

FORMER CHATSWORTH MILL GORTON

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

Job Number: LKC 21 1152
Date: February 2022
Client: Mangrove Estates Ltd



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1	14 th Feb 2022	Additional SI carried out and risk assessment updated.	

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EXECUTIVE SUMMARY

Site Details

Site Location:	To the east of Williams Road in the Gorton area of Manchester. National Grid Reference 388180E 396130N
Site Area:	4,200m ²
Current Land Use:	Derelict site undergoing demolition and clearance
Proposed Development:	4no. storey building containing 40no. residential apartments with soft landscaping, private amenity area, access road and car parking.
Purpose of Report:	Contamination and Geotechnical Assessment.

Preliminary Risk Assessment

PRA Details:	Undertaken by LKC in April 2021. Ref: LKC 21 1152-01.
History:	Mill 1893-2020, Glass Houses 1893-1952, Access Road 1893-2020
Geology / Hydrogeology:	Glacial Till (Secondary Undifferentiated Aquifer) over Chester Formation (sandstone) (Principal Aquifer).
Mining:	Not within a Development High Risk Area.
Relevant Environmental Setting:	Landfill site 239m SW. Moderate UXO Risk, detailed desk study not essential.
Preliminary Conceptual Model: PL=Pollutant Linkage	PL1 Direct Contact (Human Health): Moderate Risk (metals, PAHs, asbestos, TPH, other organic / inorganic compounds). PL2 Inhalation of Vapours: Moderate Risk (volatile contaminants). PL3 Gas: Moderate / Low Risk (hazardous gas). PL4 Controlled waters: Moderate Risk (mobile contaminants). PL5 Sulphate Attack: Moderate / Low Risk (sulphate). PL6 Water Pipelines: Moderate Risk (organic contaminants). PL7 Phytotoxic: Low Risk (metals).
Recommendations:	Site Investigation was recommended to further assess the above pollutant linkages.

Ground Investigation Work Undertaken

Date of Investigation:	2 nd June 2021 and 19 th -20 th January 2022
Intrusive Investigation Work Undertaken:	5no. window sample boreholes (WS101-WS105). 7no. mechanically excavated trial pits (TP101-TP107). 20. mechanically excavated trial pits (TP201-TP216).
Monitoring Wells:	Installed in all boreholes.
Soil Sampling:	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, VOCs, SVOCs and SOM. 12no. samples tested for TPHCWG, BTEX, MTBE and SOM.
Groundwater Sampling:	1no. samples tested for metals, speciated PAHs, cyanide, pH, sulphate, hardness, phenol, TPHCWG, BTEX, VOCs and SVOCs.
Insitu and Laboratory Geotechnical Testing:	SPTs, shear vanes, pocket penetrometers, plasticity, single stage triaxial, oedometer and BRE SD1 short suite.

Ground Conditions and Geotechnical Assessment

General Ground conditions	Made Ground to depths of between 0.3m and 1.3mbgl with the exception of WS101 which recorded Made Ground to 4.00mbgl. Hydrocarbon odour noted in W101 between 0.1m and 3.70mbgl. Stiff to very stiff variably sandy gravelly CLAY to depths of between 2.44m and 5.45mbgl. The extent of the CLAY was not proven in any of the exploratory holes. Groundwater at 4.3mbgl in WS101 and 1.40mbgl in TP107
Allowable Bearing Pressure	Undrained shear strength of 60kPa from 1mbgl, returning an ABC of 123kN/m ² for a strip foundation. 2m ² pads supporting column loads will be able to support loadings of 313kN.
Anticipated Foundation Type	Pads supporting column loads with strips supporting cladding walls. Should greater loadings be expected then consideration can be given to a piled foundation solution although this would require further investigation.
Other Considerations	Consideration of effects of trees also needs to be considered. Temporary supports of excavations may be required. Detailed design should be carried out by structural engineer. Concrete Requirements DS2-AC-1s in Made Ground and DS1-AC-s in natural strata.

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 site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	Moderate	-ACM (chrysotile) identified in made ground. Elevated metals, PAHs and localised TPH. Recommendations: Remediation required in soft landscaping areas.
2	Volatile contaminants posing a risk to site users via the inhalation of vapours.	Moderate (localised N area)	-Volatile contamination identified in localised areas. Recommendations: Precautionary vapour membrane required or removal of impacted ground.
3	Gas posing a risk to buildings and site users via the migration of gas into building causing explosion and asphyxiation.	Moderate / Low	-A significant source of hazardous gas was not identified on site. Recommendations: No remediation required.
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Moderate / Low	-Although elevated metals and PAHs identified, they are not considered to pose a significant risk to groundwater. TPH contamination was identified within WS104 and WS101. Recommendations: Remediation to include the removal of hydrocarbon impacted material around WS101 and within the drain noted in WS104.
5	Sulphate posing a risk to building via direct contact (sulphate attack).	Moderate / Low	-Elevated sulphate identified in made ground. Recommendations: Sulphate resistant concrete (DS-2 AC-1s).
6	Organic contaminants posing a risk to water pipes.	Moderate / Low	-Organic contamination identified however pipes may be laid into underlying natural ground depending on location. Recommendations: UU risk assessment to be completed.
7	Phytotoxic metals posing a risk to flora via root uptake.	Low	-Elevated zinc and copper. Recommendations: Remediation for PL1 will mitigate the risk to flora.

The results of soil testing and a HazWasteOnline assessment show that selected samples tested have been classified as **HAZARDOUS WASTE**.

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
Pre-Construction	2	<u>Naphthalene contamination (TP101 and TP214)</u> <u>Option 1</u> Excavation and removal of bitumen contaminated ground/cobbles in the north east of the site where these fall below the building foot print. <u>Option 2 – See build phase construction</u> <u>Hydrocarbon Hotspot removal WS101</u> <u>Option 1</u> Removal of ground impacted by volatile HC contamination, carried out by visual, olfactory and PID assessment and supervised by a suitably qualified engineer. <u>Option 2 – See build phase construction</u>	Photographic record. Confirmation testing and photographic record
	4	<u>Controlled Waters</u> Removal of hydrocarbon impacted ground around WS101 and hydrocarbon impacted material associated with the drain noted in WS104	Visual/olfactory and PID assessment with confirmatory testing and photographic record.
	2	<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.

Phase	PL	Remediation Requirements	Validation Requirements
Build-Phase Construction	1 and 7	As the made ground is relatively shallow the following options are given: <u>Option 1</u> Removal of all reworked topsoil / made ground from soft landscaping and raise levels (as required) with suitably chemically validated subsoil and topsoil. <u>Option 2</u> If all or some of the made ground remains in place in soft landscaping areas, an environmental cover system will be required. The environmental cover system should be as follows: Shared Landscaping: 450mm thick environmental cover system comprising: Either 100mm physical break layer (MOT type 1 material, 20-30mm, minimal fines) and at least 350mm comprising clean inert fill and sufficient topsoil for a growing medium. Or geotextile membrane and at least 450mm comprising clean inert fill and sufficient topsoil for a growing medium. The subsoil layer can be replaced by additional topsoil. A diagram of a typical environmental cover system is shown in Appendix H.	<u>Option 1</u> Consignment notes confirming the removal of made ground. Photographic evidence of natural strata. Chemical validation of imported soils: See Table 9-3. <u>Option 2</u> Measuring depth of environmental cover system using a staff and providing photographic evidence. Photographic evidence of the granular physical break or geotextile layer will also be collected. Chemical validation of imported soils: See Table 9-3.
	2	<u>Naphthalene contamination (TP101 and TP214)</u> <u>Option 1 – See pre-construction phase.</u> <u>Option 2:</u> Installation of suitable vapour barrier across the northwest of the site. <u>Hydrocarbon Hotspot removal WS101</u> <u>Option 1 – See pre-construction phase.</u> <u>Option 2:</u> Installation of suitable vapour barrier in the east of the site (Figure 4)	Physical inspection and photographic record of the installed vapour barrier by a suitably qualified engineer.
	5	<u>Sulphate Resistant Concrete</u> Sulphate Resistant Concrete in line with DS-2 AC-1s recommended.	N/A
	6	<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. Barrier pipe may be required.	Delivery Notes of Pipe Material. Photographs of the Installed Pipe.

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

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.

CONTENTS

EXECUTIVE SUMMARY	iv
1 Introduction	1
1.1 Background	1
1.2 Site Details	1
2 Previous Work	2
2.1 Summary of Existing Information	2
2.2 Site History	2
2.3 Environmental Setting	3
2.4 Site Reconnaissance	4
2.5 Contamination Sources / Pathways and Receptors	4
2.6 LKC Preliminary Contamination Conceptual Model	5
2.7 Recommendations	6
3 Ground Investigation	8
3.1 Site Investigation Design and Methodology	8
3.2 Well Installations	9
3.3 Sampling Protocol	9
3.4 Gas Monitoring	11
3.5 Site Investigation Scope	12
3.6 Geotechnical Testing	12
4 Ground Conditions	13
4.1 Geology – Generalised Sequence	13
4.2 Groundwater	14
4.3 In-Situ Geotechnical Testing	15
4.4 Geotechnical Laboratory Testing	16
5 Geotechnical Assessment	18
5.1 Proposed Development	18
5.2 Summary of Ground Conditions	18
5.3 Site Preparation	18
5.4 Foundation Conditions and Bearing Capacity	18
5.5 Ground Floor Slabs	21
5.6 Pavement Construction	21
5.7 Drainage	21
5.8 Concrete Durability	21
5.9 Excavations	22
5.10 Construction Activity and Inspection	22

6	Generic Risk Assessment	23
6.1	Introduction	23
6.2	Soil Risk Assessment.....	23
6.3	Gas Risk Assessment	30
6.4	Controlled Water Assessment	31
6.5	Additional Risk Assessments	32
6.6	Revised Contamination Conceptual Model.....	33
7	Waste Disposal Assessment.....	36
8	Conclusions.....	37
8.1	Geotechnical	37
8.2	Contamination Assessment.....	38
9	Recommendations and Remedial Strategy	39
9.1	Remediation and Validation Recommendations	39
9.2	Validation of Subsoil / Topsoil	42
9.3	Site Completion Report	43

FIGURES

Figure 1:	Site Location Plan
Figure 2:	Site Boundary Plan
Figure 3:	Site Investigation Location Plan (First Phase)
Figure 4:	Site Investigation Location Plan (First and Second Phase)

APPENDICES

Appendix A:	Risk Matrix
Appendix B:	Profile Logs
Appendix C:	Certificate of Analysis - Soil
Appendix D:	Certificate of Analysis - Geotechnical
Appendix E:	Certificate of Analysis - Water
Appendix F:	Generic Assessment Criteria Values
Appendix G:	HazWasteOnline Output Sheets
Appendix H:	Typical Environmental Cover System
Appendix I:	JIWG Assessments

1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by Mangrove Estates Ltd to carry out a Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy for former Chatsworth Mill, Gorton. The investigation was undertaken in support of a planning application (reference number 129852/FO/2021) to develop the site for residential use.

The following work has previously been undertaken:

-  Preliminary Risk Assessment (PRA) report, undertaken by LKC (Ref: LKC 21 1152, dated 6th April 2021).

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 residential end use and that appropriate site investigation and risk assessment works are in place to allow conditional approval of any future planning application.

1.2 Site Details

Site details are provided in Table 1-1. Figure 1 shows the site location and boundary. Figure 2 shows the proposed development plan.

Site Location	To the east of Williams Road in the Gorton area of Manchester. Centred at approximate National Grid Reference 388180E 396130N.
Approximate Area	4,200m ² .
Topography	60 metres Above Ordnance Datum (AOD). Site is approximately level with some raised areas noted.
Current Site Use	Derelict site undergoing demolition and clearance.
Purpose of Report	Planning.
Proposed Development	Residential apartments with soft landscaping. 4no. storey building containing 40no. residential apartments with soft landscaping, private amenity area, access road and car parking.

