



GRM Development Solutions Ltd
Laurus House
First Avenue
Centrum 100
Burton upon Trent
Staffordshire
DE14 2WH

Tel: 01283 551 249
Web: www.grm-uk.com

Our Ref: P10558/LET.01
Date: 17th July 2025

Davidsons Developments Ltd
Wilson House
Leicester Road
Ibstock
Leicestershire
LE67 6HP

For the attention of Peter Draper

Dear Peter,

Re: Additional Ground Investigation at Kirkby Road, Desford

This report should be read in conjunction with the following previously issued reports:

- GRM – Kirkby Road, Desford, Phase I Site Appraisal, ref: GRM/P6752/DS.2, dated August 2019.
- GRM – Kirkby Road, Desford, Phase II Site Appraisal, ref: GR/P10558/PIISAR.1, dated August 2024.

The fieldwork undertaken as part of the main site investigation was constrained in the southern area by dense vegetation and the presence of a buried service. Davidsons Developments Ltd (Client) requested that GRM undertake vegetation clearance to facilitate additional exploratory holes in the southern farm yard area, to better understand the depth and chemical quality of any made ground. These works have now been completed, and the findings are presented in this Letter Report.

GRM Standard Limitations of Reporting are provided in Appendix A of this letter report.

Proposed Development

The Client proposes to develop the site with residential properties, including private gardens, soft landscaping and associated infrastructure. A Proposed Development Plan is presented in Appendix B.

This material is considered to represent waste arising from demolition of nearby structures identified on historical maps. Laboratory chemical testing of the made ground did not reveal concentrations of contaminated in excess of the relevant thresholds.



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Recent Fieldwork

GRM attended site on the 17th of June 2025 to conduct further investigation of the farm yard area. The investigation comprised the progression of three trial pits (TP101 to TP103) to a depth of 3m begl.

During the previous phase of investigation, a suspected buried electricity cable was detected adjacent to the farm yard area, crossing the access track. During the recent works, prior to breaking ground the working areas were scanned with a cable avoidance tool (CAT). The suspected buried electricity cable was traced from the access track, into the farm yard area, and TP102 was relocated as a result. The approximate route of the suspected cable, plus the exploratory hole locations, is shown on the Exploratory Hole Location Plan presented in Appendix C.

The Exploratory Hole Logs are presented in Appendix D.

Encountered Ground Conditions

The following ground conditions were encountered during the recent fieldwork:

- Made Ground
- Glacial Till

Made Ground

Made ground was encountered in all exploratory holes from ground level to depths ranging between 0.4m and 0.6m begl, and generally comprised brown, gravelly SAND with variable cobble content. The gravel was comprised of brick and quartzite, and locally included glass and slate. The cobbles comprised brick. This material is considered to represent natural soils mixed with waste arising from the demolition of former farm buildings which previously occupied the area.

Glaciofluvial Deposits

Strata considered to be representative of Glaciofluvial Deposits was encountered beneath the made ground in all exploratory holes, and comprises brown and reddish-brown, slightly clayey, gravelly SAND. The gravel comprises quartzite and chert. The base of this strata was not proven, with all exploratory holes terminating at 3m begl.

This strata is estimated to be medium dense; however, no in situ geotechnical testing has been undertaken as part of this investigation.

Groundwater

Groundwater was not observed within any of the exploratory holes; however, the techniques used were rapid and may have masked smaller seepages.

Contamination Observations

Black staining of the natural soils was noted within TP103, to a depth of 0.8m begl; however, no olfactory evidence of contamination was noted within these soils.

Glass was encountered in the made ground in one exploratory hole (TP103). Whilst this does not represent a chemical risk to human health, it may be considered to represent a physical contaminant.

Laboratory Chemical Testing

Samples were collected for laboratory chemical testing, which comprised the following:

- Three samples of made ground were analysed for a general suite of contaminants (metals, inorganics and speciated PAH), as well as banded aliphatic and aromatic hydrocarbons (TPHCWG).
- Three samples of made ground were screened for the presence of asbestos.
- One sample of the black-stained Glaciofluvial Deposits was analysed for total petroleum hydrocarbons (TPH).
- One sample of made ground was subjected to WAC leachate analysis.

The results of the laboratory chemical analysis are presented in Appendix E.

Analysis of Results

The rationale for the end use specific Tier 1 Acceptance Criteria (TAC) used by GRM is outline in Appendix A (vi) and for this site, the chemical analysis results have been compared against the TAC for residential end use with plant uptake. In order to adopt a conservative approach, a Soil Organic Matter (SOM) content of 1% has been used to assess the made ground, as this reflects the lowest SOM recorded in this material.

