



PARADISE STREET, RAMSBOTTOM

REMEDIAL STRATEGY FOR SOIL CONTAMINATION FOR PROJECT ENERGY LTD

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Prepared for:
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This report has been prepared in accordance with GRM's Accredited Quality Procedures

If you have any queries regarding this report please contact the project manager in the first instance.

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1 INTRODUCTION

1.1 PREAMBLE

GRM Development Solutions Ltd (GRM) has been instructed by Project Energy Ltd (Client) to produce a Remedial Strategy For Soil Contamination, for the proposed residential development at Paradise Street, Ramsbottom.

GRM standard limitations of reporting are provided in Appendix A of this report.

The following reports have been used in the preparation of this document:

- LK Consult – Phase 1: Preliminary Risk Assessment, ref: LKC 21 1149, dated May 2021.
- GRM – Ground Investigation at Paradise Street, Ramsbottom, ref: GRM/P10643/LET.1.RevA, dated April 2026.

The Client proposes to refurbish the existing buildings into residential dwellings and will include private gardens and associated infrastructure. A Proposed Development Plan is presented in Appendix B, and a Site Location and Boundary Plan is included as Appendix C.

1.2 OBJECTIVES OF THE REMEDIAL STRATEGY

The principal aims of this document are as follows:

- a) Assess the existing information relating to the soil and groundwater conditions within the area of the site.
- b) Determine a cost and time effective remedial strategy.
- c) Set out the remediation and validation processes to be followed on site to ensure the site developed does not pose a risk to human health and controlled waters.

Whilst every effort has been made to pre-empt the likely requirements of the Local Authority and the Environment Agency, they are likely to have specific requirements that will need to be discussed and addressed at a later date.

2 SITE SETTING AND PERTINENT FINDINGS OF THE PHASE I DESK STUDY

The site is located approximately 100m north east of Ramsbottom town centre. It is currently occupied by a number of vacant terraced properties (10-14 Paradise Street), fronting onto Paradise Street, with two external yard areas to the rear, separated by a masonry wall.

The Phase I Desk Study revealed the following potential geo-environmental hazards, relating to soil contamination, for the proposed development.

Potential Contamination Hazard	Potential Receptor	Perceived Risk
Potentially contaminated made ground associated with previous site use as a blacksmiths, vehicle garage, and joinery.	End Users, Construction Workers a Maintenance Workers	Moderate
	Controlled Waters (Principal Aquifer)	Moderate
	Water Supply Pipes (End Users)	Moderate

3 PERTINENT FINDINGS OF THE PHASE II SITE INVESTIGATION

3.1 ENCOUNTERED GROUND CONDITIONS

- Made ground, which was both cohesive and granular, was encountered in all but one exploratory hole (WS105), from surface to a maximum depth of 1.6m below existing ground level (begl). Clinker was noted in some of the made ground, and a hydrocarbon odour was noted in soils recovered between 1.3m and 1.6m begl in one exploratory hole (WS103).
- Strata considered to represent Alluvium were encountered in all exploratory holes beneath the made ground or, locally, from ground level (WS105). Where proven, the base of these strata was encountered at depths ranging between 0.72m and 3.3m begl. They generally comprise silty, sandy, gravelly CLAY, but locally included silty, gravelly SAND.
- Strata interpreted as comprising River Terrace Deposits were encountered in some exploratory holes beneath the Alluvium, but were not fully penetrated. These strata generally comprised silty, gravelly SAND, but locally included sandy, gravelly CLAY.
- Groundwater was only observed in one exploratory hole (WS101) at a depth of 2.6m begl, interpreted as being within granular River Terrace Deposits.

3.2 RISK ASSESSMENT FOR SOIL CONTAMINATION

3.2.1 Human Health

End Users

The chemical analysis that the concentrations of the following contaminants in the made ground are in excess of the following Tier 1 Assessment Criteria (TAC) for residential end use with plant uptake:

Exploratory Hole	Contaminant	Concentration (mg/kg)	TAC (mg/kg)
WS103 at 0.2m begl	Arsenic	150	37
	Lead	1700	200

Elevated concentrations of contaminants were recorded in only one of the five exploratory holes (WS103) and it is therefore considered that contamination is restricted to the northern yard area. Any made ground within the blacksmiths/garage is thin enough that it will be wholly removed during construction of the new floor slab.

Site Workers

The risk to site workers from the identified soil contamination was considered negligible, and so no remedial measures were considered necessary; however, the use of suitable PPE and adoption of appropriate working protocols were to be enforced during the ground works stage of construction.

The presence of potential asbestos containing materials within some of the existing buildings would also need to be considered prior to any demolition, refurbishment and/or construction.

3.2.2 Controlled Waters

The made ground was considered to be a potential source of contamination for controlled waters; however, given the prevalence of cohesive strata beneath the site, it was considered that a viable pathway to controlled waters did not exist, and so soil leachate testing was not undertaken.

3.2.3 Water Supply Pipes

It was considered that, based on the UKWIR guidance, the concentrations of contaminants recorded (specifically the hydrocarbons) were such that Barrier water supply pipes would be required where they were in contact with made ground; however, it was recommended that the local water supply company for the site be contacted to confirm their requirements with regard to pipe materials.

From the investigation works completed the following Phase II Conceptual Model has been produced:

3.3 PHASE II CONCEPTUAL MODEL

HUMAN HEALTH			
Source	Pathway	Receptor	Remedial Solution
Localised contaminated made ground in northern yard area.	Indoor and outdoor inhalation of soil/soil dust, ingestion of, and dermal contact with contaminated soil and soil dust, ingestion of vegetables that have taken up contamination and contaminated soil attached to vegetables.	End Users.	A suitable clean soil cap.
		Construction And Maintenance Workers.	
Potential asbestos containing materials associated with buildings.	Inhalation.	End Users.	Survey and removal by specialist contractor, prior to demolition/refurbishment. Use of suitable PPE and adoption of appropriate working protocols.
Contaminated made ground.	Migration of contamination through leaks and joints, degradation of water pipe materials.	End Users.	Allow for PE water supply pipes where in contact with made ground.
CONTROLLED WATERS			
Contaminated made ground.	A viable pathway has not been identified.	Secondary A Aquifer (River Terrace Deposits).	Specific remediation not required.

4 REMEDIAL STRATEGY FOR SOIL CONTAMINATION

The works outlined below are those considered necessary to commence the development of the site in accordance with the requirements of the Local Authority.

It is the responsibility of the Client to ensure that the recommendations given, and the risk assessment on which they have been based, have been approved by the Local Authority prior to development taking place.

4.1 HUMAN HEALTH

Remedial Works

Due to the location of the contaminated soils at the rear of the property, with a retaining wall along the eastern boundary, with no rear access, excavation of all the contaminated material is not considered to represent a viable remedial strategy. Therefore, it is recommended that a suitable clean cap is designed and implemented to protect end-users from any contamination.

It is understood that the area where contamination in excess of the relevant TAC has been identified, will either be covered by hardstanding in its entirety, or will be largely covered with hardstanding, with limited areas of soft landscaping. As such, remediation recommendations for both scenarios are presented below.

Soft Landscaping

If the area is to be soft landscaped it is considered that the use of a soil 600mm thick, clean soil capping layer would break the source-pathway-receptor linkage, and would represent a suitable form of remediation. If current ground levels are to be maintained or reduced, then sufficient materials should be removed to accommodate the capping layer.

