.44	(0.74) 46.12		MADE GROUND: Domestic waste of plastic wrap, clingfilm, textile, paper, cardboard, glass bottles, wood, glass, tin. *from 0.70 to 1.44m bgl - Landfill waste and very strong putrid odour.*	1
								End of works at 1.44m - Terminated due to encountering domestic waste and extremely strong putrid odour.	2

Remarks:
Trial pit terminated at 1.44 m bgl due to strong putrid odour and encountered domestic waste in the location. No groundwater encountered.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	2.00	0.75

Scale 1:10

Logger(s): VG

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	3.00	TP	JCB			

Status: **FINAL**

Location ID: **TP108**

Location Type: Trial pit

Coords: 437899E/404895N Level: 48.93m

Ordnance Survey Great Britain National Grid

Final Depth: **3.00 m**

Orientation: 90° Inclination: 0°

Date Start: 10/10/2023 Date End: 10/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.30 - 0.60	ES	PID 0.30m 0.1ppm	0.60	(0.60) 48.33		MADE GROUND: Grass over light brown clayey very gravelly fine to coarse Sand. Gravel is fine to coarse and occasionally cobble sized with frequent whole bricks, coal, concrete and plastic wrap.	
					2.70	(2.10) 46.23		Firm to stiff light orange mottled grey and black slightly gravelly sandy Clay. Gravel is fine to coarse subangular of laminated siltstone. [POSSIBLE REWORKED NATURAL]	1
				PID 2.80m 0.1ppm	3.00	(0.30) 45.93		Light orange and pale grey SILTSTONE recovered as slightly clayey silty fine to coarse and occasionally cobble sized subangular gravel. [WEATHERED COAL MEASURES]	2
								End of works at 3.00m - Achieved termination depth.	3
									4
									5

Remarks:

Trial pit completed at 3.00 m bgl. No groundwater encountered. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	4.00	0.75

Scale 1:25

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD1**

Location Type: Inspection pit

Coords: 437848E/405116N Level: 51.35m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
						(0.30)		Unkempt grass and vegetation overlying brown slightly gravelly clayey fine to coarse SAND with occas ional rootlets. Gravel is fine to coarse subangular of fine grained sandstone [TOPSOIL] *from 0.00 to 0.30m bgl - Slight organic odour.*	
		0.25 - 0.30	ES 5	PID 0.25m 0.0ppm	0.30	51.05		End of works at 0.30m - Achieved termination depth.	1
									2

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID
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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD2**

Location Type: Inspection pit

Coords: 437777E/405127N Level: 52.94m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.20 - 0.30	ES 6	PID 0.20m 0.2ppm	0.30	(0.30) 52.64		MADE GROUND: Grey slightly clayey very sandy fine to coarse and occasionally cobble sized highly weathered mudstone Gravel with occasional ochre staining. Sand is fine to coarse.	
								End of works at 0.30m - Achieved termination depth.	

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the stockpiled material (approximately 1.20 m in height). No ACMs or signs of potential contamination noted..

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID
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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD3**

Location Type: Inspection pit

Coords: 437814E/405067N Level: 51.02m
Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.20 - 0.30	ES 7	PID 0.20m 0.1ppm	0.30	(0.30) 50.72		Brown slightly clayey very gravelly fine to coarse SAND. Gravel is fine to coarse and frequently cobble-sized angular to sub-angular of brick (85 - 90%), and concrete, mudstone and sandstone (10 - 15%) [TOPSOIL]	
								End of works at 0.30m - Achieved termination depth.	

1

2

Remarks:

Inspection pit completed at 0.30 mbgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted..

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD4**

Location Type: Inspection pit

Coords: 437790E/405038N Level: 51.01m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.10 - 0.30	ES 8	PID 0.10m 0.0ppm		(0.30)		Creamy white and light grey and brown very gravelly fine to coarse SAND. Gravel is fine to coarse and occasionally cobble sized subangular of brick, marble and rare basalt and clinker. [TOPSOIL]	
					0.30	50.71		End of works at 0.30m - Achieved termination depth.	1
									2

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID
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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD5**

Location Type: Inspection pit

Coords: 437819E/404984N Level: 48.90m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.00 - 0.20	ES 9	PID 0.00m 0.0ppm		(0.30)		Fallen leaves and branches over light brown slightly gravelly SILT with frequent rootlets. Gravel is fine to coarse subangular of sandstone and mudstone. [TOPSOIL]	
					0.30	48.60		End of works at 0.30m - Achieved termination depth.	1
									2

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted..

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD6**

Location Type: Inspection pit

Coords: 437851E/404939N Level: 48.50m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.15 - 0.30	ES 10	PID 0.15m 0.2ppm	0.30	(0.30) 48.20		Fallen leaves and branches over light brown slightly gravelly SILT with frequent fine rootlets. Gravel is fine to coarse subangular of brick, sandstone and mudstone [TOPSOIL]	
								End of works at 0.30m - Achieved termination depth.	

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Status: **FINAL**

Location ID: **HD7**

Location Type: Inspection pit

Coords: 437874E/404905N Level: 48.20m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.15 - 0.30	ES 11	PID 0.15m 0.2ppm	0.30	(0.30) 47.90		Light brown and orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is fine to coarse subrounded to subangular of concrete, brick, sandstone and mudstone. Rare coal and clinker fragments , and occasional fine rootlets [TOPSOIL] *from 0.00 to 0.30m bgl - Slight organic odour.*	
								End of works at 0.30m - Achieved termination depth.	

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information

Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD8**

Location Type: Inspection pit

Coords: 437914E/404868N

Level: 50.06m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90°

Inclination: 0°

Date Start: 09/10/2023

Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
					0.15	(0.15) 49.91		Grass over brown to dark brown slightly clayey gravelly fine to coarse SAND with fine rootlets. Gravel is fine to coarse sub-rounded to sub-angular of brick, concrete, sandstone and rare fine coal [TOPSOIL]	
		0.20 - 0.30	ES 12	PID 0.20m 0.2ppm	0.30	(0.15) 49.76		SUBSOIL: Very light brown to pale brown SILT with occasional roots.	
								End of works at 0.30m - Achieved termination depth.	

1

2

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID

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Project Title: Stairfoot Glassworks
Location: Former Stairfoot Brickworks, Barnsley, S70 3NS
Client: Potters Ballotini Limited

Status: **FINAL**

Location ID: **HD9**

Location Type: Inspection pit

Coords: 437948E/404873N Level: 48.93m

Ordnance Survey Great Britain National Grid

Final Depth: **0.30 m**

Orientation: 90° Inclination: 0°

Date Start: 09/10/2023 Date End: 09/10/2023

Method and Plant				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (mins)	Rose To (m)
0.00	0.30	IP	Hand Tools			

Inst/ Backfill	Water Level (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/ Ref	Samples & Tests: Test/Results	Strata Depth (m)	Level (m) (thick)	Legend /Cover	Strata Description	Depth (m)
		0.10 - 0.25	ES 13	PID 0.10m 0.2ppm	0.30	(0.30) 48.63		Scarce vegetation and grass over light brown gravelly fine to coarse SAND with frequent rootlets. Gravel is fine to coarse subangular of sandstone, mudstone and brick. Rare whole brick present. Frequent plastic, foil, wood and glass fragments recorded [TOPSOIL]	
								End of works at 0.30m - Achieved termination depth.	

1

2

Remarks:

Inspection pit completed at 0.30 m bgl. No groundwater encountered. The inspection pit was advanced on the retained soft landscaping. No ACMs or signs of potential contamination noted.

Depth Related Exploratory Hole Information			
Stability	Shoring	Length (m)	Width (m)
Stable	None	0.30	0.30

Scale 1:10

Logger(s): VG

Checked by: MH

Project ID

1620015371-002

Groundwater Monitoring Site Visit Record

Site:	Stairfoot, Barnsley	**Equipment:**	Interface Probe
Order Number:	1620015371-002		YSI Pro Plus
Weather:	Cloudy with intermittent showers.		
Date:	13 October 2023		
Sampler ID:	E Riddle		

Groundwater Monitoring Parameters

Monitoring Well	Response Zone (Strata)	Repsonse Zone (m bgl)	Level (m AOD)	Depth to Water (m bgl)	Depth to Base (m bgl)	Depth to Water (m AOD)	Volume Purged (litres)	Observations	Time (GMT)	Temp (°C)	DO (%)	DO (mg/l)	SPC (µS/cm)	pH (pH units)	ORP (mV)
WS109	Made Ground	0.5 - 1.1	48.12	0.589	1.10	47.532	4.0	Silty light brown. No odour or sheen. All samples collected.	12:10	16.2	14.8	1.38	609	7.91	191.2
WS112	Sand / Clay	1.3 - 2.0	48.40	1.482	2.06	46.919	1.3	Slightly silty light brown. No odour or sheen. All samples collected. Grab sample.	11:31	15.8	57.5	5.86	1700	6.43	209.7
CP7	Made Ground / Clay / Siltstone	0.5 - 3.0	48.10	1.522	2.93	46.581	2.0	Slightly silty light brown. Slight sheen. No odour. All samples collected. Grab sample.	10:42	15.8	71.2	7.06	414	6.67	203.9
WS8	Made Ground	1.0 - 6.5	51.31	3.177	5.95	48.133	4.0	Slightly silty slightly brown. Slight sulphurous smell. No sheen. All samples collected.	14:53	13.2	5.3	0.54	2315	6.75	-32.2
WS9	Made Ground / Clay / Siltstone	1.0 - 3.5	50.58	0.410	3.28	50.170	4.5	Slightly silty very slightly brown. No odour or sheen. All samples collected. Water level consistent with saturated ground.	13:53	13.6	67.8	7.03	439	7.40	185.4
WS104	Made Ground	1.0 - 3.0	47.883	2.474	3.00	45.409	0.5	Slightly silty slightly brown. Hydrocarbon-like odour and oily sheen. All samples collected. Grab sample.	15:34	15.5	8.3	0.83	1206	6.69	67.9

AOD = Above Ordnance Datum
bcl = below ground level

DO = Dissolved Oxygen
SPC = Specific Conductivity
ORP = Oxygen Redox Potential

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	12-Oct-2023	
Sampler ID:	ER	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-003363)	24/08/2023
	Interface Probe (SO/148634)	N/A
Local Weather	Sunny with slight breeze. Cold. 8 to degrees Celcius.	
Surface Conditions:	Concrete landscaping, dry; grass, slightly wet. Brick gravel, dry.	

Meteorological Conditions

Date	Time	Barometric Pressure		Weather (temp, wind, cloud, rain)
	(Days)	(mBar)	Trend	
10.10.2023	-2	1011	Falling	19ºC, sunny
11.10.2023	-1	1009	Slowly rising	11ºC, sunny with intermittent showers
12.10.2023	0	1012	Falling	12ºC, mostly sunny
13.10.2023	1	997	Slowly rising	11ºC, sunny with intermittent showers
14.10.2023	2	1017	Rising	11ºC, sunny with intermittent clouds

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Temp	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well				Comments
						Peak							Steady state												Reponse Zone			Internal Diameter	
				Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID										
	(m AOD)		(ºC)	(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)	(m bgl)			(mm)	
Start	-	08:31		0.0	0.0	0	0	0	22	0	0	-	0	0	0	22	0	0	-	1011	-	-	-	-	-	-	-	-	-
WS101A	47.52	09:13		0.2	0.2	0	0	1.1	18.1	0	0	1.1	0	0	0.8	18.2	0	0	1.1	1012	-	1.101	1.15	46.42	0.5	-	1.2	50	
WS102	47.42	08:47		0.0	0.0	0	0	13.3	2.9	1	0	1.1	0	0	13.3	2.9	1	0	1.1	1011		DRY	3.24	-	1.0	-	3.3	50	
WS103	47.46	09:54		0.0	0.0	36.7	>>>	22.9	0	0	0	0.4	36.1	100	22.9	0.0	0	0	0.4	1012		DRY	4.00	-	1.0	-	4.0	50	
WS104	47.88	09:31		0.0	0.0	0	7.7	7.3	7.7	0	0	1.2	0	0	7.3	7.7	0	0	1.2	1012		2.495	3.00	45.39	1.0	-	3.0	50	Moderate hydrocarbon odour noted on tape.
WS105	48.15	11:44		0.0	0.0	0	0	0	20.6	11	4	1.3	0	0	0.0	21.5	0	1	1.3	1010		DRY	1.53	-	0.4	-	1.5	50	
WS106	48.14	10:58		0.0	0.0	0	0	0.8	17.3	0	0	1.9	0	0	0.8	17.4	0	0	1.9	1010		DRY	0.86	-	0.3	-	0.9	50	
WS107	47.88	12:12		0.0	0.0	0.0	0	3.5	14.5	1	0	2.8	0	0	3.5	14.5	0	0	2.8	1009		DRY	2.85	-	1.4	-	2.8	50	
WS108	48.14	13:21		0.0	0.0	0.0	0	2.1	8.6	3	1	1.5	0	0	1.5	9.5	1	1	1.5	1008		1.258	1.34	46.89	0.3	-	1.3	50	
WS109	48.12	13:34		0.0	0.0	0.0	0.5	0.5	17.8	1	1	1.3	0	0.5	0.0	21.5	0	1	1.3	1007		0.719	1.10	47.40	0.5	-	1.1	50	Oily sheen noted on dip tape
WS110	48.06	13:51		0.0	0.0	0.1	3.1	1.4	19.1	31	7	2.0	0	1.4	1.4	19.1	31	6	2.0	1007		2.810	2.95	45.25	1.5	-	3.0	50	
WS111	49.59	14:07		0.0	0.0	0.0	0.9	3.7	14.8	7	4	1.8	0	0	3.2	15.4	1	0	1.8	1006		1.690	2.68	47.90	0.5	-	2.5	50	
WS112	48.40	11:18		0.0	0.0	0.0	0	2.2	16.4	47	8	1.3	0	0	0.8	16.9	43	6	1.3	1010		1.421	2.05	46.98	1.3	-	2.0	50	
CP1	50.48	10:13		1.0	1.0	23.6	>>>	18.9	0.0	1	2	0.5	24	100	18.9	0.0	1	2	0.5	1010		7.822	9.18	42.66	1.0	-	7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	10:35		0.0	0.0	1.0	10.5	2.3	17.9	0	0	1.6	0	0	2.3	18.3	0	0	1.1	1010		DRY	7.15	-	1.0	-	9.0	50	
CP7	48.10	11:59		0.0	0.0	0.0	0	0.0	19.9	0	0	0.7	0	0	0.0	19.9	0	0	0.6	1009		0.928	2.94	47.18	0.5	-	3.0	50	
CP11	50.33	15:25		0.0	0.0	0.0	0.8	0.0	21.8	1	1	0.7	0	0.7	0.0	21.8	0	1	0.7	1005		1.220	3.13	49.11	0.5	-	3.0	50	White bugs on dip tape
WS6	52.03	14:24		0.0	0.0	0.0	1	0.4	21.3	1	0	0.8	0	0.7	0.3	21.5	0	0	0.7	1006		DRY	2.83	-	1.0	-	3.0	50	
WS7	52.19	14:41		0.0	0.0	0.1	2.7	0.0	21.8	1	1	0.6	0	2.7	0.0	21.8	0	0	0.5	1005		1.912	1.99	50.28	1.0	-	2.0	50	
WS8	51.31	14:55		0.0	0.0	0.1	2.8	1.3	17.4	1	1	0.6	0	2.1	1.3	17.4	1	1	0.5	1006		3.123	5.60	48.19	1.0	-	6.5	50	
WS9	50.58	15:11		0.0	0.0	0	1.7	0.3	21.3	0	2	0.6	0	1.7	0.3	21.4	0	0	0.6	1005		2.664	3.28	47.92	1.0	-	3.5	50	
WS12	47.82	15:50		0.0	0.0	0	0	0.2	21.2	1	0	0.4	0	0	0.2	21.2	0	0	0.4	1005		0.627	1.01	47.19	0.6	-	1.3	50	
End	-					0	0	0	20.9	0	0	-	0	-	-	20.9	0	0	-	1005		-	-	-	-	-	-	-	-

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	26-Oct-2023	
Sampler ID:	ER	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-003363)	24/08/2023
	Interface Probe (SO/148634)	N/A
Local Weather	Cloudy with frequent showers. 10 degrees Celcius.	
Surface Conditions:	Concrete landscaping, wet; grass, wet. Brick gravel, wet.	

Meteorological Conditions

Date	Time	Barometric Pressure		Weather (temp, wind, cloud, rain)
	(Days)	(mBar)	Trend	
24.10.2023	-2	1001	Slowly falling	10ºC, light rain with scattered clouds.
25.10.2023	-1	994	Falling	12ºC, overcast with light rain and sunny spells.
26.10.2023	0	987	Falling	10ºC, overcast with frequent light rain
27.10.2023	1	989	Steady	9ºC, cloudy with fog
28.10.2023	2	987	Falling	9ºC, cloudy with drizzle

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Temp	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well				Comments
						Peak							Steady state												Reponse Zone			Internal Diameter	
				Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID						(m bgl)				
	(m AOD)		(ºC)	(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)				(mm)	
Start	-	08:30		0.0	0.0	0	0	0	21	0	0	-	0	0	0	21	0	0	-	988	-	-	-	-	-	-	-	-	-
WS101A	47.52	08:38		0.0	0.0	0	0	0.4	14	0	0	0.4	0	0	0.3	14.0	0	0	0.4	987	-	1.060	1.17	46.46	0.5	-	1.2	50	
WS102	47.42	09:04		0.0	0.0	0	0	11.4	1.8	1	0	0.4	0	0	12.2	1.8	0	0	0.4	987		DRY	3.24	-	1.0	-	3.3	50	
WS103	47.46	09:23		0.8	0.5	42.2	>>>	24.1	0	9	0	0.2	42.2	100	24.1	0	0	9	0.2	987		DRY	4.00	-	1.0	-	4.0	50	
WS104	47.88	09:41		0.0	0.0	0	0	8.9	2.4	0	0	1.1	0	0	8.9	2.4	0	0	0.9	988		2.513	3.00	45.37	1.0	-	3.0	50	Moderate hydrocarbon-like odour noted on tape.
WS105	48.15	10:34		0.0	0.0	0	0	0.5	17	0	0	0.3	0	0	0.5	17.1	0	0	0.3	988		1.369	1.55	46.79	0.4	-	1.5	50	
WS106	48.14	11:12		-1.8	-0.8	0	0	0.5	17	0	0	-	0	0	0.5	17	0	0	-	988		0.395	0.86	47.75	0.3	-	0.9	50	Terminated after 60 seconds due to water ingress into tubing. PID not taken
WS107	47.88	10:53		0.0	0.0	0.0	0	3.9	12.2	0	0	1.2	0	0	4.0	12.2	0	0	1.2	988		1.486	2.85	46.39	1.4	-	2.8	50	
WS108	48.14	12:31		0.0	0.0	0.0	0	0.9	6.9	0	0	0.5	0	0	0.9	7.2	0	0	0.5	987		1.130	1.35	47.01	0.3	-	1.3	50	
WS109	48.12	12:46		-1.4	0.0	0.0	0	0.0	18.8	0	0	0.3	0	0	0.0	21.2	0	0	0.3	987		0.465	1.10	47.66	0.5	-	1.1	50	Oily sheen noted on dip tape
WS110	48.06	13:06		0.0	0.0	0.1	0	2.2	16.1	7	2	0.6	0	1.4	1.6	17.3	3	0	0.6	986		0.432	2.95	47.62	1.5	-	3.0	50	
WS111	49.59	13:24		0.0	0.0	0.0	0	9.1	3.0	0	0	0.5	0	0	9.1	3.0	0	0	0.5	986		1.680	2.68	47.91	0.5	-	2.5	50	
WS112	48.40	10:16		0.0	0.0	0.0	0	1.8	8.5	0	0	0.4	0	0	0.5	11.9	0	0	0.3	986		0.448	2.05	47.95	1.3	-	2.0	50	
CP1	50.48	15:16		0.5	0.0	21.6	>>>	18.2	0.0	0	1	0.0	21.6	100	18.2	0.0	0	0	0.0	986		7.640	9.14	42.84	1.0	-	7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	14:59		0.0	0.0	6.2	>>>	16.9	2.1	0	0	0.1	6.2	100	16.9	2.1	0	0	0.0	986		DRY	7.15	-	1.0	-	9.0	50	Sawdust like material on interface probe.
CP7	48.10	12:14		0.0	0.0	0.0	0	0.2	20.9	0	0	0.2	0	0	0.0	21.3	0	0	0.2	988		0.374	2.94	47.73	0.5	-	3.0	50	
CP11	50.33	14:39		0.0	0.0	0.0	0	1.5	11.6	0	0	0.2	0	0	1.5	11.6	0	0	0.1	986		1.150	3.13	49.18	0.5	-	3.0	50	Strong faeces-like odour.
WS6	52.03	13:39		0.0	0.0	0.0	0	0.6	19.7	0	0	0.2	0	0	0.6	19.7	0	0	0.2	986		2.492	2.81	49.54	1.0	-	3.0	50	
WS7	52.19	13:56		0.0	0.0	0.0	0	0.5	19.6	0	1	0.1	0	0	0.3	20.4	0	0	0.1	986		1.867	1.99	50.32	1.0	-	2.0	50	Slight hydrocarbon-like odour.
WS8	51.31	14:11		0.0	0.0	0.0	0	9.2	0.5	0	0	0.3	0	0	9.2	0.0	0	0	0.2	986		2.670	5.92	48.64	1.0	-	6.5	50	
WS9	50.58	14:25		0.2	0.0	0	0	0.0	20.5	0	0	0.1	0	0	0.0	21.1	0	0	0.1	986		0.382	3.36	50.20	1.0	-	3.5	50	
WS12	47.82	10:00		0.0	0.0	0	0	0.0	20.6	0	0	0.4	0	0	0.0	21.0	0	0	0.3	988		0.495	1.00	47.33	0.6	-	1.3	50	
End	-	15:35				0	0	0	20.9	0	0	-	0	-	-	20.9	0	0	-	986		-	-	-	-	-	-	-	-

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	02-Nov-2023	
Sampler ID:	ER	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-003363)	24/08/2023
	Interface Probe (SO/148634)	N/A
Local Weather	Overcast with frequent showers. 10 degrees Celcius.	
Surface Conditions:	Concrete landscaping, wet; grass, wet. Brick gravel, wet.	

Meteorological Conditions

Date	Time (Days)	Barometric Pressure (mBar)	Barometric Pressure Trend	Weather (temp, wind, cloud, rain)
31.10.2023	-2	1000	Steady	7ºC, cloudy with drizzle
01.11.2023	-1	983	Falling	12ºC, sunny with intermittent clouds
02.11.2023	0	960	Rapidly falling then rising	10ºC, overcast with frequent rain
03.11.2023	1	978	Rising	10ºC, sunny with scattered clouds
04.11.2023	2	966	Falling	7ºC, cloudy with drizzle

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Temp	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well				Comments
						Peak							Steady state												Reponse Zone			Internal Diameter	
				Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID										
	(m AOD)		(ºC)	(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)	(m bgl)				(mm)	
Start	-	08:05		0.0	0.0	0	0	0	21.2	0	0	-	0	0	0	21	0	0	-	961	-	-	-	-	-	-	-	-	-
WS101A	47.52	08:08		0.0	0.0	0	0	0.4	14.1	3	1	0.1	0	0	0.4	14.1	3	1	0.1	959	-	1.048	1.17	46.47	0.5	-	1.2	50	
WS102	47.42	08:23		0.0	0.0	0	0	11.3	1.2	1	1	0.1	0	0	11.9	1.2	1	0	0.1	959		DRY	3.24	-	1.0	-	3.3	50	
WS103	47.46	08:35		1.3	1.0	45.4	>>>	23.8	0	3	24	0.3	45.4	>>>	23.5	0	1	24	0.3	958		DRY	4.00	-	1.0	-	4.0	50	
WS104	47.88	08:54		0.0	0.0	0	0	9	0.5	1	1	1.2	0	0	9.0	0.5	0	0	0.9	958		2.406	3.00	45.48	1.0	-	3.0	50	Moderate hydrocarbon-like odour noted on tape.
WS105	48.15	09:52		0.2	0.0	0	0	1	15	0	0	0.3	0	0	1.0	15.2	0	0	0.2	959		1.097	1.54	47.06	0.4	-	1.5	50	
WS106	48.14	11:12		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.285	0.86	47.86	0.3	-	0.9	50	Not sampled due to flooded borehole.
WS107	47.88	10:08		0.0	0.0	0.0	0	1.0	16.3	0	1	0.7	0	0	1.0	16.4	0	0	0.7	959		1.474	2.85	46.41	1.4	-	2.8	50	
WS108	48.14	10:38		0.0	0.0	0.0	0	1.1	17.3	0	1	0.4	0	0	1.1	17.4	0	0	0.3	960		1.084	1.35	47.06	0.3	-	1.3	50	
WS109	48.12	11:40		0.0	0.0	0.0	0	1.2	18.4	3	0	0.7	0	0	1.2	18.4	0	0	NS	961		0.413	1.10	47.71	0.5	-	1.1	50	PID reading aborted. Slight hydrocarbon-like odour.
WS110	48.06	13:17		0.0	0.0	0.0	0	2.5	1.7	3	0	NS	0	0	2.5	1.7	3	0	NS	960		0.375	2.95	47.68	1.5	-	3.0	50	
WS111	49.59	12:19		0.2	0.0	0.0	0	4.8	4.3	4	0	NS	0	0	4.8	4.3	0	0	NS	960		1.711	2.68	47.88	0.5	-	2.5	50	
WS112	48.40	09:25		1.7	0.0	0.0	0	4.1	10.7	1	1	0.3	0	0	0.9	15.1	0	0	NS	960		0.359	2.05	48.04	1.3	-	2.0	50	Terminated due to water ingress in gas analyser tubing.
CP1	50.48	14:43		0.0	0.0	21.0	>>>	10.1	0.6	1	1	NS	21.0	>>>	10.1	0.6	1	0	NS	961		7.360	9.17	43.12	1.0	-	7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	14:30		0.0	0.0	11.2	>>>	15.2	0.0	1	0	NS	21.0	>>>	10.1	0.6	1	0	NS	961		DRY	7.15	-	1.0	-	9.0	50	Sawdust like material on interface probe.
CP7	48.10	10:27		0.4	0.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.000	2.94	48.10	0.5	-	3.0	50	Borehole flooded above pipe level.
CP11	50.33	14:01		0.0	0.0	0.0	0	0.0	24.1	1	0	NS	0	0	0.0	24.4	0	0	NS	960		0.932	3.13	49.40	0.5	-	3.0	50	Strong faeces-like odour and frequent hairs.
WS6	52.03	11:56		0.0	0.0	0.0	0	1.2	18.4	0	0	NS	0	0	1.2	18.4	0	0	NS	960		2.334	2.84	49.70	1.0	-	3.0	50	
WS7	52.19	13:29		-0.6	-0.6	0.0	0	0.0	23.5	1	0	NS	0	0	0.0	24.5	1	0	NS	960		1.880	1.99	50.31	1.0	-	2.0	50	
WS8	51.31	13:42		0.0	0.0	0.0	0	5.5	0.4	3	0	NS	0	0	5.5	1.4	0	0	NS	960		2.380	5.99	48.93	1.0	-	6.5	50	
WS9	50.58	13:53		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.383	3.35	50.20	1.0	-	3.5	50	Not sampled due to flooded borehole.
WS12	47.82	09:10		0.0	0.0	0	0	0.0	20.2	0	0	0.4	0	0	0.0	21.0	0	0	0.3	958		0.495	1.00	47.33	0.6	-	1.3	50	
End	-	15:35				0	0	0	20.9	0	0	-	0	-	-	20.9	0	0	-	986		-	-	-	-	-	-	-	-

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

NS = Not sampled

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	09-Nov-2023	
Sampler ID:	ER	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-00336	24/08/2023
		N/A
Local Weather	Overcast with sunny spells. 10 degrees Celcius.	
Surface Conditions:	Concrete landscaping, wet; grass, wet. Brick gravel, wet	

Meteorological Conditions

Date	Time (Days)	Barometric Pressure (mBar)	Barometric Pressure Trend	Weather (temp, wind, cloud, rain)
07.11.2023	-2	1004	Rising	10ºC, sunny with intermittent light rain
08.11.2023	-1	998	Falling then rising	9ºC, light rain
09.11.2023	0	990	Falling	10ºC, overcast
10.11.2023	1	988	Rising	8ºC, sunny with intermittent clouds
11.11.2023	2	1007	Rising	9ºC, sunny with intermittent clouds

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well Reponse Zone			Internal Diameter	Comments
					Peak							Steady state																
			Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID										
	(m AOD)		(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)	(m bgl)			(mm)	
Start	-	08:05	0.0	0.0	0	0	0	21	0	0	-	0	0	0	21	0	0	-	991	-	-	-	-	-	-	-	-	-
WS101A	47.52	08:24	0.0	0.0	0	0	0	16	1	0	0.1	0	0	0.0	16.0	1	0	0.1	991	-	1.118	1.17	46.40	0.5	-	1.2	50	
WS102	47.42	08:57	0.2	0.0	0	0	7.8	2.5	1	0	0.2	0	0	7.8	2.5	1	0	0.2	991		DRY	3.25	-	1.0	-	3.3	50	
WS103	47.46	09:09	1.1	0.7	37.4	>>>	18.9	0	3	10	0.0	37	>>>	18.9	0	3	10	0.0	991		DRY	4.00	-	1.0	-	4.0	50	
WS104	47.88	09:21	0.3	0.0	0	0	5	8.4	1	0	3.3	0	0	5.0	8.4	1	0	2.3	991		2.513	3.00	45.37	1.0	-	3.0	50	Moderate hydrocarbon-like odour noted.
WS105	48.15	10:22	0.0	0.0	0	0	0	18	1	0	0.7	0	0	0.0	18.0	1	0	0.5	991		1.165	1.55	46.99	0.4	-	1.5	50	
WS106	48.14	10:10	0.3	0.2	0	0	0	23.4	1	0	1.1	0	0	0	24.4	1	0	0.9	991		0.652	0.85	47.49	0.3	-	0.9	50	Not sampled due to flooded borehole.
WS107	47.88	10:35	0.0	0.0	0.0	0	2.4	12.0	1	0	0.9	0	0	2.4	12.0	0	0	0.9	991		1.537	2.87	46.34	1.4	-	2.8	50	
WS108	48.14	11:01	0.0	0.0	0.0	0	0.6	8.4	1	0	0.4	0	0	0.6	7.9	1	0	0.4	990		1.280	1.35	46.86	0.3	-	1.3	50	
WS109	48.12	11:16	0.0	0.0	0.0	0	0.0	21.7	4	1	0.2	0	0	0.0	22.3	3	1	0.2	990		0.627	1.10	47.49	0.5	-	1.1	50	
WS110	48.06	11:30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.378	2.95	47.68	1.5	-	3.0	50	Not sampled due to flooded borehole.
WS111	49.59	12:10	0.0	0.0	0	0	5.7	3.0	0	0	0.3	0	0	5.7	3.0	0	0	0.3	989		1.820	2.68	47.77	0.5	-	2.5	50	
WS112	48.40	09:25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.150	2.05	48.25	1.3	-	2.0	50	Not sampled due to flooded borehole. Oily sheen observed.
CP1	50.48	14:11	0.0	0.0	19.1	>>>	14.0	0.0	3	14	0.0	19.1	>>>	14.0	0.0	3	13	0.0	988		7.240	9.17	43.24	1.0	-	7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	13:58	0.0	0.0	0.0	0	6.6	9.7	1	0	0.0	0.0	0	6.6	9.7	0	0	0.0	988		DRY	7.15	-	1.0	-	9.0	50	Sawdust like material on interface probe.
CP7	48.10	10:27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.492	2.93	47.61	0.5	-	3.0	50	Not sampled due to flooded borehole.
CP11	50.33	13:38	0.0	0.0	0.0	0	0.0	24.1	3	0	0.0	0	0	0.0	24.5	0	0	0.0	988		0.914	3.10	49.41	0.5	-	3.0	50	Hair on interface probe.
WS6	52.03	12:24	0.0	0.0	0.0	0	0.0	23.7	1	0	0.1	0	0	0.0	24.5	1	0	0.1	988		2.453	2.82	49.58	1.0	-	3.0	50	
WS7	52.19	12:41	0.0	0.0	0.0	0	0.0	24.6	3	0	0.1	0	0	0.0	24.6	1	0	0.0	988		1.886	1.99	50.30	1.0	-	2.0	50	
WS8	51.31	12:56	0.0	0.0	0.0	0	2.5	9.8	1	0	0.1	0	0	2.5	9.8	1	0	0.1	988		2.250	5.92	49.06	1.0	-	6.5	50	
WS9	50.58	13:53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.393	3.33	50.19	1.0	-	3.5	50	Not sampled due to flooded borehole.
WS12	47.82	09:10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.510	1.00	47.31	0.6	-	1.3	50	Not sampled due to flooded borehole.
End	-	14:32	-	-	0	0	0	21.1	0	0	-	0	-	-	21.1	0	0	-	988		-	-	-	-	-	-	-	-