Table 1-1. Summary of site details.

¹ DCL (2018). "National Planning Policy Framework." Department of Communities and Local Government.

2 Previous Work

2.1 Summary of Existing Information

A PRA report (Ref: CL-602-LKC 21 1152-01, dated 6th April 2021) has previously been undertaken by LKC and is summarised in Section 2.2-2.6.

The conceptual model (Section 2.6) has been updated to be in line with LKC current risk assessment methodology.

2.2 Site History

The site history is summarised in Table 2-1 and Table 2-2.

Site Features	Location on Site	Dates Present		Comments
		From	To	
Field Boundary	W	1848	1848	No longer present by 1893 mapping.
Chatsworth Mills (embossing)	S	1893	2020	Additional buildings added to the east, central and southern parts of the site by 1908 mapping. Glass house and tank added to E and chimney to S by 1951 mapping. Some buildings, the glass house and tank have been removed by the 1973 mapping. Further clearance of buildings on the S of the site by 2006 mapping.
Glass houses	Central	1893	1952	Reduced to small size by 1951 mapping. No longer present by the 1956 mapping.
Access road	W	1893	2020	

Table 2-1: Summary of site features.

Surrounding Area Features	Distance (m)	Direction	Dates Present		Comments
			From	To	
Pond	50	N	1848	1848	No longer present by 1893 mapping.
Pond	240	N	1848	1848	No longer present by 1893 mapping.
Pond	170	NNE	1848	1848	No longer present by 1893 mapping.
Pond	140	SSE	1848	1894	No longer present by 1908 mapping.
Pond	170	SW	1848	1933	No longer present by 1938 mapping.
Pond	190	SW	1848	1848	No longer present by 1893 mapping.
Pond	220	W	1848	1848	No longer present by 1893 mapping.
Railway line (in cutting)	Adjacent	W	1893	2020	
Tramway	Adjacent	N	1893	1933	No longer present by 1938 mapping.
Pond	240	SSW	1893	1908	No longer present by 1923 mapping.
Pond	220	SW	1893	1908	No longer present by 1923 mapping.
Pond	110	S	1908	1933	Associated with Victoria Works. No longer present by 1938 mapping.
Drain	60	SW	1893	1923	No longer present by 1933 mapping.
Lake	230	NW	1893	1956	No longer present by 1968 mapping.
Garage	10	N	1973	1995	Site has been remodelled by 1983 mapping and is adjacent N. No longer present by 1999 mapping.
Yard	Adjacent	E	1978	2020	Annotated as depot by 1983 mapping.

Table 2-2: Summary of potentially contaminative features within 50m and potentially infilled features with 250m.

2.3 Environmental Setting

The environmental setting is summarised in Table 2-3.

Categories		Details
Geology	Artificial	- No BGS recorded artificial.
	Superficial	- Till (diamicton).
	Bedrock	- Chester Formation (sandstone).
	BGS Logs (<50m)	- BH Ref: SJ89NE664, onsite: made ground to 0.4m, silty sandy / very sandy clay to 23.8m, sand to >33.3m.
Hydro-geology	Aquifer	- Superficial
	Designation	- Bedrock
	Source Protection Zone (SPZ)	- Site not within an SPZ.
	Groundwater Abstractions (100m)	- None.
Hydrology	Surface Water Courses (100m)	- None.
	Flooding risk	- Flood Zone 1.
	Surface Water Abstractions (100m)	- None.
	Discharge Consents	- None.
	Pollution Incidents	- None.
Minerals & Mining	Coal Mining	- Within a Coal Reporting Area. - Not within a Development High Risk Area.
	Surface Mineral Extractions (250m)	- None.
	Cheshire Brine Compensation District	- Not within Compensation District. - Not within Consultation Area.
	Non-Coal Mining Area	- Not within an area of conclusive metalliferous mining.
Ground Stability	Collapsible Ground	- Very low hazard.
	Compressible Ground	- No hazard.
	Ground Dissolution	- No hazard.
	Landslide	- Very low hazard.
	Running Sand	- Very low hazard.
	Shrinking / Swelling Clay	- Very low hazard.
Landfill Sites (250m)	Known / Registered	- 239m SW – 'Mount Road Plant Site'. Domestic waste type. Operational dates not provided.
	Potentially Infilled Land (non-water and water), based on Envirocheck Report	- 9no. features: 66m to 236m from site.
	Potentially infilled sites, based on LKC historical review	- 12no. features: See Section 2.
Radon Potential		- <1% of homes above Action Level. No protective measures are necessary in the construction of new dwellings or extensions.
Designated Sites (50m)		- None.
Contemporary Trade Directory (50m)		- 7no. with 3no. listed on site including: - Freight forwarders. - Garage services - Recyclers (timber).
Fuel Station Entries (50m)		- None.
Unexploded Ordnance Risk (UXO)	Zetica Risk Map	- Moderate.
	Pre-Desk Study Assessment	- A detailed desk study, whilst always prudent, is not considered essential in this instance.

Table 2-3: Summary of the environmental setting.

2.4 Site Reconnaissance

A site reconnaissance was carried out on 29th March 2021. Hand dug trial holes were unable to be undertaken due to the hardstanding ground across site.

Relevant features identified on site are summarised below:

- Rough ground across the majority of the site, covered in bricks, large piles of tyres and fly tipping (wood, tyres, plastic bottles, gas bottles, oil drums, fridges, general household waste). Demolition rubble across the site.
- A car park was present in the northwest corner of site.
- Ground was noted to be hard standing and in poor condition. Some areas of the site were above ground level.
- Derelict building in the northwest corner of site, filled with tyres.
- A tank was noted to be present in the southeast corner of site, it was noted to be full of oil.
- Three manholes left open were noted to be present in the north and south of site.
- Possible underground tank was present in the north area of site.
- Evidence of hydrocarbon spill in the southeast area of site.

2.5 Contamination Sources / Pathways and Receptors

Potential contamination sources are detailed in Table 2-4.

Potential Source	Contaminants
Onsite	
Made Ground below some or all of site (e.g. site levelling / raising)	- Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: Asbestos, heavy metals, sulphates, PAHs². - Not expected to be a significant source of gas given anticipated depth and age of Made Ground.
Car park	- Spills / leaks of fuel on the site surface: No significant contamination anticipated.
Embossing Mill	- Metals, other inorganic compounds (e.g. cyanides, sodium compounds, sulphide compounds, chloride compounds, mineral acids, alkalis), chlorinated organic solvents, sizing agents, other organic compounds (e.g. formaldehydes, polyvinyl chloride), water repellents (organo silicon, oxazoline), fire / flame retardants (e.g. borax, ammonium phosphate, brominated organic compounds with metals oxides), soaps and detergents. - Other ancillary activities could include coal fired boilers producing large quantities of boiler ash (heavy metals, sulphates and PAHs), if powered by gas or oil there may historically have been fuel storage tanks. Asbestos may have been used within the building as insulation and lagging or as roofing and cladding³.
Glass houses	- Pesticides: significant use and persistence in the soils not anticipated.
Fly tipping	- Fuels, other organic / inorganic contamination.
Surrounding Area	
Surrounding land uses (yard railway line, garage, depot, car wash)	- Not expected to be as significant as sources of contaminants identified on site.
Landfills / offsite potentially infilled features within 250m	- Given size, distance and age of features, there is not considered to be a significant source of hazardous gas.

Table 2-4: Potential contamination sources

² Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.

³ Department of the Environment. Industry Profile. Textile Works and Dye Works. 1995.

Potential receptors are detailed in Table 2-5.

Receptors	
Human Health	- Future site users (including residents, visitors and site workers). - Offsite land users.
Controlled Waters	- Secondary A Aquifer. - No surface water within influencing distance.
Buildings and structures.	
Potable water pipes.	
Flora within future landscaping.	

Table 2-5: Potential receptors

Potential pathways are detailed in Table 2-6.

Pathways		
Soil	Human Health ⁴ (residential land use: apartments with shared landscaping)	- Ingestion of soil. - Ingestion of soil-derived indoor dust. - Dermal contact with soil. - Dermal contact with soil-derived indoor dust. - Inhalation of soil-derived outdoor dust. - Inhalation of soil-derived indoor dust. - Inhalation of vapours outside. - Inhalation of vapours inside.
		- Omitted as no private gardens: ingestion of contaminated vegetables and ingestion of soil attached to vegetables.
		- Windblown dust and fibres to adjacent receptors.
		- Direct contact with receptors (building foundations, services).
Water		- Root uptake.
		- Surface run-off over impermeable surface.
Water and Gas		- Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution).
		- Migration through potentially permeable strata and preferential pathways. - Superficial (Till) likely to be low permeability. - Bedrock (sandstone) likely to be relatively permeable. - Preferential pathways: services.
Gas		- Migration into buildings (e.g. via services) and accumulation of gases in confined spaces (potentially causing explosion if methane is present).

Table 2-6: Potential pathways

2.6 LKC Preliminary Contamination Conceptual Model

The preliminary contamination conceptual model using contaminant-pathway-receptor linkages based on guidance in LCRM⁵ has been summarised in Table 2-7.

The aim of the conceptual model is to provide a preliminary assessment of the likelihood of a pollutant linkage for each potential combination of contaminant, pathway and receptor. A conceptual model can be used to make an informed decision on the contamination risks associated with the site and determine what site investigation work is required.

⁴ EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.

⁵ Land Contamination Risk Management (LCRM) <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

The preliminary contamination conceptual model has identified seven generic potential pollutant linkages. Each linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552⁶.

In order to assess the potential risk for each pollutant linkage, an assessment of the magnitude of the potential consequence (severity) of the risk occurring and the magnitude of the probability (likelihood) of the risk occurring has been considered and classified. This is based on the guidance provided in CIRIA C552 and further details including a risk matrix is provided in Appendix A.

Where LKC identified a low to very low risk, limited intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk, intrusive work or precautionary remedial measures will be recommended.

The conceptual model is based on the future use of the site (post development), in line with proposed development scheme.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers during development work. The Preliminary Contamination Conceptual Model deals with long term exposure to key receptors associated with the future use of the site. Acute risks can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance⁷) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

2.7 Recommendations

Based upon the Preliminary Contamination Conceptual Model a site investigation was recommended to assess the potential pollutant linkages further.

⁶ CIRIA (2001). "Contaminated land risk assessment: A guide to good practice". C552.

⁷ HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land" London HMSO.

PL	Pathway	Receptor	Contaminants of Concern (CoC)	Probability	Consequence	Risk	Recommendations
1	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils and dust. - Windblown dust.	- Future site users. - Offsite receptors.	- Heavy metals. - PAHs. - Petroleum hydrocarbons. - Other inorganic and organic contaminants.	Likely (given site history, site conditions and proposed end use)	Medium	Moderate	Intrusive investigation required. Soil analysis of CoC.
			- Pesticides.	Low Likelihood (given site history, site conditions and proposed end use)	Medium	Moderate / Low (low assumed as significant pesticide use not anticipated).	No further assessment required.
2	- Inhalation of vapours. - Migration via permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants (TPHCWG, SVOC, VOCs).	Likely (given site history, site conditions and proposed end use)	Medium	Moderate	Intrusive investigation required, to include PID testing. Soil analysis of CoC.
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 limited viable gas source and limited pathway from offsite expected due to significant thickness of clay recorded)	Severe	Moderate / Low (moderate assumed until ground conditions confirmed)	Intrusive investigation to confirm ground conditions. If significant gas source and pathway identified, gas monitoring or gas protection measures required.
4	- Surface run-off. - Migration via permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Principal Aquifer).	- Mobile contaminants such as metals, PAHs, hydrocarbons.	Likely (mobile contamination anticipated with possible pathway)	Medium	Moderate	Intrusive investigation required. Groundwater sampling. Analysis for CoC.
5	- Sulphate attack on concrete.	- Building structure.	- Sulphate.	Likely (given site history and direct contact / pathway)	Mild	Moderate / Low (moderate assumed until ground conditions confirmed)	Intrusive investigation required. Soil analysis of CoC.
6	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as petroleum hydrocarbons, naphthalene, volatile compounds.	Likely (given site history, site conditions and direct contact / pathway)	Medium	Moderate	Intrusive investigation required. Soil analysis of CoC.
7	- Direct contact (plant uptake).	- Flora.	- Phytotoxic contaminants such as heavy metals.	Likely (given site history and proposed end use)	Minor	Low	Intrusive investigation required. Soil analysis of CoC.