To provide an initial assessment, the results have been assessed to determine whether benzo(a)pyrene could be used as a surrogate marker in the assessment of carcinogenic risks posed by genotoxic PAHs in soils. It is recommended that such assessments should be based upon toxicological benchmarks derived from the data for two coal tar mixtures presented by Culp et al. (1998) and as described in the Public Health England document “Contaminated land information sheet: risk assessment approaches for polycyclic aromatic hydrocarbons (PAHs)”, dated 2017. The graphs completed show that benzo(a)pyrene can be used as a surrogate marker for genotoxic PAHs, with the exception of naphthalene, for the made ground. GRM’s TACs use published C4SL values which are based on minimal risk levels and have been confirmed to be suitable for use in a planning context by the UK Government. Other commercially available values have been published and have been used where C4SLs are not available.

A copy of the PAH Profile Graph is presented in Appendix F, and a copy of the thresholds used in this assessment is presented in Appendix G.

GRM General Suite – Made Ground

The concentrations of all of the contaminants screened for are below the relevant TAC for residential end use with plant uptake.

Petroleum Hydrocarbons – Made Ground

The chemical analysis did not reveal concentrations of petroleum hydrocarbons in excess of the relevant TAC.

Asbestos – Made Ground

The screening for asbestos did not reveal the presence of such contamination in the samples analysed.

Petroleum Hydrocarbons – Glaciofluvial Deposits

The chemical analysis did not reveal elevated concentrations of petroleum hydrocarbons in the sample analysed.

Risk Assessment

Summary of Risk to End Users

The risk to end users from soil contamination is considered to be negligible, and no remedial works are required to protect them.

Summary of Risk to Site Workers

The investigation has not revealed any specific risk to site workers; however, the general comments outlined in Appendix A (vii) should be considered when site specific risk assessments are completed.

Summary of Risk to Controlled Waters

The risk to controlled waters from soil contamination is considered to be negligible, and no remedial works are required to protect them.

Disposal and Classification

Based on the Waste Classification Report presented in Appendix H, the made ground will be classified as Non-Hazardous Waste. The results of the WAC Leachate Analysis, presented in Appendix E, suggests that this material will be suitable for disposal in an Inert landfill; however, the receiving landfill should be consulted at the earliest opportunity to establish their particular acceptance criteria.

We trust this is suitable for your current requirements, should you require any further information or would like any clarification of the points raised above please do not hesitate to contact us.

Yours Sincerely,
for GRM Development Solutions Ltd

Prepared by:
Joe Baker MSci (Hons) FGS
Senior Engineering Geologist & Project Manager

Reviewed by:
Matt Tomkins BSc (Hons) PGDip FGS
Acting Principal Engineering Geologist

Approved by:
Richard Upton BSc (Hons) MSc CEnv MEnvSc
Director

Appendices

Appendix A	-	GRM Standard Limitations
Appendix B	-	Proposed Development Plan
Appendix C	-	Exploratory Hole Location Plan
Appendix D	-	Exploratory Hole Logs
Appendix E	-	Laboratory Chemical Testing Results
Appendix F	-	PAH Profile Graph
Appendix G	-	GRM Thresholds
Appendix H	-	Waste Classification Report



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 (GSV) for the site. The gas regime is then determined based on the GSV 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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Landscaping indicative. For exact details and specification please refer to Golby & Luck Landscaping drawings.

Open Market Schedule:		
Housetype	No. of Bedrooms	No.
DH001BR-5	- 2 Bedroom Semi-Detached 1	1
DH001BR-5	- 2 Bedroom Semi-Detached 1	1
DH002BR-5	- 2 Bedroom Semi-Detached 2	2
DH0210G-5	- 2 Bedroom Bungalow 2	2
DH003GE-5	- 3 Bedroom Semi-Detached 8	8
DH0131B-5	- 3 Bedroom Detached 6	6
DH0134V-5	- 3 Bedroom Detached 2	2
DH0138B-5	- 3 Bedroom Detached 6	6
DH0390R-5	- 3 Bedroom Detached 6	6
DH0420R-5	- 4 Bedroom Detached 1	1
DH0425G-5	- 4 Bedroom Detached 10	10
DH0425H-5	- 4 Bedroom Detached 3	3
DH0437B-5	- 4 Bedroom Detached 2	2
DH0438B-5	- 4 Bedroom Detached 4	4
DH0439B-5	- 4 Bedroom Detached 1	1
DH0490R-5	- 4 Bedroom Detached 3	3
DH0422G-5	- 4 Bedroom Detached 1	1
DH0422R-5	- 4 Bedroom Detached 1	1
DH0435T-5	- 4 Bedroom Detached 1	1
DH0510G-5	- 5 Bedroom Detached 6	6
DH0509V-5	- 5 Bedroom Detached 2	2
DH0509B-5	- 5 Bedroom Detached 3	3
Sub Total		72
Apprentice Schedule:		
Housetype	No. of Bedrooms	No.
Apprentice Rent		
AH1GG5A-5	- 1 Bedroom Maisonette 2	2
AH1GG5B-5	- 1 Apartment 6	6
AH1GG1E-5	- 2 Bedroom Ter/Semi-Detached 5	5
AH1GG1G-5	- 2 Bedroom Ter/Semi-Detached 5	5
AH1GG1G-5	- 2 Bedroom Ter/Semi-Detached 1	1
AH1GG1G-5	- 2 Bedroom Ter/Semi-Detached 3	3
AH1GG1G-5	- 3 Bedroom Ter/Semi-Detached 2	2
AH23G0G-5	- 3 Bedroom Ter/Semi-Detached 1	1
Sub Total		27
Apprentice Shared Ownership		
AH1GG1E-5	- 2 Bedroom Ter/Semi-Detached 4	4
AH1GG1G-5	- 2 Bedroom Ter/Semi-Detached 1	1
AH1GG0B-5	- 3 Bedroom Semi-Detached 1	1
AH35GE-5	- 3 Bedroom Semi-Detached 2	2
Sub Total		9
Apprentice First Time Homes		
AH1GG6E-5	- 1 Bedroom Maisonette 4	4
DH0060R-5	- 2 Bedroom Ter/Semi-Detached 2	2
DH0060R-5	- 2 Bedroom Ter/Semi-Detached 1	1
DH0360R-5	- 3 Bedroom Semi-Detached 4	4
DH0138B-5	- 3 Bedroom Detached 1	1
Sub Total		12
Overall Total:		120