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

NS = Not sampled

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	23-Nov-2023	
Sampler ID:	ER	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-00336	24/08/2023
		N/A
Local Weather	Overcast with sunny spells. 10 degrees Celcius.	
Surface Conditions:	Concrete landscaping, wet; grass, wet. Brick gravel, wet	

Meteorological Conditions

Date	Time (Days)	Barometric Pressure (mBar)	Barometric Pressure Trend	Weather (temp, wind, cloud, rain)
21.11.2023	-2	1028	Rising	8ºC, sunny with intermittent showers
22.11.2023	-1	1023	Falling	11ºC, cloudy with light rain
24.11.2023	0	1017	Falling	12ºC, overcast
25.11.2023	1	1020	Steady	4ºC, sunny with slight breeze
26.11.2023	2	1011	Falling	5ºC, sunny with intermittent clouds

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well Reponse Zone			Internal Diameter	Comments
					Peak							Steady state																
			Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID										
	(m AOD)		(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)	(m bgl)			(mm)	
Start	-	08:28	0.0	0.0	0	0	0	21	0	0	-	0	0	0	21	0	0	-	1018	-	-	-	-	-	-	-	-	-
WS101A	47.52	08:34	0.0	0.0	0	0	0	17.1	1	0	0.0	0	0	0.0	17.3	1	0	0.0	1018	-	DRY	1.17	-	0.5	-	1.2	50	
WS102	47.42	08:47	0.0	0.0	0	0	6.5	6.9	4	0	0.0	0	0	6.8	6.1	3	0	0.0	1017		DRY	3.25	-	1.0	-	3.3	50	
WS103	47.46	09:06	3.7	3.1	29.2	>>>	15.8	0	4	0	2.0	27.6	>>>	15.4	0	3	0	2.0	1017		DRY	4.00	-	1.0	-	4.0	50	
WS104	47.88	09:26	0.0	0.0	0	0	3.3	12.7	1	0	2.1	0	0	4.0	11.3	1	0	2.1	1017		2.507	3.00	45.38	1.0	-	3.0	50	Slight hydrocarbon-like odour noted.
WS105	48.15	10:24	0.5	0.0	0	0	0	20.4	1	0	0.0	0	0	0.0	20.7	1	0	0.0	1017		1.031	1.54	47.12	0.4	-	1.5	50	
WS106	48.14	09:52	0.0	0.0	0	0	0	19.8	1	0	0.9	0	0	0	19.8	0	0	0.9	1017		0.690	0.85	47.45	0.3	-	0.9	50	
WS107	47.88	10:57	0.0	0.0	0.0	0	2.5	16.3	1	0	1.1	0	0	2.7	16.3	0	0	1.1	1017		1.941	2.87	45.94	1.4	-	2.8	50	
WS108	48.14	11:14	1.4	0.0	0.0	0	0.8	7.6	1	0	0.4	0	0	0.8	7.6	0	0	0.4	1017		1.278	1.34	46.87	0.3	-	1.3	50	
WS109	48.12	11:36	0.5	0.0	0.0	0	0.0	22.5	3	0	0.0	0	0	0.0	22.5	3	0	0.0	1017		0.647	1.10	47.47	0.5	-	1.1	50	Very slight hydrocarbon-like odour.
WS110	48.06	11:30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.392	2.95	47.66	1.5	-	3.0	50	Not sampled due to flooded borehole.
WS111	49.59	12:27	1.1	0.0	0	0	4.2	9.0	1	0	1.8	0	0	4.2	9.0	0	0	0.3	1017		1.841	2.68	47.75	0.5	-	2.5	50	
WS112	48.40	09:43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.240	2.05	48.16	1.3	-	2.0	50	Not sampled due to flooded borehole. Oily sheen observed.
CP1	50.48	14:19	3.5	3.5	26.6	>>>	13.8	3.5	3	0	0.0	26.6	>>>	13.8	3.5	0	0	0.0	1015		7.032	9.06	43.45	1.0	-	7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	14:01	0.0	0.0	0.0	0	4.7	15.9	1	0	0.0	0.0	0	4.7	16.2	0	0	0.0	1015		DRY	7.15	-	1.0	-	9.0	50	Sawdust like material on interface probe.
CP7	48.10	10:41	0.0	0.0	0	0	0	24.7	1	0	0.0	0	0	0	24.8	1	0	0.0	1017		0.652	2.82	47.45	0.5	-	3.0	50	
CP11	50.33	13:29	0.8	0.0	0.0	0	0.0	20.0	3	0	0.0	0	0	0.0	20.4	0	0	0.0	1015		0.947	3.11	49.38	0.5	-	3.0	50	Hair on interface probe.
WS6	52.03	12:43	0.2	0.0	0.0	0	0.0	24.3	1	0	0.0	0	0	0.0	24.8	0	0	0.0	1016		2.552	2.82	49.48	1.0	-	3.0	50	
WS7	52.19	12:56	0.0	0.0	0.0	0	0.0	24.8	0	0	0.0	0	0	0.0	24.8	0	0	0.0	1016		1.887	1.99	50.30	1.0	-	2.0	50	
WS8	51.31	13:09	0.4	0.0	0.0	0	0.0	24.2	1	0	0.0	0	0	0.0	24.2	1	0	0.0	1015		2.403	5.93	48.91	1.0	-	6.5	50	
WS9	50.58	13:22	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.706	3.36	49.87	1.0	-	3.5	50	Not sampled due to flooded borehole.
WS12	47.82	09:41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.530	1.00	47.29	0.6	-	1.3	50	Not sampled due to flooded borehole.
End	-	14:24	-	-	0	0	0	21.3	0	0	-	0	-	-	21.3	0	0	-	1015		-	-	-	-	-	-	-	-
								24.8																				

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

NS = Not sampled

Gas and Groundwater Level Monitoring Site Visit Record

Site:	Former Stairfoot Brickworks, Barnsley	
Project Number:	1620015371-002	
Date:	30-Nov-2023	
Sampler ID:	VG	
		Calibration Checks/ Notes
Equipment (& Serial Number):	GFM430-1 (10153)	21/03/2023
	MiniRae Lite (595-00336	24/08/2023
		N/A
Local Weather	Overcast with sunny spells. 2 degrees Celcius. Light snow.	
Surface Conditions:	Concrete landscaping, wet; grass, wet. Brick gravel, wet.	

Meteorological Conditions

Date	Time	Barometric Pressure		Weather (temp, wind, cloud, rain)
	(Days)	(mBar)	Trend	
28.11.2023	-2	1011	Falling	6°C, partly cloudy
29.11.2023	-1	1009	Falling	3°C, sunny
30.11.2023	0	1006	Relatively steady then rising	3°C, partly cloudy
01.12.2023	1	1008	Rising	3°C, partly cloudy
02.12.2023	2	1013	Rising	3°C, mostly sunny

Note atmospheric pressure data and trends for the days prior to, on and following the monitoring event were taken from www.wunderground.com for Barnsley, United Kingdom weather station, located approximately 300m north of the site.

Location ID	Location Level	Time	Flow		Gas Concentration														Static / Atmospheric Pressure	Relative Pressure	Depth to Water	Depth to Base	Water Level	Monitoring Well Reponse Zone			Internal Diameter	Comments
					Peak							Steady state																
			Peak	Steady	CH_4		CO_2	O_2*	CO	H_2S	PID	CH_4		CO_2	O_2	CO	H_2S	PID										
	(m AOD)		(l/h)	(l/h)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(%)	(% LEL)	(%)	(%)	(ppm)	(ppm)	(ppm)	(mBar)	(Pa)	(m bgl)	(m bgl)	(m AOD)	(m bgl)			(mm)	
Start	-	11:10	0.0	0.0	0	0	0	25	1	0	0.0	0	0	0	25	1	0	0.0	1003	-	-	-	-	-		-	-	-
WS101A	47.52	13:45	0.1	0.1	0	0	0	17.3	0	0	0.0	0	0	0.0	17.3	0	0	0.0	1004	-	0.960	1.18	46.56	0.5		1.2	50	
WS102	47.42	14:00	-0.3	-0.3	0	0	0	22.9	0	0	0.0	0	0	0.0	22.8	0	0	0.0	1004	-	3.140	3.22	44.28	1.0		3.3	50	
WS103	47.46	14:10	-0.6	-0.4	31.7	>>>	16.5	3	1	0	0.3	28.7	>>>	15.5	0.1	0	0	0.3	1004	-	DRY	4.00	-	1.0		4.0	50	
WS104	47.88	13:25	0.0	0.0	0	0	4.1	19.2	0	0	0.0	0	0	4.1	7.6	0	0	0.0	1004	-	2.530	3.01	45.35	1.0		3.0	50	
WS105	48.15	11:25	0.3	0.0	0.0	0	0	22.3	4	0	0.0	0	0	0.0	21.7	1	0	0.0	1002	-	0.940	1.55	47.21	0.4		1.5	50	
WS106	48.14	11:15	0.0	0.0	0.0	0	0	24	1	0	0.0	0	0	0	20.5	0	0	0.0	1003	-	0.690	0.85	47.45	0.3		0.9	50	
WS107	47.88	11:40	0.6	0.0	0.0	0	2.1	21.5	1	0	0.0	0	0	2.1	18.1	1	0	0.0	1002	-	1.930	2.88	45.95	1.4		2.8	50	
WS108	48.14	11:45	-0.1	-0.1	0.0	0	0.6	17.2	1	0	0.0	0	0	0.6	0.6	1	0	0.0	1002	-	1.290	1.35	46.85	0.3		1.3	50	
WS109	48.12	12:00	-0.5	0.1	0.0	0	0.0	23.3	3	0	0.0	0	0	0.0	23.3	1	0	0.0	1002	-	0.630	1.11	47.49	0.5		1.1	50	
WS110	48.06	11:55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		0.880	2.95	47.18	1.5		3.0	50	Not sampled due to flooded borehole.
WS111	49.59	12:15	0.7	0.5	0	0	0.0	21.0	0	0	0.0	0	0	0.0	20.8	0	0	0.0	1002	-	1.800	2.68	47.79	0.5		2.5	50	
WS112	48.40	13:20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	0.270	2.04	48.13	1.3		2.0	50	Not sampled due to flooded borehole.
CP1	50.48	14:30	0.3	0.1	31.1	>>>	16.3	1.0	0	0	0.0	31.1	>>>	16.3	0.2	0	0	0.0	1004	-	7.020	9.11	43.46	1.0		7.0	50	Acrid smell. Black staining on dip tape with slight hydrocarbon odour.
CP2	49.77	14:20	0.0	0.0	0.0	0	5.4	22.8	0	0	0.6	0.0	0	5.4	11.9	0	0	0.6	1004	-	6.450	6.58	43.32	1.0		9.0	50	Depth to water and base measured to top of tophat cover.
CP7	48.10	14:50	0.0	0.0	0	0	0	23.9	0	0	0.0	0	0	0	23.8	0	0	0.0	1004	-	0.660	2.83	47.44	0.5		3.0	50	
CP11	50.33	13:05	0.3	0.0	0.0	0	0.0	24.5	0	0	0.0	0	0	0.0	24.5	0	0	0.0	1003	-	1.080	3.14	49.25	0.5		3.0	50	
WS6	52.03	12:30	0.1	0.1	0.0	0	0.0	24.4	1	0	0.0	0	0	0.0	24.3	0	0	0.0	1002	-	2.070	2.82	49.96	1.0		3.0	50	
WS7	52.19	12:40	-0.2	0.1	0.0	0	0.0	24.4	0	0	0.0	0	0	0.0	24.4	0	0	0.0	1002	-	1.490	1.88	50.70	1.0		2.0	50	
WS8	51.31	12:50	0.1	0.0	0.0	0	0.0	24.3	0	0	0.0	0	0	0.0	22.9	0	0	0.0	1002	-	1.910	5.55	49.40	1.0		6.5	50	
WS9	50.58	12:55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	0.540	3.36	50.04	1.0		3.5	50	Not sampled due to flooded borehole. Depth to water measured to top of tophat cover.
WS12	47.82	13:15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	0.540	1.01	47.28	0.6		1.3	50	Not sampled due to flooded borehole.
End	-	14:55	-	-	0	0	0	24.2	1	0	0.0	0	0	0.0	24.2	1	0	0.0	1004	-	-	-	-	-		-	-	-

Notes:

DP = Differential Pressure

LEL = Lower Explosive Limit

* O_2 Peak concentration recorded as a minimum

- Denotes where data was not recorded

Ground gas was measured for at least 180 seconds before taking final readings.

NS = Not sampled

Appendix 4
Field Methods

In the preparation of this report Ramboll has made reference to UK regulatory guidance and methodologies, including, but not limited to: Land Contamination: Risk Management[16] (LCRM); BS5930:2015+A1:2020 Code of Practice for site Investigation[17]; and BS10175:2011 + A2:2017 Code of Practice for the Investigation of Potentially Contaminated Sites[18].

Investigatory Locations

Investigatory locations were marked out and cleared by a specialist underground service clearance contractor before the start of intrusive works, in accordance with Ramboll's Health and Safety procedures. Supervision of drilling works was undertaken by a professional engineer, who logged the soil arisings, collected samples and completed in-situ testing;

Where boreholes were drilled, these were undertaken to facilitate the collection of shallow and deeper soil and groundwater samples. Selected boreholes were installed with monitoring wells for assessment of ground gas and, where present groundwater conditions .

Trial pits were excavated using a mechanical excavator to facilitate the collection of shallow soil samples and allow the assessment of ground conditions for environmental purposes;

Hand dug pits were dug, to facilitate the collection of shallow soil samples and allow the assessment of ground conditions for environmental purposes.

Sampling

Samples of various environmental media were collected in accordance with BS 10175 [4].

Samples and were stored within appropriate sample containers and forwarded to an independent analytical laboratory. Samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation. The laboratory selected to perform the analysis is accredited by UKAS to ISO 17025. Internal quality assurance checks are carried out by the laboratory data prior to the laboratory certificates being issued. A trip blank was also submitted to the laboratory and was scheduled for VOC and SVOC testing.

Each of the monitoring/sampling wells that were constructed were developed on completion. Prior to sampling, the depth to the resting groundwater level (where present) and base of the monitoring wells were measured using an electronic interface probe, wells were then purged before samples were taken.

Testing

Where soil samples were tested on site for volatile organic compounds (VOCs), testing was completed using a photo-ionisation detector (PID). Each sample was placed into a sealed plastic bag and agitated. The PID was then inserted into the headspace and the total VOC reading recorded. The PID screens for a wide range of VOCs but does not indicate a specific compound; therefore, the results of the PID screening provide a semi-quantitative indication of the concentration of VOCs present in soil pore spaces.

Where relevant testing was undertaken by the laboratory to MCerts standards. Selected samples were scheduled for analysis for a suite of contaminants designed to be reflective of the site's

[16] Environment Agency (2020) Land Contamination: Risk Management

[17] British Standards (2015) Code of Practice for site Investigation BS5930:2015+A1:2020

[18] British Standards (2017) Code of Practice for the Investigation of Potentially Contaminated sites. BS10175:2011 + A2:2017

historical and contemporary uses, and specifically to investigate the PCLs identified in the PRA (as listed in Section 3.2).

Monitoring

Wells were of appropriate construction for the ground conditions encountered. The well designs are detailed within the appended borehole logs.

Ground gas monitoring was completed using a calibrated monitor. The following parameters were measured:

- Methane (% vol);
- Carbon dioxide (% vol);
- Oxygen (% vol);
- Carbon Monoxide (ppm);
- Hydrogen Sulphide (ppm); and
- Flow rate (l/hr).

Gas flow rates were measured at all monitoring boreholes and the range in flow rates and concentrations were recorded until a steady state was reached or for at least three minute.

Appendix 5
Laboratory Testing Results – Summary Tables

Soils - Risk to Human Health

Analytical Parameter (Soil Analysis)	Units	Limit of detection	GAC (Commerical / Industrial)	Maximum Concentration	23/16869													
EMT Sample No					4	5-6	7	9-10	11-12	14-16	17-19	20-22	23-25	26-28	29-31	32-34	35-37	38-40
Sample ID					WS111_2.2	WS106_0.6	WS106_1.4	WS105_0.8	WS107_0.2	HD1	HD2	HD3	HD4	HD5	HD6	HD7	HD8	HD9
Depth					2.2	0.6	1.4	0.8	0.2	0.25-0.30	0.20-0.30	0.20-0.30	0.10-0.30	0.00-0.20	0.15-0.30	0.15-0.30	0.20-0.30	0.10-0.25
Strata					Made Ground	Made Ground	Clay	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground
Date Sampled					09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023
Natural Moisture Content	%	<0.1			12.4	21.8	NA	15.6	20.4	19.6	7.8	17.1	7.2	11.5	10.5	11.6	14.9	17.9
Asbestos Fibres #	Type	N/A																
Asbestos ACM #	Type	N/A																
Asbestos Type #	N/A	N/A			NA	NA	NA	NA	NA	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD
General Inorganics																		
pH #	pH Units	N/A		9.57	8.27	8.72	NA	8.07	7.8	6.66	6.32	7.12	8.36	6.65	7.47	7.03	8.01	6.31
Total Cyanide #	mg/kg	<0.5	**2100**	7	NA	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.9
Total Organic Carbon #	%	<0.02		4.96	1.21	NA	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fraction Organic Carbon	None	<0.001		0.118														
Sulphate as SO4 (2:1 Ext) #	g/l	<0.0015		1.7885	NA	0.0275	NA	1.7885	1.5875	0.0242	0.0974	0.1723	0.0174	0.0164	0.062	0.0029	0.0118	0.0674
Total Phenols																		
Total Phenols HPLC	mg/kg	<0.15	**380**	0.88	NA	<0.15	NA	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.17	0.88	<0.15	<0.15	<0.15
Speciated PAHs																		
Naphthalene	mg/kg	<0.04	**110**	1.37	0.15	<0.04	NA	<0.04	0.73	0.05	<0.04	0.09	0.17	0.23	0.34	0.13	<0.04	1.37
Acenaphthylene	mg/kg	<0.03	**76000**	0.48	<0.03	<0.03	NA	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	0.06	<0.03	<0.03	0.18
Acenaphthene	mg/kg	<0.05	**75000**	2.93	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	0.08
Fluorene	mg/kg	<0.04	**60000**	3.74	<0.04	<0.04	NA	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	0.04	<0.04	<0.04	<0.04
Phenanthrene	mg/kg	<0.03	**22000**	12.09	0.2	<0.03	NA	0.08	0.42	0.08	<0.03	0.2	0.86	0.45	0.65	0.31	<0.03	0.94
Anthracene	mg/kg	<0.04	**520000**	4.34	<0.04	<0.04	NA	<0.04	<0.04	<0.04	<0.04	<0.04	0.25	0.08	0.15	0.06	<0.04	0.19
Fluoranthene	mg/kg	<0.03	**23000**	18.4	0.11	0.07	NA	0.13	0.14	0.12	<0.03	0.19	1.84	0.48	0.81	0.4	<0.03	1.78
Pyrene	mg/kg	<0.03	**54000**	18.98	0.1	0.06	NA	0.1	0.13	0.1	<0.03	0.16	1.51	0.4	0.69	0.36	<0.03	1.59
Benzo(a)anthracene	mg/kg	<0.06	**170**	7.74	0.09	<0.06	NA	0.09	0.12	0.1	<0.06	0.13	1	0.21	0.41	0.22	<0.06	1.01
Chrysene	mg/kg	<0.02	**350**	7.46	0.1	0.06	NA	0.1	0.12	0.08	<0.02	0.14	1.08	0.32	0.5	0.26	<0.02	1.23
Benzo(b)fluoranthene	mg/kg	<0.05	**45**	8.74	0.09	0.08	NA	0.09	0.1	0.09	<0.05	0.17	1.33	0.35	0.58	0.28	<0.05	1.66
Benzo(k)fluoranthene	mg/kg	<0.02	**1200**	3.4	0.03	0.03	NA	0.04	0.04	0.04	<0.02	0.06	0.52	0.13	0.22	0.11	<0.02	0.65
Benzo(a)pyrene	mg/kg	<0.04	**76**	7.86	<0.04	0.06	NA	0.08	<0.04	0.07	<0.04	0.13	1.13	0.21	0.42	0.19	<0.04	1.25
Indeno(1,2,3-cd)pyrene	mg/kg	<0.04	**510**	4.35	<0.04	0.05	NA	<0.04	<0.04	0.06	<0.04	0.08	0.75	0.16	0.3	0.15	<0.04	0.95
Dibenz(a,h)anthracene	mg/kg	<0.04	**3.5**	0.94	<0.04	<0.04	NA	<0.04	<0.04	<0.04	<0.04	<0.04	0.21	<0.04	0.08	<0.04	<0.04	0.22
Benzo(ghi)perylene	mg/kg	<0.04	**3900**	4.35	<0.04	0.05	NA	<0.04	0.06	0.06	<0.04	0.09	0.68	0.16	0.3	0.15	<0.04	0.91
Coronene	mg/kg	<0.04		0.09	<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH																		
Speciated Total EPA 16 PAHs	mg/kg	<0.6		106.4	NA	<0.6	NA	0.7	1.9	0.9	<0.6	1.4	11.4	3.2	5.6	2.6	<0.6	14
Speciated Total EPA 17 PAHs	mg/kg	<0.64		8.59	0.87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heavy Metals / Metalloids																		
Arsenic #	mg/kg	<0.5	**640**	49.6	NA	42.3	NA	31.8	49.6	14.9	7.3	12.8	3.6	26.1	22.5	23.9	6.2	40.1
Beryllium	mg/kg	<0.5	**12**	3.7	NA	1.9	NA	2	3.7	1.3	2	1.5	<0.5	1.7	1.5	1.5	1.2	2.1
Cadmium #	mg/kg	<0.1	**410**	0.8	NA	<0.1	NA	<0.1	<0.1	0.1	<0.1	<0.1	0.5	<0.1	0.2	<0.1	<0.1	<0.1
Chromium #	mg/kg	<0.5	**8600**	304.6	NA	30	NA	39.9	37.7	40.6	14.8	43.7	17.5	43	35.8	86	40.2	40.7
Hexavalent Chromium #	mg/kg	<0.3	**49**		NA	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Copper #	mg/kg	<1	**68000**	98	NA	51	NA	47	86	26	24	34	15	36	33	39	21	94
Lead #	mg/kg	<5	**2300**	134	NA	12	NA	119	27	35	16	44	40	56	43	64	11	110
Mercury #	mg/kg	<0.1	**8.9**	2	NA	<0.1	NA	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.2
Nickel #	mg/kg	<0.7	**980**	62.9	NA	27.1	NA	21	36.1	32.1	27.3	37.4	4.5	32.7	26.7	28.2	41.4	41.4
Selenium #	mg/kg	<1	**12000**	10	NA	<1	NA	1	2	1	2	<1	<1	2	2	2	2	2
Vanadium	mg/kg	<1	**9000**	101	NA	46	NA	46	66	38	20	37	9	42	35	55	28	43
Water Soluble Boron #	mg/kg	<0.1	**240000**	3.6	NA	0.4	NA	0.7	0.9	0.6	0.9	1.1	0.3	0.8	1.3	0.6	0.1	1.9
Zinc #	mg/kg	<5	**730000**	325	NA	33	NA	46	52	105	93	142	85	124	95	109	67	242
Monoaromatics & Oxygenates																		
MTBE #	µg/kg	<5	**3800**		<5	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene #	µg/kg	<5	**15000**	19	<5	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene #	µg/kg	<5	**33000**	20	<5	NA	NA	NA	8	<5	<5	<5	<5	<5	<5	<5	<5	7
Ethylbenzene #	µg/kg	<5	**3200**	6	<5	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
m/p-Xylene #	µg/kg	<5	**6700**	19	<5	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
o-Xylene #	µg/kg	<5	**3700**	8	<5	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Petroleum Hydrocarbons																		
>C5-C6 (HS_1D_AL) #	mg/kg	<0.1	**2400**		NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>C6-C8 (HS_1D_AL) #	mg/kg	<0.1	**5300**		NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>C8-C10 (HS_1D_AL)	mg/kg	<0.1	**1300**	1.4	NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>C10-C12 (EH_CU_1D_AL) #	mg/kg	<0.2	**6100**	77	NA	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C12-C16 (EH_CU_1D_AL) #	mg/kg	<4	**43000**	993	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	11	<4	<4	9
>C16-C21 (EH_CU_1D_AL) #	mg/kg	<7	**1000000**	2308	NA	<7	NA	<7	<7	<7	<7	<7	<7	<7	27	<7	<7	31
>C21-C35 (EH_CU_1D_AL) #	mg/kg	<7	**1000000**	1660	NA	<7	NA	<7	<7	<7	<7	<7	<7	<7	66	<7	<7	124
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	mg/kg	<19		5037	NA	<19	NA	<19	<19	<19	<19	<19	<19	<19	104	<19	<19	164
				3968														
>C5-EC7 (HS_1D_AR) #	mg/kg	<0.1			NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>EC7-EC8 (HS_1D_AR) #	mg/kg	<0.1			NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>EC8-EC10 (HS_1D_AR) #	mg/kg	<0.1	**2200**		NA	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
>EC10-EC12 (EH_CU_1D_AR) #	mg/kg	<0.2	**11000**	15.3	NA	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.4
>EC12-EC16 (EH_CU_1D_AR) #	mg/kg	<4	**35000**	540	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	7	<4	<4	12
>EC16-EC21 (EH_CU_1D_AR) #	mg/kg	<7	**29000**	1700	NA	<7	NA	<7	<7	<7	<7	<7	21	14	27	18	<7	46
>EC21-EC35 (EH_CU_1D_AR) #	mg/kg	<7	**29000**	1439	NA	<7	NA	<7	<7	32	<7	<7	102	70	101	70	11	232
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	mg/kg	<19		3547	NA	<19	NA	<19	<19	32	<19	<19	123	84	135	88	<19	291
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	mg/kg	<38		8584	NA	<38	NA	<38	<38	<38	<38	<38	123	84	239	88	<38	455
Mineral Oil (C10-C40) (EH_CU_1D_AL)	mg/kg	<30			<30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs																		
Dichlorodifluoromethane	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Tertiary Butyl Ether #	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	µg/kg	<1			NA	<1	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane #	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane #	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene (1,1 DCE) #	µg/kg	<6			NA	<6	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane (DCM) #	µg/kg	<7			NA	<7	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1-2-Dichloroethene #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1-2-Dichloroethene #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene #	µg/kg	<3	**15**	7	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE) #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Analytical Parameter (Soil Analysis)	23/16958														
EMT Sample No	1-3	4-6	7-9	10-11	13-15	16	18-20	21-23	24-26	27-29	30-32	33	34-35	36-40	41-43
Sample ID	TP101	TP102	TP103	WS102_3.8	WS112_1.7	WS112_0.2	TP105	TP104	TP107	TP108	TP106	WS101A_0.1	WS101A_1.0	WS104_0.4	WS104_2.7
Depth	+1.50-0.00	2.20-2.40	+0.90-0.00	3.8	1.7	0.2	+1.30-0.00	+0.90-0.00	0.60-0.70	0.30-0.60	+1.40-0.00	0.1	1	0.4	2.7
Strata	Made Ground	Made Ground	Made Ground	Made Ground	Sand	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Mudstone	Made Ground	Made Ground
Date Sampled	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023
Natural Moisture Content	15.1	17.1	19.9	19.3	9.4	NA	11.1	11.7	17.4	19.6	9.8	NA	7.8	20.2	26.4
Asbestos Fibres #	NAD	NAD	NAD	NA	NA	NAD	NAD	NAD	NAD	Fibre Bundles	NAD	Fibre Bundles	NA	NA	NA
Asbestos ACM #	NAD	NAD	NAD	NA	NA	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NA	NA	NA
Asbestos Type #	NAD	NAD	NAD	NA	NA	NAD	NAD	NAD	NAD	Chrysotile	NAD	Chrysotile	NA	NA	NA
General Inorganics															
pH #	7.31	7.8	8.01	8.39	7.63	NA	8.89	8.85	8.38	7.72	8.57	NA	8	8.44	NA
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	0.9	<0.5	<0.5	NA	<0.5	<0.5	NA
Total Organic Carbon #	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.96	NA	NA	NA	NA	NA
Fraction Organic Carbon	NA	NA	NA	0.018	0.003	NA	NA	NA	NA	NA	NA	NA	0.006	NA	0.038
Sulphate as SO4 (2:1 Ext) #	0.097	0.0188	0.2022	0.0773	0.0205	NA	0.0384	0.0068	0.1149	0.0562	0.0188	NA	0.0319	0.0941	NA
Total Phenols															
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	NA	<0.15	<0.15	<0.15	<0.15	<0.15	NA	<0.15	0.23	NA
Speciated PAHs															
Naphthalene	<0.04	<0.04	0.05	0.12	<0.04	NA	0.07	0.07	1.02	<0.04	0.1	NA	<0.04	0.61	NA
Acenaphthylene	<0.03	<0.03	<0.03	0.05	<0.03	NA	<0.03	<0.03	0.46	<0.03	<0.03	NA	<0.03	0.48	NA
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	1.9	<0.05	<0.05	NA	<0.05	2.93	NA
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	NA	<0.04	<0.04	1.57	<0.04	<0.04	NA	<0.04	3.74	NA
Phenanthrene	<0.03	0.05	0.07	0.57	<0.03	NA	0.16	0.11	8.73	0.18	0.23	NA	0.06	12.09	NA
Anthracene	<0.04	<0.04	<0.04	0.12	<0.04	NA	<0.04	<0.04	3.22	<0.04	<0.04	NA	<0.04	4.34	NA
Fluoranthene	<0.03	<0.03	0.07	0.85	<0.03	NA	0.04	<0.03	15.27	0.33	0.05	NA	0.2	18.4	NA
Pyrene	<0.03	<0.03	0.06	0.67	<0.03	NA	0.03	<0.03	12.86	0.26	0.04	NA	0.19	18.98	NA
Benzo(a)anthracene	<0.06	<0.06	<0.06	0.39	<0.06	NA	<0.06	<0.06	6.47	0.18	<0.06	NA	0.14	7.74	NA
Chrysene	<0.02	<0.02	0.06	0.44	<0.02	NA	<0.02	<0.02	6.42	0.19	<0.02	NA	0.14	7.46	NA
Benzo(b)fluoranthene	<0.05	<0.05	0.06	0.48	<0.05	NA	<0.05	<0.05	7.54	0.22	<0.05	NA	0.21	8.74	NA
Benzo(k)fluoranthene	<0.02	<0.02	0.02	0.18	<0.02	NA	<0.02	<0.02	2.93	0.08	<0.02	NA	0.08	3.4	NA
Benzo(a)pyrene	<0.04	<0.04	<0.04	0.36	<0.04	NA	<0.04	<0.04	6.56	<0.04	<0.04	NA	0.16	7.86	NA
Indeno(1,2,3-cd)pyrene	<0.04	<0.04	<0.04	0.23	<0.04	NA	<0.04	<0.04	3.94	0.11	<0.04	NA	0.12	4.35	NA
Dibenz(a,h)anthracene	<0.04	<0.04	<0.04	0.06	<0.04	NA	<0.04	<0.04	0.8	<0.04	<0.04	NA	<0.04	0.94	NA
Benzo(ghi)perylene	<0.04	<0.04	<0.04	0.23	<0.04	NA	<0.04	<0.04	3.4	0.11	<0.04	NA	0.14	4.35	NA
Coronene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.04	NA	NA	NA	NA	NA
Total PAH															
Speciated Total EPA 16 PAHs	<0.6	<0.6	<0.6	4.8	<0.6	NA	<0.6	<0.6	83.1	1.7	<0.6	NA	1.4	106.4	NA
Speciated Total EPA 17 PAHs	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.66	NA	NA	NA	NA	NA
Heavy Metals / Metalloids															
Arsenic #	2.8	10.1	8.3	25.7	4.1	NA	5.4	2.9	32.5	28.3	10.7	NA	2.3	10.2	NA
Beryllium	1.3	1.6	1.4	1.5	1.1	NA	1.9	2	2	1.9	1.6	NA	1.7	1.4	NA
Cadmium #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	0.2	0.8	0.2	<0.1	NA	<0.1	0.2	NA
Chromium #	14.9	40.6	34.4	56.8	39.4	NA	36.8	37.6	43.3	90	36.8	NA	38.2	50.2	NA
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	NA	<0.3	<0.3	NA	
Copper #	34	29	28	43	21	NA	30	36	98	55	31	NA	29	23	NA
Lead #	15	21	21	54	15	NA	19	17	134	65	16	NA	14	26	NA
Mercury #	<0.1	0.2	<0.1	2	0.1	NA	0.1	<0.1	0.4	0.2	0.2	NA	0.1	<0.1	NA
Nickel #	31.2	45.9	36.2	31	47.7	NA	49.2	58.2	33.5	28.5	48.2	NA	54.8	21.3	NA
Selenium #	1	<1	<1	10	1	NA	1	<1	2	2	<1	NA	1	<1	NA
Vanadium	23	31	28	61	23	NA	33	34	39	43	30	NA	31	34	NA
Water Soluble Boron #	1.7	0.3	0.8	0.8	0.2	NA	0.3	0.4	3.6	0.9	0.3	NA	0.3	0.4	NA
Zinc #	155	154	120	94	75	NA	113	144	260	126	113	NA	97	95	NA
Monoaromatics & Oxygenates															
MTBE #	<5	<5	<5	<2	<5	NA	<5	<5	<5	<5	<5	NA	<5	<2	<2
Benzene #	<5	<5	<5	<3	<5	NA	<5	<5	19	<5	<5	NA	<5	<3	<3
Toluene #	<5	<5	<5	10	<5	NA	<5	<5	16	10	<5	NA	<5	<3	<3
Ethylbenzene #	<5	<5	<5	<3	<5	NA	<5	<5	<5	<5	<5	NA	<5	<3	<3
m/p-Xylene #	<5	<5	<5	<5	<5	NA	<5	<5	12	<5	<5	NA	<5	8	<5
o-Xylene #	<5	<5	<5	<3	<5	NA	<5	<5	7	<5	<5	NA	<5	8	<3
Petroleum Hydrocarbons															
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	1.1	1.4
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	74.6	77
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	NA	<4	<4	7	8	<4	NA	<4	993	849
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	NA	<7	<7	36	<7	<7	NA	<7	2308	1650
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	16	<7	NA	<7	<7	187	16	<7	NA	<7	1660	808
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19	<19	<19	<19	NA	<19	<19	230	24	<19	NA	<19	5037	3385
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	15.3	9.1
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	NA	<4	<4	15	<4	<4	NA	<4	393	540
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	NA	<7	<7	103	<7	<7	NA	<7	1700	1559
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	41	47	<7	NA	<7	<7	399	<7	<7	NA	<7	1439	643
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	<19	41	47	<19	NA	<19	<19	517	<19	<19	NA	<19	3547	2751
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	<38	41	47	<38	NA	<38	<38	747	<38	<38	NA	<38	8584	6136
Mineral Oil (C10-C40) (EH_CU_1D_AL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<30	NA	NA	NA	NA	NA
VOCs															
Dichlorodifluoromethane	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2
Methyl Tertiary Butyl Ether #	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2
Chloromethane #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
Vinyl Chloride	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2
Bromomethane	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Chloroethane #	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2
Trichlorofluoromethane #	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2
1,1-Dichloroethene (1,1 DCE) #	NA	NA	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	<6
Dichloromethane (DCM) #	NA	NA	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7	<7
trans-1-2-Dichloroethene #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
1,1-Dichloroethane #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
cis-1-2-Dichloroethene #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
2,2-Dichloropropane	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4
Bromochloromethane #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
Chloroform #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
1,1,1-Trichloroethane #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
1,1-Dichloropropene #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
Carbon tetrachloride #	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4
1,2-Dichloroethane #	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4
Benzene #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3
Trichloroethene (TCE) #	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3