Once the suitable 600mm clean cap has been laid, the areas will require inspection by a competent person to verify the thickness of the cap, with evidence of the successful remediation provided by way of photographs. The outcome of these validations would then be reported in a verification report.

Hardstanding

Where hardstanding is present, no further capping of the contamination is required as source-pathway-receptor linkage would be broken. Any end-users will need to be notified of the contamination underlying this area of site, as if the hardstanding is removed, the contaminated soils will be exposed and present a risk to them.

Imported Soils

Soil will need to be imported for the construction of the 600mm thick, clean cap. This will require 300mm of clean subsoil, with a 300mm layer of topsoil laid over the top.

Any imported soil for use in constructing the clean cap will require chemical validation to confirm that it is chemically suitable for use. Samples of the topsoil will need to be analysed for a suite of contaminants including metals, inorganics, speciated PAHs and other contaminants such as, speciated hydrocarbons and asbestos depending on the source. The number of samples that require analysis will depend on the source of the materials. Typically an analysis rate of one sample per two gardens and one sample per four gardens (minimum of three samples per source and material type) applies for generated and virgin soils respectively. It is also recommended that the topsoil be subjected to analysis to BS3882 to confirm that it conforms to this standard.

4.2 UNEXPECTED CONTAMINATION

Should any material suspected of being significantly contaminated be encountered during the redevelopment of the site, GRM should be contacted to undertake additional investigation, if necessary. The local Environmental Health Officer should be contacted and informed of any additional remedial work required.

4.3 DISPOSAL AND SOIL MANAGEMENT

4.3.1 Disposal

Based on the Waste Classification Report presented in Appendix E, it is considered that the made ground will be classed as Hazardous Waste. Early consultation with the receiving landfill site over their particular acceptance criteria may produce cost savings. Reference should be made to the relevant notes presented in Appendix A (x).

4.3.2 Soil Management

Any imported soil will need to be placed in accordance with the methods outlined in the aforementioned documents, taking care not to compact them whilst doing so. Should soils become compacted as part of the building process then allowance should be made for the soils to be loosened and thereby promote aeration and drainage, which will reduce water-logging and subsequent aftercare costs. GRM would recommend that the topsoil is not laid in thicknesses in excess of 300mm to avoid serviceability issues.

Although not identified, if any visible asbestos containing materials (ACMs) within soils are encountered, this will result in the soils being classified as Hazardous Waste. Visible ACMs should be removed, employing appropriate health and safety protocols and where possible should be undertaken prior to disposal.

It is recommended that any materials to be exported are stockpiled and tested to confirm disposal rates, as this may be more cost effective than using the results contained within this report.

5 REPORTING

A Remediation Validation Completion Report will be required by the Local Authority to confirm that the remedial strategy has been implemented appropriately. The report should include the following:

- Verification, by way of photographs and hand-dug pits, that the contaminated made ground has been suitably capped in-situ.
- Details of the source, chemical composition and thickness of any soils imported to form the suitable 600mm thick clean cap or growing medium in areas of soft landscaping, including confirmation that they are suitable for use.
- Copies of haulage notes confirming the import / export of any soils (including any contaminated arisings) will also be required.
- If encountered during construction, details of any unexpected contamination including, location of material and photographs confirming the remediation and/or disposal.



A P P E N D I X A

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GENERAL APPRAISAL COMMENTS

i INFORMATION SOURCES

Where available the following sources have been used for the identification and assessment of potential ground hazards:

- Relevant British Standards
- British Geological Survey (BGS) Geology Map Scale 1:10,000 for local area
- British Geological Survey (BGS) Geology Map Scale 1:50,000/1:63,320
- BGS Memoir
- BGS Borehole Records: <https://mapapps2.bgs.ac.uk/geoindex/home.html>
- BGS online viewer: <https://geologyviewer.bgs.ac.uk>
- Magic Groundwater Vulnerability Maps
- Historical Ordnance Survey (OS) Maps
- Environmental Data Report
- Environment Agency Website: <http://www.environment-agency.gov.uk/>
- Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites, UKWIR, 2010.
- Coal Authority Records / Coal Mining Report
- DEFRA/Environment Agency Contaminated Land publications and DoE Industry Profiles
- BRE Guide BR211 (2023), 'Radon: Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects)'
- UK HSA Radon Maps: <https://www.ukradon.org/information/ukmaps>
- CIRIA C665 'Assessing risks posed by hazardous ground gases to buildings'
- BS8485:2015 +A1: 2019, 'Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'
- Other technical references used throughout this document are detailed in the text.

ii CONTAMINANTS OF CONCERN

The DoE Industry Profiles are normally used to assess likely contaminants from past land use and potential nearby industrial sources. For land uses where no profile is available, likely contaminants of concern are selected by GRM based on past experience of similar sites, a general screening suite of contaminants covered by CLEA and common contaminants from the Industry Profiles.

- | | | |
|------------|-------------------|--|
| · Arsenic | · Copper | · Water soluble sulphate |
| · Cadmium | · Nickel | · PAH (polycyclic aromatic hydrocarbons) |
| · Chromium | · Zinc | |
| · Lead | · Phenols | |
| · Mercury | · cyanide (total) | |
| · Selenium | · pH | |

Asbestos and PCBs are listed in the vast majority of profiles. PCBs are listed as the profiles expect electricity substations and switch boxes on all industrial sites. There is the potential for asbestos containing material to be mixed up with made ground, following any demolition works.

iii CONCEPTUAL MODEL METHODOLOGY

The consideration of contamination is based upon the principles of risk assessment, using the 'source-pathway-receptor' model in order to establish the presence, or potential presence, of a pollutant linkage.

To create a risk, contamination must have the potential to cause harm to susceptible targets or receptors such as humans, the water environment or the built environment. The potential for harm to occur requires three conditions to be satisfied to form a pollutant linkage:

- The presence of substances that may cause harm (SOURCE).
- The presence of a target which may be harmed (RECEPTOR).
- The existence of a plausible migration route between the source and the receptor (PATHWAY).

In the absence of a plausible pollutant linkage there is no risk. Where a potential linkage is identified in order for it not to pose a risk to the identified receptor it must be broken.

iv INTRUSIVE INVESTIGATION SAMPLING METHODOLOGY

The ground investigation (including fieldwork, sampling, monitoring and laboratory analyses) has been designed to identify and assess potential ground related problems and to allow cost effective solutions to be advised. It has been planned on the basis of the desk study, site inspection and the proposed development layout (where available). All fieldwork and soil descriptions were carried out in general accordance with relevant British Standards.

The exploratory holes have been positioned and advanced to depths to determine the general ground/groundwater/gas conditions below the site. A general grid pattern has been adopted, where possible, to provide sufficient information based on the current proposed layout scheme. Some holes have been targeted at particular hazards identified in the Phase I assessment. The resultant exploratory hole density is considered to be commensurate with the complexity of the site conditions and detail of information required for this phase of the investigation.

v GROUND GAS RISK ASSESSMENT METHODOLOGY

Gas monitoring programmes undertaken by GRM are designed to broadly comply with the recommendations outlined in CIRIA Report C665 'Assessing risks posed by hazardous ground gas to buildings' (2007) and BS8576 'Guidance on Investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs) (2013).