P02	61-62, 69-70 Screen wall repositioned and added. Garages updated to 18, 87, 97, 104 and 118. Plot 49-50 updated. Dims added throughout the site. highway comments incorporated. Parking court to Plots 27-32 re-designed. Bollards added outside of Plots 61-94. Raised table added to Street 3/4. Back to back dimensions added to existing plots facing Cambridge Road. Rear boundary treatments altered to Plots 3,4,5, 61 and 62.	21.05.25	AYC
P01A		01.05.25	AYC
P01	Planning Issue	17.04.25	AYC
Rev:	Description:	Date:	By:



DAVIDSONS

Wilson House, Leicester Road, Ibstock,
Leicestershire. LE167 6HP
T: 01530 261 444 F: 01530 267 101
www.davidsonsgroup.co.uk
E: info@davidsonsgroup.co.uk

Development:

Land Off Kirkby Road, Desford

Drawing Title			
Planning Layout			
Drawing Status:		Drawn:	Checked:
01 - Planning Drawing		AYC	MS
Date:	Scale:	Signed Off:	Rev:
11.07.24	1:500	IP	P02
Dwg Number:			
xxxx_100			



A P P E N D I X C

Land Appraisal | Environmental | Geotechnical | Design | Mining | Inspections

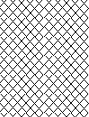
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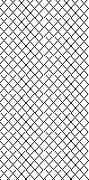
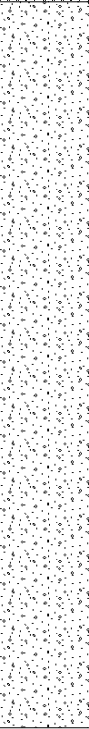


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		GRM Development Solutions Ltd Laurus House, First Avenue, Centrum 100, Burton-on-Trent, DE14 2WH Tel (HQ): 01283 551249 Email: info@grm-uk.com		Trial Pit Log			Trial Pit No TP102 Sheet 1 of 1		
Site Name: Kirkby Road, Desford							Ground Level (mAOD)		
Client: Davidsons Developments Ltd					GRM Project Ref: P10558			Coordinates E N	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.20	ES		0.40			Scrub over dark brown, gravelly SAND with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded brick and quartzite. Cobbles are angular brick. 1no. plastic bag. MADE GROUND		
							Medium dense, light brown and orangish-brown, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded quartzite. GLACIOFLUVIAL DEPOSITS		
							Becoming reddish-brown and slightly clayey at 1.20m.		
							End of Pit at 3.000m		
				3.00					
Date Excavated: 17/06/2025				Groundwater Observations:					
Date Backfilled: 17/06/2025				No groundwater encountered					
Shoring: None									
Stability: Stable during excavation									
Plant Used: JCB 3CX				Trial Pit Dimensions (m):		Reason for termination of Trial Pit:			
Logged by: JB				0.60 		Target depth achieved			
General Remarks:									
Relative density is approximate and determined by observation only.				Version: FINAL			Scale: 1:25		

