



London Borough of Hillingdon

Falling Lane

Phase 2 Generic Risk Assessment


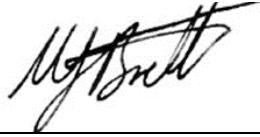

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Contents

EXECUTIVE SUMMARY	3
1. INTRODUCTION	5
2. SUMMARY OF PHASE I PRELIMINARY RISK ASSESSMENT	7
3. SUMMARY OF PHASE II GROUND INVESTIGATION	9
3.1 FIELDWORK	9
4. LIMITATIONS	10
5. LABORATORY TESTING	11
5.1 CHEMICAL	11
6. GENERIC RISK ASSESSMENT	12
6.1 HUMAN HEALTH RISK ASSESSMENT	12
6.2 CONTROLLED WATERS RISK ASSESSMENT	16
6.3 BUILDINGS AND SERVICES RISK ASSESSMENT	17
7. WASTE CLASSIFICATION HAZARD ASSESSMENT	18
7.1 HAZARD ASSESSMENT	18
8. REVISED RISK ASSESSMENT	21
9. SUMMARY AND CONCLUSIONS	23
9.1 RECOMMENDATIONS	24

FIGURES

Figure 1	Site Location Plan
Figure 2	Indicative Exploratory Hole Location Plan – Site Topographical Plan
Figure 3	Indicative Exploratory Hole Location Plan – Proposed Landscape Plan
Figure 4	Indicative Exploratory Hole Location Plan – Contamination
Figure 5	Indicative Exploratory Hole Location Plan – Cross-Section Plan for Conceptual Site Model
Figure 6	Updated Conceptual Site Model Schematic A-B
Figure 7	Updated Conceptual Site Model Schematic C-D

APPENDICES

Appendix A	Engineer's Logs
Appendix B	Results of Laboratory Chemical Analysis
Appendix C	HazWasteOnline Model Output
Appendix D	Risk Assessment Methodology

EXECUTIVE SUMMARY

Card Geotechnics Limited (CGL) has been commissioned by London Borough of Hillingdon to complete a Phase 1 Preliminary Risk Assessment (PRA) for a site named 'Falling Lane' located at Yiewsley Library and car park at the corner of Falling Lane and High Street, UB7 7BE. The site is centred on What3Words location ///buck.tides.noises and has an area of 0.24 ha. CGL was instructed to carry out a Preliminary Risk Assessment (CGK/00151/PRA), data from which has been used herein to inform the Generic Risk Assessment. CGL also undertook some exploratory holes on the site as part of the ground investigation carried out in November 2021. Data from the boreholes has also been used herein to conduct a Generic Risk Assessment.

At the time of the walkover survey the site comprised a library building to the west of the site, grass verges and a car park area. Other features noted on the site included a concrete pad remains of a former building, an electricity sub-station, small brick building, bins and lampposts. It is understood that the library will be demolished, and the site will be cleared and redeveloped with a residential block of flats with associated parking and landscaped areas.

The earliest available map, dated 1866, showed much of the site as undeveloped land, with two unknown buildings on the site. Residential buildings in the surrounding area developed alongside commercial land uses such as garages, factories, warehouses, works, bowling green and tennis courts. One area of the site became a car park by 1964-1965, with public convenience buildings and glasshouses in other areas of the site.

The ground investigation was undertaken by CGL in November 2021 at five locations across the site. The ground conditions encountered on the site comprised a variable thickness of asphalt, concrete, possible Engineered Fill and Made Ground overlying the Langley Silt Member. Groundwater was not encountered in any of the five boreholes. Environment Agency data show that the superficial geology has a groundwater vulnerability ranging from high (Lynch Hill Gravel) to unproductive (Langley Silt) across the site whilst the bedrock geology (London Clay) has a groundwater vulnerability designated as unproductive.

Chemical assessment of soil samples recovered from the site indicates that the underlying soils present a high risk to human health assuming a residential with plant uptake end use due to exceedances for lead and PAHs across the site. No asbestos was identified in any of the samples.

The risk to buildings and services was deemed moderate due to detectable levels to lead, arsenic and PAHs detected samples across the site. A pipe selection risk assessment to UKWIR is recommended.

Further ground investigation is recommended to assess the risk to buildings and the need for gas monitoring as boreholes HA04 and HA05 were terminated in the Made Ground, both of which are located in the area of expected worked ground. Further site works should be carried out after demolition of the current buildings to target proposed private garden areas where access was not available during the November 2021 site works.

Good site practices during construction works should be adhered to at all times. Should the proposed end use of the site change, the risk assessments must be reviewed and the site conceptual model updated.

1. INTRODUCTION

Card Geotechnics Limited (CGL) has been commissioned by London Borough of Hillingdon to complete a Phase II Generic Risk Assessment (GRA) for a site named 'Falling Lane' located at Yiewsley Library and car park at the corner of Falling Lane and High Street, UB7 7BE. The site is centred on What3Words location [///buck.tides.noises](#) and has an area of 0.24 ha. A site location plan is included as **Error! Reference source not found.1**.

At the time of the walkover survey, the site comprised a library building to the west of the site, grass verges and a car park area. Other features noted on the site included a concrete pad forming the remains of a bowls clubhouse, an electricity sub-station, small brick building, bins and street lighting. A full site description is included in the walkover survey with the Phase I Desk Study Report reference CGK/00151/PRA. It is understood that the library will be demolished, and the site will be cleared and redeveloped with a residential block of flats with associated parking and landscaped areas.

This GRA report is based upon a defined programme of work and terms and conditions agreed with the Client. In preparing this report, all reasonable skill and care has been taken, accounting for project objectives, agreed scope of work and prevailing site conditions. CGL accepts no liability to any parties whatsoever, following the issue of this report, for any matters arising outside the agreed scope of work. It should be noted that this report is issued in confidence to the Client and that CGL has no responsibility to any third parties to whom this report may be circulated, in part or in full and any such parties cannot rely on the contents of the report. Unless specifically assigned or transferred within the terms of the agreement, CGL asserts and retains all Copyright and other Intellectual Property Rights, in and over the report and its contents.

This report sets out to:







- Provide a summary of the anticipated ground conditions at the site and associated environmental risks and constraints based on available published and unpublished data;
- Detail the ground conditions encountered across the site, following the ground investigation and provide environmental analysis and interpretation of chemical laboratory testing undertaken on representative soil samples;
- Present a source-pathway-receptor generic quantitative risk assessment (GQRA) based on the findings of the ground investigation and results of chemical testing;

- An assessment of the environmental condition of the site including assessment of risk to end users, construction workers, water resource receptors, buildings and services;
- Provide geoenvironmental recommendations for addressing soil and groundwater contamination (where encountered), ground gas and for material management; and
- A preliminary assessment of the waste classification for surplus soils.






The objective of this report is to provide preliminary information regarding the ground condition and recommendations to enable the development of the site for its intended purpose.

2. SUMMARY OF PHASE I PRELIMINARY RISK ASSESSMENT









A Phase I Preliminary Risk Assessment (PRA) of the study site, reference CGK/00151/PRA, previously undertaken by CGL in November 2021, established the following regarding the site and its environmental setting: -

-  The BGS Geology of Great Britain Maps indicate that the site is underlain by a bedrock of the London Clay Formation – Clay, Silt and Sand with superficial deposits of both Lynch Hill Gravel Member – Gravel and Langley Silt Member – Silt recorded across the site.
-  The superficial geology has a groundwater vulnerability ranging from high for the Lynch Hill Gravel Member to unproductive for the Langley Silt Member, whilst the bedrock geology, London Clay Formation has a groundwater vulnerability designated as unproductive.
-  Areas of Made Ground were expected to be found due to previous development on the site.
-  It is understood that the library will be demolished, and the site will be cleared and redeveloped with a residential block of flats with associated parking and landscaped areas.
-  A site walkover was undertaken by a CGL Environmental Scientist in October 2021 where it was observed that the site comprised a library building to the west of the site, grass verges and a car park area. Other features noted on the site included a concrete pad understood to underly where a club house for the bowling green stood, an electricity sub-station, small brick building, bins, and lampposts.
-  On-site sources identified include the current and previous site use. These include the on-site electricity sub-station and vehicle parking, as well as Made and/or reworked ground. Off-site sources that may pose a risk to the site comprise the historical fire station that was located about 40m north of the site, the superstore, and multiple factories and “works”.







The PRA report identified the following on-site potential sources of contamination:

-  Made Ground;
-  Worked Ground;
-  Potential asbestos containing materials (ACMs);
-  Previous land use; and
-  Current land use.

The PRA report identified the following off-site potential sources of contamination:

-  Historical fire station noted 40m north of the site, now a garage;
-  Factory;
-  Works;
-  Abattoir;
-  Tanks;
-  Electricity sub-stations;
-  Roads; and
-  Warehouses.

The CGL Phase I Preliminary Risk Assessment report identified the following potential receptors:

-  Future site users;
-  Construction workers;
-  Off-site users;
-  Controlled waters;
-  On and off-site buildings and infrastructure; and
-  Plants and vegetation.

3. SUMMARY OF PHASE II GROUND INVESTIGATION

3.1 FIELDWORK

The ground investigation was undertaken by a CGL Senior Engineer on 8th November 2021 and comprised five hand auger boreholes to depths from 1.6m to 2m below ground level (bgl).

The approximate locations of the exploratory holes are shown on Figure 2. The exploratory holes revealed varying depths of asphalt, concrete, potential engineered fill, Made Ground and Langley Silt Member. Boreholes HA01, HA02 and HA03 were terminated in the Langley Silt Member whilst boreholes HA04 and HA05 are terminated in the Made Ground strata. The Lynch Hill Gravel member is expected to be present underlying the Langley Silt Member, however this was not proven in the shallow boreholes.

Details of the ground conditions encountered in the exploratory holes are presented on the engineer's logs in Appendix A. Reference should be made to these logs for detailed descriptions of the strata penetrated.

Made Ground was encountered in all five exploratory holes and proved to a minimum depth of 0.7m below ground level in borehole HA02 and a maximum of in excess of 1.85m below ground level in borehole HA05. However, in boreholes HA04 and HA05, the borehole was terminated in the Made Ground so has the potential to be to a greater depth. Boreholes HA04 and HA05 are also understood to be in the region of the reported Worked Ground on the site, so the depth of the Made Ground may require additional investigation.

All boreholes remained dry. However, groundwater levels may vary both seasonally and in the long term. The investigation was undertaken in accordance with the requirements of BS 5930:2015¹ and BS 10175:2011² and the exploratory holes were logged by a Senior Engineer from CGL. Representative soil samples were retrieved and sent for laboratory analysis.

An exploratory hole location plan is included as Figure 2 and the exploratory hole records are included in **Error! Reference source not found.A.**

¹ British Standards Institution (2015) *Code of practice for site investigations*. BS 5930:2015

² British Standards Institution (2011) *Investigation of potentially contaminated sites – Code of practice*. BS 10175:2011

4. LIMITATIONS

Attention is drawn to the fact that whilst every effort has been made to ensure the accuracy of the data supplied and any analysis derived from it, there is a potential for variations in ground and groundwater contamination between and beyond the specific locations investigated. No liability can be accepted for any such variations. Any recommendations are specific to the client's requirements as detailed herein and no liability will be accepted should these be used by third parties without prior consultation with CGL.











Intrusive investigations were not carried out under any of the existing structures such as the library and electricity sub-station, restricting the below ground investigation. Access was also limited due to the buried services on the site, therefore, intrusive investigations have not been carried out in the proposed garden areas, as shown in Figures 2 and 3. This interpretive report is based on the information included within the preceding Phase I and the data presented within this report only.

5. LABORATORY TESTING

5.1 CHEMICAL

To test potential pollutant linkages and assess whether the soils beneath the site could pose a significant risk to sensitive receptors, 12 samples were selected for chemical analysis at a range of depths. The samples were placed in laboratory prepared vessels with a minimum of headspace and labelled accordingly prior to being despatched to an accredited analytical laboratory in a cool box.

The suite of analysis was selected with reference to the findings of the CGL Phase I Preliminary Risk Assessment as well as on-site observations and included:

-  A suite of metals comprising As, B, Cu, Cd, Cr, Cr VI, Hg, Pb, Ni, Se and Zn;
-  Speciated Polycyclic Aromatic Hydrocarbons (PAHs);
-  Speciated petroleum hydrocarbons (TPH CWG);
-  BTEX;
-  Polychlorinated biphenyls (PCBs);
-  Asbestos (screen and quantification where positive);
-  Total monohydric phenols;
-  Free cyanide;
-  pH; and
-  Total Organic Carbon (TOC).

Six samples were also scheduled for the single stage Waste Acceptance Criteria test suite following BS EN 12457/2. The results of all laboratory analyses are attached in full as laboratory report 21-13610.1 and are included in Appendix B.

Additionally, sample “HA03 0.5m” was screened for a PFAS suite. The results of this laboratory testing are attached in full as laboratory report 211112-167 in Appendix B.

6. GENERIC RISK ASSESSMENT

6.1 HUMAN HEALTH RISK ASSESSMENT

To provide an indication of whether the soils beneath the study area could pose a risk to human health, CGL carried out a Phase II Generic Quantitative Risk Assessment (GQRA). The initial screen of the chemical data was made against available Suitable 4 Use Levels (S4ULs) developed by LQM/CIEH (2015) and Category 4 Screening Levels (C4SLs) as developed by DEFRA (2014). Exceedances of assessment criteria may require further detailed/semi-detailed quantitative risk assessment.

For the purposes of this assessment the S4ULs that consider an end use of “Residential with plant uptake” were considered to be the most applicable for all samples. Although the samples had a range of total organic carbon values (TOC), the threshold for 1% TOC was chosen as it is the most conservative. Reference *Nathanail, C.P.; McCaffrey, C.; Gillett, A.G.; Ogden, R.C. & Nathanail, J.F. “The LQM/CIEH S4ULs for Human Health Risk Assessment”, 2015, Land Quality Press* for more details.

A comparison of the recorded concentrations of metals and various PAHs with the corresponding S4ULs for residential end use are presented in the following table:

Contaminant	Key statistics				S4UL* Residential with plant uptake (1% TOC)	
	Number of samples	Number of detects	Min. Value (mg/kg)	Max. Value (mg/kg)	S4UL (mg/kg)	No. Samples exceeding assessment criteria
Arsenic	12	12	6	26	37	0
Boron (water sol.)	12	0	-	-	290	0
Cadmium	12	9	<LOD	9.9	11	0
Chromium III	12	12	5	101	910	0
Chromium VI	12	0	-	-	6	0
Copper	12	12	12	195	2400	0
Lead	12	12	8	265	200	3
Mercury	12	3	<LOD	2.3	40	0
Nickel	12	11	<LOD	41	180	0
Selenium	12	0	-	-	250	0
Zinc	12	12	26	416	3700	0
Phenols (Mono)	12	0	-	-	280	0
Cyanide (free)	12	0	-	-	3.4	0
<i>Notes to Table</i>						
*	<i>Most appropriate screening values are Suitable 4 Use Level (S4UL) for a "Residential with plant uptake" end use, a sandy loam soil type, pH of 7 and a soil organic matter (SOM) of 1%.</i>					

Table 1: Heavy metals in tested samples

Analysis of the environmental data shows that some of the samples exceeded the residential with plant uptake S4UL values. The concentrations of the heavy metals in samples taken showed that all twelve samples contained detectable levels of arsenic, chromium III, copper, lead and zinc. The residential with plant uptake S4UL levels were exceeded for lead in three samples; "HA01 0.3m", "HA03 0.2m" and "HA03 1m". Heavy metals in the soil are therefore deemed as a risk to human health to end users of the residential with plant uptake area with regard to lead concentrations.

Contaminant	Key statistics				S4UL* Residential with plant uptake (1% TOC)	
	Number of samples	Number of detects	Min. Value (mg/kg)	Max. Value (mg/kg)	S4UL (mg/kg)	No. Samples exceeding assessment criteria
Naphthalene	12	1	<LOD	0.12	2.3	0
Acenaphthylene	12	1	<LOD	0.16	170	0
Acenaphthene	12	2	<LOD	2.6	210	0
Fluorene	12	2	<LOD	1.83	170	0
Phenanthrene	12	7	<LOD	40.9	95	0
Anthracene	12	5	<LOD	10.6	2400	0
Fluoranthene	12	8	<LOD	57.2	280	0
Pyrene	12	8	<LOD	46.6	620	0
Benzo(a)Anthracene	12	8	<LOD	21.2	7.2	1
Chrysene	12	8	<LOD	21.1	15	1
Benzo(b)fluoranthene	12	8	<LOD	22.4	2.6	2
Benzo(k)fluoranthene	12	7	<LOD	7.65	77	0
Benzo(a)Pyrene	12	8	<LOD	16.4	2.2	3
Indeno(123-cd) Pyrene	12	7	<LOD	7.51	27	0
Dibenzo(ah)Anthracene	12	5	<LOD	1.59	0.24	2
Benzo(ghi)Perylene	12	7	<LOD	6.01	320	0
PCBs	12	0	-	-	0.39	0
Aliphatic C5-C6	12	0	-	-	42	0
Aliphatic C6-C8	12	0	-	-	100	0
Aliphatic C8-C10	12	0	-	-	27	0
Aliphatic C10-C12	12	0	-	-	130	0
Aliphatic C12-C16	12	0	-	-	1100	0
Aromatic C5-C7 (ben)	12	0	-	-	70	0
Aromatic C7-C8 (tol)	12	0	-	-	130	0
Aromatic C8-C10	12	0	-	-	34	0
Aromatic C10-C12	12	0	-	-	74	0
Aromatic C12-C16	12	2	<LOD	22	140	0
Aromatic C16-C21	12	6	<LOD	237	260	0
Aromatic C21-C35	12	5	<LOD	242	1100	0
Benzene	12	0	-	-	0.087	0
Toluene	12	0	-	-	130	0

Ethylbenzene	12	0	-	-	47	0
Xylene- p & m	12	0	-	-	56	0
Xylene-o	12	0	-	-	60	0
MTBE	12	0	-	-	49	0
<i>Notes to Table</i>						
*	<i>Most appropriate screening values are Sutable 4 Use Level (S4UL) for a "Residential with plant uptake" end use, a sandy loam soil type, pH of 7 and a soil organic matter (SOM) of 1%.</i>					

Table 2: PAHs, TPH, BTEX and PCBs in tested samples

As the above table demonstrates, multiple locations were found to have PAH contamination exceeding the respective S4ULs in both the Made Ground and in the possible Engineered Fill. Therefore, PAHs may pose a risk to human health at this site. The concentrations of BTEX, PCBs, and phenols recorded by the analysis did not exceed the respective S4ULs and these are considered to pose a low risk to human end users.

