

ALMONDBURY SEND SCHOOL

PHASE 2 GEO-ENVIRONMENTAL EXPLORATORY INVESTIGATION, RISK ASSESSMENT AND REMEDIATION STRATEGY

Job Number: LKC 22 1679

Date: 31st May 2023

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Prepared By	Rachel Wylie	Reviewed By	Colin Crompton

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EXECUTIVE SUMMARY

Site Details

Site Location:	South of Fernside Avenue and to the south-west of Aldonley, Site Location Almondbury. Centred at approximate National Grid Reference 417000E 415830N.
Site Area:	8.09Ha (full site area). Proposed re-development area is c. 2.6Ha
Current Land Use:	Vacant school buildings and sports hall, with swimming pool currently in use. External areas include playing fields, hardstood car parks and hardstood sports pitches.
Proposed Development:	Secondary school with soft landscaping.
Purpose of Report:	Exploratory Contamination and Geotechnical Assessment.

Preliminary Risk Assessment

PRA Details:	Undertaken by LKC in February 2023.
History:	Onsite: Agricultural / pasture fields, unreferenced buildings, anti-aircraft facility, Almondbury High School. Surrounding Area: Electricity sub-station, paddling pool, pond.
Geology / Hydrogeology:	Greenmoor Rock (Sandstone). Small area of Pennine Lower Coal Measures Formation (mudstone, siltstone and sandstone) in the south of site close to the southern site boundary. 1 fault in east of the site, striking northwest-southeast with a downthrow to the northeast. (Secondary A Aquifer).
Mining:	Consultants mining report shows no risk from shallow mining.
Relevant Environmental Setting:	Secondary A Aquifer below site. Not within Source Protection Zone.
Preliminary Conceptual Model:	PL1 Direct Contact (Human Health): Moderate Risk (ACM, heavy metals, hydrocarbons, PCBs). PL2 Inhalation of Vapours: Moderate/Low Risk (volatile contaminants). PL3 Gas: Moderate/ Low Risk (hazardous and ground gas). PL4 Controlled waters: Moderate/Low Risk (mobile contaminants). PL5 Water Pipelines: Moderate/Low Risk (organic contaminants).
PL=Pollutant Linkage	
Recommendations:	Site Investigation was recommended to further assess PL1, PL2, PL4 and PL5.

Ground Investigation Work Undertaken

Date of Investigation:	25 th to 28 th March 2023
Intrusive Investigation Work Undertaken:	27no. window sample boreholes (WS101-WS127). 2no. mechanically excavated trial pits (SA101-SA102). 6no. hand dug pits (HD101-HD105).
Monitoring Wells:	Installed in WS102, WS103, WS108, WS116 and WS120.
Soil Sampling with leachings tests:	16no. samples tested for metals, speciated PAHs, pH, sulphate, asbestos and SOM. 6no. samples tested for metals, speciated PAHs, cyanide, pH, sulphate, asbestos, phenol, TPHCWG, BTEX, SOM and waste acceptance criteria. 6no. soil samples tested for leachable metals, speciated PAHs, pH, sulphate and hardness. 1no. sample tested for metals, speciated PAHs, cyanide, pH, sulphate, asbestos, phenol, TPHCWG, BTEX, PCBs and SOM. 2no. samples tested for pH and sulphate.
Monitoring:	2no. groundwater monitoring visits.
Insitu and Laboratory Geotechnical Testing:	SPTs, pocket penetrometer.
Other Work:	Infiltration tests in 2no. locations.

Ground Conditions and Geotechnical Assessment

General Ground conditions	Allowable Bearing Pressure	Anticipated Foundation Type	Other Considerations
Made Ground (including ash and clinker) to generally less than 1mbgl. Deeper areas of made ground localised around the site. Soft to firm consistency clay encountered in localised areas. Some with organic inclusions. Bedrock comprised weathered mudstone and sandstone. No groundwater encountered.	600kN/m ² assumed in weathered bedrock	Pads founded on bedrock.	Further ground investigation once site is cleared. Assessment of the extent / depth of basement, ducts Consider extent and thickness of localised red shale deposits. Temporary supports of excavations may be required. Detailed design should be carried out by structural engineer. Concrete Requirements DS1-AC-1s over most of the site. Localised areas require DS-2 AC-1s and DS-3 AC-1s.

Contamination Risk Assessment

The table below shows a summary of the risk assessments undertaken for each pollutant linkage, the revised conceptual model and recommendation for either remediation and / or further investigation.

Pollutant Linkage		Risk	Recommendations
1	Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust and fibres).	Moderate (localised)	-ACM (chrysotile) identified in made ground localised to the west of site. -Elevated PAHs in the made ground localised to the centre of site. Recommendations: Remediation may be required in soft landscaping areas.
		Low	-No elevated heavy metals, PCBs and petroleum hydrocarbons identified across the site. Recommendations: No remediation required.
2	Volatile contaminants posing a risk to future site users via the inhalation of vapours.	Low	-No elevated volatile contaminants across the site. Recommendation: No remediation required.
3	Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Low	-No significant made ground identified on site. Low TOC/SOM. Recommendation: No remediation required.
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Low	-No elevated contaminants identified in groundwater. Recommendations: No remediation required.
5	Organic contaminants posing a risk to water pipes.	Low	-Elevated hydrocarbons identified but not at pipeline depth. Recommendations: Water pipeline risk assessment to be completed.

No evidence of residues or explosive were identified in the detailed UXO report and the site investigation did not identify any remnants of the anti-aircraft battery area features.

Permeability of the shallow soils were calculated as 10^{-4} m/sec to 10^{-6} m/sec. The weathered bedrock around SA102 is likely suitable for a Sustainable Drainage System (SuDS) feature, but consideration should be given to the existing drainage strategy and the potential for water pooling on the playing field at a lower level to the east.

Confirmatory testing did not detect any presence of coal tar in the tarmac samples tested. The laboratory reports the material is “typical of bitumen and PAHs”.

Recommendations and Remedial Strategy

The table below shows the remediation and validation requirements for the site. This information should be documented in a Site Completion Report for submission to the local authority.

Phase	PL	Remediation Requirements	Validation Requirements
Post-Demolition Work	1, 2, 5	<u>Post-demolition Trial Pitting / Boreholes</u> This is recommended to confirm ground conditions below the current buildings and allow delineation of areas of concern. This should allow a more targeted remediation strategy to be completed. This work will also provide more geotechnical information for foundation design.	N/A (Investigation Report will be provided with an updated Remediation Strategy).
Pre-Construction	ALL	<u>Earthworks Inspections / Unexpected Contamination</u> The relevant contractors should be briefed that during development works at the site should any unusual ground conditions and / or visual or olfactory evidence of contamination (including asbestos containing material) be encountered at the site, LKC and the Local Authority should be informed, and further assessment of the material may be required.	Log of work undertaken including photographs. Details of any sampling undertaken and validation of any potential additional remedial work.
Build-Phase Construction	1 and 7	As the made ground is relatively shallow and the requirement for remediation localised then LKC recommend the removal of reworked topsoil / made ground from garden and soft landscaping areas and raise levels (as required) with suitably chemically validated subsoil and topsoil.	Consignment notes confirming the removal of made ground. Photographic evidence of natural strata. Chemical validation of imported soils: See Table 9-2.
	5	<u>Potable Water Pipes</u> It is recommended that a Water Pipeline Assessment is undertaken once the location and depth of potable water pipes are known.	Delivery Notes of Pipe Material. Photographs of the Installed Pipe.
	2, 3, 4	No remediation anticipated with respect to PL2 (inhalation of vapours), PL3 (gas) and PL4 (controlled waters); however, this needs to be confirmed once additional work has been completed.	TBC

As asbestos has been identified within the soils on site, it is also recommended that an Asbestos Management Plan is adopted during construction work.

The remediation recommended in the table above should be validated to ensure it has been carried out appropriately. This should be documented in a Completion/Validation Report and submitted to the local authority for completion.

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FIGURES

Figure 1: Site Location and Boundary Plan

Figure 2: Site Investigation Location Plan

APPENDICES

Appendix A:	Risk Matrix
Appendix B:	UXO Desk Study Report
Appendix C:	Profile Logs
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Appendix E:	Soakaway Tests
Appendix F:	Generic Assessment Criteria Values
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1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by Wilde Consulting Engineers to carry out a Phase 2 Geo-Environmental Exploratory Investigation, Risk Assessment and Remediation Strategy for Almondbury SEND School. The investigation was undertaken in support of a future planning application to develop the site for a replacement secondary school.

The following work has previously been undertaken:

- » Preliminary Risk Assessment (PRA) report, undertaken by LKC (Ref: LKC 22 1679-A1-PRA, dated 21st February 2023).
- » UXO Desk Study & Risk Assessment, undertaken by Zetica Ltd (Ref. P12610-23-R1).

This investigation has been undertaken to confirm the ground conditions below the site and to allow a contamination and geotechnical assessment to be undertaken.

The investigation will aim to confirm the risks of the potential pollutant linkages identified in the PRA and recommend further assessment / remediation, as required.

The aims of this report are also to establish the feasibility of developing this site, to demonstrate to the Local Planning Authority that in accordance with the National Planning Policy Framework (NPPF)¹ the site may be developed for a replacement secondary school end use and that appropriate site investigation and risk assessment works are in place to allow conditional approval of any future planning application.

A post demolition investigation is also proposed, once the existing buildings have been demolished. A separate report including revised remediation strategy will be produced once this has been completed.

The PRA and initial high-level UXO [unexploded ordnance] screening identified the presence of a heavy anti-aircraft battery on site and the potential for UXO. The potential presence of UXO can be a constraint to intrusive investigation and development and groundworks. Therefore, and in accordance with CIRIA C681², a UXO Desk Study was carried out.

1.2 Site Details

A summary of the site details is presented in Table 1-1. Figure 1 shows the site location and boundary and the proposed area for redevelopment. At this stage LKC has not been provided with a proposed development plan or finished external and floor levels.

¹ "National Planning Policy Framework." Ministry of Housing, Communities and Local Government. July 2021.

² CIRIA (2009). "Unexploded ordnance (UXO) A guide for the construction industry. C681.

Site Location	South of Fernside Avenue and to the south-west of Aldonley, Almondbury. Centred at approximate National Grid Reference 417000E 415830N.
Approximate Area	8.09Ha (full site area). Proposed re-development area is c. 2.6Ha.
Topography	138.4-120.2 metres Above Ordnance Datum (AOD). Ground levels around the existing buildings are generally 135-131mAOD, three hardstood courts are present to the south of the school buildings on plateaus at 134-130mAOD. Ground levels fall to around 120mAOD at the southeast and eastern boundaries.
Current Site Use	Vacant school buildings and sports hall, with swimming pool currently in use. External areas include playing fields, hardstood car parks and hardstood sports pitches.
Purpose of Report	Pre-planning.
Proposed Development	Secondary school with soft landscaping. A proposed development plan with finished external and floor levels is not available at this stage; however, it is understood the new school development will generally be within the existing footprint and may retain the existing swimming pool and sports centre.

Table 1-1. Summary of site details.

2 Review of Previous Work

2.1 Phase 1 Preliminary Risk Assessment (PRA)

A PRA report (Ref: LKC 22 1679, dated 21st February 2023) has previously been undertaken by LKC.

Table 2-1 summarises the site details, historical review, environmental settings and site reconnaissance.

Current Site Use	Vacant school buildings and sports hall, with swimming pool in use. External areas include playing fields, hardstood car parks and hardstood sports pitches.
Proposed Development	Secondary school with soft landscaping. A proposed development plan and finished levels is not available at this stage; however, it is understood the new school development will generally be within the existing footprint and may retain the existing swimming pool and sports centre.
Main Historical Features	Onsite: Agricultural / pasture fields, unreferenced buildings, anti-aircraft facility, Almondbury High School. Surrounding Area: Electricity sub-station, paddling pool, pond.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: No BGS recorded superficial. Bedrock: Greenmoor Rock (sandstone), Lower Coal Measures. Secondary A Aquifer.
Landfills / Infilled ground	No recorded landfills. Potentially infilled ground identified.
Site walkover	Vacant school buildings with an associated basement boiler house and substation. The sports centre is vacant whereas the swimming pool remains in use. External areas include playing fields, hardstood car parks and hardstood sports pitches. Pond and overgrown area present on the southern site boundary. Water runs from this area of the site onto the road off the southern site boundary.

Table 2-1: Summary of site details, historical review, environmental settings and site reconnaissance.

The preliminary contamination conceptual model (PCCM) produced in the PRA is provided in Table 2-2.

Each pollutant linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552³. The risk matrix is provided in Appendix A.

Due to the minor consequence associated with the phytotoxic effect to flora (i.e. loss of plants in a landscaping scheme), the overall risk for the majority of sites will be very low to low. Where soils contain significant concentrations of heavy metals, in general there will other pollutant linkages (i.e. the risk to human health) that will trigger the requirement for remediation (e.g. a clean environmental cover system). As such the risk to flora associated with phytotoxic contaminants will not be considered further.

The risk to buildings associated with elevated sulphate will be considered as part of the geotechnical assessment and will not be included in the contamination risk assessment.

³ CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

Almondbury SEND School
Phase 2 Geo-Environmental Exploratory Investigation, Risk Assessment and Remediation Strategy

PL	Pathway	Receptor	Contaminants of Concern (CoC)	Probability	Consequence	Risk	Recommendations
1	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils, dust. - Windblown dust.	- Future site users. - Offsite receptors.	- ACM. - Heavy metals. - PAHs. - Petroleum hydrocarbons. - PCBs.	Likely (localised) (given site history, site conditions and proposed end use)	Medium	Moderate	Intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
2	- Inhalation of vapours. - Migration via permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants (Petroleum hydrocarbons).	Low Likelihood (given site history, site conditions and proposed end use)	Medium	Moderate / Low (moderate assumed until ground conditions confirmed)	Low density intrusive investigation required, to include PID testing. Soil analysis of CoC, subject to ground conditions encountered and PID testing.
3	- Inhalation of gas. - Migration via permeable strata and preferential pathways. - Explosion in confined spaces. - Exposure to radon.	- Future site users. - Buildings. - Offsite land users.	- Hazardous gas (carbon dioxide, methane).	Unlikely (given no viable gas source)	Severe	Moderate / Low (low assumed as no significant source)	No further assessment required.
4	- Surface run-off. - Migration via permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Secondary A Aquifer). - Pond on southern boundary.	- Mobile contaminants such as petroleum hydrocarbons, metals, PAHs.	Low Likelihood (Significant mobile contamination not anticipated however unknown ground conditions)	Medium	Moderate / Low (moderate assumed until ground conditions confirmed)	Low density intrusive investigation required. Groundwater sampling, subject to ground conditions encountered. Analysis of CoC.
5	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as naphthalene, petroleum hydrocarbons.	Low Likelihood (although some contamination may be present, significant contamination not expected at pipeline depth)	Medium	Moderate / Low (moderate risk assumed until ground conditions confirmed)	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.

Table 2-2:Preliminary Contamination Conceptual Model

2.2 UXO Desk Study

The UXO Desk Study report was carried out by Zetica Ltd. A full copy of the report is provided in Appendix B. Extracts from the report are provided below:

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: A UXO awareness briefing is recommended for staff involved in excavations.

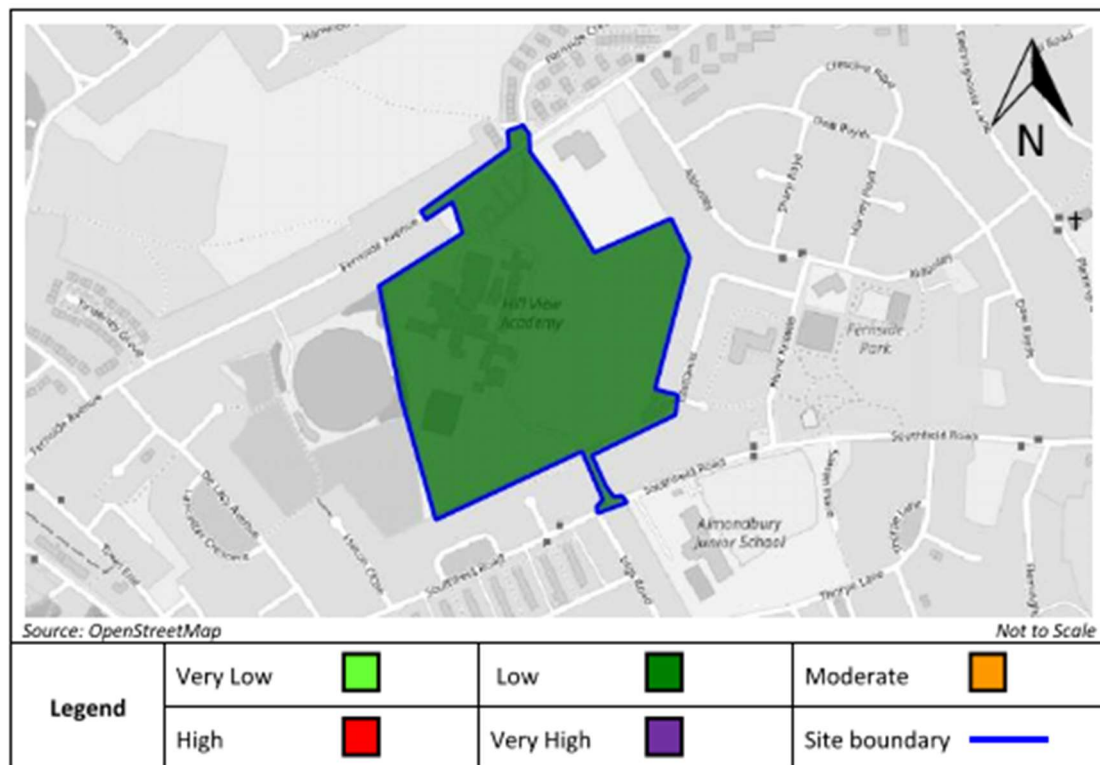
UXO Hazard Assessment

In June 1940, Leeds S Heavy Anti-Aircraft (HAA) battery was established on the Site. It was armed with 4No. 4.7-inch (") guns. Leeds S HAA battery and associated activities are not considered to provide a significant source of UXO hazard to the Site.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure.

UXO hazard zone plan of the Site



The main findings of the report are summarised below.

- No records of bombing or military activity on the Site during World War One (WWI) have been found.

During World War Two (WWII) the main strategic targets in the vicinity of the Site included engineering works, major transport infrastructure, and public utilities.

•

During WWII, 1No. HAA battery was located on the Site. It was armed with 4No. 4.7" guns and manned by the 96th Royal Artillery (RA) Regiment.

No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest High Explosive (HE) bomb fell on open ground near Lump Lane, approximately 1.5km west-northwest of the Site, on 11th June 1941.

•

No records of military activity on the Site post-WWII have been found.

The table below summarises the UXO risk for proposed works on the Site and recommended actions.

Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		UXO awareness briefing – Given the history of military activity on the Site, it is recommended that a formal UXO awareness briefing is provided to staff involved in excavations.
Boreholes/Piling		Proceed with works

In summary, it is recommended that staff involved in excavations are provided with a formal UXO awareness briefing so that they take appropriate action in the event of a suspect find.

Therefore, on the basis of the Zetica UXO Desk Study it was considered that intrusive works could commence and that explosive residues were not a significant source term in the PRA.

3 Ground Investigation

In order to assess the ground conditions at the site and to investigate the potential pollutant linkages identified in the preliminary contamination conceptual model an intrusive investigation was undertaken.

3.1 Investigation Design and Constraints

Initially the intrusive investigation scope comprised the following:

- 18no. window sample boreholes to be drilled externally to the current school building.
- 7no. window sample boreholes to be drilled internally.
- 2no. soakaway locations.
- 1no. hand dug pit to be carried out within the boiler house basement.
- 2no. external hand dug pits.
- 2no. external trial pits to be excavated in the northwest of site.

The locations were chosen to allow coverage across the site ahead of any proposed development layout as well as target areas of concern identify in the PRA. Table 3-1 details the justification for the investigation locations.

Sampling Locations	Rationale
WS102, WS103, WS104, WS107, WS108, WS109, WS110, WS111, WS112, WS123,	General site coverage to confirm ground conditions.
WS101	Location of former buildings associated with anti-aircraft battery identified on historical mapping and for general site coverage.
WS113, WS115 & WS116	Targeted sampling for current swimming pool area and general site coverage.
WS119, WS121, WS122 & WS125	External window sample borehole locations targeting former anti-aircraft battery features and general site coverage.
WS105	To confirm ground conditions under modern sports hall building.
WS106, WS114, WS117, WS118, WS120, WS124	Internal window sample locations to assess ground conditions underneath school building.
TP101 and TP102	External trial pits in the to confirm ground conditions of mound on western boundary of the site and general site coverage.
SA101 & SA102	Lowest point of site development area for soakaway tests and general site coverage.
HD101	External hand dug pit to assess foundations of current sports hall building.
HD102	Hand dug pit to for targeted sampling for pre-1980's electric substation and general site coverage.
HD103	Internal hand dug pit for targeted sampling for current boiler house/former coal boiler house.

Table 3-1: Summary of sampling locations and justifications.

Locations in **BOLD** were modified during the site works (see below and Table 3-2). All other locations were carried out as proposed.

Due to prevailing site conditions and constraints encountered during the course of the site investigation works, some sampling positions had to be modified by location or technique and certain additional sampling positions were carried out. Below are the details of these modifications:

- » WS120 was repositioned to outside the building following a review of the site asbestos register which indicated asbestos containing materials in the floor tiles.
- » WS106 and WS117 were repositioned to outside the building due to the presence of the service duct within the hallway. Alternative internal locations for WS106 were rejected following a review of the site asbestos register.
- » WS114 was repositioned to outside from the internal kitchen area due to presence of the basement and the unknown location of a gas pipe.
- » WS118 was repositioned to outside from the hall due to the presence of a void below the hall floor.
- » WS124 was not able to be carried out internally due to limited access to the southern classroom. HD104 was carried out instead to confirm ground conditions underneath the building. WS124 was moved to be adjacent to this classroom externally to confirm bedrock was consistent with the finding in HD104.
- » TP101 and TP102 were not carried out as machine excavated trial pits. To reduce the invasive method of machine excavation window sample boreholes were adopted instead. This was to reduce potential damage to existing infrastructure on site (roads and footpaths) with the excavator and to ensure tidy reinstatement. These were replaced by WS126 and WS127.
- » HD103A dug near to HD103 where shallow termination was reached. However a further suspected concrete slab was identified below subbase.
- » An additional hand dug pit was carried out (HD105) adjacent to the eastern elevation of the school building where a crack in the building wall was observed.

A summary of the above modifications is provided in Table 3-2.

Modified & Additional Sampling locations	Rationale
WS106 & WS117	Repositioned externally due to presence of service duct and potential ACM internally around WS106.
WS114	Repositioned externally due to extent of the basement and unknown position of gas pipe.
WS118	Repositioned externally due to void below the hall floor.
WS120	Repositioned externally due to ACM in floor tiles.
WS126 & WS127	Alternative method to replace trial pits TP101 and TP102.
HD103A	Additional hand dug pit in current boiler house/former coal boiler house where a refusal was met in HD103.
HD104 & WS124	Internal pit (HD104) to confirm ground conditions below the school building where access was not possible for drilling rig. WS124 was carried out adjacent external to confirm ground profile identified in HD104.
HD105	Additional hand dug pit on eastern elevation where a crack in the brickwork was observed.

Table 3-2: Summary of the modified and additional sampling locations.

The investigation was carried out on 25th to 28th March 2023 and comprised the following:

- » 27no. window sample boreholes drilled to 0.57-2.80 metres below ground level (mbgl) (ref. WS101 to WS127).
- » 2no. trial pits (10t tracked machine) for soakaway testing excavated to 1.70mbgl (ref. SA101 to SA102).
- » 6no. hand pits (using hand auger / spade) excavated to 0.26-0.90mbgl (ref. HD101 to HD105).

1m length rock cores from shallow bedrock were attempted using a rotary coring attachment; however due to the weathered nature of the upper surface of the bedrock recovery was poor and the samples were not suitable for point load or compressive strength testing.

All site investigation locations are shown in Figure 2.

As this is an exploratory investigation further investigation should be carried out where buildings are still present and currently inaccessible for investigation e.g. asbestos risk register and presence of services).

The number of site investigation location points corresponds to approximately one location per 27m square centres. This is considered to be in line with BS10175⁴ for an 'exploratory investigation'. Further investigation work is recommended to assess the ground conditions further and to be in line with BS10175 for a 'main investigation' following site clearance.

Coring of the concrete was carried out in HD103, HD103A and HD104 (equivalent core logs ref. CR103, CR103A and CR104). A core was carried out at WS105 (equivalent core log ref. CR105).

All profile logs are provided in Appendix C and are in line with BS14688-1⁵ and BS5930⁶.

3.2 Well Installations

5no. (WS102, WS103, WS108, WS116 and WS120) of the boreholes were installed with monitoring wells for intended groundwater monitoring and groundwater sampling. Monitoring wells were installed in accordance with BS10175 and CIRIA C665⁷ and generally comprised approximately 0.5-1.0m plain pipe over a length of slotted pipe surrounded by pea gravel and sealed at the top with bentonite and concrete.

Well installation details are provided in Profile Logs in Appendix C.

3.3 Sampling Protocol

3.3.1 Soil Sampling (Contamination)

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on site investigation⁸.

Soil was collected for onsite testing. A plastic zip bag was half filled with soil allowing a suitably sized headspace. The bag was sealed and stored for at least 20 minutes before being tested for total volatile organic compounds (TVOCs) using a PhoCheck Tiger photoionisation detector (PID). Results of the PID readings are presented on the profile logs (Appendix C). The on-site monitoring was carried out in line CIRIA C665⁹ to aid in screening samples for volatile analysis.

⁴ British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2017.

⁵ British Standards (2002) Geotechnical investigation and testing – Identification and Classification of Soil. Part 1: Identification and description. BS EN ISO 14688-1:2002.

⁶ British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

⁷ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

⁸ EA (2000). "Technical Aspects of Site Investigation. Volumes 1 & 2 Text Supplements Research and Development Technical Report." P5-065/Tr.

⁹ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

Soil samples of approximately 500g were recovered in amber jars, amber vials for volatile analysis and plastic tubs. All the samples were labelled and stored in cool boxes prior to being collected by courier at the end of the day for delivery to the Chemtest laboratory in Newmarket for chemical testing. If collection was not possible the same day, then samples were stored in the sample storage fridge at the LK Group offices below 4°C. Samples were tracked using appropriate Chain of Custody forms provided by Chemtest.

Many of the contamination tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix D. Table 3-2 shows the soil testing undertaken.

Suites and Contaminants	No. Samples	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	16	A basic suite with a broad selection of contaminants tested on samples across the site where no significant evidence of contamination was identified (with the exception of ash, clinker, brick, plastic and coal) and no TVOCs identified from the PID tests.
Metals / metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, SOM and asbestos screen. And waste acceptance criteria (WAC).	6	Although no visual/olfactory evidence of contamination was identified in HD105 and SA102 (with the exception of some brick fragments, ash and coal) detailed suite undertaken to confirm the absence of contamination and to aid with a waste disposal assessment. Detailed suite was undertaken on WS113 0.2-0.4m due to proximity to active swimming pool and plant room. Possible organic contamination was identified in made ground in WS105 1.0-2.0m therefore the detailed suite undertaken to confirm the contamination risk and to aid with a waste disposal assessment. Although no evidence of contamination identified In HD101 0.8-1.2m, detailed suite undertaken to confirm the absence of contamination and to aid with a waste disposal assessment. Possible red shale was identified in WS121, detailed suite undertaken to confirm contamination risk and to aid with a waste disposal assessment.
Metals / metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, PCBs, SOM and asbestos screen.	1	Although no visual/olfactory evidence of contamination was identified, due to proximity of an electric substation built pre-1980s a detailed suite including PCBs was undertaken on HD102 0.35-0.45m.
BRE SD1 Short Suite	2	
Coal Tar	2	Limited fluorescence was identified during PAK spray testing on samples of tarmac, therefore WS121 0.0-0.08m and WS113 0.0-0.11m were tested to confirm the presence or absence of coal tar.

Table 3-2. Summary of soil sample testing undertaken.

Notes:

If asbestos present during screen identification and quantification will be undertaken.

Metal/metalloids=arsenic, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc and boron; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons, BTEX=benzene, toluene, ethylbenzene and xylenes; MTBE=Methyl tert-butyl ether, PCB=polychlorinated biphenyls, SOM=Soil Organic Matter.

BRE SD1 Short Suite: (pH, water soluble sulphate, water soluble chloride, water soluble nitrate, water soluble magnesium).

3.3.2 Leaching Tests

No groundwater was encountered in the boreholes during drilling and in the return monitoring visits. Therefore leaching tests were undertaken as an alternative.

It should be noted that the leaching test is an aggressive test and may not give results that are truly representative of the groundwater on site.

Sampling was carried out in accordance with BS5930¹⁰ and BS5667-11¹¹.

Many of the tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix D. Table 3-3 shows the leachate testing undertaken.

Suites and Contaminants	No. Samples	Location	Justification
Metals / metalloids, pH, sulphate, speciated PAHs and hardness.*	6	SA102 WS121 WS113 WS105 HD101 HD105	No significant contamination risk identified from the investigation and the soil results therefore basic suite considered appropriate for groundwater across the site to allow a good spread across the site.

Table 3-3. Summary of leaching tests undertaken.

Notes

*Selected leaching tests are also carried out as part of the WAC testing (see Table 3-2).

Metal/metalloids=arsenic, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc and boron; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons.

LKC would also note that the WAC testing also includes an element of leaching tests.

3.4 Gas Monitoring

Gas monitoring was not carried out as part of this investigation.

A low risk was identified in the preliminary contamination conceptual model for gas (pollutant linkage 3) and further action was only recommended if significant organic / putrescible material was identified on site. Based on the ground conditions encountered, LKC did not consider gas monitoring to be required. This is discussed further in Section 6.3.

3.5 Geotechnical Testing

3.5.1 In-situ Onsite Geotechnical Testing

In-situ geotechnical tests were performed in the boreholes to further characterise the sub-soil conditions. The following tests were undertaken:

- Standard Penetration Tests (SPTs) were performed in the window sample boreholes at approximately 1m intervals, generally within the natural strata.
- Pocket penetrometer tests (giving undrained shear strength) were performed in the window sample boreholes (to a maximum depth of 3mbgl) 1m intervals, within the natural clay strata.

The SPT and shear vane readings are provided within the profile logs (Appendix C).

¹⁰ British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

¹¹ British Standard (2009). "Water Quality – Sampling. Part 11: Guidance on Sampling of Groundwaters". BS ISO 5667-11:2009.

3.6 Soakaway Tests

Soakaway tests were commenced in SA101 and SA102 in accordance with the BRE Digest 365¹².

The trial pits were machine excavated to dimensions of 0.7m wide, 2.0m long and 1.7m depth. The arisings were logged in accordance with BS14688-1¹³ and BS5930.

A slotted standpipe was placed vertically in the pit.

The pits were filled from a water bowser and the drop in level timed and recorded using a dipmeter inside the temporary standpipe.

¹² BRE (2003) 'Soakaway Design' British Research Establishment BRE Digest 365 2003

¹³ British Standards (2002). Geotechnical investigation and testing – Identification and Classification of Soil. Part 1: Identification and description. BS EN ISO 14688-1:2002.

4 Ground Conditions

4.1 Geology – Generalised Sequence

The ground conditions beneath the site comprised made ground underlain by weathered mudstone. A summary section of the logs is provided in Plate 4-1, with additional comments below.