		GRM Development Solutions Ltd Laurus House, First Avenue, Centrum 100, Burton-on-Trent, DE14 2WH Tel (HQ): 01283 551249 Email: info@grm-uk.com		Trial Pit Log			Trial Pit No TP103 Sheet 1 of 1		
Site Name: Kirkby Road, Desford							Ground Level (mAOD)		
Client: Davidsons Developments Ltd					GRM Project Ref: P10558			Coordinates E N	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.30	ES		0.60			Scrub over dark brown, gravelly SAND with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded quartzite, brick, glass and slate. Cobbles are angular brick. MADE GROUND		
	0.70	ES					Medium dense, brown and reddish-brown, slightly clayey, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded quartzite and chert. GLACIOFLUVIAL DEPOSITS <i>Occasional black staining to 0.80m.</i>		
				3.00			End of Pit at 3.000m		
Date Excavated: 17/06/2025			Groundwater Observations:						
Date Backfilled: 17/06/2025			No groundwater encountered						
Shoring: None									
Stability: Stable during excavation									
Plant Used: JCB 3CX			Trial Pit Dimensions (m):			Reason for termination of Trial Pit:			
Logged by: JB			0.60  2.50			Target depth achieved			
General Remarks:									
Relative density is approximate and determined by observation only.									
Version: FINAL			Scale: 1:25						



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4161



GRM Development Solutions

Laurus House
First Avenue
Centrum 100
Burton Upon Trent
DE14 2WH

Analytical Test Report: P25/00934/GRM - 25-70440

Your Project Reference:	Kirby Road, Desford P10558		
Your Order Number:	P10558	Samples Received / Instructed:	19/06/2025 / 19/06/2025
Report Issue Number:	1	Sample Tested:	19/06 to 02/07/2025
Samples Analysed:	4 sample(s)	Report issued:	02/07/2025

Signed



James Gane
Analytical Services Manager
CTS

Notes:

General

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

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

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

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

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

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

Uncertainty of measurement values are available on request.

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

Asbestos

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accreditation

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

WAC Testing

Samples were leached to our inhouse method statement in accordance with BS EN 12457-2: 2002.

Eluate Results are reported as L/S 10. These results have been calculated to report in accordance with BS EN 12457-2:2002.

Comparative values are taken from the Council Decision Annex - CRITERIA AND PROCEDURES FOR THE ACCEPTANCE OF WASTE AT LANDFILLS, (2003/33/EC).

Deviating Samples

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

Accreditation Key

This report shall not be reproduce except in full

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

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

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

Date of Issue: 21.05.25

Issued by: J. Gane

Issue No: 4

Rev No: 27



4161



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Analytical Test Results - Solid

Lab Reference			531594	531595	531596
Client Sample ID			-	-	-
Client Sample Location			TP101	TP102	TP103
Client Sample Type			ES	ES	ES
Client Sample Number			-	-	-
Depth - Top (m)			0.20	0.20	0.30
Depth - Bottom (m)			0.20	0.20	0.30
Date of Sampling			17/06/2025	17/06/2025	17/06/2025
Time of Sampling			-	-	-
Sample Matrix			Sand	Sand	Sand
Determinant	Units	Accreditation			
Arsenic	(mg/kg)	MCERTS	10	10	11
Cadmium	(mg/kg)	MCERTS	0.8	0.8	1.3
Chromium (Total)	(mg/kg)	UKAS	9.9	5.8	3.4
Copper	(mg/kg)	MCERTS	37	24	18
Lead	(mg/kg)	MCERTS	110	75	73
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	17	15	13
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	160	160	91
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	u	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0
pH	pH Units	MCERTS	7.6	7.8	8.2
Sulphate (Water soluble as SO ₄)	(mg/l)	u	43	< 10	< 10
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	0.02	< 0.02
Anthracene	(mg/kg)	UKAS	0.04	0.03	0.03
Benzo (a) anthracene	(mg/kg)	MCERTS	0.19	0.10	0.13
Benzo (a) pyrene	(mg/kg)	MCERTS	0.26	0.13	0.17
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.33	0.19	0.25
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.20	0.10	0.14
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.11	0.06	0.08
Chrysene	(mg/kg)	MCERTS	0.25	0.14	0.20
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	0.04	0.02	0.03
Fluoranthene	(mg/kg)	MCERTS	0.45	0.25	0.35
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Indeno (1, 2, 3-cd) pyrene	(mg/kg)	MCERTS	0.19	0.11	0.14
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.02
Phenanthrene	(mg/kg)	MCERTS	0.14	0.10	0.13
Pyrene	(mg/kg)	MCERTS	0.43	0.22	0.30
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	2.7	1.5	2.0
SOM (via TOC)	(%)	UKAS	6.3	3.0	2.4
Asbestos	-	UKAS	No asbestos detected	No asbestos detected	No asbestos detected



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P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Analytical Test Results - VPH / EPH