Table 2-7. Preliminary Contamination Conceptual Model.

3 Ground Investigation

3.1 Site Investigation Design and Methodology

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.

The initial investigation was carried out on 2nd June 2021 and comprised the following:

- 5no. window sample boreholes drilled to 2.44-5.45 metres below ground level (mbgl) (ref. WS101 to WS105).
- 7no. trial pits (using JCB) excavated to 0.3-1.7mbgl (ref. TP101 to TP105).

WS102 had to be re-positioned due to unexpected shallow refusal. The repositioned borehole is referenced WS102A.

During the first phase of site investigation works the car park area on the northern part of the site that is in use by an adjacent business could not be accessed. Additionally stockpiles of demolition rubble prevented access to some areas of the site (for example the area of the former chimney). Further investigation was recommended in these areas.

The additional site investigation works were undertaken in 19th-20th January 2022 and comprised the following:

- 20no. trial pits (using JCB) excavated to between 0.8mbgl and 3.0mbgl (ref. TP201 to TP207, TP208D-T208D, TP209-TP214, TP215A-T215C and TP216).

The investigation locations during the first phase of works were chosen to allow a good spread across the site as well as target areas of concern. The investigation locations during the second phase of works were to delineate an area of hydrocarbon contamination and investigate areas previously inaccessible. Table 3-1 details the targeted and general coverage (non-targeted) site investigation locations.

Site Investigation Locations	Rationale
TP101 & TP106	Proposed soft landscaping and general site coverage.
WS101, WS105, TP103,	Proposed car parking/access road and general site coverage.
WS102 & WS102A	Former tank storage.
TP102	Former tank.
TP105, TP107 ad WS104	Proposed 4 storey apartments.
TP209-TP211	Additional trial pits undertake in 2022 to investigate former chimney area that was inaccessible during first investigation.
TP208-TP208D, TP214	Additional trial pits undertaken in 2022 to determine extent and source of naphthalene contamination identified from initial investigation.
TP201-TP207, TP215-TP215C, TP216	Additional trial pits undertaken in 2022 to delineate the hydrocarbon contamination identified in the 2021 investigation. TP201-TP207 – Delineation of the hydrocarbon contamination identified in WS101 in 2021. TP203 was carried out to identify a potential source from a land drain identified in the 2021 investigation. TP215-TP215C and TP216 - Delineation of the hydrocarbon contamination identified in WS104 in 2021.

Table 3-1: Summary of sampling locations.

The number of site investigation points (targeted and non-targeted) corresponds to approximately one location per 19m square centres. This is considered to be a conservative sampling density and is in line with BS10175⁸ for a 'detailed investigation'.

All profile logs are provided in Appendix B and are in line with BS14688-1⁹ and BS5930¹⁰.

All site investigation locations are shown in Figure 3 and Figure 4. It should be noted that the hatched area noted on Figure 4 as 'Inaccessible Area' currently comprises a tarmacadam carpark associated with an adjacent business. This area will not be redeveloped and will remain as a tarmacadam carpark. As such no investigation works have been carried out in this area

3.2 Well Installations

All of the boreholes were installed (with exception of WS102A) with monitoring wells for groundwater monitoring and sampling. Monitoring wells were installed in accordance with BS10175 and CIRIA C665¹¹ and generally comprised approximately 1m plain pipe over a length of slotted pipe surrounded by pea gravel and sealed at the top with bentonite and concrete.

The response zones for the window sample boreholes were installed along the entire length of the borehole. Well installation details are provided in Profile Logs in Appendix B.

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 investigation¹².

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 B). The on-site monitoring was carried out in line CIRIA C665¹³ to aid in screening samples for volatile analysis.

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.

⁸ British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2017.

⁹ British Standards (2002) Geotechnical investigation and testing – Identification and Classification of Soil. Part 1: Identification and description. BS EN ISO 14688-1:2002.

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

¹¹ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

¹² EA (2000). "Technical Aspects of Site Investigation. Volumes 1 & 2 Text Supplements Research and Development Technical Report." P5-065/Tr.

¹³ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

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

Suites and Contaminants	No. Samples	Location & Depth	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	11	WS102 0.0-0.1m WS103 0.0-0.2m WS105 0.3-1.0m TP101 0.0-0.3m TP102 0.2-0.5m TP103 0.1-0.3m TP104 0.0-0.3m TP105 0.4-0.7m TP106 0.0-0.2m TP106 0.2-0.8m TP107 0.4-0.9m	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 occasional ash and coal) and no TVOCs identified from the PID tests.
Metals / metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, VOCs, SVOCs, SOM and asbestos screen.	6	WS101 0.1-0.5m WS101 0.5-1.0m WS101 1.0-1.3m WS104 0.2-0.7m WS104 1.3-1.6m WS104 1.7-2.0m	Hydrocarbon contamination identified these locations. Although no significant evidence of VOC/SVOCs, a more detailed suite including volatile contaminants included to confirm the contamination risk.
TPHCWG, BTEX, MTBE and SOM.	1	WS101 4.3-4.5m	Tested to confirm the extent of hydrocarbon contamination observed in shallower soils in this location.

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, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds, SOM=Soil Organic Matter.

Suites and Contaminants	No. Samples	Location & Depth	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	5	TP209 0.0-1.1m TP210 0.0-0.4m TP211 0.0-0.2m TP212 0.0-0.5m TP214 0.0-0.15m	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 occasional ash and coal) and no TVOCs identified from the PID tests.
TPHCWG, BTEX, MTBE and SOM.	12	TP201 0.5-0.7m TP202 0.3-0.5m TP203 0.3-0.9m TP204A 0.3-1.0m TP204B 1.1-1.2m TP204B 1.4-1.7m TP205 0.5-1.5m TP205 1.7-2.0m TP206 1.5-2.0m TP207 0.2-0.6m TP208B 0.3-1.0m TP215C 1.6-1.8m	Testing carried out to confirm the extent of hydrocarbon contamination.

Table 3-3. 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, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds, SOM=Soil Organic Matter.

3.3.2 Water Sampling

To establish the condition of groundwater LKC collected one groundwater sample from WS105.

The groundwater samples were collected a minimum of 1 week after drilling had finished and following well development. Sample collection was undertaken using a low flow sampling pump using thin walled tubing to encourage laminar flow and minimise the potential loss of volatiles during sampling. The borehole was purged of all standing water and the sample collected from the recharged water. The sample was collected in glass and plastic bottles and a glass vial. A water meter was used to test the pH, temperature and conductivity before sampling until equilibrium conditions were met, as per BS10175¹⁴ guidelines.

All water samples were placed in glass bottles, plastic bottles and septum topped vials and stored in ice packed cool boxes. The samples were sent to Chemtest on the same day for analysis. The sampling suite is presented in Table 3-3.

Due to no or insufficient water volume of the remaining boreholes further groundwater samples could not be obtained.

Sampling was carried out in accordance with BS5930¹⁵ and BS5667-11¹⁶.

Many of the tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix E. Table 3-4 shows the groundwater testing undertaken.

Suites and Contaminants	No. Samples	Location	Justification
Metals / metalloids, pH, sulphate, cyanide suite, TPHCWG, BTEX, MTBE, speciated PAHs, phenol, VOCs, SVOCs and hardness.	1	WS105	Detailed suite undertaken from only sample it was possible to collect from site.

Table 3-4. Summary of groundwater sampling tests 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, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds.

3.4 Gas Monitoring

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

A moderate / 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.

¹⁴ British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2017.

¹⁵ British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

¹⁶ British Standard (2009). "Water Quality – Sampling. Part 11: Guidance on Sampling of Groundwaters". BS ISO 5667-11:2009.

3.5 Site Investigation Scope

The scope of the contaminated land investigation was agreed with the Local Authority prior to undertaking the work (email from Lisa Jones dated 28th May 2021). This investigation was in line with the scope however locations had to be altered slightly due to the site conditions and as access was not available to a compound on the northern part of the site.

3.6 Geotechnical Testing

3.6.1 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 approximately 1m intervals, generally within the natural strata.
- Shear Vane (SV) tests (giving undrained shear strength) were performed in the trial pits within the natural clay strata.
- Pocket Penetrometer (PP) tests (giving undrained shear strength) were performed in the window sample boreholes (to a maximum depth of 3mbgl) within the natural clay strata.

The SPT, SV and PP readings are provided within the profile logs (Appendix B).

3.6.2 Laboratory Geotechnical Testing

Soil samples taken during the investigation were collected in tubs, bulk bags and undisturbed liners and sent to Murray Rix Laboratories Laboratories for geotechnical testing.

Many of the tests are UKAS accredited and further details are given in the laboratory report presented in Appendix D. Table 3-5 shows the geotechnical testing undertaken.

Suites and Contaminants	No. Samples	Location	Justification
Atterberg Limits (plasticity testing)	3	TP105 0.7-1.7m TP107 0.9-1.4m WS101 1.65-2.0m	A selection of clay samples across the site were tested for Atterberg Limits to assess their shrinkability potential associated with current and proposed trees.
Single Stage Triaxial	2	WS103 1.65-2.0m WS105 2.5-2.8m	To obtain immediate bearing capacity of clay strata tested.
Oedometer	2	WS103 1.65-2.0m WS105 2.5-2.8m	To obtain a rate and amount of settlement for the clay strata tested.
BRE Short Suite	2	TP105 0.7-1.7m TP107 0.9-1.4m	

Table 3-5. Summary of geotechnical testing undertaken.