To assess the risks posed by ground gases such as radon, carbon dioxide and methane, the relevant current guidance has been used. For radon the site has been assessed following the guidelines in 'Radon: guidance on protective measures for new dwellings (including supplementary advice for extensions, conversions and refurbishment projects) (BR211: 2023)'. For methane and carbon dioxide the primary guidance document used to determine if protection measures are required is *BS8485:2015 Code of practice for the design of protective measures from methane and carbon dioxide ground gases for new buildings*. This uses hazardous gas flow rates (Q_{hg}), which are gas concentrations multiplied by borehole flow rates, to derive a Gas Flow Rate (GSF) for the site. The gas regime is then determined based on the GSF and other limiting factors such as gas concentrations.

Where flow is not recorded during the monitoring a default flow rate of 0.1l/hr will be used in the assessment to produce a positive result.

vi HUMAN HEALTH RISK ASSESSMENT METHODOLOGY

Guidance contained in the Environment Agency's CLEA Reports has been used to assess the risks posed to human health.

For residential developments that include domestic gardens the default Tier 1 Assessment Criteria (TAC) for 'residential land with plant uptake' are used, i.e. a female with a start age class of one and an end age class of six. All pathways are considered including the consumption of home-grown vegetables.

For residential developments that do not include domestic gardens the default Tier 1 Assessment Criteria (TAC) for 'residential land without plant uptake' are used, i.e. a female with a start age class of one and an end age class of six. All pathways are considered except the consumption of home-grown vegetables. For commercial/industrial developments the default Tier 1 Assessment Criteria (TAC) for 'commercial/industrial' are used, i.e. a female with a start age class of sixteen and an end age class of eighteen. All pathways are considered except the consumption of home-grown vegetables.

The TAC used by GRM include Category 4 Screening Levels (C4SLs) published by DEFRA, values calculated by GRM using the CLEA v1.071 risk assessment, and values and Suitable for Use Levels (S4UL) developed by LQM/CIEH. The TAC used in the assessment are selected based on the lowest site specific SOM values returned as part of the chemical analysis.

Where soil chemical analysis results are found to exceed the TAC, Site-Specific Risk Assessments may be undertaken using the CLEA v1.071 risk assessment software using the age classes and pathways described above.

vii RISK TO SITE WORKERS – GENERAL COMMENTS

The risks to site workers are similar to those posed to site end users, although likely to be less severe due to the site workers' shorter exposure to the identified contamination. However, site workers (particularly groundworkers) are more likely to come into direct contact with contaminated soils due to the nature of their work. On this basis ground and construction workers should be provided with basic Personal Protective Equipment based on the site's general health and safety risk assessment, but including as a minimum safety footwear, gloves and overalls.

A site specific risk assessment should be carried out for all hazards identified within the ground investigation in accordance with current health and safety legislation. This assessment should identify any measures required to further reduce risks i.e. providing further Personal Protective Equipment, welfare facilities and if necessary preventing access to certain areas.

Demolition and dismantling of existing structures on the site must be carried out to a safe and acceptable standard, in accordance with current UK guidance and best practice. Whilst not ground related, asbestos and hazardous substances surveys should be conducted prior to any demolition.

Any unusual colours, odours and suspicious ground should be reported immediately to site management and then GRM.

Whilst this appraisal has considered the long-term effects of contamination, GRM can also help during the formulation of Health and Safety documentation, if required.

viii CONTROLLED WATERS RISK ASSESSMENT METHODOLOGY

Where the desk study and fieldwork do not reveal a potential source of contamination no leachate or groundwater testing will be performed. Where a potential source is identified the testing will comprise leachate testing on the material considered most likely to pose a risk, groundwater testing will be undertaken if water is present at shallow depth.

The UK Drinking Water Standards (UKDWS) or Environmental Quality Standards (EQS) are usually adopted for comparison with the leachate/groundwater test results. When the most sensitive receptor is considered to be the aquifer (groundwater) UKDWS will be adopted as the Initial Tier 1 screening values.

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Where the most sensitive receptor is a surface water feature the EQS values will be used as Initial Tier I Screening values.

ix CONSTRUCTION MATERIALS RISK ASSESSMENT METHODOLOGY

The 'screening levels' adopted for the assessment of risk to construction materials are taken from the following documents:

- UK Water Industry Research (UKWIR) Contamination thresholds for sub-surface water pipes, for the protection of buried pipes.
- Building Research Establishment (BRE) Special Digest SD1 (2005), 'Concrete in Aggressive Ground', for the protection of buried concrete.

x WASTE DISPOSAL, SITE WASTE MANAGEMENT PLANS AND MATERIAL MANAGEMENT PLANS

Under current Waste Management Regulations, waste soil materials produced from the site will require characterisation to enable it to be disposed of correctly.

The chemical analysis results included in this report should be provided to the relevant landfill operators to establish the characterisation of the waste, confirm its suitability for landfill disposal and provide estimated costings. If material is classified as hazardous, then the site will need to be registered with the Environment Agency prior to the movement of the waste. Depending on the receiving landfill's current permit, further chemical analysis, incorporating Waste Acceptance Criteria (WAC) leachate analysis, may be required.

All materials removed from the site will be classified as 'waste' and therefore must be removed by a suitably licensed carrier of waste. This applies whether or not the waste is contaminated. All waste removed to landfill will attract Landfill Tax.

The developer/builder is likely to be classed as the waste producer and therefore, has a duty of care to ensure that all waste is disposed of appropriately. This includes ensuring the waste carrier is licensed and disposes of the waste to a suitably licensed landfill site. They are also required to keep a paper trail from 'cradle to grave' including copies of the waste disposal tickets.

Efficient materials management on site is recommended as it can lead to significant cost savings when compared to the traditional side casting or single stockpile of arisings. GRM can assist in the production of Material Management Plans under the CL:AIRE Definition of Waste: Code of Practice. The DoWCoP enables:

- The direct transfer and re-use of clean naturally occurring soil materials between sites, and
- The re-use of both contaminated and uncontaminated materials on their site of origin and between sites within defined Cluster projects.

GRM can also undertake the role of Qualified Person and submit the DoW CoP project Declaration.

Likewise making the site as volume neutral as possible will reduce the costs of development. Whilst not a statutory requirement, Site Waste Management Plans allow better waste management practices, help to reduce the amount of waste produced and identify best environmental disposal options. Implementing a Site Waste Management Plan (SWMP) can reduce costs (increasing business profits) and maximise resource efficiency.

xi GEOTECHNICAL ASSESSMENT GENERAL COMMENTS

Where finished floor levels of proposed structures have not been provided by the Client, then for the purposes of initial assessment, GRM will assume that finished levels will not vary appreciably from the existing ground levels. If the depths of any underground engineering works (i.e. sewers, pumping stations etc.) are unknown they will not be taken in to account in the assessment and it will be assumed that any such works will not compromise foundation or ground stability.

Should the development proposals or finished levels be different from these assumptions then the comments/recommendations in the Geotechnical Assessment may require revising.

It should be noted that the results of window sampling and/or cable percussive boreholes may not give a true indication of a soils actual engineering properties (i.e. stability, mass structure etc). GRM consider that that prior to development trial pitting should be undertaken to confirm the recommendations in the Geotechnical Assessment.

xii GEOTECHNICAL ASSESSMENT – ENGINEERING GROUND TREATMENT

Near surface soils have the potential to be disturbed by weathering and site traffic. Precautions should always be taken to avoid this, as excessive disturbance may leads to more onerous floor slab designs, road cap thickness and increased amounts of off-site disposal etc.