Lab Reference			531594	531595	531596	531597
Client Sample ID			-	-	-	-
Client Sample Location			TP101	TP102	TP103	TP103
Client Sample Type			ES	ES	ES	ES
Client Sample Number			-	-	-	-
Depth - Top (m)			0.20	0.20	0.30	0.70
Depth - Bottom (m)			0.20	0.20	0.30	0.70
Date of Sampling			17/06/2025	17/06/2025	17/06/2025	17/06/2025
Time of Sampling			-	-	-	-
Sample Matrix			Sand	Sand	Sand	Clay
Determinant	Units	Accreditation				
Benzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
Toluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	-
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
Aliphatic >C ₅ to C ₆ [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	0.07	-
Aliphatic >C ₆ to C ₈ [HS_MS_1D_AL]	(mg/kg)	MCERTS	0.11	0.12	< 0.06	-
Aliphatic >C ₈ to C ₁₀ [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	-
Aliphatic >C ₁₀ to C ₁₂ [EH_2D_AL]	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	-
Aliphatic >C ₁₂ to C ₁₆ [EH_2D_AL]	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	-
Aliphatic >C ₁₆ to C ₂₁ [EH_2D_AL]	(mg/kg)	MCERTS	1.2	< 1.0	2.7	-
Aliphatic >C ₂₁ to C ₃₅ [EH_2D_AL]	(mg/kg)	MCERTS	15	12	14	-
Aliphatic >C ₃₅ to C ₄₀ [EH_2D_AL]	(mg/kg)	MCERTS	1.6	< 1.0	3.3	-
Aromatic >C ₅ to C ₇ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
Aromatic >C ₇ to C ₈ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	-
Aromatic >C ₈ to C ₁₀ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	-
Aromatic >C ₁₀ to C ₁₂ [EH_2D_AR]	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	-
Aromatic >C ₁₂ to C ₁₆ [EH_2D_AR]	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	-
Aromatic >C ₁₆ to C ₂₁ [EH_2D_AR]	(mg/kg)	MCERTS	2.7	2.4	3.0	-
Aromatic >C ₂₁ to C ₃₅ [EH_2D_AR]	(mg/kg)	MCERTS	12	7.3	17	-
Aromatic >C ₃₅ to C ₄₀ [EH_2D_AR]	(mg/kg)	MCERTS	2.7	< 2.0	4.3	-
Total >C ₅ to C ₄₀ [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	35	21	44	-
Total TPH (>C ₈ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	-	-	-	< 15



4161



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Certificate Of Analysis - WAC Suite

Lab Reference	531596
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Client Sample ID	-
Client Sample Location	TP103
Client Sample Type	ES
Client Sample Number	-
Depth - Top (m)	0.3
Depth - Bottom (m)	0.3
Date of Sampling	17/06/2025
Time of Sampling	-
Sample Description	Brown clayey slightly gravelly silty sand with occasional glass
Sample Matrix	Sand
Moisture Content (%)	9.7
Stone content (%)	22

	Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
--	-------------------	----------------------	---	--------------------------

Solid Analysis

Total Organic Carbon	%	MCERTS	1.4	3.0	5.0	6.0
Loss on Ignition	%	UKAS	3.2	-	-	10.0
BTEX	mg/kg	MCERTS	< 0.06	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	< 0.025	1.00	-	-
Mineral Oil (>C10 to C40) [EH_1D_Total]	mg/kg	MCERTS	137	500	-	-
PAH	mg/kg	u	2.1	100	-	-
pH	units	MCERTS	8.2	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	0.04	0.50	2	25
Barium	mg/kg	UKAS	0.03	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	0.03	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.01	0.5	10.0	30
Nickel	mg/kg	UKAS	< 0.075	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	< 1	800	15000	25000
Fluoride	mg/kg	u	4	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	15	1000	20000	50000
Total Dissolved Solids	mg/kg	u	810	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	27.0	500	800	1000



4161

P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Analytical Test Results - Leachate

Lab Reference	531596
---------------	--------

Client Sample ID	-
Client Sample Location	TP103
Client Sample Type	ES
Client Sample Number	-
Depth - Top (m)	0.30
Depth - Bottom (m)	0.30
Date of Sampling	17/06/2025
Time of Sampling	-
Sample Matrix	Leachate