Contaminant	Sample	Strata
Lead	HA01 0.3m	Made Ground
	HA03 0.2m	Possible Engineered Fill
	HA03 1m	Made Ground
Benzo(a)anthracene	HA04 0.2m	Possible Engineered Fill
Chrysene	HA04 0.2m	Possible Engineered Fill
Benzo(b)fluoranthene	HA04 0.2m	Possible Engineered Fill
	HA04 0.5m	Made Ground
Benzo(a)pyrene	HA03 0.2m	Possible Engineered Fill
	HA04 0.2m	Possible Engineered Fill
	HA04 0.5m	Made Ground
Dibenzo(ah)anthracene	HA02 0.4m	Made Ground
	HA04 0.2m	Possible Engineered Fill

Table 3: Exceedances above the residential with plant uptake S4ULs in the tested samples

Contamination is widespread across the site, with each of boreholes HA01, HA02, HA03 and HA04 exceeding a residential with plant uptake S4UL value.

The pH values in the tested samples ranged from 4.1 to 8.2. This is important to note as metal contaminants are more mobile in acidic soils, making them more available for uptake into plants and

potentially into water systems.³ As shown in Table 4 below, the Made Ground is acidic, with pH values ranging between 4.1 to 5.8.

Sample	pH	Strata
HA01 0.3m	4.2	Made Ground
HA01 0.7m	4.1	Made Ground
HA02 0.2m	6.9	Possible Engineered Fill
HA02 0.5m	5.0	Made Ground
HA02 1m	4.6	Langley Silt Member
HA03 0.2m	5.1	Possible Engineered Fill
HA03 1m	4.8	Made Ground
HA03 1.5m	5.0	Langley Silt Member
HA04 0.2m	8.2	Possible Engineered Fill
HA04 0.5m	5.8	Made Ground
HA05 0.5m	5.5	Possible Engineered Fill
HA05 1m	4.7	Made Ground

Table 4: pH values of tested samples

Asbestos was not identified in any of the soil samples.

The results of the PFAS suite are attached as Appendix B. The PFAS results for sample “HA03 0.5m” returned results lower than the limit of detection and therefore are not deemed to be present in the material represented by this sample.

6.2 CONTROLLED WATERS RISK ASSESSMENT

Groundwater was not observed within the exploratory boreholes. The superficial geology has a groundwater vulnerability ranging from high to unproductive across the site whilst the bedrock geology has a groundwater vulnerability designated as unproductive. The groundwater flooding risk on the site was deemed as moderate.

Contaminants of concern with the potential to pollute controlled watercourses identified on the site during the ground investigation include arsenic and PAHs, and therefore the risk to the underlying aquifer from current site uses is deemed as moderate due to the high vulnerability and principal aquifer in areas of the site. This is particularly important if the building foundations penetrate the principal aquifer,

³ European Commission (2013) Soil Contamination: Impacts on Human Health

potentially providing a pathway to the water system. All boreholes remained dry during the intrusive investigation, so knowledge on the water regime is limited at this stage.

Borehole HA05 is located in the region of the principal aquifer. A Waste Acceptance Criteria (WAC) test was carried out on sample “HA05 0.5m”, which showed the presence of barium, chloride, sulphate, Total Dissolved Solids (TDS) and Dissolved Organic Carbon (DOC) above the limit of detection in the leachate of the sample.

Borehole HA04 is located near the boundary of the principal aquifer area. The leachate for sample “HA04 0.2m” shows detectable limits of barium, copper, chloride, sulphate, Total Dissolved Solids (TDS) and Dissolved Organic Carbon (DOC). The leachate for sample “HA04 0.5m” has detectable limits of arsenic, copper, lead, zinc, chloride, fluoride, sulphate, Total Dissolved Solids (TDS) and Dissolved Organic Carbon (DOC).

While the proposed end use is not associated with any activities of high contaminative concern, some residential activities could contribute to diffuse pollution or minor spills. Any runoff from construction works or from potentially contaminative end uses like car parking spaces should be diverted into municipal sewerage and not allowed to soak away into the ground.

The risk to controlled waters was deemed as high due to the presence of the principal aquifer on parts of the site and detectable limits of chemicals including arsenic and PAHs. Further investigation will be needed to refine the groundwater regime, including boreholes to a greater depth and groundwater monitoring.

6.3 BUILDINGS AND SERVICES RISK ASSESSMENT

Services are typically laid at 1-1.2m below ground level and therefore these would be mainly within the Made Ground material on the site. As there are detectable levels of arsenic, lead and PAHs in samples, a water pipe risk assessment must be carried out across the site in accordance with UKWIR.

Made Ground was encountered to a maximum of 1.85m below ground level. Further ground investigation is needed to assess the need for gas monitoring as boreholes HA04 and HA05 were terminated in the Made Ground, both of which are located in the area of expected worked ground.

7. WASTE CLASSIFICATION HAZARD ASSESSMENT

As detailed in the Environment Agency's Technical Guidance WM3 Ver.1.2.GB (2021) entitled 'Guidance on the classification and assessment of waste', wastes are presented in the List of Wastes Directive (LoWD, 2014/955/EU) and grouped according to generic industry, process or waste type. Wastes within the LoWD are either hazardous or non-hazardous. Some of these wastes are hazardous without further assessment (absolute entries) or are 'mirror' entries that require further assessment as to hazardous properties in order to determine whether the waste is hazardous. Waste soil has mirror entries on the LoWD and as such the first phase of the waste classification process is to determine if the waste is hazardous or not, i.e. a hazard assessment.

Certain contaminants (e.g. asbestos, diesel) have prescribed concentration thresholds that if breached will render the material hazardous waste. Thus, in the first instance the concentrations of plausible contaminants within the soil should be identified. Results of this assessment should help to determine the likely fate of the soil (re-use elsewhere or disposal) and whether the soil is hazardous 17 05 03* (asterisk denotes hazardous waste code) or non-hazardous 17 05 04. Dependent on the results of the hazard assessment advice can be given as to the likely options available for a given waste and any further testing or assessment that may be required.

Hazardous waste will likely require landfilling (subject to compliance with further Waste Acceptance Criteria (WAC) testing and after 'pre-treatment') or off-site treatment. Non-hazardous waste may be suitable for re-use rather than landfilling in which case reduced or no further testing is likely to be required.

7.1 HAZARD ASSESSMENT

The HazWasteOnline model was used to undertake the hazard assessment, the purpose of which is to establish whether the tested samples should be considered as either hazardous 17 05 03* or non-hazardous 17 05 04 waste. As the model output sheets in Appendix C demonstrate, samples were found to represent non-hazardous soils and stones from construction and demolition and should be disposed of under the code 17 05 04.

Reference was subsequently made to the results of the six WAC tests carried out. The samples were not treated as a single population for the purposes of waste hazard assessment and waste acceptance. As detailed in the table below and in Appendix B, samples "HA01 0.3m", "HA04 0.2m" and "HA04 0.5m" were not compliant with the inert WAC threshold and therefore were classified as non-hazardous waste. Samples "HA02 0.5m", "HA03 1.5m" and "HA05 0.5m" were compliant with the inert WAC

threshold so therefore material represented by these samples may be eligible for the lower rate of landfill tax where material can be segregated. Samples from the possible engineered fill and the Made Ground failed the inert WAC and it is likely that this material will need to be disposed of as non-inert unless further testing is carried out to delineate and segregate areas of inert material. One sample of material arising from the Langley Silt Member was tested for Waste Acceptance Criteria and was returned as complaint with the inert criteria, however additional testing should be carried out to verify whether this result is consistent across the site.

These samples were taken to provide an indication of the waste disposal and waste acceptance status of the materials on the site and further testing may be required to satisfy the conditions of the waste carrier, or where material is found to vary from that described by these samples.

To comply with the requirements of disposal to landfill some sort of physical pre-treatment is required. This can be in the form of sorting the bricks, concrete, etc., from the soil matrix. However, the level to which this practice is implemented will depend upon the percentage volume of material to be segregated and that under certain circumstances, where the percentage is understood to be very low, pre-treatment may not be necessary.

A summary table of the waste hazard assessment is shown below:

Sample Ref:	Stratum	European Waste Catalogue (EWC) Code	Compliant with inert WAC?	Waste Acceptance	Asbestos Present?	Comments
HA01 0.3m	Made Ground	17 05 04 Non-hazardous	No	Non-hazardous	Not Detected	Inert WAC threshold exceeded: Fluoride: 11.7 mg/kg
HA01 0.7m	Made Ground	17 05 04 Non-hazardous	-	-	Not Detected	-
HA02 0.2m	Possible Engineered Fill	17 05 04 Non-hazardous	Yes	Inert	Not Detected	-
HA02 0.5m	Made Ground	17 05 04 Non-hazardous	-	-	Not Detected	-
HA02 1m	Langley Silt Member	17 05 04 Non-hazardous	-	-	Not Detected	-
HA03 0.2m	Possible Engineered Fill	17 05 04 Non-hazardous	-	-	Not Detected	-
HA03 1m	Made Ground	17 05 04 Non-hazardous	-	-	Not Detected	-
HA03 1.5m	Langley Silt Member	17 05 04 Non-hazardous	Yes	Inert	Not Detected	-
HA04 0.2m	Possible Engineered Fill	17 05 04 Non-hazardous	No	Non-hazardous	Not Detected	Inert WAC threshold exceeded: Total PAH: 265 mg/kg TDS: 4561 mg/kg
HA04 0.5m	Made Ground	17 05 04 Non-hazardous	No	Non-hazardous	Not Detected	Inert WAC threshold exceeded: Arsenic: 1.1 mg/kg
HA05 0.5m	Possible Engineered Fill	17 05 04 Non-hazardous	-	-	Not Detected	-
HA05 1m	Made Ground	17 05 04 Non-hazardous	Yes	Inert	Not Detected	-

Table 5: Summary of Waste Classification Report

8. REVISED RISK ASSESSMENT

Following the intrusive ground investigation, a revised conceptual site model is included below and supersedes that issued within the Phase I Preliminary Risk Assessment.

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
Asbestos Containing Materials (ACMs)	Direct/indirect ingestion of soil and dust; Inhalation of particle vapours and asbestos fibres; and	Construction workers	Medium	Low Likelihood	Moderate/Low	Asbestos containing materials were not detected in any of the twelve tested samples. The library building was first mapped on the site in 1975 and is proposed to be demolished during the works. Therefore, it is recommended that asbestos screening is completed again after the demolition. If asbestos containing material is present it should be removed by a suitable licensed asbestos contractor before any demolition works.
		Current site users	Medium	Low Likelihood	Moderate/Low	
		Future site users	Medium	Low Likelihood	Moderate/Low	
Explosive/ asphyxiating gases/vapours from underlying soils (Made Ground, if present)	Migration of gases and vapours through the surface via permeable soils and drainage & services	Internal building spaces & future occupiers	Severe	Low likelihood	Moderate	Total organic carbon (TOCs) in the Made Ground ranged from 0.2%-2.5%. Made Ground present at depths ranging from 0.7m – 1.85m below ground level. Further ground investigation is needed to assess the need for gas monitoring as boreholes HA04 and HA05 were terminated in the Made Ground, both of which are located in the area of expected worked ground.
Historical land use – buildings, reworked ground; potential source of contaminants including but not limited to TPH, PAHs and heavy metals.	Direct/indirect ingestion of soil and dust, inhalation of particle vapours and asbestos fibres and dermal contact, root uptake. Migration of contaminants onto underlying soil including through windblown dust, particulates and through surface run off.	Construction workers	Medium	Likely	Moderate	Exceedances above the residential with plant uptake S4UL values for several samples. Exceedances include lead and a number of PAH compounds. A remediation plan is recommended for the proposed garden areas.
		Current site users	Medium	Likely	Moderate	
		Future site users	Medium	High Likelihood	High	
		Services	Medium	Likely	Moderate	UKWIR water pipe assessment risk to be carried out.

		Controlled waters	Medium	High Likelihood	High	Superficial aquifer groundwater vulnerability defined as high in areas of the site.
		Plants and vegetation	Mild	High Likelihood	Moderate	Exceedances above the residential with plant uptake S4UL values for several samples. Exceedances include lead and a number of PAH compounds. A remediation plan is recommended for the proposed garden areas.
Current site usage – vehicle parking, library buildings, 'pesticide' warning on storage building, electricity sub-station: potential source of contaminants including PCBs, PAHS, TPHs and heavy metals.	Direct/indirect ingestion of soil and dust; Inhalation of particle vapours and asbestos fibres; Dermal contact; Root uptake; and Migration of contaminants into underlying soil including through windblown dust, particulates and through surface run off.	Construction workers	Medium	Likely	Moderate	Exceedances above the residential with plant uptake S4UL values for several samples. Exceedances include lead and several PAH compounds. A remediation plan is recommended for the proposed garden areas.
		Current site users	Medium	Likely	Moderate	
		Future site users	Medium	High Likelihood	High	
		Controlled waters	Medium	Likely	Moderate	
		Plants and vegetation	Medium	High Likelihood	High	
Off-site sources –nearby superstore, works, factory, warehouses. Historical fire station located 40m from the site - potential source of contaminants including PFAS compounds.	Migration of contaminants from off-site sources onto underlying site, including through windblown dust, particulates and through surface run off.	Future site users	Medium	Unlikely	Low	PFAS concentrations were not found above the limit of detection in the one tested sample.
		Construction workers	Medium	Unlikely	Low	
		Controlled waters	Medium	Unlikely	Low	
		Plants and vegetation	Medium	Unlikely	Low	

Table 4: Revised Conceptual Site Model

9. SUMMARY AND CONCLUSIONS

Card Geotechnics Limited (CGL) has been commissioned by London Borough of Hillingdon to complete a Phase II Generic Risk Assessment (GRA) for a site named 'Falling Lane' located at Yiewsley Library and car park at the corner of Falling Lane and High Street, UB7 7BE. The site is centred on What3Words location `///buck.tides.noises` and has an area of 0.24 ha. CGL was instructed to carry out a Preliminary Risk Assessment (CGK00151/PRA), data from which has been used herein to inform the Generic Risk Assessment. CGL also undertook some exploratory holes on the site as part of the ground investigation carried out in November 2021. Data from the boreholes has also been used herein to conduct a Generic Risk Assessment.

The scope of works comprised hand dug boreholes at five locations across the site. The approximate locations of the boreholes are shown on Figure 2. Twelve samples from a range of depths were collected for chemical analysis including a suite of commonly occurring organic and inorganic contaminants based upon the findings of the Phase I Preliminary Risk Assessment CGK/00151/PRA. The results of the soil analysis were compared to Suitable for Use Levels (S4ULs) for residential with plant uptake end uses. The risk to human health from heavy metals and PAHs is judged to be high due to exceedances above the relative S4ULs and the highly sensitive end-use of the site as residential garden areas. Further risk assessment and/or remediation will be needed in this area.

No asbestos containing materials were identified during the laboratory investigation in any of the tested twelve samples. However, it is recommended that asbestos screening is completed again after the demolition due to the library building being first mapped on the site in 1975 and is proposed to be demolished during the works. If asbestos containing material is present it should be removed by a suitable licensed asbestos contractor before any demolition works.

The risk to controlled waters was deemed as high due to a principal aquifer being present on part of the site. The risk to buildings and services is deemed to be moderate when considering ground gas due to the depths of Made Ground (0.7m-1.85m) and the TOC values ranging from 0.2% - 2.5%. Further ground investigation is needed to assess the need for gas monitoring as boreholes HA04 and HA05 were terminated in the Made Ground, both of which are located in the area of expected worked ground.

All soils excavated from the site would all be characterised as 17 05 04 non-hazardous. Six samples were submitted for Waste Acceptance Criteria (WAC) testing. Three of these soil samples indicated that material would be accepted at landfill as inert material, whilst the remaining three would be accepted as non-hazardous waste. Waste should be disposed of following The Waste (Circular Economy) (Amendment) Regulations 2020.

9.1 RECOMMENDATIONS

Based on the findings of this Phase II assessment, the following recommendations are made with regards to ground investigation/assessment to confirm the ground model as well as identify potential risks and inform the redevelopment design.