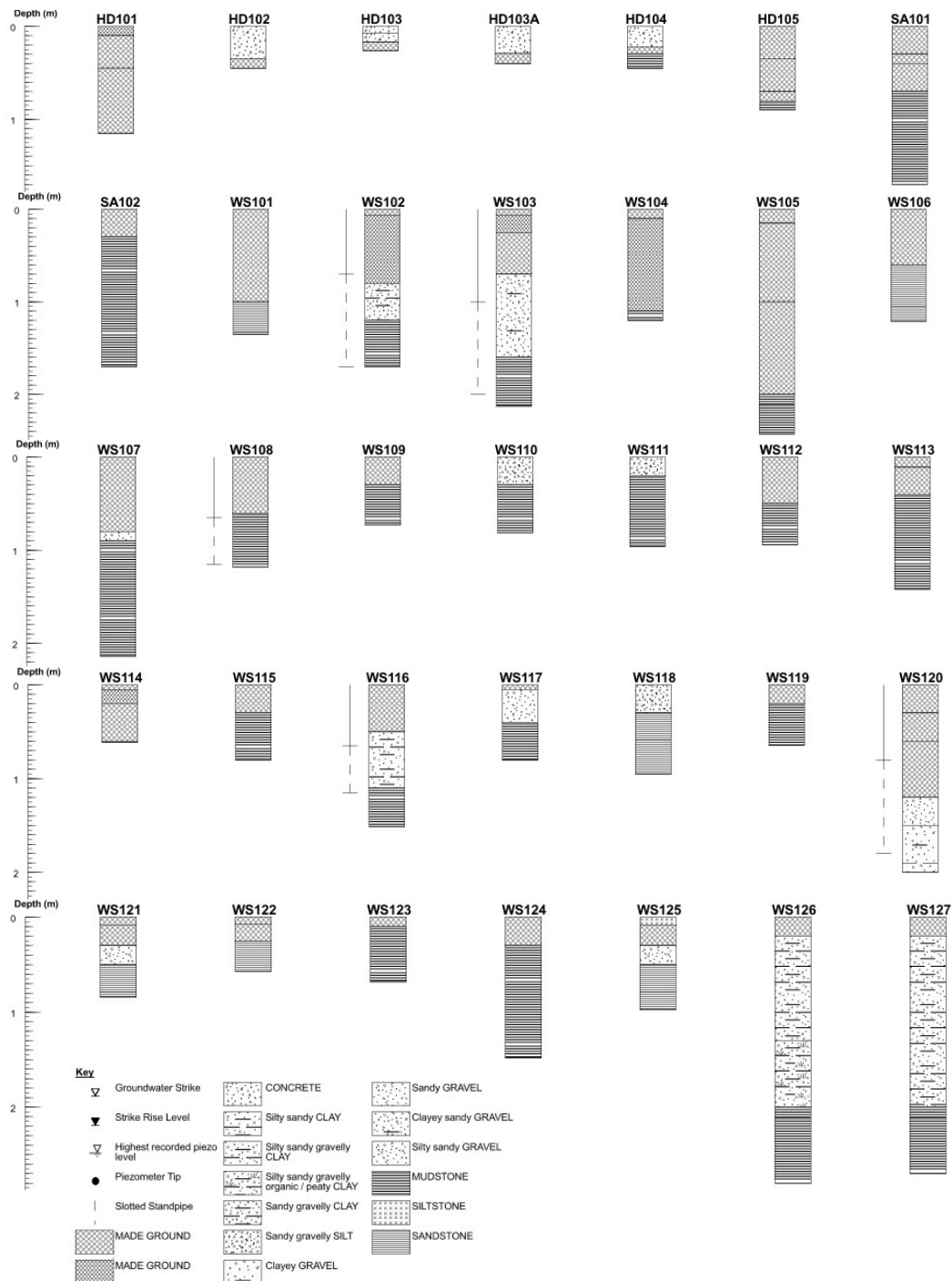


Plate 4-1: Summary of ground conditions.

Additional information on ground conditions:

Made Ground

Made ground was recorded in all locations to depths of 0.05-2.0mbgl except for WS110, WS111, WS117 and WS118. Generally the made ground thickness was 1m or less, except for WS104 (1.1m), WS105 (2.0m – build up below sports hall foundation) and WS120 (1.20m)

The made ground comprised horizons of gravel or silt anthropogenic material including ash, clinker, plastic brick and glass. Other made ground strata noted on site:

- Reworked red shale was noted in four window sample locations (WS103, WS121, WS122 and WS125) to depths of 0.25-0.30mbgl. It should be noted there was no evidence of heave or surface damage in the overlying hardstanding or flooring.
- Reworked gravelly clay was noted in HD101 alongside a concrete footing.
- Sand with timber fragments was noted in HD102 from 0.35mbgl.
- Brick gravel was under the concrete in HD103A. Below which was a further suspected concrete slab.
- In WS114 gravel and cobbles were identified to 0.60mbgl whereupon tarmacadam was noted and the borehole terminated.

Natural Strata

In the majority of sampling locations, weathered mudstone bedrock interbedded with sandstone was encountered directly below the made ground, recovered as sandy/clayey gravel. The exception was sandstone bedrock encountered in WS106 from 0.60mbgl.

A soft to firm clay (possible superficial deposits) was present in four locations (WS102, WS116, WS126 and WS127) from 0.50-2.0mbgl.

It should be noted that WS116, WS126 and WS127 are close to the western site boundary and WS126 and WS126 are where the site levels rise up to meet the cricket field to the west. WS102 is to the north of the school building. It is possible that these areas of the site were not cleared or reduced in level when the anti-aircraft battery was created and subsequently cleared from site.

An organic odour was noted in WS127 from 1.30-1.50mbgl. Organic material was noted in the clay in WS126 from 1.30mbgl-2.00mbgl.

A clayey sandy gravel was noted in WS103 from 0.70-1.60m with a grey colour and an organic odour from 1.4-1.5mbgl. A layer of gravel (possibly reworked from the site clearance works) was noted in WS121 from 0.30-0.50mbgl and WS125 from 0.30-0.50mbgl.

Contamination

With the exception of the anthropogenic material encountered in the made ground (as described above), no further visual evidence of potential contamination was identified.

There was no visual / olfactory evidence of hydrocarbons or volatile contaminants in any locations. The PID recorded a maximum of 0.1ppm TVOC in the samples.

Existing Building Information

Intrusive investigation inside the current school building was limited due to a number of constraints (see Section 3.1); however, internal locations were possible in some locations i.e.:

- » HD102: Substation area.
- » HD103 & HD103A: Boiler Room / basement.
- » HD104 Southern part of the school building.
- » WS105: Sports Hall.

The concrete in HD102 was up to 350mm thick with the lower 150mm observed as “black”.

HD103 and HD103A were carried out within the boiler house with concrete recorded to 170mm and 290mm (ref. CR103 and CR103A). HD103 identified two very similar types of concrete with possible MOT subbase below to 0.26mbgl; and this was assumed to be on to weathered bedrock.

HD103A was carried out in what was possibly an infilled coal chute. This core comprised one type of concrete underlain by a brick gravel; an additional concrete slab was present under the gravel layer. LKC were unable to core at this depth and the extent of the additional concrete slab is unknown.

HD104 in the southern area of the school identified concrete to a depth of 220mm (ref. CR104). This was underlain by a reworked gravel to 0.30mbgl over weathered bedrock. WS124 drilled outside the building confirmed the depth of bedrock.

WS105 was carried out in within the sports hall building, the newest part of the school. A concrete core found concrete to a depth of 150mm (ref. CR105). Underneath the concrete, made ground gravel subbase was identified to 2.00mbgl above weathered bedrock. It should be noted that this part of the school building was approximately 1.50m above external ground level.

Foundations

HD101 was carried out to identify the foundations of the sports hall building in the north of site. The pit identified a concrete footing at 0.45mbgl, this footing stepped out from the building by 0.30m. The pit was dug to 1.150mbgl but the base of footing was not encountered. Based on the nearby investigation locations it is possible the footings are sat on bedrock.

Evidence of Anti-Aircraft Battery Area

The Sampling Location Plan (Figure 2) includes the 1958 Ordnance Survey map as a backcloth. This shows the former layout of the anti-aircraft battery.

WS119, WS121, WS122 and WS125 were positioned in the locations of the bunkers identified in the historical mapping and the logs confirmed that these locations had similar ground conditions to rest of site (shallow bedrock) and no evidence of the anti-aircraft battery areas.

WS101 and WS103 were positioned in the location of former ancillary buildings. The logs for this area did not identify remnants of the buildings (rubble or inground features). This along with the general absence of overlying clay and gravel deposits across the site corroborates newspaper accounts of the anti-aircraft features being cleared from site.

In addition, tarmac was noted at 0.60mbgl in WS114. This may be related to the former site use.

Further information

Other ground condition information to consider:

- » The hall floor in the south of the building is noted to be over a void, estimated to be 0.50mbgl. The ground conditions at the base of the void are unknown.
- » A service duct void is present throughout the corridor in the east of the building.
- » A crack was noted in the southeastern wall indicating possible subsidence. HD105 was carried out to gain ground conditions in this area. No voids were noted in the log, however made ground was identified to 0.90mbgl.

4.2 Groundwater

4.2.1 Groundwater Levels

No groundwater strikes were recording during the investigation.

In addition 2no. return groundwater monitoring visits have been undertaken. During these visits water was recorded in WS102 only with depths recorded between 1.51-1.63mbgl with the base of the well recorded as 1.65-1.71mbgl.

4.2.2 Soakaway Tests

Soakaway tests were also carried out within weathered mudstone strata at the request of the client. The results of the tests are presented in Appendix E and summarised in Table 4-1.

BRE365¹⁴ indicates that the calculation of the soil infiltration rate is made from the time taken for the water level to fall from 75% to 25% effective storage depth in each pit.

$$\text{Soil infiltration rate, } f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

Where:

V_{p75-25} = the effective storage volume of water in the trial pit between 75% and 25% effective depth.

a_{p50} = the internal surface area of the trial pit up to 50% effective depth including the base area.

t_{p75-25} = the time for the water level to fall from 75% to 25% effective depth.

Due to the slow rate at which water drained in SA101, three tests were not carried out in this location and the test was terminated before the required effective depth. Three repeat tests were carried out in SA102.

¹⁴ BRE (2003) 'Soakaway Design' British Research Establishment BRE Digest 365 2003

TP	Test No.	Strata at Test Level	Time for outflow between 75% and 25% (mins)	Soil infiltration rate (m/s)
SA101	1*	Weathered Mudstone	548.60	3.43×10^{-6}
SA102	1	Weathered Mudstone	13.62	1.56×10^{-4}
	2	Weathered Mudstone	17.75	1.20×10^{-4}
	3	Weathered Mudstone	24.36	8.71×10^{-5}

Table 4-1: Summary of soakaway tests and permeability.

Notes

*=Test data extrapolated.

Based on the results of the soakaway tests, the permeability of the weathered mudstone has been calculated within an order of magnitude between 10^{-4} m/sec to 10^{-6} m/sec. This data would generally be acceptable for SuDS design.

4.3 In-Situ Geotechnical Testing

4.3.1 Standard Penetration Tests

In-situ standard penetration tests (SPTs) were undertaken, predominantly in the natural ground. The results are provided within the profile logs in Appendix C.

4.3.2 Pocket Penetrometer Tests

Pocket penetrometer readings, recording undrained shear strength (s_u), were taken within the clay strata. The results are provided within the profile logs in Appendix C.

4.4 Geotechnical Laboratory Testing

4.4.1 Sulphate and pH

Water soluble sulphate and pH tests were carried out on contamination soil samples. In addition BRE SD1 Short Suite was carried out on 2no. soil samples. Full results are presented in Appendix D and summarised in Table 4-2.

Strata	pH	WS Sulphate (g/l)	WS Chloride (mg/l)	WS Nitrate (mg/l)	WS Magnesium (mg/l)
Made Ground	6.5 to 9.1 (11.6*)	<0.01-1.81	2.9	1.7	0.8
Natural	6.5-7.6	<0.01-0.23	18.5	22.7	9

Table 4-2: Summary of pH and water soluble (WS) sulphate, WS chloride and WS magnesium results.

* high pH possibly due to concrete dust or fragments from breaking out overlying concrete.

5 Geotechnical Assessment

5.1 Proposed Development and Foundations

The proposed development layout and finished external and floor levels have not yet been determined; however it is expected the development will comprise a replacement secondary school on a similar footprint to the existing and with the possible retention of the sports hall.

Further intrusive investigation should be carried out upon removal of the existing school buildings and following determination of the proposed layout. It may be prudent to assess any significant thicknesses of red shale for potential heave or swelling.

Recommendations below are based on the information gathered in the exploratory investigation. Due to shallow bedrock samples for geotechnical testing were limited. Thus information gained for the geotechnical assessment below is based on published data and should be used with caution.

5.2 Ground Conditions

The ground conditions suggest relatively shallow bedrock with some pockets of gravel and clay logged in the northern area of site and along the western boundary. Based upon BS8004:1986¹⁵ an allowable bearing capacity of 600kN/m² may be assumed.

For the natural CLAY where present above the bedrock the following parameters may be given:

- » Undrained shear strength s_u of 50kN/m².
- » Effective cohesion, c' of 0.
- » Angle of internal friction (ϕ) of 24°
- » Unit weight (γ) of 18kN/m³.

For the natural granular material the following parameters may be given:

- » SPT N values ranged between 4 and 14, retuning allowable bearing capacities of 40-140kN/m².
- » Angle of internal friction (ϕ) of 28-31°.
- » Unit weight (γ) of 17kN/m³ and γ_{sat} of 20kN/m³.

It would be prudent at this stage to allow for pad foundations sat on bedrock. This would be dependent on the confirmation of ground conditions below the school buildings and confirmation of the extent of basements and service ducts, especially the boiler room and substation and with due recourse to finished floor levels.

5.3 Retaining Walls

Based on the ground conditions noted during the site investigation it is reasonable to assume the basement boiler room and the swimming pool have retaining structures sat on the shallow bedrock.

Further investigation after the demolition of buildings is recommended to confirm this.

¹⁵ BSI (1986). "Code of Practice for Foundations". BS8004.

5.4 Concrete Durability

Based upon the results of the chemical analyses summarised in Table 4-2 it is considered that subsurface concrete over the majority of the site can be assigned as Design Sulphate Class DS-1, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-1s in accordance with the recommendations provided in BRE Special Digest 1 (2005).

The exceptions are the made ground strata in WS102 and WS113 where DS-3 AC-1s conditions prevail and in HD104 where DS-2 AC-1s conditions prevail.

5.5 Excavations

Site observations indicated that excavations should be feasible in the near surface with normal plant and it is anticipated that any obstructions will be grubbed out during the reduced level dig for the sub structure works.

Excavations will not require temporary support in shallow bedrock. Where excavations are required in Made Ground and granular strata greater than 1.2m depth would recommend temporary support in accordance with CIRIA report 97 – Trenching Practice.

5.6 Site Preparation

The site should be cleared and any vegetation below areas of proposed development stripped in accordance with Series 200 of the Specification for Highway Works. This should include:

- » Roots present below the footprint of proposed structures and infrastructure should be grubbed out and the resulting void infilled with suitable compacted engineered fill;
- » Redundant services should be sealed off and grubbed out and replaced with suitable compacted engineered fill; and,
- » Buried structures and old foundations may be present on site; however, local newspaper accounts suggest the site was cleared of the anti-aircraft battery structures prior to the school development.
- » These should be excavated from below the proposed development footprint with the resulting void backfilled.

The near surface soils and upper surface of the bedrock may potentially be disturbed by weathering and site traffic. Precautions should be taken to avoid this, as excessive disturbance may result in more onerous floor slab design, road cap thickness and increased amount of site disposal etc. Based on site observations the near surface soils may require at least some treatment or reinforcing to allow safe movement of construction plant and labour. A working platform will be required for piling plant.

5.7 Construction Activity and Inspection

The following activities and inspections should be incorporated into the site works:

- » Due to the variability of the soils at the site it is recommended that sufficient allowance is made for the inspection of formation and sub formations to foundations and pavement construction;
- » Excavations where access is required should be subject to a risk assessment from a competent person and where appropriate mitigation measures such as benching back the sides or use of support systems in accordance with CIRIA R97 utilised;
- » It is considered that de-watering may be required, especially following periods of heavy rainfall. Removal of surface water and water within trenches should be possible with conventional sump pumping. Discharge of any water should be agreed with the relevant regulatory body and be undertaken under a trade effluent discharge, where required. Measures to remove silt and suspended solids may be required and consideration should be given to provision of space for settling tanks or an attenuation pond.
- » Based on the groundwater monitoring results it is possible that groundwater pumped from trenches may require treatment using a water/oil interceptor. Discharge limits and treatment should be agreed as part of the trade effluent discharge.
- » Where access to confined spaces is required appropriate mitigation measures should be addressed within the Construction Stage Health and Safety Plan;
- » The presence of potential contamination and mitigation measures should be addressed as part of the Construction Stage Health and Safety Plan and should include measures to design out the risks, reduce their impact and finally the use of Personnel Protective Equipment (PPE).

6 Generic Risk Assessment

6.1 Introduction

Current good practice requires that the findings from a site investigation should be evaluated on a site-specific basis, using a risk-based approach. Risk assessment involves identification and evaluation of the hazards presented by the concentrations of contaminants measured followed by an evaluation of the risks which are associated with these hazards (LCRM¹⁶). Information gathered from the risk assessment has been collated in the revised contamination conceptual model in Section 6.6.

6.2 Soil Risk Assessment

6.2.1 Methodology

With regards to the soil risk assessment LKC will use the following hierarchy:

- Category 4 Screening Levels (C4SLs).
- LQM Suitable 4 Use Levels (S4ULs).
- ATRISK Soil Screening Values (SSVs) and CL:AIRE Generic Assessment Criteria (GACs).

C4SLs were published in 2013^{17,18}. The recent change to the contaminated land guidance has changed the evaluation of risk from 'minimal' (referred to as Health Criteria values (HCVs))¹⁹ used to generate Soil Guideline Values (SGVs) to 'low' (referred to as Lowest Level of Toxicological Concern (LLTCs)). The policy companion document and supporting letter by Defra, dated 3rd September 2014, states that C4SLs *'could be used under the planning regime, as well as within Part 2A'*. Based on these comments LKC considers the justifications and assumptions used to generate 'low' risk are suitable for the planning regime.

Where no C4SLs have been generated LKC will use the LQM S4ULs²⁰. Similar assumptions and land uses to C4SLs have been used. However, toxicological information has been based on 'minimal risk' as per previous guidelines and assumptions^{21,22,23,24}.

If contaminants are not present as C4SLs and S4ULs then LKC will use ATRISK SSVs or CL:AIRE GACs²⁵. These follow the 'minimal' risk principle and more stringent exposure parameters and will be conservative.

LKC consider the main risk drivers for PAHs are benzo(a)pyrene (B(a)P) and naphthalene. This is due to B(a)P possibly being a carcinogen and most toxic of the

¹⁶ Land Contamination Risk Management (LCRM) <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

¹⁷ Defra (2014). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Policy Companion Document."

¹⁸ CL:AIRE (2013). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Final project Report."

¹⁹ EA (2008). "Human Health Toxicological Assessment of Contaminants in Soils." Science Report – SC050021/SR2.

²⁰ LQM (2014). "The LQM/CIEH S4ULs for Human Health Risk Assessment."

²¹ EA (2008). "Updated Technical Background to the CLEA Model." Science Report – SC050021/SR3.

²² EA (2008). "Human Health Toxicological Assessment of Contaminants in Soils." Science Report – SC050021/SR2.

²³ EA (2008). "A Review of Body Weight and Height Data used within the Contaminated Land Exposure Assessment Model (CLEA)." Project SC050021/Technical Review 1.

²⁴ EA (2009). "Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values." Science report SC050021/SR7.

²⁵ CL:AIRE (2009). "The Soil Generic Assessment Criteria for Human Health Risk Assessment."

PAHs^{26,27} and naphthalene the most volatile and soluble²⁸. The new C4SLs indicate B(a)P as a surrogate marker for carcinogenic PAHs, if it falls within appropriate limits, since the risk from other non-carcinogenic PAHs are considered negligible²⁹. For B(a)P to be used as a surrogate marker it should follow the profile described by the HPA (2008)³⁰ and CL:AIRE (2013). Naphthalene will be treated separately using the LQM S4ULs.

The proposed development is for a secondary school building to be demolished and a new secondary school building to be erected therefore using a precautionary approach the assessment criteria for residential without plant uptake has been used.

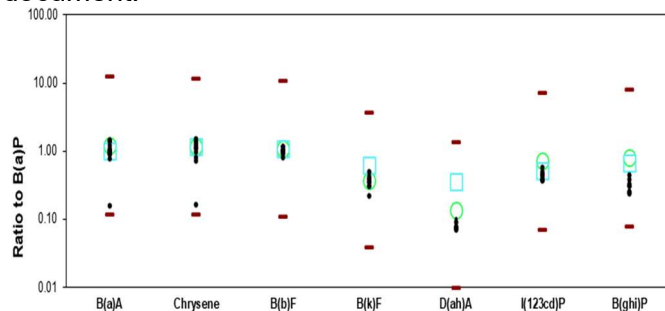
All criteria have been generated using the CLEA V1.06 model³¹ based either on 1%, 2.5% and 6% Soil Organic matter (SOM). Results will be compared to the nearest appropriate SOM.

A summary of the generic assessment criteria is provided in Appendix D. ATRISK SSVs and CL:AIRE GACs were not required for this dataset and have not been included.

B(a)P as Surrogate Marker

Based on the above assumption for PAHs, LKC undertook an assessment of the data for the site with regards to using B(a)P as a surrogate marker for carcinogenic PAHs as per HPA and CL:AIRE guidelines. The primary toxicological study related to Culp *et al.*³², which was based on coal tar mixtures (>80,000mg/kg of total PAHs) fed in food to mice over a two-year carcinogenicity study.

Graph 6-1 summarises the study site data with respect to how the ratios of carcinogenic PAHs relate to B(a)P, within the confidence limits provided in the HPA document.



Graph 6-1: The ratio of PAH to B(a)P in soil for all available data at the site based on 14 samples (where values were >LOD to allow the calculation of a ratio).

Notes:

B(a)P=Benzo(a)pyrene; D(ah)A=Dibenzo(ah)anthracene; B(a)A=Benzo(a)anthracene; B(b)F=Benzo(b)fluoranthene; B(k)F=Benzo(k)fluoranthene; I(123cd)P=Indeno(123cd)pyrene; B(ghi)P=Benzo(ghi)perylene
 ● =Ratio to B(a)P for all data; ○ =Mean ratio to B(a)P for Culp data; △ =Mean ratio to B(a)P from all data at the site
 □ =Mean ratio to B(a)P for UK data presented by HPA; ■ =Upper and Lower limits (order of magnitude from Culp data)

²⁶ EA (2002). "Contaminants in Soils: Collation of Toxicological Data and Intake Values for Humans. Benzo[a]pyrene." R&D Publication TOX2.

²⁷ USEPA (1984). "Health Effects Assessment of Polycyclic Aromatic Hydrocarbons (PAHs). EPA 540/1-86-013."

²⁸ EA (2003). "Review of the Fate and Transport of Selected Contaminants in the Soil Environment." Draft technical report P5- 079/TR1.

²⁹ CL:AIRE (2013). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Final project Report."

³⁰ HPA (2010). "HPA Contaminated Land Information Sheet: Risk Assessment Approaches for Polycyclic Aromatic Hydrocarbons (PAHs)." Version 3.

³¹ EA (2008). "CLEA Software (Version 1.05) Handbook." Science Report – SC050021/SR4.

³² Culp, S; Gaylor, D; Sheldon, W; Goldstein, L and Beland, F (1998). "A Comparison of Tumours Induced by Coal Tar and Benzo-a-pyrene in a 2-Year Bioassay." Carcinogenesis. Vol 19, no. 1, pp. 117-124.

All the data points that could be used to calculate ratios fall inside the upper or lower limits.

Based on this distribution of data LKC considers B(a)P can be used as a surrogate marker for carcinogenic PAHs and the C4SL criteria is suitable for this dataset.

6.2.2 Soil Results Comparison against Assessment Criteria

All analysis sheets are presented in Appendix D.

Contaminant	Units	No. of samples	Elevated Results	Sample Location	Criteria (1%/2.5%/6%)	Source of Criteria
PAHs						
Benzo(a)pyrene	mg/kg	20	2.6	WS108(0.0-0.6m)	3.2	C4SL
GENERAL						
pH	pH	20	Range 6.5 to 11.6			
SOM	%	20	Range 0.4 to 8.8			
Asbestos	N/A	20	Detected (see Table 6-2)			

Table 6-1: Summary of elevated and pertinent analytical results.

Notes:

Only results that exceeded assessment criteria have been shown and results from **all depths** are noted. Results have been compared to the nearest appropriate SOM.

Asbestos was identified, as detailed in Table 6-2.

Sample Location	ID	Type	Total Asbestos (%)
WS113 (0.2-0.4m)	Chrysotile	Fibres	<0.001

Table 6-2: Details of asbestos identified.

Elevated results have been identified for benzo(a)pyrene in WS108.

6.2.3 Direct Contact Risk – Pollutant Linkage 1

PAHs

Elevated PAHs (benzo(a)pyrene) have been identified; given this has been found in one sample out of twenty samples taken, the contamination is considered to be localised to an area of soft landscaping in the centre of site (WS108).

The source of the contamination is expected to coal noted in the made ground.

At the concentrations identified, the contaminants are considered to pose a potential risk to future site users (children) in soft landscaped areas, where made ground may be exposed / in contact with them. The principal pathways are the ingestion pathways (soil and dust) and dermal contact.

The probability of PAH contamination affecting site users is likely. With a medium consequence, the risk is considered to be moderate and remediation is recommended.

Asbestos

Asbestos (chrysotile) was identified in WS113. The asbestos was identified as free fibres. The source of the asbestos is likely to be from reworked ground.

LKC have utilised the Joint Industry Working Group (JIWG) Decision Support Tool for receptor risk ranking of ACM onsite. This model incorporates guidance from CL:AIRE CAR-SOIL^[1] and CIRIA C733^[2]. The following assumptions have been incorporated into the model:

- » Asbestos type, nature and concentrations as encountered during the site investigation and reported in laboratory data.
- » In this model a child of school age playing in the landscaped area for 1 hour was assumed in close proximity to the source.
- » High respirable index was assumed based on the ACM identified onsite as per RIVM^[3]
- » The assessment was carried out assuming 'low disturbance' based on ACM at a shallow depth.

For added conservatism, the model does not take into account moisture content, which can significantly reduce the potential for airborne fibre release from soil in a typical UK climate. Swartjes and Tromp (2008)^[4], based on work by Addison *et al.*^[5], note that the addition of 10% water to soil decreases the risk of potential fibre release by a factor of between 2 and 10. The moisture content of the soil from this area was 9.6-21.4% making fibre release unlikely.

Data from Addison *et al.* shows that a sandy soil with Chrysotile fibre concentrations of 0.01%w/w (1 order of magnitude lower recorded) when agitated in a moderately aggressive way, produced between 0.01fibres/ml and no recordable fibres at moisture contents of 5% and above. It should be noted that the clearance level is 0.01f/ml.

The JIWG model output sheet is presented in Appendix G. A low risk was identified to key receptors based on general worst case scenario, such as some ground disturbance and track back into residential properties (24 hour exposure).

Asbestos may affect site users in shared soft landscaping areas in localised areas of the site, via the inhalation of fibres. The probability is considered to be likely given limited asbestos encountered at shallow depth. With a medium consequence the risk as assumed to be moderate remediation is recommended in shared soft landscaped areas.

Additional consideration should also be given to the risk to workers and offsite receptors during groundworks and construction. This is discussed further in Section 9.

Coal Tar

Chemical analysis is needed to identify if coal tar is present. One regularly used method is PAK spray. PAK spray provides a quick test that reacts with poly aromatic hydrocarbons (PAHs) in the binder to give a visual colour change (fluorescence) to indicate if coal tar is present.

PAK spray can provide a false positive result because some bitumen binders contain naturally high PAH concentrations. The colour change is also subjective, with people interpreting the colour change differently. For regulatory purposes PAK spray is not sufficiently reliable as such, two of the tarmacadam samples (WS121 and WS113) which demonstrated a positive reaction to the PAK spray were submitted for chemical analysis.

Confirmatory testing did not detect any presence of coal tar in the tarmac samples tested. The laboratory reports the material is "typical of bitumen and PAHs".

Other Contaminants

No other contaminants tested for were identified at levels which exceed the generic assessment criteria. With medium consequence the risk is considered to be unlikely and no remediation is required.

6.2.4 Risk from Inhalation of Vapours – Pollutant Linkage 2

No visual / olfactory evidence of volatile contaminants was identified during the investigation. The PID did not detect any TVOCs. Confirmatory soil analysis did not detect any VOCs / SVOCs above detection limits.

LKC therefore consider the probability of volatile contaminants affecting site users as unlikely. The consequence is expected to be medium, giving a low risk and no remediation is required with respect to pollutant linkage 2.

6.3 Gas Risk Assessment

The PRA identified a low risk with respect to hazardous and ground gas given that no viable sources were identified within 250m of the site.

Guidance given in CIRIA C665³³, BS8485³⁴ and CL:AIRE RB17³⁵ has been used to assess the risk.

Localised pockets of organic material were noted in WS126 1.3-2.0mbgl and WS127 1.3-1.50mbgl within natural clay and an organic odour was noted in WS103 1.40-1.50mbgl. This material was not widespread and is not considered to represent a significant source of putrescible material.

Made ground was encountered from 0.05mbgl to 2.0mbgl comprising mainly brick, ash and coal with some clinker. This is not considered to be a viable source of ground gas generation.

The SOM varied across the made ground (Average 2.79%) which was an equivalent TOC of 1.62%. Although it should be noted that that ash and clinker may skew the TOC results generating a false positive for degradable material and not necessarily generating gas. The TOC may be adjusted for non-degradability by approximately 60% for ash and 13% for soil³⁶. By adjusting the average TOC by 63%, assuming 37% is non-degradable (for a mixed ash soil matrix) a revised average TOC of 1.02% (degradable fraction) can be derived and is assumed for this soil. Considering the difficulty in undertaking detailed forensic work on the sample (due to limited volume), this assumption is still considered reasonable.

In WS105 where 2.00m of made ground was identified the borehole was carried out within a building where ground level was raised by 1.50mbgl. Therefore only 0.50m of this made ground is below the ground level of the site.

³³ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

³⁴ BSI (2019). "Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings." BS8485:2015+A1 2019.

³⁵ CL:AIRE Research Bulletin 17. "A Pragmatic Approach to Ground Gas Risk Assessment". November 2012.

³⁶ Kumpiene, J; Robinson, R; Brannvall, E, Nordmark D, Bjurström, H, Andreas, L; Lagerkvist, A, Ecke, H (2010). "Carbon Speciation in Ash, Residual Waste and Contaminated Soil by Thermal Chemical Analysis." *Waste Manag.* 2011 Jan; 31(1): 18-25.

In line with CL:AIRE RB17 where made ground is 1m or less and no significant organic /putrescible material is present, the site can be classified as Characteristic Situation 1 and no gas protection measures are required.

The probability of hazardous gas affecting the building and future site users is considered unlikely. Given a severe consequence the risk is considered to be moderate/low. Based on the SOM/TOC results and the shallow depth and type of made ground a low risk is considered appropriate for pollutant linkage 3 and consequently no remediation is required.

6.4 Controlled Water Assessment

LKC considers the Secondary A Aquifer as the primary receptor.

LKC have compared results above Limits of Detection (LOD). Where relevant the review of priority substances takes precedence considering threshold values for groundwater cannot be used '*as part of site-specific investigations*'. The hierarchy is as follows:

- 2016 private water supply standards (UKDWS potable)³⁷.
- 2001 Environment Agency Values for Environmental Quality Standards (EQS) and UK Drinking Water Standard (UKDWS)³⁸.
- Resource Protection Values (RPVs)³⁹.
- Minimal Reporting Values (MRVs).