Determinant	Units	Accreditation	
Arsenic (10:1 Leachate)	(ug/l)	UKAS	4.06
Beryllium (10:1 Leachate)	(ug/l)	UKAS	< 0.50
Boron (10:1 Leachate)	(ug/l)	UKAS	56
Cadmium (10:1 Leachate)	(ug/l)	UKAS	< 0.25
Chromium (10:1 Leachate)	(ug/l)	UKAS	< 0.50
Copper (10:1 Leachate)	(ug/l)	UKAS	3.3
Lead (10:1 Leachate)	(ug/l)	UKAS	< 3.5
Mercury (10:1 Leachate)	(ug/l)	UKAS	< 0.050
Nickel (10:1 Leachate)	(ug/l)	UKAS	< 7.5
Selenium (10:1 Leachate)	(ug/l)	UKAS	< 0.50
Zinc (10:1 Leachate)	(ug/l)	u	< 25
Ammonical Nitrogen (as N)	(mgN/l)	u	0.48
Cyanide (Total)	(µg/l)	u	< 5.0
pH	pH Units	UKAS	7.2
Sulphate (As SO ₄)	(mg/l)	UKAS	< 10
Anthracene	(µg/l)	u	< 0.01
Benzo (b) fluoranthene	(µg/l)	u	< 0.01
Benzo (g, h, i) perylene	(µg/l)	u	< 0.01
Benzo (k) fluoranthene	(µg/l)	u	< 0.01
Fluoranthene	(µg/l)	u	< 0.01
Indeno (1, 2, 3-cd) pyrene	(µg/l)	u	< 0.01
Naphthalene	(µg/l)	u	< 0.01
Phenols (Total)	(µg/l)	u	< 1.10



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

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Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
531594	-	TP101	ES	-	Brown clayey gravelly silty sand with frequent brick fragments with rare rootlets	9.5	36	84
531595	-	TP102	ES	-	Brown clayey slightly gravelly silty sand	6.6	39	85
531596	-	TP103	ES	-	Brown clayey slightly gravelly silty sand with occasional glass	9.7	22	86
531597	-	TP103	ES	-	Orangish brown silty slightly gravelly sandy clay	11	< 0.1	-



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

7 - 11 Harding Street
Leicester
LE1 4DH

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
531594	-	TP101	ES	-	
531595	-	TP102	ES	-	VPH/BTEX - Sample taken from container with headspace.
531596	-	TP103	ES	-	
531597	-	TP103	ES	-	



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSL	MS - CL - Anions by Aquakem	As received	-	Determination of Anions (inc Sulphate, chloride etc.) in leachate samples by Aquakem
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
SKALARCNL	MS - CL - Cyanide by Skalar - Leachate	As received	BSEN:12457 Leaching	Determination of cyanide (total / free / complex) in leachates using a Skalar segmented flow analyser
SKALARCNS	MS - CL - Cyanide by Skalar	As received	Passing 10mm test sieve	Determination of cyanide (total / free / complex) in soil using a Skalar segmented flow analyser
ICP-MS DML	MS - CL - Metals in Waters by ICP-MS	As received	MS-CL-Soil Leachate Preparation	Determination of dissolved metals in leachates via ICP-MS
WACMETALS1	MS-CL-Metals in Waters by ICP-MS (WAC)	As received	MS-CL-Soil Leachate Preparation	Determination of dissolved metals in leachates via ICP-MS, expressed as quantity of analyte leached from the original material.
WACDOC	MS - CL - DOC (WAC)	As received	BSEN:12457 Leaching	Determination of dissolved organic carbon in a leachate as part of a WAC test
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PHL	MS - CL - pH in Waters	As received	BSEN:12457 Leaching	Determination of pH in leachates using a pH probe
WACPHS	MS - CL - pH in Soils (WAC)	As received	BSEN:12457 Leaching	Determination of pH in soils as part of a WAC test via pH probe
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
PCB7S	MS - CL - PCB Soils	As received	Passing 10mm test sieve	Determination of PCB's (7 congeners) in soils via GC-MS
PAHSPMEL	MS - CL - PAH SPME	As received	BSEN:12457 Leaching	Determination of Polyaromatic hydrocarbons in leachates via GC-MS
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
PHOHHPLCL	MS - CL - Phenol Waters by HPLC	As received	BSEN:12457 Leaching	Determination of speciated phenols in leachates using HPLC
WACANIONS	MS - CL - Anions by Aquakem (WAC)	As received	BSEN:12457 Leaching	Determination of sulphate, chloride and fluoride in a leachate as part of a WAC test using a Aquakem analyser
TDSL	MS-CL-Conductivity in Water(TDS by Calc)	As received	BSEN:12457 Leaching	Determination of total dissolved solids in leachates (by calculation)
SKALARPHS	MS - CL - Phenols by Skalar	As received	Passing 10mm test sieve	Determination of total phenols in soil using Skalar segmented flow analyser
WACTOCS	MS - CL - TOC Eltra (WAC)	Air dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soil as part of a WAC test
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
TPHS	MS - CL - TPH (GC-FID)	As received	Passing 10mm test sieve	Determination of Total Petroleum Hydrocarbons in soil using GC-FID
WACSKALAR	MS - CL - Phenols by Skalar (WAC)	As received	BSEN:12457 Leaching	Determination of Total Phenols within leachate as part of a WAC test using a Skalar Segmented flow analyser



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

Analysis Methodologies

7 - 11 Harding Street
Leicester
LE1 4DH

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
GCXGCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis
LEACH-SS-P	MS-CL-Soil Leachate Preparation (SS)	As Received	All crushed to pass 4mm test sieve	Preparation of single stage soil leachates in accordance with MS-CL-Soil Leachate Preparation
1377LOI	BS1377 LoI	Oven dried	Passing 2mm test sieve	Testing was in accordance with BS 1377: Part 3: 2018 + A1 :2021 Clause 6. Determination of the mass loss on ignition. Some information required by BS1377: 2016: Part 1 has not been reported. This information is available on request.