4 Ground Conditions

4.1 Geology – Generalised Sequence

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

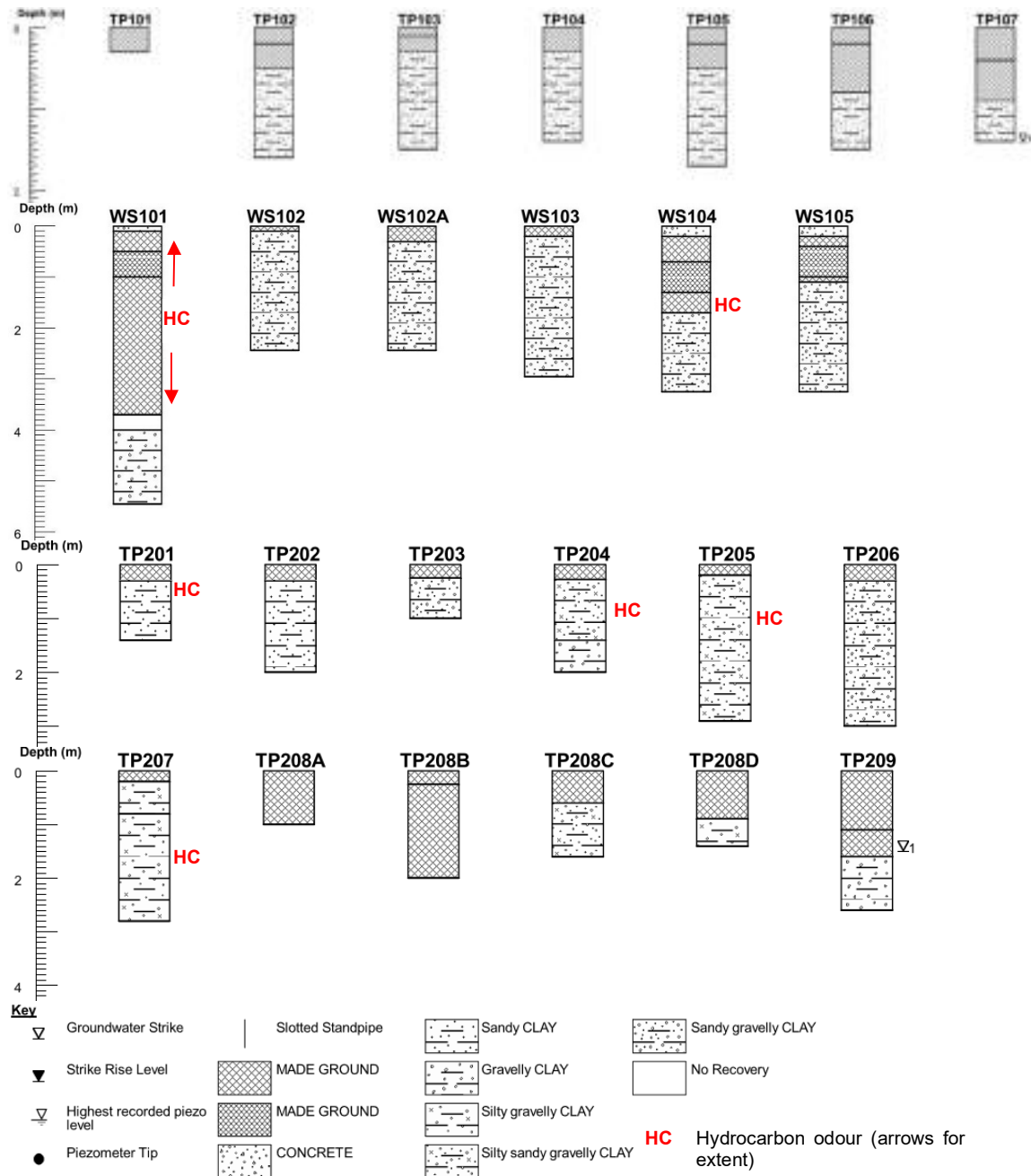


Plate 4-1: Summary of ground conditions.

Additional information on ground conditions:

- Made ground was recorded from depths of 0.30-2.00mbgl and generally consisted of sandy silty gravel / gravelly silty sand with brick, concrete, ash and clinker. Exceptions to this were:

- WS101 had made ground to 4.00mbgl, a land drain was encountered here and a hydrocarbon odour was noted throughout the strata.
- WS104 sludge like silt clay was noted within a land drain at 1.30-1.70mbgl.
- Hydrocarbon odours / sheen noted in TP201, TP204, TP25 and TP207 at various depths within seepages of water between 0.50-1.9mbgl.
- TP214 bitumen and butumen edged cobbles were recorded from 0.0-0.15mbgl.

Other in-ground structures were identified in:

- TP101 – a metal pipe encountered at 0.30mbgl.
- TP105 – a drain encountered at 0.50mbgl.
- TP203 – brick arch at 0.30mbgl and land drain at 0.90mbgl.
- TP205 – Brick wall along southern edge of pit at 0.1-0.25mbgl.
- TP208A – Concrete floor at 1.00mbgl.
- TP208C – Reduanth metal pipe at 0.30mbgl.
- TP208B – land drain at 1.80mbgl.

Superficial deposits comprised stiff consistency gravelly sandy clay to the base of the boreholes and trial pits. Occasional sandy clay was encountered.

4.2 Groundwater

4.2.1 Groundwater Levels

Groundwater strikes were recorded during the investigation in trial pits and boreholes. In addition, groundwater monitoring within the borehole wells has been undertaken on six occasions. An oil-water interface probe (approximately 1cm detection limit) was used to detect the presence of free phase hydrocarbons within each borehole.

Results are summarised in Table 4-1.

BH/TP	Water Strike Depths (mbgl)	Well Response Zone (mbgl)	No. of Monitoring Visits	Monitoring Depths (mbgl)		Sample Taken?	Evidence of Contam?
				Water Level	Base		
WS101	4.3	1.0-5.0 (MG/C)	1	4.12	4.8	N	N
WS102	Dry	1.0-2.0 (C)	1	Dry	1.8	N	N
WS103	Dry	0.5-2.5 (C)	1	Dry	2.53	N	N
WS104	Dry	-	-	-	-	N	N
WS105	Dry	1.0-3.0 (MG/C)	1	0.78	2.69	Y	N
TP101	Dry	-	-	-	-	N	N
TP102	Dry	-	-	-	-	N	N
TP103	Dry	-	-	-	-	N	N
TP104	Dry	-	-	-	-	N	N
TP105	Dry	-	-	-	-	N	N
TP106	0.3	-	-	-	-	N	N
TP107	1.4	-	-	-	-	N	N
TP201	0.9	-	-	-	-	N	N
TP202	Dry	-	-	-	-	N	N
TP203	Dry	-	-	-	-	N	N
TP204	Dry	-	-	-	-	N	N
TP205	Dry	-	-	-	-	N	N
TP206	Dry	-	-	-	-	N	N
TP207	Dry	-	-	-	-	N	N

TP208	Dry	-	-	-	-	N	N
TP208B	Dry	-	-	-	-	N	N
TP208C	Dry	-	-	-	-	N	N
TP208D	Dry	-	-	-	-	N	N
TP209	1.5	-	-	-	-	N	N
TP210	1.4	-	-	-	-	N	N
TP211	1.1	-	-	-	-	N	N
TP212	Dry	-	-	-	-	N	N
TP213	1.3	-	-	-	-	N	N
TP214	Dry	-	-	-	-	N	N
TP215	Dry	-	-	-	-	N	N
TP215B	Dry	-	-	-	-	N	N
TP215C	Dry	-	-	-	-	N	N
TP216	Dry	-	-	-	-	N	N

Table 4-1: Summary of water strike depths within boreholes and trial pits.

Response Zones:

MG=Made Ground; C=Clay

Notes:

G=Groundwater Sample

LKC advise the shallow groundwater level identified in WS105 is taken into consideration for the development. Ground water within the trial pits appears to be perched and relates to bands of sand within the clay deposits.

4.3 In-Situ Geotechnical Testing

4.3.1 Standard Penetration Tests

In-situ standard penetration tests (SPTs) were undertaken in the Made Ground and natural strata. The results are summarised in Table 4-2 and provided within the profile logs in Appendix B.

Approximate Depth (mbgl)	SPT 'N' Values					
	WS101	WS102	WS102A	WS103	WS104	WS105
1-2	5 (MG)	21 (C)	18 (C)	12 (C)	5 (MG)	13 (C)
2-3	4 (MG)	>50 (C)	>50 (C)	37, >50 (C)	36, 50 (C)	37, 50 (C)
3-4	7 (MG)	-	-	-	-	-
4-5	6 (C)	-	-	-	-	-
5-6	23 (C)	-	-	-	-	-
GW Level	4.12-403	Dry	Dry	Dry	Dry	0.78-Dry

Table 4-2: Summary of SPT (N) values.

Notes:

MG = Made Ground; C=Clay.

Groundwater level based on strikes during investigation and monitoring data.

4.3.2 Shear Vanes

Hand shear vane readings, recording undrained shear strength (s_u), were taken within the clay strata in the trial pits. The results are summarised in Table 4-3 and provided within the profile logs in Appendix B. Note that no readings were taken in TP210-TP213 due to the granular nature of the strata.

Approximate Depth (mbgl)	Average Undrained Shear Strength (kN/m ²)					
	TP102	TP103	TP104	TP105	TP106	TP107
0-1	-	-	-	-	-	-
1-2	80	95	108	80	115	60
GW Level	Dry	Dry	Dry	Dry	0.3	1.4

Table 4-3: Summary of hand shear vane readings.

Notes:

Groundwater level based on strikes during investigation.

Shear vane readings can be influenced by coarse material including silt.

Approximate Depth (mbgl)	Average Undrained Shear Strength (kN/m ²)					
	TP209	TP214	TP215	TP215B	TP215C	TP216
0-1	-	49.7	-	-	-	86
1-2	86.6	-	70	97.5	95	140
GW Level	1.5	Dry	Dry	Dry	Dry	Dry

Table 4-3 continued: Summary of hand shear vane readings.

Notes:

Groundwater level based on strikes during investigation.

Shear vane readings can be influenced by coarse material including silt.

4.3.3 Pocket Penetrometers

Pocket penetrometer readings, recording s_u , were taken within the clay strata in the window sample holes. The results are summarised in Table 4-4 and provided within the profile logs in Appendix B.

Approximate Depth (mbgl)	Average Undrained Shear Strength (kN/m ²)				
	WS102	WS102A	WS103	WS104	WS105
0-1	110	184	135	-	-
1-2	>233	>233	-	184	135
2-3	-	-	-	233	-
GW Level	Dry	Dry	Dry	Dry	0.78-Dry

Table 4-4: Summary of average pocket penetrometer readings.

Notes:

Groundwater level based on strikes during investigation and monitoring data.

Pocket Penetrometer readings can be influenced by coarse material.

4.4 Geotechnical Laboratory Testing

4.4.1 Atterberg Limits

Representative samples of natural clay were subjected to Atterberg Limits (plasticity) and Moisture Content testing. Results are presented in Appendix D and summarised in Table 4-5.

Table 4-5 also includes the modified plasticity index as detailed in Chapter 4.2-D5 of the NHBC standards (modified plasticity index = plasticity index x % less than 425µm sieve / 100%).

Location	Depth (mbgl)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Class	Passing 425 micron (%)	Modified Plasticity Index (%)
WS105	1.65-2.0	15	32	12	20	CL	96	19.20
TP105	0.7-1.7	21	35	15	20	CI	92	18.40
TP107	0.9-1.4	20	34	15	19	CL	96	18.24

Table 4-5: Summary of plasticity index testing.

The modified plasticity index characterises the clay as having a low volume change potential.

4.4.2 Single Stage Triaxial Test

Single stage triaxial testing has been undertaken on four samples of the natural clay strata. The results are presented in Appendix D and summarised in Table 4-6.

Location	Depth (mbgl)	Material Description	Undrained Shear Strength (kPa)
WS103	1.65-2.00	Stiff brown silty sandy CLAY with rare gravel.	130
WS105	2.50-2.80	Stiff brown silty sandy CLAY with rare gravel.	125

Table 4-6: Summary of single stage triaxial results

4.4.3 Oedometer

The coefficient of compressibility (m_v) results indicate that the m_v of the CLAY tested is of medium compressibility, ranging between 0.13 m^2/MN and 0.18 m^2/MN . The coefficient of consolidation (c_v) was calculated during the loading stages of the oedometer tests. The results indicate that c_v generally improving with increase in load, ranging between 9.03 $m^2/year$ and 3.54 $m^2/year$, averaging 1.22 $m^2/year$, summarised in Table 4.7.

Location	Depth (mbgl)	Initial Moisture Content (%)	Pressure (kN/m ²)	Mv Value (m ² /MN)	Description of Compressibility
WS105	1.65-2.00	16	15	0.14	medium
			30	0.13	medium
			60	0.18	medium
			120	0.17	medium
			15	0.10	medium

Table 4-7: Summary of consolidation (Oedometer) test results.