Analytical Parameter (Soil Analysis)	23/17063						
EMT Sample No	1-2	3	4-5	6	7-8	9	10-11
Sample ID	WS103_2.8	WS109_0.4	WS109_0.9	WS108_0.3	WS108_3.4	WS110_3.4	WS110_2.7
Depth	2.8	0.4	0.9	0.3	3.4	0.3	2.7
Strata	Made Ground	Made Ground	Made Ground	Made Ground	Clay	Made Ground	Sand
Date Sampled	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023
Natural Moisture Content	19.9	NA	13.5	4.5	13	NA	8.2
Asbestos Fibres #	NA	NAD	NA	NA	NA	NAD	NA
Asbestos ACM #	NA	NAD	NA	NA	NA	NAD	NA
Asbestos Type #	NA	NAD	NA	NA	NA	NAD	NA
General Inorganics							
pH #	8.14	NA	8.98	9.57	6.92	NA	6.86
Total Cyanide #	7	NA	<0.5	NA	<0.5	NA	<0.5
Total Organic Carbon #	NA	NA	NA	0.74	NA	NA	NA
Fraction Organic Carbon	0.118	NA	0.001	NA	0.005	NA	0.005
Sulphate as SO4 (2:1 Ext) #	0.1125	NA	0.0391	NA	0.0454	NA	0.0245
Total Phenols							
Total Phenols HPLC	<0.15	NA	<0.15	NA	<0.15	NA	<0.15
Speciated PAHs							
Naphthalene	0.31	NA	<0.04	<0.04	<0.04	NA	<0.04
Acenaphthylene	0.1	NA	<0.03	0.07	<0.03	NA	<0.03
Acenaphthene	0.16	NA	<0.05	<0.05	<0.05	NA	<0.05
Fluorene	0.16	NA	<0.04	<0.04	<0.04	NA	<0.04
Phenanthrene	1.32	NA	<0.03	0.13	<0.03	NA	<0.03
Anthracene	0.34	NA	<0.04	0.08	<0.04	NA	<0.04
Fluoranthene	1.98	NA	<0.03	1.3	<0.03	NA	<0.03
Pyrene	1.64	NA	<0.03	1.23	<0.03	NA	<0.03
Benzo(a)anthracene	0.9	NA	<0.06	0.93	<0.06	NA	<0.06
Chrysene	0.97	NA	<0.02	0.95	<0.02	NA	<0.02
Benzo(b)fluoranthene	1.25	NA	<0.05	1.21	<0.05	NA	<0.05
Benzo(k)fluoranthene	0.49	NA	<0.02	0.47	<0.02	NA	<0.02
Benzo(a)pyrene	0.97	NA	<0.04	0.82	<0.04	NA	<0.04
Indeno(1,2,3-cd)pyrene	0.68	NA	<0.04	0.59	<0.04	NA	<0.04
Dibenz(a,h)anthracene	0.17	NA	<0.04	0.16	<0.04	NA	<0.04
Benzo(ghi)perylene	0.7	NA	<0.04	0.56	<0.04	NA	<0.04
Coronene	NA	NA	NA	0.09	NA	NA	NA
Total PAH							
Speciated Total EPA 16 PAHs	12.1	NA	<0.6	NA	<0.6	NA	<0.6
Speciated Total EPA 17 PAHs	NA	NA	NA	8.59	NA	NA	NA
Heavy Metals / Metalloids							
Arsenic #	42.5	NA	5.8	NA	5.7	NA	13.5
Beryllium	2.3	NA	<0.5	NA	1.5	NA	1.2
Cadmium #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
Chromium #	304.6	NA	92.5	NA	42	NA	41.1
Hexavalent Chromium #							
Copper #	98	NA	10	NA	35	NA	29
Lead #	79	NA	8	NA	16	NA	13
Mercury #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
Nickel #	45.1	NA	8	NA	62.9	NA	60
Selenium #	3	NA	<1	NA	<1	NA	<1
Vanadium	101	NA	24	NA	31	NA	27
Water Soluble Boron #	2.9	NA	0.5	NA	0.3	NA	0.2
Zinc #	325	NA	59	NA	99	NA	100
Monoaromatics & Oxygenates							
MTBE #	<2	NA	<2	<5	<5	NA	<5
Benzene #	7	NA	<3	<5	<5	NA	<5
Toluene #	20	NA	<3	<5	<5	NA	<5
Ethylbenzene #	6	NA	<3	<5	<5	NA	<5
m/p-Xylene #	19	NA	<5	<5	<5	NA	<5
o-Xylene #	8	NA	<3	<5	<5	NA	<6
Petroleum Hydrocarbons							
>C5-C6 (HS_1D_AL) #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
>C6-C8 (HS_1D_AL) #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
>C8-C10 (HS_1D_AL)	0.7	NA	<0.1	NA	<0.1	NA	<0.1
>C10-C12 (EH_CU_1D_AL) #	3	NA	<0.2	NA	<0.2	NA	<0.2
>C12-C16 (EH_CU_1D_AL) #	6	NA	5	NA	<4	NA	<4
>C16-C21 (EH_CU_1D_AL) #	61	NA	16	NA	<7	NA	<7
>C21-C35 (EH_CU_1D_AL) #	320	NA	44	NA	<7	NA	<7
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	391	NA	65	NA	<19	NA	<19
>C5-EC7 (HS_1D_AR) #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
>EC7-EC8 (HS_1D_AR) #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
>EC8-EC10 (HS_1D_AR) #	<0.1	NA	<0.1	NA	<0.1	NA	<0.1
>EC10-EC12 (EH_CU_1D_AR) #	4.2	NA	<0.2	NA	<0.2	NA	<0.2
>EC12-EC16 (EH_CU_1D_AR) #	7	NA	<4	NA	<4	NA	<4
>EC16-EC21 (EH_CU_1D_AR) #	77	NA	<7	NA	<7	NA	<7
>EC21-EC35 (EH_CU_1D_AR) #	541	NA	<7	NA	<7	NA	<7
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	629	NA	<19	NA	<19	NA	<19
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	1020	NA	65	NA	<38	NA	<38
Mineral Oil (C10-C40) (EH_CU_1D_AL)	NA	NA	NA	<30	NA	NA	NA
VOCs							
Dichlorodifluoromethane	<2	NA	<2	NA	NA	NA	NA
Methyl Tertiary Butyl Ether #	<2	NA	<2	NA	NA	NA	NA
Chloromethane #	<3	NA	<3	NA	NA	NA	NA
Vinyl Chloride	<2	NA	<2	NA	NA	NA	NA
Bromomethane	<1	NA	<1	NA	NA	NA	NA
Chloroethane #	<2	NA	<2	NA	NA	NA	NA
Trichlorofluoromethane #	<2	NA	<2	NA	NA	NA	NA
1,1-Dichloroethene (1,1 DCE) #	<6	NA	<6	NA	NA	NA	NA
Dichloromethane (DCM) #	<7	NA	<7	NA	NA	NA	NA
trans-1-2-Dichloroethene #	<3	NA	<3	NA	NA	NA	NA
1,1-Dichloroethane #	<3	NA	<3	NA	NA	NA	NA
cis-1-2-Dichloroethene #	<3	NA	<3	NA	NA	NA	NA
2,2-Dichloropropane	<4	NA	<4	NA	NA	NA	NA
Bromochloromethane #	<3	NA	<3	NA	NA	NA	NA
Chloroform #	<3	NA	<3	NA	NA	NA	NA
1,1,1-Trichloroethane #	<3	NA	<3	NA	NA	NA	NA
1,1-Dichloropropene #	<3	NA	<3	NA	NA	NA	NA
Carbon tetrachloride #	<4	NA	<4	NA	NA	NA	NA
1,2-Dichloroethane #	<4	NA	<4	NA	NA	NA	NA
Benzene #	7	NA	<3	NA	NA	NA	NA
Trichloroethene (TCE) #	<3	NA	<3	NA	NA	NA	NA

Soils - Risk to Human Health

					23/16869															23/16958																23/17063							
EMT Sample No					4	5-6	7	9-10	11-12	14-16	17-19	20-22	23-25	26-28	29-31	32-34	35-37	38-40	1-3	4-6	7-9	10-11	13-15	16	18-20	21-23	24-26	27-29	30-32	33	34-35	36-40	41-43	1-2	3	4-5	6	7-8	9	10-11
Sample ID					WS111_2.2	WS106_0.6	WS106_1.4	WS105_0.8	WS107_0.2	HD1	HD2	HD3	HD4	HD5	HD6	HD7	HD8	HD9	TP101	TP102	TP103	WS102_3.8	WS112_1.7	WS112_0.2	TP105	TP104	TP107	TP108	TP106	WS101A_0.1	WS101A_1.0	WS104_0.4	WS104_2.7	WS103_2.8	WS109_0.4	WS109_0.9	WS108_0.3	WS108_3.4	WS110_3.4	WS110_2.7
Depth					2.2	0.6	1.4	0.8	0.2	0.25-0.30	0.20-0.30	0.20-0.30	0.10-0.30	0.00-0.20	0.15-0.30	0.15-0.30	0.20-0.30	0.10-0.25	+1.50-0.00	2.20-2.40	+0.90-0.00	3.8	1.7	0.2	+1.30-0.00	+0.90-0.00	0.60-0.70	0.30-0.60	+1.40-0.00	0.1	1	0.4	2.7	2.8	0.4	0.9	0.3	3.4	0.3	2.7
Strata					Made Ground	Made Ground	Clay	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Sand	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Mudstone	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Clay	Made Ground	Sand
Date Sampled					09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	09/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC (Commerical / Industrial)**	**Maximum Concentration**																																						
1,2-Dichloropropane #	µg/kg	<6			NA	<6	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	<6	<6	NA	<6	NA	NA	NA
Dibromomethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Bromodichloromethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
cis-1-3-Dichloropropene	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
Toluene #	µg/kg	<3	**33000**	20	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	20	NA	<3	NA	NA	NA
trans-1-3-Dichloropropene	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
1,1,2-Trichloroethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Tetrachloroethene (PCE) #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
1,3-Dichloropropane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Dibromochloromethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
1,2-Dibromoethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Chlorobenzene #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
1,1,1,2-Tetrachloroethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Ethylbenzene #	µg/kg	<3	**3200**	6	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	6	NA	<3	NA	NA	NA
m/p-Xylene #	µg/kg	<5	**6700**	19	NA	<5	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	<5	19	NA	<5	NA	NA	NA
o-Xylene #	µg/kg	<3	**3700**	8	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	<3	8	NA	<3	NA	NA	NA
Styrene	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Bromoform	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Isopropylbenzene #	µg/kg	<3	**710000**	5	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	<3	<3	NA	<3	NA	NA	NA
1,1,2,2-Tetrachloroethane #	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
Bromobenzene	µg/kg	<2			NA	<2	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	NA	<2	NA	NA	NA
1,2,3-Trichloropropane #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
Propylbenzene #	µg/kg	<4	**2100000**	10	NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	<4	<4	NA	<4	NA	NA	NA
2-Chlorotoluene	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
1,3,5-Trimethylbenzene #	µg/kg	<3	**12000**	13	NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	13	NA	<3	NA	NA	NA
4-Chlorotoluene	µg/kg	<3			NA	<3	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	<3	<3	NA	<3	NA	NA	NA
tert-Butylbenzene #	µg/kg	<5	**75000000**	20	NA	<5	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	9	20	NA	<5	NA	NA	NA
1,2,4-Trimethylbenzene #	µg/kg	<6	**2200**	77	NA	<6	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	43	<6	77	NA	<6	NA	NA	NA
sec-Butylbenzene #	µg/kg	<4	**75000000**	212	NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	61	212	13	NA	<4	NA	NA	NA
4-Isopropyltoluene	µg/kg	<4		67	NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	48	38	67	NA	<4	NA	NA	NA
1,3-Dichlorobenzene #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
1,4-Dichlorobenzene #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
n-Butylbenzene	µg/kg	<4	**83000000**	85	NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	85	<4	8	NA	<4	NA	NA	NA
1,2-Dichlorobenzene #	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
1,2-Dibromo-3-chloropropane	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
1,2,4-Trichlorobenzene	µg/kg	<7			NA	<7	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7	<7	<7	NA	<7	NA	NA	NA
Hexachlorobutadiene	µg/kg	<4			NA	<4	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4	<4	<4	NA	<4	NA	NA	NA
Naphthalene	µg/kg	<27	**1100000**	44	NA	<27	NA	<27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<27	NA	NA	NA	NA	NA	NA	NA	NA	NA	<27	<27	44	NA	<27	NA	NA	NA
1,2,3-Trichlorobenzene	µg/kg	<7			NA	<7	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7	<7	<7	NA	<7	NA	NA	NA
Surrogate Recovery Toluene D8		<0		109	NA	99	NA	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	78	78	65	NA	97	NA	NA	NA
Surrogate Recovery 4-Bromofluorobenzene		<0		92	NA	81	NA	92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	85	NA	NA	NA	NA	NA	NA	NA	NA	NA	68	64	58	NA	91	NA	NA	NA
SVOC MS																																									
Phenols																																									
2-Chlorophenol #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2-Methylphenol	µg/kg	<10	**160000000**	13	NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	13	NA	<10	NA	NA	NA
2-Nitrophenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,4-Dichlorophenol #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,4-Dimethylphenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,4,5-Trichlorophenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,4,6-Trichlorophenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Chloro-3-methylphenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Methylphenol	µg/kg	<10	**160000000**	35	NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	35	NA	<10	NA	NA	NA
4-Nitrophenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Pentachlorophenol	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Phenol #	µg/kg	<10	**380000**	14	NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	14	NA	<10	NA	NA	NA
PAHs																																									
2-Chloronaphthalene #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2-Methylnaphthalene #	µg/kg	<10	**7100000**	158	NA	18	NA	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	137	119	158	NA	12	NA	NA	NA
Phthalates																																									
Bis(2-ethylhexyl) phthalate	µg/kg	<100	**85000000**	932	NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	932	<100	<100	NA	<100	NA	NA	NA
Butylbenzyl phthalate	µg/kg	<100			NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	<100	NA	<100	NA	NA	NA
Di-n-butyl phthalate	µg/kg	<100	**15000000**	128	NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	123	128	<100	NA	<100	NA	NA	NA
Di-n-Octyl phthalate	µg/kg	<100			NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	<100	NA	<100	NA	NA	NA
Diethyl phthalate	µg/kg	<100			NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	<100	NA	<100	NA	NA	NA
Dimethyl phthalate #	µg/kg	<100			NA	<100	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	<100	NA	<100	NA	NA	NA
Other SVOCs																																									
1,2-Dichlorobenzene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
1,2,4-Trichlorobenzene #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
1,3-Dichlorobenzene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
1,4-Dichlorobenzene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2-Nitroaniline	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,4-Dinitrotoluene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
2,6-Dinitrotoluene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
3-Nitroaniline	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Bromophenylphenylether #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Chloroaniline	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Chlorophenylphenylether	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
4-Nitroaniline	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Azobenzene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Bis(2-chloroethoxy)methane	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Bis(2-chloroethyl)ether	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Carbazole	µg/kg	<10	**900000**	63	NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	50	NA	<10	NA	NA	NA
Dibenzofuran #	µg/kg	<10	**6700000**	631	NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74	NA	NA	NA	NA	NA	NA	NA	NA	NA	631	124	80	NA	12	NA	NA	NA
Hexachlorobenzene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Hexachlorobutadiene #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Hexachlorocyclopentadiene	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Hexachloroethane	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Isophorone #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
N-nitrosodi-n-propylamine #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Nitrobenzene #	µg/kg	<10			NA	<10	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	<10	NA	NA	NA
Surrogate Recovery 2-Fluorobiphenyl	%	<0		133	NA	118	NA	113	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	111	NA	NA	NA	NA	NA	NA	NA	NA	NA	127	133	109	NA	107	NA	NA	NA
Surrogate Recovery p-Terphenyl-d14	%	<0		136	NA	107	NA	106	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	135	136	131	NA	103	NA	NA	NA
PCBs																																									
PCB 28 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 52 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 101 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 118 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 138 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 153 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
PCB 180 #	µg/kg	<5			<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA
Total 7 PCBs #	µg/kg	<35			<35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<35	NA	NA	NA	NA	NA	NA	NA	NA	<35	NA	NA	NA

Exceedence of GAC
NA = Not Analysed
Ramboll GAC for a Commercial / Industrial End Use

Groundwater - Risk to Human Health

					23/17129				
EMT Sample No					14-23	24-33	34-43	44-53	54-63
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023
Depth									
Strata									
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Protective of Human Health via Volatilisation Pathways**	**Maximum Concentration**					
General Inorganics									
pH #	pH Units	<0.01		7.82	6.71	6.9	7.82	6.56	7.34
Total Cyanide #	mg/l	<0.01		0.02	<0.01	0.02	<0.01	<0.01	0.02
Sulphate as SO4 #	mg/l	<0.5		424.5	67.8	424.5	104.1	140.1	139.3
Sulphide	mg/l	<0.01			<0.01	<0.01	<0.01	<0.01	<0.01
Ammoniacal Nitrogen as N #	mg/l	<0.03		42.2	0.04	0.14	<0.03	0.04	42.2
Chloride #	mg/l	<0.3		146.4	6.9	114.9	9.3	9.5	146.4
Nitrite as NO2 #	mg/l	<0.02		0.04	<0.02	<0.02	<0.02	<0.02	0.04
Nitrate as N #	mg/l	<0.05		3.29	3.29	0.34	0.52	<0.05	<0.05
Total Alkalinity as CaCO3 #	mg/l	<1		1012	150	326	202	64	1012
Total Hardness Dissolved (as CaCO3)	mg/l	<1		690	129	498	261	188	690
Dissolved Organic Carbon #	mg/l	<2		17	5	7	3	12	17
Total Phenols									
Total Phenols HPLC	mg/l	<0.15			<0.15	<0.15	<0.15	<0.15	<0.15
Heavy Metals / Metalloids									
Dissolved Arsenic #	µg/l	<2.5	NV	18.8	4.1	<2.5	3.6	<2.5	18.8
Dissolved Beryllium	µg/l	<0.5	NV		<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Boron	µg/l	<12	NV	562	149	103	117	<12	562
Dissolved Cadmium #	µg/l	<0.5	NV		<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Calcium #	mg/l	<0.2	NV	127.6	30.1	115.9	70.8	35.3	109.7
Total Dissolved Chromium #	µg/l	<1.5	NV	4.1	4.1	<1.5	2.9	<1.5	<1.5
Hexavalent Chromium	ug/l	<6	NV		<6	<6	<6	<6	<6
Dissolved Copper #	µg/l	<7	NV		<7	<7	<7	<7	<7
Total Dissolved Iron #	ug/l	<20	NV	14302	<20	<20	<20	131	14302
Dissolved Lead #	µg/l	<5	NV		<5	<5	<5	<5	<5
Dissolved Magnesium #	mg/l	<0.1	NV	99	12.7	49.7	19.9	23.7	99
Dissolved Mercury #	µg/l	<1	95		<1	<1	<1	<1	<1
Dissolved Nickel #	µg/l	<2	NV	16	<2	16	<2	<2	10
Dissolved Potassium #	mg/l	<0.1	NV	43.6	7.7	4.4	10.7	6.3	43.6
Dissolved Selenium #	µg/l	<3	NV	30	<3	30	<3	<3	<3
Dissolved Sodium #	mg/l	<0.1	NV	188.2	36.7	188.2	20	10.2	181.6
Dissolved Vanadium #	µg/l	<1.5	NV	15.3	5.5	2.2	15.3	<1.5	2.3
Dissolved Zinc #	µg/l	<3	NV	10	5	8	5	4	5
Speciated PAHs									
Naphthalene	µg/l	<0.1	23000	0.01	<0.01	<0.01	<0.01	0.01	<0.01
Acenaphthylene	µg/l	<0.005	20000000		<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	µg/l	<0.005	15000000	0.095	<0.005	<0.005	<0.005	<0.005	<0.005
Fluorene	µg/l	<0.005	18000000		<0.005	<0.005	<0.005	<0.005	<0.005
Phenanthrene	µg/l	<0.005	NV		<0.005	<0.005	<0.005	<0.005	<0.005
Anthracene	µg/l	<0.005	NV		<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	µg/l	<0.005	NV	0.148	<0.005	<0.005	<0.005	<0.005	<0.005
Pyrene	µg/l	<0.005	NV	0.683	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene	µg/l	<0.005	NV	0.019	<0.005	<0.005	<0.005	<0.005	<0.005
Chrysene	µg/l	<0.005	NV	0.077	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene	µg/l	<0.008	NV	0.088	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene	µg/l	<0.008	NV	0.035	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene	µg/l	<0.005	NV	0.066	<0.002	<0.002	<0.002	<0.002	<0.002
Indeno(1,2,3-cd)pyrene	µg/l	<0.005	NV	0.02	<0.005	<0.005	<0.005	<0.005	<0.005
Dibenz(a,h)anthracene	µg/l	<0.005	NV	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(ghi)perylene	µg/l	<0.005	NV	0.013	<0.005	<0.005	<0.005	<0.005	<0.005
Total PAH									
Speciated Total EPA 16 PAHs	µg/l	<0.173		1.249	<0.082	<0.082	<0.082	<0.082	<0.082
Monoaromatics & Oxygenates									
MTBE #	µg/l	<0.1	7800000		<0.1	<0.1	<0.1	<0.1	<0.1
Benzene #	µg/l	<0.5	20000		<0.5	<0.5	<0.5	<0.5	<0.5
Toluene #	µg/l	<5	21000000		<5	<5	<5	<5	<5
Ethylbenzene #	µg/l	<1	960000		<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2	940000		<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1	1100000		<1	<1	<1	<1	<1
Petroleum Hydrocarbons									
>C5-C6 #	µg/l	<10	190000		<10	<10	<10	<10	<10
>C6-C8 #	µg/l	<10	150000		<10	<10	<10	<10	<10
>C8-C10 #	µg/l	<10	5700		<10	<10	<10	<10	<10
>C10-C12 #	µg/l	<5	3600		<5	<5	<5	<5	<5
>C12-C16 #	µg/l	<10	NV		<10	<10	<10	<10	<10
>C16-C21 #	µg/l	<10	NV		<10	<10	<10	<10	<10
>C21-C35 #	µg/l	<10	NV		<10	<10	<10	<10	<10
Total aliphatics C5-35 #	µg/l	<10			<10	<10	<10	<10	<10

					23/17129				
EMT Sample No					14-23	24-33	34-43	44-53	54-63
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023
Depth									
Strata									
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Protective of Human Health via Volatilisation Pathways**	**Maximum Concentration**					
>C5-EC7 #	µg/l	<10	**NV**		<10	<10	<10	<10	<10
>EC7-EC8 #	µg/l	<10	**NV**		<10	<10	<10	<10	<10
>EC8-EC10 #	µg/l	<10	**19000**		<10	<10	<10	<10	<10
>EC10-EC12 #	µg/l	<5	**660000**		<5	<5	<5	<5	<5
>EC12-EC16 #	µg/l	<10	**3700000**		<10	<10	<10	<10	<10
>EC16-EC21 #	µg/l	<10	**NV**		<10	<10	<10	<10	<10
>EC21-EC35 #	µg/l	<10	**NV**		<10	<10	<10	<10	<10
Total aromatics C5-35 #	µg/l	<10			<10	<10	<10	<10	<10
Total aliphatics and aromatics(C5-35) #	µg/l	<10			<10	<10	<10	<10	<10
VOCs									
Dichlorodifluoromethane	µg/l	<2			<2	<2	<2	<2	<2
Methyl Tertiary Butyl Ether #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1
Chloromethane #	µg/l	<3			<3	<3	<3	<3	<3
Vinyl Chloride #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	µg/l	<1			<1	<1	<1	<1	<1
Chloroethane #	µg/l	<3			<3	<3	<3	<3	<3
Trichlorofluoromethane #	µg/l	<3			<3	<3	<3	<3	<3
1,1-Dichloroethene (1,1 DCE) #	µg/l	<3			<3	<3	<3	<3	<3
Dichloromethane (DCM) #	µg/l	<3			<3	<3	<3	<3	<3
trans-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3
1,1-Dichloroethane #	µg/l	<3			<3	<3	<3	<3	<3
cis-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3
2,2-Dichloropropane	µg/l	<1			<1	<1	<1	<1	<1
Bromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2
Chloroform #	µg/l	<2			<2	<2	<2	<2	<2
1,1,1-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2
1,1-Dichloropropene #	µg/l	<3			<3	<3	<3	<3	<3
Carbon tetrachloride #	µg/l	<2			<2	<2	<2	<2	<2
1,2-Dichloroethane #	µg/l	<2			<2	<2	<2	<2	<2
Benzene #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (TCE) #	µg/l	<3			<3	<3	<3	<3	<3
1,2-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2
Dibromomethane #	µg/l	<3			<3	<3	<3	<3	<3
Bromodichloromethane #	µg/l	<2			<2	<2	<2	<2	<2
cis-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2
Toluene #	µg/l	<5			<5	<5	<5	<5	<5
trans-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2
1,1,2-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2
Tetrachloroethene (PCE) #	µg/l	<3			<3	<3	<3	<3	<3
1,3-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2
Dibromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2
1,2-Dibromoethane #	µg/l	<2			<2	<2	<2	<2	<2
Chlorobenzene #	µg/l	<2			<2	<2	<2	<2	<2
1,1,1,2-Tetrachloroethane #	µg/l	<2			<2	<2	<2	<2	<2
Ethylbenzene #	µg/l	<1			<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2			<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1			<1	<1	<1	<1	<1
Styrene	µg/l	<2			<2	<2	<2	<2	<2
Bromoform #	µg/l	<2			<2	<2	<2	<2	<2
Isopropylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
1,1,2,2-Tetrachloroethane	µg/l	<4			<4	<4	<4	<4	<4
Bromobenzene #	µg/l	<2			<2	<2	<2	<2	<2
1,2,3-Trichloropropane #	µg/l	<3			<3	<3	<3	<3	<3
Propylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
2-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3
1,3,5-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
4-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3
tert-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
1,2,4-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
sec-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
4-Isopropyltoluene #	µg/l	<3			<3	<3	<3	<3	<3
1,3-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3
1,4-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3
n-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3
1,2-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3
1,2-Dibromo-3-chloropropane	µg/l	<2			<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3
Hexachlorobutadiene	µg/l	<3			<3	<3	<3	<3	<3
Naphthalene	µg/l	<2			<2	<2	<2	<2	<2
1,2,3-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3
Surrogate Recovery Toluene D8	%	<0		117	101	99	103	106	114
Surrogate Recovery 4-Bromofluorobenzene	%	<0		118	104	102	104	111	117

					23/17129				
EMT Sample No					14-23	24-33	34-43	44-53	54-63
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023
Depth									
Strata									
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Protective of Human Health via Volatilisation Pathways**	**Maximum Concentration**					
SVOC MS									
Phenols									
2-Chlorophenol #	µg/l	<1			<1	<1	<1	<1	<1
2-Methylphenol	µg/l	<0.5	**NV**	10.6	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	µg/l	<1	**NV**	19	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	µg/l	<1			<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	µg/l	<1	**NV**	12	<1	<1	<1	<1	<1
4-Nitrophenol	µg/l	<10			<10	<10	<10	<10	<10
Pentachlorophenol	µg/l	<1			<1	<1	<1	<1	<1
Phenol #	µg/l	<1	**NV**	2	<1	<1	<1	<1	<1
PAHs									
2-Chloronaphthalene #	µg/l	<1			<1	<1	<1	<1	<1
2-Methylnaphthalene #	µg/l	<1			<1	<1	<1	<1	<1
Phthalates									
Bis(2-ethylhexyl) phthalate	µg/l	<5			<5	<5	<5	<5	<5
Butylbenzyl phthalate	µg/l	<1			<1	<1	<1	<1	<1
Di-n-butyl phthalate	µg/l	<1.5			<1.5	<1.5	<1.5	<1.5	<1.5
Di-n-Octyl phthalate	µg/l	<1			<1	<1	<1	<1	<1
Diethyl phthalate	µg/l	<1			<1	<1	<1	<1	<1
Dimethyl phthalate #	µg/l	<1			<1	<1	<1	<1	<1
Other SVOCs									
1,2-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene #	µg/l	<1			<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1
2-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1
2,4-Dinitrotoluene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dinitrotoluene	µg/l	<1			<1	<1	<1	<1	<1
3-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1
4-Bromophenylphenylether #	µg/l	<1			<1	<1	<1	<1	<1
4-Chloroaniline	µg/l	<1			<1	<1	<1	<1	<1
4-Chlorophenylphenylether	µg/l	<1			<1	<1	<1	<1	<1
4-Nitroaniline	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy)methane	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	µg/l	<1			<1	<1	<1	<1	<1
Carbazole	µg/l	<0.5	**NV**	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenzofuran #	µg/l	<0.5	**NV**	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene	µg/l	<1			<1	<1	<1	<1	<1
Hexachlorobutadiene #	µg/l	<1			<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	µg/l	<1			<1	<1	<1	<1	<1
Hexachloroethane	µg/l	<1			<1	<1	<1	<1	<1
Isophorone #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
N-nitrosodi-n-propylamine #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene #	µg/l	<1			<1	<1	<1	<1	<1
Surrogate Recovery 2-Fluorobiphenyl	%	<0		121	106	120	113	103	121
Surrogate Recovery p-Terphenyl-d14	%	<0		129	111	129	121	107	123