Further intrusive works and chemical testing are recommended following the demolition of the electricity sub-station and buildings on the site targeting the proposed private garden areas that were inaccessible during the initial intrusive investigation. Additionally, boreholes to a greater depth would allow the groundwater regime to be better understood and allow more information regarding the Made Ground in the worked ground area of the site.

Remedial works should take place before the site would be suitable for residential with plant uptake use based on the comparison of samples against the S4UL values. An options appraisal should be carried out and remediation method statement. If the contaminated material is to be disposed off-site, then full waste characterisation and classification would be required. Any remediation work will need to be verified by an environmental consultancy. It is recommended that the local authority contaminated land officer should be contacted to approve any further investigation or remediation plans including proposals of verification methods.

A pipe selection risk assessment should be carried out in accordance with UKWIR due to the presence of detectable amounts of arsenic, lead and PAHs in samples across the site.

Should the proposed end use of the site change, the risk assessments must be reviewed, and the site conceptual model updated.

Where designs include removing material from the site or reusing site won material as part of the construction, chemical testing for waste classification⁴, waste acceptance and Generic Assessment Criteria (GACs)⁵ should be undertaken as well as suitable permitting such as a materials management plan⁶ or U1 waste exemption, as applicable.

While the proposed end use is not associated with any activities of high contaminative concern, some residential activities could contribute to diffuse pollution or minor spills. Any runoff from construction

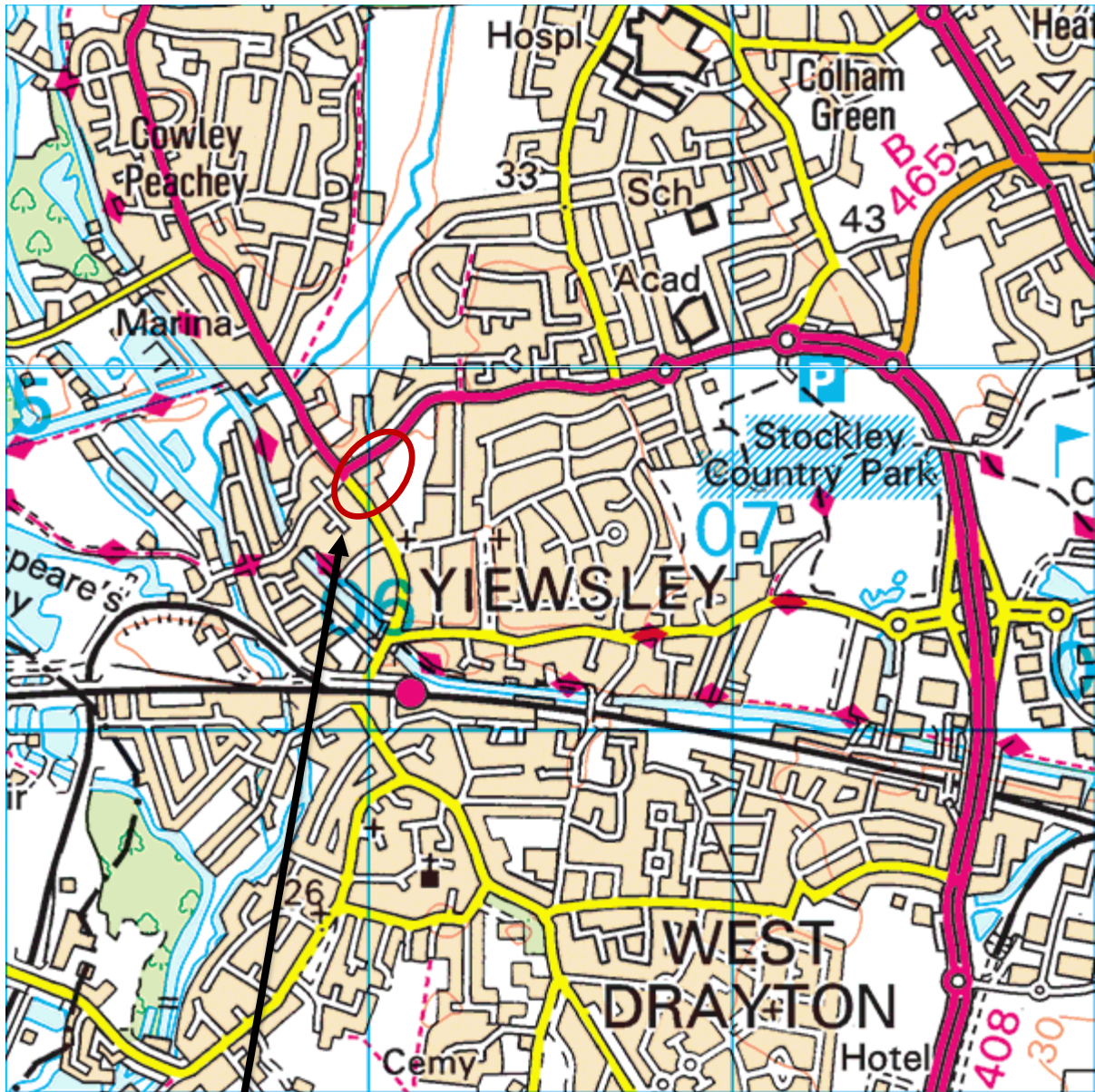
⁴ Environment Agency (2021) WM3 Ver.1.1.GB entitled 'Guidance on the classification and assessment of waste (3rd Edition v1.1.GB) Technical Guidance WM3'

⁵ Nathanail, C.P.; McCaffrey, C.; Gillett, A.G.; Ogden, R.C. & Nathanail, J.F. (2015) The LQM/CIEH S4ULs for Human Health Risk Assessment, Land Quality Press

⁶ CL:AIRE (2011) The Definition of Waste: Development Industry Code of Practice


works or from potentially contaminative end uses like car parking spaces should be diverted into municipal sewerage and not allowed to soak away into the underlying soils.

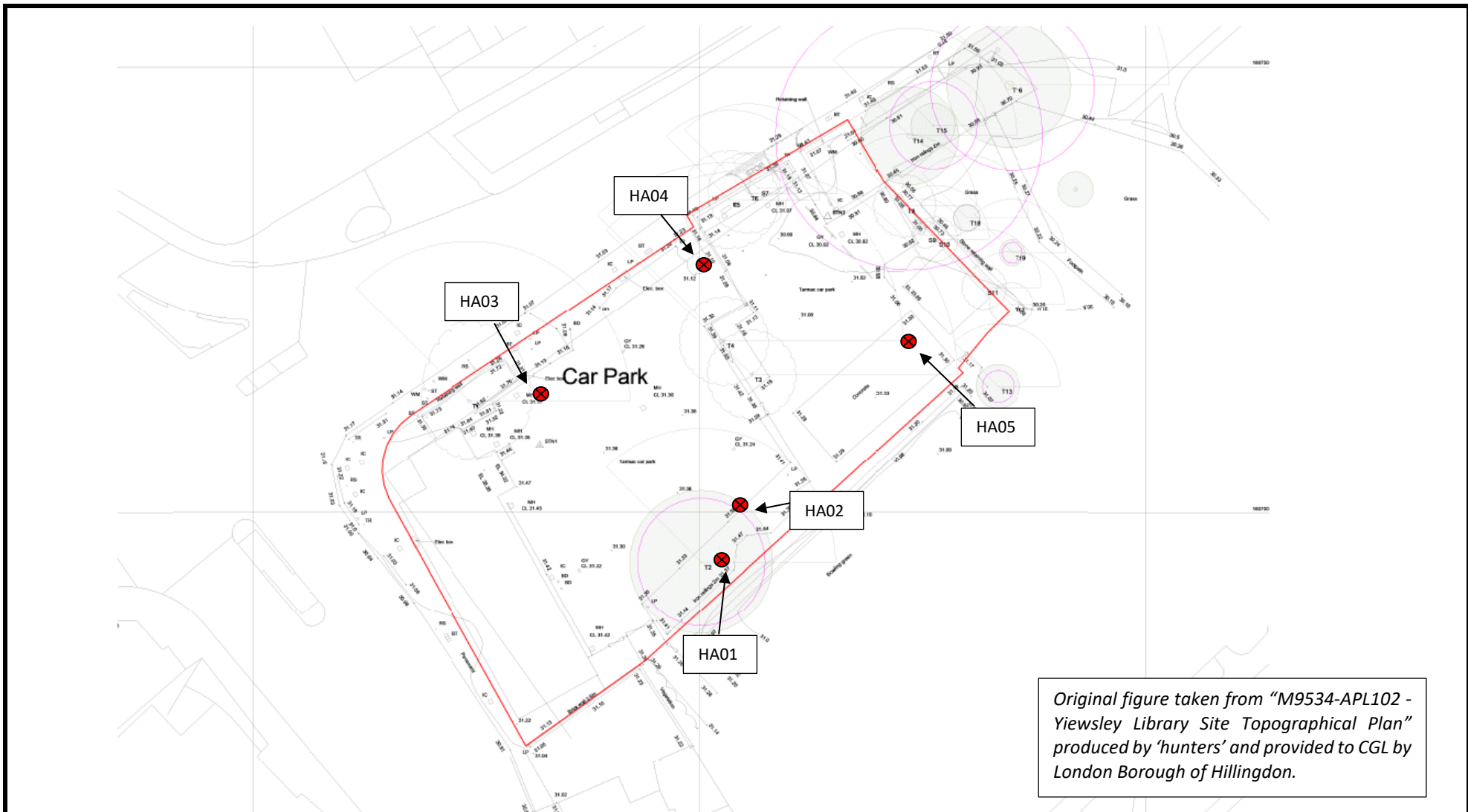
FIGURES




Site Location




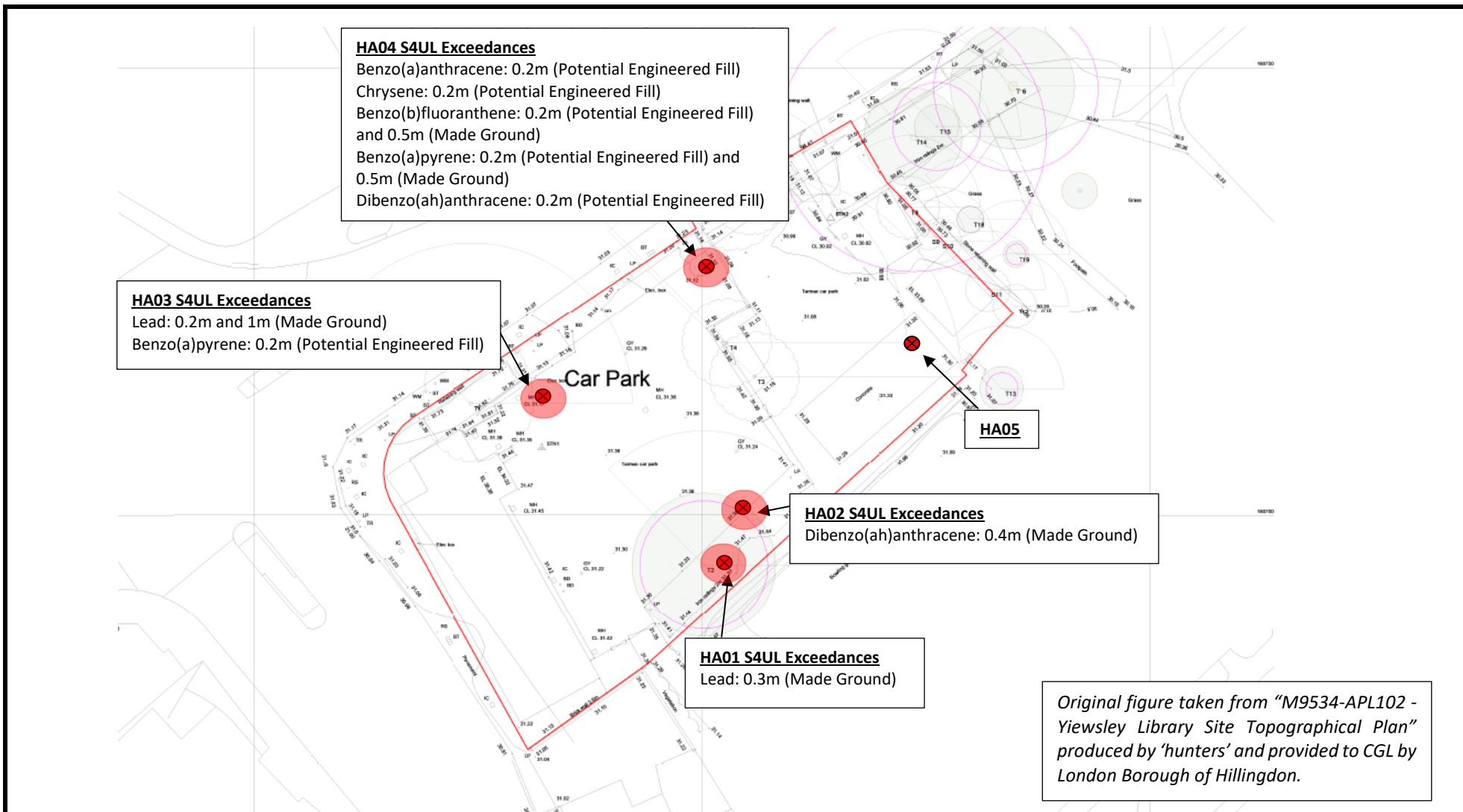
<p>Client London Borough of Hillingdon</p>	<p>Project Falling Lane</p>	<p>Job No CGK/00151</p>
	<p>Title Site Location Plan</p>	<p>Figure 1 Scale 1:50,000</p>




<p>Client</p> <p>London Borough of Hillingdon</p>	<p>Project</p> <p>Falling Lane</p>	<p>Job No</p> <p>CGK/00151</p>
	<p>Title</p> <p>Indicative Exploratory Hole Location Plan – Site Topographical Plan</p>	<p>Figure 2</p>

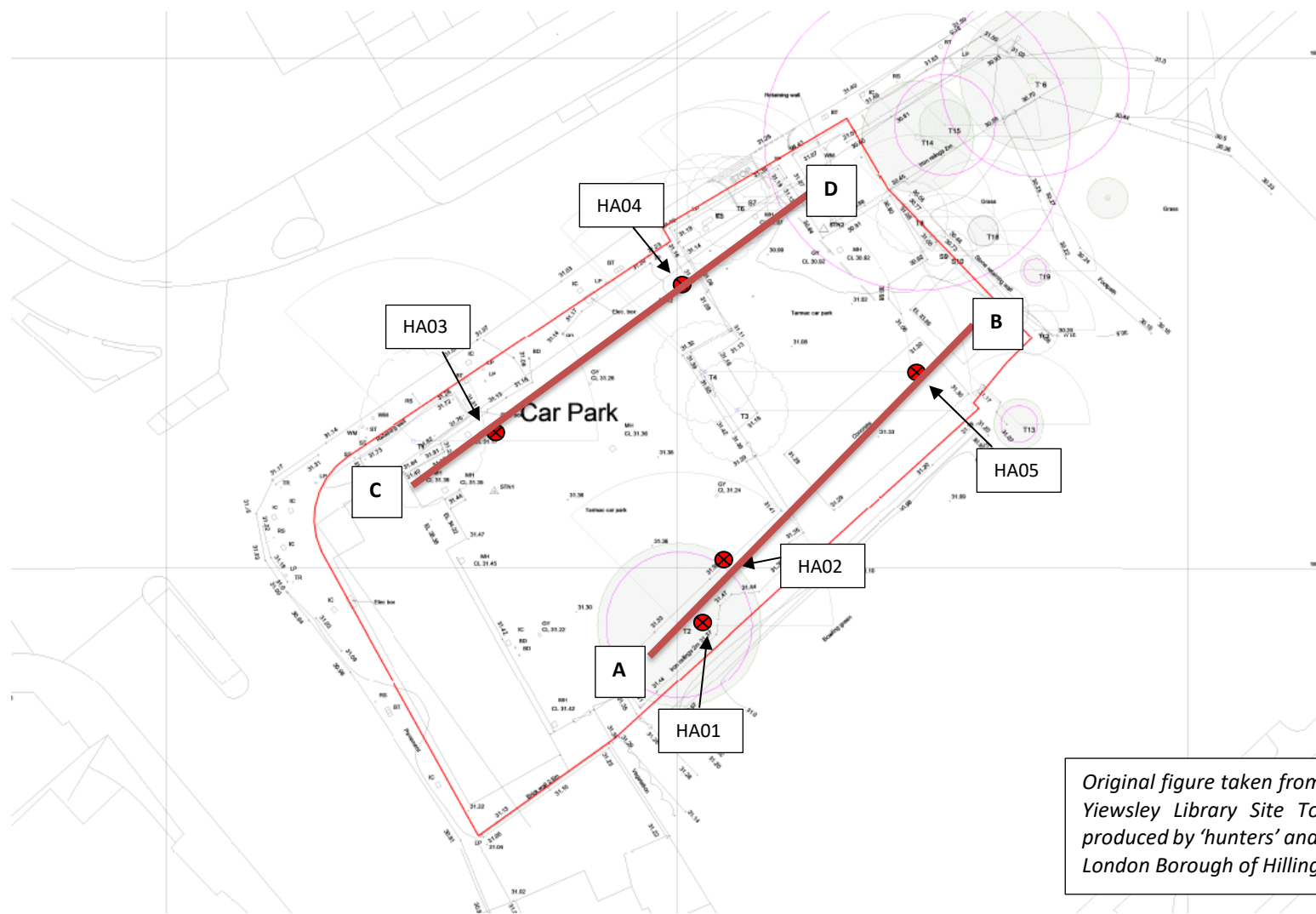



<p>Client</p> <p>London Borough of Hillingdon</p>	<p>Project</p> <p>Falling Lane</p>	<p>Job No</p> <p>CGK/00151</p>
	<p>Title</p> <p>Indicative Exploratory Hole Location Plan – Proposed Landscape Plan</p>	<p>Figure 3</p>



Original figure taken from "M9534-APL102 - Yiewsley Library Site Topographical Plan" produced by 'hunters' and provided to CGL by London Borough of Hillingdon.