It should be noted that the leaching test is aggressive (de-ionised water) and is not in aqueous equilibrium (steady state) with the solid sample. This may cause rapid dissolution and overestimation of the aqueous phase concentrations compared to groundwater in contact with contaminated soils. Although dissolution may be reduced for highly hydrophobic contaminants⁴⁰, such as B(a)P it is likely that the initial leaching will remove the most readily available hydrocarbons and subsequent flushing would reduce the leachable concentrations⁴¹. Traditionally the leaching test was developed for inorganic constituents and the leaching of organics is poorly understood⁴².

Of the contaminants tested most are below limits of detection where contaminants are above limits of detection the concentration is minimal and does not exceed drinking water criteria.

Based on the above, LKC considers the probability of contaminants on site affecting the Secondary A Aquifer as unlikely. Given the medium consequence, a low risk is anticipated (Pollutant Linkage 4) and no remediation is required.

Given the low risk anticipated LKC do not expect the introduction of soakaways to affect the mobilisation of contaminants. The risk with soakaways is expected to remain low.

³⁷ Statutory Instruments (2016). "The Private Water Supplies Regulation 2016." No. 614

³⁸ EA (2002). "Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the Environment Protection Act 1990."

³⁹ SEPA (2010). "Assigning Groundwater Assessment Criteria for Pollutant Inputs." WAT-PS-10-01.

⁴⁰ EA (1999). "Methodology for the Derivation of Remedial Targets for the Soil and Groundwater to Protect Water Resources." R&D Technical Report, P20

⁴¹ EA (2006). "Remedial targets Methodology: Hydrological Risk Assessment for Land Contamination."

⁴² EA (2009). "Petroleum Hydrocarbons in Groundwater: Supplementary Guidance for Hydrological Risk Assessment."

6.5 Additional Risk Assessments

6.5.1 Potable Water Supply (Pollutant Linkage 5)

Soil results were compared to Yorkshire Water assessment criteria which is based on UKWIR⁴³ guidance. Only contaminants of concern, based on the preliminary conceptual model and ground conditions encountered, were analysed. The following contaminants were not considered to be a risk and therefore not included in the analysis suites: speciated petroleum hydrocarbons, chlorinated compounds, phenols, cresols, ethers, nitrobenzene, ketones, aldehydes and amines.

The following elevated contaminants were identified:

- Elevated petroleum hydrocarbons in the WS121 0.1-0.3mbgl.
- Elevated petroleum hydrocarbons in the WS113 0.2-0.4mbgl.

It should be noted these exceedances are at not at pipeline depth and in the shallow made ground. Natural strata are generally present at proposed pipeline depths.

Once details of the any new pipeline location and depths are known a Water Pipe Risk Assessment in line with Yorkshire Water should be undertaken.

At this stage, the probability of organic contaminants affecting potable water pipes is low likelihood. Given the consequence is considered to be moderate, the risk (pollutant linkage 5) is anticipated to be moderate/low and a potable water pipe risk assessment should be completed once the known depth/location of the water pipes has been decided.

6.6 Revised Contamination Conceptual Model

The preliminary contamination conceptual model (Table 2-2) has been revised following the risk assessments undertaken in Sections 6.1-6.5. The revised contamination conceptual model follows the same methodology and guidance used in the preliminary contamination conceptual model. The risk matrix is provided in Appendix A.

The revised contamination conceptual model is presented in Table 6-3.

Where a very low risk is identified, no specific remediation is required.

Where a low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where a moderate/low risk is identified, an assessment will be undertaken to establish what category the pollutant linkage will fall into.

Where a moderate or higher risk is identified, remediation or further investigation work is recommended.

Further details of the remedial proposals and a remedial option appraisal are given in Section 9.

⁴³ UKWIR (2010). Guidance for the Selection of Water Supply Pipes to be Used in Brownfield Suites." Report ref: 10/WM/03/21.

Pollutant Linkage	Pathway	Receptor	Contaminant	Probability	Consequence	Risk	Assessment
PL1	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils, dust. - Windblown dust.	- Future site users. - Offsite receptors.	ACM: -Chrysotile PAHs: -B(a)P	Likely	Medium	Moderate (localised)	- Likely probability as ACM (chrysotile) identified in one location, assumed to be localised to the west area of site. - Likely probability as elevated PAHs identified in one location in the made ground localised to the centre of the site which could come into contact with site users in gardens / soft landscaping areas. - Recommendation*1: Remediation required. Likely to include an environmental cover system in localised gardens / soft landscaping areas.
			- Petroleum hydrocarbons. - PCBs. - Heavy metals.	Unlikely	Medium	Low	- No elevated contaminants identified across the site. - Recommendation: No remediation required.
PL2	- Inhalation of vapours. - Migration through permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	Volatile Contaminants	Unlikely	Medium	Low	- No elevated volatile contaminants across the site. - Recommendation: No remediation required.
PL3	- Inhalation of gas. - Migration through permeable strata and preferential pathways. - Explosion in confined spaces (methane only).	- Future site users. - Buildings. - Offsite land users.	- Carbon dioxide - Methane	Unlikely	Severe	Moderate/Low	- No significant made ground identified on site, low SOM/TOC. - Recommendation: No remediation required.
PL4	- Surface Run-off. - Migration through permeable strata and preferential pathways - Perched waters migration.	- Groundwater (Secondary Aquifer). A	Mobile contaminants: - Metals and PAHs. - Petroleum hydrocarbons.	Unlikely	Medium	Low	- No elevated contaminants identified, given the environmental settings and ground conditions encountered not considered to pose a significant risk to groundwater or surface water. - Recommendation: No remediation required.
PL5	- Ingestion of tainted water supply.	- Future site users (via potable water).	Organic Contaminants: - Petroleum hydrocarbons.	Low likelihood	Medium	Moderate/Low	- Elevated petroleum hydrocarbons identified however not identified at pipeline depth. - Recommendation: A water pipe assessment should be completed in line with Yorkshire Water once the depth/location of water pipes is known.

Table 6-3 Revised Contamination Conceptual Model.

Notes

*1 The conceptual model only takes into consideration the future use of the site and long-term exposure. Consideration should also be given to the short-term exposure of construction workers and nearby land users to ACM containing soils during groundworks. This is discussed further in Section 9.0.

7 Waste Disposal Assessment

The soil contamination results as presented in Appendix D have been used to help determine the waste classification of material for off-site disposal.

As an initial screen the soil results were inputted into HazWaste Online™. This is a web-based facility that allows an assessment waste as either hazardous or non-hazardous waste based on relevant guidance and legislation^{44, 45, 46, 47, 48, 49, 50, 51, 52}.

HazWaste Online™ has been designed to cover, amongst other waste types, the European Waste List of Waste (LoW) code number 17 "Construction and Demolition Waste (Including Excavated Soil from Contaminated Sites)".

Where less than limits of detection (LOD) were recorded, the value of the LOD was inputted.

Where applicable, appropriate metal species based on hazard statements/ molecular weight, site history, ground conditions and likely species present in soils were used (e.g. metal oxides relating to an ash based source).

Out of the 25no. samples tested only one was determined to be hazardous. See the details summarised in presented Table 7-1. A full output sheet is provided in Appendix H.

Sampling Location	Depth (m)	Hazardous Waste Y/N	LoW Code	Hazard (Risk Phrase)	Contaminants
HD102	0.35-0.45	Y	17 05 03	HP8 (Corrosive)	pH assumed to be associated with concrete

Table 7-1: Summary of HazWaste Online™ findings.

Based on the logs for HD102 it is likely the high pH value for the sample taken 0.35-0.45mbgl is due to concrete dust present in the sample. Based on this sample the soil in this localised area is classed as HAZARDOUS WASTE based on ecotoxicity and LoW code "17-05-03 - soil and stones containing hazardous substances".

Therefore the soil on the remainder of the site is classified as NON-HAZARDOUS WASTE and LoW code "17-05-04 - soil and stones other than those mentioned in 17 05 03" is suitable.

The HazWaste Online™ output sheets are provided in Appendix H.

⁴⁴ EA (2018). "Guidance on the Classification and Assessment of Waste (1st Edition v1.1)". Technical Guidance WM3.

⁴⁵ CLP Regulation - Regulation 1272/2008/EC of 16 December 2008.

⁴⁶ 1st ATP - Regulation 790/2009/EC of 10 August 2009

⁴⁷ Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

⁴⁸ WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

⁴⁹ Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014

⁵⁰ 13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

⁵¹ POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

⁵² 2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

7.1 Waste Acceptance Criteria (WAC) Testing

Waste Acceptance Criteria (WAC) testing was also undertaken on 6no. samples representative of material likely to be earmarked for off-site disposal. WAC test results are included in Appendix D.

The WAC limits cannot be used to make an assessment of whether a waste is non-hazardous or hazardous. It is recommended that waste assessment and WAC data is forwarded to a licensed waste disposal operator.

8 Summary Conclusions

No evidence of residues or explosive were identified in the detailed UXO report provided in Appendix B and summarised in Section 2.2. Additionally this site investigation did not identify any remnants of the anti-aircraft battery area, no infilled ground was found. The UXO risk may need to be considered once the demolition of the buildings is complete, however based on the available information the current risk remains low.

Made ground was recorded in all locations to depths of 0.05-2.0mbgl except for WS110, WS111, WS117 and WS118. Generally the made ground thickness was 1m or less, except for WS104 (1.1m), WS105 (2.0m – build up below sports hall foundation) and WS120 (1.20m). WS119, WS121, WS122 and WS125 were positioned in the locations of the bunkers identified in the historical mapping and the logs confirmed that these locations had similar ground conditions to rest of site (shallow bedrock). WS101 and WS103 were positioned in the location of former ancillary buildings. The logs for this area did not identify remnants of the buildings (rubble or inground features). This along with the general absence of overlying clay and gravel deposits across the site corroborates newspaper accounts of the anti-aircraft features being cleared from site.

The ground conditions suggest relatively shallow bedrock. Based upon BS8004:1986 an allowable bearing capacity of 600kN/m² may be assumed. It would be prudent at this stage to allow for pad foundations sat on bedrock. This would be dependent on the confirmation of ground conditions, basements and service ducts below the school buildings. Further intrusive investigation should be carried out upon removal of the existing school buildings and following determination of the proposed layout and finished development and floor levels.

The concrete requirements for most of the site may be assigned as Design Sulphate Class DS-1 AC-1s. Exceptions to this are the made ground strata in WS102 and WS113 where DS-3 AC-1s conditions prevail and in HD104 where DS-2 AC-1s conditions prevail. Further testing upon site clearance should be carried out.

Permeability of the shallow soils were calculated as 10-4m/sec to 10-6m/sec. No elevated leachable contaminants were noted and no groundwater was noted in the intrusive works. Therefore the weathered bedrock around SA102 is likely to be suitable for a SuDS feature; however due consideration should be given to the existing outline drainage strategy and potential for outbreak on the playing field at a lower level to the east.

HD101 was carried out to identify the foundations of the sports hall building in the north of site. The pit identified a concrete footing at 0.45mbgl, this footing stepped out from the building by 0.30m. The pit was dug to 1.150mbgl but the base of footing was not encountered. Based on the nearby investigation locations it is possible the footings are sat on bedrock.

The concrete in HD102 (substation area) was up to 350mm thick with the lower 150mm observed as “black”. HD103 and HD103A (boiler house) noted concrete recorded to 170mm and 290mm. HD103 identified two very similar types of concrete with possible MOT subbase below to 0.26mbgl; and this was assumed to be on to weathered bedrock.

HD103A was carried out in what was possibly an infilled coal chute. This suggests deeper made ground and retaining structures in bedrock around the boiler room and substation. HD104 in the southern part of the school identified concrete to a depth of 220mm (ref. CR104). This was underlain by a reworked gravel to 0.30mbgl over weathered bedrock. WS124 drilled outside the building confirmed the depth of bedrock. WS105 within the sports hall building noted concrete to a depth of 150mm and gravel subbase was identified to 2.00mbgl above weathered bedrock. It should be noted that this part of the school building was approximately 1.50m above external ground level. Therefore shallow footings on pads or strip footings with retaining structures sat in weathered bedrock is considered appropriate.

A revised contamination conceptual model has been produced by LKC which is summarised in Table 8-1 below (more detailed model provided in Section 6). Where a moderate / low risk was identified, the assumed risk at this stage has been shown as low.

Pollutant Linkage		Risk	Recommendations
1	Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust and fibres).	Moderate (localised)	- ACM (chrysotile) identified in made ground localised to the west of site. - Elevated PAHs identified in made ground localised to the centre of site. Recommendations: Remediation may be required in soft landscaping areas.
		Low	- No elevated heavy metals, PCBs and petroleum hydrocarbons identified across the site. Recommendations: No remediation required.
2	Volatile contaminants posing a risk to future site users via the inhalation of vapours.	Low	- No elevated volatile contaminants across the site. Recommendation: No remediation required.
3	Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Low	- No significant made ground identified on site. Low TOC/SOM. Recommendation: No remediation required.
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Low	- No elevated contaminants identified in leaching tests. Recommendations: No remediation required.
5	Organic contaminants posing a risk to water pipes.	Low	- Elevated hydrocarbons identified but not at pipeline depth. Recommendations: Water pipeline risk assessment to be completed.

Table 8-1: Summary Risk Table.

All samples may be classified as non-hazardous waste except for the sample from HD102 where it is likely the high pH value for the sample is due to concrete dust present in the sample from over coring.

Confirmatory testing did not detect any presence of coal tar in the tarmac samples tested. The laboratory reports the material is "typical of bitumen and PAHs".

Remedial recommendations based upon the current information are presented in Section 9.

8.1 Further Considerations

Based on the limitations and findings of previous work and the site investigation further consideration and site works are recommended:

- » Further intrusive works following removal of ACMs and ideally the school buildings to close the sampling grid to that of a “main investigation”.
- » The investigation should also consider the proposed development layout and levels and investigate the retaining structures around the substation and boiler house and the swimming pool. Investigation of tarmac at 0.6mbgl in WS114 is also recommended.
- » Investigation of potential swelling of red shale.

9 Recommendations and Remedial Strategy

The recommendations provided below are considered appropriate for the site based on the site investigation work undertaken. LKC should stress that no remediation, enabling works or designing works should take place until Regulatory approval has been obtained.

9.1 Remediation and Validation Recommendations

Table 9-1 details the further works and remedial recommendations / requirements. The table shows work required post-demolition of building(s), pre-construction (i.e. during earthworks) and during / post construction.

Phase	PL	Remediation Requirements	Validation Requirements
Post-Demolition Work	1, 2, 5	<u>Post-demolition Trial Pitting / Boreholes</u> This is recommended to confirm ground conditions below the current buildings and allow delineation of areas of concern. This should allow a more targeted remediation strategy to be completed. This work will also provide more geotechnical information for foundation design.	N/A (Investigation Report will be provided with an updated Remediation Strategy).
Pre-Construction	ALL	<u>Earthworks Inspections / Unexpected Contamination</u> The relevant contractors should be briefed that during development works at the site should any unusual ground conditions and / or visual or olfactory evidence of contamination (including asbestos containing material) be encountered at the site, LKC and the Local Authority should be informed, and further assessment of the material may be required.	Log of work undertaken including photographs. Details of any sampling undertaken and validation of any potential additional remedial work.
Build-Phase Construction	1	As the made ground is relatively shallow and the requirement for remediation localised then LKC recommend the removal of reworked topsoil / made ground from garden and soft landscaping areas and raise levels (as required) with suitably chemically validated subsoil and topsoil.	Consignment notes confirming the removal of made ground. Photographic evidence of natural strata. Chemical validation of imported soils: See Table 9-2.
	5	<u>Potable Water Pipes</u> It is recommended that a Water Pipeline Assessment is undertaken once the location and depth of potable water pipes are known.	Delivery Notes of Pipe Material. Photographs of the Installed Pipe.
	2, 3, 4	No remediation anticipated with respect to PL2 (inhalation of vapours), PL3 (gas) and PL4 (controlled waters); however, this needs to be confirmed once additional work has been completed.	TBC
Other Considerations		<u>Grubbing Out of In-Ground Structures</u> It is recommended that in-ground structures are grubbed out as part of the groundworks.	

	<u>Re-use of site won material</u> To ensure material is compliant with appropriate waste regulations, any site won material re-used onsite should be in recourse to appropriate exemptions. A U1 and T5 exemption should be registered. This will allow the following to be used onsite or brought in for use onsite (refer to guidance for types of waste that can be used ⁵³): 5,000 tonnes (c. 2,500m³) <u>treatment</u> of crushed concrete / stone. 1,000 tonnes (c. 500³) <u>use of</u> non-hazardous soil 5,000 tonnes (c. 2,500m³) <u>use of</u> clays, sand, gravel, brick, concrete, stone etc. 50,000 tonnes (c. 25,000m³) <u>use of</u> bituminous material to be used in roadways. A Materials Management Plan (MMP) with recourse to the CL:AIRE Code of Practice may be required if volumes exceed exemption limits. This must be registered before material movement starts onsite. If an MMP is required, this needs to be registered by a Qualified Person (QP) and there must be 'certainty of use' for any material re-used onsite or exported to site to ensure there is no 'sham recovery'. For all the above material will need to be tested at the rate and analytical suites presented in Table 9-2. <u>Topsoil Growing Medium</u> Although no contamination was identified in some of the soils on site, the existing made ground is not expected to be a suitable growing medium given the nature of the soil and the undesirable material present (brick fragments, coal, clinker and ceramics). A topsoil cover of approximately 150mm is recommended in soft landscaping areas. <u>Asbestos Management Plan</u> Due to the presence of asbestos containing material, it is recommended that additional precautions are taken during site clearance, earthworks and construction in the area of concern. The presence of asbestos in the made ground at the site presents a potential risk of generation of airborne fibres if this material is disturbed, such as for excavations to construct new foundations. This risk can be managed by careful procedures and site monitoring to reduce the risk of airborne fibres, and it is recommended that an appropriate 'Asbestos Management Strategy' is developed and adopted for all intrusive ground works which disturb the made ground in the area of concern. This should be carried out in line with CIRIA C733⁵⁴. This may include asbestos awareness training for all site staff, provision of suitable personal and respiratory protective equipment and air monitoring. With regards to cement bound asbestos, this can be handpicked, doubled bagged and disposed of appropriately to a licenced landfill. Guidance on removing asbestos cement is described in HSE (2012)⁵⁵. If ACM is identified in soil arisings then soil should be placed directly into covered skips and disposed of at a suitable licenced landfill, after further testing to quantify the extent of asbestos contamination of the soils. It should be considered that blue asbestos is notifiable and must be removed by a licenced contractor.
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⁵³ <https://www.gov.uk/guidance/waste-exemptions-using-waste>

⁵⁴ CIRIA (2014). "Asbestos in Soil and Made Ground: A Guide to Understanding and Managing Risks". C733.

⁵⁵ HSE (2012). "Removing Asbestos Cement (AC) Debris)." A11 Asbestos Essential – Non-licenced Tasks.

	<u>Health and Safety Considerations</u> In working with, removing or treating any contaminating material it is important that any potential risks associated with the actual site works are mitigated by good environmental management of the site during the remedial phases. Standard health and safety precautions (as per HSE guidance⁵⁶) should be adopted by all workers involved with site enabling and construction works.
	<u>Asbestos Survey</u> A Pre-Demolition and Major Refurbishment Asbestos Survey should be undertaken, and ACMs removed and properly disposed of, prior to the demolition of the existing buildings, by a suitably qualified professional.

Table 9-1: Further work, remediation and validation requirements

Notes: See Table 6-3 for pollutant linkage (PL) details.

9.2 Validation of Subsoil / Topsoil

Chemical validation of all imported soils to be used on site in soft landscaping areas should be undertaken. Imported soils should be accompanied by a certificate of analysis and source details.

A summary of the required imported material sampling requirements is presented in Table 9-2 and is based on the YALPAG guidance (2021)⁵⁷. Ideally, the material should be sampled at source to prevent double handling if soil fails, with confirmatory sampling undertaken on importation to site. However, where this is not possible then material imported should be segregated based on source and soil type. Validation samples should be taken prior to placement in gardens to ensure suitability for use.

Material Type	Source	Suite of Analysis	Sampling Rate*
Topsoil	Greenfield / Manufactured	Suite A*	1 sample per 50m³
	Brownfield / Unknown	Suite B**	
Subsoil	Clean site won Natural Material / Greenfield / Manufactured	Suite A*	1 sample per 50m³
	Brownfield / Unknown	Suite B**	
Physical Stone Break Layer	First Generation i.e. quarried sand (subsoil) or stone (break layer)	Suggests 1 or 2 for CLEA metal suite, but LKC suggest no testing is required with certificate. Certification of material provenance is required.	
	Recycled Stone (6F2 / screened)	Suite B*	1 sample per 500m³

Table 9-2: Sampling requirements for imported and site won soils.

Notes:

Suite A - Heavy metals, pH, water soluble sulphate, speciated PAH, soil organic matter and asbestos screen.

Suite B - Heavy metals, pH, water soluble sulphate, speciated PAH, phenol, total and free cyanide, soil organic matter, asbestos screen, banded petroleum hydrocarbons (TPH CWG), BTEX, MTBE.

*Minimum sampling rate of 3 samples per source.

**Minimum sampling rate of 6 samples per source.

Any soil with visual or olfactory evidence of hydrocarbons should be rejected.

⁵⁶ HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land" London HMSO.

⁵⁷ YALPAG (2021). "Verification Requirements for Cover Systems: Technical Guidance for Developers, Landowners and Consultants." Yorkshire and Lincolnshire Pollution Advisory Group. V. 4.1-June 2021.

In addition, it should be ensured that the matrix of the topsoil is suitable as a growing medium and no undesirable material is present (in line with BS3882⁵⁸). LKC advise this information is provided by the supplier before material is imported onto site.

Imported material to be used in soft landscaping will be compared against residential without plant uptake criteria (as used in the contamination risk assessment (Section 6-1)). Appropriate remedial target criteria are presented in Appendix E.

9.3 Site Completion Report

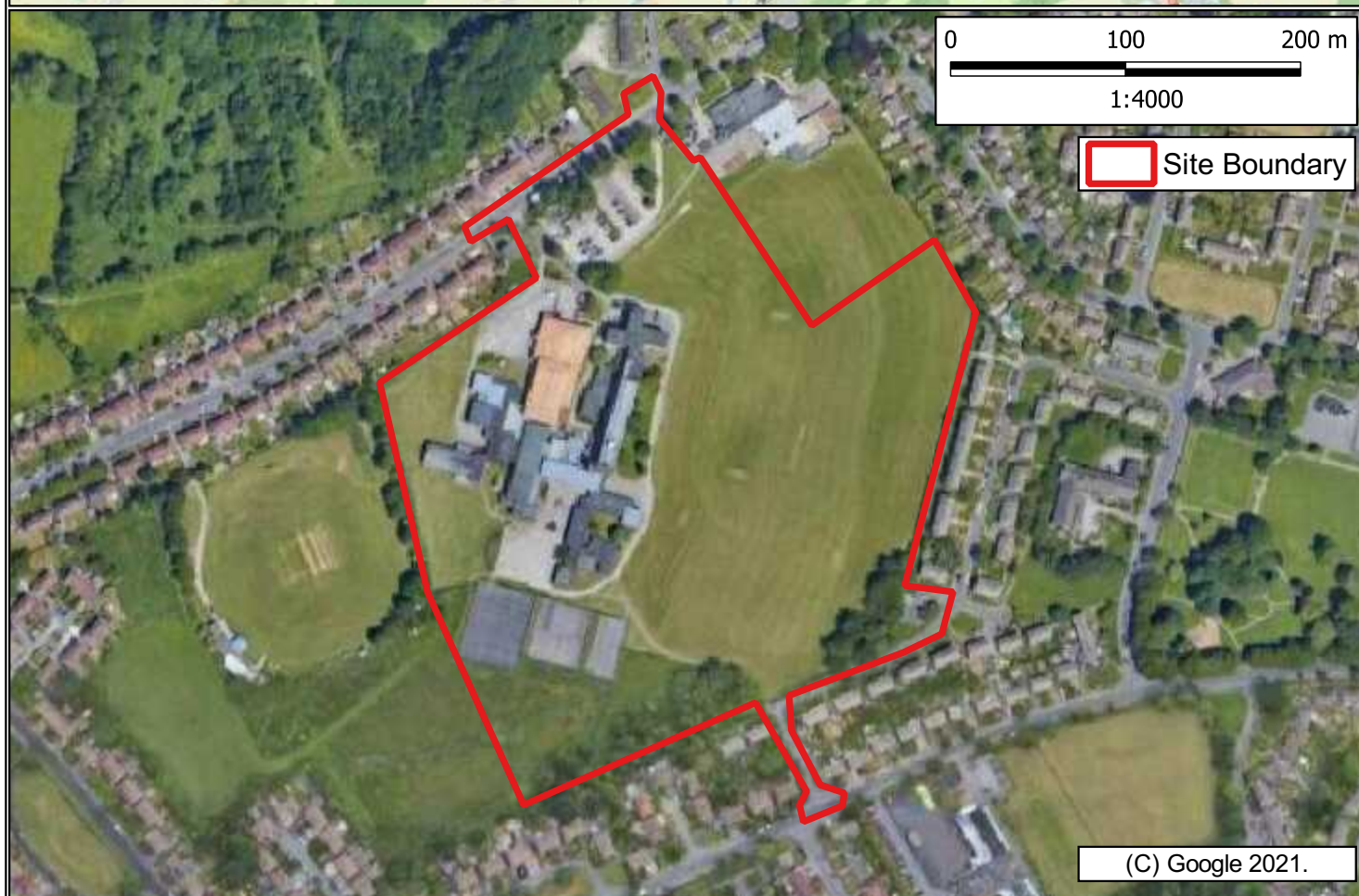
It is recommended that any remediation carried out on the site is validated by a third party and suitable documentary evidence provided in a Site Completion Report, such as photographs, consignment documents and analytical results. This should include as a minimum:

- Provision of waste transfer documents.
- Validation of any made ground removal (photographic evidence that natural strata was reached).
- Verification testing of all imported soil for garden and soft landscaping areas.
- Information on the installation of protective pipes, if required.
- Details of any unexpected contamination identified onsite, suitably risk assessed and / or validated.

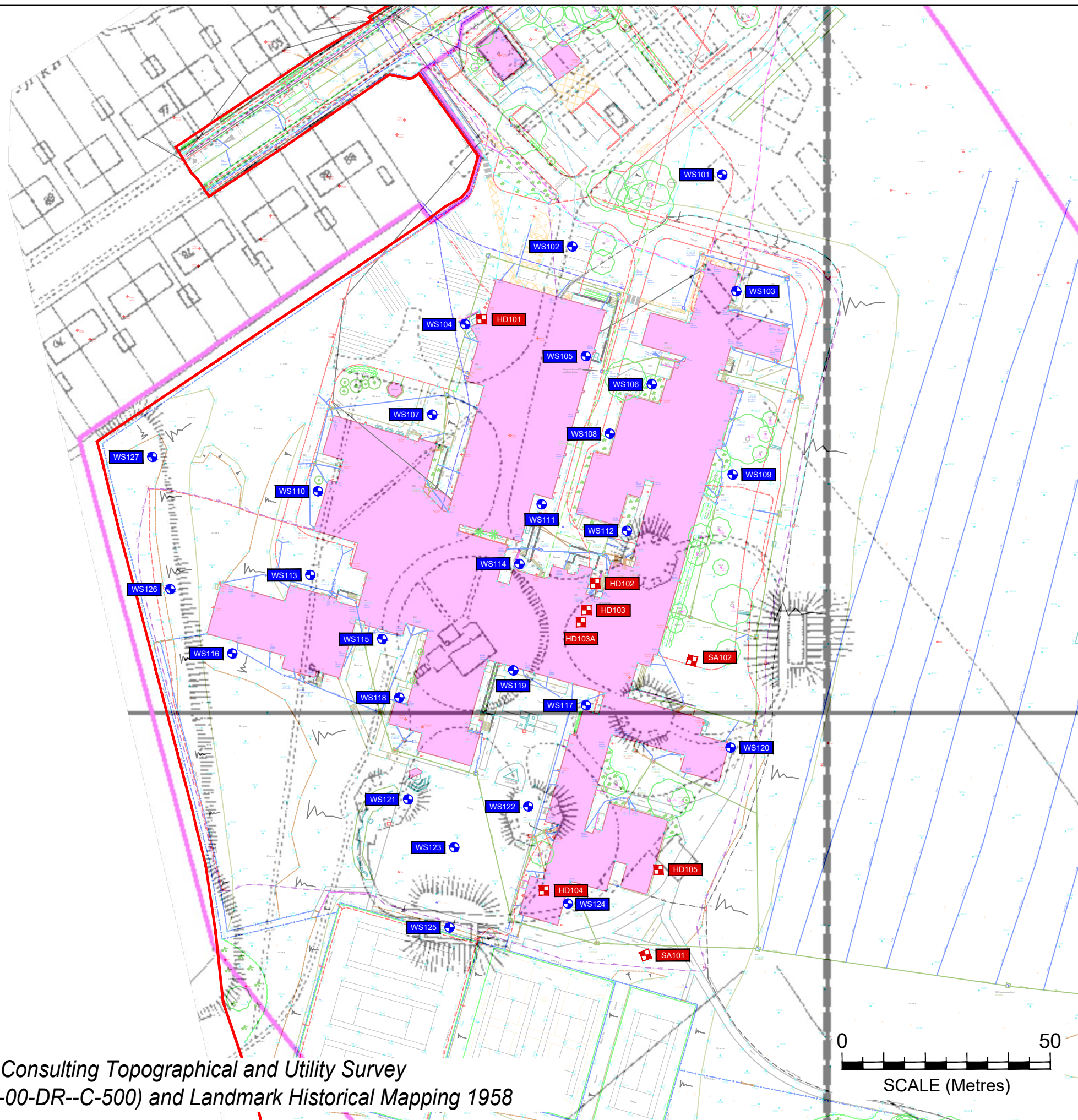
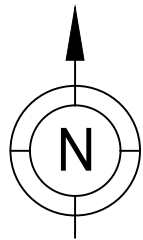
The Site Completion Report will assist the Local Authority in the discharge of any future relevant planning condition and will also be of use to solicitors acting on behalf of any prospective conveyancer who may have concerns over the former use of the site.

⁵⁸ BS (2015). "Specifications for Topsoil and Requirements for use." BS3882:2015.

Figures



Client: Wilde Consulting Engineers				Title: Site Location & Boundary Plan			
Site: Almondbury SEND School				Scale (see scale bar): 1:25,000 & 1:4,000 @ A4			
Job No.: LKC 22 1679	Drawn By: CK	Checked By: CC	Drawn: Dec 2022	Figure: 1		Revision:	



KEY

-  Site Boundary
-  Window Sample Borehole (WS)
-  Trial Pit (TP)

NOTE:

HD = Hand Dug Trial Pit
SA = Soakaway Trial Pit
TP = Mechanical Excavated Trial Pit

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



Client:
Wilde Consulting Engineers

Site:
Almondbury SEND School

Title:
Sampling Location Plan

Job No.:	LKC 22 1679	Scale (See Scale Bar):	1:1000 @ A3	Figure:	2	Revision:	
Drawn By:	CC	Checked By:	RW	Drawn:	May 2023		

Extract from: XHSP Consulting Topographical and Utility Survey
(ref. C4202-HSP-00-00-DR--C-500) and Landmark Historical Mapping 1958

Appendix A

Risk Matrix

Risk Evaluation

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552⁵⁹. It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude of the probability (likelihood) of the risk occurring (Table B).