4.4.4 Sulphate and pH

Water soluble sulphate and pH tests were carried out on soil and groundwater samples. Full results are presented in Appendix C (soils) and Appendix E (groundwater) and summarised in Table 4-8.

Strata	pH		Sulphate	
	Soil	Groundwater	Soil (g/l)	Groundwater (mg/l)
Made Ground	8.1 – 10.8	8.1	0.011 – 0.92	480
Natural	8.5 - 9.1		<0.10 – 0.043	

Table 4-8: Summary of pH and sulphate results.

5 Geotechnical Assessment

5.1 Proposed Development

It is understood that the proposed development will comprise a 4 storey apartment block (40no. units – 16no. 2 beds & 24no. 1 bed) with car parking, associated landscaping and infrastructure.

The finished ground levels have not been provided and it is therefore anticipated that they will not vary significantly from current levels. However, should the development proposals or finished levels be altered then the comments/recommendations in this section may require revising.

The depths of any underground engineering works (sewers etc.) are unknown and therefore have not been taken into account in the following assessment. It is considered that any such works will be designed so as not to have an effect on, or compromise, proposed or existing foundations or ground stability.

Given the nature of the proposed development it is considered that the structure meets the criteria of Geotechnical Category 2 of Euro Code 7.

5.2 Summary of Ground Conditions

Ground conditions identified at the site are detailed in Section 4.1, and typically comprises Made Ground up to 4.00mbgl (WS101) over natural cohesive superficial deposits of CLAY (Glacial Till) to the completion depths investigated.

5.3 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 can be expected on site. These should be excavated from below the proposed development foot print with the resulting void backfilled.

The near surface soils 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.

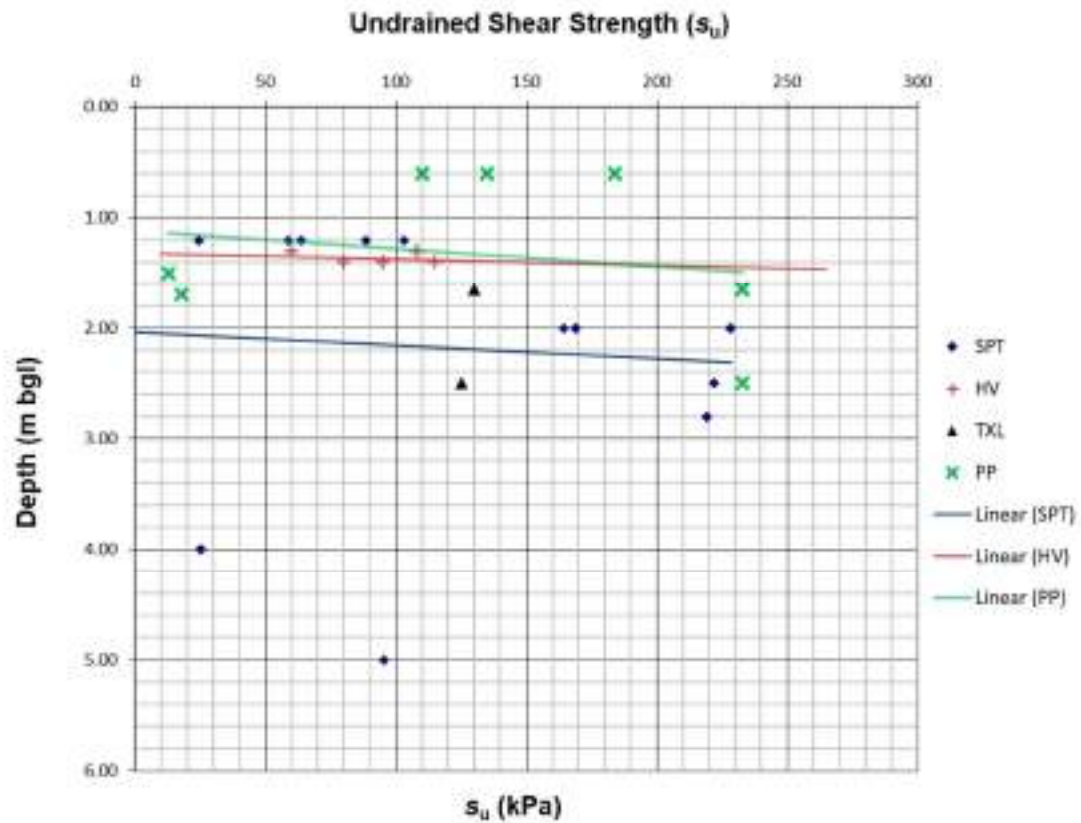
5.4 Foundation Conditions and Bearing Capacity

5.4.1 General

It is considered that the Made Ground is not suitable for a founding material due to the inherent variability of the material.

Strength of the natural cohesive material has been assessed using in-situ testing by SPT, Hand Shear Vane (HV), Pocket Penetrometer (PP) and by laboratory testing

through single stage undrained triaxial (TXL). The results of the testing have been plotted against depth as is shown in Graph 5-1 below:



Graph 5-1: Summary of s_u vs depth from SPT, PP, HV and TXL testing.

From Graph 5-1 it can be seen that the strength of the shallow natural cohesive deposits are typically variable, with shear strengths ranging between 25kPa and 184kPa between 0.60m and 1.20mbgl.

A conservative s_u of 60kPa is assigned to the cohesive material from a depth of c. 1.0mbgl for the natural superficial deposits, returning an allowable bearing capacity (ABC) of 123kN/m² for strip/trench fill foundations.

Foundation options are discussed in the following Sections.

5.4.2 Strip Foundations

Strip foundations should be constructed at least 150mm into the underlying firm CLAY. At this depth an allowable bearing capacity of 123kN/m² has been calculated using a Factor of safety of 3 and an undrained shear strength of 60kN/m² taken from Graph 5-1.

Atterberg limits determinations, summarised in Table 4-5 show the clay to be of low plasticity and as such the sides of the foundations are not likely to require protection using clay board or similar.

Foundation depths should take account of the presence of existing and proposed trees with foundations deepened locally in accordance with the requirements of NHBC Standards for a clay of low plasticity. It is recommended that at working drawing stage

a foundation schedule is prepared for the development taking account of the soil plasticity and the locations of trees.

5.4.3 Pad Foundations

Based upon the s_u obtained from the in-situ and laboratory testing of the Glacial Till material, an assessment has been made on a pad foundation supporting column loads. For preliminary assessment purposes, two sizes of pad (1m^2 and 2m^2) have been considered at depths of 1mbgl. The bearing capacity assessment has been made in line with combination 1 (partial factors on Actions) and Combination 2 (partial factors on materials), results are shown in Table 5-1.

Pad Size	Pad Depth (mbgl)	Allowable Load (kN)
1m^2 (1.00m x 1.00m)	1.00	127
2m^2 (1.42m x 1.42m)	1.00	313

Table 5-1: Summary of pad Allowable Load.

The pads show an ABC of 127kN for a 1m^2 pad and 313kN for a 2m^2 pad foundation placed at a depth of 1mbgl in the target stratum of firm becoming stiff CLAY (Glacial Till). Strip foundations supporting cladding walls should be able to support loadings of 100kN/m^2 .

It can be seen that increasing the size of the foundation results in a greater ABC, however.

The above is for assessment purposes only, foundation design should be undertaken by a specialist contractor.

5.4.4 Piled Foundations

As an alternative consideration maybe given to the use of piled foundations. For preliminary purposes the following initial pile carrying capacities have been calculated. When undertaking these preliminary calculations the following parameters have been used:

- Undrained shear strength values from Tables 4-3, 4-4 and 4-6 and Graph 5-1;
- Adhesion Factor of 0.45 based on CFA piles;
- Factors of safety of 1.5 on side resistance and 3 on base resistance; and,
- Global Factor of safety of 2.5.

Depth (mbgl)	Pile Carrying Capacity (kN)		
	300mm dia	450mm dia	600mm dia
3	33	60	96
5	94	182	299

Table 5-2: Preliminary Pile Carrying Capacity.

Deeper boreholes will be required to confirm ground conditions are suitable in accordance with EC7 which requires the ground conditions to be established to a depth of 5m below base of pile. Pile design should be undertaken by a specialist contractor to allow them to reduce the factor of safety based on their extensive pile testing data.

At the location of WS101 in the proposed car parking area, Made Ground was encountered to a depth of 3.70m. Consideration must be given to the potential for

deep Made Ground to be encountered elsewhere across the site and therefore due consideration to the potential for negative skin friction must be taken into account in the design.

Recommendation

The proposed development comprises a 4 storey apartment block and it is considered that column loads supported on pad foundations will provide the most economic and stable option. Should the design indicate that piled foundations are required then deeper investigations will be required.

5.5 Ground Floor Slabs

Due to the presence of varying thickness' between 0.50m and 1.70mbgl depth of Made Ground beneath the footprint of the proposed building, it is considered that suitable preparation of the sub-grade, by a combination of excavation and re-compaction, a ground bearing floor slab should prove suitable for the proposed buildings.

5.6 Pavement Construction

It is considered that the topsoil is not suitable for use as a sub-grade. Untreated Made Ground is considered unsuitable as a sub-grade due to its potential variability and potentially low strength/high compressibility. It should be removed to a depth of 0.5m below formation level and sorted to remove any unsuitable or deleterious materials. The sub formation should be rolled and suitable excavated material can then be replaced, up to formation level, in fully compacted thin layers. Any deficit should be made up with suitable imported fill compacted as above. Following this treatment an overall design CBR of 2-5% should be available, although this will require confirmation at a later date through in-situ CBR tests.

Based on the plasticity index the soils may be frost susceptible. Frost action can cause differential heaving, surface roughness and cracking, blocked drainage, and a reduction in bearing capacity during thaw periods. In areas of proposed roads and car parking it may be necessary to remove the frost susceptible soils and replace with non-frost susceptible material to the expected frost depth penetration.

Following excavation the sub formation should be proof rolled and any soft material inspected and removed.

5.7 Drainage

The presence of variable and in places substantial, depths of Made Ground across the site, may result in settlement. It is therefore recommended that drain runs are designed using steeper gradients and flexible joints to allow for some differential settlement.

5.8 Concrete Durability

Based upon the results of the chemical analyses summarised in Table 4-8 it is considered that subsurface concrete can be designed in accordance with Design Sulphate Class DS-2, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-1s in the areas of Made Ground and DS-1, AC-1 in the natural ground, in accordance with the recommendations provided in BRE Special Digest 1 (2005).

5.9 Excavations

Site observations indicated that excavations should be feasible in the near surface with normal plant, however obstructions may be present in the near surface including former foundations and walls. It is anticipated that any obstructions will be grubbed out during the reduced level dig for the sub structure works.

Exploratory holes were observed to be stable during the excavation/drilling and the Made Ground included granular strata.

Due to the variability of the Made Ground it is considered that all excavations are supported or battered back in accordance with guidance contained in CIRIA R97¹⁷. Groundwater seepage was noted in one trial pit however is likely that the observed water inflow is due to striking a redundant drain.

5.10 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;
- Where access to confined spaces is required appropriate mitigation measures should be addressed within the Construction Stage Health and Safety Plan. Particular account should be taken of the gas results;
- 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).

¹⁷ CIRIA Report 97 – Trenching Practice – Second Edition (2001 revision)

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 (LCRM¹⁸). 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^{19,20}. The recent change to the contaminated land guidance has changed the evaluation of risk from 'minimal' (referred to as Health Criteria values (HCVs))²¹ 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 S4ULs²². 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^{23,24,25,26}.

If contaminants are not present as C4SLs and S4ULs then LKC will use ATRISK SSVs or CL:AIRE GACs²⁷. 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

¹⁸ Land Contamination Risk Management (LCRM) <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

¹⁹ Defra (2014). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Policy Companion Document."