NV - Not Volatile

Groundwater - Risk to Groundwater

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - protection of groundwater resource**	**Maximum Concentration**						
General Inorganics										
pH #	pH Units	<0.01		7.82	6.71	6.9	7.82	6.56	7.34	7.4
Total Cyanide #	mg/l	<0.01		0.02	<0.01	0.02	<0.01	<0.01	0.02	<0.01
Sulphate as SO4 #	mg/l	<0.5	**188**	424.5	67.8	424.5	104.1	140.1	139.3	126.1
Sulphide	mg/l	<0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammoniacal Nitrogen as N #	mg/l	<0.03	**0.29**	42.2	0.04	0.14	<0.03	0.04	42.2	0.16
Chloride #	mg/l	<0.3	**188**	146.4	6.9	114.9	9.3	9.5	146.4	13.2
Nitrite as NO2 #	mg/l	<0.02	**0.5**	0.04	<0.02	<0.02	<0.02	<0.02	0.04	0.04
Nitrate as N #	mg/l	<0.05		3.29	3.29	0.34	0.52	<0.05	<0.05	0.66
Total Alkalinity as CaCO3 #	mg/l	<1		1012	150	326	202	64	1012	492
Total Hardness Dissolved (as CaCO3)	mg/l	<1		690	129	498	261	188	690	511
Dissolved Organic Carbon #	mg/l	<2		17	5	7	3	12	17	6
Total Phenols										
Total Phenols HPLC	mg/l	<0.15		0.17	<0.15	<0.15	<0.15	<0.15	<0.15	0.17
Heavy Metals / Metalloids										
Dissolved Arsenic #	µg/l	<2.5	**5**	18.8	4.1	<2.5	3.6	<2.5	18.8	<2.5
Dissolved Beryllium	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Boron	µg/l	<12		562	149	103	117	<12	562	415
Dissolved Cadmium #	µg/l	<0.5	**0.1**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Calcium #	mg/l	<0.2		127.6	30.1	115.9	70.8	35.3	109.7	127.6
Trivalent Chromium	µg/l	<1.5		4.1	4.1	<1.5	2.9	<1.5	<1.5	<1.5
Hexavalent Chromium	ug/l	<6	**1**		<6	<6	<6	<6	<6	<6
Dissolved Copper #	µg/l	<7	**1500**		<7	<7	<7	<7	<7	<7
Total Dissolved Iron #	ug/l	<20		14302	<20	<20	<20	131	14302	2548
Dissolved Lead #	µg/l	<5	**5**		<5	<5	<5	<5	<5	<5
Dissolved Magnesium #	mg/l	<0.1		99	12.7	49.7	19.9	23.7	99	45.7
Dissolved Mercury #	µg/l	<1			<1	<1	<1	<1	<1	<1
Dissolved Nickel #	µg/l	<2	**15**	16	<2	16	<2	<2	10	4
Dissolved Potassium #	mg/l	<0.1		43.6	7.7	4.4	10.7	6.3	43.6	19.8
Dissolved Selenium #	µg/l	<3		30	<3	30	<3	<3	<3	<3
Dissolved Sodium #	mg/l	<0.1		188.2	36.7	188.2	20	10.2	181.6	38.3
Dissolved Vanadium #	µg/l	<1.5		15.3	5.5	2.2	15.3	<1.5	2.3	1.7
Dissolved Zinc #	µg/l	<3		10	5	8	5	4	5	10
Speciated PAHs										
Naphthalene	µg/l	<0.1	**0.075**	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Acenaphthylene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	µg/l	<0.005		0.095	<0.005	<0.005	<0.005	<0.005	<0.005	0.095
Fluorene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenanthrene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Anthracene	µg/l	<0.005			`	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	µg/l	<0.005	**0.075**	0.148	<0.005	<0.005	<0.005	<0.005	<0.005	0.148
Pyrene	µg/l	<0.005		0.683	<0.005	<0.005	<0.005	<0.005	<0.005	0.683
Benzo(a)anthracene	µg/l	<0.005		0.019	<0.005	<0.005	<0.005	<0.005	<0.005	0.019
Chrysene	µg/l	<0.005		0.077	<0.005	<0.005	<0.005	<0.005	<0.005	0.077
Benzo(b)fluoranthene	µg/l	<0.008	**0.05**	0.088	<0.005	<0.005	<0.005	<0.005	<0.005	0.088
Benzo(k)fluoranthene	µg/l	<0.008	**0.05**	0.035	<0.005	<0.005	<0.005	<0.005	<0.005	0.035
Benzo(a)pyrene	µg/l	<0.005	**0.005**	0.066	<0.002	<0.002	<0.002	<0.002	<0.002	0.066
Indeno(1,2,3-cd)pyrene	µg/l	<0.005	**0.05**	0.02	<0.005	<0.005	<0.005	<0.005	<0.005	0.02
Dibenz(a,h)anthracene	µg/l	<0.005		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005
Benzo(ghi)perylene	µg/l	<0.005	**0.05**	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	0.013
Total PAH										
Speciated Total EPA 16 PAHs	µg/l	<0.173		1.249	<0.082	<0.082	<0.082	<0.082	<0.082	1.249
Monoaromatics & Oxygenates										
MTBE #	µg/l	<0.1	**15**		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene #	µg/l	<0.5	**1**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene #	µg/l	<5	**350**		<5	<5	<5	<5	<5	<5
Ethylbenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2	**3**		<2	<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Petroleum Hydrocarbons										
>C5-C6 #	µg/l	<10	**15000**		<10	<10	<10	<10	<10	<10
>C6-C8 #	µg/l	<10	**15000**		<10	<10	<10	<10	<10	<10
>C8-C10 #	µg/l	<10	**300**		<10	<10	<10	<10	<10	<10

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - protection of groundwater resource**	**Maximum Concentration**						
>C10-C12 #	µg/l	<5	**300**		<5	<5	<5	<5	<5	53
>C12-C16 #	µg/l	<10	**300**		<10	<10	<10	<10	<10	400
>C16-C21 #	µg/l	<10	-		<10	<10	<10	<10	<10	850
>C21-C35 #	µg/l	<10	-		<10	<10	<10	<10	<10	440
Total aliphatics C5-35 #	µg/l	<10			<10	<10	<10	<10	<10	1743
>C5-EC7 #	µg/l	<10	**1**		<10	<10	<10	<10	<10	<10
>EC7-EC8 #	µg/l	<10	**700**		<10	<10	<10	<10	<10	<10
>EC8-EC10 #	µg/l	<10	**300**		<10	<10	<10	<10	<10	<10
>EC10-EC12 #	µg/l	<5	**90**	32	<5	<5	<5	<5	<5	32
>EC12-EC16 #	µg/l	<10	**90**	210	<10	<10	<10	<10	<10	210
>EC16-EC21 #	µg/l	<10	**90**	520	<10	<10	<10	<10	<10	520
>EC21-EC35 #	µg/l	<10	**90**	260	<10	<10	<10	<10	<10	260
Total aromatics C5-35 #	µg/l	<10		1022	<10	<10	<10	<10	<10	1022
Total aliphatics and aromatics(C5-35) #	µg/l	<10		2765	<10	<10	<10	<10	<10	2765
VOCs										
Dichlorodifluoromethane	µg/l	<2			<2	<2	<2	<2	<2	<2
Methyl Tertiary Butyl Ether #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloromethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Vinyl Chloride #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	µg/l	<1			<1	<1	<1	<1	<1	<1
Chloroethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Trichlorofluoromethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1-Dichloroethene (1,1 DCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
Dichloromethane (DCM) #	µg/l	<3			<3	<3	<3	<3	<3	<3
trans-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1-Dichloroethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
cis-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3	<3
2,2-Dichloropropane	µg/l	<1			<1	<1	<1	<1	<1	<1
Bromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Chloroform #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,1-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1-Dichloropropene #	µg/l	<3			<3	<3	<3	<3	<3	<3
Carbon tetrachloride #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2-Dichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Benzene #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (TCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Dibromomethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Bromodichloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
cis-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2	<2
Toluene #	µg/l	<5			<5	<5	<5	<5	<5	<5
trans-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,2-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Tetrachloroethene (PCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Dibromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2-Dibromoethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Chlorobenzene #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,1,2-Tetrachloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Ethylbenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2			<2	<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Styrene	µg/l	<2			<2	<2	<2	<2	<2	<2
Bromoform #	µg/l	<2			<2	<2	<2	<2	<2	<2
Isopropylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1,2,2-Tetrachloroethane	µg/l	<4			<4	<4	<4	<4	<4	<4
Bromobenzene #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2,3-Trichloropropane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Propylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
2-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3,5-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
4-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
tert-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2,4-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
sec-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
4-Isopropyltoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,4-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
n-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dibromo-3-chloropropane	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3	<3
Hexachlorobutadiene	µg/l	<3			<3	<3	<3	<3	<3	<3
Naphthalene	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2,3-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3	<3
Surrogate Recovery Toluene D8	%	<0		117	101	99	103	106	114	117

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - protection of groundwater resource**	**Maximum Concentration**						
Surrogate Recovery 4-Bromofluorobenzene	%	<0		118	104	102	104	111	117	118
SVOC MS										
Phenols										
2-Chlorophenol #	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Methylphenol	µg/l	<0.5		10.6	<0.5	<0.5	<0.5	<0.5	<0.5	10.6
2-Nitrophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	µg/l	<1		19	<1	<1	<1	<1	<1	19
2,4,5-Trichlorophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	µg/l	<1		12	<1	<1	<1	<1	<1	12
4-Nitrophenol	µg/l	<10			<10	<10	<10	<10	<10	<10
Pentachlorophenol	µg/l	<1			<1	<1	<1	<1	<1	<1
Phenol #	µg/l	<1		2	<1	<1	<1	<1	<1	2
PAHs										
2-Chloronaphthalene #	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Methylnaphthalene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Phthalates										
Bis(2-ethylhexyl) phthalate	µg/l	<5			<5	<5	<5	<5	<5	<5
Butylbenzyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	µg/l	<1.5			<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Di-n-Octyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Diethyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Dimethyl phthalate #	µg/l	<1			<1	<1	<1	<1	<1	<1
Other SVOCs										
1,2-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dinitrotoluene	µg/l	<1			<1	<1	<1	<1	<1	<1
3-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether #	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chloroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Nitroaniline	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy)methane	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	µg/l	<1			<1	<1	<1	<1	<1	<1
Carbazole	µg/l	<0.5		1.2	<0.5	<0.5	<0.5	<0.5	<0.5	1.2
Dibenzofuran #	µg/l	<0.5		0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
Hexachlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachlorobutadiene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachloroethane	µg/l	<1			<1	<1	<1	<1	<1	<1
Isophorone #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitrosodi-n-propylamine #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Surrogate Recovery 2-Fluorobiphenyl	%	<0		121	106	120	113	103	121	109
Surrogate Recovery p-Terphenyl-d14	%	<0		129	111	129	121	107	123	120

Exceedance of GAC

Groundwater resource potential - risk based standards screened against JAGDAG limit of quantification for hazardous substances.

In the absence of JAGDAG, minimum reporing values and general quality of groundwater body values were used.

Groundwater - Risk to Surface Water

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Freshwater Environmental Quality Standard (SW)**	**Maximum Concentration**						
General Inorganics										
pH #	pH Units	<0.01	**<6,>9**	7.82	6.71	6.9	7.82	6.56	7.34	7.4
Total Cyanide #	mg/l	<0.01	**0.001**	0.02	<0.01	0.02	<0.01	<0.01	0.02	<0.01
Sulphate as SO4 #	mg/l	<0.5	**400**	424.5	67.8	424.5	104.1	140.1	139.3	126.1
Sulphide	mg/l	<0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammoniacal Nitrogen as N #	mg/l	<0.03	**0.3**	42.2	0.04	0.14	<0.03	0.04	42.2	0.16
Chloride #	mg/l	<0.3	**250**	146.4	6.9	114.9	9.3	9.5	146.4	13.2
Nitrite as NO2 #	mg/l	<0.02		0.04	<0.02	<0.02	<0.02	<0.02	0.04	0.04
Nitrate as N #	mg/l	<0.05		3.29	3.29	0.34	0.52	<0.05	<0.05	0.66
Total Alkalinity as CaCO3 #	mg/l	<1		1012	150	326	202	64	1012	492
Total Hardness Dissolved (as CaCO3)	mg/l	<1		690	129	498	261	188	690	511
Dissolved Organic Carbon #	mg/l	<2		17	5	7	3	12	17	6
Total Phenols										
Total Phenols HPLC	mg/l	<0.15	**7.7**	0.17	<0.15	<0.15	<0.15	<0.15	<0.15	0.17
Heavy Metals / Metalloids										
Dissolved Arsenic #	µg/l	<2.5	**50**	18.8	4.1	<2.5	3.6	<2.5	18.8	<2.5
Dissolved Beryllium	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Boron	µg/l	<12	**2000**	562	149	103	117	<12	562	415
Dissolved Cadmium #	µg/l	<0.5	**0.25**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Calcium #	mg/l	<0.2		127.6	30.1	115.9	70.8	35.3	109.7	127.6
Trivalent Chromium	µg/l	<1.5	**4.7**	4.1	4.1	<1.5	2.9	<1.5	<1.5	<1.5
Hexavalent Chromium	µg/l	<6	**3.4**		<6	<6	<6	<6	<6	<6
Dissolved Copper #	µg/l	<7	**see below**		<7	<7	<7	<7	<7	<7
Bioavailable Copper	µg/l		**1[2]**		NR	NR	NR	NR	NR	NR
Total Dissolved Iron #	µg/l	<20	**1000**	14302	<20	<20	<20	131	14302	2548
Dissolved Lead #	µg/l	<5	**see below**		<5	<5	<5	<5	<5	<5
Bioavailable Lead	µg/l		**1.2[1]**		NR	NR	NR	NR	NR	NR
Dissolved Magnesium #	mg/l	<0.1		99	12.7	49.7	19.9	23.7	99	45.7
Dissolved Mercury #	µg/l	<1	**0.07**		<1	<1	<1	<1	<1	<1
Dissolved Nickel #	µg/l	<2	**see below**	16	<2	16	<2	<2	10	4
Bioavailable Nickel	µg/l		**4[2]**		NR	2.56	NR	NR	1.12	0.87
Dissolved Potassium #	mg/l	<0.1		43.6	7.7	4.4	10.7	6.3	43.6	19.8
Dissolved Selenium #	µg/l	<3		30	<3	30	<3	<3	<3	<3
Dissolved Sodium #	mg/l	<0.1		188.2	36.7	188.2	20	10.2	181.6	38.3
Dissolved Vanadium #	µg/l	<1.5	**60**	15.3	5.5	2.2	15.3	<1.5	2.3	1.7
Dissolved Zinc #	µg/l	<3	**see below**	10	5	8	5	4	5	10
Bioavailable Zinc	µg/l	<3	**10.9[2,3]**		2.42	3.15	2.51	1.25	0.95	3.73
Speciated PAHs										
Naphthalene	µg/l	<0.1	**2**	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Acenaphthylene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Acenaphthene	µg/l	<0.005		0.095	<0.005	<0.005	<0.005	<0.005	<0.005	0.095
Fluorene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenanthrene	µg/l	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Anthracene	µg/l	<0.005	**0.1**		`	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	µg/l	<0.005	**0.0063**	0.148	<0.005	<0.005	<0.005	<0.005	<0.005	0.148
Pyrene	µg/l	<0.005		0.683	<0.005	<0.005	<0.005	<0.005	<0.005	0.683
Benzo(a)anthracene	µg/l	<0.005		0.019	<0.005	<0.005	<0.005	<0.005	<0.005	0.019
Chrysene	µg/l	<0.005		0.077	<0.005	<0.005	<0.005	<0.005	<0.005	0.077
Benzo(b)fluoranthene	µg/l	<0.008	**0.00017**	0.088	<0.005	<0.005	<0.005	<0.005	<0.005	0.088
Benzo(k)fluoranthene	µg/l	<0.008	**0.00017**	0.035	<0.005	<0.005	<0.005	<0.005	<0.005	0.035
Benzo(a)pyrene	µg/l	<0.005	**0.00017**	0.066	<0.002	<0.002	<0.002	<0.002	<0.002	0.066
Indeno(1,2,3-cd)pyrene	µg/l	<0.005	**0.00017**	0.02	<0.005	<0.005	<0.005	<0.005	<0.005	0.02
Dibenz(a,h)anthracene	µg/l	<0.005		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005
Benzo(ghi)perylene	µg/l	<0.005	**0.00017**	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	0.013
Total PAH										
Speciated Total EPA 16 PAHs	µg/l	<0.173		1.249	<0.082	<0.082	<0.082	<0.082	<0.082	1.249
Monoaromatics & Oxygenates										
MTBE #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene #	µg/l	<0.5	**10**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene #	µg/l	<5	**74**		<5	<5	<5	<5	<5	<5
Ethylbenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2	**30**		<2	<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1	**30**		<1	<1	<1	<1	<1	<1

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Freshwater Environmental Quality Standard (SW)**	**Maximum Concentration**						
Petroleum Hydrocarbons										
>C5-C6 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>C6-C8 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>C8-C10 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>C10-C12 #	µg/l	<5		53	<5	<5	<5	<5	<5	53
>C12-C16 #	µg/l	<10		400	<10	<10	<10	<10	<10	400
>C16-C21 #	µg/l	<10		850	<10	<10	<10	<10	<10	850
>C21-C35 #	µg/l	<10		440	<10	<10	<10	<10	<10	440
Total aliphatics C5-35 #	µg/l	<10		1743	<10	<10	<10	<10	<10	1743
>C5-EC7 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>EC7-EC8 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>EC8-EC10 #	µg/l	<10			<10	<10	<10	<10	<10	<10
>EC10-EC12 #	µg/l	<5		32	<5	<5	<5	<5	<5	32
>EC12-EC16 #	µg/l	<10		210	<10	<10	<10	<10	<10	210
>EC16-EC21 #	µg/l	<10		520	<10	<10	<10	<10	<10	520
>EC21-EC35 #	µg/l	<10		260	<10	<10	<10	<10	<10	260
Total aromatics C5-35 #	µg/l	<10		1022	<10	<10	<10	<10	<10	1022
Total aliphatics and aromatics(C5-35) #	µg/l	<10		2765	<10	<10	<10	<10	<10	2765
VOCs										
Dichlorodifluoromethane	µg/l	<2			<2	<2	<2	<2	<2	<2
Methyl Tertiary Butyl Ether #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloromethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Vinyl Chloride #	µg/l	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	µg/l	<1			<1	<1	<1	<1	<1	<1
Chloroethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Trichlorofluoromethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1-Dichloroethene (1,1 DCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
Dichloromethane (DCM) #	µg/l	<3			<3	<3	<3	<3	<3	<3
trans-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1-Dichloroethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
cis-1-2-Dichloroethene #	µg/l	<3			<3	<3	<3	<3	<3	<3
2,2-Dichloropropane	µg/l	<1			<1	<1	<1	<1	<1	<1
Bromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Chloroform #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,1-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1-Dichloropropene #	µg/l	<3			<3	<3	<3	<3	<3	<3
Carbon tetrachloride #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2-Dichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Benzene #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (TCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Dibromomethane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Bromodichloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
cis-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2	<2
Toluene #	µg/l	<5			<5	<5	<5	<5	<5	<5
trans-1-3-Dichloropropene	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,2-Trichloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Tetrachloroethene (PCE) #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3-Dichloropropane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Dibromochloromethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2-Dibromoethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Chlorobenzene #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,1,1,2-Tetrachloroethane #	µg/l	<2			<2	<2	<2	<2	<2	<2
Ethylbenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
m/p-Xylene #	µg/l	<2			<2	<2	<2	<2	<2	<2
o-Xylene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Styrene	µg/l	<2			<2	<2	<2	<2	<2	<2
Bromoform #	µg/l	<2			<2	<2	<2	<2	<2	<2
Isopropylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,1,2,2-Tetrachloroethane	µg/l	<4			<4	<4	<4	<4	<4	<4
Bromobenzene #	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2,3-Trichloropropane #	µg/l	<3			<3	<3	<3	<3	<3	<3
Propylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
2-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3,5-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
4-Chlorotoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
tert-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2,4-Trimethylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
sec-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
4-Isopropyltoluene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,3-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,4-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
n-Butylbenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dichlorobenzene #	µg/l	<3			<3	<3	<3	<3	<3	<3
1,2-Dibromo-3-chloropropane	µg/l	<2			<2	<2	<2	<2	<2	<2

					23/17129					
EMT Sample No					14-23	24-33	34-43	44-53	54-63	64-73
Sample ID					CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023
Depth										
Strata										
Date Sampled					13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**GAC - Freshwater Environmental Quality Standard (SW)**	**Maximum Concentration**						
1,2,4-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3	<3
Hexachlorobutadiene	µg/l	<3			<3	<3	<3	<3	<3	<3
Naphthalene	µg/l	<2			<2	<2	<2	<2	<2	<2
1,2,3-Trichlorobenzene	µg/l	<3			<3	<3	<3	<3	<3	<3
Surrogate Recovery Toluene D8	%	<0		117	101	99	103	106	114	117
Surrogate Recovery 4-Bromofluorobenzene	%	<0		118	104	102	104	111	117	118
SVOC MS										
Phenols										
2-Chlorophenol #	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Methylphenol	µg/l	<0.5		10.6	<0.5	<0.5	<0.5	<0.5	<0.5	10.6
2-Nitrophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	µg/l	<1		19	<1	<1	<1	<1	<1	19
2,4,5-Trichlorophenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	µg/l	<1		12	<1	<1	<1	<1	<1	12
4-Nitrophenol	µg/l	<10			<10	<10	<10	<10	<10	<10
Pentachlorophenol	µg/l	<1			<1	<1	<1	<1	<1	<1
Phenol #	µg/l	<1		2	<1	<1	<1	<1	<1	2
PAHs										
2-Chloronaphthalene #	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Methylnaphthalene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Phthalates										
Bis(2-ethylhexyl) phthalate	µg/l	<5			<5	<5	<5	<5	<5	<5
Butylbenzyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	µg/l	<1.5			<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Di-n-Octyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Diethyl phthalate	µg/l	<1			<1	<1	<1	<1	<1	<1
Dimethyl phthalate #	µg/l	<1			<1	<1	<1	<1	<1	<1
Other SVOCs										
1,2-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
2-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dinitrotoluene	µg/l	<1			<1	<1	<1	<1	<1	<1
3-Nitroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether #	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chloroaniline	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether	µg/l	<1			<1	<1	<1	<1	<1	<1
4-Nitroaniline	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy)methane	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	µg/l	<1			<1	<1	<1	<1	<1	<1
Carbazole	µg/l	<0.5		1.2	<0.5	<0.5	<0.5	<0.5	<0.5	1.2
Dibenzofuran #	µg/l	<0.5		0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
Hexachlorobenzene	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachlorobutadiene #	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	µg/l	<1			<1	<1	<1	<1	<1	<1
Hexachloroethane	µg/l	<1			<1	<1	<1	<1	<1	<1
Isophorone #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitrosodi-n-propylamine #	µg/l	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene #	µg/l	<1			<1	<1	<1	<1	<1	<1
				121	106	120	113	103	121	109
				129	111	129	121	107	123	120

Exceedance of EQS

[1] Bioavailable fraction of the metal has been calculated using the Lead (Pb) Risk Assessment Screening Tool

[2] Bioavailable fraction of the metal has been calculated using the Metal Bioavailability Assessment Tool.

NR (Not Required) indicates those concentrations which do not require additional bioavailability calculations due to concentration being lower than the GAC.

[3]Zinc the Ambient Background Concentration for "All other Freshwaters not listed" from WFD UKTAG (1.4 ug/l) has been used. http://www.wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat

Appendix 6
Laboratory Certificates

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

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F: +44 (0) 1244 833781
W: www.element.com

Ramboll
1 Broad Gate
The Headrow
Leeds
United Kingdom
LS1 8EQ

Attention :	Michael Hazlehurst
Date :	2nd November, 2023
Your reference :	1620015371-002
Our reference :	Test Report 23/17129 Batch 1
Location :	Stairfoot
Date samples received :	14th October, 2023
Status :	Final report
Issue :	1

Eight samples were received for analysis on 14th October, 2023 of which eight were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 25.05 kg of CO2

Scope 1&2&3 emissions - 59.201 kg of CO2

Authorised By:

Paul Boden BSc
Senior Project Manager

Inorganics Laboratory:

David Adams
VOC Laboratory Manager

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	11-13												
Sample ID	WS110-1.4												
Depth	1.40												
COC No / misc													
Containers	V J T												
Sample Date	13/10/2023 08:15												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	14/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
PAH MS													
Naphthalene #	<0.04										<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03										<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05										<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04										<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03										<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03										<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06										<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04										<0.04	mg/kg	TM4/PM8
Coronene	<0.04										<0.04	mg/kg	TM4/PM8
PAH 17 Total	<0.64										<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02										<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	122										<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30										<30	mg/kg	TM5/PM8/PM16
MTBE #	<5										<5	ug/kg	TM36/PM12
Benzene #	<5										<5	ug/kg	TM36/PM12
Toluene #	<5										<5	ug/kg	TM36/PM12
Ethylbenzene #	<5										<5	ug/kg	TM36/PM12
m/p-Xylene #	<5										<5	ug/kg	TM36/PM12
o-Xylene #	<5										<5	ug/kg	TM36/PM12
PCB 28 #	<5										<5	ug/kg	TM17/PM8
PCB 52 #	<5										<5	ug/kg	TM17/PM8
PCB 101 #	<5										<5	ug/kg	TM17/PM8
PCB 118 #	<5										<5	ug/kg	TM17/PM8
PCB 138 #	<5										<5	ug/kg	TM17/PM8
PCB 153 #	<5										<5	ug/kg	TM17/PM8
PCB 180 #	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35										<35	ug/kg	TM17/PM8
Natural Moisture Content	34.5										<0.1	%	PM4/PM0
Total Organic Carbon #	0.30										<0.02	%	TM21/PM24

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	11-13										LOD/LOR	Units	Method No.
Sample ID	WS110-1.4												
Depth	1.40												
COC No / misc													
Containers	V J T												
Sample Date	13/10/2023 08:15												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	14/10/2023												
ANC at pH4	0.05										<0.03	mol/kg	TM77/PM0
ANC at pH7	NDP										<0.03	mol/kg	TM77/PM0
Loss on Ignition #	4.3										<1.0	%	TM22/PM0
pH #	7.23										<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	14-23	24-33	34-43	44-53	54-63	64-73					LOD/LOR	Units	Method No.
Sample ID	CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023							
Depth													
COC No / misc													
Containers	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G							
Sample Date	13/10/2023 10:50	13/10/2023 11:40	13/10/2023 12:10	13/10/2023 14:00	13/10/2023 15:00	13/10/2023 15:40							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023							
Dissolved Arsenic #	4.1	<2.5	3.6	<2.5	18.8	<2.5					<2.5	ug/l	TM30/PM14
Dissolved Beryllium	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM30/PM14
Dissolved Boron	149	103	117	<12	562	415					<12	ug/l	TM30/PM14
Dissolved Cadmium #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM30/PM14
Dissolved Calcium #	30.1	115.9	70.8	35.3	109.7	127.6					<0.2	mg/l	TM30/PM14
Total Dissolved Chromium #	4.1	<1.5	2.9	<1.5	<1.5	<1.5					<1.5	ug/l	TM30/PM14
Dissolved Copper #	<7	<7	<7	<7	<7	<7					<7	ug/l	TM30/PM14
Total Dissolved Iron #	<20	<20	<20	131	14302_{AA}	2548					<20	ug/l	TM30/PM14
Dissolved Lead #	<5	<5	<5	<5	<5	<5					<5	ug/l	TM30/PM14
Dissolved Magnesium #	12.7	49.7	19.9	23.7	99.0	45.7					<0.1	mg/l	TM30/PM14
Dissolved Mercury #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM30/PM14
Dissolved Nickel #	<2	16	<2	<2	10	4					<2	ug/l	TM30/PM14
Dissolved Potassium #	7.7	4.4	10.7	6.3	43.6	19.8					<0.1	mg/l	TM30/PM14
Dissolved Selenium #	<3	30	<3	<3	<3	<3					<3	ug/l	TM30/PM14
Dissolved Sodium #	36.7	188.2	20.0	10.2	181.6	38.3					<0.1	mg/l	TM30/PM14
Dissolved Vanadium #	5.5	2.2	15.3	<1.5	2.3	1.7					<1.5	ug/l	TM30/PM14
Dissolved Zinc #	5	8	5	4	5	10					<3	ug/l	TM30/PM14
Total Hardness Dissolved (as CaCO3)	129	498	261	188	690	511					<1	mg/l	TM30/PM14
PAH MS													
Naphthalene*	<0.01	<0.01	<0.01	0.01	<0.01	<0.01					<0.01	ug/l	Subcontracted
Acenaphthylene*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	Subcontracted
Acenaphthene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.095					<0.005	ug/l	Subcontracted
Fluorene*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	Subcontracted
Phenanthrene*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	Subcontracted
Anthracene*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	Subcontracted
Fluoranthene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.148					<0.005	ug/l	Subcontracted
Pyrene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.683					<0.005	ug/l	Subcontracted
Benzo(a)anthracene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.019					<0.005	ug/l	Subcontracted
Chrysene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.077					<0.005	ug/l	Subcontracted
Benzo(bk)fluoranthene*	<0.01	<0.01	<0.01	<0.01	<0.01	0.12					<0.01	ug/l	Subcontracted
Benzo(a)pyrene*	<0.002	<0.002	<0.002	<0.002	<0.002	0.066					<0.002	ug/l	Subcontracted
Indeno(123cd)pyrene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.020					<0.005	ug/l	Subcontracted
Dibenzo(ah)anthracene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.005					<0.005	ug/l	Subcontracted
Benzo(ghi)perylene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.013					<0.005	ug/l	Subcontracted
PAH 16 Total*	<0.082	<0.082	<0.082	<0.082	<0.082	1.249					<0.082	ug/l	Subcontracted
Benzo(b)fluoranthene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.088					<0.005	ug/l	Subcontracted
Benzo(k)fluoranthene*	<0.005	<0.005	<0.005	<0.005	<0.005	0.035					<0.005	ug/l	Subcontracted
Methyl Tertiary Butyl Ether #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5					<5	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	14-23	24-33	34-43	44-53	54-63	64-73					LOD/LOR	Units	Method No.
Sample ID	CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023							
Depth													
COC No / misc													
Containers	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G							
Sample Date	13/10/2023 10:50	13/10/2023 11:40	13/10/2023 12:10	13/10/2023 14:00	13/10/2023 15:00	13/10/2023 15:40							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023							
o-Xylene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	101	99	103	106	114	117					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	104	102	104	111	117	118					<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C6-C8 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C8-C10 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5	<5	<5	53					<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10	400					<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10	850					<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10	440					<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	<10	<10	<10	<10	<10	1743					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5	<5	<5	32					<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10	210					<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10	520					<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10	260					<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	<10	<10	<10	<10	1022					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) #	<10	<10	<10	<10	<10	2765					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	0.17					<0.15	mg/l	TM26/PM0
Sulphate as SO4 #	67.8	424.5	104.1	140.1	139.3	126.1					<0.5	mg/l	TM38/PM0
Chloride #	6.9	114.9	9.3	9.5	146.4	13.2					<0.3	mg/l	TM38/PM0
Nitrite as NO2 #	<0.02	<0.02	<0.02	<0.02	0.04	0.04					<0.02	mg/l	TM38/PM0
Nitrate as N #	3.29	0.34	0.52	<0.05	<0.05	0.66					<0.05	mg/l	TM38/PM0
Total Cyanide #	<0.01	0.02	<0.01	<0.01	0.02	<0.01					<0.01	mg/l	TM89/PM0
Ammoniacal Nitrogen as N #	0.04	0.14	<0.03	0.04	42.20	0.16					<0.03	mg/l	TM38/PM0
Hexavalent Chromium	<6	<6	<6	<6	<6	<6					<6	ug/l	TM38/PM0
Total Dissolved Chromium III	<6	<6	<6	<6	<6	<6					<6	ug/l	TM0/PM0
Total Alkalinity as CaCO3 #	150	326	202	64	1012	492					<1	mg/l	TM75/PM0
Sulphide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					<0.01	mg/l	TM107/PM0
Dissolved Organic Carbon #	5	7	3	12	17	6					<2	mg/l	TM60/PM0
pH #	6.71	6.90	7.82	6.56	7.34	7.40					<0.01	pH units	TM73/PM0

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	11-13												
Sample ID	WS110-1.4												
Depth	1.40												
COC No / misc													
Containers	V J T												
Sample Date	13/10/2023 08:15												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	14/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.1232											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

SVOC Report : **Liquid**

EMT Sample No.	14-23	24-33	34-43	44-53	54-63	64-73					LOD/LOR	Units	Method No.
Sample ID	CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023							
Depth													
COC No / misc													
Containers	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G							
Sample Date	13/10/2023 10:50	13/10/2023 11:40	13/10/2023 12:10	13/10/2023 14:00	13/10/2023 15:00	13/10/2023 15:40							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023							
SVOC MS													
Phenols													
2-Chlorophenol #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	10.6					<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol #	<0.5+	<0.5	<0.5+	<0.5+	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1	<1	<1	19					<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1	<1	<1	12					<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phenol	<1	<1	<1	<1	<1	2					<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylnaphthalene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5	<5	<5	<5	<5	<5					<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Di-n-butyl phthalate #	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5					<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Diethyl phthalate #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene #	<1+	<1	<1+	<1+	<1	<1					<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,3-Dichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,4-Dichlorobenzene #	<1+	<1	<1+	<1+	<1	<1					<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2,4-Dinitrotoluene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Bromophenylphenylether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chlorophenylphenylether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Azobenzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Carbazole #	<0.5	<0.5	<0.5	<0.5	<0.5	1.2					<0.5	ug/l	TM16/PM30
Dibenzofuran #	<0.5	<0.5	<0.5	<0.5	<0.5	0.6					<0.5	ug/l	TM16/PM30
Hexachlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachlorobutadiene #	<1+	<1	<1+	<1+	<1	<1					<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachloroethane #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Isophorone #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Nitrobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	106	120	113	103	121	109					<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	111	129	121	107	123	120					<0	%	TM16/PM30

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17129

VOC Report : **Liquid**

EMT Sample No.	14-23	24-33	34-43	44-53	54-63	64-73	74						
Sample ID	CP7-131023	WS112-131023	WS109_131023	WS9_131023	WS8_131023	WS104_131023	TRIPBLANK						
Depth													
COC No / misc													
Containers	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V H HN N Z P G	V						
Sample Date	13/10/2023 10:50	13/10/2023 11:40	13/10/2023 12:10	13/10/2023 14:00	13/10/2023 15:00	13/10/2023 15:40	<>						
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Trip Blank (water)						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023	14/10/2023						

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1				<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1				<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1	<1	<1				<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	<1	<1	<1	<1				<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4	<4				<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2	<2	<2				<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3				<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	101	99	103	106	114	117	119				<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	104	102	104	111	117	118	122				<0	%	TM15/PM10

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1232	Moisture Content Ratio (%) =	37.2
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	72.9
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**23/17129**			
Sample No	**13**			
Client Sample No	**WS110-1.4**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**1.40**			
Sample Date	**13/10/2023 08:15**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	0.30	3	5	6
Loss on Ignition (%)	4.3	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	<0.64	100	-	-
pH (pH Units)	7.23	-	>6	-
ANC to pH 7 (mol/kg)	NDP	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.05	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	<0.0025	<0.025	0.5	2	25
Barium	0.003	0.03	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	<0.0015	<0.015	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	<0.002	<0.02	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	<0.002	<0.02	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	0.004	0.04	4	50	200
Chloride	0.5	5	800	15000	25000
Fluoride	<0.3	<3	10	150	500
Sulphate as SO4	6.5	65	1000	20000	50000
Total Dissolved Solids	41	410	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	4	40	500	800	1000

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll

Reference: 1620015371-002

Location: Stairfoot

Contact: Michael Hazlehurst

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Method No.	NDP Reason
23/17129	1	WS110-1.4	1.40	11-13	TM77/PM0	Sample received is below pH7

Client Name: Ramboll

Matrix : Liquid

Reference: 1620015371-002

Location: Stairfoot

Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/17129

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/17129

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM0	Not available	PM0	No preparation is required.				
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	Yes			

EMT Job No: 23/17129

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes

EMT Job No: 23/17129

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes			

EMT Job No: 23/17129

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 23/17129

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.	Yes			
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM0	No preparation is required.				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma – Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.						