Consequence (Severity)		
Classification	Definition	Example
Severe	- Short term (acute) risk to human health likely to results in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. - Short term risk of pollution (note: water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. - Catastrophic damage to buildings/properties. - A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	- High Concentrations of cyanide on the surface of an informal recreation area. - Major spillage of contaminants from site into controlled waters. - Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).
Medium	- Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). - Pollution of sensitive water resources (note Water Resources Act contains no scope for considering significance of pollution). - A significant change in a particular ecosystem, or organism forming part of such ecosystem.	- Concentrations of a contaminant from site exceed generic, or site-specific assessment criteria. - Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary). - Death of a species within a designated nature reserve.
Mild	- Pollution of non-sensitive water resources. - Significant damage to crops, buildings, structures and services ('significant harm' as defined in DETR, 2000). - Damage to sensitive buildings/structures/services or the environment.	- Pollution of non-classified groundwater. - Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	- Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. - Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). - Easily repairable damage to buildings, structures and services.	- The presence of contaminants at such concentrations that protective equipment is required during site works. - The loss of plants in a landscaping scheme. - Discoloration of concrete.

Table A. Classification of Consequence

Probability (Likelihood)	
Classification	Definition
High Likelihood	- There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	- There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. - Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	- There is a pollutant 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 event would take place and is less likely in the shorter term.
Unlikely	- There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur in the very long term.

Table B. Classification of Probability.

⁵⁹ CIRIA C552 (2001) Contaminated Land Risk Assessment - A Guide to Good Practice.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

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

Table C. Comparison of Consequence against Probability

Once the risk has been determined the corresponding action can be assessed (Table D).

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

Table D. Description of the Classification and Likely Action Required.

Where a very low risk is identified no specific remediation is required.

Where a low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where there is a moderate/low risk is identified, an assessment will be undertaken to establish what category the pollutant linkage will fall into.

Where LKC identifies a moderate or higher risk, remediation or further investigation work is recommended.

Appendix B

Profile Logs

Concrete Core – CR103							
Layer No.	Depth mm		Thickness, mm	Material Description	Binder	Aggregate	
	From	To				Agg'	Type
1	0	50	50	Pale grey concrete. Clasts are 2-10mm, rounded to angular of various lithologies. Frequent vesicles.	C	10	G
2	50	170	120	Pale grey concrete. Clasts are 2-15mm, rounded to angular of various lithologies. Occasional vesicles.	C	14	G
Re-Bar		None observed.					
Ratio %		Clasts / Matrix / Voids 50 / 48 / 2			Nominal Diameter		140mm
					Binder: B = Bitumen T = Tar C = Cement N = None Aggregate: 40 = 40mm max' aggregate size 28 = 28mm 20 = 20mm 14 = 10mm to 14mm 6 = 3mm to 6mm Aggregate Type (Type): CR = Crushed Rock G = Gravel S = Slag O = Other		
Project:		Almondbury SEND School			Date:	25/04/2023	
Project No:		LKC 22 1679			Logged:	RW	

Concrete Core – CR103A							
Layer No.	Depth mm		Thickness, mm	Material Description	Binder	Aggregate	
	From	To				Agg'	Type
1	0	290	290	Pale grey reinforced concrete. Clasts are 2-28mm, subangular to angular of various lithologies. Occasional vesicles	C	20	G
Re-Bar		5mm rebar noted					
Ratio %		Clasts / Matrix / Voids 65 / 34 / 1			Nominal Diameter		140mm
				Binder: B = Bitumen T = Tar C = Cement N = None Aggregate: 40 = 40mm max' aggregate size 28 = 28mm 20 = 20mm 14 = 10mm to 14mm 6 = 3mm to 6mm Aggregate Type (Type): CR = Crushed Rock G = Gravel S = Slag O = Other			
Project:		Almondbury SEND School			Date:	25/04/2023	
Project No:		LKC 22 1679			Logged:	LKC 22 1679	

Concrete Core – CR104							
Layer No.	Depth mm		Thickness, mm	Material Description	Binder	Aggregate	
	From	To				Agg'	Type
1	0	5	5	Tile	-	-	-
2	5	50	45	Screed.	-	-	-
3	50	150	110	Grey concrete. Clasts are 2-28mm, subrounded to angular of mixed lithologies. Frequent vesicles. Membrane noted at 160mm.	C	20	G
4	150	220	60	Grey concrete. Clasts are 2-25mm, subrounded to angular of mixed lithologies. Occasional vesicles.	C	20	G
Re-Bar		5mm rebar.					
Ratio %		Clasts / Matrix / Voids 3 rd layer= 60 / 40 / <1 4 th layer= 65/ 35/ <1			Nominal Diameter		250mm
					Binder: B = Bitumen T = Tar C = Cement N = None Aggregate: 40 = 40mm max' aggregate size 28 = 28mm 20 = 20mm 14 = 10mm to 14mm 6 = 3mm to 6mm Aggregate Type (Type): CR = Crushed Rock G = Gravel S = Slag O = Other		
					Notes		
Project:		Almondbury SEND School			Date:	26/04/2023	
Project No:		LKC 22 1679			Logged:	LKC 22 1679	

Concrete Core – CR105							
Layer No.	Depth mm		Thickness, mm	Material Description	Binder	Aggregate	
	From	To				Agg'	Type
1	0	5	5	Tile	-	-	-
2	5	150	145	Grey concrete. Clasts are 2-28mm, subangular to angular of mixed lithologies. Frequent vesicles. Membrane noted at 150mm.	C	20	G
Re-Bar		5mm rebar.					
Ratio %		Clasts / Matrix / Voids 65 / 35 / <1			Nominal Diameter		250mm
					Binder: B = Bitumen T = Tar C = Cement N = None Aggregate: 40 = 40mm max' aggregate size 28 = 28mm 20 = 20mm 14 = 10mm to 14mm 6 = 3mm to 6mm Aggregate Type (Type): CR = Crushed Rock G = Gravel S = Slag O = Other		
					Notes		
Project:		Almondbury SEND School			Date:	26/04/2023	
Project No:		LKC 22 1679			Logged:	LKC 22 1679	

Excavation Method

Hand excavated to 1.15mbgl.

Dimensions

0.30m x 0.50m x 1.15m

Ground Level (mOD)

133.06

Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416917.6 E 415896.5 N

Dates

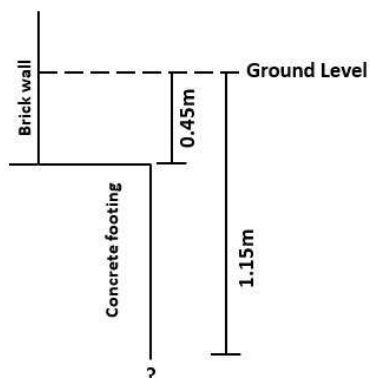
25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.45-0.80	D			132.96	(0.10)	MADE GROUND: Tarmacadam.		
0.45-0.80	ES PID=<0.1ppm			132.61	(0.35)	MADE GROUND: Brown sandy silty clayey GRAVEL of mudstone and sandstone with occasional brick fragments. Sand is fine to medium. Gravel is fine to coarse, subangular to subrounded.		
0.80-1.20	ES PID=<0.1ppm				(0.70)	MADE GROUND: Soft consistency brown gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.		
				131.91	1.15	Complete at 1.15m		


Remarks

Concrete footing encountered at 0.45mbgl. Stepping out by 0.30m. Base of footing not encountered assumed to extend down past 1.15mbgl. Pit was dry and stable.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD101

Excavation Method

Hand excavated to 0.45mbgl.

Dimensions

0.50m x 0.50m x 0.45m

Ground Level (mOD)
Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416944 E 415831 N

Dates

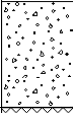
25/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.30	D				(0.35)	MADE GROUND: Concrete. MG: Black concrete from 0.20mbgl to 20.30mbgl.		
0.35-0.45 0.35-0.45	D ES PID=<0.1ppm				0.35 (0.10) 0.45	MADE GROUND: Brown SAND with occasional timber fragments. Sand is fine to medium. Terminated at 0.45m		


Remarks

Pit was dry and stable.
Elevation not possible within the building.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD102

Excavation Method

Concrete cored to 0.17mbgl.
Hand excavated to 0.26mbgl.

Dimensions

Core diameter 101mm.

Ground Level (mOD)
Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416942 E 415824 N

Dates

25/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.17-0.26	D				(0.07) (0.07) (0.10) (0.17) (0.09) 0.26	MADE GROUND: Concrete. See separate sheet for details (ref. CR103). MADE GROUND: Concrete with 5mm rebar. See separate sheet for details (ref. CR103). MADE GROUND: Brown sandy GRAVEL (possible MOT). Sand is fine to medium. Gravel is fine, subangular of limestone and sandstone. Complete at 0.26m	  	


Remarks

Elevation not possible within the building.
Pit was dry and stable.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD103

Excavation Method

Concrete cored to 0.29mbgl.
Hand excavated to 0.40mbgl.

Dimensions

Core diameter 101mm.

Ground Level (mOD)
Client

Wilde Consulting Engineers

**Job
Number**

LKC 22 1679

Location

416940 E 415821 N

Dates

25/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.29-0.40 0.29-0.40	D ES PID=<0.1ppm				(0.29) 0.29 (0.11) 0.40	MADE GROUND: Concrete. See separate sheet for details (ref.CR103A). MADE GROUND: Red GRAVEL comprising brick fragments. Gravel is fine to coarse, subangular. Terminated at 0.40m	 	


Remarks

Pit was dry and stable.
Elevation not possible within the building.
Concrete identified below brick gravel unable to continue coring.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD103A

Excavation Method

Concrete cored to 0.22mbgl.
Hand excavated to 0.45mbgl.

Dimensions

Core diameter 250mm

Ground Level (mOD)
Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416931 E 415757 N

Dates

25/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.22-0.30 0.22-0.30	D ES PID=<0.1ppm				(0.22) 0.22 (0.08) 0.30 (0.15) 0.45	MADE GROUND: Concrete. See separate sheet for more details (ref.CR104). MADE GROUND: Reddish brown GRAVEL of red shale. Gravel is fine to medium, subangular to angular. Brown sandy GRAVEL of mudstone (weathered bedrock). Terminated at 0.45m	  	


Remarks

Pit was dry and stable.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD104

Excavation Method

Hand excavated to 0.90mbgl.

Dimensions

0.30m x 0.30m x 0.90m

Ground Level (mOD)

131.23

Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416959.6 E 415763.7 N

Dates

25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.70-0.80	ES PID=<0.1ppm			130.88	0.35 (0.35)	MADE GROUND: Dark brown sandy SILT with occasional rootlets, rare ash and brick fragments. Sand is fine to medium.		
				130.53	0.70 (0.10)	MADE GROUND: Reddish brown GRAVEL of red shale with rare ash and clinker. Gravel is fine to medium, subangular to angular.		
				130.43	0.80 (0.10)	MADE GROUND: Dark grey gravelly CLAY with occasional ash and coal fragments. Gravel is fine to medium, subangular to subrounded of mudstone and sandstone.		
				130.33	0.90	Brown silty GRAVEL of mudstone (weathered bedrock). Gravel is fine to medium, subangular. Terminated at 0.90m		


Remarks

Pit was dry and stable.

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 22 1679.HD105

Excavation Method

Machine excavated to 1.70mbgl.

Dimensions

2.00m x 0.70m x 1.70m

Ground Level (mOD)

131.32

Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679

Location

416956.9 E 415741.3 N

Dates

28/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-0.40	ES			131.02	(0.30)	MADE GROUND: Dark brown sandy SILT with occasional rootlets and brick fragments. Sand is fine to medium.		
0.40-0.70	ES PID=<0.1ppm			130.92	0.30 (0.10) 0.40	MADE GROUND: Tarmacadam.		
					(0.30)	MADE GROUND: Dark grey gravelly CLAY with occasional ash and coal fragments. Gravel is fine to medium, subangular to subrounded of mudstone and sandstone.		
1.00-1.70	B			130.62	0.70	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(1.00)			
				129.62	1.70	Terminated at 1.70m		


Remarks

Pit was dry and stable.
Soakaway test carried out within pit see separate sheet with same reference for test details (ref. SA101).

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 22 1679.SA101

Excavation Method

Machine excavated to
1.70mbgl.

Dimensions

2.00m x 0.70m x 1.70m

Ground Level (mOD)

131.02

Client

Wilde Consulting Engineers

**Job
Number**

LKC 22 1679

Location

416968.8 E 415813.3 N

Dates

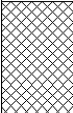
28/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.40	ES PID=<0.1ppm					MADE GROUND: Dark brown sandy SILT with occasional rootlets and brick fragments. Sand is fine to medium.		
0.40-0.70 0.40-1.70	ES PID=<0.1ppm B			130.72	0.30	Brown sandy GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(1.40)			
				129.32	1.70	Terminated at 1.70m		


Remarks

Pit was dry and stable.
Soakaway test carried out within pit see separate sheet with same reference for test details (ref. SA102).

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 22 1679.SA102

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS101**Excavation Method**

Drive-in Windowless Sampler

Dimensions**Ground Level (mOD)**

129.60

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Location**

416940 E 415929 N

Dates

25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	ES					MADE GROUND: Dark brown gravelly sandy SILT with occasional brick fragments, coal fragments and rare ceramic fragments.		
1.00-1.20	D			128.60	1.00	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
1.20-1.35	SPT 25*/100 50/50		15,10/50	128.25	1.35	Complete at 1.35m		

RemarksBorehole dry and stable.
SPT refusal at 1.35mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS101

Excavation Method

Window sampler driven to 1.65mbgl. SPT driven to 1.88mbgl.

Dimensions
Location

416938.8 E 415912 N

Ground Level (mOD)

131.83

Dates

25/04/2023

Client

Wilde Consulting Engineers

Engineer

LKC

Job Number
LKC 22 1679

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.80	ES			131.77	(0.06) 0.06	MADE GROUND: Tarmacadam. Good condition.			
					(0.74)	MADE GROUND: Brown clayey sandy GRAVEL with occasional brick fragments, clinker, coal fragments and rare ash.			
0.80-1.20	ES			131.03	0.80	Greenish brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone. Likely weathered bedrock.			
1.20-1.65 1.20-1.70	SPT N=17 D		3,3/3,4,4,6	130.63	1.20	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.			
					(0.50)				
1.65-1.88	SPT 25*/115 50/115		10,15/30,20	130.13	1.70	Complete at 1.88m			

Remarks

Borehole dry and stable.
SPT refusal at 1.88mbgl on weathered bedrock.

Scale (approx)

1:20

Logged By

JW

Figure No.

LKC 22 1679.WS102

Excavation Method

Window sampler driven to 2.00mbgl. SPT driven to 2.13mbgl.

Dimensions
Location

416979.6 E 415899.3 N

Ground Level (mOD)

131.15

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679

Dates

25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10-0.20	ES			131.09	(0.06)	MADE GROUND: Concrete paving slab.			
					(0.19)	MADE GROUND: Red slightly sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of shale. Likely reworked material.			
0.50-0.70	ES			130.90	0.25	MADE GROUND: Greenish brown very sandy silty GRAVEL with frequent sandstone cobbles. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone. Likely reworked material.			
					(0.45)	Dark brown sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and mudstone.			
1.00-1.60	ESD			130.45	0.70				
1.20-1.65	SPT N=4		1,1/1,1,1,1		(0.90)	Strata is grey in colour with an organic odour at 1.40-1.50mbgl.			
1.60-2.00	D			129.55	1.60	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.			
					(0.53)				
2.00-2.13	SPT 25*/70 50/60		25/50	129.02	2.13	Complete at 2.13m			

Remarks

Borehole dry and stable.
SPT refusal at 2.13mbgl on weathered bedrock.

Scale
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS103

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS104**Excavation Method**Window sampler driven to
1.20mbgl. SPT driven to
1.57mbgl.**Dimensions****Location**

416912.6 E 415896.6 N

Ground Level (mOD)

132.89

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Dates**

25/04/2023

Engineer

LKC

Sheet
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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-1.10	ES			132.79	(0.10) 0.10	MADE GROUND: Tarmacadam. Good condition.		
					(1.00)	MADE GROUND: Pink and greenish brown very gravelly clayey SAND with occasional coal fragments, brick fragments and rare clinker.		
1.10-1.20	ES			131.79	1.10			
1.20-1.57	SPT 50/220		2,10/10,14,26	131.69	(0.10) 1.20	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
						Complete at 1.57m		

RemarksBorehole dry and stable.
SPT refusal at 1.57mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS104

Excavation Method

Window sampler driven to 2.00mbgl. SPT carried out to 2.430mbgl.

Dimensions
Location

416941 E 415886 N

Ground Level (mOD)
Dates

27/04/2023

Client

Wilde Consulting Engineers

Engineer

LKC

Job Number
LKC 22 1679

Sheet
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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-0.80	ES PID=<0.1ppm				(0.15) 0.15	MADE GROUND: Concrete with 5mm rebar. For more detail see separate sheet (ref. CR105).		
1.00-2.00	ES PID=<0.1ppm				(0.85)	MADE GROUND: Brown sandy GRAVEL of brick fragments, concrete and sandstone. Sand is fine to coarse. Gravel is fine to coarse, subangular.		
1.20-1.65	SPT N=14		2,2/3,3,4,4		(1.00)	MADE GROUND: Brown clayey GRAVEL of mudstone and sandstone with occasional ash, brick and rare coal tar. Gravel is fine to medium, subangular.		
2.00-2.43 2.00	SPT 50/280 D		6,6/8,10,15,17		2.00 (0.43) 2.43	Brown sandy GRAVEL of sandstone and mudstone (weathered bedrock). Gravel is fine, subangular.		
						Terminated at 2.43m		

Remarks

Elevation not possible within the building.
Borehole dry and stable.
SPT refusal on weathered bedrock.

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 22 1679.WS105

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS106**Excavation Method**Window sampler driven to
0.80mbgl. SPT carried out to
1.205mbgl.**Dimensions****Location**

416954.7 E 415879.2 N

Ground Level (mOD)

131.63

Client

Wilde Consulting Engineers

Job
Number

LKC 22 1679

Dates

27/04/2023

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.60	ES PID=<0.1ppm				(0.60)	MADE GROUND: Dark brown sandy SILT with occasional rootlets and rare glass fragments. Sand is fine to medium.		
0.60-0.80	ES PID=<0.1ppm			131.03	0.60	Brown sandy GRAVEL of sandstone (weathered bedrock). Sand is fine to coarse. Gravel is fine to coarse, subangular.		
0.80-1.21	SPT 50/255		8,7/10,12,16,12		(0.61)			
				130.42	1.21	Terminated at 1.21m		

RemarksBorehole was dry and stable.
SPT refusal on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

RW

Figure No.

LKC 22 1679.WS106

Excavation Method

Window sampler driven to 2.00mbgl. SPT driven to 2.135mbgl.

Dimensions
Location

416904.9 E 415871.3 N

Ground Level (mOD)

133.91

Client

Wilde Consulting Engineers

Job Number
LKC 22 1679

Dates

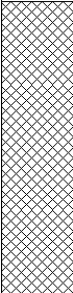
27/04/2023

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00-1.45	SPT N=14		2,2/3,3,3,5	133.11 133.01	(0.80) 0.80 (0.10) 0.90	MADE GROUND: Dark brown gravelly sandy SILT with occasional clinker, rootlets and coal fragments. Light brown sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone. Likely reworked. Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.	  	
2.00-2.14	SPT 25*/90 50/45		18,7/50	131.77	2.14	Complete at 2.14m		

Remarks

SPT refusal at 2.135mbgl.
Rock core attempt at 1.80-2.00mbgl. Limited recovery (10%).
Borehole dry and stable.

Scale (approx)

1:20

Logged By

JW

Figure No.

LKC 22 1679.WS107

Excavation Method

Window sampler driven to
0.80mbgl. SPT driven to
1.175mbgl.

Dimensions
Location

416947.5 E 415867.2 N

Ground Level (mOD)

131.53

Dates

27/04/2023

Client

Wilde Consulting Engineers

Engineer

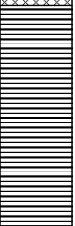
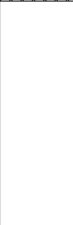
LKC

Job
Number

LKC 22 1679

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.60	ES					MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets, occasional coal fragments, rare plastic fragments and brick fragments.			
0.60-0.80	D			130.93	0.60	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.			
0.80-1.18	SPT 25*/145 50/230		13,12/13,13,21,3		(0.58)				
0.80-1.18	D			130.35	1.18	Complete at 1.18m			

Remarks

Borehole dry and stable.
SPT refusal at 1.175mbgl on weathered bedrock.

Scale
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS108

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS109**Excavation Method**Window sampler driven to
0.30mbgl. SPT driven to
0.725mbgl.**Dimensions****Ground Level (mOD)**

130.76

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Location**

416979.1 E 415857.3 N

Dates

25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30	ES				(0.30)	MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets and occasional brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and mudstone.		
0.30-0.73 0.30-0.73	SPT 50/275 D		10,10/11,11,15,13	130.46	0.30 (0.43)	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
				130.03	0.73	Complete at 0.73m		

RemarksBorehole dry and stable.
SPT refusal at 0.725mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS109

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS110**Excavation Method**Window sampler driven to
0.50mbgl. SPT driven to
0.81mbgl.**Dimensions****Location**

416876.8 E 415853.4 N

Ground Level (mOD)

134.52

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Dates**

25/04/2023

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-0.81	SPT 50/160		5,18/16,24,10	134.22	(0.30)	Dark brown gravelly sandy SILT with frequent rootlets and occasional coal fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartzite.		
					0.30	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(0.51)			
				133.71	0.81	Complete at 0.81m		

RemarksBorehole dry and stable.
SPT refusal at 0.81mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS110

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

**Number
WS111****Excavation Method**Window sampler driven to
0.60mbgl. SPT driven to
0.96mbgl.**Dimensions****Location**

416931.7 E 415849.8 N

Ground Level (mOD)

132.19

Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679**Dates**

27/04/2023

Engineer

LKC

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.20	ES				(0.20)	Dark brown gravelly sandy SILT with frequent rootlets and occasional coal fragments.		
0.20-0.60	D			131.99	0.20	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
0.60-0.96 0.60-0.96	SPT 50/210 D		10,12/14,18,18		(0.76)			
				131.23	0.96	Complete at 0.96m		

RemarksBorehole dry and stable.
SPT refusal at 0.96mbgl on weathered bedrock.**Scale
(approx)**

1:20

**Logged
By**

JW

Figure No.

LKC 22 1679.WS111

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS112**Excavation Method**Window sampler driven to
0.60mbgl. SPT driven to
0.94mbgl.**Dimensions****Location**

416951.8 E 415842 N

Ground Level (mOD)

131.44

Client

Wilde Consulting Engineers

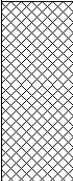
Job
Number
LKC 22 1679**Dates**

27/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	ES					MADE GROUND: Dark brown gravelly sandy SILT with occasional rootlets, coal fragments, rare clinker and brick fragments.		
0.60-0.94	SPT 50/190 D		10,10/15,20,15	130.94	0.50 (0.44)	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
0.60-0.94				130.50	0.94	Complete at 0.94m		

RemarksBorehole dry and stable.
SPT refusal at 0.94mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS112

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS113**Excavation Method**Window sampler driven to
1.20mbgl. SPT driven to
1.415mbgl.**Dimensions****Location**

416874.5 E 415835.1 N

Ground Level (mOD)

134.52

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Dates**

25/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.40	ES			134.41	(0.11) 0.11	MADE GROUND: Tarmacadam. Good condition.		
					(0.29)	MADE GROUND: Grey and brown sandy clayey GRAVEL with occasional coal fragments (reworked). Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartzite.		
				134.12	0.40	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(1.02)			
1.20-1.42	SPT 25*/120 50/95		10,15/37,13	133.10	1.42	Complete at 1.42m		

RemarksBorehole dry and stable.
SPT refusal at 1.415mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS113

Excavation Method Window sampler driven to 0.61mbgl.	Dimensions 	Ground Level (mOD) 132.56	Client Wilde Consulting Engineers	Job Number LKC 22 1679
	Location 416926.5 E 415835.6 N	Dates 27/04/2023	Engineer LKC	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.20	ES			132.51	(0.05)	MADE GROUND: Concrete paving slab.		
					(0.15)			
0.20-0.50	D			132.36	0.20	MADE GROUND: Brown very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded of sandstone and quartzite. Likely reworked material.		
					(0.40)	MADE GROUND: Brown silty sandy gravelly COBBLES of sandstone with occasional brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.		
				131.96	0.60			
				131.95	0.61	MADE GROUND: Tarmacadam.		
						Complete at 0.61m		

Remarks
Borehole dry and stable.
Sampler refusal at 0.61mbgl on tarmacadam.

Scale (approx)	Logged By
1:20	JW

Figure No.
LKC 22 1679.WS114

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

**Number
WS115****Excavation Method**Window sampler driven to
0.45mbgl. SPT driven to
0.80mbgl.**Dimensions****Location**

416892.8 E 415819.2 N

Ground Level (mOD)

133.97

Client

Wilde Consulting Engineers

**Job
Number**
LKC 22 1679**Dates**

27/04/2023

Engineer

LKC

Sheet
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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30	ES				(0.30)	MADE GROUND: Dark brown gravelly sandy SILT with occasional rootlets, rare plastic fragments and coal fragments.		
0.30-0.40	ES			133.67	0.30	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
0.40-0.80	D		9,9/12,20,18		(0.50)	Strata extremely weathered at 0.30-0.40mbgl.		
0.45-0.80	SPT 50/200			133.17	0.80	Complete at 0.80m		

RemarksBorehole dry and stable.
SPT refusal at 0.80mbgl on weathered bedrock.**Scale
(approx)**

1:20

**Logged
By**

JW

Figure No.

LKC 22 1679.WS115

Excavation Method

Window sampler driven to
1.20mbgl. SPT driven to
1.51mbgl.

Dimensions
Location

416856.3 E 415814.8 N

Ground Level (mOD)

136.27

Dates

26/04/2023

Client

Wilde Consulting Engineers

Engineer

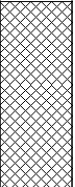
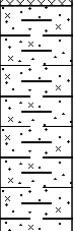
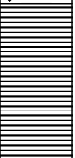
LKC

**Job
Number**

LKC 22 1679

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
1.20-1.51	SPT 50/160		8,12/21,21,8			MADE GROUND: Dark brown gravelly sandy clayey SILT with frequent rootlets, occasional coal fragments, rare brick fragments and clinker. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and mudstone.			
				135.77	0.50 (0.50)	Brown gravelly sandy silty CLAY with occasional sandstone cobbles, rootlets and coal fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.			
				135.17	1.10 (0.41)	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.			
				134.76	1.51	Complete at 1.51m			

Remarks

Borehole dry and stable.
SPT refusal at 1.51mbgl on weathered bedrock.

**Scale
(approx)**

1:20

**Logged
By**

JW

Figure No.

LKC 22 1679.WS116

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS117**Excavation Method**Window sampler driven to
0.50mbgl. SPT driven to
0.80mbgl.**Dimensions****Location**

416942.5 E 415801.5 N

Ground Level (mOD)

131.63

Client

Wilde Consulting Engineers

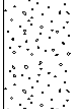
Job
Number
LKC 22 1679**Dates**

26/04/2023

Engineer

LKC

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1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-0.80	SPT 25*/145 50/155		12,13/20,25,5	131.58	(0.05) 0.05	MADE GROUND: Tarmacadam.		
					(0.35)	Brown sandy clayey GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.		
				131.23	0.40	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(0.40)			
				130.83	0.80	Complete at 0.80m		

RemarksBorehole dry and stable.
SPT refusal at 0.80mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS117

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS118**Excavation Method**Window sampler driven to
0.70mbgl. SPT driven to
0.95mbgl.**Dimensions****Location**

416898.3 E 415804.1 N

Ground Level (mOD)

133.44

Client

Wilde Consulting Engineers

Job
Number

LKC 22 1679

Dates

26/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30	ES				(0.30)	Dark brown gravelly sandy SILT with occasional rootlets and coal fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.		
0.30-0.70	D			133.14	0.30	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
0.70-0.95	SPT 25*/115 50/135		15,10/25,25		(0.65)			
0.70-0.95	D			132.49	0.95	Complete at 0.95m		

RemarksBorehole dry and stable.
SPT refusal at 0.95mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS118

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS119**Excavation Method**Window sampler driven to
0.30mbgl. SPT driven to
0.64mbgl.**Dimensions****Ground Level (mOD)**

132.17

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Location**

416824 E 415810 N

Dates

26/04/2023

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.20	ES				(0.20)	MADE GROUND: Dark brown gravelly sandy SILT with occasional brick fragments, rootlets, concrete fragments, rare plastic fragments and glass fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartzite.		
0.30-0.64	SPT 50/190 D		10,12/18,18,14	131.97	0.20	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular. Strat very weathered at 0.20-0.25mbgl.		
0.30-0.64				131.53	0.64	Complete at 0.64m		

RemarksBorehole dry and stable.
SPT refusal at 0.64mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS119

Excavation Method

Window sampler driven to 1.80mbgl. SPT carried out to 1.995mbgl.

Dimensions
Location

416977 E 415791.6 N

Ground Level (mOD)

130.94

Client

Wilde Consulting Engineers

Engineer

LKC

Job Number
LKC 22 1679

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.30	ES PID=<0.1ppm				(0.30)	MADE GROUND: Dark brown gravelly sandy SILT with rare ash and rootlets. Sand is fine to medium. Gravel is fine to medium, subangular of mudstone.			
0.30-0.60	ES PID=<0.1ppm			130.64	0.30 (0.30)	MADE GROUND: Greyish brown clayey GRAVEL of mudstone with frequent ash and occasional brick fragments. Gravel is fine to coarse, subangular.			
0.60-1.20	ES PID=<0.1ppm			130.34	0.60 (0.60)	MADE GROUND: Greyish brown clayey GRAVEL of mudstone with frequent ash. Gravel is fine to coarse, subangular.			
1.20-1.65	SPT N=14		5,3/3,3,4,4	129.74	1.20 (0.30)	Brown sandy GRAVEL of sandstone (weathered sandstone bedrock). Sand is fine to coarse. Gravel is fine to medium, angular to subangular.			
1.20-1.50	D								
1.50-1.80	D			129.44	1.50 (0.50)	Brown clayey GRAVEL of mudstone (weathered mudstone bedrock). Gravel is fine to medium, subangular.			
1.80-2.00	SPT 25*/100 50/95		19,6/35,15	128.94	2.00	Terminated at 2.00m			

Remarks
Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 22 1679.WS120

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS121**Excavation Method**Window sampler driven to
0.60mbgl. SPT driven to
0.835mbgl.**Dimensions****Location**

416899.3 E 415780.1 N

Ground Level (mOD)

132.88

Client

Wilde Consulting Engineers

Job
Number

LKC 22 1679

Dates

26/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.30	ESD			132.80	(0.08) 0.08	MADE GROUND: Tarmacadam. Good condition.		
0.30-0.50	D			132.58	(0.22) 0.30	MADE GROUND: Red sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of shale.		
0.60-0.84	SPT 25*/100 50/135 D		15,10/25,25	132.38	(0.20) 0.50	Brown sandy slightly silty GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.		
0.60				132.04	(0.34) 0.84	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
						Complete at 0.84m		

RemarksBorehole dry and stable.
SPT refusal at 0.835mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS121

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS122**Excavation Method**Window sampler driven to
0.50mbgl. SPT driven to
0.57mbgl.**Dimensions****Location**

416928.8 E 415777.1 N

Ground Level (mOD)

132.06

Client

Wilde Consulting Engineers

Job
Number

LKC 22 1679

Dates

26/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.20	ES			131.99	(0.07) 0.07	MADE GROUND: Tarmacadam. Good condition.		
0.30-0.50	D			131.81	(0.18) 0.25	MADE GROUND: Red sandy GRAVEL (reworked). Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of shale.		
0.50-0.57	SPT 25*/50 50/20		25/50	131.49	(0.32) 0.57	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular. Recovered as a very sandy GRAVEL to at 0.25-0.50mbgl. Complete at 0.57m		

RemarksBorehole dry and stable.
SPT refusal at 0.57mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS122

Excavation Method Window sampler driven to 0.40mbgl. SPT driven to 0.68mbgl.	Dimensions	Ground Level (mOD) 132.52	Client Wilde Consulting Engineers	Job Number LKC 22 1679
	Location 416909.6 E 415768.6 N	Dates 25/04/2023	Engineer LKC	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40-0.68	SPT 50/130		9,16/22,28	132.42	(0.10)	MADE GROUND: Tarmacadam. Good condition.		
					0.10	Brown sandy clayey GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(0.58)			
				131.84	0.68	Terminated at 0.68m		

Remarks

Remarks
Borehole dry and stable.
Rotary core attachment used from 0.20mbgl to 0.40mbgl. Limited recovery obtained.
SPT refusal on weathered bedrock.