<p>Client</p> <p>London Borough of Hillingdon</p>	<p>Project</p> <p>Falling Lane</p>	<p>Job No</p> <p>CGK/00151</p>
	<p>Title</p> <p>Indicative Exploratory Hole Location Plan – Contamination</p>	<p>Figure 4</p>



Client London Borough of Hillingdon	Project Falling Lane	Job No CGK/00151
	Title Indicative Exploratory Hole Location Plan – Cross-Section Plan for Conceptual Site Model	Figure 5

Sources identified on-site:

- Lead contamination
- PAH contamination
- Ground gas due to Made Ground

Potential pollution pathways:

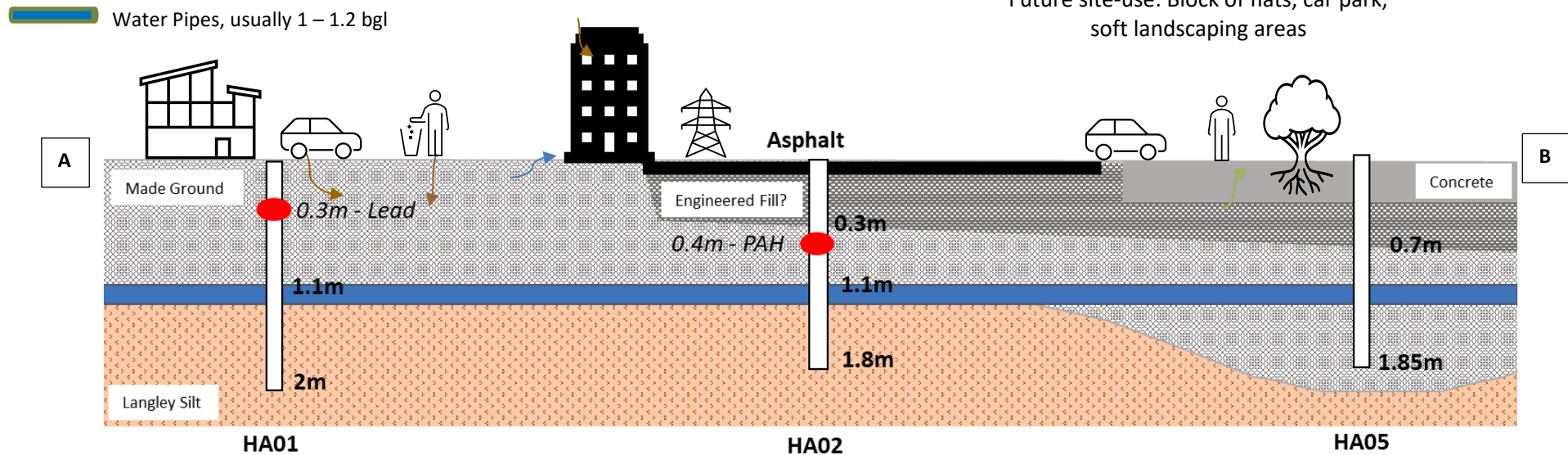
- Ingestion & inhalation
- Direct/dermal contact
- Root uptake
- Lateral and vertical migration
- Ground gas/vapour migration
- Drainage and services

Potential receptors:


- Current site users
- Future site users
- Construction workers
- Plants and vegetation
- Off-site users
- On and off-site buildings and infrastructure
- Controlled waters

Current On-site: Library, car park, bins, trees, electricity sub-station

Future site-use: Block of flats, car park, soft landscaping areas



Principal superficial aquifer in areas of the site

<p>Client London Borough of Hillingdon</p>	<p>Project Falling Lane</p>	<p>Job No CGK/00151</p>
	<p>Title Updated Conceptual Site Model Schematic A-B</p>	<p>Figure 6</p>

Sources identified on-site:

- Lead contamination
- PAH contamination
- Ground gas due to Made Ground

Potential pollution pathways:

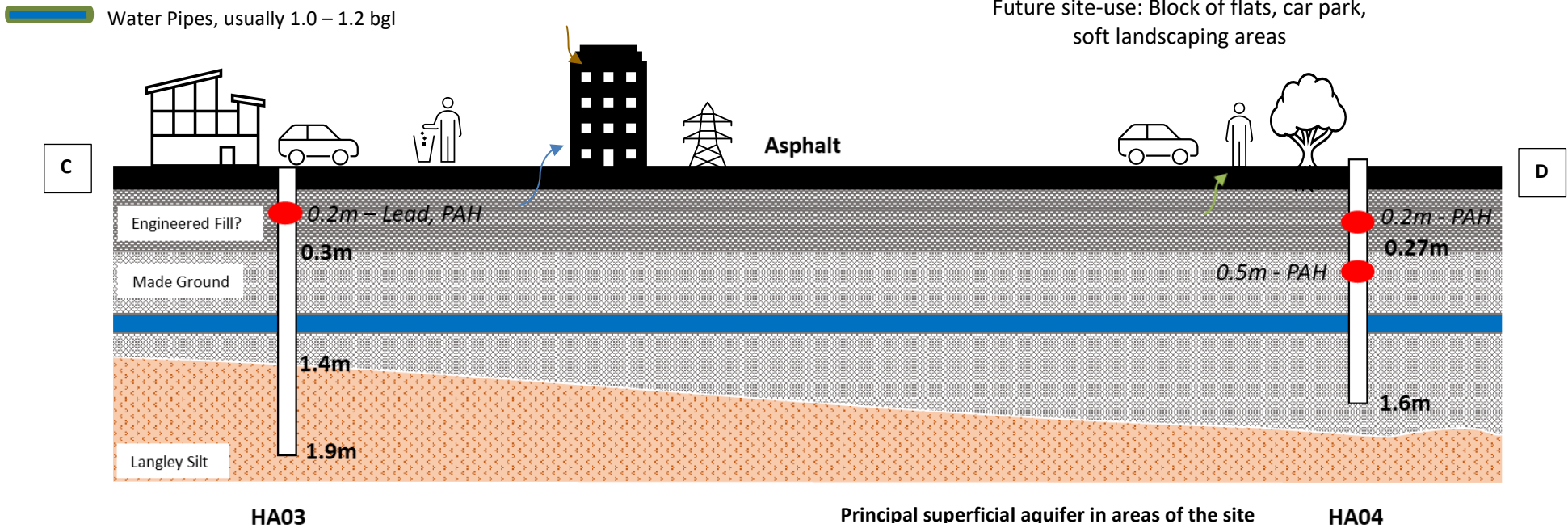
- Ingestion & inhalation
- Direct/dermal contact
- Root uptake
- Lateral and vertical migration
- Ground gas/vapour migration
- Drainage and services

Potential receptors:

- Current site users
- Future site users
- Construction workers
- Plants and vegetation
- Off-site users
- On and off-site buildings and infrastructure
- Controlled waters

Current On-site: Library, car park, bins, trees, electricity sub-station

Future site-use: Block of flats, car park, soft landscaping areas




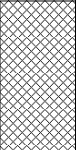
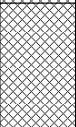
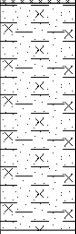
Client London Borough of Hillingdon	Project Falling Lane	Job No CGK/00151
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Title Updated Conceptual Site Model Schematic C - D	Figure 7
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






APPENDIX A

Engineer's Logs




Client: London Borough of Hillingdon				Hole Diameter (mm): 75mm to 2m				BOREHOLE NUMBER HA01 Sheet 1 of 1			
Method: Hand Augering											
Date Started: 08/11/2021		Co-ordinates E 506006.000 N 180695.000		Ground Level (m AOD)		Ref. No: CGK00151					
Backfill/Well		Water		Samples		In Situ Tests		Reduced Level (mAOD)	Depth & Thickness (m)	Description of Strata	Legend
Depth (m)	Legend	Depth (m)	Depth (m)	Type	Type	Results					
2.00			0.30 0.30	D ES			(0.60)	Grass over soft, dark brown, slightly fine to coarse sandy, slightly gravelly CLAY. Gravel is angular to rounded, fine to coarse flint, brick and possible clinker. (Made Ground)			
			0.70 0.70	D ES			(0.50)	Brown and orange brown, fine sandy, slightly clayey SILT. Occasional gravel of sub-angular, fine to coarse flint and brick. (Made Ground)			
			1.50 1.50	D ES			(0.90)	Soft to firm, orange brown, slightly fine sandy, silty CLAY. Becomes slightly gravelly from 1.8m below ground level. Gravel is angular to sub-rounded, fine to coarse flint. (Langley Silt Member)			
			2.00	D			2.00	End of Borehole at 2.00m			


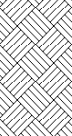

- General Remarks:
1. Roots and rootlets observed to base of borehole.
 2. Borehole remained dry and stable whilst open.
 3. Borehole terminated at 2m below ground level due to refusal on flint gravel.
 4. It was attempted to continue the borehole with a follow on window sampler borehole however this also refused at the same depth.
 5. W3W location Ref - CARD.PASTA.ENDED.

Driller:	DI	BOREHOLE RECORD Scale 1:30 <small>See Key Sheet for explanation of symbols, etc.</small>	 Providing Ground Solutions
Logged:	HM		
Checked:		Falling Lane	FIG A1
Appr'd:			




Client: London Borough of Hillingdon				Hole Diameter (mm): 75mm to 1.8m				BOREHOLE NUMBER HA02 Sheet 1 of 1			
Method: Hand Augering											
Date Started: 08/11/2021		Co-ordinates E 506009.000 N 180704.000		Ground Level (m AOD)		Ref. No: CGK00151					
Backfill/Well		Water		Samples		In Situ Tests		Reduced Level (mAOD)	Depth & Thickness (m)	Description of Strata	Legend
Depth (m)	Legend	Depth (m)	Depth (m)	Type	Type	Results					
0.11								(0.11)	Asphalt.		
			0.20	D				0.11	Light grey, slightly fine to coarse sandy GRAVEL of angular to sub-rounded, fine to coarse flint, concrete and shale.		
			0.20	ES				(0.19)			
			0.50	D				0.30	(Engineered Fill?)		
			0.50	ES				(0.40)			
								0.70	Soft to firm, grey mottled brown, slightly fine to coarse sandy, gravelly CLAY, locally clayey GRAVEL. Gravel is angular to rounded, fine to coarse flint, brick, concrete, possible clinker and asphalt. (Made Ground)		
			1.00	ES				(1.10)			
								1.50	Orange brown, slightly fine sandy, silty CLAY. Becomes slightly gravelly from 1.6m below ground level. Gravel is angular to rounded, fine to coarse flint. (Langley Silt Member)		
1.80				D				1.80			
End of Borehole at 1.80m											








- General Remarks:
1. Roots and rootlets observed to base of borehole.
 2. Borehole remained dry and stable whilst open.
 3. Borehole terminated at 1.8m below ground level due to refusal on flint gravel.
 4. It was attempted to continue the borehole with a follow on window sampler borehole however this also refused at the same depth.
 5. W3W location Ref - RELAX.TINY.MANLINESS.

Driller:	DI	BOREHOLE RECORD Scale 1:30 <small>See Key Sheet for explanation of symbols, etc.</small>	 Providing Ground Solutions
Logged:	HM		
Checked:		Falling Lane	FIG A2
Appr'd:			

Client: London Borough of Hillingdon				Hole Diameter (mm): 75mm to 1.9m				BOREHOLE NUMBER HA03 Sheet 1 of 1			
Method: Hand Augering											
Date Started: 08/11/2021		Co-ordinates E 505988.000 N 180715.000		Ground Level (m AOD)		Ref. No: CGK00151					
Backfill/Well		Water		Samples		In Situ Tests		Reduced Level (mAOD)	Depth & Thickness (m)	Description of Strata	Legend
Depth (m)	Legend	Depth (m)	Depth (m)	Type	Type	Results					
0.10								(0.10)	Asphalt.		
			0.20	ES				0.10	light grey and brown, slightly fine to coarse sandy		
			0.60	ES				(0.20)	GRAVEL of angular to sub-rounded, fine to coarse flint, concrete and shale.		
			1.00	ES				0.30	(Engineered Fill?)		
			1.50	ES				(1.10)	Soft to firm, dark brown, slightly fine to coarse sandy, gravelly CLAY. Gravel is angular to rounded, fine to coarse flint, brick, concrete, possible clinker, possible coal and asphalt. (Made Ground)		
1.80								1.40	Firm orange brown, slightly fine sandy, silty CLAY. Occasional gravel of angular to rounded, fine to coarse flint.		
								(0.50)	(Langley Silt Member)		
								1.90	End of Borehole at 1.90m		




- General Remarks:
1. Roots and rootlets observed to base of borehole.
 2. Borehole remained dry and stable whilst open.
 3. Borehole terminated at 1.9m below ground level due to refusal on flint gravel.
 4. It was attempted to continue the borehole with a follow on window sampler borehole however this also refused at the same depth.
 5. W3W location Ref - TOOTH.NEVER.ROOMS.

Driller:	DI	BOREHOLE RECORD Scale 1:30 <small>See Key Sheet for explanation of symbols, etc.</small>	 Providing Ground Solutions
Logged:	HM		
Checked:		Falling Lane	FIG A3
Appr'd:			

Client: London Borough of Hillingdon				Hole Diameter (mm): 75mm to 1.6m				BOREHOLE NUMBER HA04 Sheet 1 of 1			
Method: Hand Augering											
Date Started: 08/11/2021		Co-ordinates E 505999.000 N 180731.000		Ground Level (m AOD)		Ref. No: CGK00151					
Backfill/Well		Water		Samples		In Situ Tests		Reduced Level (mAOD)	Depth & Thickness (m)	Description of Strata	Legend
Depth (m)	Legend	Depth (m)	Depth (m)	Type	Type	Results					
0.10								(0.10)		Asphalt.	
			0.20	D				0.10		Light grey, slightly fine to coarse sandy GRAVEL of angular to sub-rounded, fine to coarse flint, concrete and shale. (Engineered Fill?)	
			0.20	ES				(0.17)			
			0.50	D				0.27		Dark brown becoming reddish brown with depth, fine to coarse sandy, clayey GRAVEL of angular to rounded, brick, concrete, flint and ceramic. Low cobble content of angular brick. (Made Ground)	
			0.50	ES				(1.33)			
1.60								1.60		End of Borehole at 1.60m	

General Remarks:

1. Roots and rootlets observed to base of borehole.
2. Borehole remained dry and stable whilst open.
3. Borehole terminated at 1.6m below ground level due to refusal on flint gravel.
4. It was attempted to continue the borehole with a follow on window sampler borehole however this also refused at the same depth.
5. W3W location Ref - POPPED.THAT.WISHES

Driller:	DI	BOREHOLE RECORD Scale 1:30 <small>See Key Sheet for explanation of symbols, etc.</small>	 Providing Ground Solutions
Logged:	HM		
Checked:		Falling Lane	FIG A4
Appr'd:			

Client: London Borough of Hillingdon				Hole Diameter (mm): 75mm to 1.85m				BOREHOLE NUMBER HA05 Sheet 1 of 1			
Method: Hand Augering											
Date Started: 08/11/2021		Co-ordinates E 506024.000 N 180719.000		Ground Level (m AOD)		Ref. No: CGK00151					
Backfill/Well		Water		Samples		In Situ Tests		Reduced Level (mAOD)	Depth & (Thickness) (m)	Description of Strata	Legend
Depth (m)	Legend	Depth (m)	Depth (m)	Type	Type	Results					
0.35									(0.35)	Concrete.	
			0.50 0.50	D ES					0.35 (0.35) 0.70	Light grey, slightly fine to coarse sandy GRAVEL of angular to sub-rounded, fine to coarse flint, concrete and shale. (Engineered Fill?)	
			1.00 1.00	D ES					(1.15)	Soft to firm, slightly fine to coarse sandy, slightly gravelly CLAY. Gravel is angular to rounded, fine to coarse brick, flint, possible clinker and concrete. (Made Ground)	
1.85									1.85	End of Borehole at 1.85m	

- General Remarks:
1. Roots and rootlets observed to base of borehole.
 2. Borehole remained dry and stable whilst open.
 3. Borehole terminated at 1.6m below ground level due to refusal on flint gravel.
 4. It was attempted to continue the borehole with a follow on window sampler borehole however this also refused at the same depth.
 5. W3W location Ref - APPLE.STEPS.FILM.