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Attention :	Michael Hazlehurst
Date :	20th October, 2023
Your reference :	1620015371.002
Our reference :	Test Report 23/16869 Batch 1
Location :	Stairfoot
Date samples received :	11th October, 2023
Status :	Final Report
Issue :	1

Seventeen samples were received for analysis on 11th October, 2023 of which fourteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 48.291 kg of CO2

Scope 1&2&3 emissions - 114.124 kg of CO2

Authorised By:

Simon Gomery BSc
Senior Project Manager

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	4	5-6	7	9-10	11-12	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	WS111_2.2	WS106_0.6	WS106_1.4	WS105_0.8	WS107_0.2	HD1	HD2	HD3	HD4	HD5			
Depth	2.20	0.60	1.40	0.80	0.20	0.25-0.30	0.20-0.30	0.20-0.30	0.10-0.30	0.00-0.20			
COC No / misc													
Containers	T	V J	V	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	09/10/2023 09:15	09/10/2023 10:15	09/10/2023 10:40	09/10/2023 13:00	09/10/2023 13:40	09/10/2023 09:05	09/10/2023 09:20	09/10/2023 09:30	09/10/2023 09:55	09/10/2023 10:15			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023			
Arsenic #	-	42.3	-	31.8	49.6	14.9	7.3	12.8	3.6	26.1	<0.5	mg/kg	TM30/PM15
Beryllium	-	1.9	-	2.0	3.7	1.3	2.0	1.5	<0.5	1.7	<0.5	mg/kg	TM30/PM15
Cadmium #	-	<0.1	-	<0.1	<0.1	0.1	<0.1	<0.1	0.5	<0.1	<0.1	mg/kg	TM30/PM15
Chromium #	-	30.0	-	39.9	37.7	40.6	14.8	43.7	17.5	43.0	<0.5	mg/kg	TM30/PM15
Copper #	-	51	-	47	86	26	24	34	15	36	<1	mg/kg	TM30/PM15
Lead #	-	12	-	119	27	35	16	44	40	56	<5	mg/kg	TM30/PM15
Mercury #	-	<0.1	-	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Nickel #	-	27.1	-	21.0	36.1	32.1	27.3	37.4	4.5	32.7	<0.7	mg/kg	TM30/PM15
Selenium #	-	<1	-	1	2	1	2	<1	<1	2	<1	mg/kg	TM30/PM15
Vanadium	-	46	-	46	66	38	20	37	9	42	<1	mg/kg	TM30/PM15
Water Soluble Boron #	-	0.4	-	0.7	0.9	0.6	0.9	1.1	0.3	0.8	<0.1	mg/kg	TM74/PM32
Zinc #	-	33	-	46	52	105	93	142	85	124	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.15	<0.04	-	<0.04	0.73	0.05	<0.04	0.09	0.17	0.23	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	-	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.20	<0.03	-	0.08	0.42	0.08	<0.03	0.20	0.86	0.45	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	-	<0.04	<0.04	<0.04	<0.04	<0.04	0.25	0.08	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.11	0.07	-	0.13	0.14	0.12	<0.03	0.19	1.84	0.48	<0.03	mg/kg	TM4/PM8
Pyrene #	0.10	0.06	-	0.10	0.13	0.10	<0.03	0.16	1.51	0.40	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.09	<0.06	-	0.09	0.12	0.10	<0.06	0.13	1.00	0.21	<0.06	mg/kg	TM4/PM8
Chrysene #	0.10	0.06	-	0.10	0.12	0.08	<0.02	0.14	1.08	0.32	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.12	0.11	-	0.13	0.14	0.13	<0.07	0.23	1.85	0.48	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.06	-	0.08	<0.04	0.07	<0.04	0.13	1.13	0.21	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.05	-	<0.04	<0.04	0.06	<0.04	0.08	0.75	0.16	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	-	<0.04	<0.04	<0.04	<0.04	<0.04	0.21	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	0.05	-	<0.04	0.06	0.06	<0.04	0.09	0.68	0.16	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	-	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM8
PAH 16 Total	-	<0.6	-	0.7	1.9	0.9	<0.6	1.4	11.4	3.2	<0.6	mg/kg	TM4/PM8
PAH 17 Total	0.87	-	-	-	-	-	-	-	-	-	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.09	0.08	-	0.09	0.10	0.09	<0.05	0.17	1.33	0.35	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.03	-	0.04	0.04	0.04	<0.02	0.06	0.52	0.13	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	126	103	-	102	97	100	98	96	99	99	<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	<2	-	<2	-	-	-	-	-	-	<2	ug/kg	TM15/PM10
Benzene #	-	<3	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Toluene #	-	<3	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Ethylbenzene #	-	<3	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
m/p-Xylene #	-	<5	-	<5	-	-	-	-	-	-	<5	ug/kg	TM15/PM10
o-Xylene #	-	<3	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	99	-	107	-	-	-	-	-	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	81	-	92	-	-	-	-	-	-	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	4	5-6	7	9-10	11-12	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	WS111_2.2	WS106_0.6	WS106_1.4	WS105_0.8	WS107_0.2	HD1	HD2	HD3	HD4	HD5			
Depth	2.20	0.60	1.40	0.80	0.20	0.25-0.30	0.20-0.30	0.20-0.30	0.10-0.30	0.00-0.20			
COC No / misc													
Containers	T	V J	V	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	09/10/2023 09:15	09/10/2023 10:15	09/10/2023 10:40	09/10/2023 13:00	09/10/2023 13:40	09/10/2023 09:05	09/10/2023 09:20	09/10/2023 09:30	09/10/2023 09:55	09/10/2023 10:15			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023			
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	-	-	-	-	-	-	-	-	-	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	-	<4	-	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	-	<7	-	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	-	<7	-	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	<19	-	<19	<19	<19	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	-	<4	-	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	-	<7	-	<7	<7	<7	<7	<7	21	14	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	-	<7	-	<7	<7	32	<7	<7	102	70	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)#	-	<19	-	<19	<19	32	<19	<19	123	84	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	-	<38	-	<38	<38	<38	<38	<38	123	84	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE#	<5	-	-	-	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Benzene#	<5	-	-	-	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Toluene#	<5	-	-	-	8	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	-	-	-	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	-	-	-	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
o-Xylene#	<5	-	-	-	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
PCB 28#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 52#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 101#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 118#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 138#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 153#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 180#	<5	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	-	-	-	-	-	-	-	-	-	<35	ug/kg	TM17/PM8
Total Phenols HPLC	-	<0.15	-	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.17	<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	12.4	21.8	-	15.6	20.4	19.6	7.8	17.1	7.2	11.5	<0.1	%	PM4/PM0
Hexavalent Chromium#	-	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	4	5-6	7	9-10	11-12	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	WS111_2.2	WS106_0.6	WS106_1.4	WS105_0.8	WS107_0.2	HD1	HD2	HD3	HD4	HD5			
Depth	2.20	0.60	1.40	0.80	0.20	0.25-0.30	0.20-0.30	0.20-0.30	0.10-0.30	0.00-0.20			
COC No / misc													
Containers	T	V J	V	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	09/10/2023 09:15	09/10/2023 10:15	09/10/2023 10:40	09/10/2023 13:00	09/10/2023 13:40	09/10/2023 09:05	09/10/2023 09:20	09/10/2023 09:30	09/10/2023 09:55	09/10/2023 10:15			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023	11/10/2023			
Sulphate as SO4 (2:1 Ext) #	-	0.0275	-	1.7885	1.5875	0.0242	0.0974	0.1723	0.0174	0.0164	<0.0015	g/l	TM38/PM20
Chromium III	-	30.0	-	39.9	37.7	40.6	14.8	43.7	17.5	43.0	<0.5	mg/kg	NONE/NONE
Total Cyanide #	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	1.21	-	0.51	-	-	-	-	-	-	-	<0.02	%	TM21/PM24
ANC at pH4	0.08	-	-	-	-	-	-	-	-	-	<0.03	mol/kg	TM77/PM0
ANC at pH7	<0.03	-	-	-	-	-	-	-	-	-	<0.03	mol/kg	TM77/PM0
Loss on Ignition #	3.0	-	-	-	-	-	-	-	-	-	<1.0	%	TM22/PM0
pH #	8.27	8.72	-	8.07	7.80	6.66	6.32	7.12	8.36	6.65	<0.01	pH units	TM73/PM11
Asbestos Type*	-	-	-	-	-	NAD	NAD	NAD	NAD	NAD		None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	29-31	32-34	35-37	38-40							LOD/LOR	Units	Method No.
Sample ID	HD6	HD7	HD8	HD9									
Depth	0.15-0.30	0.15-0.30	0.20-0.30	0.10-0.25									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	09/10/2023 10:35	09/10/2023 11:00	09/10/2023 11:20	09/10/2023 11:55									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023									
Arsenic #	22.5	23.9	6.2	40.1							<0.5	mg/kg	TM30/PM15
Beryllium	1.5	1.5	1.2	2.1							<0.5	mg/kg	TM30/PM15
Cadmium #	0.2	<0.1	<0.1	<0.1							<0.1	mg/kg	TM30/PM15
Chromium #	35.8	86.0	40.2	40.7							<0.5	mg/kg	TM30/PM15
Copper #	33	39	21	94							<1	mg/kg	TM30/PM15
Lead #	43	64	11	110							<5	mg/kg	TM30/PM15
Mercury #	0.2	<0.1	0.1	0.2							<0.1	mg/kg	TM30/PM15
Nickel #	26.7	28.2	41.4	41.4							<0.7	mg/kg	TM30/PM15
Selenium #	2	2	2	2							<1	mg/kg	TM30/PM15
Vanadium	35	55	28	43							<1	mg/kg	TM30/PM15
Water Soluble Boron #	1.3	0.6	0.1	1.9							<0.1	mg/kg	TM74/PM32
Zinc #	95	109	67	242							<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.34	0.13	<0.04	1.37							<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.06	<0.03	<0.03	0.18							<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.06	<0.05	<0.05	0.08							<0.05	mg/kg	TM4/PM8
Fluorene #	0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.65	0.31	<0.03	0.94							<0.03	mg/kg	TM4/PM8
Anthracene #	0.15	0.06	<0.04	0.19							<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.81	0.40	<0.03	1.78							<0.03	mg/kg	TM4/PM8
Pyrene #	0.69	0.36	<0.03	1.59							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.41	0.22	<0.06	1.01							<0.06	mg/kg	TM4/PM8
Chrysene #	0.50	0.26	<0.02	1.23							<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.80	0.39	<0.07	2.31							<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.42	0.19	<0.04	1.25							<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.30	0.15	<0.04	0.95							<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.08	<0.04	<0.04	0.22							<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.30	0.15	<0.04	0.91							<0.04	mg/kg	TM4/PM8
Coronene	-	-	-	-							<0.04	mg/kg	TM4/PM8
PAH 16 Total	5.6	2.6	<0.6	14.0							<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	-	-							<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.58	0.28	<0.05	1.66							<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.22	0.11	<0.02	0.65							<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	98	98	98	99							<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	-	-							<2	ug/kg	TM15/PM10
Benzene #	-	-	-	-							<3	ug/kg	TM15/PM10
Toluene #	-	-	-	-							<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	-							<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	-							<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	-							<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	-							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	-							<0	%	TM15/PM10

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	29-31	32-34	35-37	38-40							LOD/LOR	Units	Method No.
Sample ID	HD6	HD7	HD8	HD9									
Depth	0.15-0.30	0.15-0.30	0.20-0.30	0.10-0.25									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	09/10/2023 10:35	09/10/2023 11:00	09/10/2023 11:20	09/10/2023 11:55									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023									
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	-	-							<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	11	<4	<4	9							<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	27	<7	<7	31							<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	66	<7	<7	124							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	104	<19	<19	164							<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1 SV							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2	1.4							<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	7	<4	<4	12							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	27	18	<7	46							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	101	70	11	232							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)#	135	88	<19	291							<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	239	88	<38	455							<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE#	<5 SV	<5 SV	<5	<5 SV							<5	ug/kg	TM36/PM12
Benzene#	<5 SV	<5 SV	<5	<5 SV							<5	ug/kg	TM36/PM12
Toluene#	<5 SV	<5 SV	<5	7 SV							<5	ug/kg	TM36/PM12
Ethylbenzene#	<5 SV	<5 SV	<5	<5 SV							<5	ug/kg	TM36/PM12
m/p-Xylene#	<5 SV	<5 SV	<5	<5 SV							<5	ug/kg	TM36/PM12
o-Xylene#	<5 SV	<5 SV	<5	<5 SV							<5	ug/kg	TM36/PM12
PCB 28#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 52#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 101#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 118#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 138#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 153#	-	-	-	-							<5	ug/kg	TM17/PM8
PCB 180#	-	-	-	-							<5	ug/kg	TM17/PM8
Total 7 PCBs#	-	-	-	-							<35	ug/kg	TM17/PM8
Total Phenols HPLC	0.88	<0.15	<0.15	<0.15							<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	10.5	11.6	14.9	17.9							<0.1	%	PM4/PM0
Hexavalent Chromium#	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	29-31	32-34	35-37	38-40							LOD/LOR	Units	Method No.
Sample ID	HD6	HD7	HD8	HD9									
Depth	0.15-0.30	0.15-0.30	0.20-0.30	0.10-0.25									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	09/10/2023 10:35	09/10/2023 11:00	09/10/2023 11:20	09/10/2023 11:55									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	11/10/2023	11/10/2023	11/10/2023	11/10/2023									
Sulphate as SO4 (2:1 Ext) #	0.0620	0.0029	0.0118	0.0674							<0.0015	g/l	TM38/PM20
Chromium III	35.8	86.0	40.2	40.7							<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	3.9							<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	-	-	-	-							<0.02	%	TM21/PM24
ANC at pH4	-	-	-	-							<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	-	-							<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	-	-							<1.0	%	TM22/PM0
pH #	7.47	7.03	8.01	6.31							<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD								None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	4												
Sample ID	WS111_2.2												
Depth	2.20												
COC No / misc													
Containers	T												
Sample Date	09/10/2023 09:15												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	11/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.1034											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

SVOC Report : **Solid**

EMT Sample No.	5-6	9-10									LOD/LOR	Units	Method No.
Sample ID	WS106_0.6	WS105_0.8											
Depth	0.60	0.80											
COC No / misc													
Containers	V J	V J											
Sample Date	09/10/2023 10:15	09/10/2023 13:00											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	11/10/2023	11/10/2023											
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10									<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10									<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10									<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10									<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10									<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10									<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10									<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10									<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10									<10	ug/kg	TM16/PM8
Phenol #	<10	<10									<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10									<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	18	21									<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100									<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100									<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10									<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10									<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10									<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10									<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10									<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10									<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
Azobenzene	<10	<10									<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10									<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10									<10	ug/kg	TM16/PM8
Carbazole	<10	<10									<10	ug/kg	TM16/PM8
Dibenzofuran #	<10	<10									<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10									<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10									<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10									<10	ug/kg	TM16/PM8
Isophorone #	<10	<10									<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10									<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10									<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	118	113									<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	107	106									<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16869

VOC Report : **Solid**

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-6	9-10									LOD/LOR	Units	Method No.
Sample ID	WS106_0.6	WS105_0.8											
Depth	0.60	0.80											
COC No / misc													
Containers	V J	V J											
Sample Date	09/10/2023 10:15	09/10/2023 13:00											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	11/10/2023	11/10/2023											
VOC MS													
Dichlorodifluoromethane	<2	<2									<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2									<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2									<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1									<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2									<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2									<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6									<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7									<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4									<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Chloroform #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3									<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4									<4	ug/kg	TM15/PM10
Benzene #	<3	<3									<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6									<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4									<4	ug/kg	TM15/PM10
Toluene #	<3	<3									<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3									<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3									<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3									<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	<5									<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3									<3	ug/kg	TM15/PM10
Styrene	<3	<3									<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3									<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2									<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4									<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4									<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5									<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6									<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4									<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4									<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4									<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4									<4	ug/kg	TM15/PM10
Naphthalene	<27	<27									<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	99	107									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	81	92									<0	%	TM15/PM10

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1034	Moisture Content Ratio (%) =	14.8
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	87.1
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**23/16869**			
Sample No	**4**			
Client Sample No	**WS111_2.2**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**2.20**			
Sample Date	**09/10/2023 09:15**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	1.21	3	5	6
Loss on Ignition (%)	3.0	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	0.87	100	-	-
pH (pH Units)	8.27	-	>6	-
ANC to pH 7 (mol/kg)	<0.03	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.08	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	<0.0025	<0.025	0.5	2	25
Barium	0.012	0.12	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	<0.0015	<0.015	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	<0.002	<0.02	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	<0.002	<0.02	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	0.004	0.04	4	50	200
Chloride	<0.3	<3	800	15000	25000
Fluoride	1.0	10	10	150	500
Sulphate as SO4	22.1	221	1000	20000	50000
Total Dissolved Solids	109	1090	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	<2	<20	500	800	1000

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll
Reference: 1620015371.002
Location: Stairfoot
Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/16869						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/16869

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes

EMT Job No: 23/16869

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 23/16869

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma – Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes

EMT Job No: 23/16869

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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Leeds
United Kingdom
LS1 8EQ

Attention :	Michael Hazlehurst
Date :	23rd October, 2023
Your reference :	1620015371-002
Our reference :	Test Report 23/16958 Batch 1
Location :	Stairfoot
Date samples received :	12th October, 2023
Status :	Final Report
Issue :	1

Nineteen samples were received for analysis on 12th October, 2023 of which fifteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 51.621 kg of CO2

Scope 1&2&3 emissions - 121.994 kg of CO2

Authorised By:

Paul Boden BSc
Senior Project Manager

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-11	13-15	18-20	21-23	24-26	27-29	30-32	LOD/LOR	Units	Method No.
Sample ID	TP101	TP102	TP103	WS102_3.8	WS112_1.7	TP105	TP104	TP107	TP108	TP106			
Depth	+1.50-0.00	2.20-2.40	+0.90-0.00	3.80	1.70	+1.30-0.00	+0.90-0.00	0.60-0.70	0.30-0.60	+1.40-0.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	10/10/2023 09:30	10/10/2023 09:00	10/10/2023 08:30	10/10/2023 08:40	10/10/2023 13:30	10/10/2023 10:20	10/10/2023 10:30	10/10/2023 11:15	10/10/2023 11:35	10/10/2023 12:05			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023			
Arsenic #	2.8	10.1	8.3	25.7	4.1	5.4	2.9	32.5	28.3	10.7	<0.5	mg/kg	TM30/PM15
Beryllium	1.3	1.6	1.4	1.5	1.1	1.9	2.0	2.0	1.9	1.6	<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.8	0.2	<0.1	<0.1	mg/kg	TM30/PM15
Chromium #	14.9	40.6	34.4	56.8	39.4	36.8	37.6	43.3	90.0	36.8	<0.5	mg/kg	TM30/PM15
Copper #	34	29	28	43	21	30	36	98	55	31	<1	mg/kg	TM30/PM15
Lead #	15	21	21	54	15	19	17	134	65	16	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.2	<0.1	2.0	0.1	0.1	<0.1	0.4	0.2	0.2	<0.1	mg/kg	TM30/PM15
Nickel #	31.2	45.9	36.2	31.0	47.7	49.2	58.2	33.5	28.5	48.2	<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	<1	10	1	1	<1	2	2	<1	<1	mg/kg	TM30/PM15
Vanadium	23	31	28	61	23	33	34	39	43	30	<1	mg/kg	TM30/PM15
Water Soluble Boron #	1.7	0.3	0.8	0.8	0.2	0.3	0.4	3.6	0.9	0.3	<0.1	mg/kg	TM74/PM32
Zinc #	155	154	120	94	75	113	144	260	126	113	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	0.05	0.12	<0.04	0.07	0.07	1.02	<0.04	0.10	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	0.46	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.90	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	1.57	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.05	0.07	0.57	<0.03	0.16	0.11	8.73	0.18	0.23	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	0.12	<0.04	<0.04	<0.04	3.22	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.07	0.85	<0.03	0.04	<0.03	15.27	0.33	0.05	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.06	0.67	<0.03	0.03	<0.03	12.86	0.26	0.04	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.39	<0.06	<0.06	<0.06	6.47	0.18	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.06	0.44	<0.02	<0.02	<0.02	6.42	0.19	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.08	0.66	<0.07	<0.07	<0.07	10.47	0.30	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.36	<0.04	<0.04	<0.04	6.56	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	0.23	<0.04	<0.04	<0.04	3.94	0.11	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	0.80	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	0.23	<0.04	<0.04	<0.04	3.40	0.11	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	-	-	-	-	-	-	-	-	<0.04	-	<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	4.8	<0.6	<0.6	<0.6	83.1	1.7	<0.6	<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	-	-	-	-	-	-	1.66	-	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.06	0.48	<0.05	<0.05	<0.05	7.54	0.22	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.02	0.18	<0.02	<0.02	<0.02	2.93	0.08	<0.02	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	112	101	97	118	113	113	115	114	113	120	<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	-	<2	-	-	-	-	-	-	<2	ug/kg	TM15/PM10
Benzene #	-	-	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Toluene #	-	-	-	10	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	<5	-	-	-	-	-	-	<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	109	-	-	-	-	-	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	85	-	-	-	-	-	-	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-11	13-15	18-20	21-23	24-26	27-29	30-32	LOD/LOR	Units	Method No.
Sample ID	TP101	TP102	TP103	WS102_3.8	WS112_1.7	TP105	TP104	TP107	TP108	TP106			
Depth	+1.50-0.00	2.20-2.40	+0.90-0.00	3.80	1.70	+1.30-0.00	+0.90-0.00	0.60-0.70	0.30-0.60	+1.40-0.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	10/10/2023 09:30	10/10/2023 09:00	10/10/2023 08:30	10/10/2023 08:40	10/10/2023 13:30	10/10/2023 10:20	10/10/2023 10:30	10/10/2023 11:15	10/10/2023 11:35	10/10/2023 12:05			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023			
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	-	-	-	-	-	-	<30	-	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4	<4	<4	<4	7	8	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	<7	36	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	16	<7	<7	<7	187	16	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19	<19	<19	<19	<19	<19	230	24	<19	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1[SV]	<0.1	<0.1[SV]	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4	<4	<4	<4	<4	15	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7	<7	<7	103	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	41	47	<7	<7	<7	399	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)#	<19	<19	41	47	<19	<19	<19	517	<19	<19	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	<38	41	47	<38	<38	<38	747	<38	<38	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE#	<5	<5	<5	-	<5	<5	<5	<5[SV]	<5	<5[SV]	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	-	<5	<5	<5	19[SV]	<5	<5[SV]	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	-	<5	<5	<5	16[SV]	10	<5[SV]	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	-	<5	<5	<5	<5[SV]	<5	<5[SV]	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	-	<5	<5	<5	12[SV]	<5	<5[SV]	<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	-	<5	<5	<5	7[SV]	<5	<5[SV]	<5	ug/kg	TM36/PM12
PCB 28#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 52#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 101#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 118#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 138#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 153#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
PCB 180#	-	-	-	-	-	-	-	-	<5	-	<5	ug/kg	TM17/PM8
Total 7 PCBs#	-	-	-	-	-	-	-	-	<35	-	<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	15.1	17.1	19.9	19.3	9.4	11.1	11.7	17.4	19.6	9.8	<0.1	%	PM4/PM0
Hexavalent Chromium#	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-11	13-15	18-20	21-23	24-26	27-29	30-32	LOD/LOR	Units	Method No.
Sample ID	TP101	TP102	TP103	WS102_3.8	WS112_1.7	TP105	TP104	TP107	TP108	TP106			
Depth	+1.50-0.00	2.20-2.40	+0.90-0.00	3.80	1.70	+1.30-0.00	+0.90-0.00	0.60-0.70	0.30-0.60	+1.40-0.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J	V J	V J T	V J T	V J T	V J T	V J T			
Sample Date	10/10/2023 09:30	10/10/2023 09:00	10/10/2023 08:30	10/10/2023 08:40	10/10/2023 13:30	10/10/2023 10:20	10/10/2023 10:30	10/10/2023 11:15	10/10/2023 11:35	10/10/2023 12:05			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023			
Sulphate as SO4 (2:1 Ext) #	0.0970	0.0188	0.2022	0.0773	0.0205	0.0384	0.0068	0.1149	0.0562	0.0188	<0.0015	g/l	TM38/PM20
Chromium III	14.9	40.6	34.4	56.8	39.4	36.8	37.6	43.3	90.0	36.8	<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	-	-	-	-	-	-	-	-	4.96	-	<0.02	%	TM21/PM24
Fraction Organic Carbon	-	-	-	0.018	0.003	-	-	-	-	-	<0.001	None	TM21/PM24
ANC at pH4	-	-	-	-	-	-	-	-	0.29	-	<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	-	-	-	-	-	-	<0.03	-	<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	-	-	-	-	-	-	7.1	-	<1.0	%	TM22/PM0
pH #	7.31	7.80	8.01	8.39	7.63	8.89	8.85	8.38	7.72	8.57	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	34-35	36-40	41-43									
Sample ID	WS101A_1.0	WS104_0.4	WS104_2.7									
Depth	1.00	0.40	2.70									
COC No / misc												
Containers	V J	V J T	V J									
Sample Date	10/10/2023 10:55	10/10/2023 11:30	10/10/2023 12:50									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	12/10/2023	12/10/2023	12/10/2023									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Arsenic #	2.3	10.2	-								<0.5	mg/kg	TM30/PM15
Beryllium	1.7	1.4	-								<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	0.2	-								<0.1	mg/kg	TM30/PM15
Chromium #	38.2	50.2	-								<0.5	mg/kg	TM30/PM15
Copper #	29	23	-								<1	mg/kg	TM30/PM15
Lead #	14	26	-								<5	mg/kg	TM30/PM15
Mercury #	0.1	<0.1	-								<0.1	mg/kg	TM30/PM15
Nickel #	54.8	21.3	-								<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	-								<1	mg/kg	TM30/PM15
Vanadium	31	34	-								<1	mg/kg	TM30/PM15
Water Soluble Boron #	0.3	0.4	-								<0.1	mg/kg	TM74/PM32
Zinc #	97	95	-								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	0.61	-								<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	0.48	-								<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	2.93	-								<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	3.74	-								<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.06	12.09	-								<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	4.34	-								<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.20	18.40	-								<0.03	mg/kg	TM4/PM8
Pyrene #	0.19	18.98	-								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.14	7.74	-								<0.06	mg/kg	TM4/PM8
Chrysene #	0.14	7.46	-								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.29	12.14	-								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.16	7.86	-								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.12	4.35	-								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	0.94	-								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.14	4.35	-								<0.04	mg/kg	TM4/PM8
Coronene	-	-	-								<0.04	mg/kg	TM4/PM8
PAH 16 Total	1.4	106.4	-								<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	-								<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.21	8.74	-								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.08	3.40	-								<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	118	116	-								<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	<2	<2								<2	ug/kg	TM15/PM10
Benzene #	-	<3	<3								<3	ug/kg	TM15/PM10
Toluene #	-	<3	<3								<3	ug/kg	TM15/PM10
Ethylbenzene #	-	<3	<3								<3	ug/kg	TM15/PM10
m/p-Xylene #	-	8	<5								<5	ug/kg	TM15/PM10
o-Xylene #	-	8	<3								<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	78	78								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	68	64								<0	%	TM15/PM10

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	34-35	36-40	41-43								LOD/LOR	Units	Method No.
Sample ID	WS101A_1.0	WS104_0.4	WS104_2.7										
Depth	1.00	0.40	2.70										
COC No / misc													
Containers	V J	V J T	V J										
Sample Date	10/10/2023 10:55	10/10/2023 11:30	10/10/2023 12:50										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	12/10/2023	12/10/2023	12/10/2023										
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	-								<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1 SV								<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1 SV								<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	1.1 SV	1.4 SV								<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	74.6	77.0								<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	993	849								<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	2308	1650								<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	1660	808								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	5037	3385								<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1 SV								<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1 SV								<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1 SV								<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	15.3	9.1								<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	393	540								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	1700	1559								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	1439	643								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)#	<19	3547	2751								<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	8584	6136								<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE#	<5	-	-								<5	ug/kg	TM36/PM12
Benzene#	<5	-	-								<5	ug/kg	TM36/PM12
Toluene#	<5	-	-								<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	-	-								<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	-	-								<5	ug/kg	TM36/PM12
o-Xylene#	<5	-	-								<5	ug/kg	TM36/PM12
PCB 28#	-	-	-								<5	ug/kg	TM17/PM8
PCB 52#	-	-	-								<5	ug/kg	TM17/PM8
PCB 101#	-	-	-								<5	ug/kg	TM17/PM8
PCB 118#	-	-	-								<5	ug/kg	TM17/PM8
PCB 138#	-	-	-								<5	ug/kg	TM17/PM8
PCB 153#	-	-	-								<5	ug/kg	TM17/PM8
PCB 180#	-	-	-								<5	ug/kg	TM17/PM8
Total 7 PCBs#	-	-	-								<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	0.23	-								<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	7.8	20.2	26.4								<0.1	%	PM4/PM0
Hexavalent Chromium#	<0.3	<0.3	-								<0.3	mg/kg	TM38/PM20

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	34-35	36-40	41-43									
Sample ID	WS101A_1.0	WS104_0.4	WS104_2.7									
Depth	1.00	0.40	2.70									
COC No / misc												
Containers	V J	V J T	V J									
Sample Date	10/10/2023 10:55	10/10/2023 11:30	10/10/2023 12:50									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	12/10/2023	12/10/2023	12/10/2023									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Sulphate as SO4 (2:1 Ext) #	0.0319	0.0941	-								<0.0015	g/l	TM38/PM20
Chromium III	38.2	50.2	-								<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	-								<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	-	-	-								<0.02	%	TM21/PM24
Fraction Organic Carbon	0.006	-	0.038								<0.001	None	TM21/PM24
ANC at pH4	-	-	-								<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	-								<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	-								<1.0	%	TM22/PM0
pH #	8.00	8.44	-								<0.01	pH units	TM73/PM11