Scale (approx)

1:20

Logged
By

RW

Figure No.

Figure No:
LKC 22 1679.WS123

Excavation Method

Window sampler driven to 1.00mbgl. Continuous SPT to 1.48mbgl.

Dimensions
Location

416938.1 E 415754.2 N

Ground Level (mOD)

131.73

Client

Wilde Consulting Engineers

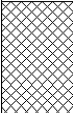
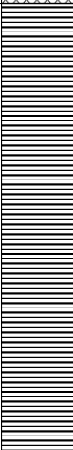
Job Number
LKC 22 1679

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30	ES PID=<0.1ppm				(0.30)	MADE GROUND: Dark brown sandy SILT with occasional rootlets, rare glass and plastic. Sand is fine to medium.		
0.30-1.00	D			131.43	0.30	Brown sandy GRAVEL of sandstone and mudstone (weathered bedrock). Sand is fine to medium. Gravel is fine to medium, subangular.		
1.00-1.32	SPT 25*/135 50/185		12,13/18,18,14		(1.18)			
1.32-1.48	SPT 50/10		/14,11,25	130.25	1.48	Terminated at 1.48m		

Remarks

Rotary core attachment use at 1.00mbgl failed to recover. Borehole was dry and stable.

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 22 1679.WS124

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Almondbury SEND School

Number
WS125**Excavation Method**Window sampler driven to
0.70mbgl. SPT driven to
0.965mbgl.**Dimensions****Location**

416909 E 415752.8 N

Ground Level (mOD)

132.51

Client

Wilde Consulting Engineers

Job
Number
LKC 22 1679**Engineer**

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.40	ES			132.43	(0.08) 0.08	MADE GROUND: Tarmacadam. Good condition.	XXXXXX	
					(0.22)	MADE GROUND: Red sandy GRAVEL (reworked). Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of shale.	XXXXXX	
0.40-0.70	D			132.21	0.30			
					(0.20)	Brown sandy slightly silty GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.	XXXXXX	
				132.01	0.50			
0.70-0.97	SPT 25*/115 50/150		13,12/22,28		(0.47)	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular. Recovered as a sandy GRAVEL at 0.50-0.60mbgl.	XXXXXX	
				131.54	0.97	Complete at 0.97m		

RemarksBorehole dry and stable.
SPT refusal at 0.965mbgl on weathered bedrock.**Scale**
(approx)

1:20

Logged
By

JW

Figure No.

LKC 22 1679.WS125

Excavation Method

Window sampler driven to 2.80mbgl.

Dimensions

to

Ground Level (mOD)

138.00

Client

Wilde Consulting Engineers

Job Number
LKC 22 1679

Location

416842 E 415830 N

Dates

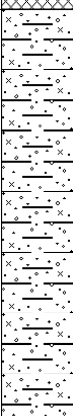
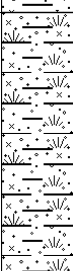
27/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-1.30	ESD			137.80	(0.20) 0.20	MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets.		
					(1.10)	Soft to firm consistency brown very gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded of mudstone and sandstone. Probable reworked material.		
1.30-2.00	ESD			136.70	1.30	Firm consistency grey slightly gravelly sandy silty organic CLAY with occasional organic material. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone.		
					(0.70)			
				136.00	2.00	Brown sandy clayey GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
					(0.80)			
				135.20	2.80	Complete at 2.80m		

Remarks

Borehole dry and stable.
Sampler refusal at 2.80mbgl on weathered bedrock.

Scale (approx)

1:20

Logged By

JW

Figure No.

LKC 22 1679.WS126

Excavation Method

Window sampler driven to 2.70mbgl.

Dimensions
Location

416838 E 415861 N

Ground Level (mOD)

137.90

Client

Wilde Consulting Engineers

Job Number
LKC 22 1679

Dates

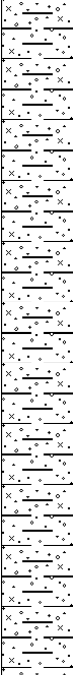
27/04/2023

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-1.00	ESD			137.70	(0.20) 0.20	MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets.		
1.50-2.00	ESD				(1.80)	Soft to firm consistency brown very gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded of mudstone and sandstone. Probable reworked.		
2.00-2.50	D			135.90	2.00	Grey section of strata with organic material present and an organic odour at 1.30-1.50mbgl.		
					(0.70)	Brown sandy silty GRAVEL of mudstone and sandstone (weathered bedrock). Gravel is fine to coarse, subangular to angular.		
				135.20	2.70	Complete at 2.70m		

Remarks

Borehole dry and stable.
Sampler refusal at 2.70mbgl on weathered bedrock.

Scale (approx)

1:20

Logged By

JW

Figure No.

LKC 22 1679.WS127

Appendix C

Certificates of Analysis – Soil

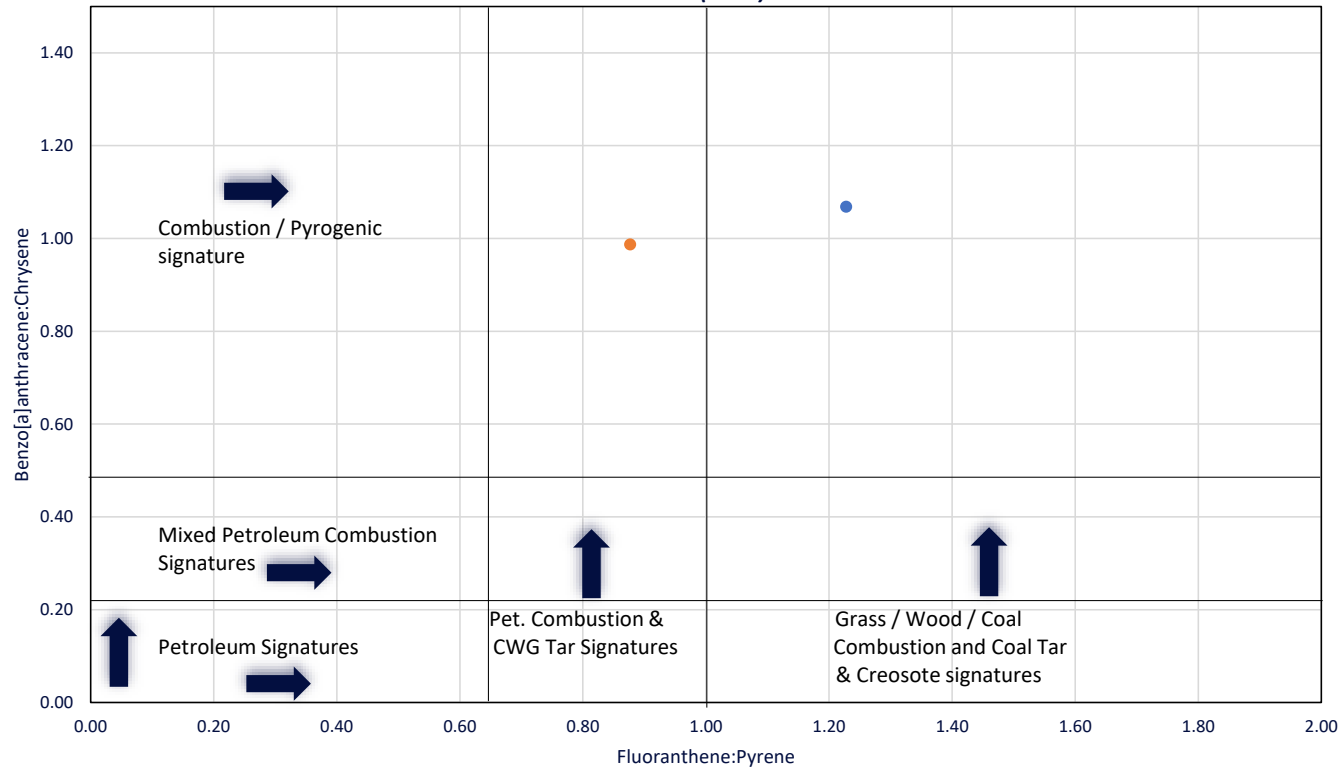
[illegible]

Double Ratio Plot
Fluoranthene : Pyrene v Benzo[a]anthracene : Chrysene

Yunker et al. (2002)



649689
649690





Colin Crompton
LK Consult Limited
Unit 29 Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

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

DETS Report No: 23-05741

Site Reference: Almondbury SEND School

Project / Job Ref: LKC 22 1679

Order No: LKC221679-CC

Sample Receipt Date: 02/05/2023

Sample Scheduled Date: 02/05/2023

Report Issue Number: 1

Reporting Date: 15/05/2023

Authorised by:

Kevin Old
Operations Director

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.



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



Soil Analysis Certificate						
DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	25/04/23	25/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS113	WS102	WS102	WS104	WS109
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.20 - 0.40	0.20 - 0.80	0.80 - 1.20	0.10 - 1.10	0.00 - 0.30
Reporting Date: 15/05/2023	DETS Sample No	649664	649665	649666	649667	649668

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Detected	Not Detected		Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE	Bundles of Chrysotile fibres				
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile				
Asbestos Quantification ^(S)	%	< 0.001	ISO17025	< 0.001				
pH	pH Units	N/a	MCERTS	7.4	8.2	7.5	8.1	7.2
Total Cyanide	mg/kg	< 1	NONE	< 1				
Free Cyanide	mg/kg	< 1	NONE	< 1				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	1770	1810	235	38	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	1.77	1.81	0.23	0.04	< 0.01
Organic Matter (SOM)	%	< 0.1	MCERTS	4.5	3.1		2.7	8
W/S Chloride (2:1)	mg/kg	< 1	MCERTS			37		
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS			18.5		
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS			45		
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS			22.7		
Arsenic (As)	mg/kg	< 2	MCERTS	12	23		32	24
W/S Boron	mg/kg	< 1	NONE	< 1				
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2		< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	24	16		70	29
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	26	23		31	52
Lead (Pb)	mg/kg	< 3	MCERTS	25	18		29	76
W/S Magnesium	mg/l	< 0.1	NONE			9		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1		< 1	1.2
Nickel (Ni)	mg/kg	< 3	MCERTS	17	21		22	19
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2		< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	23	22		29	31
Zinc (Zn)	mg/kg	< 3	MCERTS	67	52		79	105
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2				
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS					
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE					
Coal Tar Presence / Absence	N/a	N/a	NONE					
Coal Tar Quantification : 1D MS	%	< 0.1	NONE					

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



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



Soil Analysis Certificate						
DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	25/04/23	25/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS103	WS101	HD103A	HD102	HD101
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.10 - 0.20	0.00 - 0.50	0.29 - 0.40	0.35 - 0.45	0.80 - 1.20
Reporting Date: 15/05/2023	DETS Sample No	649669	649670	649671	649672	649673

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE				
Asbestos Type ^(S)	PLM Result	N/a	ISO17025				
Asbestos Quantification ^(S)	%	< 0.001	ISO17025				
pH	pH Units	N/a	MCERTS	8.5	7.3	9.1	11.6
Total Cyanide	mg/kg	< 1	NONE				< 1
Free Cyanide	mg/kg	< 1	NONE				< 1
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	26	< 10	240	24
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.03	< 0.01	0.24	0.02
Organic Matter (SOM)	%	< 0.1	MCERTS		8.8	0.4	1.3
W/S Chloride (2:1)	mg/kg	< 1	MCERTS	6			
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS	2.9			
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS	3			
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS	1.7			
Arsenic (As)	mg/kg	< 2	MCERTS		14	10	6
W/S Boron	mg/kg	< 1	NONE				< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS		15	19	16
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		25	27	15
Lead (Pb)	mg/kg	< 3	MCERTS		34	< 3	8
W/S Magnesium	mg/l	< 0.1	NONE	0.8			
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		12	6	16
Selenium (Se)	mg/kg	< 2	MCERTS		< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS		20	48	24
Zinc (Zn)	mg/kg	< 3	MCERTS		58	21	48
Total Phenols (monohydric)	mg/kg	< 2	NONE				< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS				
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE				
Coal Tar Presence / Absence	N/a	N/a	NONE				
Coal Tar Quantification : 1D MS	%	< 0.1	NONE				

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)



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



Soil Analysis Certificate						
DETS Report No: 23-05741	Date Sampled	26/04/23	26/04/23	26/04/23	26/04/23	26/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS116	WS118	WS121	WS125	WS119
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.00 - 0.50	0.00 - 0.30	0.10 - 0.30	0.10 - 0.40	0.00 - 0.20
Reporting Date: 15/05/2023	DETS Sample No	649674	649675	649676	649677	649678

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	6.6	7.0	7.9	8.3	8.1
Total Cyanide	mg/kg	< 1	NONE			< 1		
Free Cyanide	mg/kg	< 1	NONE			< 1		
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	16	< 10	64	38	59
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.02	< 0.01	0.06	0.04	0.06
Organic Matter (SOM)	%	< 0.1	MCERTS	6.2	7.2	3.6	2	4.8
W/S Chloride (2:1)	mg/kg	< 1	MCERTS					
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS	23	25	11	9	20
W/S Boron	mg/kg	< 1	NONE			< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	22	23	16	16	25
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	42	48	24	24	47
Lead (Pb)	mg/kg	< 3	MCERTS	58	74	16	15	66
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	20	19	16	18	16
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	32	33	23	22	26
Zinc (Zn)	mg/kg	< 3	MCERTS	83	98	55	40	119
Total Phenols (monohydric)	mg/kg	< 2	NONE			< 2		
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS					
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE					
Coal Tar Presence / Absence	N/a	N/a	NONE					
Coal Tar Quantification : 1D MS	%	< 0.1	NONE					

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: 23-05741	Date Sampled	26/04/23	26/04/23	26/04/23	26/04/23	27/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	HD104	WS120	HD105	WS105	WS108
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.22 - 0.30	0.30 - 0.60	0.70 - 0.80	1.00 - 2.00	0.00 - 0.60
Reporting Date: 15/05/2023	DETS Sample No	649679	649680	649681	649682	649683

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	7.7	8.0	7.5	7.8	7.2
Total Cyanide	mg/kg	< 1	NONE			3	< 1	
Free Cyanide	mg/kg	< 1	NONE			< 1	< 1	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	753	24	38	125	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.75	0.02	0.04	0.13	< 0.01
Organic Matter (SOM)	%	< 0.1	MCERTS	0.4	2.6	0.5	4.4	0.4
W/S Chloride (2:1)	mg/kg	< 1	MCERTS					
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS	11	20	21	18	12
W/S Boron	mg/kg	< 1	NONE			< 1	< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	20	161	75	23	17
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	23	38	55	79	25
Lead (Pb)	mg/kg	< 3	MCERTS	16	36	96	62	47
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	23	23	22	23	11
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	25	23	28	28	30
Zinc (Zn)	mg/kg	< 3	MCERTS	62	117	173	110	60
Total Phenols (monohydric)	mg/kg	< 2	NONE			< 2	< 2	
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS					
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE					
Coal Tar Presence / Absence	N/a	N/a	NONE					
Coal Tar Quantification : 1D MS	%	< 0.1	NONE					

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 Subcontracted analysis (S)



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Rose Lane
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Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 23-05741	Date Sampled	27/04/23	27/04/23	27/04/23	27/04/23	27/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS114	WS112	WS126	WS127	SA102
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.00 - 0.20	0.00 - 0.50	1.30 - 2.00	0.20 - 1.00	0.00 - 0.40
Reporting Date: 15/05/2023	DETS Sample No	649684	649685	649686	649687	649688

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	8.3	7.5	6.9	6.5	7.6
Total Cyanide	mg/kg	< 1	NONE					< 1
Free Cyanide	mg/kg	< 1	NONE					< 1
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Organic Matter (SOM)	%	< 0.1	MCERTS	1	0.3	2	0.2	1.5
W/S Chloride (2:1)	mg/kg	< 1	MCERTS					
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS					
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS	10	21	6	3	34
W/S Boron	mg/kg	< 1	NONE					< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.3	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	7	24	19	38	22
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	8	52	15	20	91
Lead (Pb)	mg/kg	< 3	MCERTS	11	102	14	13	220
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	12	19	14	23	20
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	16	31	22	37	34
Zinc (Zn)	mg/kg	< 3	MCERTS	50	140	61	59	136
Total Phenols (monohydric)	mg/kg	< 2	NONE					< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS					
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE					
Coal Tar Presence / Absence	N/a	N/a	NONE					
Coal Tar Quantification : 1D MS	%	< 0.1	NONE					

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 Subcontracted analysis (S)



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Rose Lane
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Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 23-05741	Date Sampled	27/04/23	27/04/23			
LK Consult Limited	Time Sampled	None Supplied	None Supplied			
Site Reference: Almondbury SEND School	TP / BH No	WS121	WS113			
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied			
Order No: LKC221679-CC	Depth (m)	0.00 - 0.08	0.00 - 0.11			
Reporting Date: 15/05/2023	DETS Sample No	649689	649690			

Determinand	Unit	RL	Accreditation	(n)	(n)		
Asbestos Screen ^(S)	N/a	N/a	ISO17025				
Sample Matrix ^(S)	Material Type	N/a	NONE				
Asbestos Type ^(S)	PLM Result	N/a	ISO17025				
Asbestos Quantification ^(S)	%	< 0.001	ISO17025				
pH	pH Units	N/a	MCERTS				
Total Cyanide	mg/kg	< 1	NONE				
Free Cyanide	mg/kg	< 1	NONE				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS				
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS				
Organic Matter (SOM)	%	< 0.1	MCERTS				
W/S Chloride (2:1)	mg/kg	< 1	MCERTS				
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS				
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS				
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS				
Arsenic (As)	mg/kg	< 2	MCERTS				
W/S Boron	mg/kg	< 1	NONE				
Cadmium (Cd)	mg/kg	< 0.2	MCERTS				
Chromium (Cr)	mg/kg	< 2	MCERTS				
Chromium (hexavalent)	mg/kg	< 2	NONE				
Copper (Cu)	mg/kg	< 4	MCERTS				
Lead (Pb)	mg/kg	< 3	MCERTS				
W/S Magnesium	mg/l	< 0.1	NONE				
Mercury (Hg)	mg/kg	< 1	MCERTS				
Nickel (Ni)	mg/kg	< 3	MCERTS				
Selenium (Se)	mg/kg	< 2	MCERTS				
Vanadium (V)	mg/kg	< 1	MCERTS				
Zinc (Zn)	mg/kg	< 3	MCERTS				
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2		
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS	2010	4370		
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE	Typical of bitumen and PAHs	Typical of bitumen and PAHs		
Coal Tar Presence / Absence	N/a	N/a	NONE	Present	Present		
Coal Tar Quantification : 1D MS	%	< 0.1	NONE	< 0.1	< 0.1		

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 Subcontracted analysis (S)



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Rose Lane
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Maidstone
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Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs					
DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	25/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS113	WS102	WS104	WS109
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.20 - 0.40	0.20 - 0.80	0.10 - 1.10	0.00 - 0.30
Reporting Date: 15/05/2023	DETS Sample No	649664	649665	649667	649668

Determinand	Unit	RL	Accreditation					
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	4.10	0.36	< 0.1	< 0.1	0.16
Fluorene	mg/kg	< 0.1	MCERTS	5.05	0.17	< 0.1	< 0.1	0.12
Phenanthrene	mg/kg	< 0.1	MCERTS	32.90	0.19	0.16	0.35	1.43
Anthracene	mg/kg	< 0.1	MCERTS	6.54	0.15	< 0.1	< 0.1	0.41
Fluoranthene	mg/kg	< 0.1	MCERTS	40.30	0.42	0.21	0.51	3.03
Pyrene	mg/kg	< 0.1	MCERTS	31.20	0.63	0.19	0.47	2.61
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	12.90	0.69	< 0.1	0.20	1.30
Chrysene	mg/kg	< 0.1	MCERTS	10.50	0.71	< 0.1	0.27	1.29
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	9.94	3.44	< 0.1	0.20	1.26
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	3.74	0.96	< 0.1	0.11	0.37
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	9.25	4.27	< 0.1	0.22	1.18
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	3.46	2.45	< 0.1	< 0.1	0.50
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.72	0.34	< 0.1	< 0.1	0.11
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	2.31	1.96	< 0.1	< 0.1	0.37
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	173	16.8	< 1.6	2.3	14.1

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



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	26/04/23	26/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	HD103A	HD102	HD101	WS116	WS118
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.29 - 0.40	0.35 - 0.45	0.80 - 1.20	0.00 - 0.50	0.00 - 0.30
Reporting Date: 15/05/2023	DETS Sample No	649671	649672	649673	649674	649675

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	0.18	0.13
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	1	0.92
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.25	0.19
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	1.26	1.17
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	1.11	1.05
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.53	0.46
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.51	0.50
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.42	0.38
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.13	0.13
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.14	0.36	0.38
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.18	0.17
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	< 0.1	< 0.1	< 0.1	0.12	0.12
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	6.1	5.6



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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs					
DETS Report No: 23-05741	Date Sampled	26/04/23	26/04/23	26/04/23	26/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS121	WS125	WS119	HD104
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.10 - 0.30	0.10 - 0.40	0.00 - 0.20	0.22 - 0.30
Reporting Date: 15/05/2023	DETS Sample No	649676	649677	649678	649679

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	0.69	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.49	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	8.75	1	0.31	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	2.99	0.37	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	25.20	4.94	0.56	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	21.40	4.76	0.51	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	8.88	2.55	0.27	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	7.16	2.11	0.33	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	8.73	2.65	0.34	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	3.46	0.88	0.15	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	8.93	2.85	0.34	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	3.44	1.06	0.16	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.64	0.21	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	2.34	0.68	0.13	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	103	24.1	3.1	< 1.6



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



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-05741	Date Sampled	26/04/23	26/04/23	27/04/23	27/04/23	27/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	HD105	WS105	WS108	WS114	WS112
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.70 - 0.80	1.00 - 2.00	0.00 - 0.60	0.00 - 0.20	0.00 - 0.50
Reporting Date: 15/05/2023	DETS Sample No	649681	649682	649683	649684	649685

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.13	0.32	< 0.1	0.31
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	0.20	1.64	< 0.1	0.17
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	0.13	1.17	< 0.1	0.11
Phenanthrene	mg/kg	< 0.1	MCERTS	0.45	1.35	13.50	< 0.1	1.05
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.31	3.28	< 0.1	0.24
Fluoranthene	mg/kg	< 0.1	MCERTS	0.53	1.57	20.50	< 0.1	1.17
Pyrene	mg/kg	< 0.1	MCERTS	0.46	1.42	17.90	< 0.1	1.01
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.21	0.61	6.57	< 0.1	0.42
Chrysene	mg/kg	< 0.1	MCERTS	0.23	0.66	6.33	< 0.1	0.47
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.18	0.51	6.56	< 0.1	0.36
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.19	1.86	< 0.1	0.13
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.15	0.50	6.11	< 0.1	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.22	2.73	< 0.1	0.16
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.63	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.17	2.03	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2.2	8	91.1	< 1.6	5.9



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



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-05741	Date Sampled	27/04/23	27/04/23	27/04/23		
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Almondbury SEND School	TP / BH No	WS126	WS127	SA102		
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: LKC221679-CC	Depth (m)	1.30 - 2.00	0.20 - 1.00	0.00 - 0.40		
Reporting Date: 15/05/2023	DETS Sample No	649686	649687	649688		

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.18	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	1.28	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.26	
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	1.72	
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	1.57	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.74	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.79	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.64	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.20	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.58	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.26	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.22	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	8.4	



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



Soil Analysis Certificate - Speciated PAHs					
DETS Report No: 23-05741	Date Sampled	27/04/23	27/04/23		
LK Consult Limited	Time Sampled	None Supplied	None Supplied		
Site Reference: Almondbury SEND School	TP / BH No	WS121	WS113		
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied		
Order No: LKC221679-CC	Depth (m)	0.00 - 0.08	0.00 - 0.11		
Reporting Date: 15/05/2023	DETS Sample No	649689	649690		

Determinand	Unit	RL	Accreditation	(n)	(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	2.34	7.62			
Fluorene	mg/kg	< 0.1	MCERTS	1.87	3.84			
Phenanthrene	mg/kg	< 0.1	MCERTS	25.20	16.40			
Anthracene	mg/kg	< 0.1	MCERTS	5.73	3.23			
Fluoranthene	mg/kg	< 0.1	MCERTS	39.30	107			
Pyrene	mg/kg	< 0.1	MCERTS	32	122			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	15.60	30.90			
Chrysene	mg/kg	< 0.1	MCERTS	14.60	31.30			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	12.30	35.50			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	4.81	13.50			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	11.20	35.60			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	7.54	16.50			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	5.21	10.90			
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	66.1	163.0			
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	129	265			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	178	434			
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	178	434			

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Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - TPH LQM Banded

DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	26/04/23	26/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS113	HD102	HD101	WS121	HD105
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.20 - 0.40	0.35 - 0.45	0.80 - 1.20	0.10 - 0.30	0.70 - 0.80
Reporting Date: 15/05/2023	DETS Sample No	649664	649672	649673	649676	649681

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	106	24	< 10
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	11	< 10	< 10
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	116	< 30	75
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	13	< 2	5
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	126	< 3	82
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	154	< 10	174
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	33
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	293	< 30	293
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 60	NONE	410	< 60	368

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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - TPH LQM Banded

DETS Report No: 23-05741	Date Sampled	26/04/23	27/04/23			
LK Consult Limited	Time Sampled	None Supplied	None Supplied			
Site Reference: Almondbury SEND School	TP / BH No	WS105	SA102			
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied			
Order No: LKC221679-CC	Depth (m)	1.00 - 2.00	0.00 - 0.40			
Reporting Date: 15/05/2023	DETS Sample No	649682	649688			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3			
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10			
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10			
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	< 30	< 30			
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	0.01	< 0.01			
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	7	7			
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10			
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10			
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	< 30	< 30			
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 60	NONE	< 60	< 60			



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



Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-05741	Date Sampled	25/04/23	25/04/23	25/04/23	26/04/23	26/04/23
LK Consult Limited	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Almondbury SEND School	TP / BH No	WS113	HD102	HD101	WS121	HD105
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC221679-CC	Depth (m)	0.20 - 0.40	0.35 - 0.45	0.80 - 1.20	0.10 - 0.30	0.70 - 0.80
Reporting Date: 15/05/2023	DETS Sample No	649664	649672	649673	649676	649681

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5

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Rose Lane
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Maidstone
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Soil Analysis Certificate - BTEX / MTBE					
DETS Report No: 23-05741	Date Sampled	26/04/23	27/04/23		
LK Consult Limited	Time Sampled	None Supplied	None Supplied		
Site Reference: Almondbury SEND School	TP / BH No	WS105	SA102		
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied	None Supplied		
Order No: LKC221679-CC	Depth (m)	1.00 - 2.00	0.00 - 0.40		
Reporting Date: 15/05/2023	DETS Sample No	649682	649688		

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	12	< 2		
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5		



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Maidstone
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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 23-05741	Date Sampled	25/04/23				
LK Consult Limited	Time Sampled	None Supplied				
Site Reference: Almondbury SEND School	TP / BH No	HD102				
Project / Job Ref: LKC 22 1679	Additional Refs	None Supplied				
Order No: LKC221679-CC	Depth (m)	0.35 - 0.45				
Reporting Date: 15/05/2023	DETS Sample No	649672				

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

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-05741		Date Sampled	25/04/23				Landfill Waste Acceptance Criteria Limits		
LK Consult Limited		Time Sampled	None Supplied				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Site Reference: Almondbury SEND School		TP / BH No	HD101						
Project / Job Ref: LKC 22 1679		Additional Refs	None Supplied						
Order No: LKC221679-CC		Depth (m)	0.80 - 1.20						
Reporting Date: 15/05/2023		DETS Sample No	649673						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1		1.1		3%			
Loss on Ignition ^{MU}	%	< 0.01		7.80		--			
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		7.5		--			
Acid Neutralisation Capacity	mol/kg (+/-)	< 1		< 1		--			
Eluate Analysis				2:1 mg/l	8:1 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		< 0.01		< 0.2	0.5	2	25
Barium ^U		< 0.02		< 0.02		< 0.1	20	100	300
Cadmium ^U		< 0.0005		< 0.0005		< 0.02	0.04	1	5
Chromium ^U		< 0.005		< 0.005		< 0.20	0.5	10	70
Copper ^U		< 0.01		< 0.01		< 0.5	2	50	100
Mercury ^U		< 0.0005		< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U		0.003		0.002		< 0.1	0.5	10	30
Nickel ^U		< 0.007		< 0.007		< 0.2	0.4	10	40
Lead ^U		< 0.005		< 0.005		< 0.2	0.5	10	50
Antimony ^U		< 0.005		< 0.005		< 0.05	0.06	0.7	5
Selenium ^U		< 0.005		< 0.005		< 0.05	0.1	0.5	7
Zinc ^U		0.025		0.019		0.2	4	50	200
Chloride ^U		3		2		25	800	15000	25000
Fluoride ^U		0.7		0.5		5.3	10	150	500
Sulphate ^U		8		3		40	1000	20000	50000
TDS		81		51		544	4000	60000	100000
Phenol Index	< 0.01		< 0.01		< 0.5	1	-	-	
DOC	9.5		9.9		98.3	500	800	1000	
Leach Test Information									
Sample Mass (kg)				0.19					
Dry Matter (%)				91.1					
Moisture (%)				9.8					
Stage 1									
Volume Eluate L2 (litres)				0.33					
Filtered Eluate VE1 (litres)				0.20					
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									
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation									
M Denotes MCERTS accredited test									
U Denotes ISO17025 accredited test									

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 23-05741		Date Sampled	26/04/23				Landfill Waste Acceptance Criteria Limits		
LK Consult Limited		Time Sampled	None Supplied				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Site Reference: Almondbury SEND School		TP / BH No	WS121						
Project / Job Ref: LKC 22 1679		Additional Refs	None Supplied						
Order No: LKC221679-CC		Depth (m)	0.10 - 0.30						
Reporting Date: 15/05/2023		DETS Sample No	649676						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	2.1				3%	5%	6%
Loss on Ignition ^{MU}	%	< 0.01	5.90				--	--	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	85				500	--	--
Total PAH ^{MU}	mg/kg	< 1.7	104				100	--	--
pH ^{MU}	pH Units	N/a	7.9				--	--	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.2				--	To be evaluated	To be evaluated
Eluate Analysis			2:1 mg/l	8:1 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	< 0.01		< 0.2	0.5	2	25	
Barium ^U		0.02	< 0.02		0.1	20	100	300	
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5	
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	70	
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	100	
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2	
Molybdenum ^U		0.003	0.002		< 0.1	0.5	10	30	
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40	
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	50	
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	5	
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7	
Zinc ^U		0.026	0.022		0.2	4	50	200	
Chloride ^U		2	2		18	800	15000	25000	
Fluoride ^U		< 0.5	< 0.5		< 1	10	150	500	
Sulphate ^U		21	5		68	1000	20000	50000	
TDS		96	66		692	4000	60000	100000	
Phenol Index		< 0.01	< 0.01		< 0.5	1	-	-	
DOC		6.4	7.4		72.5	500	800	1000	
Leach Test Information									
Sample Mass (kg)		0.19							
Dry Matter (%)		93.3							
Moisture (%)		7.2							
Stage 1									
Volume Eluate L2 (litres)		0.34							
Filtered Eluate VE1 (litres)		0.19							