Driller:	DI	BOREHOLE RECORD Scale 1:30 <small>See Key Sheet for explanation of symbols, etc.</small>	 Providing Ground Solutions
Logged:	HM		
Checked:		Falling Lane	FIG A5
Appr'd:			

APPENDIX B

Results of Laboratory Chemical Analysis



Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528700

Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

CGL
Northdown House
Ashford Road
Harrietsham
Kent
ME17 1QW

Attention: Emma Tyson

CERTIFICATE OF ANALYSIS

Date of report Generation:	26 November 2021
Customer:	CGL
Sample Delivery Group (SDG):	211112-167
Your Reference:	CGK/00151
Location:	Falling Lane
Report No:	622835
Order Number:	

We received 1 sample on Friday November 12, 2021 and 1 of these samples were scheduled for analysis which was completed on Friday November 26, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25326630	HA03 0.5M		0.00 - 0.50	08/11/2021

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Results Legend <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 15px; height: 15px; background-color: yellow; margin-right: 5px;"></div> X Test </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 15px; height: 15px; background-color: red; color: white; margin-right: 5px;"></div> N No Determination Possible </div> <p>Sample Types -</p> <ul style="list-style-type: none"> S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other 	Lab Sample No(s)		25326630		
	Customer Sample Reference		HA03 0.5M		
	AGS Reference				
	Depth (m)		0.00 - 0.50		
	Container		250g Amber Jar (ALE210)	1kg Cardboard Container	
	Sample Type		S	S	
PFAS Solids	All	NDPs: 0 Tests: 1	X		
Sample description	All	NDPs: 0 Tests: 1		X	



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
-----------	----------	------	-----------------	--------	-------------	--------	------------	-------------	-------

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
25326630	HA03 0.5M	0.00 - 0.50	Dark Brown	Sand	Brick	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Results Legend		Customer Sample Ref.	HA03 0.5M				
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filter Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4*\$@ Sample deviation (see appendix)		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.50 Soil/Solid (S) 08/11/2021 12/11/2021 211112-167 25326630				
Component	LOD/Units	Method					
Moisture Content Ratio (% of as received sample)	%	PM024	0				
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338	<3				
PFFA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338	<3				
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338	<2				
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338	<1				
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338	<1				
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338	<1				
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338	<1				
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338	<1				
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338	<1				
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338	<1				
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338	<1				
Branched PFOS	<1 µg/kg	TM338	<1				
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338	<1				
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338	<1				
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338	<1				
6:2-FTS (27619-97-2)	<1 µg/kg	TM338	<1				
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338	<1				
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338	<1				
Total PFOS	<1 µg/kg	TM338	<1				



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM338	PFAS In Solids	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211112-167
Client Ref.: CGK/00151

Report Number: 622835
Location: Falling Lane

Superseded Report:

Test Completion Dates

Lab Sample No(s)	25326630
Customer Sample Ref.	HA03 0.5M
AGS Ref.	
Depth	0.00 - 0.50
Type	Soil/Solid (S)

PFAS Solids	26-Nov-2021
Sample description	18-Nov-2021



CERTIFICATE OF ANALYSIS

SDG: 211112-167 Client Reference: CGK/00151 Report Number: 622835
 Location: Falling Lane Order Number: Superseded Report:

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



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CGL Ltd
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Ashford Road
Harrietsham
Maidstone
Kent
ME17 1QW

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-13610

Site Reference: Falling Lane
Project / Job Ref: CGK00151
Order No: POP008667
Sample Receipt Date: 12/11/2021
Sample Scheduled Date: 12/11/2021
Report Issue Number: 1
Reporting Date: 19/11/2021

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA01	HA01	HA02	HA02	HA02
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.30	0.70	0.20	0.50	1.00
Reporting Date: 19/11/2021	DETS Sample No	574584	574585	574586	574587	574588

Determinand	Unit	RL	Accreditation	(n)				
				08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	4.2	4.1	6.9	5.0	4.6
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	43	14	163	34	20
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.04	0.01	0.16	0.03	0.02
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	2.4	0.6	0.2	0.7	0.2
Arsenic (As)	mg/kg	< 2	MCERTS	22	9	6	16	12
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	9.9	0.7	< 0.2	0.4	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	101	24	15	22	26
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	195	30	24	30	18
Lead (Pb)	mg/kg	< 3	MCERTS	258	47	8	86	14
Mercury (Hg)	mg/kg	< 1	MCERTS	2.3	< 1	< 1	1.2	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	41	13	9	14	24
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	416	77	26	103	55
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
TPH - Aliphatic >C35 - C40	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >C35 - C40	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42
Tentative Petroleum Type	N/a	N/a	NONE	Typical of PAH and lubricating oil range organics	Typical of PAH and lubricating oil range organics	Typical of lubricating oil and Diesel range organics	Typical of PAH and lubricating oil range organics	N/a

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)

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



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Soil Analysis Certificate						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA03	HA03	HA03	HA04	HA04
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.20	1.00	1.50	0.20	0.50
Reporting Date: 19/11/2021	DETS Sample No	574589	574590	574591	574592	574593

Determinand	Unit	RL	Accreditation	(n)			(n)	
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	5.1	4.8	5.0	8.2	5.8
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	11	22	19	86	20
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01	0.02	0.02	0.09	0.02
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.2	1.3	0.2	2.5	0.6
Arsenic (As)	mg/kg	< 2	MCERTS	20	18	10	9	26
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.8	0.4	< 0.2	0.5	0.4
Chromium (Cr)	mg/kg	< 2	MCERTS	20	19	21	10	6
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	34	58	17	16	25
Lead (Pb)	mg/kg	< 3	MCERTS	221	265	17	60	164
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	1.6	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	11	16	19	6	5
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	144	143	44	80	75
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
TPH - Aliphatic >C35 - C40	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >C35 - C40	mg/kg	< 10	NONE	13	< 10	< 10	18	< 10
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	63	< 42	< 42	520	127
Tentative Petroleum Type	N/a	N/a	NONE	Typical of PAH and lubricating oil range organics	Typical of PAH range organics	N/a	Typical of PAH range organics	Typical of PAH range organics

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)



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Soil Analysis Certificate					
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21		
CGL Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Falling Lane	TP / BH No	HA05	HA05		
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied		
Order No: POP008667	Depth (m)	0.50	1.00		
Reporting Date: 19/11/2021	DETS Sample No	574594	574595		

Determinand	Unit	RL	Accreditation	(n)				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	5.5	4.7			
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	27	254			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.03	0.25			
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.2	1.2			
Arsenic (As)	mg/kg	< 2	MCERTS	7	16			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	1.3	0.4			
Chromium (Cr)	mg/kg	< 2	MCERTS	5	18			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	12	73			
Lead (Pb)	mg/kg	< 3	MCERTS	26	200			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	< 3	16			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	82	88			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
TPH - Aliphatic >C35 - C40	mg/kg	< 10	NONE	< 10	< 10			
TPH - Aromatic >C35 - C40	mg/kg	< 10	NONE	< 10	< 10			
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	< 42	< 42			
Tentative Petroleum Type	N/a	N/a	NONE	N/a	Typical of PAH range organics			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA01	HA01	HA02	HA02	HA02
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.30	0.70	0.20	0.50	1.00
Reporting Date: 19/11/2021	DETS Sample No	574584	574585	574586	574587	574588

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.69	< 0.1	< 0.1	0.27	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	0.13	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	1.61	0.28	< 0.1	0.62	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	1.36	0.24	< 0.1	0.51	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.69	0.13	< 0.1	0.23	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.89	0.17	< 0.1	0.33	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	1.23	0.24	< 0.1	0.40	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.43	< 0.1	< 0.1	0.15	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.82	0.15	< 0.1	0.27	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.70	< 0.1	< 0.1	0.18	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.58	< 0.1	< 0.1	0.19	< 0.1
Coronene	mg/kg	< 0.1	NONE	0.58	0.42	< 0.1	0.46	< 0.1
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	4.8	< 1	< 1	1.5	< 1
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	6.5	< 1	< 1	2.2	< 1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	9.1	< 1.6	< 1.6	3.1	< 1.6
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	9.7	< 1.7	< 1.7	3.6	< 1.7

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA03	HA03	HA03	HA04	HA04
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.20	1.00	1.50	0.20	0.50
Reporting Date: 19/11/2021	DETS Sample No	574589	574590	574591	574592	574593

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.12	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.16
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	2.60	0.26
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	1.83	0.27
Phenanthrene	mg/kg	< 0.1	MCERTS	0.26	0.75	< 0.1	40.90	5.38
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	< 0.1	10.60	1.37
Fluoranthene	mg/kg	< 0.1	MCERTS	1.42	2.32	< 0.1	57.20	14.40
Pyrene	mg/kg	< 0.1	MCERTS	1.52	2.09	< 0.1	46.60	12.20
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	1	1.08	< 0.1	21.20	6.93
Chrysene	mg/kg	< 0.1	MCERTS	1.24	1.52	< 0.1	21.10	6.24
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	2.45	2.09	< 0.1	22.40	8.10
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.93	0.73	< 0.1	7.65	3.43
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	2.21	1.58	< 0.1	16.40	7.55
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	1.55	0.98	< 0.1	7.51	3.41
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.22	0.15	< 0.1	1.59	0.59
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	1.49	0.88	< 0.1	6.01	3.02
Coronene	mg/kg	< 0.1	NONE	0.87	0.63	< 0.1	1.60	1.48
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	9.6	8.1	< 1	97.8	36.3
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	10.1	10	< 1	189	51.7
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	14.3	14.3	< 1.6	264	73.2
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	15.1	15	< 1.7	265	74.7



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21			
CGL Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Falling Lane	TP / BH No	HA05	HA05			
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied			
Order No: POP008667	Depth (m)	0.50	1.00			
Reporting Date: 19/11/2021	DETS Sample No	574594	574595			

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	1.12			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.34			
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	3.91			
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	3.51			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	1.76			
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	2.06			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	2.42			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.84			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.94			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.04			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.17			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.88			
Coronene	mg/kg	< 0.1	NONE	< 0.1	0.71			
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	10.2			
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1	13.9			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	20			
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7	20.7			



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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA01	HA01	HA02	HA02	HA02
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.30	0.70	0.20	0.50	1.00
Reporting Date: 19/11/2021	DETS Sample No	574584	574585	574586	574587	574588

Determinand	Unit	RL	Accreditation	(n)				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	6	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA03	HA03	HA03	HA04	HA04
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.20	1.00	1.50	0.20	0.50
Reporting Date: 19/11/2021	DETS Sample No	574589	574590	574591	574592	574593

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	22	3
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	7	7	< 3	237	49
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	43	17	< 10	242	76
Aromatic (C5 - C35)	mg/kg	< 21	NONE	50	24	< 21	501	127
Total >C5 - C35	mg/kg	< 42	NONE	50	< 42	< 42	501	127



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Soil Analysis Certificate - TPH CWG Banded					
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21		
CGL Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Falling Lane	TP / BH No	HA05	HA05		
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied		
Order No: POP008667	Depth (m)	0.50	1.00		
Reporting Date: 19/11/2021	DETS Sample No	574594	574595		

Determinand	Unit	RL	Accreditation	(n)			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01		
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05		
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2		
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2		
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3		
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3		
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10		
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21		
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01		
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05		
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2		
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2		
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2		
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	15		
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	25		
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	40		
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42		



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA01	HA01	HA02	HA02	HA02
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.30	0.70	0.20	0.50	1.00
Reporting Date: 19/11/2021	DETS Sample No	574584	574585	574586	574587	574588

Determinand	Unit	RL	Accreditation	(n)		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA03	HA03	HA03	HA04	HA04
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.20	1.00	1.50	0.20	0.50
Reporting Date: 19/11/2021	DETS Sample No	574589	574590	574591	574592	574593

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21			
CGL Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Falling Lane	TP / BH No	HA05	HA05			
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied			
Order No: POP008667	Depth (m)	0.50	1.00			
Reporting Date: 19/11/2021	DETS Sample No	574594	574595			

Determinand	Unit	RL	Accreditation	(n)		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA01	HA01	HA02	HA02	HA02
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.30	0.70	0.20	0.50	1.00
Reporting Date: 19/11/2021	DETS Sample No	574584	574585	574586	574587	574588

Determinand	Unit	RL	Accreditation	(n)				
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	0.010	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	0.016	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	0.018	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	0.011	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21	08/11/21	08/11/21	08/11/21
CGL Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Falling Lane	TP / BH No	HA03	HA03	HA03	HA04	HA04
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: POP008667	Depth (m)	0.20	1.00	1.50	0.20	0.50
Reporting Date: 19/11/2021	DETS Sample No	574589	574590	574591	574592	574593

Determinand	Unit	RL	Accreditation	(n)			(n)		
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-13610	Date Sampled	08/11/21	08/11/21			
CGL Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Falling Lane	TP / BH No	HA05	HA05			
Project / Job Ref: CGK00151	Additional Refs	None Supplied	None Supplied			
Order No: POP008667	Depth (m)	0.50	1.00			
Reporting Date: 19/11/2021	DETS Sample No	574594	574595			

Determinand	Unit	RL	Accreditation	(n)				
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008			
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008			
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1			



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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																		
DETS Report No: 21-13610		Date Sampled	08/11/21		Landfill Waste Acceptance Criteria Limits <table border="1"> <thead> <tr> <th>Inert Waste Landfill</th> <th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th>Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td>3%</td> <td>5%</td> <td>6%</td> </tr> <tr> <td>--</td> <td>--</td> <td>10%</td> </tr> <tr> <td>6</td> <td>--</td> <td>--</td> </tr> <tr> <td>1</td> <td>--</td> <td>--</td> </tr> <tr> <td>500</td> <td>--</td> <td>--</td> </tr> <tr> <td>100</td> <td>--</td> <td>--</td> </tr> <tr> <td>--</td> <td>>6</td> <td>--</td> </tr> <tr> <td>--</td> <td>To be re-evaluated</td> <td>To be re-evaluated</td> </tr> </tbody> </table>			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be re-evaluated	To be re-evaluated
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																
3%	5%	6%																																
--	--	10%																																
6	--	--																																
1	--	--																																
500	--	--																																
100	--	--																																
--	>6	--																																
--	To be re-evaluated	To be re-evaluated																																
CGL Ltd		Time Sampled	None Supplied																															
Site Reference: Falling Lane		TP / BH No	HA01																															
Project / Job Ref: CGK00151		Additional Refs	None Supplied																															
Order No: POP008667		Depth (m)	0.30																															
Reporting Date: 19/11/2021		DETS Sample No	574584																															
Determinand	Unit	MDL																																
TOC ^{MU}	%	< 0.1	2.4																															
Loss on Ignition	%	< 0.01	6.90																															
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																															
Sum of PCBs	mg/kg	< 0.1	0.1																															
Mineral Oil ^{MU}	mg/kg	< 10	< 10																															
Total PAH ^{MU}	mg/kg	< 1.7	9.7																															
pH ^{MU}	pH Units	N/a	4.2																															
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1																															
Eluate Analysis			10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																												
Arsenic ^U		0.01			0.1	0.5	2	25																										
Barium ^U		< 0.02			< 0.2	20	100	300																										
Cadmium ^U		< 0.0005			< 0.005	0.04	1	5																										
Chromium ^U		< 0.005			< 0.05	0.5	10	70																										
Copper ^U		0.02			0.2	2	50	100																										
Mercury ^U		< 0.0005			< 0.005	0.01	0.2	2																										
Molybdenum ^U		0.010			0.10	0.5	10	30																										
Nickel ^U		< 0.007			< 0.07	0.4	10	40																										
Lead ^U		< 0.005			< 0.05	0.5	10	50																										
Antimony ^U		< 0.005			< 0.05	0.06	0.7	5																										
Selenium ^U		< 0.005			< 0.05	0.1	0.5	7																										
Zinc ^U		0.040			0.40	4	50	200																										
Chloride ^U		3.6			36	800	15000	25000																										
Fluoride ^U		1.2			11.7	10	150	500																										
Sulphate ^U		4.4			44	1000	20000	50000																										
TDS		57			570	4000	60000	100000																										
Phenol Index		< 0.01			< 0.1	1	-	-																										
DOC		12.3			124	500	800	1000																										
Leach Test Information																																		
Sample Mass (kg)			0.10																															
Dry Matter (%)			86.1																															
Moisture (%)			16.2																															
Stage 1																																		
Volume Eluate L10 (litres)			0.89																															
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion																																		
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2				Landfill Waste Acceptance Criteria Limits					
DETS Report No: 21-13610		Date Sampled	08/11/21						
CGL Ltd		Time Sampled	None Supplied						
Site Reference: Falling Lane		TP / BH No	HA02						
Project / Job Ref: CGK00151		Additional Refs	None Supplied						
Order No: POP008667		Depth (m)	0.50						
Reporting Date: 19/11/2021		DETS Sample No	574587						
Determinand		Unit	MDL						
TOC ^{MU}	%	< 0.1	0.7						
Loss on Ignition	%	< 0.01	3.80						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	3.6						
pH ^{MU}	pH Units	N/a	5.0						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis				10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic ^U			0.01			0.1	0.5	2	25
Barium ^U			< 0.02			< 0.2	20	100	300
Cadmium ^U			< 0.0005			< 0.005	0.04	1	5
Chromium ^U			< 0.005			< 0.05	0.5	10	70
Copper ^U			< 0.01			< 0.1	2	50	100
Mercury ^U			< 0.0005			< 0.005	0.01	0.2	2
Molybdenum ^U			0.002			0.02	0.5	10	30
Nickel ^U			< 0.007			< 0.07	0.4	10	40
Lead ^U			< 0.005			< 0.05	0.5	10	50
Antimony ^U			< 0.005			< 0.05	0.06	0.7	5
Selenium ^U			< 0.005			< 0.05	0.1	0.5	7
Zinc ^U			0.008			0.08	4	50	200
Chloride ^U			< 1.0			< 10	800	15000	25000
Fluoride ^U			0.7			6.5	10	150	500
Sulphate ^U			1.9			19	1000	20000	50000
TDS			40			400	4000	60000	100000
Phenol Index			< 0.01			< 0.1	1	-	-
DOC			9.6			96	500	800	1000
Leach Test Information									
Sample Mass (kg)				0.11					
Dry Matter (%)				82.6					
Moisture (%)				21					
Stage 1									
Volume Eluate L10 (litres)				0.88					
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion									
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 21-13610		Date Sampled	08/11/21	Landfill Waste Acceptance Criteria Limits		
GGL Ltd		Time Sampled	None Supplied			
Site Reference: Falling Lane		TP / BH No	HA03			
Project / Job Ref: CGK00151		Additional Refs	None Supplied			
Order No: POP008667		Depth (m)	1.50			
Reporting Date: 19/11/2021		DETS Sample No	574591			
Determinand	Unit	MDL		Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC ^{MU}	%	< 0.1	0.2	3%	5%	6%
Loss on Ignition	%	< 0.01	2.20	--	--	10%
BTEX ^{MU}	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil ^{MU}	mg/kg	< 10	< 10	500	--	--
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7	100	--	--
pH ^{MU}	pH Units	N/a	5.0	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.5	--	To be re-evaluated	To be evaluated