Near surface soils may need treatment or reinforcing to allow safe movement of construction plant and labour. An assessment by the contractor should be undertaken once the type of machinery/plant needed to complete the development is known.

xiii GEOTECHNICAL ASSESSMENT – EXCAVATIONS

Excavation instability (over-break) can result in damage to existing services or structures (e.g. foundations, roads or boundary walls/fences) both on and off-site, as well as increased foundation concrete costs. In order to minimise this, all excavations deeper than 1.2m deep (or any excavation within 1.5m of any existing structure or service) should be supported. Full support should be provided to the full depth of all near vertically sided excavations in made ground, soft and very soft clays and granular soils. A reduction to intermediate support should be acceptable within firm and stiffer natural clays.

Wherever possible, man entry into excavations should be prevented; however, where this is not possible, entry to, and time spent in, excavations should be kept to a minimum.

The build program should be tailored to reflect the impact that deep excavations through potentially unstable strata can have on adjacent properties, so that they are not undermined.

All excavations on site should be in accordance with HSE guidelines and stability should be practically maintained at all times. Reference should be made to HSE construction information sheet No. 8 (Revision 1) 'Safety in Excavations'.

Care should be taken to ensure that falls from excavation faces do not adversely affect the integrity of foundation concrete.

If contaminated water enters excavations it should be removed and transported to an appropriate treatment facility by a suitably licensed carrier before construction begins.

xiv GEOTECHNICAL ASSESSMENT – SUBSTRUCTURES

Where practicable, existing buried construction should be fully removed; however, if this is not practicable all new foundations should be carried down to fully penetrate it and it should be broken well away from all new structures.

There may be existing structures and/or infrastructure in close proximity to the proposed development. New build foundations may be constructed next to pavements with existing underground services beneath them, or excavations may be required near existing footings associated with adjacent properties. These potential hazards need to be taken into consideration when designing foundations and the groundworker needs to be made aware of their potential impact during the redevelopment works. Foundations close to existing underground services or buildings may require alternative foundation techniques (such as piling) to protect the integrity of these structures.

The contractor for the works should carry them out in such a fashion so as to not cause excessive overbreak, concrete usage or undermine existing buildings/roads/ services that are to be retained.

xv **GEOTECHNICAL ASSESSMENT – SOAKAWAYS**

Soakaway testing in trial pits by GRM is broadly carried out in accordance with BRE DG 365 (2016). The testing comprises the excavation of a test pit to a suitable depth, and the placement of water into the pit. The level of water present is then monitored over time. For borehole installations, the permeability testing (falling head/rising head) is undertaken in accordance with BS5930.

If it is decided to proceed with the use of soakaway drainage, then the following general points should be noted:

- Soakaways should not be placed so that water can be discharged through potentially contaminated made ground.
- The Environment Agency may require soakaways to be sealed systems such that only roof run off falls to soakaway.
- Interceptors are likely to be required for soakaways for highway drainage. The adopting authority for the highways should be consulted at the earliest opportunity regarding the use of soakaways for highways drainage.
- Consideration of site levels and slopes should be taken into account during the design.
- The construction of all soakaways should be in accordance with the current building regulations.
- Soakaways should not be placed within 5m of a proposed building.
- Placement of soakaways needs to be considered so as to avoid ponding of water down slope.
- The base of a soakaway should not be below the highest recorded water level.
- The Environment Agency prefer 1m of dry soil to be present between the base of a soakaway and the water table to provide attenuation for contamination.

xvi **GEOTECHNICAL ASSESSMENT – FOUNDATIONS**

If soft or hard spots are encountered during foundation excavation then they should be replaced with suitably compacted material or the footings deepened to suitable strata, to avoid differential settlement.

If strata of differing bearing character (e.g. sand and clay) are encountered at foundation levels within the excavations for a single plot then the excavation depths should be altered as appropriate to ensure the foundations rest on a single stratum, or strata that will not induce differential settlement. Where this is impractical then GRM should be contacted to assess a reinforced concrete detail or an alternative foundation solution (e.g. piles or vibro-replacement).

NOTES ON LIMITATIONS

General

GRM Development Solutions Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement had been executed, or with whom an assignment had been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from GRM Development Solutions Limited; a charge may be levied against such approval.

GRM Development Solutions Limited accepts no responsibility or liability for:

- a) the consequences of this document being used for any purpose or project other than for which it was commissioned, and
- b) the consequences of this document being used by any third party with whom an agreement has not been executed.

Phase I Environmental Audits/ Desk Studies

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, GRM Development Solutions Limited reserves the right to review such information and as considered necessary and appropriate to modify the opinions accordingly. It should be noted that any risks identified in a Phase 1 report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits (Contamination Investigations)

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated with potential human targets, building materials, and controlled waters.

The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to the areas unoccupied by the building(s) on the site and by buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues need to be resolved.

For these reasons if costs have been included in relation to site remediation these must be considered as provisional only and must, in any event, be confirmed by a commercial adviser.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. Whilst exploratory testing is intended to gain an accurate representation of the site, the very nature of sampling and testing is such that it cannot ensure that all localised conditions are detected.

The risk assessment and opinions provided take in to consideration, inter alia, currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Phase II Geo-environmental Investigations (Combined Geotechnical and Contamination Investigations)

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environment risks together with engineering and development implications. If costs have been included in relation to site development a commercial adviser must confirm these.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site for each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time the site work was conducted. It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects. The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.