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All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	27-29												
Sample ID	TP108												
Depth	0.30-0.60												
COC No / misc													
Containers	V J T												
Sample Date	10/10/2023 11:35												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	12/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.1112											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

Report : CEN 10:1 1 Batch (Duplicate results)

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	27-29												
Sample ID	TP108												
Depth	0.30-0.60												
COC No / misc													
Containers	V J T												
Sample Date	10/10/2023 11:35												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	12/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.1114											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

SVOC Report : **Solid**

EMT Sample No.	10-11	36-40	41-43									
Sample ID	WS102_3.8	WS104_0.4	WS104_2.7									
Depth	3.80	0.40	2.70							Please see attached notes for all abbreviations and acronyms		
COC No / misc												
Containers	V J	V J T	V J									
Sample Date	10/10/2023 08:40	10/10/2023 11:30	10/10/2023 12:50									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	12/10/2023	12/10/2023	12/10/2023							LOD/LOR	Units	Method No.
SVOC MS												
Phenols												
2-Chlorophenol #	<10	<10	<10							<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10							<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10							<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10							<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10							<10	ug/kg	TM16/PM8
PAHs												
2-Chloronaphthalene #	<10	<10	<10							<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	94	137	119							<10	ug/kg	TM16/PM8
Phthalates												
Bis(2-ethylhexyl) phthalate	<100	932	<100							<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100							<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	123	128							<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100							<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100							<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100							<100	ug/kg	TM16/PM8
Other SVOCs												
1,2-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10							<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10							<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10							<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10							<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10							<10	ug/kg	TM16/PM8
Carbazole	63	<10	<10							<10	ug/kg	TM16/PM8
Dibenzofuran #	74	631	124							<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10							<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10							<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10							<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10							<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	111	127	133 SV							<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	107	135 SV	136 SV							<0	%	TM16/PM8

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Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/16958

VOC Report : **Solid**

EMT Sample No.	10-11	36-40	41-43									
Sample ID	WS102_3.8	WS104_0.4	WS104_2.7									
Depth	3.80	0.40	2.70									
COC No / misc												
Containers	V J	V J T	V J									
Sample Date	10/10/2023 08:40	10/10/2023 11:30	10/10/2023 12:50									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	12/10/2023	12/10/2023	12/10/2023									
VOC MS												
Dichlorodifluoromethane	<2	<2	<2							<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2							<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2							<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1							<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2							<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2							<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6							<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7							<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3							<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3							<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4							<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3							<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6							<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4							<4	ug/kg	TM15/PM10
Toluene #	10	<3	<3							<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3							<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	8	<5							<5	ug/kg	TM15/PM10
o-Xylene #	<3	8	<3							<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3							<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3							<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	5	<3							<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2							<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4							<4	ug/kg	TM15/PM10
Propylbenzene #	<4	10	<4							<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3							<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3							<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	13	9							<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	43	<6							<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	61	212							<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	48	38							<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4							<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4							<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	85	<4							<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7							<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4							<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27							<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7							<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	109	78	78							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	85	68	64							<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	-	Moisture Content Ratio (%) =	24.1
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	80.6
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**23/16958**			
Sample No	**29**			
Client Sample No	**TP108**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**0.30-0.60**			
Sample Date	**10/10/2023 11:35**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	4.96	3	5	6
Loss on Ignition (%)	7.1	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	1.66	100	-	-
pH (pH Units)	7.72	-	>6	-
ANC to pH 7 (mol/kg)	<0.03	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.29	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	<0.0025	<0.025	0.5	2	25
Barium	0.015	0.15	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	<0.0015	<0.015	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.004	0.04	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	<0.002	<0.02	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	0.8	8	800	15000	25000
Fluoride	1.7	17	10	150	500
Sulphate as SO4	11.7	117	1000	20000	50000
Total Dissolved Solids	132	1320	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	3	30	500	800	1000

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/16958	1	TP101	+1.50-0.00	3	Catherine Coles	20/10/2023	**General Description (Bulk Analysis)**	brown soil,stone
					Catherine Coles	20/10/2023	**Asbestos Fibres**	NAD
					Catherine Coles	20/10/2023	**Asbestos ACM**	NAD
					Catherine Coles	20/10/2023	**Asbestos Type**	NAD
23/16958	1	TP102	2.20-2.40	6	Bart Kuznicki	20/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	20/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos Type**	NAD
23/16958	1	TP103	+0.90-0.00	9	Bart Kuznicki	20/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	20/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos Type**	NAD
23/16958	1	WS112_0.2	0.20	16	Bart Kuznicki	23/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	23/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type**	NAD
23/16958	1	TP105	+1.30-0.00	20	Bart Kuznicki	23/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones and spider webs
					Bart Kuznicki	23/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type**	NAD
23/16958	1	TP104	+0.90-0.00	23	Bart Kuznicki	20/10/2023	**General Description (Bulk Analysis)**	Brown Soil with stones
					Bart Kuznicki	20/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	20/10/2023	**Asbestos Type**	NAD
23/16958	1	TP107	0.60-0.70	26	Bart Kuznicki	23/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	23/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type**	NAD
23/16958	1	TP108	0.30-0.60	28	Charlotte Taylor	19/10/2023	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	19/10/2023	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	19/10/2023	**Asbestos ACM**	NAD
					Charlotte Taylor	19/10/2023	**Asbestos Type**	Chrysotile

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/16958	1	TP106	+1.40-0.00	32	Bart Kuznicki	23/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	23/10/2023	**Asbestos Fibres**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Fibres (2)**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos ACM (2)**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type (2)**	NAD
23/16958	1	WS101A_0.1	0.10	33	Bart Kuznicki	23/10/2023	**General Description (Bulk Analysis)**	Brown soil with stones
					Bart Kuznicki	23/10/2023	**Asbestos Fibres**	Fibre Bundles
					Bart Kuznicki	23/10/2023	**Asbestos ACM**	NAD
					Bart Kuznicki	23/10/2023	**Asbestos Type**	Chrysotile

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/16958						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/16958

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes

EMT Job No: 23/16958

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes

EMT Job No: 23/16958

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No

EMT Job No: 23/16958

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma – Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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Attention :	Michael Hazlehurst
Date :	31st October, 2023
Your reference :	1620015371-002
Our reference :	Test Report 23/16958 Batch 1 Schedule C
Location :	Stairfoot
Date samples received :	12th October, 2023
Status :	Final Report
Issue :	1

Nineteen samples were received for analysis on 12th October, 2023 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 0.724 kg of CO2

Scope 1&2&3 emissions - 1.711 kg of CO2

Authorised By:

Simon Gomery BSc
Senior Project Manager

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/16958	1	TP108	0.30-0.60	28	Remigiusz Blichowski	26/10/2023	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
23/16958	1	WS101A_0.1	0.10	33	Remigiusz Blichowski	26/10/2023	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	26/10/2023	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/16958						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/16958

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/16958

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes

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Attention :	Michael Hazlehurst
Date :	3rd November, 2023
Your reference :	1620015371-002
Our reference :	Test Report 23/17063 Batch 1
Location :	Stairfoot
Date samples received :	13th October, 2023
Status :	Final Report
Issue :	2

Seven samples were received for analysis on 13th October, 2023 of which seven were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 22.661 kg of CO2

Scope 1&2&3 emissions - 53.554 kg of CO2

Authorised By:

Simon Gomery BSc
Senior Project Manager

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	4-5	6	7-8	10-11						LOD/LOR	Units	Method No.
Sample ID	WS103_2.8	WS109_0.9	WS108_0.3	WS108_3.4	WS110_2.7								
Depth	2.80	0.90	0.30	3.40	2.70								
COC No / misc													
Containers	V J	V J	T	V J	V J								
Sample Date	11/10/2023 08:15	11/10/2023 09:55	11/10/2023 11:10	11/10/2023 11:45	11/10/2023 09:45								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023								
Arsenic #	42.5	5.8	-	5.7	13.5						<0.5	mg/kg	TM30/PM15
Beryllium	2.3	<0.5	-	1.5	1.2						<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Chromium #	304.6 AA	92.5	-	42.0	41.1						<0.5	mg/kg	TM30/PM15
Copper #	98	10	-	35	29						<1	mg/kg	TM30/PM15
Lead #	79	8	-	16	13						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Nickel #	45.1	8.0	-	62.9	60.0						<0.7	mg/kg	TM30/PM15
Selenium #	3	<1	-	<1	<1						<1	mg/kg	TM30/PM15
Vanadium	101	24	-	31	27						<1	mg/kg	TM30/PM15
Water Soluble Boron #	2.9	0.5	-	0.3	0.2						<0.1	mg/kg	TM74/PM32
Zinc #	325	59	-	99	100						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.31	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.10	<0.03	0.07	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.16	<0.05	<0.05	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Fluorene #	0.16	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	1.32	<0.03	0.13	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	0.34	<0.04	0.08	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	1.98	<0.03	1.30	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	1.64	<0.03	1.23	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.90	<0.06	0.93	<0.06	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	0.97	<0.02	0.95	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	1.74	<0.07	1.68	<0.07	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.97	<0.04	0.82	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.68	<0.04	0.59	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.17	<0.04	0.16	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.70	<0.04	0.56	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	-	-	0.09	-	-						<0.04	mg/kg	TM4/PM8
PAH 16 Total	12.1	<0.6	-	<0.6	<0.6						<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	8.59	-	-						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.25	<0.05	1.21	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.49	<0.02	0.47	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	106	108	122	107	108						<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	<2	<2	-	-	-						<2	ug/kg	TM15/PM10
Benzene #	7	<3	-	-	-						<3	ug/kg	TM15/PM10
Toluene #	20	<3	-	-	-						<3	ug/kg	TM15/PM10
Ethylbenzene #	6	<3	-	-	-						<3	ug/kg	TM15/PM10
m/p-Xylene #	19	<5	-	-	-						<5	ug/kg	TM15/PM10
o-Xylene #	8	<3	-	-	-						<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	65	97	-	-	-						<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	58	91	-	-	-						<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-2	4-5	6	7-8	10-11						LOD/LOR	Units	Method No.
Sample ID	WS103_2.8	WS109_0.9	WS108_0.3	WS108_3.4	WS110_2.7								
Depth	2.80	0.90	0.30	3.40	2.70								
COC No / misc													
Containers	V J	V J	T	V J	V J								
Sample Date	11/10/2023 08:15	11/10/2023 09:55	11/10/2023 11:10	11/10/2023 11:45	11/10/2023 09:45								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023								
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	<30	-	-						<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	0.7 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	3.0	<0.2	-	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	6	5	-	<4	<4						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	61	16	-	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	320	44	-	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	391	65	-	<19	<19						<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1 SV	<0.1	-	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	4.2	<0.2	-	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	7	<4	-	<4	<4						<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	77	<7	-	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	541	<7	-	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)#	629	<19	-	<19	<19						<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	1020	65	-	<38	<38						<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	-	-	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 52#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 101#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 118#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 138#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 153#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
PCB 180#	-	-	<5	-	-						<5	ug/kg	TM17/PM8
Total 7 PCBs#	-	-	<35	-	-						<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	<0.15	-	<0.15	<0.15						<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	19.9	13.5	4.5	13.0	8.2						<0.1	%	PM4/PM0
Hexavalent Chromium#	<0.3	<0.3	-	<0.3	<0.3						<0.3	mg/kg	TM38/PM20

Element Materials Technology

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	4-5	6	7-8	10-11							
Sample ID	WS103_2.8	WS109_0.9	WS108_0.3	WS108_3.4	WS110_2.7							
Depth	2.80	0.90	0.30	3.40	2.70							
COC No / misc												
Containers	V J	V J	T	V J	V J							
Sample Date	11/10/2023 08:15	11/10/2023 09:55	11/10/2023 11:10	11/10/2023 11:45	11/10/2023 09:45							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	13/10/2023	13/10/2023	13/10/2023	13/10/2023	13/10/2023							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Sulphate as SO4 (2:1 Ext) #	0.1125	0.0391	-	0.0454	0.0245						<0.0015	g/l	TM38/PM20
Chromium III	304.6	92.5	-	42.0	41.1						<0.5	mg/kg	NONE/NONE
Total Cyanide #	7.0	<0.5	-	<0.5	<0.5						<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	-	-	0.74	-	-						<0.02	%	TM21/PM24
Fraction Organic Carbon	0.118	0.001	-	0.005	0.005						<0.001	None	TM21/PM24
ANC at pH4	-	-	1.33	-	-						<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	0.05	-	-						<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	1.9	-	-						<1.0	%	TM22/PM0
pH #	8.14	8.98	9.57	6.92	6.86						<0.01	pH units	TM73/PM11

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	6												
Sample ID	WS108_0.3												
Depth	0.30												
COC No / misc													
Containers	T												
Sample Date	11/10/2023 11:10												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	13/10/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.0995											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

SVOC Report : **Solid**

EMT Sample No.	1-2	4-5									LOD/LOR	Units	Method No.
Sample ID	WS103_2.8	WS109_0.9											
Depth	2.80	0.90											
COC No / misc													
Containers	V J	V J											
Sample Date	11/10/2023 08:15	11/10/2023 09:55											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	13/10/2023	13/10/2023											
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10									<10	ug/kg	TM16/PM8
2-Methylphenol	13	<10									<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10									<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10									<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10									<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10									<10	ug/kg	TM16/PM8
4-Methylphenol	35	<10									<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10									<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10									<10	ug/kg	TM16/PM8
Phenol #	14	<10									<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10									<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	158	12									<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100									<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100									<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100									<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10									<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10									<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10									<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10									<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10									<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10									<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10									<10	ug/kg	TM16/PM8
Azobenzene	<10	<10									<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10									<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10									<10	ug/kg	TM16/PM8
Carbazole	50	<10									<10	ug/kg	TM16/PM8
Dibenzofuran #	80	12									<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10									<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10									<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10									<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10									<10	ug/kg	TM16/PM8
Isophorone #	<10	<10									<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10									<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10									<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	109	107									<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	131 SV	103									<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst
EMT Job No: 23/17063

VOC Report : **Solid**

EMT Sample No.	1-2	4-5									LOD/LOR	Units	Method No.
Sample ID	WS103_2.8	WS109_0.9											
Depth	2.80	0.90											
COC No / misc													
Containers	V J	V J											
Sample Date	11/10/2023 08:15	11/10/2023 09:55											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	13/10/2023	13/10/2023											
VOC MS													
Dichlorodifluoromethane	<2	<2									<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2									<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2									<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1									<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2									<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2									<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6									<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7									<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4									<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Chloroform #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3									<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4									<4	ug/kg	TM15/PM10
Benzene #	7	<3									<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6									<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4									<4	ug/kg	TM15/PM10
Toluene #	20	<3									<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3									<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3									<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3									<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Ethylbenzene #	6	<3									<3	ug/kg	TM15/PM10
m/p-Xylene #	19	<5									<5	ug/kg	TM15/PM10
o-Xylene #	8	<3									<3	ug/kg	TM15/PM10
Styrene	<3	<3									<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3									<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2									<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4									<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4									<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	13	<3									<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
tert-Butylbenzene #	20	<5									<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	77	<6									<6	ug/kg	TM15/PM10
sec-Butylbenzene #	13	<4									<4	ug/kg	TM15/PM10
4-Isopropyltoluene	67	<4									<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
n-Butylbenzene	8	<4									<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4									<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4									<4	ug/kg	TM15/PM10
Naphthalene	44	<27									<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	65	97									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	58	91									<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.0995	Moisture Content Ratio (%) =	10.1
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	90.8
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**23/17063**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Sample No	**6**			
Client Sample No	**WS108_0.3**			
Depth/Other	**0.30**			
Sample Date	**11/10/2023 11:10**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	0.74	3	5	6
Loss on Ignition (%)	1.9	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	8.59	100	-	-
pH (pH Units)	9.57	-	>6	-
ANC to pH 7 (mol/kg)	0.05	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	1.33	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	<0.0025	<0.025	0.5	2	25
Barium	0.013	0.13	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	<0.0015	<0.015	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	<0.002	<0.02	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	<0.002	<0.02	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	0.8	8	800	15000	25000
Fluoride	0.5	5	10	150	500
Sulphate as SO4	3.3	33	1000	20000	50000
Total Dissolved Solids	60	600	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	<2	<20	500	800	1000

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/17063	1	WS109_0.4	0.40	3	Anthony Carman	24/10/2023	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	24/10/2023	**Asbestos Fibres**	NAD
					Anthony Carman	24/10/2023	**Asbestos ACM**	NAD
					Anthony Carman	24/10/2023	**Asbestos Type**	NAD
23/17063	1	WS110_0.3	0.30	9	Charlotte Taylor	25/10/2023	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	25/10/2023	**Asbestos Fibres**	NAD
					Charlotte Taylor	25/10/2023	**Asbestos ACM**	NAD
					Charlotte Taylor	25/10/2023	**Asbestos Type**	NAD

Client Name: Ramboll
Reference: 1620015371-002
Location: Stairfoot
Contact: Michael Hazlehurst

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/17063						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/17063

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes

EMT Job No: 23/17063

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes

EMT Job No: 23/17063

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No

EMT Job No: 23/17063

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma – Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

Appendix 7
Gas Screening

Ground Gas Risk Assessment
1620015371-002 Former Stairfoot Brickworks

Notes: Assessment based on Guidance published in CIRIA C665 "Assessing risks posed by hazardous ground gases to buildings"
and BS8485 "Code of practice for design of protective measures for methane and carbon dioxide ground gases for new buildings"

Information from Table 8.5 of CIRIA C665, and Table 2 of BS8485	Hazard Potential
Characteristsic Situation 1 Conditons	Very Low
Gas Screening Value (CH4 of CO2) <0.07	
Typically methane <1% by volume	
Typically carbon dioxide <5% by volume	
Characteristic Situation 2 Conditions	Low
Gas screening values (CH4 or CO2) 0.07 to <0.7	
Borehole air flow rate <70l/h	
Characteristic Situation 3 Conditions	Moderate
Gas screening values (CH4 or CO2) 0.7 to <3.5	

Key for Shading
- CO2 > 5% by volume
- CH4 > 1% by volume
- GSV < 0.07l/hr i.e. CS1
- GSV > or = 0.07l/hr i.e. CS2
- GSV> or = 0.7l/hr i.e. CS3 or above

Red text indicates negative flows

Approach
Maximum concentrations and steady state flow rates are used in the assessment below
Where no detectable flow the instrument limit of detection is used (0.1l/hr)
Where concentrations are recorded below LoD, the instrument LoD is used in the assessment (0.1%)

Monitoring undertaken using a GFM430 Gas Analyser

BH ID	Response Zone (m) Top	Response Zone (m) Bottom	Response Zone Strata	Comments	Water Depth mbgl	Borehole Flooded	Date	Atmopsheric Pressure mB	Gas Flow (SS) l/h	CH4 %v/v	CO2 %v/v	GSV CH4	GSV CO2	Characteristic Situation CH4 (from GSV)	Characteristic Situation CO2 (from GSV)
WS101A	0.5	1.2	Weathered Coal Measures		1.10	No	12/10/2023	1012	0.2	0	1.1	0.0000	0.0022	1	1
					1.06	No	26/10/2023	987	0	0	0.4	0.0000	0.0004	1	1
					1.05	No	02/11/2023	959	0	0	0.4	0.0000	0.0004	1	1
					1.12	No	09/11/2023	991	0	0	0	0.0000	0.0000	1	1
					DRY	No	23/11/2023	1018	0	0	0	0.0000	0.0000	1	1
					0.96	No	30/11/2023	1004	0.1	0	0	0.0000	0.0000	1	1
WS102	1.0	3.0	Made Ground		DRY	No	12/10/2023	1011	0	0	13.3	0.0000	0.0133	1	1
					DRY	No	26/10/2023	987	0	0	11.4	0.0000	0.0114	1	1
					DRY	No	02/11/2023	959	0	0	11.3	0.0000	0.0113	1	1
					DRY	No	09/11/2023	991	0	0	7.8	0.0000	0.0078	1	1
					DRY	No	23/11/2023	1017	0	0	6.5	0.0000	0.0065	1	1
					3.14	No	30/11/2023	1004	-0.3	0	0	0.0000	0.0000	1	1
WS103	1.0	4.0	Made Ground		DRY	No	12/10/2023	1012	0	36.7	22.9	0.0367	0.0229	1	1
					DRY	No	26/10/2023	987	0.5	42.2	24.1	0.2110	0.1205	2	2
					DRY	No	02/11/2023	958	1	45.4	23.8	0.4540	0.2380	2	2
					DRY	No	09/11/2023	991	0.7	37.4	18.9	0.2618	0.1323	2	2
					DRY	No	23/11/2023	1017	3.1	29.2	15.8	0.9052	0.4898	3	2
					DRY	No	30/11/2023	1004	-0.4	31.7	16.5	0.1268	0.0660	2	1
WS104	1.0	3.0	Made Ground		2.50	No	12/10/2023	1012	0	0	7.3	0.0000	0.0073	1	1
					2.51	No	26/10/2023	988	0	0	8.9	0.0000	0.0089	1	1
					2.41	No	02/11/2023	958	0	0	9	0.0000	0.0090	1	1
					2.51	No	09/11/2023	991	0	0	5	0.0000	0.0050	1	1
					2.51	No	23/11/2023	1017	0	0	3.3	0.0000	0.0033	1	1
					2.53	No	30/11/2023	1004	0	0	4.1	0.0000	0.0041	1	1
WS105	0.4	1.4	Made Ground		DRY	No	12/10/2023	1010	0	0	0	0.0000	0.0000	1	1
					1.37	No	26/10/2023	988	0	0	0.5	0.0000	0.0005	1	1
					1.10	No	02/11/2023	959	0	0	1	0.0000	0.0010	1	1
					1.16	No	09/11/2023	991	0	0	0	0.0000	0.0000	1	1
					1.03	No	23/11/2023	1017	0	0	0	0.0000	0.0000	1	1
					0.94	No	30/11/2023	1002	0	0	0	0.0000	0.0000	1	1
WS106	0.3	0.7	Made Ground		DRY	No	12/10/2023	1010	0	0	0	0.0000	0.0000	1	1
					0.40	No	26/10/2023	988	-0.8	0	0.5	0.0000	0.0040	1	1
				Borehole flooded not monitored	0.29	Yes	02/11/2023	-	-	-	-	-	-	-	-
					0.65	No	09/11/2023	991	0.2	0	0	0.0000	0.0000	1	1
					0.69	No	23/11/2023	1017	0	0	0	0.0000	0.0000	1	1
					0.69	No	30/11/2023	1003	0	0	0	0.0000	0.0000	1	1
WS107	1.4	2.8	Weathered Coal Measures		DRY	No	12/10/2023	1009	0	0	3.5	0.0000	0.0035	1	1
					1.49	No	26/10/2023	988	0	0	3.9	0.0000	0.0039	1	1
					1.47	No	02/11/2023	959	0	0	1.0	0.0000	0.001	1	1
					1.54	No	09/11/2023	991	0	0	2.4	0.0000	0.0024	1	1
					1.94	No	23/11/2023	1017	0	0	2.5	0.0000	0.0025	1	1
					1.93	No	30/11/2023	1002	0	0	2.1	0.0000	0.0021	1	1
WS108	0.3	1.3	Made Ground		1.26	No	12/10/2023	1008	0	0	2.1	0.0000	0.0021	1	1
					1.13	No	26/10/2023	987	0	0	6.9	0.0000	0.0069	1	1
					1.08	No	02/11/2023	960	0	0	1.1	0.0000	0.0011	1	1
					1.28	No	09/11/2023	990	0	0	0.6	0.0000	0.0006	1	1
					1.28	No	23/11/2023	1017	0	0	0.8	0.0000	0.0008	1	1
					1.29	No	30/11/2023	1002	-0.1	0	0.6	0.0000	0.0006	1	1
WS109	0.5	1.0	Made Ground		0.72	No	12/10/2023	1007	0	0	0.5	0.0000	0.0005	1	1
					0.47	Yes	26/10/2023	987	0	0	0	0.0000	0.0000	1	1
					0.41	Yes	02/11/2023	961	0	0	1.2	0.0000	0.0012	1	1
					0.63	No	09/11/2023	990	0	0	0	0.0000	0.0000	1	1
					0.65	No	23/11/2023	1017	0	0	0	0.0000	0.0000	1	1
					0.63	No	30/11/2023	1002	0.1	0	0	0.0000	0.0000	1	1
WS110	1.5	2.8	Clay		2.81	No	12/10/2023	1007	0	0.1	1.4	0.0001	0.0014	1	1
					0.43	Yes	26/10/2023	986	0	0.1	2.2	0.0001	0.0022	1	1
					0.38	Yes	02/11/2023	960	0	0	2.5	0.0000	0.0025	1	1
				Borehole flooded not monitored	0.38	Yes	09/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.39	Yes	23/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.88	Yes	30/11/2023	-	-	-	-	-	-	-	-
WS111	0.5	2.5	Made Ground		DRY	No	12/10/2023	1006	0	0	3.7	0.0000	0.0037	1	1
					1.68	No	26/10/2023	986	0	0	9.1	0.0000	0.0091	1	1
					1.71	No	02/11/2023	960	0	0	4.8	0.0000	0.0048	1	1
					1.82	No	09/11/2023	989	0	0	5.7	0.0000	0.0057	1	1
					1.84	No	23/11/2023	1017	0	0	4.2	0.0000	0.0042	1	1
					1.80	No	30/11/2023	1002	0.5	0	0	0.0000	0.0000	1	1

BH ID	Response Zone (m) Top	Response Zone (m) Bottom	Response Zone Strata	Comments	Water Depth mbgl	Borehole Flooded	Date	Atmopsheric Pressure mB	Gas Flow (SS) l/h	CH4 %v/v	CO2 %v/v	GSV CH4	GSV CO2	Characteristic Situation CH4 (from GSV)	Characteristic Situation CO2 (from GSV)
WS112	1.3	2.0	Weathered Coal Measures		1.42	No	12/10/2023	1010	0	0	2.2	0.0000	0.0022	1	1
					0.45	Yes	26/10/2023	986	0	0	1.8	0.0000	0.0018	1	1
					0.36	Yes	02/11/2023	960	0	0	4.1	0.0000	0.0041	1	1
				Borehole flooded not monitored	0.15	Yes	09/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.24	Yes	23/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.27	Yes	30/11/2023	-	-	-	-	-	-	-	-
CP1	1.0	7.0	Made Ground		7.82	No	12/10/2023	1010	1	23.6	18.9	0.2360	0.1890	2	2
					7.64	No	26/10/2023	986	0	21.6	18.2	0.0216	0.0182	1	1
					7.36	No	02/11/2023	961	0	21	10.1	0.0210	0.0101	1	1
					7.24	No	09/11/2023	988	0	19.1	14	0.0191	0.0140	1	1
					7.03	No	23/11/2023	1015	3.5	26.6	13.8	0.9310	0.4830	3	2
					7.02	No	30/11/2023	1004	0.1	31.1	16.3	0.0311	0.0163	1	1
CP2	1.0	9.0	Made Ground		DRY	No	12/10/2023	1010	0	1	2.3	0.0010	0.0023	1	1
					DRY	No	26/10/2023	986	0	6.2	16.9	0.0062	0.0169	1	1
					DRY	No	02/11/2023	961	0	11.2	15.2	0.0112	0.0152	1	1
					DRY	No	09/11/2023	988	0	0	9.7	0.0000	0.0097	1	1
					DRY	No	23/11/2023	1015	0	0	4.7	0.0000	0.0047	1	1
					6.45	No	30/11/2023	0	0	0	5.4	0.0000	0.0054	1	1
CP7	0.5	3.0	Made Ground / Clay / Siltstone		0.93	No	12/10/2023	1009	0	0	0	0.0000	0.0000	1	1
					0.37	Yes	26/10/2023	986	0	0	0.2	0.0000	0.0002	1	1
				Borehole flooded not monitored	0.00	Yes	02/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.49	Yes	09/11/2023	-	-	-	-	-	-	-	-
					0.65	No	23/11/2023	1017	0	0	0	0.0000	0.0000	1	1
					0.66	No	30/11/2023	1004	0	0	0	0.0000	0.0000	1	1
CP11	0.5	3.0	Made Ground / Clay		1.22	No	12/10/2023	1005	0	0	0	0.0000	0.0000	1	1
					1.15	No	26/10/2023	986	0	0	1.5	0.0000	0.0015	1	1
					0.93	No	02/11/2023	960	0	0	0	0.0000	0.0000	1	1
					0.91	No	09/11/2023	988	0	0	0	0.0000	0.0000	1	1
					0.95	No	23/11/2023	1017	0	0	0	0.0000	0.0000	1	1
					1.08	No	30/11/2023	1003	0	0	0	0.0000	0.0000	1	1
WS6	1.0	3.0	Made Ground / Siltstone		DRY	No	12/10/2023	1006	0	0	0.4	0.0000	0.0004	1	1
					2.49	No	26/10/2023	986	0	0	0.6	0.0000	0.0006	1	1
					2.33	No	02/11/2023	960	0	0	0	0.0000	0.0000	1	1
					2.45	No	09/11/2023	988	0	0	0	0.0000	0.0000	1	1
					2.55	No	23/11/2023	1016	0	0	0	0.0000	0.0000	1	1
					2.07	No	30/11/2023	1002	0.1	0	0	0.0000	0.0000	1	1
WS7	1.0	2.0	Made Ground		1.91	No	12/10/2023	1005	0	0.1	0	0.0001	0.0000	1	1
					1.87	No	26/10/2023	986	0	0	0.5	0.0000	0.0005	1	1
					1.88	No	02/11/2023	960	-0.6	0	0	0.0000	0.0000	1	1
					1.88	No	09/11/2023	988	0	0	0	0.0000	0.0000	1	1
					1.89	No	23/11/2023	1016	0	0	0	0.0000	0.0000	1	1
					1.49	No	30/11/2023	1002	0.1	0	0	0.0000	0.0000	1	1
WS8	1.0	6.5	Made Ground		3.12	No	12/10/2023	1006	0	0.1	1.3	0.0001	0.0013	1	1
					2.67	No	26/10/2023	986	0	0	9.2	0.0000	0.0092	1	1
					2.38	No	02/11/2023	960	0	0	5.5	0.0000	0.0055	1	1
					2.25	No	09/11/2023	988	0	0	2.5	0.0000	0.0025	1	1
					2.40	No	23/11/2023	1015	0	0	0	0.0000	0.0000	1	1
					1.91	No	30/11/2023	1002	0	0	0	0.0000	0.0000	1	1
WS9	1.0	3.5	Made Ground / Clay / Siltstone		2.66	No	12/10/2023	1005	0	0	0.3	0.0000	0.0003	1	1
					0.38	Yes	26/10/2023	986	0	0	0	0.0000	0.0000	1	1
				Borehole flooded not monitored	0.38	Yes	02/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.39	Yes	09/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.71	Yes	23/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.54	Yes	30/11/2023	-	-	-	-	-	-	-	-
WS12	0.6	1.3	Made Ground / Clay / Siltstone		0.63	No	12/10/2023	1005	0	0	0.2	0.0000	0.0002	1	1
					0.50	Yes	26/10/2023	986	0	0	0	0.0000	0.0000	1	1
					0.50	Yes	02/11/2023	958	0	0	0	0.0000	0.0000	1	1
				Borehole flooded not monitored	0.51	Yes	09/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.57	Yes	23/11/2023	-	-	-	-	-	-	-	-
				Borehole flooded not monitored	0.54	Yes	30/11/2023	-	-	-	-	-	-	-	-
					Worst Case (including negative flow)				**3.5**	**45.4**	**24.1**	**1.5890**	**0.8435**	3	2
					Worst Case (positive flow readings only)				**3.5**	**45.4**	**24.1**	**1.5890**	**0.8435**	3	2

Appendix 8
Waste Assessment

Waste Classification Report

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

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

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

0BTRQ-B3Z15-JS4CE

Job name

Former Stairfoot Brickworks

Description/Comments

Project

1620015371-002

Site

Stairfoot

Classified by

Name:
Euan Riddle
Date:
03 Nov 2023 12:50 GMT
Telephone:
+44 7814 938 997

Company:
Ramboll UK Ltd
1 Broad Gate
The Headrow
Leeds
LS1 8EQ

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: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Former Stairfoot Brickworks, Wombwell Lane, Barnsley **Post Code** S70 3NS

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of the site as a recycling factory

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

Waste created during Phase II site investigation

Description of the waste

Made Ground comprising mainly part brick waste and reworked clays

Job summary

Related documents

#	Name	Description
1	Former Stairfoot Brickworks	waste stream template used to create this Job

Report

Created by: Euan Riddle

Created date: 03 Nov 2023 12:50 GMT

Classification of sample: WS111_2.2

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

Sample details

Sample name:
WS111_2.2
Sample Depth:
2.2 m
Moisture content:
12.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12.4% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	●	pH			PH		8.27	pH		8.27	pH	8.27 pH		
2	●	confirm TPH has NOT arisen from diesel or petrol					☑							
3		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
7		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
8		naphthalene	601-052-00-2	202-049-5	91-20-3		0.15	mg/kg		0.133	mg/kg	0.0000133 %	✓	
9	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
10	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
11	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
12	●	phenanthrene		201-581-5	85-01-8		0.2	mg/kg		0.178	mg/kg	0.0000178 %	✓	
13	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
14	●	fluoranthene		205-912-4	206-44-0		0.11	mg/kg		0.0979	mg/kg	0.00000979 %	✓	
15	●	pyrene		204-927-3	129-00-0		0.1	mg/kg		0.089	mg/kg	0.0000089 %	✓	