Eluate Analysis		10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic ^U		< 0.01		< 0.1	0.5	2	25
Barium ^U		< 0.02		< 0.2	20	100	300
Cadmium ^U		< 0.0005		< 0.005	0.04	1	5
Chromium ^U		< 0.005		< 0.05	0.5	10	70
Copper ^U		< 0.01		< 0.1	2	50	100
Mercury ^U		< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U		0.012		0.12	0.5	10	30
Nickel ^U		< 0.007		< 0.07	0.4	10	40
Lead ^U		< 0.005		< 0.05	0.5	10	50
Antimony ^U		< 0.005		< 0.05	0.06	0.7	5
Selenium ^U		< 0.005		< 0.05	0.1	0.5	7
Zinc ^U		< 0.005		< 0.05	4	50	200
Chloride ^U		4.1		41	800	15000	25000
Fluoride ^U		0.9		8.6	10	150	500
Sulphate ^U		4.2		42	1000	20000	50000
TDS		67		670	4000	60000	100000
Phenol Index		< 0.01		< 0.1	1	-	-
DOC		8.1		81.1	500	800	1000

Leach Test Information			
Sample Mass (kg)		0.10	
Dry Matter (%)		86.5	
Moisture (%)		15.6	
Stage 1			
Volume Eluate L10 (litres)		0.89	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2						
DETS Report No: 21-13610		Date Sampled	08/11/21			Landfill Waste Acceptance Criteria Limits
CGL Ltd		Time Sampled	None Supplied			
Site Reference: Falling Lane		TP / BH No	HA04			
Project / Job Ref: CGK00151		Additional Refs	None Supplied			
Order No: POP008667		Depth (m)	0.20			
Reporting Date: 19/11/2021		DETS Sample No	574592			
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	
				3%	5%	6%
				--	--	10%
				6	--	--
				1	--	--
				500	--	--
				100	--	--
				--	>6	--
				--	To be re-evaluated	To be re-evaluated
Determinand			Unit	MDL		
TOC ^{MU}		%	< 0.1	2.5		
Loss on Ignition		%	< 0.01	5.20		
BTEX ^{MU}		mg/kg	< 0.05	< 0.05		
Sum of PCBs		mg/kg	< 0.1	< 0.1		
Mineral Oil ^{MU}		mg/kg	< 10	< 10		
Total PAH ^{MU}		mg/kg	< 1.7	265		
pH ^{MU}		pH Units	N/a	8.2		
Acid Neutralisation Capacity		mol/kg (+/-)	< 1	2.2		
Eluate Analysis			10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)
Arsenic ^U			< 0.01		< 0.1	0.5 2 25
Barium ^U			0.10		1	20 100 300
Cadmium ^U			< 0.0005		< 0.005	0.04 1 5
Chromium ^U			< 0.005		< 0.05	0.5 10 70
Copper ^U			0.01		0.1	2 50 100
Mercury ^U			< 0.0005		< 0.005	0.01 0.2 2
Molybdenum ^U			0.002		0.02	0.5 10 30
Nickel ^U			< 0.007		< 0.07	0.4 10 40
Lead ^U			< 0.005		< 0.05	0.5 10 50
Antimony ^U			< 0.005		< 0.05	0.06 0.7 5
Selenium ^U			< 0.005		< 0.05	0.1 0.5 7
Zinc ^U			< 0.005		< 0.05	4 50 200
Chloride ^U			3.6		36	800 15000 25000
Fluoride ^U			< 0.5		< 5	10 150 500
Sulphate ^U			6.7		67	1000 20000 50000
TDS			456		4561	4000 60000 100000
Phenol Index			0.02		0.2	1 - -
DOC			7.1		70.6	500 800 1000
Leach Test Information						
Sample Mass (kg)			0.10			
Dry Matter (%)			93.6			
Moisture (%)			7			
Stage 1						
Volume Eluate L10 (litres)			0.89			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 21-13610		Date Sampled	08/11/21	Landfill Waste Acceptance Criteria Limits		
CGL Ltd		Time Sampled	None Supplied			
Site Reference: Falling Lane		TP / BH No	HA04			
Project / Job Ref: CGK00151		Additional Refs	None Supplied			
Order No: POP008667		Depth (m)	0.50			
Reporting Date: 19/11/2021		DETS Sample No	574593			
Determinand		Unit	MDL			
TOC ^{MU}	%	< 0.1	0.6			
Loss on Ignition	%	< 0.01	1.66			
BTEX ^{MU}	mg/kg	< 0.05	< 0.05			
Sum of PCBs	mg/kg	< 0.1	< 0.1			
Mineral Oil ^{MU}	mg/kg	< 10	< 10			
Total PAH ^{MU}	mg/kg	< 1.7	74.7			
pH ^{MU}	pH Units	N/a	5.8			
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1			
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
				3%	5%	6%
				--	--	10%
				6	--	--
				1	--	--
				500	--	--
				100	--	--
				--	>6	--
				--	To be re-evaluated	To be re-evaluated

Eluate Analysis		10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic ^U		0.11		1.1	0.5	2	25
Barium ^U		< 0.02		< 0.2	20	100	300
Cadmium ^U		< 0.0005		< 0.005	0.04	1	5
Chromium ^U		< 0.005		< 0.05	0.5	10	70
Copper ^U		0.02		0.2	2	50	100
Mercury ^U		< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U		0.005		0.05	0.5	10	30
Nickel ^U		< 0.007		< 0.07	0.4	10	40
Lead ^U		0.009		0.09	0.5	10	50
Antimony ^U		< 0.005		< 0.05	0.06	0.7	5
Selenium ^U		< 0.005		< 0.05	0.1	0.5	7
Zinc ^U		0.015		0.15	4	50	200
Chloride ^U		4.5		45	800	15000	25000
Fluoride ^U		0.7		7	10	150	500
Sulphate ^U		5.9		59	1000	20000	50000
TDS		53		530	4000	60000	100000
Phenol Index		< 0.01		< 0.1	1	-	-
DOC		12.8		128	500	800	1000

Leach Test Information			
Sample Mass (kg)		0.10	
Dry Matter (%)		93.8	
Moisture (%)		6.8	
Stage 1			
Volume Eluate L10 (litres)		0.89	

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 21-13610		Date Sampled	08/11/21	Landfill Waste Acceptance Criteria Limits		
CGL Ltd		Time Sampled	None Supplied			
Site Reference: Falling Lane		TP / BH No	HA05			
Project / Job Ref: CGK00151		Additional Refs	None Supplied			
Order No: POP008667		Depth (m)	0.50			
Reporting Date: 19/11/2021		DETS Sample No	574594			
Determinand		Unit	MDL			
TOC ^{MU}	%	< 0.1	0.2			
Loss on Ignition	%	< 0.01	0.70			
BTEX ^{MU}	mg/kg	< 0.05	< 0.05			
Sum of PCBs	mg/kg	< 0.1	< 0.1			
Mineral Oil ^{MU}	mg/kg	< 10	< 10			
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7			
pH ^{MU}	pH Units	N/a	5.5			
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	2.8			
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
				3%	5%	6%
				--	--	10%
				6	--	--
				1	--	--
				500	--	--
				100	--	--
				--	>6	--
				--	To be re-evaluated	To be re-evaluated

Eluate Analysis		10:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic ^U		< 0.01		< 0.1	0.5	2	25
Barium ^U		0.12		1.2	20	100	300
Cadmium ^U		< 0.0005		< 0.005	0.04	1	5
Chromium ^U		< 0.005		< 0.05	0.5	10	70
Copper ^U		< 0.01		< 0.1	2	50	100
Mercury ^U		< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U		< 0.001		< 0.01	0.5	10	30
Nickel ^U		< 0.007		< 0.07	0.4	10	40
Lead ^U		< 0.005		< 0.05	0.5	10	50
Antimony ^U		< 0.005		< 0.05	0.06	0.7	5
Selenium ^U		< 0.005		< 0.05	0.1	0.5	7
Zinc ^U		< 0.005		< 0.05	4	50	200
Chloride ^U		1.4		14	800	15000	25000
Fluoride ^U		< 0.5		< 5	10	150	500
Sulphate ^U		2.0		20	1000	20000	50000
TDS		40		400	4000	60000	100000
Phenol Index		< 0.01		< 0.1	1	-	-
DOC		2		20.3	500	800	1000

Leach Test Information			
Sample Mass (kg)		0.09	
Dry Matter (%)		97.1	
Moisture (%)		3	
Stage 1			
Volume Eluate L10 (litres)		0.90	

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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-13610	
CGL Ltd	
Site Reference: Falling Lane	
Project / Job Ref: CGK00151	
Order No: POP008667	
Reporting Date: 19/11/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
574584	HA01	None Supplied	0.30	13.9	Brown loamy sand with stones
574585	HA01	None Supplied	0.70	12.2	Brown sandy clay
574586	HA02	None Supplied	0.20	5.8	Brown sandy gravel with stones and concrete
574587	HA02	None Supplied	0.50	17.3	Brown sandy clay with stones and brick
574588	HA02	None Supplied	1.00	13.6	Light brown sandy clay
574589	HA03	None Supplied	0.20	10.3	Brown sandy gravel with stones and concrete
574590	HA03	None Supplied	1.00	15.9	Brown loamy sand with stones and concrete
574591	HA03	None Supplied	1.50	13.4	Light brown sandy clay
574592	HA04	None Supplied	0.20	6.4	Brown sandy gravel with stones
574593	HA04	None Supplied	0.50	6.3	Brown sandy gravel with stones and concrete
574594	HA05	None Supplied	0.50	3	Brown sandy gravel with stones
574595	HA05	None Supplied	1.00	17.1	Brown sandy clay with stones and brick

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{i/s}

Unsuitable Sample ^{u/s}

Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-13610	
CGL Ltd	
Site Reference: Falling Lane	
Project / Job Ref: CGK00151	
Order No: POP008667	
Reporting Date: 19/11/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCS	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



4480

Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 21-13610
CGL Ltd
Site Reference: Falling Lane
Project / Job Ref: CGK00151
Order No: POP008667
Reporting Date: 19/11/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

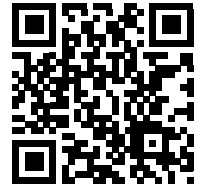
APPENDIX C

HazWasteOnline Model Output

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)



RWJE2-LSSB2-NOTEM

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

Job name

CGK00151 Falling Lane 21-13610.1

Description/Comments

DETS Report Number: 21-13610.1

The material in question was sampled on site by CGL personnel under the direction of London Borough of Hillingdon. The samples were stored in a cool box and immediately couriered to DETS South, an accredited laboratory for testing. Please note that this document should be read in conjunction with a sampling plan and soil descriptions prepared by London Borough of Hillingdon with sample identifications and dates matching this summary sheet and the attached "HazWasteOnline" sheets. Should London Borough of Hillingdon not supply a sampling plan to sit alongside this document, the waste classification may be considered invalid.

Project

CGK00151

Site

Falling Lane

Classified by

Name: **Emma Tyson**
Date: **30 Nov 2021 17:07 GMT**
Telephone:
Company: **CGL UK**
12 Melcombe Place
London NW1 6JJ

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

03 Dec 2020

Next 3 year Refresher due by Dec 2023

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results			Page
					Inert	SNRHW	Hazardous	
1	HA01-0.30-08/11/2021	0.30	Non Hazardous		Fail	Fail	N/A	3
2	HA01-0.70-08/11/2021	0.70	Non Hazardous		-	-	-	6
3	HA02-0.20-08/11/2021	0.20	Non Hazardous		-	-	-	8
4	HA02-0.50-08/11/2021	0.50	Non Hazardous		Pass	Fail	N/A	10
5	HA02-1.00-08/11/2021	1.00	Non Hazardous		-	-	-	13
6	HA03-0.20-08/11/2021	0.20	Non Hazardous		-	-	-	15
7	HA03-1.00-08/11/2021	1.00	Non Hazardous		-	-	-	18
8	HA03-1.50-08/11/2021	1.50	Non Hazardous		Pass	Fail	N/A	20
9	HA04-0.20-08/11/2021	0.20	Non Hazardous		Fail	Pass	N/A	23
10	HA04-0.50-08/11/2021	0.50	Non Hazardous		Fail	Fail	N/A	27
11	HA05-0.50-08/11/2021	0.50	Non Hazardous		Pass	Fail	N/A	31
12	HA05-1.00-08/11/2021	1.00	Non Hazardous		-	-	-	34

Related documents

#	Name	Description
1	21-13610.1.hwol	.hwol file used to create the Job
2	CET Suite 3 or 4	waste stream template used to create this Job

WAC results

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate the samples in this Job: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

Report

Created by: Emma Tyson

Created date: 30 Nov 2021 17:07 GMT

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	36
Appendix B: Rationale for selection of metal species	37
Appendix C: Version	38

Classification of sample: HA01-0.30-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA01-0.30-08/11/2021	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)
0.30 m		
Moisture content:		
13.9%		
(dry weight correction)		

Hazard properties

None identified


Determinands

Moisture content: 13.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	•	pH			4.2	pH		4.2	pH	4.2 pH		
2	•	arsenic { arsenic trioxide }			22	mg/kg	1.32	25.01	mg/kg	0.0025 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
3	•	boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2								
4	•	cadmium { cadmium sulfide }		1	9.9	mg/kg	1.285	10.955	mg/kg	0.000852 %	✓	
		048-010-00-4	215-147-8	1306-23-6								
5	•	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			101	mg/kg	1.462	127.098	mg/kg	0.0127 %	✓	
			215-160-9	1308-38-9								
6	•	chromium in chromium(VI) compounds { chromium(VI) oxide }			<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
		024-001-00-0	215-607-8	1333-82-0								
7	•	copper { copper sulphate pentahydrate }			195	mg/kg	3.929	659.668	mg/kg	0.066 %	✓	
		029-023-00-4	231-847-6	7758-99-8								
8	•	lead { lead chromate }		1	258	mg/kg	1.56	346.494	mg/kg	0.0222 %	✓	
		082-004-00-2	231-846-0	7758-97-6								
9	•	mercury { mercury dichloride }			2.3	mg/kg	1.353	2.68	mg/kg	0.000268 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
10	•	nickel { nickel chromate }			41	mg/kg	2.976	105.065	mg/kg	0.0105 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
11	•	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
		034-002-00-8										
12	•	zinc { zinc chromate }			416	mg/kg	2.774	993.633	mg/kg	0.0994 %	✓	
		024-007-00-3	236-878-9	13530-65-9								
13	•	TPH (C6 to C40) petroleum group			<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
				TPH								
14	•	naphthalene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
15	•	acenaphthylene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
16	•	acenaphthene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7							
18	phenanthrene				0.69 mg/kg		0.594 mg/kg	0.0000594 %	✓	
		201-581-5	85-01-8							
19	anthracene				0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓	
		204-371-1	120-12-7							
20	fluoranthene				1.61 mg/kg		1.386 mg/kg	0.000139 %	✓	
		205-912-4	206-44-0							
21	pyrene				1.36 mg/kg		1.171 mg/kg	0.000117 %	✓	
		204-927-3	129-00-0							
22	benzo[a]anthracene				0.69 mg/kg		0.594 mg/kg	0.0000594 %	✓	
		601-033-00-9	200-280-6							
23	chrysene				0.89 mg/kg		0.766 mg/kg	0.0000766 %	✓	
		601-048-00-0	205-923-4							
24	benz[e]acephenanthrylene				1.23 mg/kg		1.059 mg/kg	0.000106 %	✓	
		601-034-00-4	205-911-9							
25	benzo[k]fluoranthene				0.43 mg/kg		0.37 mg/kg	0.000037 %	✓	
		601-036-00-5	205-916-6							
26	benzo[a]pyrene; benzo[def]chrysene				0.82 mg/kg		0.706 mg/kg	0.0000706 %	✓	
		601-032-00-3	200-028-5							
27	indeno[123-cd]pyrene				0.7 mg/kg		0.603 mg/kg	0.0000603 %	✓	
		205-893-2	193-39-5							
28	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8							
29	benzo[ghi]perylene				0.58 mg/kg		0.499 mg/kg	0.0000499 %	✓	
		205-883-8	191-24-2							
30	coronene				0.58 mg/kg		0.499 mg/kg	0.0000499 %	✓	
		205-881-7	191-07-1							
31	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7							
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9							
33	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4							
34	xylene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]							
			95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1							
			1634-04-4							
36	polychlorobiphenyls; PCB				0.1 mg/kg		0.0861 mg/kg	0.00000861 %	✓	
		602-039-00-4	215-648-1							
			1336-36-3							
37	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
			P1186							
Total:								0.221 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

WAC results for sample: HA01-0.30-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.


WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	2.4	3	5	6
2	LOI (loss on ignition)	%	6.9	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	9.7	100	-	-
7	pH	pH	4.2	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	<1	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	0.1	0.5	2	25
10	barium	mg/kg	<0.2	20	100	300
11	cadmium	mg/kg	<0.005	0.04	1	5
12	chromium	mg/kg	<0.05	0.5	10	70
13	copper	mg/kg	0.2	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.1	0.5	10	30
16	nickel	mg/kg	<0.07	0.4	10	40
17	lead	mg/kg	<0.05	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	0.4	4	50	200
21	chloride	mg/kg	36	800	15,000	25,000
22	fluoride	mg/kg	11.7	10	150	500
23	sulphate	mg/kg	44	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	124	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	570	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	Inert WAC criteria fail
	SNRHW WAC criteria fail

Classification of sample: HA01-0.70-08/11/2021


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

Sample details

Sample name:	LoW Code:
HA01-0.70-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
0.70 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
12.2% (dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12.2% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	033-003-00-0				4.1	pH		4.1	pH	4.1 pH		
2	033-003-00-0	215-481-4	1327-53-3		9	mg/kg	1.32	10.433	mg/kg	0.00104 %	✓	
3	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
4	048-010-00-4	215-147-8	1306-23-6	1	0.7	mg/kg	1.285	0.79	mg/kg	0.0000615 %	✓	
5	024-001-00-0	215-607-8	1333-82-0		24	mg/kg	1.462	30.798	mg/kg	0.00308 %	✓	
6	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
7	029-023-00-4	231-847-6	7758-99-8		30	mg/kg	3.929	103.491	mg/kg	0.0103 %	✓	
8	082-004-00-2	231-846-0	7758-97-6	1	47	mg/kg	1.56	64.367	mg/kg	0.00413 %	✓	
9	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
10	028-035-00-7	238-766-5	14721-18-7		13	mg/kg	2.976	33.971	mg/kg	0.0034 %	✓	
11	034-002-00-8				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
12	024-007-00-3	236-878-9	13530-65-9		77	mg/kg	2.774	187.549	mg/kg	0.0188 %	✓	
13			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		0.28 mg/kg		0.246 mg/kg	0.0000246 %	✓	
21	pyrene	204-927-3	129-00-0		0.24 mg/kg		0.211 mg/kg	0.0000211 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.13 mg/kg		0.114 mg/kg	0.0000114 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	0.17 mg/kg		0.149 mg/kg	0.0000149 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	0.24 mg/kg		0.211 mg/kg	0.0000211 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.15 mg/kg		0.132 mg/kg	0.0000132 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	coronene	205-881-7	191-07-1		0.42 mg/kg		0.369 mg/kg	0.0000369 %	✓	
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0466 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: HA02-0.20-08/11/2021

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

Sample details

Sample name:	LoW Code:
HA02-0.20-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
0.20 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
5.8% (dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 5.8% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	• pH				6.9	pH		6.9	pH	6.9 pH		
2	• arsenic { arsenic trioxide }				6	mg/kg	1.32	7.462	mg/kg	0.000746 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	• boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
4	• cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
5	• chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				15	mg/kg	1.462	20.652	mg/kg	0.00207 %	✓	
		215-160-9	1308-38-9									
6	• chromium in chromium(VI) compounds { chromium(VI) oxide }				<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	• copper { copper sulphate pentahydrate }				24	mg/kg	3.929	88.828	mg/kg	0.00888 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
8	• lead { lead chromate }			1	8	mg/kg	1.56	11.755	mg/kg	0.000754 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	• mercury { mercury dichloride }				<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	• nickel { nickel chromate }				9	mg/kg	2.976	25.233	mg/kg	0.00252 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
	034-002-00-8											
12	• zinc { zinc chromate }				26	mg/kg	2.774	67.944	mg/kg	0.00679 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	• TPH (C6 to C40) petroleum group				<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
			TPH									
14	• naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	coronene	205-881-7	191-07-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
31	benzene	601-020-00-8	200-753-7		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0275 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: HA02-0.50-08/11/2021

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

Sample details

Sample name:	LoW Code:
HA02-0.50-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
0.50 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
17.3%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	• pH				5	pH		5	pH	5pH		
2	• arsenic { arsenic trioxide }				16	mg/kg	1.32	17.471	mg/kg	0.00175 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	• boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
4	• cadmium { cadmium sulfide }			1	0.4	mg/kg	1.285	0.425	mg/kg	0.0000331 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
5	• chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22	mg/kg	1.462	26.592	mg/kg	0.00266 %	✓	
		215-160-9	1308-38-9									
6	• chromium in chromium(VI) compounds { chromium(VI) oxide }				<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	• copper { copper sulphate pentahydrate }				30	mg/kg	3.929	97.48	mg/kg	0.00975 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
8	• lead { lead chromate }			1	86	mg/kg	1.56	110.937	mg/kg	0.00711 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	• mercury { mercury dichloride }				1.2	mg/kg	1.353	1.343	mg/kg	0.000134 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	• nickel { nickel chromate }				14	mg/kg	2.976	34.459	mg/kg	0.00345 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
	034-002-00-8											
12	• zinc { zinc chromate }				103	mg/kg	2.774	236.305	mg/kg	0.0236 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	• TPH (C6 to C40) petroleum group				<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
			TPH									
14	• naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.27 mg/kg		0.223 mg/kg	0.0000223 %	✓	
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		0.62 mg/kg		0.513 mg/kg	0.0000513 %	✓	
21	pyrene	204-927-3	129-00-0		0.51 mg/kg		0.422 mg/kg	0.0000422 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.23 mg/kg		0.19 mg/kg	0.000019 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	0.33 mg/kg		0.273 mg/kg	0.0000273 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	0.4 mg/kg		0.331 mg/kg	0.0000331 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.15 mg/kg		0.124 mg/kg	0.0000124 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.27 mg/kg		0.223 mg/kg	0.0000223 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.18 mg/kg		0.149 mg/kg	0.0000149 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		0.19 mg/kg		0.157 mg/kg	0.0000157 %	✓	
30	coronene	205-881-7	191-07-1		0.46 mg/kg		0.38 mg/kg	0.000038 %	✓	
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0543 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

WAC results for sample: HA02-0.50-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample FAILS the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	0.7	3	5	6
2	LOI (loss on ignition)	%	3.8	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	3.6	100	-	-
7	pH	pH	5	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	<1	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	0.1	0.5	2	25
10	barium	mg/kg	<0.2	20	100	300
11	cadmium	mg/kg	<0.005	0.04	1	5
12	chromium	mg/kg	<0.05	0.5	10	70
13	copper	mg/kg	<0.1	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.02	0.5	10	30
16	nickel	mg/kg	<0.07	0.4	10	40
17	lead	mg/kg	<0.05	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	0.08	4	50	200
21	chloride	mg/kg	<10	800	15,000	25,000
22	fluoride	mg/kg	6.5	10	150	500
23	sulphate	mg/kg	19	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	96	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	400	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	SNRHW WAC criteria fail

Classification of sample: HA02-1.00-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA02-1.00-08/11/2021	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)
1.00 m		
Moisture content:		
13.6%		
(dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 13.6% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	•	pH			4.6	pH		4.6	pH	4.6 pH		
2	🚫	arsenic { arsenic trioxide }			12	mg/kg	1.32	13.689	mg/kg	0.00137 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
3	🚫	boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2								
4	🚫	cadmium { cadmium sulfide }		1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
		048-010-00-4	215-147-8	1306-23-6								
5	🚫	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			26	mg/kg	1.462	32.832	mg/kg	0.00328 %	✓	
			215-160-9	1308-38-9								
6	🚫	chromium in chromium(VI) compounds { chromium(VI) oxide }			<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
		024-001-00-0	215-607-8	1333-82-0								
7	🚫	copper { copper sulphate pentahydrate }			18	mg/kg	3.929	61.105	mg/kg	0.00611 %	✓	
		029-023-00-4	231-847-6	7758-99-8								
8	🚫	lead { lead chromate }		1	14	mg/kg	1.56	18.868	mg/kg	0.00121 %	✓	
		082-004-00-2	231-846-0	7758-97-6								
9	🚫	mercury { mercury dichloride }			<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7								
10	🚫	nickel { nickel chromate }			24	mg/kg	2.976	61.716	mg/kg	0.00617 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
11	🚫	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
		034-002-00-8										
12	🚫	zinc { zinc chromate }			55	mg/kg	2.774	131.827	mg/kg	0.0132 %	✓	
		024-007-00-3	236-878-9	13530-65-9								
13	•	TPH (C6 to C40) petroleum group			<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14		naphthalene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
15	•	acenaphthylene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
16	•	acenaphthene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	coronene	205-881-7	191-07-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0371 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: HA03-0.20-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA03-0.20-08/11/2021	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)
0.20 m		
Moisture content:		
10.3%		
(dry weight correction)		

Hazard properties

None identified


Determinands

Moisture content: 10.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				5.1	pH		5.1	pH	5.1 pH		
2	arsenic { arsenic trioxide }				20	mg/kg	1.32	23.687	mg/kg	0.00237 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
4	cadmium { cadmium sulfide }			1	0.8	mg/kg	1.285	0.922	mg/kg	0.0000718 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20	mg/kg	1.462	26.22	mg/kg	0.00262 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { copper sulphate pentahydrate }				34	mg/kg	3.929	119.828	mg/kg	0.012 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
8	lead { lead chromate }			1	221	mg/kg	1.56	309.213	mg/kg	0.0198 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	mercury { mercury dichloride }				<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel chromate }				11	mg/kg	2.976	29.367	mg/kg	0.00294 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
	034-002-00-8											
12	zinc { zinc chromate }				144	mg/kg	2.774	358.331	mg/kg	0.0358 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				63	mg/kg		56.511	mg/kg	0.00565 %	✓	
			TPH									
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7							
18	phenanthrene				0.26 mg/kg		0.233 mg/kg	0.0000233 %	✓	
		201-581-5	85-01-8							
19	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7							
20	fluoranthene				1.42 mg/kg		1.274 mg/kg	0.000127 %	✓	
		205-912-4	206-44-0							
21	pyrene				1.52 mg/kg		1.363 mg/kg	0.000136 %	✓	
		204-927-3	129-00-0							
22	benzo[a]anthracene				1 mg/kg		0.897 mg/kg	0.0000897 %	✓	
		601-033-00-9	200-280-6							
23	chrysene				1.24 mg/kg		1.112 mg/kg	0.000111 %	✓	
		601-048-00-0	205-923-4							
24	benz[e]acephenanthrylene				2.45 mg/kg		2.198 mg/kg	0.00022 %	✓	
		601-034-00-4	205-911-9							
25	benzo[k]fluoranthene				0.93 mg/kg		0.834 mg/kg	0.0000834 %	✓	
		601-036-00-5	205-916-6							
26	benzo[a]pyrene; benzo[def]chrysene				2.21 mg/kg		1.982 mg/kg	0.000198 %	✓	
		601-032-00-3	200-028-5							
27	indeno[123-cd]pyrene				1.55 mg/kg		1.39 mg/kg	0.000139 %	✓	
		205-893-2	193-39-5							
28	dibenz[a,h]anthracene				0.22 mg/kg		0.197 mg/kg	0.0000197 %	✓	
		601-041-00-2	200-181-8							
29	benzo[ghi]perylene				1.49 mg/kg		1.337 mg/kg	0.000134 %	✓	
		205-883-8	191-24-2							
30	coronene				0.87 mg/kg		0.78 mg/kg	0.000078 %	✓	
		205-881-7	191-07-1							
31	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7							
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9							
33	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4							
34	xylene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]							
			95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1							
36	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		602-039-00-4	215-648-1							
37	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
			P1186							
Total:								0.084 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not flammable unless saturated. If liquid phase is observed then flashpoint testing should be conducted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00565%)

Classification of sample: HA03-1.00-08/11/2021

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

Sample details

Sample name:	LoW Code:
HA03-1.00-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
1.00 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
15.9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	• pH				4.8	pH		4.8	pH	4.8 pH		
2	arsenic { arsenic trioxide }				18	mg/kg	1.32	19.987	mg/kg	0.002 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
4	cadmium { cadmium sulfide }			1	0.4	mg/kg	1.285	0.432	mg/kg	0.0000336 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19	mg/kg	1.462	23.354	mg/kg	0.00234 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { copper sulphate pentahydrate }				58	mg/kg	3.929	191.651	mg/kg	0.0192 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
8	lead { lead chromate }			1	265	mg/kg	1.56	347.628	mg/kg	0.0223 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	mercury { mercury dichloride }				1.6	mg/kg	1.353	1.821	mg/kg	0.000182 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel chromate }				16	mg/kg	2.976	40.049	mg/kg	0.004 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
	034-002-00-8											
12	zinc { zinc chromate }				143	mg/kg	2.774	333.627	mg/kg	0.0334 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
			TPH									
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.75 mg/kg		0.631 mg/kg	0.0000631 %	✓	
19	anthracene	204-371-1	120-12-7		0.14 mg/kg		0.118 mg/kg	0.0000118 %	✓	
20	fluoranthene	205-912-4	206-44-0		2.32 mg/kg		1.951 mg/kg	0.000195 %	✓	
21	pyrene	204-927-3	129-00-0		2.09 mg/kg		1.758 mg/kg	0.000176 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.08 mg/kg		0.908 mg/kg	0.0000908 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	1.52 mg/kg		1.278 mg/kg	0.000128 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	2.09 mg/kg		1.758 mg/kg	0.000176 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.73 mg/kg		0.614 mg/kg	0.0000614 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.58 mg/kg		1.329 mg/kg	0.000133 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.98 mg/kg		0.824 mg/kg	0.0000824 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.15 mg/kg		0.126 mg/kg	0.0000126 %	✓	
29	benzo[ghi]perylene	205-883-8	191-24-2		0.88 mg/kg		0.74 mg/kg	0.000074 %	✓	
30	coronene	205-881-7	191-07-1		0.63 mg/kg		0.53 mg/kg	0.000053 %	✓	
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0901 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: HA03-1.50-08/11/2021

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

Sample details

Sample name:	LoW Code:
HA03-1.50-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
1.50 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
13.4%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13.4% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	• pH				5	pH		5	pH	5pH		
2	• arsenic { arsenic trioxide }				10	mg/kg	1.32	11.434	mg/kg	0.00114 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	• boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
4	• cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
5	• chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21	mg/kg	1.462	26.58	mg/kg	0.00266 %	✓	
		215-160-9	1308-38-9									
6	• chromium in chromium(VI) compounds { chromium(VI) oxide }				<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	• copper { copper sulphate pentahydrate }				17	mg/kg	3.929	57.844	mg/kg	0.00578 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
8	• lead { lead chromate }			1	17	mg/kg	1.56	22.964	mg/kg	0.00147 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	• mercury { mercury dichloride }				<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	• nickel { nickel chromate }				19	mg/kg	2.976	48.971	mg/kg	0.0049 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	• selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
	034-002-00-8											
12	• zinc { zinc chromate }				44	mg/kg	2.774	105.706	mg/kg	0.0106 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	• TPH (C6 to C40) petroleum group				<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
			TPH									
14	• naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	coronene	205-881-7	191-07-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0323 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

WAC results for sample: HA03-1.50-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample FAILS the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	0.2	3	5	6
2	LOI (loss on ignition)	%	2.2	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<1.7	100	-	-
7	pH	pH	5	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	1.5	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	<0.1	0.5	2	25
10	barium	mg/kg	<0.2	20	100	300
11	cadmium	mg/kg	<0.005	0.04	1	5
12	chromium	mg/kg	<0.05	0.5	10	70
13	copper	mg/kg	<0.1	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.12	0.5	10	30
16	nickel	mg/kg	<0.07	0.4	10	40
17	lead	mg/kg	<0.05	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	<0.05	4	50	200
21	chloride	mg/kg	41	800	15,000	25,000
22	fluoride	mg/kg	8.6	10	150	500
23	sulphate	mg/kg	42	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	81.1	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	670	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	SNRHW WAC criteria fail