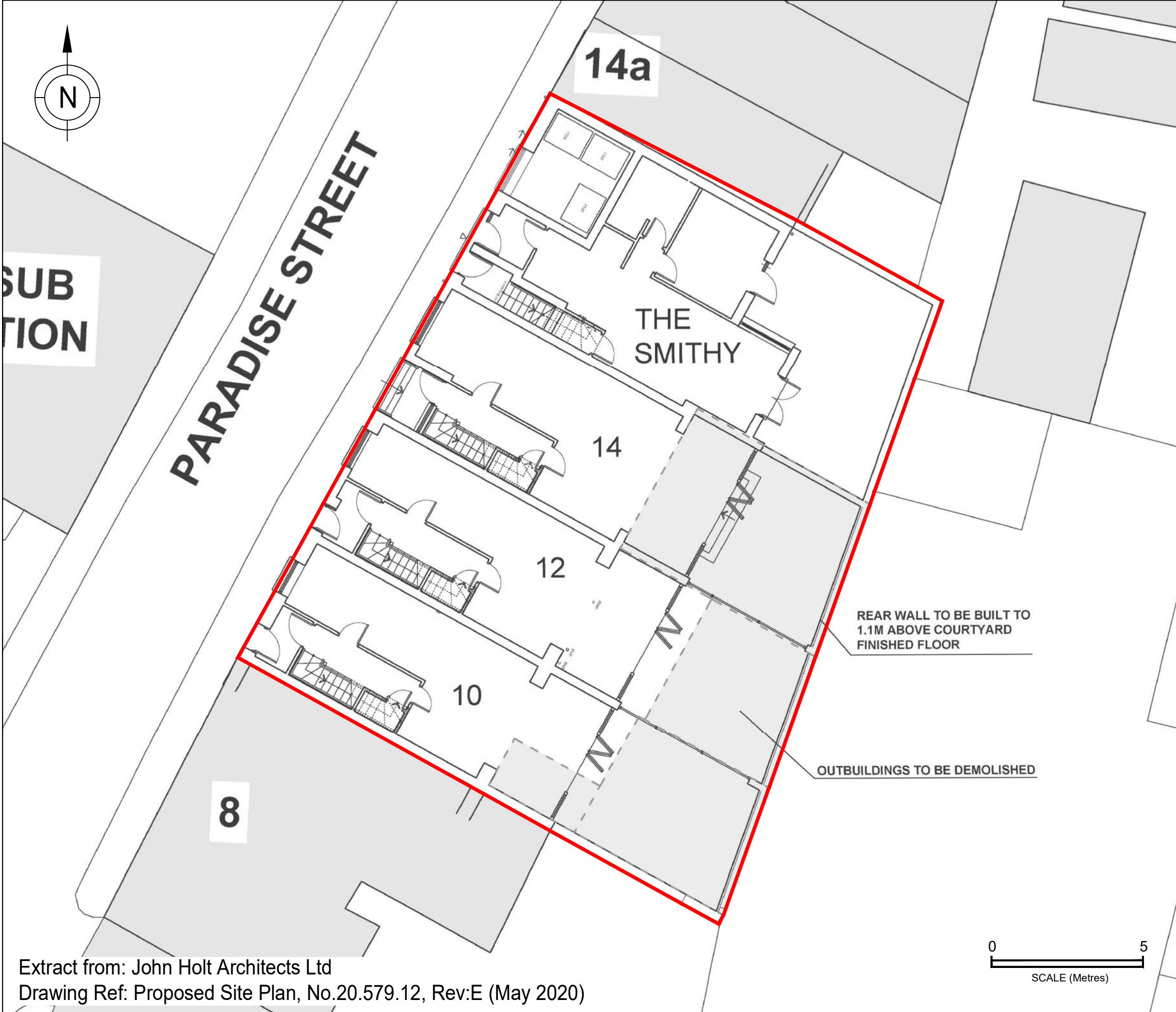
The risk assessment and opinions provided take in to consideration, inter alia, currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.



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www.grm-uk.com | info@grm-uk.com | 01283 551249 Company No. 3099018 (England), VAT Reg. No. 658 1005 48



KEY

Site Boundary

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK
CONSULT LIMITED

Client:
Quanthill Ltd

Site:
Paradise Street, Ramsbottom

Title:
Proposed Development Plan

Job No.: LKC 21 1149	Scale (See Scale Bar): 1:125 @ A3	Figure: 2	Revision:
Drawn By: AC	Checked By: CB	Drawn: May 2021	

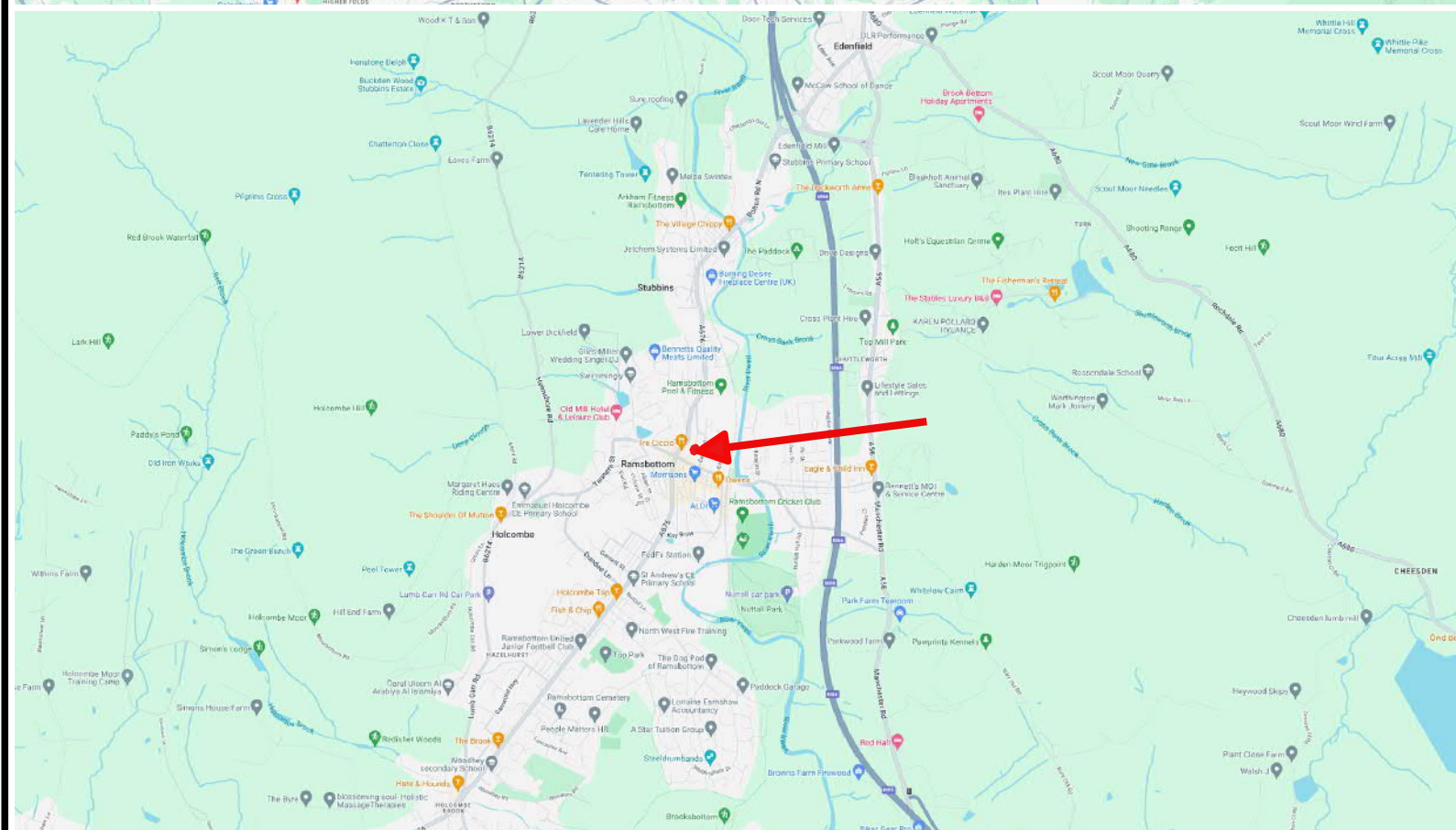
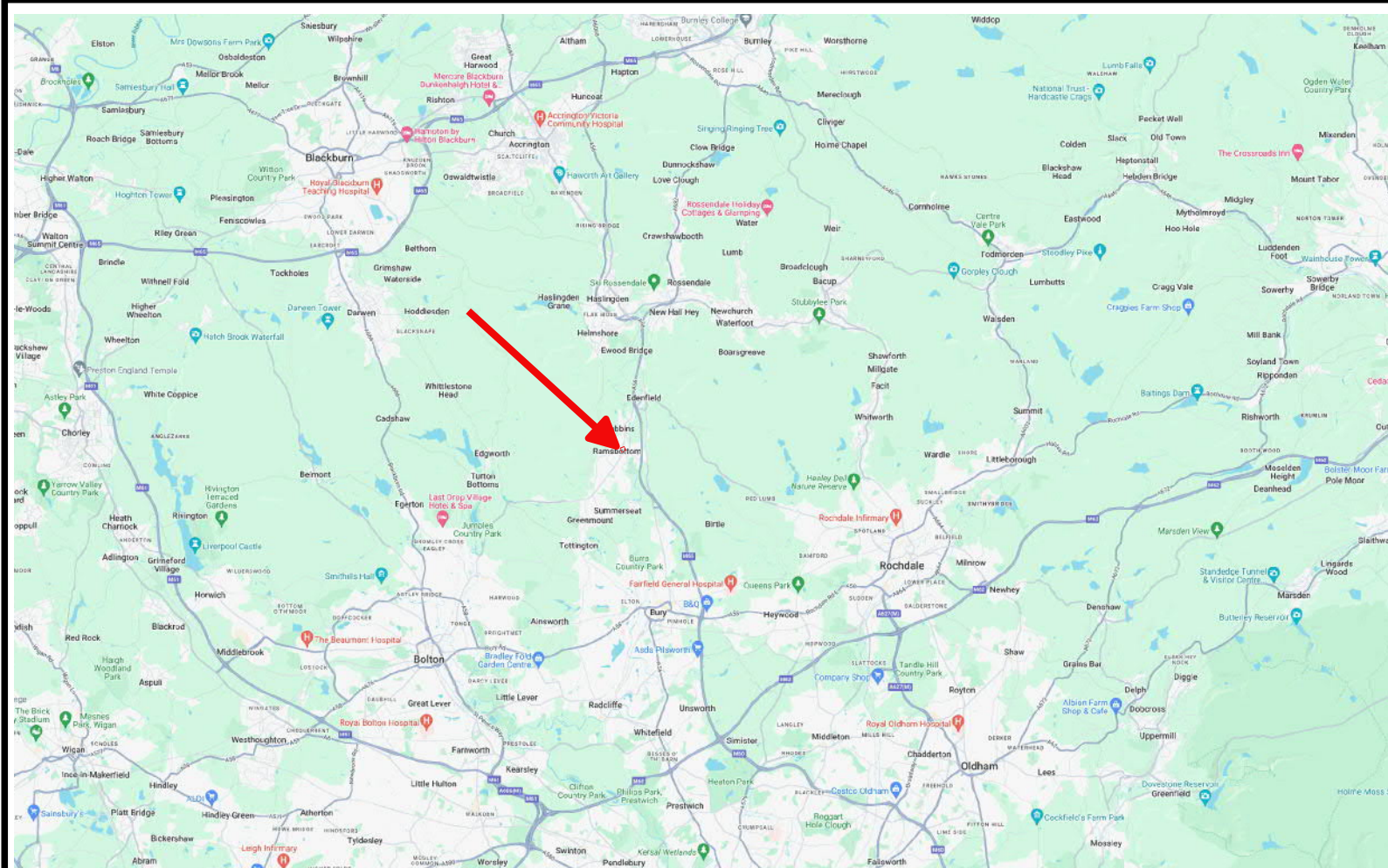
Extract from: John Holt Architects Ltd
Drawing Ref: Proposed Site Plan, No.20.579.12, Rev:E (May 2020)