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
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 23-05741		Date Sampled	26/04/23					Landfill Waste Acceptance Criteria Limits		
LK Consult Limited		Time Sampled	None Supplied					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Site Reference: Almondbury SEND School		TP / BH No	HD105							
Project / Job Ref: LKC 22 1679		Additional Refs	None Supplied							
Order No: LKC221679-CC		Depth (m)	0.70 - 0.80							
Reporting Date: 15/05/2023		DETS Sample No	649681							
Determinand	Unit	MDL								
TOC ^{MU}	%	< 0.1	0.3					3%	5%	6%
Loss on Ignition ^{MU}	%	< 0.01	10.50					--	--	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	2.2					100	--	--
pH ^{MU}	pH Units	N/a	7.5					--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1					--	To be evaluated	To be evaluated
Eluate Analysis			2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)			
			mg/l	mg/l		mg/kg				
Arsenic ^U		0.02	0.01		< 0.2	0.5	2	25		
Barium ^U		0.03	< 0.02		0.1	20	100	300		
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5		
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	70		
Copper ^U		0.02	< 0.01		< 0.5	2	50	100		
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2		
Molybdenum ^U		0.039	0.016		0.2	0.5	10	30		
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40		
Lead ^U		0.008	< 0.005		< 0.2	0.5	10	50		
Antimony ^U		0.009	0.005		0.05	0.06	0.7	5		
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7		
Zinc ^U		0.025	0.018		< 0.2	4	50	200		
Chloride ^U		6	4		41	800	15000	25000		
Fluoride ^U		0.6	< 0.5		< 1	10	150	500		
Sulphate ^U		11	9		86	1000	20000	50000		
TDS	104	43		455	4000	60000	100000			
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-			
DOC	47.1	23.1		241	500	800	1000			
Leach Test Information										
Sample Mass (kg)			0.19							
Dry Matter (%)			90.9							
Moisture (%)			10							
Stage 1										
Volume Eluate L2 (litres)			0.33							
Filtered Eluate VE1 (litres)			0.07							

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

Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation

M Denotes MCERTS accredited test

U Denotes ISO17025 accredited test

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
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 23-05741			Date Sampled	27/04/23			Landfill Waste Acceptance Criteria Limits				
LK Consult Limited			Time Sampled	None Supplied							
Site Reference: Almondbury SEND School			TP / BH No	SA102							
Project / Job Ref: LKC 22 1679			Additional Refs	None Supplied							
Order No: LKC221679-CC			Depth (m)	0.00 - 0.40							
Reporting Date: 15/05/2023			DETS Sample No	649688							
Determinand	Unit	MDL				Inert Waste Landfill				Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC ^{MU}	%	< 0.1	0.9								
Loss on Ignition ^{MU}	%	< 0.01	13.50								
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	8.4								
pH ^{MU}	pH Units	N/a	7.6								
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1								
Eluate Analysis			2:1 mg/l	8:1 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	< 0.01		< 0.2	0.5	2	25			
Barium ^U		0.04	0.03		0.3	20	100	300			
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5			
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	70			
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	100			
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2			
Molybdenum ^U		0.006	0.004		< 0.1	0.5	10	30			
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40			
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	50			
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	5			
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7			
Zinc ^U		0.023	0.018		< 0.2	4	50	200			
Chloride ^U		3	2		22	800	15000	25000			
Fluoride ^U		0.8	0.7		6.8	10	150	500			
Sulphate ^U		4	4		38	1000	20000	50000			
TDS		120	85		886	4000	60000	100000			
Phenol Index		< 0.01	< 0.01		< 0.5	1	-	-			
DOC		10.4	10.2		102	500	800	1000			
Leach Test Information											
Sample Mass (kg)			0.20								
Dry Matter (%)			86.9								
Moisture (%)			15.2								
Stage 1											
Volume Eluate L2 (litres)			0.32								
Filtered Eluate VE1 (litres)			0.18								
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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M Denotes MCERTS accredited test											
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DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-05741
LK Consult Limited
Site Reference: Almondbury SEND School
Project / Job Ref: LKC 22 1679
Order No: LKC221679-CC
Reporting Date: 15/05/2023

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
649664	WS113	None Supplied	0.20 - 0.40	10.9	Brown gravelly sand with stones and concrete
649665	WS102	None Supplied	0.20 - 0.80	6.3	Brown gravelly sand with stones and concrete
649666	WS102	None Supplied	0.80 - 1.20	7.9	Brown sandy clay with stones
649667	WS104	None Supplied	0.10 - 1.10	7.5	Brown sandy clay with stones and concrete
649668	WS109	None Supplied	0.00 - 0.30	12	Black loamy sand with vegetation
649669	WS103	None Supplied	0.10 - 0.20	7.4	Light brown sandy gravel with stones and brick
649670	WS101	None Supplied	0.00 - 0.50	10	Brown sandy clay with stones
649671	HD103A	None Supplied	0.29 - 0.40	15.8	Red sandy clay with chalk
649672	HD102	None Supplied	0.35 - 0.45	5.2	Brown sandy clay with stones and vegetation
649673	HD101	None Supplied	0.80 - 1.20	8.9	Brown sandy gravel with stones
649674	WS116	None Supplied	0.00 - 0.50	11.1	Brown sandy clay with stones
649675	WS118	None Supplied	0.00 - 0.30	13.9	Brown sandy clay with stones
649676	WS121	None Supplied	0.10 - 0.30	6.7	Brown sandy gravel with stones and brick
649677	WS125	None Supplied	0.10 - 0.40	7.9	Brown gravelly sand with stones and brick
649678	WS119	None Supplied	0.00 - 0.20	11	Black sandy gravel with stones and concrete
649679	HD104	None Supplied	0.22 - 0.30	7.2	Brown sandy gravel with stones and brick
649680	WS120	None Supplied	0.30 - 0.60	8.7	Brown sandy gravel with stones and concrete
649681	HD105	None Supplied	0.70 - 0.80	9.1	Brown sandy gravel with stones and concrete
649682	WS105	None Supplied	1.00 - 2.00	9.6	Brown sandy clay
649683	WS108	None Supplied	0.00 - 0.60	9.7	Brown sandy clay with stones
649684	WS114	None Supplied	0.00 - 0.20	9	Brown sandy clay with stones
649685	WS112	None Supplied	0.00 - 0.50	11.1	Brown sandy clay with stones
649686	WS126	None Supplied	1.30 - 2.00	10.5	Brown sandy clay with stones
649687	WS127	None Supplied	0.20 - 1.00	13.3	Brown sandy clay with stones
649688	SA102	None Supplied	0.00 - 0.40	13.1	Brown sandy clay with stones and concrete
649689	WS121	None Supplied	0.00 - 0.08	< 0.1	Black tar
649690	WS113	None Supplied	0.00 - 0.11	0.1	Black tar

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

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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



Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-05741

LK Consult Limited

Site Reference: Almondbury SEND School

Project / Job Ref: LKC 22 1679

Order No: LKC221679-CC

Reporting Date: 15/05/2023

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 diphénylcarbazide 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 @ 450°C	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



Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-05741

LK Consult Limited

Site Reference: Almondbury SEND School

Project / Job Ref: LKC 22 1679

Order No: LKC221679-CC

Reporting Date: 15/05/2023

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 detection	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 GC-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 followed by GC-MS	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



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



List of HWOL Acronyms and Operators	
DETS Report No:	23-05741
LK Consult Limited	
Site Reference:	Almondbury SEND School
Project / Job Ref:	LKC 22 1679
Order No:	LKC221679-CC
Reporting Date:	15/05/2023

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Coal Tar Content - 1D_MS
EPH (C10 - C40) - EH_1D_Total
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH LQM - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH LQM - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH LQM - Aliphatic >C16 - C35 - EH_CU_1D_AL
TPH LQM - Aliphatic >C35 - C44 - EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH LQM - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH LQM - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH LQM - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH LQM - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH LQM - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH LQM - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH LQM - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH LQM - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH LQM - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Tentative Petroleum Type - EH_1D
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	10.4	%
Loss on Ignition	Soil	BS EN 12457	16.9	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	17.9	%
pH	Soil	BS EN 12457	0.282	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	19.5	%
Barium	Leachate	BS EN 12457	12.2	%
Cadmium	Leachate	BS EN 12457	17.2	%
Chromium	Leachate	BS EN 12457	20.7	%
Copper	Leachate	BS EN 12457	14.1	%
Mercury	Leachate	BS EN 12457	16.7	%
Molybdenum	Leachate	BS EN 12457	13.3	%
Nickel	Leachate	BS EN 12457	14.0	%
Lead	Leachate	BS EN 12457	12.1	%
Antimony	Leachate	BS EN 12457	16.1	%
Selenium	Leachate	BS EN 12457	15.5	%
Zinc	Leachate	BS EN 12457	14.0	%
Chloride	Leachate	BS EN 12457	15.7	%
Fluoride	Leachate	BS EN 12457	19.1	%
Sulphate	Leachate	BS EN 12457	27.6	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	20.4	%
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	16.9	%
pH	Soil	BS 3882: 2015	0.282	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
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	19.8	%
Copper	Soil	BS 3882: 2015	23.2	%
Nickel	Soil	BS 3882: 2015	32.6	%
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 D

Soakaway Tests

Site : Almondbury SEND School

Client : Wilde Consulting Engineers

Engineer : LKC

Job Number

LKC 22 1679

Sheet

1 / 2

Location	Date	Level	Location
SA101	27/04/2023		

Pit Width (m)	0.70
Pit Depth (m)	1.70
Pit Length (m)	2.00

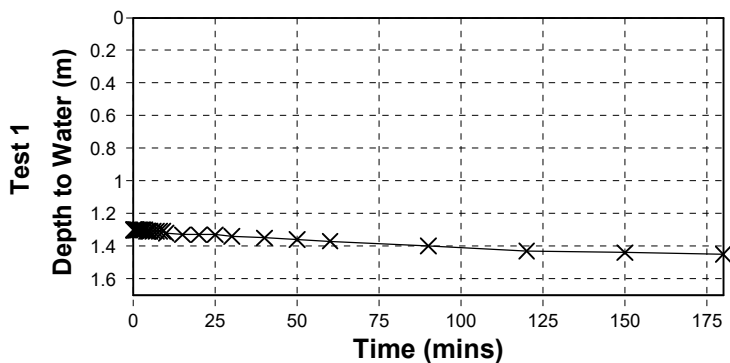
Soil type at test level	Weathered bedrock.
Groundwater	None
Drain discharge depth	None
Sidewall stability	Stable
Stone filled or open pit	Open pit

	1
Effective depth (m)	0.40
Volume outflowing between 75% & 25% (m3)	0.28
Mean surface area through which outflow occurs (m2)	2.48
Time for outflow between 75% & 25% (min)	548.60
SOIL INFILTRATION RATE (ms-1), f	3.43E-6

Remarks

Test data extrapolated.

Elapsed time (hh:mm:ss)	Depth to Water Test 1
00:00:00	1.30
00:00:05	1.30
00:00:10	1.30
00:00:20	1.30
00:00:30	1.30
00:00:40	1.30
00:00:50	1.30
00:01:00	1.30
00:01:30	1.30
00:02:00	1.30
00:02:30	1.30
00:03:00	1.30
00:03:30	1.30
00:04:00	1.31
00:04:30	1.31
00:05:00	1.31
00:06:00	1.31
00:07:00	1.31
00:08:00	1.31
00:09:00	1.31
00:10:00	1.32
00:15:00	1.33
00:20:00	1.33
00:25:00	1.33
00:30:00	1.34
00:40:00	1.35
00:50:00	1.36
01:00:00	1.37
01:30:00	1.40
02:00:00	1.43
02:30:00	1.44
03:00:00	1.45



Site : Almondbury SEND School

Client : Wilde Consulting Engineers

Engineer : LKC

Job Number

LKC 22 1679

Sheet

2 / 2

Location	Date	Level	Location
SA102	01/05/2023		

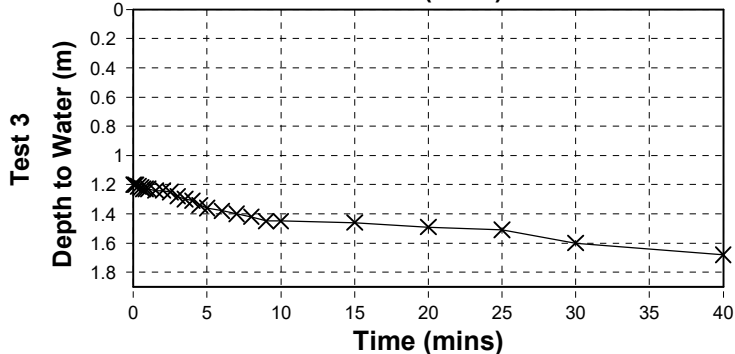
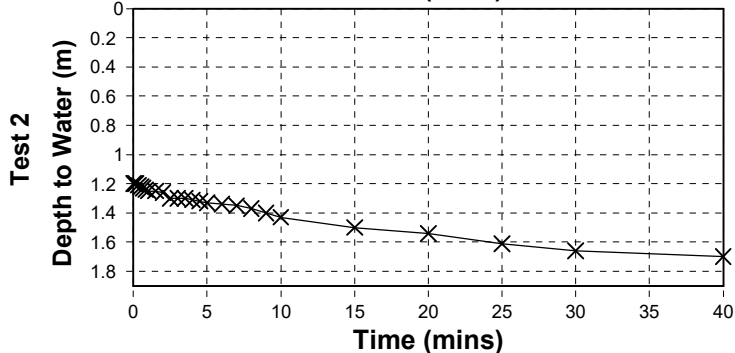
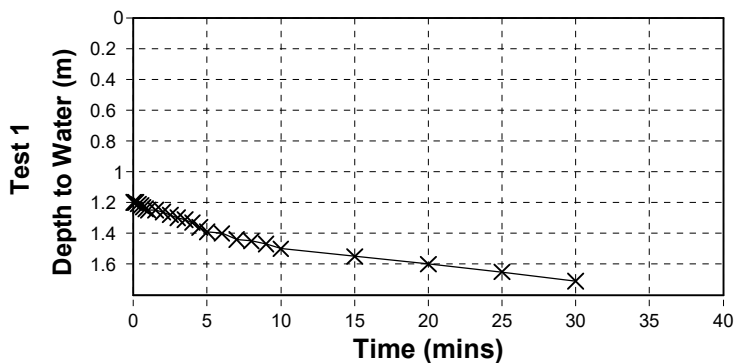
Pit Width (m)	0.70
Pit Depth (m)	1.70
Pit Length (m)	2.00

Soil type at test level	Weathered bedrock.
Groundwater	None
Drain discharge depth	None
Sidewall stability	Stable
Stone filled or open pit	Open pit

	1	2	3
Effective depth (m)	0.50	0.50	0.50
Volume outflowing between 75% & 25% (m3)	0.35	0.35	0.35
Mean surface area through which outflow occurs (m2)	2.75	2.75	2.75
Time for outflow between 75% & 25% (min)	13.62	17.75	24.36
SOIL INFILTRATION RATE (ms-1), f	1.56E-4	1.20E-4	8.71E-5

Remarks

Elapsed time (hh:mm:ss)	Depth to Water Test 1	Depth to Water Test 2	Depth to Water Test 3
00:00:00	1.20	1.20	1.20
00:00:05	1.20	1.20	1.20
00:00:10	1.20	1.20	1.20
00:00:20	1.21	1.21	1.21
00:00:30	1.22	1.22	1.22
00:00:40	1.23	1.23	1.23
00:00:50	1.24	1.24	1.23
00:01:00	1.25	1.25	1.23
00:01:30	1.25	1.25	1.24
00:02:00	1.26	1.26	1.24
00:02:30	1.28	1.30	1.25
00:03:00	1.30	1.30	1.28
00:03:30	1.31	1.30	1.30
00:04:00	1.33	1.31	1.31
00:04:30	1.36	1.32	1.34
00:05:00	1.39	1.33	1.36
00:06:00	1.40	1.34	1.38
00:07:00	1.44	1.35	1.40
00:08:00	1.45	1.37	1.42
00:09:00	1.47	1.40	1.45
00:10:00	1.50	1.43	1.45
00:15:00	1.55	1.50	1.46
00:20:00	1.60	1.54	1.49
00:25:00	1.65	1.61	1.51
00:30:00	1.71	1.66	1.60
00:40:00		1.70	1.68



Appendix E

Generic Assessment Criteria Values

CATEGORY 4 SCREENING LEVELS

Substance	Residential (with home- grown produce)	Residential (without home- grown produce)	Allotments	Commercial	Public Open Space 1	Public Open Space 2
Arsenic	37 mg/kg	40 mg/kg	49 mg/kg	640 mg/kg	79 mg/kg	170 mg/kg
Benzene	0.87 mg/kg	3.3 mg/kg	0.18 mg/kg	98 mg/kg	140 mg/kg	230 mg/kg
Benzo(a)pyrene	5.0 mg/kg	5.3 mg/kg	5.7 mg/kg	77 mg/kg	10 mg/kg	21 mg/kg
Cadmium	22 mg/kg	150 mg/kg	3.9 mg/kg	410 mg/kg	220 mg/kg	880 mg/kg
Chromium VI	21 mg/kg	21 mg/kg	170 mg/kg	49 mg/kg	21 mg/kg	250 mg/kg
Lead	200 mg/kg	310 mg/kg	80 mg/kg	2300 mg/kg	630 mg/kg	1300 mg/kg

Tetrachlorethene (PCE) – 1% SOM	0.31 mg/kg	0.32 mg/kg	2.0 mg/kg	24 mg/kg	3,200 mg/kg	1,400 mg/kg
Tetrachlorethene (PCE) – 2.5% SOM	0.70 mg/kg	0.71 mg/kg	4.8 mg/kg	55 mg/kg	3,300 mg/kg	1,900 mg/kg
Tetrachlorethene (PCE) – 6% SOM	1.6 mg/kg	1.6 mg/kg	11 mg/kg	130 mg/kg	3,400 mg/kg	2,500 mg/kg
Trichlorethene (TCE) – 1% SOM	0.0093 mg/kg	0.0097 mg/kg	0.032 mg/kg	0.73 mg/kg	76 mg/kg	41 mg/kg
Trichlorethene (TCE) – 2.5% SOM	0.020 mg/kg	0.020 mg/kg	0.072 mg/kg	1.5 mg/kg	78 mg/kg	54 mg/kg
Trichlorethene (TCE) – 6% SOM	0.043 mg/kg	0.045 mg/kg	0.16 mg/kg	3.4 mg/kg	79 mg/kg	69 mg/kg
Vinyl Chloride (VC) – 1%SOM	0.0064 mg/kg	0.015 mg/kg	0.0017 mg/kg	1.1 mg/kg	7.8 mg/kg	18 mg/kg
Vinyl Chloride (VC) – 2.5%SOM	0.010 mg/kg	0.019 mg/kg	0.0031 mg/kg	1.4 mg/kg	7.8 mg/kg	19 mg/kg
Vinyl Chloride (VC) – 6%SOM	0.017 mg/kg	0.029 mg/kg	0.0058 mg/kg	2.2 mg/kg	7.8 mg/kg	19 mg/kg

Summary Table for the Generic Assessment Criteria for Human Health Risk Assessment Land Quality Management (LQM) S4ULs.

All GAC are based on sandy
loam soils with a pH 7.

All GAC are based on sandy loam soils with a pH 7.			LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}
Metals	Inorganic Arsenic	6%	37	40	43	640	79	170
	Beryllium	6%	1.7	1.7	35	12	2.2	63
	Boron	6%	290	11,000	45	240,000	21,000	46,000
	Cadmium	6%	11	85	1.9	190	120	532
	Chromium (III)	6%	910	910	18,000	8,600	1,500	33,000
	Chromium (VI)	6%	6.0	6.0	1.8	33	7.7	220
	Copper	6%	2,400	7,100	520	68,000	12,000	44,000
	Elemental Mercury	6%	1.2	1.2	21	58 (25.8) ^{vap}	16	30 (25.8) ^{vap}
	Inorganic Mercury	6%	40	56	19	1,100	120	240
	Methylmercury	6%	11	15	6.0	320	40	68
	Nickel (update 2015)	6%	126	181	53	983	231	804
	Selenium	6%	250	430	88	12,000	1,100	1,800
	Vanadium	6%	410	1,200	91	9,000	2,000	5,000
Zinc	6%	3,700	40,000	620	730,000	81,000	170,000	
BTEX Compounds	Benzene	1%	0.087	0.38	0.017	27	72	90
		2.5%	0.17	0.70	0.034	47	72	100
		6%	0.37	1.4	0.075	90	73	110
	Toluene	1%	130	880 (869) ^{vap}	22	56,000 (869) ^{vap}	56,000	87,000 (869) ^{vap}
		2.5%	290	1,900	51	110,000 (1,920) ^{vap}	56,000	95,000 (1,920) ^{vap}
		6%	660	3,900	120	180,000 (4,360) ^{vap}	56,000	100,000 (4,360) ^{vap}
	Ethylbenzene	1%	47	83	16	5,700 (518) ^{vap}	24,000	17,000 (518) ^{vap}
		2.5%	110	190	39	13,000 (1,220) ^{vap}	24,000	22,000 (1,220) ^{vap}
		6%	260	440	91	27,000 (2,840) ^{vap}	25,000	27,000 (2,840) ^{vap}
	o-xylene	1%	60	88	28	6,600 (478) ^{sol}	41,000	17,000 (478) ^{sol}
		2.5%	140	210	67	15,000 (1,120) ^{sol}	42,000	24,000 (1,120) ^{sol}
		6%	330	480	160	33,000 (2,620) ^{sol}	43,000	33,000 (2,620) ^{sol}
	m-xylene	1%	59	82	31	6,200 (625) ^{vap}	41,000	17,000 (625) ^{vap}
		2.5%	140	190	74	14,000 (1,470) ^{vap}	42,000	24,000 (1,470) ^{vap}
		6%	320	450	170	31,000 (3,460) ^{vap}	43,000	32,000 (3,460) ^{vap}
	p-xylene	1%	56	79	29	5,900 (576) ^{sol}	41,000	17,000 (576) ^{sol}
		2.5%	130	180	69	14,000 (1,350) ^{sol}	42,000	23,000 (1,350) ^{sol}
		6%	310	430	160	30,000 (3,170) ^{sol}	43,000	31,000 (3,170) ^{sol}

NOTES

^{sol} / ^{vap} = solubility / vapour limit (potentially use if free product identified, although highly conservative).

f = oral, dermal and inhalation exposures compared to oral HCV.

All GAC are based on sandy loam soils with a pH 7.

All GAC are based on sandy loam soils with a pH 7.			LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}
Polycyclic Aromatic Hydrocarbons (PAHs)	Acenaphthene	1%	210	3,000 (57.1) ^{sol}	34	84,000 (57.0) ^{sol}	15,000	29,000
		2.5%	510	4,700 (141) ^{sol}	85	97,000 (141) ^{sol}	15,000	30,000
		6%	1,100	6,000 (336) ^{sol}	200	100,000	15,000	30,000
	Acenaphthylene	1%	170	2,900 (86.1) ^{sol}	28	83,000 (86.1) ^{sol}	15,000	29,000
		2.5%	420	4,600 (212) ^{sol}	69	97,000 (212) ^{sol}	15,000	30,000
		6%	920	6,000 (506) ^{sol}	160	100,000	15,000	30,000
	Anthracene	1%	2,400	31,000 (1.17) ^{vap}	380	520,000	74,000	150,000
		2.5%	5,400	35,000	950	540,000	74,000	150,000
		6%	11,000	37,000	2,200	540,000	74,000	150,000
	Benz(a)anthracene	1%	7.2	11	2.9	170	29	49
		2.5%	11	14	6.5	170	29	56
		6%	13	15	13	180	29	62
	Benzo(a)pyrene (only)	1%	2.2	3.2	0.97	35	5.7	11
		2.5%	2.7	3.2	2.0	35	5.7	12
		6%	3.0	3.2	3.5	36	5.7	13
	Benzo(b)fluoranthene	1%	2.6	3.9	0.99	44	7.1	13
		2.5%	3.3	4.0	2.1	44	7.2	15
		6%	3.7	4.0	3.9	45	7.2	16
	Benzo(ghi)perylene	1%	320	360	290	3,900	640	1,400
		2.5%	340	360	470	4,000	640	1,500
		6%	350	360	640	4,000	640	1,600
	Benzo(k)fluoranthene	1%	77	110	37	1,200	190	370
		2.5%	93	110	75	1,200	190	410
		6%	100	110	130	1,200	190	440
	Chrysene	1%	15	30	4.1	350	57	93
		2.5%	22	31	9.4	350	57	110
		6%	27	32	19	350	57	120
	Dibenzo(ah)anthracene	1%	0.24	0.31	0.14	3.5	0.57	1.1
		2.5%	0.28	0.32	0.27	3.6	0.58	1.3
		6%	0.3	0.32	0.43	3.6	0.58	1.4
	Fluoranthene	1%	280	1,500	52	23,000	3,100	6,300
		2.5%	560	1,600	130	23,000	3,100	6,300
		6%	890	1,600	290	23,000	3,100	6,400
	Fluorene	1%	170	2,800 (36.0) ^{sol}	27	63,000 (30.9) ^{sol}	9,900	20,000
		2.5%	400	3,800 (76.5) ^{sol}	67	68,000	9,900	20,000
		6%	860	4,500 (183) ^{sol}	160	71,000	9,900	20,000
	Indeno(123-cd)pyrene	1%	27	45	9.5	500	82	150
		2.5%	36	46	21	510	82	170
		6%	41	46	39	510	82	180
	Naphthalene	1%	2.3 ^f	2.3 ^f	4.1 ^f	190 ^f (76.4) ^{sol}	4,900 ^f	1,200 ^f (76.4) ^{sol}
		2.5%	5.6 ^f	5.6 ^f	10 ^f	460 ^f (183) ^{sol}	4,900 ^f	1,900 ^f (183) ^{sol}
		6%	13 ^f	13 ^f	24 ^f	1,100 ^f (432) ^{sol}	4,900 ^f	3,000
	Phenanthrene	1%	95	1,300 (36.0) ^{sol}	15	22,000	3,100	6,200
		2.5%	220	1,500	38	22,000	3,100	6,200
		6%	440	1,500	90	22,000	3,100	6,300
	Pyrene	1%	620	3,700	110	54,000	7,400	15,000
		2.5%	1,200	3,800	270	54,000	7,400	15,000
		6%	2,000	3,800	620	54,000	7,400	15,000
Coal Tar (B(a)P as surrogate marker)	1%	0.79	1.2	0.32	15	2.2	4.4	
	2.5%	0.98	1.2	0.67	15	2.2	4.7	
	6%	1.1	1.2	1.2	15	2.2	4.8	

NOTES

^{Sol / vap} = solubility / vapour limit (potentially use if free product identified, although highly conservative).

^f = naphthalene is based on comparison of inhalation exposure with TDI_{inhal} for localised effect.

All GAC are based on sandy loam soils with a pH 7.

LQM Generic Assessment Criteria (mg/kg) Dry weight soil

Contaminant	SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}
Aliphatic							
EC 5-6	1%	42	42	730	3,200 (304) ^{sol}	570,000(304) ^{sol}	95,000 (304) ^{sol}
EC>6-8	1%	100	100	2,300	7,800 (144) ^{sol}	600,000	150,000 (144) ^{sol}
EC>8-10	1%	27	27	320	2,000 (78) ^{sol}	13,000	14,000 (78) ^{vap}
EC>10-12	1%	130 (48) ^{vap}	130 (48) ^{vap}	2,200	9,700 (48) ^{sol}	13,000	21,000 (48) ^{vap}
EC>12-16	1%	1,100 (24) ^{sol}	1,100 (24) ^{sol}	11,000	59,000 (24) ^{sol}	13,000	25,000 (24) ^{sol}
EC>16-35	1%	65,000 (8.48) ^{f, sol}	65,000 (8.48) ^{f, sol}	260,000 ^f	160,000 ^f	250,000 ^f	450,000 ^f
EC>35-44	1%	65,000 (8.48) ^{f, sol}	65,000 (8.48) ^{f, sol}	260,000 ^f	160,000 ^f	250,000 ^f	450,000 ^f
Aliphatic							
EC 5-6	2.5%	78	78	1,700	5,900 (558) ^{sol}	590,000	130,000 (558) ^{sol}
EC>6-8	2.5%	230	230	5,600	17,000 (322) ^{sol}	610,000	220,000 (322) ^{sol}
EC>8-10	2.5%	65	65	770	4,800 (190) ^{vap}	13,000	18,000 (190) ^{vap}
EC>10-12	2.5%	330 (118) ^{vap}	330 (118) ^{vap}	4,400	23,000 (118) ^{vap}	13,000	23,000 (118) ^{vap}
EC>12-16	2.5%	2,400 (59) ^{sol}	2,400 (59) ^{sol}	13,000	82,000 (59) ^{sol}	13,000	25,000 (59) ^{sol}
EC>16-35	2.5%	92,000 (21) ^{f, sol}	92,000 (21) ^{f, sol}	270,000 ^f	1,700,000 ^f	250,000 ^f	480,000 ^f
EC>35-44	2.5%	92,000 (21) ^{f, sol}	92,000 (21) ^{f, sol}	270,000 ^f	1,700,000 ^f	250,000 ^f	480,000 ^f
Aliphatic							
EC 5-6	6%	160	160	3,900	12,000 (1,150) ^{sol}	600,000	180,000 (1,150) ^{sol}
EC>6-8	6%	530	530	13,000	40,000 (736) ^{sol}	620,000	320,000 (736) ^{sol}
EC>8-10	6%	150	150	1,700	11,000 (451) ^{vap}	13,000	21,000 (451) ^{vap}
EC>10-12	6%	760 (283) ^{vap}	760 (283) ^{vap}	7,300	47,000 (283) ^{vap}	13,000	24,000 (283) ^{vap}
EC>12-16	6%	4,300 (142) ^{sol}	4,400 (142) ^{sol}	13,000	90,000 (142) ^{sol}	13,000	26,000 (142) ^{sol}
EC>16-35	6%	110,000 ^f	110,000 ^f	270,000 ^f	1,800,000 ^f	250,000 ^f	490,000 ^f
EC>35-44	6%	110,000 ^f	110,000 ^f	270,000 ^f	1,800,000 ^f	250,000 ^f	490,000 ^f
Aromatic							
EC5-7(benzene as non-threshold)	1%	70	370	13	26,000 (1,220) ^{sol}	56,000	76,000 (1,220) ^{sol}
EC>7-8(toluene)	1%	130	860	22	56,000 (869) ^{vap}	56,000	87,000 (869) ^{vap}
EC>8-10	1%	34	47	8.6	3,500 (613) ^{vap}	5,000	7,200 (613) ^{vap}
EC>10-12	1%	74	250	13	16,000 (364) ^{sol}	5,000	9,200 (364) ^{sol}
EC>12-16	1%	140	1,800	23	36,000 (169) ^{sol}	5,100	10,000
EC>16-21	1%	260 ^f	1,900 ^f	46 ^f	28,000 ^f	3,800 ^f	7,600 ^f
EC>21-35	1%	1,100 ^f	1,900 ^f	370 ^f	28,000 ^f	3,800 ^f	7,800 ^f
EC>35-44	1%	1,100 ^f	1,900 ^f	370 ^f	28,000 ^f	3,800 ^f	7,800 ^f
Aromatic							
EC5-7(benzene as non-threshold)	2.5%	140	690	27	46,000 (2,260) ^{sol}	56,000	84,000 (2,260) ^{sol}
EC>7-8(toluene)	2.5%	290	1,800	51	110,000 (1,920) ^{sol}	56,000	95,000 (1,920) ^{sol}
EC>8-10	2.5%	83	110	21	8,100 (1,500) ^{vap}	5,000	8,500 (1,500) ^{vap}
EC>10-12	2.5%	180	590	31	28,000 (899) ^{sol}	5,000	9,700 (899) ^{sol}
EC>12-16	2.5%	330	2,300 (419) ^{sol}	57	37,000	5,100	10,000
EC>16-21	2.5%	540 ^f	1,900 ^f	110 ^f	28,000 ^f	3,800 ^f	7,700 ^f
EC>21-35	2.5%	1,500 ^f	1,900 ^f	820 ^f	28,000 ^f	3,800 ^f	7,800 ^f
EC>35-44	2.5%	1,500 ^f	1,900 ^f	820 ^f	28,000 ^f	3,800 ^f	7,800 ^f
Aromatic							
EC5-7(benzene as non-threshold)	6%	300	1,400	57	86,000 (4,710) ^{sol}	56,000	92,000 (4,710) ^{sol}
EC>7-8(toluene)	6%	660	3,900	120	180,000 (4,360) ^{vap}	56,000	100,000 (4,360) ^{vap}
EC>8-10	6%	190	270	51	17,000 (3,580) ^{vap}	5,000	9,300 (3,580) ^{vap}
EC>10-12	6%	380	1,200	74	34,000 (2,150) ^{sol}	5,000	10,000
EC>12-16	6%	660	2,500	130	38,000	5,100	10,000
EC>16-21	6%	930 ^f	1,900 ^f	260 ^f	28,000 ^f	3,800 ^f	7,800 ^f
EC>21-35	6%	1,700 ^f	1,900 ^f	1,600 ^f	28,000 ^f	3,800 ^f	7,900 ^f
EC>35-44	6%	1,700 ^f	1,900 ^f	1,600 ^f	28,000 ^f	3,800 ^f	7,900 ^f
Aliphatic +Aromatic >EC44	1%	1,600 ^f	1,900 ^f	1,200 ^f	28,000 ^f	3,800 ^f	7,800 ^f
	2.5%	1,800 ^f	1,900 ^f	2,100 ^f	28,000 ^f	3,800 ^f	7,800 ^f
	6%	1,900 ^f	1,900 ^f	3,000 ^f	28,000 ^f	3,800 ^f	7,900 ^f

NOTES

Sol / vap = solubility / vapour limit (potentially use if free product identified, although highly conservative).

f = oral, dermal and inhalation exposures compared to oral HCV.