²⁰ CL:AIRE (2013). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Final project Report."

²¹ EA (2008). "Human Health Toxicological Assessment of Contaminants in Soils." Science Report – SC050021/SR2.

²² LQM (2014). "The LQM/CIEH S4ULs for Human Health Risk Assessment."

²³ EA (2008). "Updated Technical Background to the CLEA Model." Science Report – SC050021/SR3.

²⁴ EA (2008). "Human Health Toxicological Assessment of Contaminants in Soils." Science Report – SC050021/SR2.

²⁵ EA (2008). "A Review of Body Weight and Height Data used within the Contaminated Land Exposure Assessment Model (CLEA)." Project SC050021/Technical Review 1.

²⁶ EA (2009). "Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values." Science report SC050021/SR7.

²⁷ CL:AIRE (2009). "The Soil Generic Assessment Criteria for Human Health Risk Assessment."

standard PAHs^{28,29} and naphthalene the most volatile and soluble³⁰. 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 negligible³¹. For B(a)P to be used as a surrogate marker it should follow the profile described by the HPA (2008)³² and CL:AIRE (2013). Naphthalene will be treated separately using the LQM S4ULs.

The proposed development is for residential apartments with limited shared soft landscaping, therefore the assessment criteria for residential without plant uptake has been used.

All criteria have been generated using the CLEA V1.06 model³³ 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 F. 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.*³⁴, 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.

²⁸ EA (2002). "Contaminants in Soils: Collation of Toxicological Data and Intake Values for Humans. Benzo[a]pyrene." R&D Publication TOX2.

²⁹ USEPA (1984). "Health Effects Assessment of Polycyclic Aromatic Hydrocarbons (PAHs). EPA 540/1-86-013."

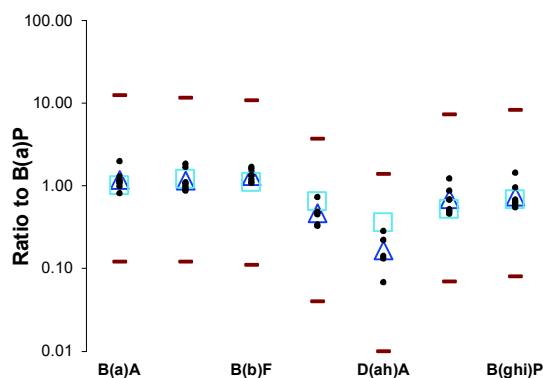
³⁰ EA (2003). "Review of the Fate and Transport of Selected Contaminants in the Soil Environment." Draft technical report P5- 079/TR1.

³¹ CL:AIRE (2013). "SP1010: Development of Category 4 Screening Levels and Assessment of Land Affected by Contamination – Final project Report."

³² HPA (2010). "HPA Contaminated Land Information Sheet: Risk Assessment Approaches for Polycyclic Aromatic Hydrocarbons (PAHs)." Version 3.

³³ EA (2008). "CLEA Software (Version 1.05) Handbook." Science Report – SC050021/SR4.

³⁴ 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.



Graph 6-1: The ratio of PAH to B(a)P in soil for all available data at the site based on 9 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)

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.

Other Contaminants with no C4SLs, LQM S4ULs, ATRISK SSVs or CL:AIRE GACs

Where generic assessment criteria have not been derived (mainly due to insufficient toxicological data), the results were compared against contaminants of assumed likely similar toxicity (with some conservatism) as shown below:

- Carbazole and dibenzofuran: compared to commercial C4SL for benzo(a)pyrene (5.3mg/kg 6% SOM). These contaminants are a bi-product of organic combustion but can be naturally occurring. The Material Safety Sheets indicates these compounds are not volatile and considering there is no toxicological information available³⁵, LKC compared the analytical results to one of the most toxic PAH as a precaution.
- 1,3,5-trimethylbenzene: compared to the ATRISK SSV for 1,2,4-trimethylbenzene on the assumption of similar toxicity.
- Sec-butylbenzene: added to the benzene concentration and compared to benzene C4SL as a screening value considering benzene is one of the more toxic derivatives.
- 1,2 Dibromoethane: used in mills as a spot fumigant. Although there is no assessment criteria for this contaminant, given the low concentration encountered (19µg/kg) and the absence of other elevated VOCs/ SVOCs this concentration is not considered to pose a significant risk.

³⁵ IRIS Database (USEPA). <http://www.epa.gov/iris/subst/0429.htm>. Last updated 20th December 2010.

6.2.2 Soil Results Comparison against Assessment Criteria

All analysis sheets are presented in Appendix C. Elevated and pertinent results are presented in Table 6-1.

Contaminant	Units	No. of samples	Elevated Results	Sample Location	Criteria (1%/2.5%/6%)	Source of Criteria
Metals						
Arsenic	mg/kg	35	60	WS103 (0.0-0.2m)	40	C4SL
			67	WS104 (1.3-1.6m)		
			47	TP101 (0.0-0.3m)		
			54	TP104 (0.0-0.3m)		
			42	TP105 (0.4-0.7m)		
			320	TP210 (0.0-0.4m)		
			62	TP211 (0.0-0.2m)		
Lead	mg/kg	35	750	WS103 (0.0-0.2m)	310	C4SL
			2,100	WS104 (1.3-1.6m)		
			420	TP101 (0.0-0.3m)		
			530	TP102 (0.2-0.5m)		
			370	TP106 (0.0-0.2m)		
			350	TP209 (0.0-1.1m)		
			780	TP210 (0.0-0.4m)		
			4600	TP211 (0.0-0.2m)		
			840	TP212 (0.0-0.5m)		
			350	TP214 (0.0-0.15m)		
PAHs						
Benzo(a)pyrene	mg/kg	35	12	WS104 (0.2-0.7m)	5.3	C4SL
			40	WS104 (1.3-1.6m)		
			71	TP101 (0.0-0.3m)		
			6.3	TP102 (0.2-0.5m)		
			14	TP211 (0.0-0.2m)		
			210	TP214 (0.0-0.15m)		
Naphthalene	mg/kg	35	61	TP101 (0.0-0.3m)	2.3/5.6/13	S4UL
			100	TP214 (0.0-0.15m)		
TPHs						
Aliphatic C8-C10	mg/kg	19	180	WS101 (0.1-0.5m)	27/65/150	S4UL
Aromatic C12-C16	mg/kg	19	3,300	WS101 (0.1-0.5m)	1,800 / 2,300 / 2,500	S4UL
Aromatic C16-C21	mg/kg	19	3,200	WS101 (0.1-0.5m)	1,900	S4UL
			5,300	WS104 (1.3-1.6m)		
Aromatic C21-C35	mg/kg	19	2,200	WS101 (0.1-0.5m)	1,900	S4UL
			3,900	WS104 (0.2-0.7m)		
			25,000	WS104 (1.3-1.6m)		
Aromatic C35-C44	mg/kg	19	3,400	WS104 (1.3-1.6m)	1,900	S4UL
GENERAL						
pH	pH	35	Range 7.9 to 11.7			
SOM	%	35	Range <0.4 to 26			
Asbestos	N/A	35	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 (% wt/wt)
WS103 (0.0-0.2m)	Chrysotile	Fibres/Clumps	0.003
WS104 (1.3-1.6m)	Chrysotile	Fibres/Clumps	0.004

Table 6-2: Details of asbestos identified.

6.2.3 Hazard Quotient

As no significant concentrations of petroleum hydrocarbons were identified in any of the soil samples that did not exceed the assessment criteria; a hazard index (HI) as described by the Environment Agency³⁶ technical report (to examine the potential additivity of toxicological effects between the petroleum hydrocarbon fractions) has not been undertaken as part of this assessment.

6.2.4 Direct Contact Risk – Pollutant Linkage 1

Metals and PAHs

Elevated arsenic, lead and B(a)P were identified in made ground samples across the site. The source is anticipated to be coal, ash and metal fragments noted in the soils. At the concentrations identified, the contaminants are considered to pose a risk to future site users (residents) in areas of soft landscaping.

The second phase of investigation works demonstrated that the likely source of the highest levels of B(a)P noted in the first phase of investigation is bitumen fragments associated with cobbles in localised areas.

The principal pathways are the ingestion pathways (soil and dust) and to a lesser degree dermal contact.

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

Petroleum Hydrocarbons

With regards to heavier end fractions (potential for direct contact pathway), elevated aromatic C16-C21 and C21-C35 were identified in WS101 at 0.1-0.5m and WS104 at 1.3-1.6mbgl. Elevated C35-44 was identified in WS104 at 1.3-1.6mbgl.

No other elevations were noted in any sample from the additional site investigation. However, visual and olfactory evidence of hydrocarbon contamination was identified in TP201, TP204, TP205 and TP207 where non continuous sand lenses were recorded within the clay deposits.

The contamination identified in WS104 was contained within a land drain at depth. Therefore, this is not considered to pose a significant risk to future site users as there will be no direct contact. The additional investigation works carried out did not reveal any further significant contamination associated with this source.

The sands or sandy clay bands which occur sporadically around WS101 with visual and olfactory evidence of hydrocarbon contamination are noncontinuous. It is surmised that a historic spill or leak may be the source however no significant evidence of contamination remains only small isolated pockets within these sand lenses.

³⁶ EA (2005). "The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils." Science Report P5-080/TR3.

Elevated volatile fractions were also encountered in WS101 which will require further assessment (see Section 6.2.5). The remediation recommended for PL1 will mitigate the risk from the elevated heavy end fractions.

LKC considers the probability of hydrocarbon contamination affecting site users (via ingestion and dermal contact) as likely in the area of WS101. Given a medium consequence a moderate risk is considered appropriate and localised remediation is recommended.

Asbestos

Asbestos (chrysotile) was identified in WS103 (0.0-0.2m) and WS104 (1.3-1.6m).

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-SOIL³⁷ and CIRIA C733³⁸.

In this model a child of school age playing in the landscaped area for 1 hour was assumed in close proximity to the source. A medium respirable index was assumed based on the ACM identified onsite as per RIVM³⁹.

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. AGS interim guidance⁴⁰, based on work by Addison et al⁴¹, notes 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 16-47% 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 I. A medium 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 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 soft landscaped areas.

³⁷ CL:AIRE (2016). "CAR-SOIL Controlled Asbestos Regulations 2012: Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials" Industry Guidelines.

³⁸ CIRIA (2014). "Asbestos in Soil and Made Ground: A guide to Understanding and Managing Risks." CIRIA C733.

³⁹ RIVM (2003). "Assessment of the Risks of Soil Contamination with Asbestos" CIRIA C733." RIVM Report 711701034/2003.

⁴⁰ AGS (2013). "Site Investigation Asbestos Risk Assessment." AGS Interim Guidance, Feb 2013, Ver 2.4.

⁴¹ Addison et al (1988). "The Release of Dispersed Asbestos Fibres from Soils." Institute of Occupational Medicine Report No. TM/88/14.

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.

6.2.5 *Risk from Inhalation of Vapours – Pollutant Linkage 2*

Petroleum Hydrocarbons

Elevated volatile aliphatic petroleum hydrocarbons (C8-10) and aromatic petroleum hydrocarbons (C12-16) were identified in WS101. This location is in the north of the site and the contamination is expected to be relatively localised. The contamination corresponds to the presence of a hydrocarbon odour noted in these samples and detectable PID results (75.6ppm).

No elevated concentration of hydrocarbons were noted in the additional investigation in this area, however visual and olfactory evidence of hydrocarbon contamination was noted and PID results suggest the presence of contamination (maximum 70.1ppm in TP204) in non-continuous sand lenses within the clay deposits. The sands or sandy clay bands occur sporadically around WS101 with visual and olfactory evidence of hydrocarbon contamination. It is surmised that a historic spill or leak may be the source however no significant evidence of contamination remains only small isolated pockets within these sand lenses.