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NOTES:

CLIENT:

PROJECT ENERGY LTD

PROJECT:

PARADISE STREET, RAMSBOTTOM

TITLE:

SITE LOCATION AND BOUNDARY PLAN

PROJECT No:

P10643

DATE:

AUG 2024

DESIGN/DRAWN:

JB

DRAWING NUMBER:

001

ISSUE:

FINAL

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	GRM TIER 1 ASSESSMENT CRITERIA		
LAND USE	Residential with Plant Uptake		
CONTAMINANT	Metals and Inorganic Compounds		
^a Arsenic	37		
^a Cadmium	22		
^b Chromium III	910		
^a Chromium VI	21		
^a Lead	200		
^{b/c} Mercury	11		
^b Selenium	250		
^b Nickel	130		
^b Phenols	200		
^b Copper	2400		
^b Zinc	3700		
^d Cyanide	34		
	Organic Compounds		
BTEX	1% SOM	2.5% SOM	6% SOM
^a Benzene	0.20	0.41	0.87
^b Toluene	130	290	660
^b Ethylbenzene	47	110	260
^b o - xylene	60	140	330
^b m - xylene	59	140	320
^b p - xylene	56	130	310
Non Genotoxic PAHs			
^b Acenaphthene	210	510	1100
^b Acenaphthylene	170	420	920
^b Anthracene	2400	5400	11000
^b Fluoranthene	280	560	890
^b Fluorene	170	400	860
^b Naphthalene	2.3	5.6	13
^b Phenanthrene	95	220	440
^b Pyrene	620	1200	2000
Genotoxic PAHs			
^{a/e} Benzo(a)pyrene	5	5	5
ALIPHATIC HYDROCARBONS			
^b C5-C6	42	78	160
^b C6-C8	100	230	530
^b C8-C10	27	65	150
^b C10-C12	130	330	760
^b C12-C16	1100	2400	4300
^b C16-35	65000	92000	110000
AROMATIC HYDROCARBONS			
^b C5-7 (benzene)	70	140	300
^b C7-8 (toluene)	130	290	660
^b C8-C10	34	83	190
^b C10-C12	74	180	380
^b C12-C16	140	330	660
^b C16-C21	260	540	930
^b C21-C35	1100	1500	1700

Notes

- a C4SL - SP1010 (2014) - Benzene (2.5% SOM) and Benzo(a)pyrene values (1% and 2.5% SOM) have been calculated using default C4SL parameters in CLEA v1.071. Cadmium using lifetime exposure.
- b LQM/CIEH S4UL values (2015). Publication number S4UL3066.
- c S4UL for Methyl Hg used.
- d Atkins ATRISKsoil Value
- e Benzo(a)pyrene is a surrogate marker for the 8 genotoxic PAHs (Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(ah)anthracene, Ideno(1,2,3-cd)pyrene)
All values in mg/kg unless otherwise stated

GRM TAC 02-2024



A P P E N D I X E

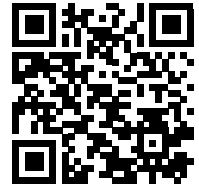
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Waste Classification Report

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

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



YLAL9-WFQ36-J9V9V

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

Job name

P10643[1]

Description/Comments

Project

P10643 10-14 Paradise Street, Ramsbottom.

Site

P10643 10-14 Paradise Street, Ramsbottom.