#		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		benzo[a]anthracene				0.09	mg/kg		0.0801	mg/kg	0.00000801 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				0.1	mg/kg		0.089	mg/kg	0.0000089 %	✓	
		601-048-00-0	205-923-4	218-01-9									
18		benzo[b]fluoranthene				0.09	mg/kg		0.0801	mg/kg	0.00000801 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				0.03	mg/kg		0.0267	mg/kg	0.00000267 %	✓	
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
21	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
23	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
24	•	coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-881-7	191-07-1									
25	•	polychlorobiphenyls; PCB				<35	µg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.00011 %		

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)
<LOD	Below limit of detection

Classification of sample: WS106_0.6

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

Sample details

Sample name:
WS106_0.6
Sample Depth:
0.6 m
Moisture content:
21.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 21.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.72 pH		8.72 pH	8.72 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		42.3 mg/kg	1.32	45.854 mg/kg	0.00459 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.9 mg/kg	2.775	4.329 mg/kg	0.000433 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.4 mg/kg	5.719	1.878 mg/kg	0.000188 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30 mg/kg	1.462	35.999 mg/kg	0.0036 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		51 mg/kg	1.126	47.143 mg/kg	0.00471 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	12 mg/kg		9.852 mg/kg	0.000985 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		27.1 mg/kg	1.273	28.315 mg/kg	0.00283 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		46 mg/kg	1.785	67.421 mg/kg	0.00674 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				33	mg/kg	2.469	66.902	mg/kg	0.00669 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			204-371-1	120-12-7									
25		fluoranthene				0.07	mg/kg		0.0575	mg/kg	0.00000575 %	✓	
			205-912-4	206-44-0									
26		pyrene				0.06	mg/kg		0.0493	mg/kg	0.00000493 %	✓	
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.06	mg/kg		0.0493	mg/kg	0.00000493 %	✓	
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.08	mg/kg		0.0657	mg/kg	0.00000657 %	✓	
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.03	mg/kg		0.0246	mg/kg	0.00000246 %	✓	
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.06	mg/kg		0.0493	mg/kg	0.00000493 %	✓	
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.05	mg/kg		0.0411	mg/kg	0.00000411 %	✓	
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.05	mg/kg		0.0411	mg/kg	0.00000411 %	✓	
			205-883-8	191-24-2									
35		4-isopropyltoluene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			202-796-7	99-87-6									
36		n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
37		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
38		sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			205-227-0	135-98-8									
39		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				81	µg/kg		0.0665	mg/kg	0.00000665 %	✓	
			207-300-2	460-00-4									
40		tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
			202-632-4	98-06-6									

#		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		carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-696-0	86-74-8									
42		dibenzofuran				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			205-071-3	132-64-9									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
44		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.035 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 6.65e-06%)

Classification of sample: WS106_1.4

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

Sample details

Sample name:	LoW Code:	
WS106_1.4	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
1.4 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	confirm TPH has NOT arisen from diesel or petrol				☑					
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS105_0.8

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

Sample details

Sample name:
WS105_0.8
Sample Depth:
0.8 m
Moisture content:
15.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 15.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.07 pH		8.07 pH	8.07 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.8 mg/kg	1.32	36.32 mg/kg	0.00363 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2 mg/kg	2.775	4.802 mg/kg	0.00048 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.7 mg/kg	5.719	3.463 mg/kg	0.000346 %	✓	
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 %		<LOD
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39.9 mg/kg	1.462	50.446 mg/kg	0.00504 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		47 mg/kg	1.126	45.776 mg/kg	0.00458 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	119 mg/kg		102.941 mg/kg	0.0103 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		21 mg/kg	1.273	23.118 mg/kg	0.00231 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.215 mg/kg	0.000122 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		46 mg/kg	1.785	71.037 mg/kg	0.0071 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				46	mg/kg	2.469	98.259	mg/kg	0.00983 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.08	mg/kg		0.0692	mg/kg	0.00000692 %	✓	
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.13	mg/kg		0.112	mg/kg	0.0000112 %	✓	
			205-912-4	206-44-0									
26		pyrene				0.1	mg/kg		0.0865	mg/kg	0.00000865 %	✓	
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.09	mg/kg		0.0779	mg/kg	0.00000779 %	✓	
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.1	mg/kg		0.0865	mg/kg	0.00000865 %	✓	
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.09	mg/kg		0.0779	mg/kg	0.00000779 %	✓	
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.04	mg/kg		0.0346	mg/kg	0.00000346 %	✓	
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.08	mg/kg		0.0692	mg/kg	0.00000692 %	✓	
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		4-isopropyltoluene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
36		n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
37		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
38		sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
39		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				92	µg/kg		0.0796	mg/kg	0.00000796 %	✓	
			207-300-2	460-00-4									
40		tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									

#		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		carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-696-0	86-74-8									
42		dibenzofuran				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			205-071-3	132-64-9									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
44		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.0479 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 7.96e-06%)

Classification of sample: WS107_0.2

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

Sample details

Sample name:
WS107_0.2
Sample Depth:
0.2 m
Moisture content:
20.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 20.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.8	pH		7.8	pH	7.8 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		49.6	mg/kg	1.32	54.392	mg/kg	0.00544 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		3.7	mg/kg	2.775	8.529	mg/kg	0.000853 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.9	mg/kg	5.719	4.275	mg/kg	0.000428 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.7	mg/kg	1.462	45.765	mg/kg	0.00458 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		86	mg/kg	1.126	80.421	mg/kg	0.00804 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	27	mg/kg		22.425	mg/kg	0.00224 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		36.1	mg/kg	1.273	38.157	mg/kg	0.00382 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	1.405	2.334	mg/kg	0.000233 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		66	mg/kg	1.785	97.859	mg/kg	0.00979 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		52	mg/kg	2.469	106.647	mg/kg	0.0107 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		8	µg/kg		0.0066	mg/kg	0.000000664 %	✓	
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.73	mg/kg		0.606	mg/kg	0.0000606 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		0.42	mg/kg		0.349	mg/kg	0.0000349 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
30		fluoranthene		205-912-4	206-44-0		0.14	mg/kg		0.116	mg/kg	0.0000116 %	✓	
31		pyrene		204-927-3	129-00-0		0.13	mg/kg		0.108	mg/kg	0.0000108 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.12	mg/kg		0.0997	mg/kg	0.00000997 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.12	mg/kg		0.0997	mg/kg	0.00000997 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.1	mg/kg		0.0831	mg/kg	0.00000831 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0332	mg/kg	0.00000332 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[ghi]perylene		205-883-8	191-24-2		0.06	mg/kg		0.0498	mg/kg	0.00000498 %	✓	
											Total:	0.0503 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

toluene: (conc.: 6.64e-07%)

Classification of sample: HD1

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

Sample details

Sample name:
HD1
Sample Depth:
0.25-0.30 m
Moisture content:
19.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.66	pH		6.66	pH	6.66 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.9	mg/kg	1.32	16.449	mg/kg	0.00164 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.3	mg/kg	2.775	3.017	mg/kg	0.000302 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.6	mg/kg	5.719	2.869	mg/kg	0.000287 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.0955	mg/kg	0.00000955 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.6	mg/kg	1.462	49.615	mg/kg	0.00496 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26	mg/kg	1.126	24.476	mg/kg	0.00245 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	35	mg/kg		29.264	mg/kg	0.00293 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.226	mg/kg	0.0000226 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		32.1	mg/kg	1.273	34.156	mg/kg	0.00342 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1	mg/kg	1.405	1.175	mg/kg	0.000117 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		38	mg/kg	1.785	56.72	mg/kg	0.00567 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		105	mg/kg	2.469	216.786	mg/kg	0.0217 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.05	mg/kg		0.0418	mg/kg	0.00000418 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.08	mg/kg		0.0669	mg/kg	0.00000669 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
30		fluoranthene		205-912-4	206-44-0		0.12	mg/kg		0.1	mg/kg	0.00001 %	✓	
31		pyrene		204-927-3	129-00-0		0.1	mg/kg		0.0836	mg/kg	0.00000836 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.1	mg/kg		0.0836	mg/kg	0.00000836 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.08	mg/kg		0.0669	mg/kg	0.00000669 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.09	mg/kg		0.0753	mg/kg	0.00000753 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0334	mg/kg	0.00000334 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.07	mg/kg		0.0585	mg/kg	0.00000585 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		0.06	mg/kg		0.0502	mg/kg	0.00000502 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[ghi]perylene		205-883-8	191-24-2		0.06	mg/kg		0.0502	mg/kg	0.00000502 %	✓	
											Total:	0.0475 %		

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: HD2

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

Sample details

Sample name:
HD2
Sample Depth:
0.20-0.30 m
Moisture content:
7.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.32 pH		6.32 pH	6.32 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.3 mg/kg	1.32	8.941 mg/kg	0.000894 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2 mg/kg	2.775	5.149 mg/kg	0.000515 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.9 mg/kg	5.719	4.775 mg/kg	0.000477 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14.8 mg/kg	1.462	20.066 mg/kg	0.00201 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		24 mg/kg	1.126	25.066 mg/kg	0.00251 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	16 mg/kg		14.842 mg/kg	0.00148 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.126 mg/kg	0.0000126 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		27.3 mg/kg	1.273	32.228 mg/kg	0.00322 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	1.405	2.607 mg/kg	0.000261 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		20 mg/kg	1.785	33.12 mg/kg	0.00331 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				93	mg/kg	2.469	213.028	mg/kg	0.0213 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
29		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
30		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
31		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
32		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
										Total:	0.04 %		

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: HD3

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

Sample details

Sample name:
HD3
Sample Depth:
0.20-0.30 m
Moisture content:
17.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.12 pH		7.12 pH	7.12 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.8 mg/kg	1.32	14.432 mg/kg	0.00144 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5 mg/kg	2.775	3.555 mg/kg	0.000356 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		1.1 mg/kg	5.719	5.372 mg/kg	0.000537 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43.7 mg/kg	1.462	54.543 mg/kg	0.00545 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	32.69 mg/kg	0.00327 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	44 mg/kg		37.575 mg/kg	0.00376 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		37.4 mg/kg	1.273	40.645 mg/kg	0.00406 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		37 mg/kg	1.785	56.406 mg/kg	0.00564 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		142	mg/kg	2.469	299.436	mg/kg	0.0299 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.09	mg/kg		0.0769	mg/kg	0.00000769 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.2	mg/kg		0.171	mg/kg	0.0000171 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
30		fluoranthene		205-912-4	206-44-0		0.19	mg/kg		0.162	mg/kg	0.0000162 %	✓	
31		pyrene		204-927-3	129-00-0		0.16	mg/kg		0.137	mg/kg	0.0000137 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.13	mg/kg		0.111	mg/kg	0.0000111 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.14	mg/kg		0.12	mg/kg	0.000012 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.17	mg/kg		0.145	mg/kg	0.0000145 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.06	mg/kg		0.0512	mg/kg	0.00000512 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.13	mg/kg		0.111	mg/kg	0.0000111 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		0.08	mg/kg		0.0683	mg/kg	0.00000683 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[ghi]perylene		205-883-8	191-24-2		0.09	mg/kg		0.0769	mg/kg	0.00000769 %	✓	
											Total:	0.0587 %		

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: HD4

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

Sample details

Sample name:
HD4
Sample Depth:
0.10-0.30 m
Moisture content:
7.2%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.36 pH		8.36 pH	8.36 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.6 mg/kg	1.32	4.434 mg/kg	0.000443 %	✓	
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 %		<LOD
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3 mg/kg	5.719	1.601 mg/kg	0.00016 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.533 mg/kg	0.0000533 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17.5 mg/kg	1.462	23.859 mg/kg	0.00239 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15 mg/kg	1.126	15.754 mg/kg	0.00158 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	40 mg/kg		37.313 mg/kg	0.00373 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		4.5 mg/kg	1.273	5.342 mg/kg	0.000534 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		9 mg/kg	1.785	14.988 mg/kg	0.0015 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				85	mg/kg	2.469	195.793	mg/kg	0.0196 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				123	mg/kg		114.739	mg/kg	0.0115 %	✓	
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				0.17	mg/kg		0.159	mg/kg	0.0000159 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				0.06	mg/kg		0.056	mg/kg	0.0000056 %	✓	
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				0.05	mg/kg		0.0466	mg/kg	0.00000466 %	✓	
			201-695-5	86-73-7									
28		phenanthrene				0.86	mg/kg		0.802	mg/kg	0.0000802 %	✓	
			201-581-5	85-01-8									
29		anthracene				0.25	mg/kg		0.233	mg/kg	0.0000233 %	✓	
			204-371-1	120-12-7									
30		fluoranthene				1.84	mg/kg		1.716	mg/kg	0.000172 %	✓	
			205-912-4	206-44-0									
31		pyrene				1.51	mg/kg		1.409	mg/kg	0.000141 %	✓	
			204-927-3	129-00-0									
32		benzo[a]anthracene				1	mg/kg		0.933	mg/kg	0.0000933 %	✓	
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				1.08	mg/kg		1.007	mg/kg	0.000101 %	✓	
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				1.33	mg/kg		1.241	mg/kg	0.000124 %	✓	
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				0.52	mg/kg		0.485	mg/kg	0.0000485 %	✓	
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				1.13	mg/kg		1.054	mg/kg	0.000105 %	✓	
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				0.75	mg/kg		0.7	mg/kg	0.00007 %	✓	
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				0.21	mg/kg		0.196	mg/kg	0.0000196 %	✓	
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				0.68	mg/kg		0.634	mg/kg	0.0000634 %	✓	
			205-883-8	191-24-2									
										Total:	0.043 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0115%)

Classification of sample: HD5

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

Sample details

Sample name:
HD5
Sample Depth:
0.00-0.20 m
Moisture content:
11.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.65	pH		6.65	pH	6.65 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		26.1	mg/kg	1.32	30.906	mg/kg	0.00309 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.7	mg/kg	2.775	4.231	mg/kg	0.000423 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.8	mg/kg	5.719	4.103	mg/kg	0.00041 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43	mg/kg	1.462	56.365	mg/kg	0.00564 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36	mg/kg	1.126	36.352	mg/kg	0.00364 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	56	mg/kg		50.224	mg/kg	0.00502 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		32.7	mg/kg	1.273	37.322	mg/kg	0.00373 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	1.405	2.52	mg/kg	0.000252 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		42	mg/kg	1.785	67.245	mg/kg	0.00672 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				124	mg/kg	2.469	274.612	mg/kg	0.0275 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				0.17	mg/kg		0.152	mg/kg	0.0000152 %	✓	
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				84	mg/kg		75.336	mg/kg	0.00753 %	✓	
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				0.23	mg/kg		0.206	mg/kg	0.0000206 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				0.45	mg/kg		0.404	mg/kg	0.0000404 %	✓	
			201-581-5	85-01-8									
29		anthracene				0.08	mg/kg		0.0717	mg/kg	0.00000717 %	✓	
			204-371-1	120-12-7									
30		fluoranthene				0.48	mg/kg		0.43	mg/kg	0.000043 %	✓	
			205-912-4	206-44-0									
31		pyrene				0.4	mg/kg		0.359	mg/kg	0.0000359 %	✓	
			204-927-3	129-00-0									
32		benzo[a]anthracene				0.21	mg/kg		0.188	mg/kg	0.0000188 %	✓	
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				0.32	mg/kg		0.287	mg/kg	0.0000287 %	✓	
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				0.35	mg/kg		0.314	mg/kg	0.0000314 %	✓	
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				0.13	mg/kg		0.117	mg/kg	0.0000117 %	✓	
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				0.21	mg/kg		0.188	mg/kg	0.0000188 %	✓	
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				0.16	mg/kg		0.143	mg/kg	0.0000143 %	✓	
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				0.16	mg/kg		0.143	mg/kg	0.0000143 %	✓	
			205-883-8	191-24-2									
										Total:	0.0644 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00753%)

Classification of sample: HD6

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

Sample details

Sample name:
HD6
Sample Depth:
0.15-0.30 m
Moisture content:
10.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 10.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.47 pH		7.47 pH	7.47 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		22.5 mg/kg	1.32	26.884 mg/kg	0.00269 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5 mg/kg	2.775	3.767 mg/kg	0.000377 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		1.3 mg/kg	5.719	6.728 mg/kg	0.000673 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.207 mg/kg	0.0000207 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35.8 mg/kg	1.462	47.352 mg/kg	0.00474 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.624 mg/kg	0.00336 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	43 mg/kg		38.914 mg/kg	0.00389 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.245 mg/kg	0.0000245 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		26.7 mg/kg	1.273	30.75 mg/kg	0.00307 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	1.405	2.543 mg/kg	0.000254 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		35 mg/kg	1.785	56.544 mg/kg	0.00565 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		95	mg/kg	2.469	212.292	mg/kg	0.0212 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
16		phenol	604-001-00-2	203-632-7	108-95-2		0.88	mg/kg		0.796	mg/kg	0.0000796 %	✓	
17		TPH (C6 to C40) petroleum group			TPH		239	mg/kg		216.29	mg/kg	0.0216 %	✓	
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.34	mg/kg		0.308	mg/kg	0.0000308 %	✓	
25		acenaphthylene		205-917-1	208-96-8		0.06	mg/kg		0.0543	mg/kg	0.00000543 %	✓	
26		acenaphthene		201-469-6	83-32-9		0.06	mg/kg		0.0543	mg/kg	0.00000543 %	✓	
27		fluorene		201-695-5	86-73-7		0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
28		phenanthrene		201-581-5	85-01-8		0.65	mg/kg		0.588	mg/kg	0.0000588 %	✓	
29		anthracene		204-371-1	120-12-7		0.15	mg/kg		0.136	mg/kg	0.0000136 %	✓	
30		fluoranthene		205-912-4	206-44-0		0.81	mg/kg		0.733	mg/kg	0.0000733 %	✓	
31		pyrene		204-927-3	129-00-0		0.69	mg/kg		0.624	mg/kg	0.0000624 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.41	mg/kg		0.371	mg/kg	0.0000371 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.5	mg/kg		0.452	mg/kg	0.0000452 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.58	mg/kg		0.525	mg/kg	0.0000525 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.22	mg/kg		0.199	mg/kg	0.0000199 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.42	mg/kg		0.38	mg/kg	0.000038 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		0.3	mg/kg		0.271	mg/kg	0.0000271 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.08	mg/kg		0.0724	mg/kg	0.00000724 %	✓	
39		benzo[ghi]perylene		205-883-8	191-24-2		0.3	mg/kg		0.271	mg/kg	0.0000271 %	✓	
											Total:	0.0684 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0216%)

Classification of sample: HD7

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

Sample details

Sample name:
HD7
Sample Depth:
0.15-0.30 m
Moisture content:
11.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.03	pH		7.03	pH	7.03 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		23.9	mg/kg	1.32	28.276	mg/kg	0.00283 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5	mg/kg	2.775	3.73	mg/kg	0.000373 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.6	mg/kg	5.719	3.075	mg/kg	0.000307 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		86	mg/kg	1.462	112.629	mg/kg	0.0113 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		39	mg/kg	1.126	39.346	mg/kg	0.00393 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	64	mg/kg		57.348	mg/kg	0.00573 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		28.2	mg/kg	1.273	32.157	mg/kg	0.00322 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	1.405	2.518	mg/kg	0.000252 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		55	mg/kg	1.785	87.98	mg/kg	0.0088 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		109	mg/kg	2.469	241.177	mg/kg	0.0241 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
17		TPH (C6 to C40) petroleum group			TPH		88	mg/kg		78.853	mg/kg	0.00789 %	✓	
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.13	mg/kg		0.116	mg/kg	0.0000116 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.31	mg/kg		0.278	mg/kg	0.0000278 %	✓	
29		anthracene		204-371-1	120-12-7		0.06	mg/kg		0.0538	mg/kg	0.00000538 %	✓	
30		fluoranthene		205-912-4	206-44-0		0.4	mg/kg		0.358	mg/kg	0.0000358 %	✓	
31		pyrene		204-927-3	129-00-0		0.36	mg/kg		0.323	mg/kg	0.0000323 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.22	mg/kg		0.197	mg/kg	0.0000197 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.26	mg/kg		0.233	mg/kg	0.0000233 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.28	mg/kg		0.251	mg/kg	0.0000251 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.11	mg/kg		0.0986	mg/kg	0.00000986 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.19	mg/kg		0.17	mg/kg	0.000017 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		0.15	mg/kg		0.134	mg/kg	0.0000134 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[ghi]perylene		205-883-8	191-24-2		0.15	mg/kg		0.134	mg/kg	0.0000134 %	✓	
											Total:	0.0692 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00789%)

Classification of sample: HD8

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

Sample details

Sample name:
HD8
Sample Depth:
0.20-0.30 m
Moisture content:
14.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.01 pH		8.01 pH	8.01 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.2 mg/kg	1.32	7.124 mg/kg	0.000712 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.2 mg/kg	2.775	2.899 mg/kg	0.00029 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.1 mg/kg	5.719	0.498 mg/kg	0.0000498 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.2 mg/kg	1.462	51.135 mg/kg	0.00511 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	20.578 mg/kg	0.00206 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		9.574 mg/kg	0.000957 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.118 mg/kg	0.0000118 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		41.4 mg/kg	1.273	45.853 mg/kg	0.00459 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	1.405	2.446 mg/kg	0.000245 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		28 mg/kg	1.785	43.503 mg/kg	0.00435 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		67	mg/kg	2.469	143.989	mg/kg	0.0144 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
30		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
31		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
33		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
											Total:	0.0368 %		

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: HD9

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

Sample details

Sample name:
HD9
Sample Depth:
0.10-0.25 m
Moisture content:
17.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.31	pH		6.31	pH	6.31 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		40.1	mg/kg	1.32	44.907	mg/kg	0.00449 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2.1	mg/kg	2.775	4.943	mg/kg	0.000494 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		1.9	mg/kg	5.719	9.217	mg/kg	0.000922 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.7	mg/kg	1.462	50.454	mg/kg	0.00505 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		94	mg/kg	1.126	89.765	mg/kg	0.00898 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	110	mg/kg		93.299	mg/kg	0.00933 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.23	mg/kg	0.000023 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		41.4	mg/kg	1.273	44.686	mg/kg	0.00447 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	1.405	2.383	mg/kg	0.000238 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		43	mg/kg	1.785	65.109	mg/kg	0.00651 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		242	mg/kg	2.469	506.845	mg/kg	0.0507 %	✓	
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				3.9	mg/kg	1.884	6.232	mg/kg	0.000623 %	✓	
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		455	mg/kg		385.92	mg/kg	0.0386 %	✓	
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		7	µg/kg		0.0059	mg/kg	0.000000594 %	✓	
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		1.37	mg/kg		1.162	mg/kg	0.000116 %	✓	
25		acenaphthylene		205-917-1	208-96-8		0.18	mg/kg		0.153	mg/kg	0.0000153 %	✓	
26		acenaphthene		201-469-6	83-32-9		0.08	mg/kg		0.0679	mg/kg	0.00000679 %	✓	
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		0.94	mg/kg		0.797	mg/kg	0.0000797 %	✓	
29		anthracene		204-371-1	120-12-7		0.19	mg/kg		0.161	mg/kg	0.0000161 %	✓	
30		fluoranthene		205-912-4	206-44-0		1.78	mg/kg		1.51	mg/kg	0.000151 %	✓	
31		pyrene		204-927-3	129-00-0		1.59	mg/kg		1.349	mg/kg	0.000135 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.01	mg/kg		0.857	mg/kg	0.0000857 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		1.23	mg/kg		1.043	mg/kg	0.000104 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.66	mg/kg		1.408	mg/kg	0.000141 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.65	mg/kg		0.551	mg/kg	0.0000551 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.25	mg/kg		1.06	mg/kg	0.000106 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		0.95	mg/kg		0.806	mg/kg	0.0000806 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.22	mg/kg		0.187	mg/kg	0.0000187 %	✓	
39		benzo[ghi]perylene		205-883-8	191-24-2		0.91	mg/kg		0.772	mg/kg	0.0000772 %	✓	
											Total:	0.132 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

toluene: (conc.: 5.94e-07%)

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0386%)

Classification of sample: TP101

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

Sample details

Sample name:
TP101
Sample Depth:
+1.50-0.00 m
Moisture content:
15.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.31 pH		7.31 pH	7.31 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.8 mg/kg	1.32	3.212 mg/kg	0.000321 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.3 mg/kg	2.775	3.135 mg/kg	0.000313 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		1.7 mg/kg	5.719	8.447 mg/kg	0.000845 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14.9 mg/kg	1.462	18.92 mg/kg	0.00189 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	33.258 mg/kg	0.00333 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	15 mg/kg		13.032 mg/kg	0.0013 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		31.2 mg/kg	1.273	34.496 mg/kg	0.00345 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.221 mg/kg	0.000122 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		23 mg/kg	1.785	35.673 mg/kg	0.00357 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				155	mg/kg	2.469	332.529	mg/kg	0.0333 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
29		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
30		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
31		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
32		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0524 %		

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: TP102

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

Sample details

Sample name:
TP102
Sample Depth:
2.20-2.40 m
Moisture content:
17.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.8	pH		7.8	pH	7.8 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.1	mg/kg	1.32	11.388	mg/kg	0.00114 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.6	mg/kg	2.775	3.792	mg/kg	0.000379 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3	mg/kg	5.719	1.465	mg/kg	0.000147 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.6	mg/kg	1.462	50.674	mg/kg	0.00507 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	27.883	mg/kg	0.00279 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	21	mg/kg		17.933	mg/kg	0.00179 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.231	mg/kg	0.0000231 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		45.9	mg/kg	1.273	49.882	mg/kg	0.00499 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		31	mg/kg	1.785	47.259	mg/kg	0.00473 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		154	mg/kg	2.469	324.741	mg/kg	0.0325 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.05	mg/kg		0.0427	mg/kg	0.00000427 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
30		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
31		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
33		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
											Total:	0.0577 %		

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: TP103

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

Sample details

Sample name:
TP103
Sample Depth:
+0.90-0.00 m
Moisture content:
19.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.01 pH		8.01 pH	8.01 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.3 mg/kg	1.32	9.14 mg/kg	0.000914 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.4 mg/kg	2.775	3.241 mg/kg	0.000324 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.8 mg/kg	5.719	3.816 mg/kg	0.000382 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.4 mg/kg	1.462	41.933 mg/kg	0.00419 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	26.293 mg/kg	0.00263 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	21 mg/kg		17.515 mg/kg	0.00175 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		36.2 mg/kg	1.273	38.422 mg/kg	0.00384 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		28 mg/kg	1.785	41.689 mg/kg	0.00417 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		120	mg/kg	2.469	247.136	mg/kg	0.0247 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		41	mg/kg		34.195	mg/kg	0.00342 %	✓	
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.05	mg/kg		0.0417	mg/kg	0.00000417 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		0.07	mg/kg		0.0584	mg/kg	0.00000584 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
30		fluoranthene		205-912-4	206-44-0		0.07	mg/kg		0.0584	mg/kg	0.00000584 %	✓	
31		pyrene		204-927-3	129-00-0		0.06	mg/kg		0.05	mg/kg	0.000005 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
33		chrysene	601-048-00-0	205-923-4	218-01-9		0.06	mg/kg		0.05	mg/kg	0.000005 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.06	mg/kg		0.05	mg/kg	0.000005 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.02	mg/kg		0.0167	mg/kg	0.00000167 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
											Total:	0.0467 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00342%)

Classification of sample: WS102_3.8

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

Sample details

Sample name:
WS102_3.8
Sample Depth:
3.8 m
Moisture content:
19.3%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.39 pH		8.39 pH	8.39 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		25.7 mg/kg	1.32	28.443 mg/kg	0.00284 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5 mg/kg	2.775	3.49 mg/kg	0.000349 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.8 mg/kg	5.719	3.835 mg/kg	0.000384 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		56.8 mg/kg	1.462	69.586 mg/kg	0.00696 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		43 mg/kg	1.126	40.581 mg/kg	0.00406 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	54 mg/kg		45.264 mg/kg	0.00453 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2 mg/kg	1.353	2.269 mg/kg	0.000227 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		31 mg/kg	1.273	33.068 mg/kg	0.00331 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				10 mg/kg	1.405	11.777 mg/kg	0.00118 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		61 mg/kg	1.785	91.279 mg/kg	0.00913 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				94	mg/kg	2.469	194.563	mg/kg	0.0195 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				47	mg/kg		39.396	mg/kg	0.00394 %	✓	
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				10	µg/kg		0.0083	mg/kg	0.000000838 %	✓	
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				0.12	mg/kg		0.101	mg/kg	0.0000101 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				0.05	mg/kg		0.0419	mg/kg	0.00000419 %	✓	
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				0.57	mg/kg		0.478	mg/kg	0.0000478 %	✓	
			201-581-5	85-01-8									
29		anthracene				0.12	mg/kg		0.101	mg/kg	0.0000101 %	✓	
			204-371-1	120-12-7									
30		fluoranthene				0.85	mg/kg		0.712	mg/kg	0.0000712 %	✓	
			205-912-4	206-44-0									
31		pyrene				0.67	mg/kg		0.562	mg/kg	0.0000562 %	✓	
			204-927-3	129-00-0									
32		benzo[a]anthracene				0.39	mg/kg		0.327	mg/kg	0.0000327 %	✓	
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				0.44	mg/kg		0.369	mg/kg	0.0000369 %	✓	
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				0.48	mg/kg		0.402	mg/kg	0.0000402 %	✓	
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				0.18	mg/kg		0.151	mg/kg	0.0000151 %	✓	
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				0.36	mg/kg		0.302	mg/kg	0.0000302 %	✓	
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				0.23	mg/kg		0.193	mg/kg	0.0000193 %	✓	
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				0.06	mg/kg		0.0503	mg/kg	0.00000503 %	✓	
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				0.23	mg/kg		0.193	mg/kg	0.0000193 %	✓	
			205-883-8	191-24-2									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		4-isopropyltoluene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			202-796-7	99-87-6									
41		n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
42		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
43		sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			205-227-0	135-98-8									
44		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				85	µg/kg		0.0712	mg/kg	0.00000712 %	✓	
			207-300-2	460-00-4									
45		tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
			202-632-4	98-06-6									
46		carbazole				63	µg/kg		0.0528	mg/kg	0.00000528 %	✓	
			201-696-0	86-74-8									
47		dibenzofuran				74	µg/kg		0.062	mg/kg	0.0000062 %	✓	
			205-071-3	132-64-9									
48		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
49		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.057 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

toluene: (conc.: 8.38e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.00394%)
4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 7.12e-06%)

Classification of sample: WS112_1.7

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

Sample details

Sample name:
WS112_1.7
Sample Depth:
1.7 m
Moisture content:
9.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.63 pH		7.63 pH	7.63 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.1 mg/kg	1.32	4.948 mg/kg	0.000495 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.1 mg/kg	2.775	2.791 mg/kg	0.000279 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.2 mg/kg	5.719	1.046 mg/kg	0.000105 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39.4 mg/kg	1.462	52.637 mg/kg	0.00526 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	21.612 mg/kg	0.00216 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	15 mg/kg		13.711 mg/kg	0.00137 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.124 mg/kg	0.0000124 %	✓	
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		47.7 mg/kg	1.273	55.487 mg/kg	0.00555 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.284 mg/kg	0.000128 %	✓	
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		23 mg/kg	1.785	37.531 mg/kg	0.00375 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		75 mg/kg	2.469	169.284 mg/kg	0.0169 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
15		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
17		confirm TPH has NOT arisen from diesel or petrol				☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
19		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
20		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
21		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
22		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
23		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
24		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
25		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
26		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
27		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
28		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
29		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
30		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
31		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
32		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
33		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
34		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
35		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
36		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
37		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
38		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
										Total:	0.04 %		

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: WS112_0.2

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

Sample details

Sample name:	LoW Code:	
WS112_0.2	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.2 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
		024-001-00-0	215-607-8	1333-82-0							
2		confirm TPH has NOT arisen from diesel or petrol				☑					
								Total:	0.00005 %		