These contaminants may pose a risk to site users via the inhalation of vapours.

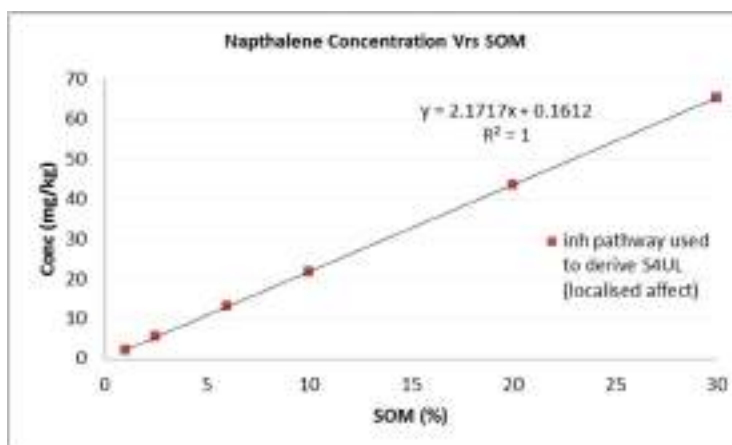
The probability of vapours posing a risk to site users in the localised area is considered to be likely. With a medium consequence, the risk is expected to be moderate. Remediation (vapour membrane or removal of volatile HC contamination) is required as a precautionary measure in the northern area of site.

The probability of vapours posing a risk to site users across the remainder of the site is considered to be unlikely. With a medium consequence, the risk is expected to be low and no further investigation / assessment is recommended.

Naphthalene

Naphthalene was elevated in TP101 (0.0-0.3m) and TP214 (0.0-0.15mbgl) at concentrations of 61-100 mg/kg respectively. The SOM values for these samples is 19-22%.

There is a linear relation ($r^2=1$) between Naphthalene and SOM concentrations (see Graph 6-2).



Graph 6-2: Naphthalene vs. SOM

The modified assessment criteria for naphthalene (SOM of 19-22%) is calculated as 41-47mg/kg, when using the above formula. Therefore, the concentrations of naphthalene detected both exceed the modified assessment criteria. The source of this is anticipated to be fragments of bitumen within the made ground close to the carparking area in the north of the site.

Based on the ground conditions encountered and the above risk assessment, there is considered to be a likely probability of volatile contamination posing a risk to site users in the northwest of the site. Assuming a medium consequence, gives a moderate risk associated with Pollutant Linkage 2 and remediation is recommended to include excavation / removal of material containing bitumen fragments in the northwest of site.

6.3 Gas Risk Assessment

Gas monitoring was not carried out as part of this assessment. The PRA identified a moderate / low risk and recommended gas monitoring if a significant depth of organic / putrescible material was identified.

Made ground to a depth of 0.9-1.3mbgl with an average depth of 0.6mbgl was generally encountered across the site.

In line with CL:AIRE Research Bulletin 17⁴² 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.

Made ground was deeper in WS101 and WS104. General made ground was present in WS101 to 1.0mbgl, below this it was a possibly reworked clay to 3.7mbgl where a land drain was encountered. In WS104 the general made ground was present to 1.3mbgl and then a land drain was present to 1.7mbgl. Significant organic / putrescible material was not encountered which would pose a significant risk to the site. In particular the deeper area around WS101 the made ground beyond 1.0mbgl relates to reworked clay and therefore not considered to be gas producing.

Given the ground conditions encountered, LKC considers the probability of gas posing a risk to site users as unlikely. The consequence is severe, which gives a moderate / low risk. Given the known ground conditions, LKC considers there to be a low risk and no further action is required with respect to pollutant linkage 3.

⁴² CL:AIRE Research Bulletin (RB17) "A Pragmatic Approach to Ground Gas Risk Assessment" November 2012.

6.4 Controlled Water Assessment

LKC considers the Principal 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:

- ▶ River Basin District Standards⁴³ and updated Water Framework Directive⁴⁴ for Annual Average / Maximum Allowable Concentration Environmental Quality Standards (AA-MAC-EQS) for priority substances (surface water risk).
- ▶ 2016 private water supply standards (UKDWS potable)⁴⁵.
- ▶ 2001 Environment Agency Values for Environmental Quality Standards (EQS) and UK Drinking Water Standard (UKDWS)⁴⁶.

With regards to hydrocarbon mixtures (TPHCWG) for UKDWS, LKC will use the CL:AIRE guidance on petroleum hydrocarbons in groundwater⁴⁷ based on WHO guidelines.

No criteria values have been presented for surface waters (EQS) except the odour, visual evidence and taste test for fish⁴⁸. However, criteria for each banding has been presented by WHO within the CL:AIRE report for drinking water and will be used in the assessment.

The risk from List 2 compound (EC Dangerous Substance Directive 76/464/EEC) in a freshwater ecosystem is governed by the hardness of the water. Where applicable the hardness was taken into account for these contaminants.

No elevated contaminants above detection limits were identified in the water sample.

Heavy end hydrocarbon contamination was identified in a drain in WS104 at 1.30-1.60mbgl which may pose a risk to controlled waters particularly if disturbed during construction activities. In addition, hydrocarbon contamination was identified in WS101.

Further investigation identified isolated/non continuous sand lenses, where perched water 'seepage' was recorded, the northwest of site. These lenses were visually contaminated with a hydrocarbon sheen and odour at various depths. The extend of these lenses and visual evidence of hydrocarbon contamination is restricted to the northeast of the site and is shown on Figure 4. The clay deposits between and below these sand lenses did not show any sign of visual or olfactory contamination by hydrocarbons and testing did not show significantly elevated levels of hydrocarbon contamination. As these sand lenses appear isolated with perched non interconnected groundwater seeps they are not considered to present a significant risk to groundwater.

⁴³ Defra (2010). "The River Basin Districts Typology, Standards and Groundwater Threshold Values". Water Framework Directive (England and Wales) Directions 2010.

⁴⁴ Defra (2015). "Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015".

⁴⁵ Statutory Instruments (2016). "The Private Water Supplies Regulation 2016." No. 614

⁴⁶ EA (2002). "Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the Environment Protection Act 1990."

⁴⁷ CL:AIRE (2017). "Petroleum Hydrocarbons in Groundwater: Guidance on Assessing Petroleum Hydrocarbons Using Existing Hydrological Risk Assessment Methodologies."

⁴⁸ EA (2009). "Petroleum Hydrocarbons in Groundwater: Supplementary Guidance for Hydrological Risk Assessment."

Based on the above, LKC considers the probability of contaminants on site affecting the Principal Aquifer as low. Given the medium consequence, a moderate risk is anticipated (Pollutant Linkage 4) in the northeast of the site in the vicinity of WS101 (as indicated on Figure 4) and within the drain noted in WS104 with a low risk across the remainder of the site.

Localised remediation is recommended around WS101 alongside the clear out or removal of the contaminated material within the drain recorded in WS104 is recommended.

6.5 Additional Risk Assessments

6.5.1 Concrete (Pollutant Linkage 5)

As stated in Section 5, sulphate resistant concrete will be required at the site. The site was classified as DS-2 AC-1s in areas of made ground.

Based on the above, the probability of sulphate concentrations affecting buildings is likely. Given the consequence is considered to be mild, the risk (pollutant linkage 5) is anticipated to be low / moderate and remediation (sulphate resistant concrete) is required. This should be confirmed with the structural engineer.

6.5.2 Potable Water Supply (Pollutant Linkage 6)

Soil results were compared to United Utilities (UU) guidelines for the selection of potable water pipes in land potentially affected by contamination⁴⁹. 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: ketones and aldehydes.

The following elevated contaminants were identified:

-  Elevated petroleum hydrocarbons.
-  Elevated TVOCs (inc. naphthalene).

It should be noted typical pipework depths are 0.75mbgl to 1.35mbgl.

Once details of the pipeline location and depths are known a UU Risk Assessment should be undertaken.

At this stage, the probability of organic contaminants affecting potable water pipes is a likely. Given the consequence is considered to be medium, the risk (pollutant linkage 6) is anticipated to be moderate risk and remediation (i.e. barrier pipe) is likely to be required (subject to further risk assessment).

6.5.3 Phytotoxicity (Pollutant Linkage 7)

Soil results were compared to phytotoxic guideline values as outlined in BS3882⁵⁰.

Elevated zinc and copper were identified. The probability of phytotoxic contaminants affecting vegetation is considered to be likely. With a minor consequence, the risk (pollutant linkage 7) is anticipated to be low. Although the risk is low, some remediation is recommended. The remediation associated with PL1 (cover system) will mitigate the risk to flora.

⁴⁹ UU(2011). "United Utilities Water Supplementary Guidance for the Selection of Water Pipes in Land Potentially Affected by Contamination."

⁵⁰ BS (2015). "Specifications for Topsoil and Requirements for Use." BS3882:2015.

6.6 Revised Contamination Conceptual Model

The preliminary contamination conceptual model (Table 2-7) 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 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.

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

Former Chatsworth Mill, Gorton
Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy

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 residents. - Site users. - Offsite receptors.	- Chrysotile - Arsenic and lead - BaP - TPH (localised)	Likely	Medium	Moderate	- Likely probability as ACM (chrysotile) identified, elevated metals (arsenic and lead), PAHs identified in the made ground across the site which could come into contact with site users in soft landscaping areas. - TPH contamination in localised areas (Figure 4). - Recommendation*1: Remediation required. Likely to include an environmental cover system in soft landscaping areas.
PL2	- Inhalation of vapours. - Migration through permeable strata and preferential pathways.	- Future residents. - Site users.	- Ali EC8-10, Aro EC12-16. - Naphthalene.	Likely	Medium	Moderate (N area)	- Localised areas of volatile contamination identified. - Recommendation: Remediation required likely to include either the removal of bituminous material noted in the made ground (including cobbles) or a vapour membrane in the north of site.
			Volatile Contaminants (none identified)	Unlikely	Medium	Low (General Site)	- No elevated volatile contaminants across remainder of the site. - Recommendation: No remediation required.
PL3	- Inhalation of gas. - Migration through permeable strata and preferential pathways. - Explosion in confined spaces (methane only).	- Future residents. - Buildings. - Offsite land users.	- Carbon dioxide, Methane	Unlikely	Severe	Moderate / Low	- A significant source of hazardous gas was not identified on site. - Recommendation: No remediation required.
PL4	- Surface Run-off. - Migration through permeable strata and preferential pathways - Perched waters migration.	- Groundwater (Principal Aquifer).	Mobile contaminants: - Metals, PAHs, TPH. (localised)	Low likelihood	Medium	Moderate / Low	- Although elevated metals and PAHs identified, given the environmental settings and ground conditions encountered and as there were no exceedances in the water sample tested, they are not considered to pose a significant risk to groundwater. Visual and olfactory evidence of TPH contamination was identified within a land drain in the area of WS104 and within sand lenses around WS101 (Figure 4) - Recommendation: Removal of hydrocarbon impacted material around WS101 and within the drain noted in WS104. No remediation required across the remainder of the site.

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.