Classified by

Name: Alexandra Thornber
Date: 12 Aug 2024 14:14 GMT
Telephone: 01283 551249
Company: GRM Development Solutions Ltd
Laurus House, First Avenue, Centrum 100,
Burton-on-Trent
DE14 2WH

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

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

07 Dec 2023

Next 3 year Refresher due by Dec 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

10-14 Paradise St, Ramsbottom, Bury BL0 9BS

Post Code BL0 9BS

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Construction

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

Foundation arisings

Description of the waste

Made ground and natural soil



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS103	0.2	Hazardous	HP 7, HP 14	3
2	WS103[2]	1.3	Non Hazardous		6
3	WS102	1	Non Hazardous		8
4	WS101	0.2	Non Hazardous		10
5	WS104	0.1	Non Hazardous		12
6	WS105	0.1	Non Hazardous		14

Related documents

#	Name	Description
1	GRM Validation Suite - WM3 V1.2.GB	waste stream template used to create this Job

Report

Created by: Alexandra Thornber

Created date: 12 Aug 2024 14:14 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	16
Appendix B: Rationale for selection of metal species	17
Appendix C: Version	18

Classification of sample: WS103

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

Sample details

Sample name:	LoW Code:	
WS103	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
0.2 m		
Moisture content:		
34%		
(dry weight correction)		

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.127%)

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

Hazard Statements hit:

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

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.127%)
zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.886%)

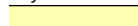
Determinands

Moisture content: 34% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	 arsenic { arsenic trioxide }				150 mg/kg	1.32	147.798	mg/kg	0.0148 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	 cadmium { cadmium sulfide }			1	7.3 mg/kg	1.285	7.002	mg/kg	0.000545 %	✓	
	048-010-00-4	215-147-8	1306-23-6								
3	 chromium { chromium(III) oxide (worst case) }				130 mg/kg	1.462	141.793	mg/kg	0.0142 %	✓	
		215-160-9	1308-38-9								
4	 copper { dicopper oxide; copper (I) oxide }				520 mg/kg	1.126	436.912	mg/kg	0.0437 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
5	 lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	1700 mg/kg		1268.657	mg/kg	0.127 %	✓	
	082-001-00-6										
6	 mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	 nickel { nickel dihydroxide }				79 mg/kg	1.579	93.12	mg/kg	0.00931 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [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								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
	034-002-00-8										
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				2700 mg/kg	4.398	8861.493 mg/kg	0.886 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
10	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
12	pH				7.7 pH		7.7 pH	7.7 pH			
			PH								
13	acenaphthene				0.06 mg/kg		0.0448 mg/kg	0.00000448 %		✓	
		201-469-6	83-32-9								
14	acenaphthylene				0.1 mg/kg		0.0746 mg/kg	0.00000746 %		✓	
		205-917-1	208-96-8								
15	anthracene				0.42 mg/kg		0.313 mg/kg	0.0000313 %		✓	
		204-371-1	120-12-7								
16	benzo[a]anthracene				2 mg/kg		1.493 mg/kg	0.000149 %		✓	
	601-033-00-9	200-280-6	56-55-3								
17	benzo[a]pyrene; benzo[def]chrysene				1.8 mg/kg		1.343 mg/kg	0.000134 %		✓	
	601-032-00-3	200-028-5	50-32-8								
18	benzo[b]fluoranthene				2.4 mg/kg		1.791 mg/kg	0.000179 %		✓	
	601-034-00-4	205-911-9	205-99-2								
19	benzo[ghi]perylene				0.96 mg/kg		0.716 mg/kg	0.0000716 %		✓	
		205-883-8	191-24-2								
20	benzo[k]fluoranthene				0.85 mg/kg		0.634 mg/kg	0.0000634 %		✓	
	601-036-00-5	205-916-6	207-08-9								
21	chrysene				1.7 mg/kg		1.269 mg/kg	0.000127 %		✓	
	601-048-00-0	205-923-4	218-01-9								
22	dibenz[a,h]anthracene				0.3 mg/kg		0.224 mg/kg	0.0000224 %		✓	
	601-041-00-2	200-181-8	53-70-3								
23	fluoranthene				3 mg/kg		2.239 mg/kg	0.000224 %		✓	
		205-912-4	206-44-0								
24	fluorene				0.09 mg/kg		0.0672 mg/kg	0.00000672 %		✓	
		201-695-5	86-73-7								
25	indeno[123-cd]pyrene				1.1 mg/kg		0.821 mg/kg	0.0000821 %		✓	
		205-893-2	193-39-5								
26	naphthalene				0.29 mg/kg		0.216 mg/kg	0.0000216 %		✓	
	601-052-00-2	202-049-5	91-20-3								
27	phenanthrene				1.4 mg/kg		1.045 mg/kg	0.000104 %		✓	
		201-581-5	85-01-8								
28	pyrene				2.5 mg/kg		1.866 mg/kg	0.000187 %		✓	
		204-927-3	129-00-0								
29	TPH (C6 to C40) petroleum group				110 mg/kg		82.09 mg/kg	0.00821 %		✓	
			TPH								
Total:									1.107 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: The sample s of soil which will not become flammable.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00821%)

Classification of sample: WS103[2]

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

Sample details

Sample name:	LoW Code:
WS103[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.3 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
27%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 27% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }			1	25	mg/kg	1.32	25.991	mg/kg	0.0026 %	✓	
	033-003-00-0	215-481-4	1327-53-3										
2		cadmium { cadmium sulfide }			1	1.4	mg/kg	1.285	1.417	mg/kg	0.00011 %	✓	
	048-010-00-4	215-147-8	1306-23-6										
3		chromium {  chromium(III) oxide (worst case) }				11	mg/kg	1.462	12.659	mg/kg	0.00127 %	✓	
		215-160-9	1308-38-9										
4		copper { dicopper oxide ; copper (I) oxide }				70	mg/kg	1.126	62.057	mg/kg	0.00621 %	✓	
	029-002-00-X	215-270-7	1317-39-1										
5		lead {  lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	130	mg/kg		102.362	mg/kg	0.0102 %	✓	
	082-001-00-6												
6		mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7										
7		nickel { nickel dihydroxide }				27	mg/kg	1.579	33.58	mg/kg	0.00336 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]										
8		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8												
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				160	mg/kg	4.398	554.069	mg/kg	0.0554 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]										
10		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2										
11		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5												
12		pH				7.1	pH		7.1	pH	7.1 pH		
			PH										
13		acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9										

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
15	anthracene	204-371-1	120-12-7		0.06 mg/kg		0.0472 mg/kg	0.00000472 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.09 mg/kg		0.0709 mg/kg	0.00000709 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.07 mg/kg		0.0551 mg/kg	0.00000551 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.14 mg/kg		0.11 mg/kg	0.000011 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.09 mg/kg		0.0709 mg/kg	0.00000709 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.04 mg/kg		0.0315 mg/kg	0.00000315 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.08 mg/kg		0.063 mg/kg	0.0000063 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	fluoranthene	205-912-4	206-44-0		0.11 mg/kg		0.0866 mg/kg	0.00000866 %	✓	
24	fluorene	201-695-5	86-73-7		0.08 mg/kg		0.063 mg/kg	0.0000063 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.06 mg/kg		0.0472 mg/kg	0.00000472 %	✓	
26	naphthalene	601-052-00-2	202-049-5	91-20-3	0.26 mg/kg		0.205 mg/kg	0.0000205 %	✓	
27	phenanthrene	201-581-5	85-01-8		0.21 mg/kg		0.165 mg/kg	0.0000165 %	✓	
28	pyrene	204-927-3	129-00-0		0.17 mg/kg		0.134 mg/kg	0.0000134 %	✓	
29	TPH (C6 to C40) petroleum group		TPH		560 mg/kg		440.945 mg/kg	0.0441 %	✓	
Total:								0.125 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: The sample s of soil which will not become flammable.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0441%)