Classification of sample: HA04-0.20-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA04-0.20-08/11/2021	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)
0.20 m		
Moisture content:		
6.4% (dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 6.4% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	•	pH			8.2	pH		8.2	pH	8.2 pH		
2	•	arsenic { arsenic trioxide }			9	mg/kg	1.32	11.122	mg/kg	0.00111 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
3	•	boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2								
4	•	cadmium { cadmium sulfide }		1	0.5	mg/kg	1.285	0.601	mg/kg	0.0000468 %	✓	
		048-010-00-4	215-147-8	1306-23-6								
5	•	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			10	mg/kg	1.462	13.68	mg/kg	0.00137 %	✓	
			215-160-9	1308-38-9								
6	•	chromium in chromium(VI) compounds { chromium(VI) oxide }			<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
		024-001-00-0	215-607-8	1333-82-0								
7	•	copper { copper sulphate pentahydrate }			16	mg/kg	3.929	58.841	mg/kg	0.00588 %	✓	
		029-023-00-4	231-847-6	7758-99-8								
8	•	lead { lead chromate }		1	60	mg/kg	1.56	87.599	mg/kg	0.00562 %	✓	
		082-004-00-2	231-846-0	7758-97-6								
9	•	mercury { mercury dichloride }			<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7								
10	•	nickel { nickel chromate }			6	mg/kg	2.976	16.715	mg/kg	0.00167 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
11	•	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
		034-002-00-8										
12	•	zinc { zinc chromate }			80	mg/kg	2.774	207.728	mg/kg	0.0208 %	✓	
		024-007-00-3	236-878-9	13530-65-9								
13	•	TPH (C6 to C40) petroleum group			520	mg/kg		486.72	mg/kg	0.0487 %	✓	
				TPH								
14	•	naphthalene			0.12	mg/kg		0.112	mg/kg	0.0000112 %	✓	
		601-052-00-2	202-049-5	91-20-3								
15	•	acenaphthylene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
16	•	acenaphthene			2.6	mg/kg		2.434	mg/kg	0.000243 %	✓	
			201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		1.83 mg/kg		1.713 mg/kg	0.000171 %	✓	
18	phenanthrene	201-581-5	85-01-8		40.9 mg/kg		38.282 mg/kg	0.00383 %	✓	
19	anthracene	204-371-1	120-12-7		10.6 mg/kg		9.922 mg/kg	0.000992 %	✓	
20	fluoranthene	205-912-4	206-44-0		57.2 mg/kg		53.539 mg/kg	0.00535 %	✓	
21	pyrene	204-927-3	129-00-0		46.6 mg/kg		43.618 mg/kg	0.00436 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	21.2 mg/kg		19.843 mg/kg	0.00198 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	21.1 mg/kg		19.75 mg/kg	0.00197 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	22.4 mg/kg		20.966 mg/kg	0.0021 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	7.65 mg/kg		7.16 mg/kg	0.000716 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	16.4 mg/kg		15.35 mg/kg	0.00154 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		7.51 mg/kg		7.029 mg/kg	0.000703 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	1.59 mg/kg		1.488 mg/kg	0.000149 %	✓	
29	benzo[ghi]perylene	205-883-8	191-24-2		6.01 mg/kg		5.625 mg/kg	0.000563 %	✓	
30	coronene	205-881-7	191-07-1		1.6 mg/kg		1.498 mg/kg	0.00015 %	✓	
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.111 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not flammable unless saturated. If liquid phase is observed then flashpoint testing should be conducted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0487%)

WAC results for sample: HA04-0.20-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	2.5	3	5	6
2	LOI (loss on ignition)	%	5.2	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	265	100	-	-
7	pH	pH	8.2	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	2.2	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	<0.1	0.5	2	25
10	barium	mg/kg	1	20	100	300
11	cadmium	mg/kg	<0.005	0.04	1	5
12	chromium	mg/kg	<0.05	0.5	10	70
13	copper	mg/kg	0.1	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.02	0.5	10	30
16	nickel	mg/kg	<0.07	0.4	10	40
17	lead	mg/kg	<0.05	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	<0.05	4	50	200
21	chloride	mg/kg	36	800	15,000	25,000
22	fluoride	mg/kg	<5	10	150	500
23	sulphate	mg/kg	67	1,000	20,000	50,000
24	phenol index	mg/kg	0.2	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	70.6	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	4561	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	Inert WAC criteria fail

Classification of sample: HA04-0.50-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA04-0.50-08/11/2021	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)
0.50 m		
Moisture content:		
6.3% (dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 6.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	pH				5.8 pH		5.8 pH	5.8 pH		
2	arsenic { arsenic trioxide }				26 mg/kg	1.32	32.166 mg/kg	0.00322 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium sulfide }			1	0.4 mg/kg	1.285	0.482 mg/kg	0.0000375 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6 mg/kg	1.462	8.217 mg/kg	0.000822 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
7	copper { copper sulphate pentahydrate }				25 mg/kg	3.929	92.038 mg/kg	0.0092 %	✓	
	029-023-00-4	231-847-6	7758-99-8							
8	lead { lead chromate }			1	164 mg/kg	1.56	239.694 mg/kg	0.0154 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				5 mg/kg	2.976	13.944 mg/kg	0.00139 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									
12	zinc { zinc chromate }				75 mg/kg	2.774	194.953 mg/kg	0.0195 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group				127 mg/kg		118.999 mg/kg	0.0119 %	✓	
			TPH							
14	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
15	acenaphthylene				0.16 mg/kg		0.15 mg/kg	0.000015 %	✓	
		205-917-1	208-96-8							
16	acenaphthene				0.26 mg/kg		0.244 mg/kg	0.0000244 %	✓	
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		0.27 mg/kg		0.253 mg/kg	0.0000253 %	✓	
18	phenanthrene	201-581-5	85-01-8		5.38 mg/kg		5.041 mg/kg	0.000504 %	✓	
19	anthracene	204-371-1	120-12-7		1.37 mg/kg		1.284 mg/kg	0.000128 %	✓	
20	fluoranthene	205-912-4	206-44-0		14.4 mg/kg		13.493 mg/kg	0.00135 %	✓	
21	pyrene	204-927-3	129-00-0		12.2 mg/kg		11.431 mg/kg	0.00114 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	6.93 mg/kg		6.493 mg/kg	0.000649 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	6.24 mg/kg		5.847 mg/kg	0.000585 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	8.1 mg/kg		7.59 mg/kg	0.000759 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	3.43 mg/kg		3.214 mg/kg	0.000321 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	7.55 mg/kg		7.074 mg/kg	0.000707 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		3.41 mg/kg		3.195 mg/kg	0.00032 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.59 mg/kg		0.553 mg/kg	0.0000553 %	✓	
29	benzo[ghi]perylene	205-883-8	191-24-2		3.02 mg/kg		2.83 mg/kg	0.000283 %	✓	
30	coronene	205-881-7	191-07-1		1.48 mg/kg		1.387 mg/kg	0.000139 %	✓	
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0698 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not flammable unless saturated. If liquid phase is observed then flashpoint testing should be conducted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0119%)

WAC results for sample: HA04-0.50-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits		
#	Determinand	User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	% 0.6	3	5	6
2	LOI (loss on ignition)	% 1.66	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg <10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg 74.7	100	-	-
7	pH	pH 5.8	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg <1	-	-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg 1.1	0.5	2	25
10	barium	mg/kg <0.2	20	100	300
11	cadmium	mg/kg <0.005	0.04	1	5
12	chromium	mg/kg <0.05	0.5	10	70
13	copper	mg/kg 0.2	2	50	100
14	mercury	mg/kg <0.005	0.01	0.2	2
15	molybdenum	mg/kg 0.05	0.5	10	30
16	nickel	mg/kg <0.07	0.4	10	40
17	lead	mg/kg 0.09	0.5	10	50
18	antimony	mg/kg <0.05	0.06	0.7	5
19	selenium	mg/kg <0.05	0.1	0.5	7
20	zinc	mg/kg 0.15	4	50	200
21	chloride	mg/kg 45	800	15,000	25,000
22	fluoride	mg/kg 7	10	150	500
23	sulphate	mg/kg 59	1,000	20,000	50,000
24	phenol index	mg/kg <0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg 128	500	800	1,000
26	TDS (total dissolved solids)	mg/kg 530	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	Inert WAC criteria fail
	SNRHW WAC criteria fail

Classification of sample: HA05-0.50-08/11/2021

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

Sample details

Sample name:	LoW Code:	
HA05-0.50-08/11/2021	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)
0.50 m		
Moisture content:		
3%		
(dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	pH				5.5 pH		5.5 pH	5.5 pH		
2	arsenic { arsenic trioxide }				7 mg/kg	1.32	8.965 mg/kg	0.000897 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium sulfide }			1	1.3 mg/kg	1.285	1.621 mg/kg	0.000126 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				5 mg/kg	1.462	7.089 mg/kg	0.000709 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
7	copper { copper sulphate pentahydrate }				12 mg/kg	3.929	45.734 mg/kg	0.00457 %	✓	
	029-023-00-4	231-847-6	7758-99-8							
8	lead { lead chromate }			1	26 mg/kg	1.56	39.339 mg/kg	0.00252 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				<3 mg/kg	2.976	<8.929 mg/kg	<0.000893 %		<LOD
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									
12	zinc { zinc chromate }				82 mg/kg	2.774	220.656 mg/kg	0.0221 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group				<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
			TPH							
14	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
15	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8							
16	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	coronene	205-881-7	191-07-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
31	benzene	601-020-00-8	200-753-7	71-43-2	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9	108-88-3	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0375 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

WAC results for sample: HA05-0.50-08/11/2021

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	0.2	3	5	6
2	LOI (loss on ignition)	%	0.7	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<1.7	100	-	-
7	pH	pH	5.5	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	2.8	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	<0.1	0.5	2	25
10	barium	mg/kg	1.2	20	100	300
11	cadmium	mg/kg	<0.005	0.04	1	5
12	chromium	mg/kg	<0.05	0.5	10	70
13	copper	mg/kg	<0.1	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	<0.01	0.5	10	30
16	nickel	mg/kg	<0.07	0.4	10	40
17	lead	mg/kg	<0.05	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	<0.05	4	50	200
21	chloride	mg/kg	14	800	15,000	25,000
22	fluoride	mg/kg	<5	10	150	500
23	sulphate	mg/kg	20	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	20.3	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	400	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	SNRHW WAC criteria fail

Classification of sample: HA05-1.00-08/11/2021

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

Sample details

Sample name:	LoW Code:
HA05-1.00-08/11/2021	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:
1.00 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content:	
17.1% (dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	•	pH			4.7	pH		4.7	pH	4.7 pH		
2	•	arsenic { arsenic trioxide }			16	mg/kg	1.32	17.513	mg/kg	0.00175 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
3	•	boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2								
4	•	cadmium { cadmium sulfide }		1	0.4	mg/kg	1.285	0.426	mg/kg	0.0000332 %	✓	
		048-010-00-4	215-147-8	1306-23-6								
5	•	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			18	mg/kg	1.462	21.809	mg/kg	0.00218 %	✓	
			215-160-9	1308-38-9								
6	•	chromium in chromium(VI) compounds { chromium(VI) oxide }			<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
		024-001-00-0	215-607-8	1333-82-0								
7	•	copper { copper sulphate pentahydrate }			73	mg/kg	3.929	237.774	mg/kg	0.0238 %	✓	
		029-023-00-4	231-847-6	7758-99-8								
8	•	lead { lead chromate }		1	200	mg/kg	1.56	258.617	mg/kg	0.0166 %	✓	
		082-004-00-2	231-846-0	7758-97-6								
9	•	mercury { mercury dichloride }			<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7								
10	•	nickel { nickel chromate }			16	mg/kg	2.976	39.477	mg/kg	0.00395 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
11	•	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
		034-002-00-8										
12	•	zinc { zinc chromate }			88	mg/kg	2.774	202.38	mg/kg	0.0202 %	✓	
		024-007-00-3	236-878-9	13530-65-9								
13	•	TPH (C6 to C40) petroleum group			<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
				TPH								
14	•	naphthalene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
15	•	acenaphthylene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
16	•	acenaphthene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		1.12 mg/kg		0.928 mg/kg	0.0000928 %	✓	
19	anthracene	204-371-1	120-12-7		0.34 mg/kg		0.282 mg/kg	0.0000282 %	✓	
20	fluoranthene	205-912-4	206-44-0		3.91 mg/kg		3.241 mg/kg	0.000324 %	✓	
21	pyrene	204-927-3	129-00-0		3.51 mg/kg		2.91 mg/kg	0.000291 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		1.76 mg/kg		1.459 mg/kg	0.000146 %	✓	
23	chrysene	601-048-00-0	205-923-4		2.06 mg/kg		1.708 mg/kg	0.000171 %	✓	
24	benz[e]acephenanthrylene	601-034-00-4	205-911-9		2.42 mg/kg		2.006 mg/kg	0.000201 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.84 mg/kg		0.696 mg/kg	0.0000696 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		1.94 mg/kg		1.608 mg/kg	0.000161 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		1.04 mg/kg		0.862 mg/kg	0.0000862 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.17 mg/kg		0.141 mg/kg	0.0000141 %	✓	
29	benzo[ghi]perylene	205-883-8	191-24-2		0.88 mg/kg		0.73 mg/kg	0.000073 %	✓	
30	coronene	205-881-7	191-07-1		0.71 mg/kg		0.589 mg/kg	0.0000589 %	✓	
31	benzene	601-020-00-8	200-753-7		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
32	toluene	601-021-00-3	203-625-9		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	ethylbenzene	601-023-00-4	202-849-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
34	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
36	polychlorobiphenyls; PCB	602-039-00-4	215-648-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0758 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

- **pH** (CAS Number: PH)

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

- **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

- **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

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2 H351

▪ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2 H371

▪ **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

▪ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

CLP index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Hazard Statement(s): Carc. 1A H350
Reason for additional Hazards Statement(s):
29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

▪ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 3 H311 , Acute Tox. 3 H331 , Skin Corr. 1B H314 , Skin Corr. 1B H314 >= 3 % , Skin Irrit. 2 H315 1 £ conc. < 3 % , Eye Irrit. 2 H319 1 £ conc. < 3 % , Muta. 2 H341 , STOT RE 2 H373 , Aquatic Chronic 2 H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

(enter justification for selecting this species)

boron {diboron trioxide; boric oxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

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

(enter justification for selecting this species)

chromium in chromium(VI) compounds {chromium(VI) oxide}

(enter justification for selecting this species)

copper {copper sulphate pentahydrate}

(enter justification for selecting this species)

lead {lead chromate}

(enter justification for selecting this species)

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel chromate}

(enter justification for selecting this species)

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

(enter justification for selecting this species)

zinc {zinc chromate}

(enter justification for selecting this species)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**
HazWasteOnline Classification Engine Version: 2021.293.4891.9295 (20 Oct 2021)
HazWasteOnline Database: 2021.293.4891.9295 (20 Oct 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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 2019 - UK: 2019 No. 720 of 27th March 2019

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

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019

APPENDIX D

Risk Assessment Methodology

CGL Risk Assessment Methodology

The following risk Assessment methodology is based on CIRIA C552 (2001) Contaminated Land Risk Assessment – A Guide to Good Practice¹, in order to quantify potential risk via risk estimation and risk evaluation, which can be adopted at the Phase I stage. This will then determine an overall risk category which can be used to identify likely actions. This methodology uses qualitative descriptors and therefore is a qualitative approach and is undertaken for each potential pollution linkage (source-pathway-receptor) identified for the site in accordance with Land Condition Risk Management³.

The methodology requires the classification of:

- The magnitude of the consequence (severity) of a risk occurring, and
- The magnitude of the probability (likelihood) of a risk occurring.

The potential consequences of contamination risks occurring at this site are classified in accordance with Table 1 below, which is adapted from the CIRIA guidance¹.

Table 1. Classifications of Consequence ratings

Classification	Definition of Consequence	Examples
Severe	Short-term (acute) risks to human health. Short-term (acute) risk of pollution of sensitive water resource or ecosystem. Catastrophic damage to crops/buildings/property/infrastructure, including off-site soils.	High concentration of cyanide on the surface of an informal recreation area Major spillage of contaminants from site into controlled waters Explosion causing building collapse
Medium	Long-term (chronic) risks to human health Long-term (chronic) pollution of sensitive water resource Significant change in an ecosystem/contamination of off-site soils	Concentrations of a contaminant from site exceeding the generic or site specific assessment criteria Leaching of contaminants from a site into a major or minor aquifer Death of a species within a designated nature reserve
Mild	Pollution of non-sensitive water resource Significant damage to crops/ buildings/property/infrastructure Damage to an ecosystem or sensitive buildings/structures/services	Pollution of a non-classified groundwater Damage to a building rendering it unsafe to occupy (e.g. foundation damage resulting in instability)
Minor	Easily preventable non-permanent health effects Harm, although not necessarily significant harm, which may result in financial loss or expenditure to resolve Easily repairable effects of damage to buildings/structures/services	Presence of contamination at concentrations which require the use of personal protective equipment during site work Loss of plants in a landscaping scheme/dischouration of concrete

¹ CIRIA, (2001). *Contaminated Land Risk Assessment. A Guide to Good Practice*. CIRIA C552.

² M.J. Carter Associates, (1995). *Prioritisation and Categorisation Procedure for Sites Which May Be Contaminated*. Contaminated Land Report 6. Department of the Environment. C

³ Land Condition Risk Management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

The potential probability of the risks being realised are classified in accordance with the ratings set out in Table 2 which are adapted from the CIRIA guidance¹. It should be noted that where a pollutant linkage has not been identified the likelihood is considered to be zero.

Table 2. Classifications of probability ratings

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

In accordance with C552 the risk classification for each pollution linkage are classified in accordance with the matrix for consequence and probability set out in Table 3. The definitions for the risk classifications are presented in Table 4.

Table 3. Risk classification matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High likelihood	Very High	High	Moderate	Moderate / Low
	Likely	High	Moderate	Moderate / Low	Low
	Low likelihood	Moderate	Moderate / Low	Low	Very Low
	Unlikely	Moderate / Low	Low	Very Low	Very Low

Table 4. Risk classification definitions

Classification	Definition
Very High	There is a high probability that severe harm could arise to a designated receptor from the identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, is likely to result in substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from the identified hazard. Realisation of the risk is likely to result in substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
Moderate	It is possible that harm could arise to a designated receptor from the identified hazard. However, it is either relatively unlikely that such harm would be severe or if any harm were to occur it is more likely that the harm would be relatively mild. Urgent investigation (if not already undertaken) is normally required to clarify the potential risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from the identified hazard, but it is considered likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a designated receptor from the identified hazard. In the event of such harm being realised it is not likely to be severe.