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

Classification of sample: TP105

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

Sample details

Sample name:
TP105
Sample Depth:
+1.30-0.00 m
Moisture content:
11.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.89 pH		8.89 pH	8.89 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.4 mg/kg	1.32	6.417 mg/kg	0.000642 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.9 mg/kg	2.775	4.746 mg/kg	0.000475 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3 mg/kg	5.719	1.544 mg/kg	0.000154 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.8 mg/kg	1.462	48.412 mg/kg	0.00484 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	30.402 mg/kg	0.00304 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	19 mg/kg		17.102 mg/kg	0.00171 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.122 mg/kg	0.0000122 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		49.2 mg/kg	1.273	56.356 mg/kg	0.00564 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.265 mg/kg	0.000126 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		33 mg/kg	1.785	53.025 mg/kg	0.0053 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		113	mg/kg	2.469	251.153	mg/kg	0.0251 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.07	mg/kg		0.063	mg/kg	0.0000063 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		0.16	mg/kg		0.144	mg/kg	0.0000144 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
30		fluoranthene		205-912-4	206-44-0		0.04	mg/kg		0.036	mg/kg	0.0000036 %	✓	
31		pyrene		204-927-3	129-00-0		0.03	mg/kg		0.027	mg/kg	0.0000027 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
33		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
											Total:	0.0511 %		

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: TP104

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

Sample details

Sample name:
TP104
Sample Depth:
+0.90-0.00 m
Moisture content:
11.7%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.85 pH		8.85 pH	8.85 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.9 mg/kg	1.32	3.428 mg/kg	0.000343 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2 mg/kg	2.775	4.969 mg/kg	0.000497 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.4 mg/kg	5.719	2.048 mg/kg	0.000205 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.205 mg/kg	0.0000205 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.6 mg/kg	1.462	49.198 mg/kg	0.00492 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36 mg/kg	1.126	36.286 mg/kg	0.00363 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	17 mg/kg		15.219 mg/kg	0.00152 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		58.2 mg/kg	1.273	66.307 mg/kg	0.00663 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		34 mg/kg	1.785	54.339 mg/kg	0.00543 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		144	mg/kg	2.469	318.334	mg/kg	0.0318 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
17		TPH (C6 to C40) petroleum group			TPH		<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
20		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
21		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		naphthalene	601-052-00-2	202-049-5	91-20-3		0.07	mg/kg		0.0627	mg/kg	0.00000627 %	✓	
25		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
26		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
28		phenanthrene		201-581-5	85-01-8		0.11	mg/kg		0.0985	mg/kg	0.00000985 %	✓	
29		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
30		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
31		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
33		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
37		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
											Total:	0.0592 %		

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: TP107

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

Sample details

Sample name:
TP107
Sample Depth:
0.60-0.70 m
Moisture content:
17.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.38 pH		8.38 pH	8.38 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		32.5 mg/kg	1.32	36.551 mg/kg	0.00366 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2 mg/kg	2.775	4.728 mg/kg	0.000473 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		3.6 mg/kg	5.719	17.538 mg/kg	0.00175 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.778 mg/kg	0.0000778 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43.3 mg/kg	1.462	53.906 mg/kg	0.00539 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		98 mg/kg	1.126	93.984 mg/kg	0.0094 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	134 mg/kg		114.14 mg/kg	0.0114 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.461 mg/kg	0.0000461 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		33.5 mg/kg	1.273	36.313 mg/kg	0.00363 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	1.405	2.394 mg/kg	0.000239 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		39 mg/kg	1.785	59.303 mg/kg	0.00593 %	✓	

#		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 sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		260	mg/kg	2.469	546.863	mg/kg	0.0547 %	✓	
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				0.9	mg/kg	1.884	1.444	mg/kg	0.000144 %	✓	
16		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
17		TPH (C6 to C40) petroleum group			TPH		747	mg/kg		636.286	mg/kg	0.0636 %	✓	
18		confirm TPH has NOT arisen from diesel or petrol					☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
20		benzene	601-020-00-8	200-753-7	71-43-2		19	µg/kg		0.0162	mg/kg	0.00000162 %	✓	
21		toluene	601-021-00-3	203-625-9	108-88-3		16	µg/kg		0.0136	mg/kg	0.00000136 %	✓	
22		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		xylene	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	µg/kg		0.0162	mg/kg	0.00000162 %	✓	
24		naphthalene	601-052-00-2	202-049-5	91-20-3		1.02	mg/kg		0.869	mg/kg	0.0000869 %	✓	
25		acenaphthylene		205-917-1	208-96-8		0.46	mg/kg		0.392	mg/kg	0.0000392 %	✓	
26		acenaphthene		201-469-6	83-32-9		1.9	mg/kg		1.618	mg/kg	0.000162 %	✓	
27		fluorene		201-695-5	86-73-7		1.57	mg/kg		1.337	mg/kg	0.000134 %	✓	
28		phenanthrene		201-581-5	85-01-8		8.73	mg/kg		7.436	mg/kg	0.000744 %	✓	
29		anthracene		204-371-1	120-12-7		3.22	mg/kg		2.743	mg/kg	0.000274 %	✓	
30		fluoranthene		205-912-4	206-44-0		15.27	mg/kg		13.007	mg/kg	0.0013 %	✓	
31		pyrene		204-927-3	129-00-0		12.86	mg/kg		10.954	mg/kg	0.0011 %	✓	
32		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		6.47	mg/kg		5.511	mg/kg	0.000551 %	✓	
33		chrysene	601-048-00-0	205-923-4	218-01-9		6.42	mg/kg		5.468	mg/kg	0.000547 %	✓	
34		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		7.54	mg/kg		6.422	mg/kg	0.000642 %	✓	
35		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		2.93	mg/kg		2.496	mg/kg	0.00025 %	✓	
36		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		6.56	mg/kg		5.588	mg/kg	0.000559 %	✓	
37		indeno[123-cd]pyrene		205-893-2	193-39-5		3.94	mg/kg		3.356	mg/kg	0.000336 %	✓	
38		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.8	mg/kg		0.681	mg/kg	0.0000681 %	✓	
39		benzo[ghi]perylene		205-883-8	191-24-2		3.4	mg/kg		2.896	mg/kg	0.00029 %	✓	
											Total:	0.168 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinands:

benzene: (conc.: 1.62e-06%)
toluene: (conc.: 1.36e-06%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0636%)
xylene: (conc.: 1.62e-06%)

Classification of sample: TP108

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

Sample details

Sample name:
TP108
Sample Depth:
0.30-0.60 m
Moisture content:
19.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.72	pH		7.72	pH	7.72 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		28.3	mg/kg	1.32	31.242	mg/kg	0.00312 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.9	mg/kg	2.775	4.409	mg/kg	0.000441 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.9	mg/kg	5.719	4.304	mg/kg	0.00043 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.191	mg/kg	0.0000191 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		90	mg/kg	1.462	109.983	mg/kg	0.011 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		**<LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		55	mg/kg	1.126	51.776	mg/kg	0.00518 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	65	mg/kg		54.348	mg/kg	0.00543 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.226	mg/kg	0.0000226 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		28.5	mg/kg	1.273	30.325	mg/kg	0.00303 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	1.405	2.349	mg/kg	0.000235 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		43	mg/kg	1.785	64.183	mg/kg	0.00642 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				126	mg/kg	2.469	260.143	mg/kg	0.026 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				10	µg/kg		0.0083	mg/kg	0.000000836 %	✓	
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				0.18	mg/kg		0.151	mg/kg	0.0000151 %	✓	
			201-581-5	85-01-8									
29		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
30		fluoranthene				0.33	mg/kg		0.276	mg/kg	0.0000276 %	✓	
			205-912-4	206-44-0									
31		pyrene				0.26	mg/kg		0.217	mg/kg	0.0000217 %	✓	
			204-927-3	129-00-0									
32		benzo[a]anthracene				0.18	mg/kg		0.151	mg/kg	0.0000151 %	✓	
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				0.19	mg/kg		0.159	mg/kg	0.0000159 %	✓	
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				0.22	mg/kg		0.184	mg/kg	0.0000184 %	✓	
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				0.08	mg/kg		0.0669	mg/kg	0.00000669 %	✓	
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				0.11	mg/kg		0.092	mg/kg	0.0000092 %	✓	
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				0.11	mg/kg		0.092	mg/kg	0.0000092 %	✓	
			205-883-8	191-24-2									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-881-7	191-07-1									
41		asbestos				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		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									
42		polychlorobiphenyls; PCB				<35	µg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0655 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinand:

toluene: (conc.: 8.36e-07%)

Classification of sample: TP106

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

Sample details

Sample name:
TP106
Sample Depth:
+1.40-0.00 m
Moisture content:
9.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.57 pH		8.57 pH	8.57 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.7 mg/kg	1.32	12.867 mg/kg	0.00129 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.6 mg/kg	2.775	4.044 mg/kg	0.000404 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3 mg/kg	5.719	1.563 mg/kg	0.000156 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.8 mg/kg	1.462	48.985 mg/kg	0.0049 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31 mg/kg	1.126	31.787 mg/kg	0.00318 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	16 mg/kg		14.572 mg/kg	0.00146 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.247 mg/kg	0.0000247 %	✓	
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		48.2 mg/kg	1.273	55.864 mg/kg	0.00559 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		30 mg/kg	1.785	48.776 mg/kg	0.00488 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		113 mg/kg	2.469	254.126 mg/kg	0.0254 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
15		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
16		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
				TPH									
17		confirm TPH has NOT arisen from diesel or petrol				☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
19		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
20		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
21		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
22		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**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]									
23		naphthalene				0.1	mg/kg		0.0911	mg/kg	0.00000911 %	✓	
		601-052-00-2	202-049-5	91-20-3									
24		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-917-1	208-96-8									
25		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-469-6	83-32-9									
26		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			201-695-5	86-73-7									
27		phenanthrene				0.23	mg/kg		0.209	mg/kg	0.0000209 %	✓	
			201-581-5	85-01-8									
28		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			204-371-1	120-12-7									
29		fluoranthene				0.05	mg/kg		0.0455	mg/kg	0.00000455 %	✓	
			205-912-4	206-44-0									
30		pyrene				0.04	mg/kg		0.0364	mg/kg	0.00000364 %	✓	
			204-927-3	129-00-0									
31		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
32		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
33		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
34		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
35		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
36		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
37		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
38		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0514 %		

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: WS101A_0.1

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

Sample details

Sample name:	LoW Code:	
WS101A_0.1	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.1 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
2		confirm TPH has NOT arisen from diesel or petrol					☑					
3		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**
									Total:	0.00005 %		

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

Classification of sample: WS101A_1.0

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

Sample details

Sample name:
WS101A_1.0
Sample Depth:
1 m
Moisture content:
7.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		8	pH		8	pH	8pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.3	mg/kg	1.32	2.817	mg/kg	0.000282 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.7	mg/kg	2.775	4.377	mg/kg	0.000438 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3	mg/kg	5.719	1.592	mg/kg	0.000159 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.2	mg/kg	1.462	51.792	mg/kg	0.00518 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	30.288	mg/kg	0.00303 %	✓	
9	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	14	mg/kg		12.987	mg/kg	0.0013 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1	mg/kg	1.353	0.126	mg/kg	0.0000126 %	✓	
11	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		54.8	mg/kg	1.273	64.692	mg/kg	0.00647 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1	mg/kg	1.405	1.303	mg/kg	0.00013 %	✓	
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		31	mg/kg	1.785	51.336	mg/kg	0.00513 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		zinc { zinc sulphate }				97	mg/kg	2.469	222.191	mg/kg	0.0222 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
16		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
17		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
18		confirm TPH has NOT arisen from diesel or petrol				☑							
19		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
20		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
24		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				0.06	mg/kg		0.0557	mg/kg	0.00000557 %	✓	
			201-581-5	85-01-8									
29		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
30		fluoranthene				0.2	mg/kg		0.186	mg/kg	0.0000186 %	✓	
			205-912-4	206-44-0									
31		pyrene				0.19	mg/kg		0.176	mg/kg	0.0000176 %	✓	
			204-927-3	129-00-0									
32		benzo[a]anthracene				0.14	mg/kg		0.13	mg/kg	0.000013 %	✓	
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				0.14	mg/kg		0.13	mg/kg	0.000013 %	✓	
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				0.21	mg/kg		0.195	mg/kg	0.0000195 %	✓	
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				0.08	mg/kg		0.0742	mg/kg	0.00000742 %	✓	
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				0.16	mg/kg		0.148	mg/kg	0.0000148 %	✓	
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				0.12	mg/kg		0.111	mg/kg	0.0000111 %	✓	
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				0.14	mg/kg		0.13	mg/kg	0.000013 %	✓	
			205-883-8	191-24-2									
										Total:	0.0485 %		

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: WS104_0.4

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

Sample details

Sample name:
WS104_0.4
Sample Depth:
0.4 m
Moisture content:
20.2%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.714%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.714%)

Determinands

Moisture content: 20.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.44 pH		8.44 pH	8.44 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.2 mg/kg	1.32	11.204 mg/kg	0.00112 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.4 mg/kg	2.775	3.233 mg/kg	0.000323 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.4 mg/kg	5.719	1.903 mg/kg	0.00019 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.19 mg/kg	0.000019 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		50.2 mg/kg	1.462	61.04 mg/kg	0.0061 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23 mg/kg	1.126	21.544 mg/kg	0.00215 %	✓	

#		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
8		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	26	mg/kg		21.631	mg/kg	0.00216 %	✓	
9		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
10		nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		21.3	mg/kg	1.273	22.551	mg/kg	0.00226 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
12		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		34	mg/kg	1.785	50.496	mg/kg	0.00505 %	✓	
13		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		95	mg/kg	2.469	195.161	mg/kg	0.0195 %	✓	
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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
15		phenol	604-001-00-2	203-632-7	108-95-2		0.23	mg/kg		0.191	mg/kg	0.0000191 %	✓	
16		TPH (C6 to C40) petroleum group			TPH		8584	mg/kg		7141.431	mg/kg	0.714 %	✓	
17		confirm TPH has NOT arisen from diesel or petrol					☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
19		benzene	601-020-00-8	200-753-7	71-43-2		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
20		toluene	601-021-00-3	203-625-9	108-88-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
21		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
22		xylene	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]		16	µg/kg		0.0133	mg/kg	0.00000133 %	✓	
23		naphthalene	601-052-00-2	202-049-5	91-20-3		0.61	mg/kg		0.507	mg/kg	0.0000507 %	✓	
24		acenaphthylene		205-917-1	208-96-8		0.48	mg/kg		0.399	mg/kg	0.0000399 %	✓	
25		acenaphthene		201-469-6	83-32-9		2.93	mg/kg		2.438	mg/kg	0.000244 %	✓	
26		fluorene		201-695-5	86-73-7		3.74	mg/kg		3.111	mg/kg	0.000311 %	✓	
27		phenanthrene		201-581-5	85-01-8		12.09	mg/kg		10.058	mg/kg	0.00101 %	✓	
28		anthracene		204-371-1	120-12-7		4.34	mg/kg		3.611	mg/kg	0.000361 %	✓	
29		fluoranthene		205-912-4	206-44-0		18.4	mg/kg		15.308	mg/kg	0.00153 %	✓	
30		pyrene		204-927-3	129-00-0		18.98	mg/kg		15.79	mg/kg	0.00158 %	✓	

#		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									
31		benzo[a]anthracene				7.74	mg/kg		6.439	mg/kg	0.000644 %	✓	
		601-033-00-9	200-280-6	56-55-3									
32		chrysene				7.46	mg/kg		6.206	mg/kg	0.000621 %	✓	
		601-048-00-0	205-923-4	218-01-9									
33		benzo[b]fluoranthene				8.74	mg/kg		7.271	mg/kg	0.000727 %	✓	
		601-034-00-4	205-911-9	205-99-2									
34		benzo[k]fluoranthene				3.4	mg/kg		2.829	mg/kg	0.000283 %	✓	
		601-036-00-5	205-916-6	207-08-9									
35		benzo[a]pyrene; benzo[def]chrysene				7.86	mg/kg		6.539	mg/kg	0.000654 %	✓	
		601-032-00-3	200-028-5	50-32-8									
36		indeno[123-cd]pyrene				4.35	mg/kg		3.619	mg/kg	0.000362 %	✓	
			205-893-2	193-39-5									
37		dibenz[a,h]anthracene				0.94	mg/kg		0.782	mg/kg	0.0000782 %	✓	
		601-041-00-2	200-181-8	53-70-3									
38		benzo[ghi]perylene				4.35	mg/kg		3.619	mg/kg	0.000362 %	✓	
			205-883-8	191-24-2									
39		4-isopropyltoluene				48	µg/kg		0.0399	mg/kg	0.00000399 %	✓	
			202-796-7	99-87-6									
40		n-butylbenzene				85	µg/kg		0.0707	mg/kg	0.00000707 %	✓	
			203-209-7	104-51-8									
41		cumene; [1] propylbenzene [2]				5	µg/kg		0.0041	mg/kg	0.000000416 %	✓	
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
42		sec-butylbenzene				61	µg/kg		0.0507	mg/kg	0.00000507 %	✓	
			205-227-0	135-98-8									
43		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				68	µg/kg		0.0566	mg/kg	0.00000566 %	✓	
			207-300-2	460-00-4									
44		tert-butylbenzene				13	µg/kg		0.0108	mg/kg	0.00000108 %	✓	
			202-632-4	98-06-6									
45		carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
			201-696-0	86-74-8									
46		dibenzofuran				631	µg/kg		0.525	mg/kg	0.0000525 %	✓	
			205-071-3	132-64-9									
47		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				932	µg/kg		0.775	mg/kg	0.0000775 %	✓	
		607-317-00-9	204-211-0	117-81-7									
48		dibutyl phthalate; DBP				123	µg/kg		0.102	mg/kg	0.0000102 %	✓	
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.762 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.714%)

xylene: (conc.: 1.33e-06%)
4-isopropyltoluene: (conc.: 3.99e-06%)
n-butylbenzene: (conc.: 7.07e-06%)
cumene; [1] propylbenzene [2]: (conc.: 4.16e-07%)
sec-butylbenzene: (conc.: 5.07e-06%)
4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 5.66e-06%)
tert-butylbenzene: (conc.: 1.08e-06%)

Classification of sample: WS104_2.7

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

Sample details

Sample name:
WS104_2.7
Sample Depth:
2.7 m
Moisture content:
26.4%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.485%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.485%)

Determinands

Moisture content: 26.4% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		TPH (C6 to C40) petroleum group			TPH		6136 mg/kg		4854.43 mg/kg	0.485 %	✓	
2		confirm TPH has NOT arisen from diesel or petrol					☑					
3		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<2 µg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
4		benzene	601-020-00-8	200-753-7	71-43-2		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
5		toluene	601-021-00-3	203-625-9	108-88-3		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
6		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
7		xylene	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]		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
8	●	4-isopropyltoluene				38	µg/kg		0.0301	mg/kg	0.00000301 %	✓	
			202-796-7	99-87-6									
9	●	n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
10		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
11	●	sec-butylbenzene				212	µg/kg		0.168	mg/kg	0.0000168 %	✓	
			205-227-0	135-98-8									
12	●	4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				64	µg/kg		0.0506	mg/kg	0.00000506 %	✓	
			207-300-2	460-00-4									
13	●	tert-butylbenzene				9	µg/kg		0.0071	mg/kg	0.000000712 %	✓	
			202-632-4	98-06-6									
14	●	carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-696-0	86-74-8									
15	●	dibenzofuran				124	µg/kg		0.0981	mg/kg	0.00000981 %	✓	
			205-071-3	132-64-9									
16		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
17		dibutyl phthalate; DBP				128	µg/kg		0.101	mg/kg	0.0000101 %	✓	
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.486 %		

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)
<LOD	Below limit of detection

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.485%)
4-isopropyltoluene: (conc.: 3.01e-06%)
sec-butylbenzene: (conc.: 0.00001%)
4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 5.06e-06%)
tert-butylbenzene: (conc.: 7.12e-07%)

Classification of sample: WS103_2.8

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

Sample details

Sample name:
WS103_2.8
Sample Depth:
2.8 m
Moisture content:
19.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.14 pH		8.14 pH	8.14 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		42.5 mg/kg	1.32	46.801 mg/kg	0.00468 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2.3 mg/kg	2.775	5.324 mg/kg	0.000532 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		2.9 mg/kg	5.719	13.833 mg/kg	0.00138 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		304.6 mg/kg	1.462	371.301 mg/kg	0.0371 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		98 mg/kg	1.126	92.024 mg/kg	0.0092 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	79 mg/kg		65.888 mg/kg	0.00659 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		45.1 mg/kg	1.273	47.868 mg/kg	0.00479 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3 mg/kg	1.405	3.515 mg/kg	0.000352 %	✓	
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		101 mg/kg	1.785	150.378 mg/kg	0.015 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		325 mg/kg	2.469	669.326 mg/kg	0.0669 %	✓	

#		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		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				7	mg/kg	1.884	10.999	mg/kg	0.0011 %	✓	
15		phenol	604-001-00-2	203-632-7	108-95-2		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
16		TPH (C6 to C40) petroleum group			TPH		1020	mg/kg		850.709	mg/kg	0.0851 %	✓	
17		confirm TPH has NOT arisen from diesel or petrol					☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
19		benzene	601-020-00-8	200-753-7	71-43-2		7	µg/kg		0.0058	mg/kg	0.000000584 %	✓	
20		toluene	601-021-00-3	203-625-9	108-88-3		20	µg/kg		0.0167	mg/kg	0.00000167 %	✓	
21		ethylbenzene	601-023-00-4	202-849-4	100-41-4		6	µg/kg		0.005	mg/kg	0.0000005 %	✓	
22		xylene	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]		27	µg/kg		0.0225	mg/kg	0.00000225 %	✓	
23		naphthalene	601-052-00-2	202-049-5	91-20-3		0.31	mg/kg		0.259	mg/kg	0.0000259 %	✓	
24		acenaphthylene		205-917-1	208-96-8		0.1	mg/kg		0.0834	mg/kg	0.00000834 %	✓	
25		acenaphthene		201-469-6	83-32-9		0.16	mg/kg		0.133	mg/kg	0.0000133 %	✓	
26		fluorene		201-695-5	86-73-7		0.16	mg/kg		0.133	mg/kg	0.0000133 %	✓	
27		phenanthrene		201-581-5	85-01-8		1.32	mg/kg		1.101	mg/kg	0.00011 %	✓	
28		anthracene		204-371-1	120-12-7		0.34	mg/kg		0.284	mg/kg	0.0000284 %	✓	
29		fluoranthene		205-912-4	206-44-0		1.98	mg/kg		1.651	mg/kg	0.000165 %	✓	
30		pyrene		204-927-3	129-00-0		1.64	mg/kg		1.368	mg/kg	0.000137 %	✓	
31		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.9	mg/kg		0.751	mg/kg	0.0000751 %	✓	
32		chrysene	601-048-00-0	205-923-4	218-01-9		0.97	mg/kg		0.809	mg/kg	0.0000809 %	✓	
33		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.25	mg/kg		1.043	mg/kg	0.000104 %	✓	
34		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.49	mg/kg		0.409	mg/kg	0.0000409 %	✓	
35		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.97	mg/kg		0.809	mg/kg	0.0000809 %	✓	
36		indeno[123-cd]pyrene		205-893-2	193-39-5		0.68	mg/kg		0.567	mg/kg	0.0000567 %	✓	
37		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.17	mg/kg		0.142	mg/kg	0.0000142 %	✓	
38		benzo[ghi]perylene		205-883-8	191-24-2		0.7	mg/kg		0.584	mg/kg	0.0000584 %	✓	
39		4-isopropyltoluene		202-796-7	99-87-6		67	µg/kg		0.0559	mg/kg	0.00000559 %	✓	

#		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		n-butylbenzene				8	µg/kg		0.0066	mg/kg	0.000000667 %	✓	
			203-209-7	104-51-8									
41		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
42		sec-butylbenzene				13	µg/kg		0.0108	mg/kg	0.00000108 %	✓	
			205-227-0	135-98-8									
43		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				58	µg/kg		0.0484	mg/kg	0.00000484 %	✓	
			207-300-2	460-00-4									
44		tert-butylbenzene				20	µg/kg		0.0167	mg/kg	0.00000167 %	✓	
			202-632-4	98-06-6									
45		carbazole				50	µg/kg		0.0417	mg/kg	0.00000417 %	✓	
			201-696-0	86-74-8									
46		dibenzofuran				80	µg/kg		0.0667	mg/kg	0.00000667 %	✓	
			205-071-3	132-64-9									
47		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
48		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.234 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinands:

benzene: (conc.: 5.84e-07%)
toluene: (conc.: 1.67e-06%)
ethylbenzene: (conc.: 5.0e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0851%)
xylene: (conc.: 2.25e-06%)
4-isopropyltoluene: (conc.: 5.59e-06%)
n-butylbenzene: (conc.: 6.67e-07%)
sec-butylbenzene: (conc.: 1.08e-06%)
4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 4.84e-06%)
tert-butylbenzene: (conc.: 1.67e-06%)

Classification of sample: WS109_0.4

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

Sample details

Sample name:
WS109_0.4
Sample Depth:
0.4 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: 0% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	confirm TPH has NOT arisen from diesel or petrol				☑					
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS109_0.9

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

Sample details

Sample name:
WS109_0.9
Sample Depth:
0.9 m
Moisture content:
13.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.98 pH		8.98 pH	8.98 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.8 mg/kg	1.32	6.747 mg/kg	0.000675 %	✓	
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 %		<LOD
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.5 mg/kg	5.719	2.519 mg/kg	0.000252 %	✓	
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 %		<LOD
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		92.5 mg/kg	1.462	119.114 mg/kg	0.0119 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	9.92 mg/kg	0.000992 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	8 mg/kg		7.048 mg/kg	0.000705 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		8 mg/kg	1.273	8.97 mg/kg	0.000897 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		24 mg/kg	1.785	37.748 mg/kg	0.00377 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		59 mg/kg	2.469	128.36 mg/kg	0.0128 %	✓	

#		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		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				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
15		phenol	604-001-00-2	203-632-7	108-95-2		<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<LOD
16		TPH (C6 to C40) petroleum group			TPH		65 mg/kg		57.269 mg/kg	0.00573 %	✓	
17		confirm TPH has NOT arisen from diesel or petrol					☑					
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<2 µg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
19		benzene	601-020-00-8	200-753-7	71-43-2		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
20		toluene	601-021-00-3	203-625-9	108-88-3		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
21		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<3 µg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
22		xylene	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]		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
23		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
24		acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25		acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26		fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
27		phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
28		anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
29		fluoranthene		205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
30		pyrene		204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
31		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
32		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
33		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
34		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
36		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
37		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
38		benzo[ghi]perylene		205-883-8	191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
39		4-isopropyltoluene		202-796-7	99-87-6		<4 µg/kg		<0.004 mg/kg	<0.0000004 %		<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		n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
41		cumene; [1] propylbenzene [2]				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
42		sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			205-227-0	135-98-8									
43		4-Bromofluorobenzene; 1-bromo-4-fluorobenzene				91	µg/kg		0.0802	mg/kg	0.00000802 %	✓	
			207-300-2	460-00-4									
44		tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
			202-632-4	98-06-6									
45		carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-696-0	86-74-8									
46		dibenzofuran				12	µg/kg		0.0106	mg/kg	0.00000106 %	✓	
			205-071-3	132-64-9									
47		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
48		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
										Total:	0.0383 %		

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 because Unlikely to be flammable beneath this concentration

Hazard Statements hit:

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.00573%)
4-Bromofluorobenzene; 1-bromo-4-fluorobenzene: (conc.: 8.02e-06%)

Classification of sample: WS108_0.3

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

Sample details

Sample name:
WS108_0.3
Sample Depth:
0.3 m
Moisture content:
4.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 4.5% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		pH			PH		9.57	pH		9.57	pH	9.57 pH		
2		confirm TPH has NOT arisen from diesel or petrol					☑							
3		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
7		xylene	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]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
8		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
9		acenaphthylene		205-917-1	208-96-8		0.07	mg/kg		0.067	mg/kg	0.0000067 %	✓	
10		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
11		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
12		phenanthrene		201-581-5	85-01-8		0.13	mg/kg		0.124	mg/kg	0.0000124 %	✓	
13		anthracene		204-371-1	120-12-7		0.08	mg/kg		0.0766	mg/kg	0.00000766 %	✓	
14		fluoranthene		205-912-4	206-44-0		1.3	mg/kg		1.244	mg/kg	0.000124 %	✓	
15		pyrene		204-927-3	129-00-0		1.23	mg/kg		1.177	mg/kg	0.000118 %	✓	

#		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		benzo[a]anthracene				0.93	mg/kg		0.89	mg/kg	0.000089 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				0.95	mg/kg		0.909	mg/kg	0.0000909 %	✓	
		601-048-00-0	205-923-4	218-01-9									
18		benzo[b]fluoranthene				1.21	mg/kg		1.158	mg/kg	0.000116 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				0.47	mg/kg		0.45	mg/kg	0.000045 %	✓	
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.82	mg/kg		0.785	mg/kg	0.0000785 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21	•	indeno[123-cd]pyrene				0.59	mg/kg		0.565	mg/kg	0.0000565 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.16	mg/kg		0.153	mg/kg	0.0000153 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23	•	benzo[ghi]perylene				0.56	mg/kg		0.536	mg/kg	0.0000536 %	✓	
			205-883-8	191-24-2									
24	•	coronene				0.09	mg/kg		0.0861	mg/kg	0.00000861 %	✓	
			205-881-7	191-07-1									
25	•	polychlorobiphenyls; PCB				<35	µg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.00084 %		

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)
<LOD	Below limit of detection

Classification of sample: WS108_3.4

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

Sample details

Sample name:
WS108_3.4
Sample Depth:
3.4 m
Moisture content:
13%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.92 pH		6.92 pH	6.92 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.7 mg/kg	1.32	6.66 mg/kg	0.000666 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5 mg/kg	2.775	3.684 mg/kg	0.000368 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.3 mg/kg	5.719	1.518 mg/kg	0.000152 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42 mg/kg	1.462	54.323 mg/kg	0.00543 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		35 mg/kg	1.126	34.873 mg/kg	0.00349 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	16 mg/kg		14.159 mg/kg	0.00142 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		62.9 mg/kg	1.273	70.837 mg/kg	0.00708 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		31 mg/kg	1.785	48.974 mg/kg	0.0049 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		99 mg/kg	2.469	216.337 mg/kg	0.0216 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
15		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
17		confirm TPH has NOT arisen from diesel or petrol				☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
19		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
20		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
21		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
22		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
23		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
24		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
25		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
26		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
27		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
28		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
29		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
30		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
31		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
32		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
33		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
34		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
35		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
36		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
37		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
38		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0493 %		

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: WS110_3.4

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

Sample details

Sample name:	LoW Code:	
WS110_3.4	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.3 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	confirm TPH has NOT arisen from diesel or petrol				☑					
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS110_2.7

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

Sample details

Sample name:
WS110_2.7
Sample Depth:
2.7 m
Moisture content:
8.2%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		6.86 pH		6.86 pH	6.86 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13.5 mg/kg	1.32	16.474 mg/kg	0.00165 %	✓	
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.2 mg/kg	2.775	3.078 mg/kg	0.000308 %	✓	
4	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]		0.2 mg/kg	5.719	1.057 mg/kg	0.000106 %	✓	
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 %		<**LOD**
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		41.1 mg/kg	1.462	55.518 mg/kg	0.00555 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29 mg/kg	1.126	30.176 mg/kg	0.00302 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	13 mg/kg		12.015 mg/kg	0.0012 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
10	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		60 mg/kg	1.273	70.569 mg/kg	0.00706 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		27 mg/kg	1.785	44.547 mg/kg	0.00445 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		100 mg/kg	2.469	228.216 mg/kg	0.0228 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
15		phenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<LOD
				TPH									
17		confirm TPH has NOT arisen from diesel or petrol				☑							
18		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
19		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
20		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
21		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
22		xylene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<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]									
23		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
24		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
25		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
26		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
27		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
28		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
29		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
30		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
31		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
32		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
33		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
34		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
35		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
36		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
37		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
38		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0503 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

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

confirm TPH has NOT arisen from diesel or petrol

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

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

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

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

coronene (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

polychlorobiphenyls; PCB (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
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 1 (23, Sup 7, 100C) 2012

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

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

lead compounds with the exception of those specified elsewhere in this Annex

GB MCL index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2
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 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

divanadium pentaoxide; vanadium pentoxide (EC Number: 215-239-8, CAS Number: 1314-62-1)

GB MCL index number: 023-001-00-8
Description/Comments: Hazard statements H301, H330, H350 added by HazWasteOnline due to ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
Additional Hazard Statement(s): Carc. 1B; H350 , Acute Tox. 3; H301 , Acute Tox. 2; H330
Reason for additional Hazards Statement(s):
20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.

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

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

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

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

4-isopropyltoluene (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Chronic 2; H411

n-butylbenzene (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

sec-butylbenzene (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

4-Bromofluorobenzene; 1-bromo-4-fluorobenzene (EC Number: 207-300-2, CAS Number: 460-00-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336

tert-butylbenzene (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds.

beryllium {beryllium oxide}

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

boron {boric acid; [1] boric acid [2]}

Most common species found in the environment.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case

compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history.

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass.

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Most applicable species.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel(II) oxide (nickel monoxide)}

Most common nickel species.

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.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Only vanadium species available.

zinc {zinc sulphate}

Most common zinc species.

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].

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2023.306.5795.10723 (02 Nov 2023)
HazWasteOnline Database: 2023.306.5795.10723 (02 Nov 2023)

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