All GAC are based on sandy loam soils with a pH 7.

All GAC are based on sandy loam soils with a pH 7.			LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}
Chloalkanes and Alkenes & Explosives	1,2 Dichloroethane (DCA)	1%	7.1E-03	9.2E-03	4.6E-03	0.67	29	21
		2.5%	1.1E-02	1.3E-02	8.3E-03	0.97	29	24
		6%	1.9E-02	2.3E-02	1.6E-02	1.7	29	28
	1,1,1 Trichloroethane (TCA)	1%	8.8	9.0	48	660	140,000	57,000 (1,425) ^{vap}
		2.5%	18	18	110	1,300	140,000	76,000 (2,915) ^{vap}
		6%	39	40	240	3,000	140,000	100,000 (6,392) ^{vap}
	1,1,2,2-Tetrachloroethanes (PCA)	1%	1.6	3.9	0.41	270	1,400	1,800
		2.5%	3.4	8.0	0.89	550	1,400	2,100
		6%	7.5	17	2.0	1,100	1,400	2,300
	1,1,1,2-Tetrachloroethanes (PCA)	1%	1.2	1.5	0.79	110	1,400	1,500
		2.5%	2.8	3.5	1.9	250	1,400	1,800
		6%	6.4	8.2	4.4	560	1,400	2,100
	Tetrachloroethene (PCE)	1%	0.18	0.18	0.65	19	1,400	810 (424) ^{sol}
		2.5%	0.39	0.40	1.5	42	1,400	1,100 (951) ^{sol}
		6%	0.90	0.92	3.6	95	1,400	1,500
	Tetrachloromethane (carbon tetrachloride)	1%	2.6E-02	2.6E-02	0.45	2.9	890	190
		2.5%	5.6E-02	5.6E-02	1.0	6.3	920	270
		6%	0.13	0.13	2.4	14	950	400
	Trichloroethene (TCE)	1%	1.6E-02	1.7E-02	4.1E-02	1.2	120	70
		2.5%	3.4E-02	3.6E-02	9.1E-02	2.6	120	91
		6%	7.5E-02	8.0E-02	0.21	5.7	120	120
	Trichloromethane (chloroform)	1%	0.91	1.2	0.42	99	2,500	2,600
		2.5%	1.7	2.1	0.83	170	2,500	2,800
		6%	3.4	4.2	1.7	350	2,500	3,100
	Chloroethene (vinyl chloride)	1%	6.4E-04	7.7E-04	5.5E-04	5.9E-02	3.5	4.8
		2.5%	8.7E-04	1.0E-03	1.0E-03	7.7E-02	3.5	5.0
		6%	1.4E-03	1.5E-03	1.8E-03	0.12	3.5	5.4
	2,4,6-Trinitritoluene (TNT)	1%	1.6	65	0.24	1,000	130	260
		2.5%	3.7	66	0.58	1,000	130	270
		6%	8.1	66	1.4	1,000	130	270
	RDX	1%	120	13,000	17	210,000	26,000	49,000 (18.7) ^{sol}
		2.5%	250	13,000	38	210,000	26,000	51,000
		6%	540	13,000	85	210,000	27,000	53,000
	HMX	1%	5.7	6,700	0.86	110,000	13,000	23,000 (0.35) ^{vap}
		2.5%	13	6,700	1.9	110,000	13,000	23,000 (0.39) ^{vap}
		6%	26	6,700	3.9	110,000	13,000	24,000 (0.48) ^{vap}
Pesticides	Aldrin	1%	5.7	7.3	3.2	170	18	30
		2.5%	6.6	7.4	6.1	170	18	31
		6%	7.1	7.5	9.8	170	18	31
	Dieldrin	1%	0.97	7.0	0.17	170	18	30
		2.5%	2.0	7.3	0.41	170	18	30
		6%	3.5	7.4	0.96	170	18	31
	Atrazine	1%	3.3	610	0.5	9,300	1,200	2,300
		2.5%	7.8	620	1.2	9,400	1,200	2,400
		6%	17.4	620	2.7	9,400	1,200	2,400
	Dichlorvos	1%	3.2E-02	6.4	4.9E-03	140	16	26
		2.5%	6.6E-02	6.5	1.0E-02	140	16	26
		6%	0.14	6.6	2.2E-02	140	16	27
	Endosulfanns (2 isomers)	1%	7.4	160 (3.0E-03) ^{vap}	1.2	5,600 (3.0E-03) ^{vap}	1,200	2,300
		2.5%	18	280 (7.0E-03) ^{vap}	2.9	7,400 (7.0E-03) ^{vap}	1,200	2,400
		6%	41	410 (1.6E-02) ^{vap}	6.8	8,400 (1.6E-02) ^{vap}	1,200	2,500
	Hexachlorocyclohexane (3 isomers), inc Lindane	1%	8.5E-02	3.7	1.3E-02	65	8.1	15
		2.5%	0.2	3.8	3.2E-02	65	8.1	15
		6%	0.46	3.8	7.7E-02	65	8.1	16

NOTES

Sol / vap = solubility / vapour limit (potentially use if free product identified, although highly conservative).

All GAC are based on
sandy loam soils with a pH
7.

LQM Generic Assessment Criteria (mg/kg) Dry weight soil

Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}
Chlorobenzenes	Chlorobenzene	1%	0.46	0.46	5.9	56	11,000	1,300 (675) ^{sol}
		2.5%	1.0	1.0	14	130	13,000	2,000 (1,520) ^{sol}
		6%	2.4	2.4	32	290	14,000	2,900
	Dichlorobenzenes (3 isomers)	1%	23	24	94	2,000 (571) ^{sol}	90,000	24,000 (571) ^{sol}
		2.5%	55	57	230	4,800 (1,370) ^{sol}	95,000	36,000 (1,370) ^{sol}
		6%	130	130	540	11,000 (3,240) ^{sol}	98,000	51,000 (3,270) ^{sol}
	Trichlorobenzenes (3 isomers)	1%	2.6	2.6	55	220	15,000	1,700 (318) ^{vap}
		2.5%	6.4	6.4	140	530	17,000	2,600 (786) ^{vap}
		6%	15	15	320	1,300	19,000	4,000 (1,880) ^{vap}
	Tetrachlorobenzenes (3 isomers)	1%	0.66	0.75	0.38	49 (39.4) ^{vap}	78	110 (39) ^{vap}
		2.5%	1.6	1.9	0.90	120 (98.1) ^{vap}	79	120
		6%	3.7	4.3	2.2	240 (235) ^{vap}	79	130
	Pentachlorobenzene	1%	5.8	19	1.2	640 (43.0) ^{sol}	100	190
		2.5%	12	30	3.1	770 (107) ^{sol}	100	190
		6%	22	38	7.0	830	100	190
	Hexachlorobenzene	1%	1.8 (0.20) ^{vap}	4.1 (0.20) ^{vap}	0.47	110 (0.20) ^{vap}	16	30
		2.5%	3.3 (0.50) ^{vap}	5.7 (0.50) ^{vap}	1.1	120	16	30
		6%	4.9	6.7 (1.2) ^{vap}	2.5	120	16	30
Chlorophenol	Chlorophenols (4 congeners)	1%	0.87 ^g	94	0.13 ^g	3,500	620	1,100
		2.5%	2.0	150	0.30	4,000	620	1,100
		6%	4.5	210	0.70	4,300	620	1,100
	Pentachlorophenol	1%	0.22	27 (16.4) ^{vap}	3.0E-02	400	60	110
		2.5%	0.52	29	8.0E-02	400	60	120
		6%	1.2	31	0.19	400	60	120
Others	Carbon Disulphide	1%	0.14	0.14	4.8	11	11,000	1,300
		2.5%	0.29	0.29	10	22	11,000	1,900
		6%	0.62	0.62	23	47	11,000	2,700
	Hexachlorobutadiene	1%	0.29	0.32	0.25	31	25	48
		2.5%	0.7	0.78	0.61	66	25	50
		6%	1.6	1.8	1.4	120	25	51
	Phenol	1%	280	750	66	760 ^{dir} (31,000)	760 ^{dir} (11,000)	760 ^{dir} (8,600)
		2.5%	550	1,300	140	1,500 ^{dir} (35,000)	1,500 ^{dir} (11,000)	1,500 ^{dir} (9,700)
		6%	1,100	2,300	280	3,200 ^{dir} (37,000)	3,200 ^{dir} (11,000)	3,200 ^{dir} (11,000)

NOTES

^{Sol / vap} = solubility / vapour limit (potentially use if free product identified, although highly conservative).

^{dir} = S4uls based on threshold protective of direct skin contact with phenol (brackets long term exposure for illustration purposes).

^g = derived based on 2,3,4,6-tetrachlorophenol.

Appendix F

JIWG Output

Decision Support Tool for Receptor Risk Ranking

Stage 1		Score
Hazard Identification		
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs	Degraded (Significant degradation in ACM; material has lost its basic integrity)	3
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Asbestos fibre type	Chrysotile alone	0
Sub-total		9
Hazard ranking		Low

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.
It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.



Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Stage 2		Score
Emission Factors		
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Very Low quantities - 0.001 to 0.01 %wt/wt	1
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	Low disturbance, minimal deterioration expected	2
Best description of primary host material matrix	Coarse to Fine Gravel	3
Sub-total		8
Exposure ranking		Low

Stage 3		Score	
Pathway and Receptor Sensitivity			
Receptor category	Public open space or building	No score required	
Age of Receptor	Infant (under 5)	4	
Duration of exposure/site occupancy	> 1hr <10 hr daily exposure (e.g. part-time to full time occupational exposure or extended daily recreational exposure)	3	
Receptor ranking		7	High
Combined hazard, exposure and receptor ranking			Medium
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4	
Pathway: Depth to impacted material	Material buried at shallow depth, potential to be disturbed by excavation	C	
Pathway ranking		4C	Low
Overall ranking			Low



Joint Industry Working Group
Asbestos in Soil and Construction & Demolition Materials

Project Reference	LKC 22 1679
Site Name	Almondbury SEND School
Client	Wilde Consulting Engineers
Run by	RW
Date	25-May-23
Reviewed by	CC
Characterisation of scenario being evaluated	School with soft landscaping areas.
Interpretation of scenario ranking by DST	Low risk considered as clean cover system to be put in place.

Appendix G

HazWaste Output Sheet

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)



M35F9-4W39H-1OVSP

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

Job name

LKC 22 1679

Description/Comments

Project

LKC 22 1679

Site

Almondbury SEND School

Classified by

Name: **Colin Crompton**
 Date: **26 May 2023 12:47 GMT**
 Telephone: **0161 763 7200**
 Company: **LK Group**
Unit 29, Eton Business Park
Eton Hill Rd, Radcliffe
Greater Manchester
M26 2ZS

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

08 Oct 2020

Next 3 year Refresher due by Oct 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

Almondbury SEND School, Fernside Avenue, Huddersfield

Post Code **HD5 8PG**

SIC for the process giving rise to the waste

43110 Demolition

Description of industry/producer giving rise to the waste

Redevelopment of site

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

Waste created during demolition

Description of the waste

Made ground and soil

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS113-0.20 - 0.40-25/04/2023	0.20 - 0.40	Non Hazardous		3
2	WS102-0.20 - 0.80-25/04/2023	0.20 - 0.80	Non Hazardous		6
3	WS102-0.80 - 1.20-25/04/2023	0.80 - 1.20	Non Hazardous		8
4	WS104-0.10 - 1.10-25/04/2023	0.10 - 1.10	Non Hazardous		9
5	WS109-0.00 - 0.30-25/04/2023	0.00 - 0.30	Non Hazardous		11
6	WS103-0.10 - 0.20-25/04/2023	0.10 - 0.20	Non Hazardous		13
7	WS101-0.00 - 0.50-25/04/2023	0.00 - 0.50	Non Hazardous		14
8	HD103A-0.29 - 0.40-25/04/2023	0.29 - 0.40	Non Hazardous		16
9	HD102-0.35 - 0.45-25/04/2023	0.35 - 0.45	Hazardous	HP 8	18
10	HD101-0.80 - 1.20-25/04/2023	0.80 - 1.20	Non Hazardous		21
11	WS116-0.00 - 0.50-26/04/2023	0.00 - 0.50	Non Hazardous		24
12	WS118-0.00 - 0.30-26/04/2023	0.00 - 0.30	Non Hazardous		26
13	WS121-0.10 - 0.30-26/04/2023	0.10 - 0.30	Non Hazardous		28
14	WS125-0.10 - 0.40-26/04/2023	0.10 - 0.40	Non Hazardous		31
15	WS119-0.00 - 0.20-26/04/2023	0.00 - 0.20	Non Hazardous		33
16	HD104-0.22 - 0.30-26/04/2023	0.22 - 0.30	Non Hazardous		35
17	WS120-0.30 - 0.60-26/04/2023	0.30 - 0.60	Non Hazardous		37
18	HD105-0.70 - 0.80-26/04/2023	0.70 - 0.80	Non Hazardous		39
19	WS105-1.00 - 2.00-26/04/2023	1.00 - 2.00	Non Hazardous		42
20	WS108-0.00 - 0.60-27/04/2023	0.00 - 0.60	Non Hazardous		45
21	WS114-0.00 - 0.20-27/04/2023	0.00 - 0.20	Non Hazardous		47
22	WS112-0.00 - 0.50-27/04/2023	0.00 - 0.50	Non Hazardous		49
23	WS126-1.30 - 2.00-27/04/2023	1.30 - 2.00	Non Hazardous		51
24	WS127-0.20 - 1.00-27/04/2023	0.20 - 1.00	Non Hazardous		53
25	SA102-0.00 - 0.40-27/04/2023	0.00 - 0.40	Non Hazardous		55

Related documents

#	Name	Description
1	23-05741.1.hwol	DETS South .hwol file used to populate the Job
2	LK SUITE 1 - 5	waste stream template used to create this Job

Report

Created by: Colin Crompton

Created date: 26 May 2023 12:47 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	58
Appendix B: Rationale for selection of metal species	60
Appendix C: Version	60

Classification of sample: WS113-0.20 - 0.40-25/04/2023

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

Sample details

Sample name:	LoW Code:
WS113-0.20 - 0.40-25/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.20 - 0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
10.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 10.9% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		arsenic { arsenic trioxide }				12 mg/kg	1.32	14.117 mg/kg	0.00141 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0							
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24 mg/kg	1.462	31.254 mg/kg	0.00313 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				26 mg/kg	1.126	26.082 mg/kg	0.00261 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		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							
6		nickel { nickel(II) oxide (nickel monoxide) }				17 mg/kg	1.273	19.276 mg/kg	0.00193 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]							
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	25 mg/kg		22.275 mg/kg	0.00223 %	✓	
		082-001-00-6									
8		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									
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				23 mg/kg	1.785	36.584 mg/kg	0.00366 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
10		zinc { zinc oxide }				67 mg/kg	1.245	74.306 mg/kg	0.00743 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
11		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							
12		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							
13		TPH (C6 to C40) petroleum group				410 mg/kg		365.31 mg/kg	0.0365 %	✓	
				TPH							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	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
15	benzene 601-020-00-8	200-753-7	71-43-2		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
16	toluene 601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
17	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
18	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
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
20	pH PH				7.4 pH		7.4 pH	7.4 pH			
21	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	acenaphthene 201-469-6	83-32-9			4.1 mg/kg		3.653 mg/kg	0.000365 %	✓		
24	fluorene 201-695-5	86-73-7			5.05 mg/kg		4.5 mg/kg	0.00045 %	✓		
25	phenanthrene 201-581-5	85-01-8			32.9 mg/kg		29.314 mg/kg	0.00293 %	✓		
26	anthracene 204-371-1	120-12-7			6.54 mg/kg		5.827 mg/kg	0.000583 %	✓		
27	fluoranthene 205-912-4	206-44-0			40.3 mg/kg		35.907 mg/kg	0.00359 %	✓		
28	pyrene 204-927-3	129-00-0			31.2 mg/kg		27.799 mg/kg	0.00278 %	✓		
29	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		12.9 mg/kg		11.494 mg/kg	0.00115 %	✓		
30	chrysene 601-048-00-0	205-923-4	218-01-9		10.5 mg/kg		9.356 mg/kg	0.000936 %	✓		
31	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		9.94 mg/kg		8.857 mg/kg	0.000886 %	✓		
32	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		3.74 mg/kg		3.332 mg/kg	0.000333 %	✓		
33	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		9.25 mg/kg		8.242 mg/kg	0.000824 %	✓		
34	indeno[123-cd]pyrene 205-893-2	193-39-5			3.46 mg/kg		3.083 mg/kg	0.000308 %	✓		
35	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.72 mg/kg		0.642 mg/kg	0.0000642 %	✓		
36	benzo[ghi]perylene 205-883-8	191-24-2			2.31 mg/kg		2.058 mg/kg	0.000206 %	✓		
37	asbestos 650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
38	monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0769 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Concentrations at less than 1.0% are "unlikely to be flammable".

Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0365%)

Classification of sample: WS102-0.20 - 0.80-25/04/2023

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

Sample details

Sample name:	LoW Code:
WS102-0.20 - 0.80-25/04/2023	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 - 0.80 m	
Moisture content:	
6.3%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				23 mg/kg	1.32	28.454 mg/kg	0.00285 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				16 mg/kg	1.462	21.912 mg/kg	0.00219 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }				23 mg/kg	1.126	24.264 mg/kg	0.00243 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }				21 mg/kg	1.273	25.041 mg/kg	0.0025 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	18 mg/kg		16.866 mg/kg	0.00169 %	✓		
		082-001-00-6										
8		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										
9		vanadium {  divanadium pentaoxide; vanadium pentoxide }				22 mg/kg	1.785	36.8 mg/kg	0.00368 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				52 mg/kg	1.245	60.647 mg/kg	0.00606 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH				8.2 pH		8.2 pH	8.2 pH			
				PH								
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	acenaphthene	201-469-6	83-32-9		0.36 mg/kg		0.337 mg/kg	0.0000337 %	✓	
16	fluorene	201-695-5	86-73-7		0.17 mg/kg		0.159 mg/kg	0.0000159 %	✓	
17	phenanthrene	201-581-5	85-01-8		0.19 mg/kg		0.178 mg/kg	0.0000178 %	✓	
18	anthracene	204-371-1	120-12-7		0.15 mg/kg		0.141 mg/kg	0.0000141 %	✓	
19	fluoranthene	205-912-4	206-44-0		0.42 mg/kg		0.394 mg/kg	0.0000394 %	✓	
20	pyrene	204-927-3	129-00-0		0.63 mg/kg		0.59 mg/kg	0.000059 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.69 mg/kg		0.647 mg/kg	0.0000647 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	0.71 mg/kg		0.665 mg/kg	0.0000665 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	3.44 mg/kg		3.223 mg/kg	0.000322 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.96 mg/kg		0.9 mg/kg	0.00009 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	4.27 mg/kg		4.001 mg/kg	0.0004 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		2.45 mg/kg		2.296 mg/kg	0.00023 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.34 mg/kg		0.319 mg/kg	0.0000319 %	✓	
28	benzo[ghi]perylene	205-883-8	191-24-2		1.96 mg/kg		1.837 mg/kg	0.000184 %	✓	
Total:								0.0238 %		

Key

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

Classification of sample: **WS102-0.80 - 1.20-25/04/2023**



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

Sample details

Sample name:	LoW Code:	
WS102-0.80 - 1.20-25/04/2023	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)
0.80 - 1.20 m		
Moisture content:		
7.9%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 7.9% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH PH				7.5 pH		7.5 pH	7.5 pH		
Total:								0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS104-0.10 - 1.10-25/04/2023

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

Sample details

Sample name:	LoW Code:
WS104-0.10 - 1.10-25/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.10 - 1.10 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.5%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.5% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used		
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				32	mg/kg	1.32	39.082	mg/kg	0.00391 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				70	mg/kg	1.462	94.636	mg/kg	0.00946 %	✓	
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	32.285	mg/kg	0.00323 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
5		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									
6		nickel { nickel(II) oxide (nickel monoxide) }				22	mg/kg	1.273	25.897	mg/kg	0.00259 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]									
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	29	mg/kg		26.825	mg/kg	0.00268 %	✓	
		082-001-00-6											
8		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											
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				29	mg/kg	1.785	47.888	mg/kg	0.00479 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
10		zinc { zinc oxide }				79	mg/kg	1.245	90.957	mg/kg	0.0091 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
11		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									
12		pH		PH		8.1	pH		8.1	pH	8.1 pH		
13		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	● fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	● phenanthrene	201-581-5	85-01-8		0.16 mg/kg		0.148 mg/kg	0.0000148 %	✓	
18	● anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	● fluoranthene	205-912-4	206-44-0		0.21 mg/kg		0.194 mg/kg	0.0000194 %	✓	
20	● pyrene	204-927-3	129-00-0		0.19 mg/kg		0.176 mg/kg	0.0000176 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	● benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0368 %		

Key

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

Classification of sample: WS109-0.00 - 0.30-25/04/2023

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

Sample details

Sample name:	LoW Code:
WS109-0.00 - 0.30-25/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				24 mg/kg	1.32	27.885 mg/kg	0.00279 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				29 mg/kg	1.462	37.299 mg/kg	0.00373 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide ; copper (I) oxide }				52 mg/kg	1.126	51.521 mg/kg	0.00515 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		mercury { mercury dichloride }				1.2 mg/kg	1.353	1.429 mg/kg	0.000143 %	✓		
		080-010-00-X	231-299-8	7487-94-7								
6		nickel { nickel(II) oxide (nickel monoxide) }				19 mg/kg	1.273	21.278 mg/kg	0.00213 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	76 mg/kg		66.88 mg/kg	0.00669 %	✓		
		082-001-00-6										
8		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										
9		vanadium {  divanadium pentaoxide; vanadium pentoxide }				31 mg/kg	1.785	48.7 mg/kg	0.00487 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				105 mg/kg	1.245	115.012 mg/kg	0.0115 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH				7.2 pH		7.2 pH	7.2 pH			
				PH								
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	● fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	● phenanthrene	201-581-5	85-01-8		0.35 mg/kg		0.308 mg/kg	0.0000308 %	✓	
18	● anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	● fluoranthene	205-912-4	206-44-0		0.51 mg/kg		0.449 mg/kg	0.0000449 %	✓	
20	● pyrene	204-927-3	129-00-0		0.47 mg/kg		0.414 mg/kg	0.0000414 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		0.2 mg/kg		0.176 mg/kg	0.0000176 %	✓	
22	chrysene	601-048-00-0	205-923-4		0.27 mg/kg		0.238 mg/kg	0.0000238 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.2 mg/kg		0.176 mg/kg	0.0000176 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.11 mg/kg		0.0968 mg/kg	0.00000968 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.22 mg/kg		0.194 mg/kg	0.0000194 %	✓	
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	● benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.038 %		

Key

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

Classification of sample: WS103-0.10 - 0.20-25/04/2023

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

Sample details

Sample name:	LoW Code:	
WS103-0.10 - 0.20-25/04/2023	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)
0.10 - 0.20 m		
Moisture content:		
7.4%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 7.4% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	• pH				8.5 pH		8.5 pH	8.5 pH		
			PH							
Total:								0%		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS101-0.00 - 0.50-25/04/2023

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

Sample details

Sample name:	LoW Code:
WS101-0.00 - 0.50-25/04/2023	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)
0.00 - 0.50 m	
Moisture content:	
10%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }			14	mg/kg	1.32	16.636	mg/kg	0.00166 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }			<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			15	mg/kg	1.462	19.731	mg/kg	0.00197 %	✓	
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }			25	mg/kg	1.126	25.332	mg/kg	0.00253 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }			12	mg/kg	1.273	13.744	mg/kg	0.00137 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			34	mg/kg		30.6	mg/kg	0.00306 %	✓	
		082-001-00-6										
8		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										
9		vanadium { divanadium pentaoxide; vanadium pentoxide }			20	mg/kg	1.785	32.133	mg/kg	0.00321 %	✓	
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }			58	mg/kg	1.245	64.974	mg/kg	0.0065 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH		PH	7.3	pH		7.3	pH	7.3 pH		
13		naphthalene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		0.16 mg/kg		0.144 mg/kg	0.0000144 %	✓	
16	• fluorene	201-695-5	86-73-7		0.12 mg/kg		0.108 mg/kg	0.0000108 %	✓	
17	• phenanthrene	201-581-5	85-01-8		1.43 mg/kg		1.287 mg/kg	0.000129 %	✓	
18	• anthracene	204-371-1	120-12-7		0.41 mg/kg		0.369 mg/kg	0.0000369 %	✓	
19	• fluoranthene	205-912-4	206-44-0		3.03 mg/kg		2.727 mg/kg	0.000273 %	✓	
20	• pyrene	204-927-3	129-00-0		2.61 mg/kg		2.349 mg/kg	0.000235 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.3 mg/kg		1.17 mg/kg	0.000117 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	1.29 mg/kg		1.161 mg/kg	0.000116 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.26 mg/kg		1.134 mg/kg	0.000113 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.37 mg/kg		0.333 mg/kg	0.0000333 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.18 mg/kg		1.062 mg/kg	0.000106 %	✓	
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.5 mg/kg		0.45 mg/kg	0.000045 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.11 mg/kg		0.099 mg/kg	0.0000099 %	✓	
28	• benzo[ghi]perylene	205-883-8	191-24-2		0.37 mg/kg		0.333 mg/kg	0.0000333 %	✓	
Total:								0.0224 %		

Key

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

Classification of sample: HD103A-0.29 - 0.40-25/04/2023

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

Sample details

Sample name:	LoW Code:
HD103A-0.29 - 0.40-25/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.29 - 0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
15.8%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15.8% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }			10	mg/kg	1.32	11.117	mg/kg	0.00111 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }			<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }			19	mg/kg	1.462	23.382	mg/kg	0.00234 %	✓	
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }			27	mg/kg	1.126	25.596	mg/kg	0.00256 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }			6	mg/kg	1.273	6.429	mg/kg	0.000643 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	<3	mg/kg	<3	mg/kg	<0.0003 %		<LOD
		082-001-00-6										
8		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										
9		vanadium {  divanadium pentaoxide; vanadium pentoxide }			48	mg/kg	1.785	72.15	mg/kg	0.00722 %	✓	
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }			21	mg/kg	1.245	22.009	mg/kg	0.0022 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH			9.1	pH		9.1	pH	9.1 pH		
				PH								
13		naphthalene			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	● fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	● phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	● anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	● fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	● pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	● benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0174 %		

Key

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

Classification of sample: HD102-0.35 - 0.45-25/04/2023

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

Sample details

Sample name:	LoW Code:
HD102-0.35 - 0.45-25/04/2023	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.35 - 0.45 m	
Moisture content:	
5.2%	
(wet weight correction)	

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

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

Because of determinand:

pH: (conc.: 11.6 pH)

Determinands

Moisture content: 5.2% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				6 mg/kg	1.32	7.51	mg/kg	0.000751 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	22.169	mg/kg	0.00222 %	✓	
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				15 mg/kg	1.126	16.01	mg/kg	0.0016 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
5	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								
6	nickel { nickel(II) oxide (nickel monoxide) }				16 mg/kg	1.273	19.303	mg/kg	0.00193 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	8 mg/kg		7.584	mg/kg	0.000758 %	✓	
	082-001-00-6										
8	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										
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				24 mg/kg	1.785	40.617	mg/kg	0.00406 %	✓	
	023-001-00-8	215-239-8	1314-62-1								
10	zinc { zinc oxide }				48 mg/kg	1.245	56.639	mg/kg	0.00566 %	✓	
	030-013-00-7	215-222-5	1314-13-2								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
11	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								
12	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								
13	TPH (C6 to C40) petroleum group		TPH		<60 mg/kg		<60 mg/kg	<0.006 %			<LOD
14	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								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				0.003 mg/kg		0.0028 mg/kg	0.000000284 %	✓		
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
20	pH		PH		11.6 pH		11.6 pH	11.6 pH			
21	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
23	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
24	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
25	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
26	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
27	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
28	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
33	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
34	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
35	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
36	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
37	polychlorobiphenyls; PCB										
	602-039-00-4	215-648-1	1336-36-3		<0.056 mg/kg		<0.056 mg/kg	<0.0000056 %			<LOD
38	monohydric phenols										
			P1186		<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
Total:									0.0247 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Concentrations at less than 1.0% are "unlikely to be flammable".

Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 2.84e-07%)

Classification of sample: HD101-0.80 - 1.20-25/04/2023

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

Sample details

Sample name:	LoW Code:
HD101-0.80 - 1.20-25/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.80 - 1.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
8.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.9% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				11	mg/kg	1.32	13.231	mg/kg	0.00132 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23	mg/kg	1.462	30.624	mg/kg	0.00306 %	✓	
		215-160-9	1308-38-9									
4	copper { dicopper oxide; copper (I) oxide }				25	mg/kg	1.126	25.642	mg/kg	0.00256 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
5	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									
6	nickel { nickel(II) oxide (nickel monoxide) }				22	mg/kg	1.273	25.505	mg/kg	0.00255 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	19	mg/kg		17.309	mg/kg	0.00173 %	✓	
	082-001-00-6											
8	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											
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	40.658	mg/kg	0.00407 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
10	zinc { zinc oxide }				84	mg/kg	1.245	95.25	mg/kg	0.00953 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	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									
12	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									
13	TPH (C6 to C40) petroleum group				<60	mg/kg		<60	mg/kg	<0.006 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	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								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	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]								
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
20	pH				7.5 pH		7.5 pH	7.5 pH			
			PH								
21	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
23	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
24	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
25	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
26	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
27	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
28	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
33	benzo[a]pyrene; benzo[def]chrysene				0.14 mg/kg		0.128 mg/kg	0.0000128 %	✓		
	601-032-00-3	200-028-5	50-32-8								
34	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
35	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
36	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
37	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
38	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
Total:									0.0325 %		

Key

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

Classification of sample: WS116-0.00 - 0.50-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS116-0.00 - 0.50-26/04/2023	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)
0.00 - 0.50 m	
Moisture content:	
11.1%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11.1% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				23 mg/kg	1.32	26.997 mg/kg	0.0027 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22 mg/kg	1.462	28.585 mg/kg	0.00286 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide ; copper (I) oxide }				42 mg/kg	1.126	42.038 mg/kg	0.0042 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }				20 mg/kg	1.273	22.627 mg/kg	0.00226 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	58 mg/kg		51.562 mg/kg	0.00516 %	✓		
		082-001-00-6										
8		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										
9		vanadium { divanadium pentaoxide ; vanadium pentoxide }				32 mg/kg	1.785	50.785 mg/kg	0.00508 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				83 mg/kg	1.245	91.844 mg/kg	0.00918 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH				6.6 pH		6.6 pH	6.6 pH			
				PH								
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	acenaphthene	201-469-6	83-32-9		0.18 mg/kg		0.16 mg/kg	0.000016 %	✓	
16	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	phenanthrene	201-581-5	85-01-8		1 mg/kg		0.889 mg/kg	0.0000889 %	✓	
18	anthracene	204-371-1	120-12-7		0.25 mg/kg		0.222 mg/kg	0.0000222 %	✓	
19	fluoranthene	205-912-4	206-44-0		1.26 mg/kg		1.12 mg/kg	0.000112 %	✓	
20	pyrene	204-927-3	129-00-0		1.11 mg/kg		0.987 mg/kg	0.0000987 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.53 mg/kg		0.471 mg/kg	0.0000471 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	0.51 mg/kg		0.453 mg/kg	0.0000453 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.42 mg/kg		0.373 mg/kg	0.0000373 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.13 mg/kg		0.116 mg/kg	0.0000116 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.36 mg/kg		0.32 mg/kg	0.000032 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		0.18 mg/kg		0.16 mg/kg	0.000016 %	✓	
27	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
28	benzo[ghi]perylene	205-883-8	191-24-2		0.12 mg/kg		0.107 mg/kg	0.0000107 %	✓	
Total:								0.0328 %		

Key

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

Classification of sample: WS118-0.00 - 0.30-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS118-0.00 - 0.30-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				25 mg/kg	1.32	28.42 mg/kg	0.00284 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				23 mg/kg	1.462	28.943 mg/kg	0.00289 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }				48 mg/kg	1.126	46.531 mg/kg	0.00465 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }				19 mg/kg	1.273	20.818 mg/kg	0.00208 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	74 mg/kg		63.714 mg/kg	0.00637 %	✓		
		082-001-00-6										
8		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										
9		vanadium {  divanadium pentaoxide; vanadium pentoxide }				33 mg/kg	1.785	50.722 mg/kg	0.00507 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				98 mg/kg	1.245	105.026 mg/kg	0.0105 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH		PH		7 pH		7 pH	7pH			
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	acenaphthene	201-469-6	83-32-9		0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓	
16	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	phenanthrene	201-581-5	85-01-8		0.92 mg/kg		0.792 mg/kg	0.0000792 %	✓	
18	anthracene	204-371-1	120-12-7		0.19 mg/kg		0.164 mg/kg	0.0000164 %	✓	
19	fluoranthene	205-912-4	206-44-0		1.17 mg/kg		1.007 mg/kg	0.000101 %	✓	
20	pyrene	204-927-3	129-00-0		1.05 mg/kg		0.904 mg/kg	0.0000904 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.46 mg/kg		0.396 mg/kg	0.0000396 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	0.5 mg/kg		0.431 mg/kg	0.000043 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.38 mg/kg		0.327 mg/kg	0.0000327 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.38 mg/kg		0.327 mg/kg	0.0000327 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		0.17 mg/kg		0.146 mg/kg	0.0000146 %	✓	
27	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
28	benzo[ghi]perylene	205-883-8	191-24-2		0.12 mg/kg		0.103 mg/kg	0.0000103 %	✓	
Total:								0.0358 %		

Key

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

Classification of sample: WS121-0.10 - 0.30-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS121-0.10 - 0.30-26/04/2023	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)
0.10 - 0.30 m	
Moisture content:	
6.7%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.7% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				11 mg/kg	1.32	13.55 mg/kg	0.00136 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	21.818 mg/kg	0.00218 %	✓	
		215-160-9	1308-38-9							
4	copper { dicopper oxide; copper (I) oxide }				24 mg/kg	1.126	25.211 mg/kg	0.00252 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
5	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							
6	nickel { nickel(II) oxide (nickel monoxide) }				16 mg/kg	1.273	18.997 mg/kg	0.0019 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	16 mg/kg		14.928 mg/kg	0.00149 %	✓	
	082-001-00-6									
8	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				23 mg/kg	1.785	38.308 mg/kg	0.00383 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
10	zinc { zinc oxide }				55 mg/kg	1.245	63.872 mg/kg	0.00639 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
11	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							
12	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							
13	TPH (C6 to C40) petroleum group				368 mg/kg		343.344 mg/kg	0.0343 %	✓	
			TPH							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	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								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	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]								
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
20	pH				7.9 pH		7.9 pH	7.9 pH			
			PH								
21	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
23	acenaphthene				0.69 mg/kg		0.644 mg/kg	0.0000644 %	✓		
		201-469-6	83-32-9								
24	fluorene				0.49 mg/kg		0.457 mg/kg	0.0000457 %	✓		
		201-695-5	86-73-7								
25	phenanthrene				8.75 mg/kg		8.164 mg/kg	0.000816 %	✓		
		201-581-5	85-01-8								
26	anthracene				2.99 mg/kg		2.79 mg/kg	0.000279 %	✓		
		204-371-1	120-12-7								
27	fluoranthene				25.2 mg/kg		23.512 mg/kg	0.00235 %	✓		
		205-912-4	206-44-0								
28	pyrene				21.4 mg/kg		19.966 mg/kg	0.002 %	✓		
		204-927-3	129-00-0								
29	benzo[a]anthracene				8.88 mg/kg		8.285 mg/kg	0.000829 %	✓		
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				7.16 mg/kg		6.68 mg/kg	0.000668 %	✓		
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				8.73 mg/kg		8.145 mg/kg	0.000815 %	✓		
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				3.46 mg/kg		3.228 mg/kg	0.000323 %	✓		
	601-036-00-5	205-916-6	207-08-9								
33	benzo[a]pyrene; benzo[def]chrysene				8.93 mg/kg		8.332 mg/kg	0.000833 %	✓		
	601-032-00-3	200-028-5	50-32-8								
34	indeno[123-cd]pyrene				3.44 mg/kg		3.21 mg/kg	0.000321 %	✓		
		205-893-2	193-39-5								
35	dibenz[a,h]anthracene				0.64 mg/kg		0.597 mg/kg	0.0000597 %	✓		
	601-041-00-2	200-181-8	53-70-3								
36	benzo[ghi]perylene				2.34 mg/kg		2.183 mg/kg	0.000218 %	✓		
		205-883-8	191-24-2								
37	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
38	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
Total:									0.0652 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Concentrations at less than 1.0% are "unlikely to be flammable".

Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0343%)

Classification of sample: WS125-0.10 - 0.40-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS125-0.10 - 0.40-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.10 - 0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.9% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				9 mg/kg	1.32	10.944 mg/kg	0.00109 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	21.537 mg/kg	0.00215 %	✓		
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				24 mg/kg	1.126	24.887 mg/kg	0.00249 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
5	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								
6	nickel { nickel(II) oxide (nickel monoxide) }				18 mg/kg	1.273	21.097 mg/kg	0.00211 %	✓		
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	15 mg/kg		13.815 mg/kg	0.00138 %	✓		
	082-001-00-6										
8	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										
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				22 mg/kg	1.785	36.171 mg/kg	0.00362 %	✓		
	023-001-00-8	215-239-8	1314-62-1								
10	zinc { zinc oxide }				40 mg/kg	1.245	45.855 mg/kg	0.00459 %	✓		
	030-013-00-7	215-222-5	1314-13-2								
11	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								
12	pH				8.3 pH		8.3 pH	8.3 pH			
			PH								
13	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	phenanthrene	201-581-5	85-01-8		1 mg/kg		0.921 mg/kg	0.0000921 %	✓	
18	anthracene	204-371-1	120-12-7		0.37 mg/kg		0.341 mg/kg	0.0000341 %	✓	
19	fluoranthene	205-912-4	206-44-0		4.94 mg/kg		4.55 mg/kg	0.000455 %	✓	
20	pyrene	204-927-3	129-00-0		4.76 mg/kg		4.384 mg/kg	0.000438 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		2.55 mg/kg		2.349 mg/kg	0.000235 %	✓	
22	chrysene	601-048-00-0	205-923-4		2.11 mg/kg		1.943 mg/kg	0.000194 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		2.65 mg/kg		2.441 mg/kg	0.000244 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.88 mg/kg		0.81 mg/kg	0.000081 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		2.85 mg/kg		2.625 mg/kg	0.000262 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		1.06 mg/kg		0.976 mg/kg	0.0000976 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.21 mg/kg		0.193 mg/kg	0.0000193 %	✓	
28	benzo[ghi]perylene	205-883-8	191-24-2		0.68 mg/kg		0.626 mg/kg	0.0000626 %	✓	
Total:								0.0205 %		

Key

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

Classification of sample: WS119-0.00 - 0.20-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS119-0.00 - 0.20-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				20 mg/kg	1.32	23.502 mg/kg	0.00235 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				0.2 mg/kg	1.142	0.203 mg/kg	0.0000203 %	✓		
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	32.52 mg/kg	0.00325 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide ; copper (I) oxide }				47 mg/kg	1.126	47.096 mg/kg	0.00471 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }				16 mg/kg	1.273	18.122 mg/kg	0.00181 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	66 mg/kg		58.74 mg/kg	0.00587 %	✓		
		082-001-00-6										
8		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										
9		vanadium { divanadium pentaoxide ; vanadium pentoxide }				26 mg/kg	1.785	41.309 mg/kg	0.00413 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				119 mg/kg	1.245	131.828 mg/kg	0.0132 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH		PH		8.1 pH		8.1 pH	8.1 pH			
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	• fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	• phenanthrene	201-581-5	85-01-8		0.31 mg/kg		0.276 mg/kg	0.0000276 %	✓	
18	• anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	• fluoranthene	205-912-4	206-44-0		0.56 mg/kg		0.498 mg/kg	0.0000498 %	✓	
20	• pyrene	204-927-3	129-00-0		0.51 mg/kg		0.454 mg/kg	0.0000454 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		0.27 mg/kg		0.24 mg/kg	0.000024 %	✓	
22	chrysene	601-048-00-0	205-923-4		0.33 mg/kg		0.294 mg/kg	0.0000294 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.34 mg/kg		0.303 mg/kg	0.0000303 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.15 mg/kg		0.134 mg/kg	0.0000134 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.34 mg/kg		0.303 mg/kg	0.0000303 %	✓	
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.16 mg/kg		0.142 mg/kg	0.0000142 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	• benzo[ghi]perylene	205-883-8	191-24-2		0.13 mg/kg		0.116 mg/kg	0.0000116 %	✓	
Total:								0.0365 %		

Key

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

Classification of sample: HD104-0.22 - 0.30-26/04/2023

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

Sample details

Sample name:	LoW Code:
HD104-0.22 - 0.30-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.22 - 0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.2%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.2% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		arsenic { arsenic trioxide }				11 mg/kg	1.32	13.478 mg/kg	0.00135 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0							
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	27.126 mg/kg	0.00271 %	✓	
			215-160-9	1308-38-9							
4		copper { dicopper oxide; copper (I) oxide }				23 mg/kg	1.126	24.031 mg/kg	0.0024 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
5		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							
6		nickel { nickel(II) oxide (nickel monoxide) }				23 mg/kg	1.273	27.162 mg/kg	0.00272 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]							
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	16 mg/kg		14.848 mg/kg	0.00148 %	✓	
		082-001-00-6									
8		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									
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				25 mg/kg	1.785	41.416 mg/kg	0.00414 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
10		zinc { zinc oxide }				62 mg/kg	1.245	71.616 mg/kg	0.00716 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
11		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							
12		pH		PH		7.7 pH		7.7 pH	7.7 pH		
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	• fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	• phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	• anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	• fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	• pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	• benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.023 %		

Key

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

Classification of sample: WS120-0.30 - 0.60-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS120-0.30 - 0.60-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.30 - 0.60 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
8.7%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.7% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used		
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				20	mg/kg	1.32	24.109	mg/kg	0.00241 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				161	mg/kg	1.462	214.838	mg/kg	0.0215 %	✓	
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				38	mg/kg	1.126	39.062	mg/kg	0.00391 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
5		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									
6		nickel { nickel(II) oxide (nickel monoxide) }				23	mg/kg	1.273	26.723	mg/kg	0.00267 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]									
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	36	mg/kg		32.868	mg/kg	0.00329 %	✓	
		082-001-00-6											
8		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											
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				23	mg/kg	1.785	37.487	mg/kg	0.00375 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
10		zinc { zinc oxide }				117	mg/kg	1.245	132.962	mg/kg	0.0133 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
11		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									
12		pH		PH		8	pH		8	pH	8pH		
13		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	• fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	• phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	• anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	• fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	• pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	• benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0518 %		

Key

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

Classification of sample: HD105-0.70 - 0.80-26/04/2023

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

Sample details

Sample name:	LoW Code:
HD105-0.70 - 0.80-26/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.70 - 0.80 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.1% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.1% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }			21	mg/kg	1.32	25.204	mg/kg	0.00252 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }			<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			75	mg/kg	1.462	99.642	mg/kg	0.00996 %	✓	
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }			55	mg/kg	1.126	56.289	mg/kg	0.00563 %	✓	
			029-002-00-X	215-270-7								
5		mercury { mercury dichloride }			<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
			080-010-00-X	231-299-8								
6		nickel { nickel(II) oxide (nickel monoxide) }			22	mg/kg	1.273	25.449	mg/kg	0.00254 %	✓	
			028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]								
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	96	mg/kg	87.264	mg/kg	0.00873 %	✓	
			082-001-00-6									
8		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									
9		vanadium { divanadium pentaoxide; vanadium pentoxide }			28	mg/kg	1.785	45.437	mg/kg	0.00454 %	✓	
			023-001-00-8	215-239-8								
10		zinc { zinc oxide }			173	mg/kg	1.245	195.74	mg/kg	0.0196 %	✓	
			030-013-00-7	215-222-5								
11		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								
12		boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
			005-008-00-8	215-125-8								
13		TPH (C6 to C40) petroleum group			<60	mg/kg		<60	mg/kg	<0.006 %		<LOD
				TPH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	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								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	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]								
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				3 mg/kg	1.884	5.138 mg/kg	0.000514 %		✓	
	006-007-00-5										
20	pH				7.5 pH		7.5 pH	7.5 pH			
			PH								
21	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
23	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
24	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
25	phenanthrene				0.45 mg/kg		0.409 mg/kg	0.0000409 %		✓	
		201-581-5	85-01-8								
26	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
27	fluoranthene				0.53 mg/kg		0.482 mg/kg	0.0000482 %		✓	
		205-912-4	206-44-0								
28	pyrene				0.46 mg/kg		0.418 mg/kg	0.0000418 %		✓	
		204-927-3	129-00-0								
29	benzo[a]anthracene				0.21 mg/kg		0.191 mg/kg	0.0000191 %		✓	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				0.23 mg/kg		0.209 mg/kg	0.0000209 %		✓	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				0.18 mg/kg		0.164 mg/kg	0.0000164 %		✓	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
33	benzo[a]pyrene; benzo[def]chrysene				0.15 mg/kg		0.136 mg/kg	0.0000136 %		✓	
	601-032-00-3	200-028-5	50-32-8								
34	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
35	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
36	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
37	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
38	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
Total:									0.0617 %		

Key

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

Classification of sample: WS105-1.00 - 2.00-26/04/2023

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

Sample details

Sample name:	LoW Code:
WS105-1.00 - 2.00-26/04/2023	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 - 2.00 m	
Moisture content:	
9.6%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	18 mg/kg	1.32	21.484 mg/kg	0.00215 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	23 mg/kg	1.462	30.389 mg/kg	0.00304 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	79 mg/kg	1.126	80.406 mg/kg	0.00804 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]	23 mg/kg	1.273	26.46 mg/kg	0.00265 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			62 mg/kg		56.048 mg/kg	0.0056 %	✓	
8	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }	034-002-00-8			<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	28 mg/kg	1.785	45.187 mg/kg	0.00452 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	110 mg/kg	1.245	123.774 mg/kg	0.0124 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
13	TPH (C6 to C40) petroleum group			TPH	<60 mg/kg		<60 mg/kg	<0.006 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	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							
15	benzene				0.012 mg/kg		0.0108 mg/kg	0.00000108 %	✓	
	601-020-00-8	200-753-7	71-43-2							
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
18	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]							
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
20	pH				7.8 pH		7.8 pH	7.8 pH		
			P1186							
21	naphthalene				0.13 mg/kg		0.118 mg/kg	0.0000118 %	✓	
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				0.2 mg/kg		0.181 mg/kg	0.0000181 %	✓	
		201-469-6	83-32-9							
24	fluorene				0.13 mg/kg		0.118 mg/kg	0.0000118 %	✓	
		201-695-5	86-73-7							
25	phenanthrene				1.35 mg/kg		1.22 mg/kg	0.000122 %	✓	
		201-581-5	85-01-8							
26	anthracene				0.31 mg/kg		0.28 mg/kg	0.000028 %	✓	
		204-371-1	120-12-7							
27	fluoranthene				1.57 mg/kg		1.419 mg/kg	0.000142 %	✓	
		205-912-4	206-44-0							
28	pyrene				1.42 mg/kg		1.284 mg/kg	0.000128 %	✓	
		204-927-3	129-00-0							
29	benzo[a]anthracene				0.61 mg/kg		0.551 mg/kg	0.0000551 %	✓	
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				0.66 mg/kg		0.597 mg/kg	0.0000597 %	✓	
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				0.51 mg/kg		0.461 mg/kg	0.0000461 %	✓	
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				0.19 mg/kg		0.172 mg/kg	0.0000172 %	✓	
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				0.5 mg/kg		0.452 mg/kg	0.0000452 %	✓	
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				0.22 mg/kg		0.199 mg/kg	0.0000199 %	✓	
		205-893-2	193-39-5							
35	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
36	benzo[ghi]perylene				0.17 mg/kg		0.154 mg/kg	0.0000154 %	✓	
		205-883-8	191-24-2							
37	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
			P1186							
Total:								0.0467 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Concentrations at less than 1.0% are "unlikely to be flammable".

Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

benzene: (conc.: 1.08e-06%)

Classification of sample: WS108-0.00 - 0.60-27/04/2023

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

Sample details

Sample name:	LoW Code:
WS108-0.00 - 0.60-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.60 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.7%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.7% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				12 mg/kg	1.32	14.307 mg/kg	0.00143 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	22.436 mg/kg	0.00224 %	✓		
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				25 mg/kg	1.126	25.417 mg/kg	0.00254 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
5	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								
6	nickel { nickel(II) oxide (nickel monoxide) }				11 mg/kg	1.273	12.641 mg/kg	0.00126 %	✓		
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	47 mg/kg		42.441 mg/kg	0.00424 %	✓		
	082-001-00-6										
8	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										
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				30 mg/kg	1.785	48.361 mg/kg	0.00484 %	✓		
	023-001-00-8	215-239-8	1314-62-1								
10	zinc { zinc oxide }				60 mg/kg	1.245	67.439 mg/kg	0.00674 %	✓		
	030-013-00-7	215-222-5	1314-13-2								
11	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								
12	pH				7.2 pH		7.2 pH	7.2 pH			
			PH								
13	naphthalene				0.32 mg/kg		0.289 mg/kg	0.0000289 %	✓		
	601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		1.64 mg/kg		1.481 mg/kg	0.000148 %	✓	
16	● fluorene	201-695-5	86-73-7		1.17 mg/kg		1.057 mg/kg	0.000106 %	✓	
17	● phenanthrene	201-581-5	85-01-8		13.5 mg/kg		12.191 mg/kg	0.00122 %	✓	
18	● anthracene	204-371-1	120-12-7		3.28 mg/kg		2.962 mg/kg	0.000296 %	✓	
19	● fluoranthene	205-912-4	206-44-0		20.5 mg/kg		18.511 mg/kg	0.00185 %	✓	
20	● pyrene	204-927-3	129-00-0		17.9 mg/kg		16.164 mg/kg	0.00162 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		6.57 mg/kg		5.933 mg/kg	0.000593 %	✓	
22	chrysene	601-048-00-0	205-923-4		6.33 mg/kg		5.716 mg/kg	0.000572 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		6.56 mg/kg		5.924 mg/kg	0.000592 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		1.86 mg/kg		1.68 mg/kg	0.000168 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		6.11 mg/kg		5.517 mg/kg	0.000552 %	✓	
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		2.73 mg/kg		2.465 mg/kg	0.000247 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.63 mg/kg		0.569 mg/kg	0.0000569 %	✓	
28	● benzo[ghi]perylene	205-883-8	191-24-2		2.03 mg/kg		1.833 mg/kg	0.000183 %	✓	
Total:								0.0324 %		

Key

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

Classification of sample: WS114-0.00 - 0.20-27/04/2023

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

Sample details

Sample name:	LoW Code:
WS114-0.00 - 0.20-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				10 mg/kg	1.32	12.015 mg/kg	0.0012 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				7 mg/kg	1.462	9.31 mg/kg	0.000931 %	✓		
			215-160-9	1308-38-9								
4		copper { dicopper oxide; copper (I) oxide }				8 mg/kg	1.126	8.196 mg/kg	0.00082 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
5		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								
6		nickel { nickel(II) oxide (nickel monoxide) }				12 mg/kg	1.273	13.897 mg/kg	0.00139 %	✓		
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	11 mg/kg		10.01 mg/kg	0.001 %	✓		
		082-001-00-6										
8		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										
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				16 mg/kg	1.785	25.992 mg/kg	0.0026 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
10		zinc { zinc oxide }				50 mg/kg	1.245	56.634 mg/kg	0.00566 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
11		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								
12		pH				8.3 pH		8.3 pH	8.3 pH			
				PH								
13		naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	● fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	● phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	● anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	● fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	● pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	● benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0146 %		

Key

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

Classification of sample: WS112-0.00 - 0.50-27/04/2023

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

Sample details

Sample name:	LoW Code:
WS112-0.00 - 0.50-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11.1%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11.1% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used		
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				21	mg/kg	1.32	24.649	mg/kg	0.00246 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.3	mg/kg	1.142	0.305	mg/kg	0.0000305 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24	mg/kg	1.462	31.184	mg/kg	0.00312 %	✓	
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				52	mg/kg	1.126	52.048	mg/kg	0.0052 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
5		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									
6		nickel { nickel(II) oxide (nickel monoxide) }				19	mg/kg	1.273	21.495	mg/kg	0.00215 %	✓	
		028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]									
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	102	mg/kg		90.678	mg/kg	0.00907 %	✓	
		082-001-00-6											
8		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											
9		vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	49.198	mg/kg	0.00492 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
10		zinc { zinc oxide }				140	mg/kg	1.245	154.917	mg/kg	0.0155 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
11		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									
12		pH				7.5	pH		7.5	pH	7.5 pH		
				PH									
13		naphthalene				0.31	mg/kg		0.276	mg/kg	0.0000276 %	✓	
		601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		0.17 mg/kg		0.151 mg/kg	0.0000151 %	✓	
16	• fluorene	201-695-5	86-73-7		0.11 mg/kg		0.0978 mg/kg	0.00000978 %	✓	
17	• phenanthrene	201-581-5	85-01-8		1.05 mg/kg		0.933 mg/kg	0.0000933 %	✓	
18	• anthracene	204-371-1	120-12-7		0.24 mg/kg		0.213 mg/kg	0.0000213 %	✓	
19	• fluoranthene	205-912-4	206-44-0		1.17 mg/kg		1.04 mg/kg	0.000104 %	✓	
20	• pyrene	204-927-3	129-00-0		1.01 mg/kg		0.898 mg/kg	0.0000898 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		0.42 mg/kg		0.373 mg/kg	0.0000373 %	✓	
22	chrysene	601-048-00-0	205-923-4		0.47 mg/kg		0.418 mg/kg	0.0000418 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.36 mg/kg		0.32 mg/kg	0.000032 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.13 mg/kg		0.116 mg/kg	0.0000116 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.33 mg/kg		0.293 mg/kg	0.0000293 %	✓	
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.16 mg/kg		0.142 mg/kg	0.0000142 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	• benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0438 %		

Key

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

Classification of sample: WS126-1.30 - 2.00-27/04/2023

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

Sample details

Sample name:	LoW Code:
WS126-1.30 - 2.00-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.30 - 2.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
10.5%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 10.5% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				6 mg/kg	1.32	7.09	mg/kg	0.000709 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19 mg/kg	1.462	24.854	mg/kg	0.00249 %	✓	
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				15 mg/kg	1.126	15.115	mg/kg	0.00151 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
5	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								
6	nickel { nickel(II) oxide (nickel monoxide) }				14 mg/kg	1.273	15.946	mg/kg	0.00159 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	14 mg/kg		12.53	mg/kg	0.00125 %	✓	
	082-001-00-6										
8	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										
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				22 mg/kg	1.785	35.15	mg/kg	0.00352 %	✓	
	023-001-00-8	215-239-8	1314-62-1								
10	zinc { zinc oxide }				61 mg/kg	1.245	67.955	mg/kg	0.0068 %	✓	
	030-013-00-7	215-222-5	1314-13-2								
11	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								
12	pH				6.9 pH		6.9	pH	6.9 pH		
13	naphthalene				<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	• acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	• fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	• phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	• anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	• fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	• pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	• indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	• benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0188 %		

Key

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

Classification of sample: WS127-0.20 - 1.00-27/04/2023

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

Sample details

Sample name:	LoW Code:
WS127-0.20 - 1.00-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.20 - 1.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13.3%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13.3% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				3 mg/kg	1.32	3.434 mg/kg	0.000343 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38 mg/kg	1.462	48.152 mg/kg	0.00482 %	✓	
		215-160-9	1308-38-9							
4	copper { dicopper oxide; copper (I) oxide }				20 mg/kg	1.126	19.523 mg/kg	0.00195 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
5	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							
6	nickel { nickel(II) oxide (nickel monoxide) }				23 mg/kg	1.273	25.377 mg/kg	0.00254 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	13 mg/kg		11.271 mg/kg	0.00113 %	✓	
	082-001-00-6									
8	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									
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				37 mg/kg	1.785	57.267 mg/kg	0.00573 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
10	zinc { zinc oxide }				59 mg/kg	1.245	63.671 mg/kg	0.00637 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
11	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							
12	pH				6.5 pH		6.5 pH	6.5 pH		
			PH							
13	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	● acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	● acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	● fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	● phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	● anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	● fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	● pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	● benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0239 %		

Key

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

Classification of sample: SA102-0.00 - 0.40-27/04/2023

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

Sample details

Sample name:	LoW Code:
SA102-0.00 - 0.40-27/04/2023	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.00 - 0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13.1%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13.1% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				34	mg/kg	1.32	39.01	mg/kg	0.0039 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22	mg/kg	1.462	27.942	mg/kg	0.00279 %	✓	
		215-160-9	1308-38-9									
4	copper { dicopper oxide; copper (I) oxide }				91	mg/kg	1.126	89.034	mg/kg	0.0089 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
5	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									
6	nickel { nickel(II) oxide (nickel monoxide) }				20	mg/kg	1.273	22.118	mg/kg	0.00221 %	✓	
	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	220	mg/kg		191.18	mg/kg	0.0191 %	✓	
	082-001-00-6											
8	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											
9	vanadium { divanadium pentaoxide; vanadium pentoxide }				34	mg/kg	1.785	52.745	mg/kg	0.00527 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
10	zinc { zinc oxide }				136	mg/kg	1.245	147.105	mg/kg	0.0147 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	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									
12	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									
13	TPH (C6 to C40) petroleum group				<60	mg/kg		<60	mg/kg	<0.006 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	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								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
17	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	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]								
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
20	pH				7.6 pH		7.6 pH	7.6 pH			
			PH								
21	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
23	acenaphthene				0.18 mg/kg		0.156 mg/kg	0.0000156 %		✓	
		201-469-6	83-32-9								
24	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
25	phenanthrene				1.28 mg/kg		1.112 mg/kg	0.000111 %		✓	
		201-581-5	85-01-8								
26	anthracene				0.26 mg/kg		0.226 mg/kg	0.0000226 %		✓	
		204-371-1	120-12-7								
27	fluoranthene				1.72 mg/kg		1.495 mg/kg	0.000149 %		✓	
		205-912-4	206-44-0								
28	pyrene				1.57 mg/kg		1.364 mg/kg	0.000136 %		✓	
		204-927-3	129-00-0								
29	benzo[a]anthracene				0.74 mg/kg		0.643 mg/kg	0.0000643 %		✓	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				0.79 mg/kg		0.687 mg/kg	0.0000687 %		✓	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				0.64 mg/kg		0.556 mg/kg	0.0000556 %		✓	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				0.2 mg/kg		0.174 mg/kg	0.0000174 %		✓	
	601-036-00-5	205-916-6	207-08-9								
33	benzo[a]pyrene; benzo[def]chrysene				0.58 mg/kg		0.504 mg/kg	0.0000504 %		✓	
	601-032-00-3	200-028-5	50-32-8								
34	indeno[123-cd]pyrene				0.26 mg/kg		0.226 mg/kg	0.0000226 %		✓	
		205-893-2	193-39-5								
35	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
36	benzo[ghi]perylene				0.22 mg/kg		0.191 mg/kg	0.0000191 %		✓	
		205-883-8	191-24-2								
37	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
38	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
Total:									0.0652 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

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

Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium

www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

■ divanadium pentoxide; vanadium pentoxide (EC Number: 215-239-8, CAS Number: 1314-62-1)

GB MCL index number: 023-001-00-8

Description/Comments: Hazard statements H301, H330, H350 added by HazWasteOnline due to ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.

Additional Hazard Statement(s): Carc. 1B; H350, Acute Tox. 3; H301, Acute Tox. 2; H330

Reason for additional Hazards Statement(s):

20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

■ 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

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

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

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

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

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

Reason for additional Hazards Statement(s):

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

■ pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

■ 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

▪ **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: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

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

GB MCL index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

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

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides.

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel(II) oxide (nickel monoxide)}

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

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

vanadium {divanadium pentaoxide; vanadium pentoxide}

Most conservative species.

zinc {zinc oxide}

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass.

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

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

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2023.111.5569.10274 (22 Apr 2023)
HazWasteOnline Database: 2023.111.5569.10274 (22 Apr 2023)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

Based across the UK with offices in
Manchester, Liverpool, Swindon and Glasgow.

Manchester (Head Office)

Unit 29
Eton Business Park
Eton Hill Rd, Radcliffe
M26 2ZS

t: 0161 763 7200
e: info@thelkgroup.com

Swindon

39 Bowman House Business Centre
Bowman Court
Whitehill Lane
Royal Wootton Bassett
Swindon
SN4 7DB

t : 01793 987 390
e : info@thelkgroup.com

Glasgow

Wright Business Centre
1 Lonmay Road
Glasgow
G33 4EL

t: 0141 773 6269
e: info@thelkgroup.com

Liverpool

Unit 10
12 Jordan Street
Baltic Triangle
Liverpool
L1 0BP

t: 0161 763 7200
e: info@thelkgroup.com



- » Geotechnical
- » Contaminated
- » SuDS & Flood Risk
- » Project Management
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