P25/00934/GRM - 25-70440

Project Reference - Kirby Road, Desford P10558

HWOL TPH Acronym Index

7 - 11 Harding Street
Leicester
LE1 4DH

Acronym	Description
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 and Aromatics
AL	Aliphatics Only
AR	Aromatics Only
2D	GC-GC - Double Coil Gas Chromatography
#1	EH_Total but with humics mathmatically subtracted
#2	EH_Total but with fatty acids mathmatically subtracted
_	Operator - underscore to separate acronyms (except for +)
+	Operator to indicate cumlative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry



A P P E N D I X F

Land Appraisal | Environmental | Geotechnical | Design | Mining | Inspections

GRM Development Solutions Limited, Laurus House, First Avenue, Centrum 100, Burton upon Trent, Staffs DE14 2WH
www.grm-uk.com | info@grm-uk.com | 01283 551249 Company No. 3099018 (England), VAT Reg. No. 658 1005 48

PAH Mixture Analysis





A P P E N D I X G

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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 <i>o</i> - xylene	60	140	330
^b <i>m</i> - xylene	59	140	320
^b <i>p</i> - 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

- 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.
- LQM/CIEH S4UL values (2015). Publication number S4UL3066.
- S4UL for Methyl Hg used.
- Atkins ATRISKsoil Value
- 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



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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)



3S3HB-WCBPH-35SMP

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

Report is invalid if pages are removed.

Job name

P10558 - Kirby Rd, Desford

Description/Comments

Project

P10558

Site

Kirby Rd, Desford

Classified by

Name: **George Salloway**
Date: **04 Jul 2025 09:15 GMT**
Telephone: **01283 551 249**
Company: **GRM Development Solutions Ltd**
Laurus House
First Avenue
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
Most recent 3 year Refresher

Date

06 Dec 2018
03 Dec 2024

Next 3 year Refresher due by Dec 2027

Purpose of classification

2 - Material Characterisation

Address of the waste

Kirkby Road, Desford.

Post Code **N/A**

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

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

Topsoil, subsoil and made ground.



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101	0.2	Non Hazardous		3
2	TP102	0.2	Non Hazardous		5
3	TP103	0.3	Non Hazardous		7

Related documents

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

Report

Created by: George Salloway

Created date: 04 Jul 2025 09:15 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	10
Appendix C: Version	11

Classification of sample: TP101

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

Sample details

Sample name:	LoW Code:
TP101	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.5%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.5% 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	10 mg/kg	1.32	12.058 mg/kg	0.00121 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium sulfide }			1	0.8 mg/kg	1.285	0.939 mg/kg	0.0000731 %	✓	
		048-010-00-4	215-147-8	1306-23-6							
3		chromium { chromium(III) oxide (worst case) }				9.9 mg/kg	1.462	13.214 mg/kg	0.00132 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				37 mg/kg	1.126	38.044 mg/kg	0.0038 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	110 mg/kg		100.457 mg/kg	0.01 %	✓	
		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 }				17 mg/kg	1.579	24.522 mg/kg	0.00245 %	✓	
		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	642.619 mg/kg	0.0643 %	✓	
		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				7.6 pH		7.6 pH	7.6 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		0.0365 mg/kg	0.00000365 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.19 mg/kg		0.174 mg/kg	0.0000174 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.26 mg/kg		0.237 mg/kg	0.0000237 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.33 mg/kg		0.301 mg/kg	0.0000301 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.2 mg/kg		0.183 mg/kg	0.0000183 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.11 mg/kg		0.1 mg/kg	0.00001 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.25 mg/kg		0.228 mg/kg	0.0000228 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.04 mg/kg		0.0365 mg/kg	0.00000365 %	✓	
23	fluoranthene	205-912-4	206-44-0		0.45 mg/kg		0.411 mg/kg	0.0000411 %	✓	
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		0.19 mg/kg		0.174 mg/kg	0.0000174 %	✓	
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		0.14 mg/kg		0.128 mg/kg	0.0000128 %	✓	
28	pyrene	204-927-3	129-00-0		0.43 mg/kg		0.393 mg/kg	0.0000393 %	✓	
29	TPH (C6 to C40) petroleum group		TPH		35 mg/kg		31.963 mg/kg	0.0032 %	✓	
Total:								0.0866 %		

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: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0032%)