Classification of sample: WS102

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

Sample details

Sample name:	LoW Code:
WS102	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1 m	
Moisture content:	
18%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 18% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		arsenic { arsenic trioxide }			1	21 mg/kg	1.32	23.497 mg/kg	0.00235 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium sulfide }			1	0.9 mg/kg	1.285	0.98 mg/kg	0.0000763 %	✓	
		048-010-00-4	215-147-8	1306-23-6							
3		chromium { chromium(III) oxide (worst case) }				6.1 mg/kg	1.462	7.556 mg/kg	0.000756 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				61 mg/kg	1.126	58.203 mg/kg	0.00582 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	150 mg/kg		127.119 mg/kg	0.0127 %	✓	
		082-001-00-6									
6		mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
7		nickel { nickel dihydroxide }				19 mg/kg	1.579	25.433 mg/kg	0.00254 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
8		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<LOD
		034-002-00-8									
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				93 mg/kg	4.398	346.616 mg/kg	0.0347 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
10		phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
		604-001-00-2	203-632-7	108-95-2							
11		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
12		pH				8.1 pH		8.1 pH	8.1 pH		
				PH							
13		acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
			201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
15	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	TPH (C6 to C40) petroleum group		TPH		31 mg/kg		26.271 mg/kg	0.00263 %	✓	
Total:								0.0633 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: The sample s of soil which will not become flammable.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00263%)

Classification of sample: WS101

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

Sample details

Sample name:	LoW Code:
WS101	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content:	
27%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 27% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				21 mg/kg	1.32	21.832 mg/kg	0.00218 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium sulfide }			1	1.1 mg/kg	1.285	1.113 mg/kg	0.0000866 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
3	chromium { chromium(III) oxide (worst case) }				10 mg/kg	1.462	11.508 mg/kg	0.00115 %	✓	
		215-160-9	1308-38-9							
4	copper { dicopper oxide; copper (I) oxide }				67 mg/kg	1.126	59.397 mg/kg	0.00594 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	160 mg/kg		125.984 mg/kg	0.0126 %	✓	
	082-001-00-6									
6	mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel dihydroxide }				28 mg/kg	1.579	34.824 mg/kg	0.00348 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<LOD
	034-002-00-8									
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				160 mg/kg	4.398	554.069 mg/kg	0.0554 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
10	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
12	pH				7.9 pH		7.9 pH	7.9 pH		
			PH							
13	acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
15	anthracene	204-371-1	120-12-7		0.08 mg/kg		0.063 mg/kg	0.0000063 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.2 mg/kg		0.157 mg/kg	0.0000157 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.14 mg/kg		0.11 mg/kg	0.000011 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.2 mg/kg		0.157 mg/kg	0.0000157 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.09 mg/kg		0.0709 mg/kg	0.00000709 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.06 mg/kg		0.0472 mg/kg	0.00000472 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.16 mg/kg		0.126 mg/kg	0.0000126 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	fluoranthene	205-912-4	206-44-0		0.43 mg/kg		0.339 mg/kg	0.0000339 %	✓	
24	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.08 mg/kg		0.063 mg/kg	0.0000063 %	✓	
26	naphthalene	601-052-00-2	202-049-5	91-20-3	0.05 mg/kg		0.0394 mg/kg	0.00000394 %	✓	
27	phenanthrene	201-581-5	85-01-8		0.19 mg/kg		0.15 mg/kg	0.000015 %	✓	
28	pyrene	204-927-3	129-00-0		0.39 mg/kg		0.307 mg/kg	0.0000307 %	✓	
Total:								0.0828 %		

Key

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

Classification of sample: WS104

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

Sample details

Sample name:	LoW Code:
WS104	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.1 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
26%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 26% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				27 mg/kg	1.32	28.293 mg/kg	0.00283 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium sulfide }			1	1 mg/kg	1.285	1.02 mg/kg	0.0000794 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
3	chromium { chromium(III) oxide (worst case) }				8.7 mg/kg	1.462	10.092 mg/kg	0.00101 %	✓	
		215-160-9	1308-38-9							
4	copper { dicopper oxide; copper (I) oxide }				50 mg/kg	1.126	44.678 mg/kg	0.00447 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	120 mg/kg		95.238 mg/kg	0.00952 %	✓	
	082-001-00-6									
6	mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel dihydroxide }				24 mg/kg	1.579	30.086 mg/kg	0.00301 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<LOD
	034-002-00-8									
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				90 mg/kg	4.398	314.138 mg/kg	0.0314 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
10	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
12	pH				7.4 pH		7.4 pH	7.4 pH		
			PH							
13	acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
15	anthracene	204-371-1	120-12-7		0.04 mg/kg		0.0317 mg/kg	0.00000317 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.12 mg/kg		0.0952 mg/kg	0.00000952 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.12 mg/kg		0.0952 mg/kg	0.00000952 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.23 mg/kg		0.183 mg/kg	0.0000183 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.13 mg/kg		0.103 mg/kg	0.0000103 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.06 mg/kg		0.0476 mg/kg	0.00000476 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.12 mg/kg		0.0952 mg/kg	0.00000952 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.03 mg/kg		0.0238 mg/kg	0.00000238 %	✓	
23	fluoranthene	205-912-4	206-44-0		0.18 mg/kg		0.143 mg/kg	0.0000143 %	✓	
24	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.1 mg/kg		0.0794 mg/kg	0.00000794 %	✓	
26	naphthalene	601-052-00-2	202-049-5	91-20-3	0.08 mg/kg		0.0635 mg/kg	0.00000635 %	✓	
27	phenanthrene	201-581-5	85-01-8		0.17 mg/kg		0.135 mg/kg	0.0000135 %	✓	
28	pyrene	204-927-3	129-00-0		0.19 mg/kg		0.151 mg/kg	0.0000151 %	✓	
Total:								0.0542 %		

Key

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

Classification of sample: WS105

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

Sample details

Sample name:	LoW Code:
WS105	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.1 m	
Moisture content:	
17%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				<10 mg/kg	1.32	<13.203 mg/kg		<0.00132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium sulfide }			1	0.6 mg/kg	1.285	0.659 mg/kg		0.0000513 %	✓	
	048-010-00-4	215-147-8	1306-23-6								
3	chromium { chromium(III) oxide (worst case) }				7.8 mg/kg	1.462	9.744 mg/kg		0.000974 %	✓	
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	15.397 mg/kg		0.00154 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	13 mg/kg		11.111 mg/kg		0.00111 %	✓	
	082-001-00-6										
6	mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384 mg/kg		<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel dihydroxide }				19 mg/kg	1.579	25.65 mg/kg		0.00256 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg		<0.00112 %		<LOD
	034-002-00-8										
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				51 mg/kg	4.398	191.704 mg/kg		0.0192 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
10	phenol				<1 mg/kg		<1 mg/kg		<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg		<0.000188 %		<LOD
	006-007-00-5										
12	pH				5.9 pH		5.9 pH		5.9 pH		
			PH								
13	acenaphthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
15	• anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	• benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	• fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	• fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	• indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	• phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	• pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.0285 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

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

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

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

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

▪ **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

▪ **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

▪ **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

▪ **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

▪ **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

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

No hexavalent chromium detected.

copper {dicopper oxide; copper (I) oxide}

Most likely common species

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

No hexavalent chromium detected.

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

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

Worst case species based on risk phrases

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

No hexavalent chromium detected.

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}

Worst case species

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2024.213.6193.11387 (31 Jul 2024)

HazWasteOnline Database: 2024.213.6193.11387 (31 Jul 2024)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GB MCL List - version 1.1 of 09 June 2021

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

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

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

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