Classification of sample: TP102

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

Sample details

Sample name:	LoW Code:
TP102	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.6%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.6% 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	10 mg/kg	1.32	12.386 mg/kg	0.00124 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium sulfide }			1	0.8 mg/kg	1.285	0.965 mg/kg	0.000075 %	✓	
		048-010-00-4	215-147-8	1306-23-6							
3		chromium { chromium(III) oxide (worst case) }				5.8 mg/kg	1.462	7.952 mg/kg	0.000795 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				24 mg/kg	1.126	25.348 mg/kg	0.00253 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	75 mg/kg		70.356 mg/kg	0.00704 %	✓	
		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 }				15 mg/kg	1.579	22.226 mg/kg	0.00222 %	✓	
		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	660.101 mg/kg	0.066 %	✓	
		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				7.8 pH		7.8 pH	7.8 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		0.0188 mg/kg	0.00000188 %	✓	
15	anthracene	204-371-1	120-12-7		0.03 mg/kg		0.0281 mg/kg	0.00000281 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.1 mg/kg		0.0938 mg/kg	0.00000938 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.13 mg/kg		0.122 mg/kg	0.0000122 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.19 mg/kg		0.178 mg/kg	0.0000178 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.1 mg/kg		0.0938 mg/kg	0.00000938 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.06 mg/kg		0.0563 mg/kg	0.00000563 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.14 mg/kg		0.131 mg/kg	0.0000131 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.02 mg/kg		0.0188 mg/kg	0.00000188 %	✓	
23	fluoranthene	205-912-4	206-44-0		0.25 mg/kg		0.235 mg/kg	0.0000235 %	✓	
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		0.11 mg/kg		0.103 mg/kg	0.0000103 %	✓	
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		0.1 mg/kg		0.0938 mg/kg	0.00000938 %	✓	
28	pyrene	204-927-3	129-00-0		0.22 mg/kg		0.206 mg/kg	0.0000206 %	✓	
29	TPH (C6 to C40) petroleum group		TPH		21 mg/kg		19.7 mg/kg	0.00197 %	✓	
Total:								0.082 %		

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: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00197%)

Classification of sample: TP103

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

Sample details

Sample name:	LoW Code:
TP103	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.3 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.7%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.7% 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	11 mg/kg	1.32	13.239 mg/kg	0.00132 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium sulfide }			1	1.3 mg/kg	1.285	1.523 mg/kg	0.000119 %	✓	
		048-010-00-4	215-147-8	1306-23-6							
3		chromium { chromium(III) oxide (worst case) }				3.4 mg/kg	1.462	4.53 mg/kg	0.000453 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				18 mg/kg	1.126	18.474 mg/kg	0.00185 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	73 mg/kg		66.545 mg/kg	0.00665 %	✓	
		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 }				13 mg/kg	1.579	18.718 mg/kg	0.00187 %	✓	
		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] }				91 mg/kg	4.398	364.823 mg/kg	0.0365 %	✓	
		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				8.2 pH		8.2 pH	8.2 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		0.03 mg/kg		0.0273 mg/kg	0.00000273 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.13 mg/kg		0.119 mg/kg	0.0000119 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.17 mg/kg		0.155 mg/kg	0.0000155 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.25 mg/kg		0.228 mg/kg	0.0000228 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		0.14 mg/kg		0.128 mg/kg	0.0000128 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.08 mg/kg		0.0729 mg/kg	0.00000729 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.2 mg/kg		0.182 mg/kg	0.0000182 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.03 mg/kg		0.0273 mg/kg	0.00000273 %	✓	
23	fluoranthene	205-912-4	206-44-0		0.35 mg/kg		0.319 mg/kg	0.0000319 %	✓	
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		0.14 mg/kg		0.128 mg/kg	0.0000128 %	✓	
26	naphthalene	601-052-00-2	202-049-5	91-20-3	0.02 mg/kg		0.0182 mg/kg	0.00000182 %	✓	
27	phenanthrene	201-581-5	85-01-8		0.13 mg/kg		0.119 mg/kg	0.0000119 %	✓	
28	pyrene	204-927-3	129-00-0		0.3 mg/kg		0.273 mg/kg	0.0000273 %	✓	
29	TPH (C6 to C40) petroleum group		TPH		44 mg/kg		40.109 mg/kg	0.00401 %	✓	
Total:								0.0529 %		

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: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00401%)

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**

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

■ **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: Unknown Oil

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

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 recorded above the laboratory limit of detection.

copper {dicopper oxide; copper (I) oxide}

Most likely common species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

No hexavalent chromium recorded above the laboratory limit of detection.

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 sulposelenide 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 recorded above the laboratory limit of detection.

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: 2025.184.6694.12158 (03 Jul 2025)

HazWasteOnline Database: 2025.184.6694.12158 (03 Jul 2025)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GB MCL List - version 1.1 of 09 June 2021

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

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

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

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

GB MCL List v6.0 - version 6.0 of 15th February 2025