Pollutant Linkage	Pathway	Receptor	Contaminant	Probability	Consequence	Risk	Assessment
PL5	- Sulphate attack on concrete.	- Building structure.	- Sulphate.	Likely	Mild	Moderate / Low	- Elevated sulphate identified within the made ground therefore moderate risk considered appropriate. - Recommendation: Sulphate resistant concrete in line with DS-2 AC-1s.
PL6	- Ingestion of tainted water supply.	- Future site users (via potable water).	Organic Contaminants: - TPH, SVOCs.	Low	Medium	Moderate / Low	- Likely probability as elevated SVOCs and TPH encountered which could permeate water pipes and contaminate water supply. Pipes may be installed in underlying natural strata depending on location and depth. - Recommendation: UU risk assessment undertaken. Barrier piping may be required.
PL7	- Direct Contact (plant uptake).	- Flora.	Phytotoxic Contaminants: - Zinc, copper, nickel.	Likely	Minor	Low	- Elevated zinc and copper identified, which may be taken up by flora in soft landscaping / gardens. - Recommendation: Given risk to flora, some remediation is recommended. Remediation associated with PL1 will mitigate the risk to flora.

Table 6-3 (continued): Revised Contamination Conceptual Model.

7 Waste Disposal Assessment

The soil contamination results as presented in Appendix C 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 HazwasteOnline™. This is a web-based facility that allows an assessment waste as either hazardous or non-hazardous waste based on relevant guidance and legislation^{51, 52, 53, 54, 55, 56, 57, 58, 59}.

HazwasteOnline™. 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).

The output sheet is presented in Appendix G and the samples classified as HAZARDOUS WASTE are summarised in Table 7-1.

Sampling Location	Hazard (Risk Phrase)	Contaminants
TP103 0.1-0.3m	HP8 (corrosive)	pH
WS101 0.1-0.5m	HP3(i) (flammable) HP7 (carcinogenic) HP11 (mutagenic)	TPH, BTEX, Benzene derivatives
WS104 0.2-0.7m	HP3(i) (flammable) HP7 (carcinogenic) HP11 (mutagenic)	TPH, BTEX, Benzene derivatives
WS104 1.3-1.6m	HP3(i) (flammable) HP7 (carcinogenic) HP11 (mutagenic) HP14 (ecotoxic)	TPH, lead and zinc

Table 7-1: Summary of HazwasteOnline™ findings.

The remaining samples tested were classified as Non-Hazardous Waste.

⁵¹ EA (2018). "Guidance on the Classification and Assessment of Waste (1st Edition v1.1)". Technical Guidance WM3.

⁵² CLP Regulation - Regulation 1272/2008/EC of 16 December 2008.

⁵³ 1st ATP - Regulation 790/2009/EC of 10 August 2009

⁵⁴ Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

⁵⁵ WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

⁵⁶ Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014

⁵⁷ 13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

⁵⁸ POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

⁵⁹ 2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

8 Conclusions

8.1 Geotechnical

Proposed Development	- 4 storey apartment block (40no. units – 16no. 2 beds & 24no. 1 bed) with car parking, associated landscaping and infrastructure.
General Ground conditions / Geotechnical Testing	- Based on WS101-WS105, TP101-TP107. - Maximum investigation depth 5.45mbgl. - Made Ground to 0.3-1.3mbgl. At location of WS104 Made Ground recorded to 4.00mbgl. - Stiff to very stiff variably sandy gravelly CLAY to 2.44 >5.45mbgl. SPTs N=6->50. All window samples holes refused on SPT refusal with the exception of WS101. Thickness of the CLAY was not proven in the exploratory holes. - No bedrock encountered. - Groundwater only encountered at 4.30m in WS101 and 1.40m in TP107.
Undrained shear Strength (s_u)	60kPa at 1.00mbgl within natural strata returning an Allowable Bearing Capacity of 123kN/m ² for a standard strip foundation.
Anticipated Foundation Type	-Initial assessment of underlying clay from in-situ and laboratory testing indicates the clay to be firm to very stiff consistency, high to very high strength with a medium risk of time dependent settlement. It is considered that pad foundations supporting column loads should prove a suitable and cost effective solution option. Alternatively, should a piled foundation option be required in order to mitigate the risk of time dependant and differential settlement it is deeper investigation would be required to allow for pile design. -The appointed specialist piling contractor will be able to optimise pile design such as pile grouping per pile cap, pile diameter & pile spacing, installation methodology, pile cap settlement, and socket lengths to suit from the SI data.
Shallow Groundwater	- Shallow groundwater was only identified at two locations during the investigation works and is considered to be representative of perched water pockets.
Concrete Requirements	- Based on BRE Digest 2005 ⁶⁰ – DS-2 AC-1s within areas containing Made Ground and DS-1 AC-1 within the natural superficial deposits.
Services	- Services – consideration to the presence of services running through the site. Services may need to re-routed.
Temporary support of excavation	- May be required; however, trial pits were generally recorded as stable.
Plasticity	- Consideration will need to be given to the shrink / swell of the clay strata if it is to be used as founding strata, particularly where trees/hedges are present. Foundations may need to be deepened. A low volume change potential has been calculated for the site.

Table 8-1: Summary Risk Table.

⁶⁰ BRE (2005). "Concrete in Aggressive Ground." Special Digest 1.

8.2 Contamination Assessment

A revised contamination conceptual model has been produced by LKC which is summarised in Table 8-2 below (more detailed model provided in Section 6).

Pollutant Linkage		Risk	Recommendations
1	Contaminants posing a risk to site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	Moderate	- ACM (chrysotile) identified in made ground. Elevated metals, PAHs and localised TPH. Recommendations: Remediation required in soft landscaping areas.
2	Volatile contaminants posing a risk to site users via the inhalation of vapours.	Moderate (localised N area)	- Volatile contamination identified in localised areas. Recommendations: Vapour membrane required or removal of impacted ground.
3	Gas posing a risk to buildings and site users via the migration of gas into building causing explosion and asphyxiation.	Moderate / Low	- A significant source of hazardous gas was not identified on site. Recommendations: No remediation required.
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Moderate / Low	- Although elevated metals and PAHs identified, they are not considered to pose a significant risk to groundwater. TPH contamination was identified within WS104 and WS101. Recommendations: Remediation to include the removal of hydrocarbon impacted material around WS101 and within the drain noted in WS104.
5	Sulphate posing a risk to building via direct contact (sulphate attack).	Moderate / Low	- Elevated sulphate identified in made ground. Recommendations: Sulphate resistant concrete (DS-2 AC-1s).
6	Organic contaminants posing a risk to water pipes.	Moderate / Low	- Organic contamination identified however pipes may be laid into underlying natural ground depending on location. Recommendations: UU risk assessment to be completed.
7	Phytotoxic metals posing a risk to flora via root uptake.	Low	- Elevated zinc and copper. Recommendations: Remediation for PL1 will mitigate the risk to flora.

Table 8-2: Summary Risk Table.

Remedial recommendations are presented in Section 9.

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 pre-construction (i.e. during earthworks) and during / post construction. Other considerations are presented in Table 9-2.

Phase	PL	Remediation Requirements	Validation Requirements
Pre-Construction	2	<u>Naphthalene contamination (TP101 and TP214)</u> <u>Option 1</u> Excavation and removal of bitumen contaminated ground/cobbles in the north east of the site where these fall below the building foot print. <u>Option 2 – See build phase construction</u> <u>Hydrocarbon Hotspot removal WS101</u> <u>Option 1</u> Removal of ground impacted by volatile HC contamination, carried out by visual, olfactory and PID assessment and supervised by a suitably qualified engineer. <u>Option 2 – See build phase construction</u>	Photographic record. Confirmation testing and photographic record
	4	<u>Controlled Waters</u> Removal of hydrocarbon impacted ground around WS101 and hydrocarbon impacted material associated with the drain noted in WS104	Visual/olfactory and PID assessment with confirmatory testing and photographic record.
	2	<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.

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

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

Phase	PL	Remediation Requirements	Validation Requirements
Build-Phase Construction	1 and 7	As the made ground is relatively shallow the following options are given: <u>Option 1</u> Removal of all reworked topsoil / made ground from soft landscaping and raise levels (as required) with suitably chemically validated subsoil and topsoil. <u>Option 2</u> If all or some of the made ground remains in place in soft landscaping areas, an environmental cover system will be required. The environmental cover system should be as follows: Shared Landscaping: 450mm thick environmental cover system comprising: Either 100mm physical break layer (MOT type 1 material, 20-30mm, minimal fines) and at least 350mm comprising clean inert fill and sufficient topsoil for a growing medium. Or geotextile membrane and at least 450mm comprising clean inert fill and sufficient topsoil for a growing medium. The subsoil layer can be replaced by additional topsoil. A diagram of a typical environmental cover system is shown in Appendix H.	<u>Option 1</u> Consignment notes confirming the removal of made ground. Photographic evidence of natural strata. Chemical validation of imported soils: See Table 9-3. <u>Option 2</u> Measuring depth of environmental cover system using a staff and providing photographic evidence. Photographic evidence of the granular physical break or geotextile layer will also be collected. Chemical validation of imported soils: See Table 9-3.
	2	<u>Naphthalene contamination (TP101 and TP214)</u> <u>Option 1 – See pre-construction phase.</u> <u>Option 2:</u> Installation of suitable vapour barrier across the northwest of the site. <u>Hydrocarbon Hotspot removal WS101</u> <u>Option 1 – See pre-construction phase.</u> <u>Option 2:</u> Installation of suitable vapour barrier in the east of the site (Figure 4)	Physical inspection and photographic record of the installed vapour barrier by a suitably qualified engineer.
	5	<u>Sulphate Resistant Concrete</u> Sulphate Resistant Concrete in line with DS-2 AC-1s recommended.	N/A
	6	<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. Barrier pipe may be required.	Delivery Notes of Pipe Material. Photographs of the Installed Pipe.

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

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

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 ⁶¹): 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 9-3. <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 C733⁶². A JIWG assessment was undertaken for ground workers during the development works and the risk was concluded as medium. This is presented in Appendix I. The work is deemed to be non-licensed work from the JIWG assessment and control measures such as awareness training for all site staff, provision of suitable personal and respiratory protective equipment, localised/manual dust suppression and decontamination facilities are recommended. 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)⁶³. 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.

Table 9-2: Other Considerations.

⁶¹ <https://www.gov.uk/guidance/waste-exemptions-using-waste>

⁶² CIRIA (2014). "Asbestos in Soil and Made Ground: A Guide to Understanding and Managing Risks". C733.

⁶³ HSE (2012). "Removing Asbestos Cement (AC) Debris." A11 Asbestos Essential – Non-licensed Tasks.

Other Considerations	<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 guidance ⁶⁴) should be adopted by all workers involved with site enabling and construction works.
	<u>Piling in Contaminated Land</u> If a piling solution is used on site this may provide a preferential pathway for contaminants to the Principal Aquifer. Once the method of piling has been determined, good practice for the drilling of piles on contaminated sites should be adhered to, such as guidance provided by the Environment Agency ⁶⁵ .

Table 9-2 (continued): Other Considerations.

9.2 Validation of Subsoil / Topsoil

Any 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, based on MCC 'Guidelines to Developer' (2016). However, LKC consider no testing, but proof of provenance is sufficient for natural, virgin, quarried material. 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 / soft landscaping to ensure suitability for use.

Material Type	Source	Suite of Analysis	Sampling Rate (min. 3 per source) *		
			Garden	Landscape	Other **
Topsoil / subsoil / Fill material	Greenfield	Suite A	200m ³	200m ³	200m ³
	Remediated	Suite A / B dependent upon original SI	100m ³	150m ³	200m ³
	Brownfield / Unknown	Suite B	50m ³	150m ³	200m ³
Quarried Fill	First Generation i.e. quarried sand (subsoil) or stone (break layer)	No testing is required. Certification of material provenance is required.			

Table 9-2: Sampling requirements for imported 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.

** Other assumed to be stone / 6F2 etc.

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

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 BS3882⁶⁶). LKC advise this information is provided by the supplier before material is imported onto site.

⁶⁴ HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land" London HMSO.

⁶⁵ Environment Agency (2001) Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention.

⁶⁶ BS (2015). "Specifications for Topsoil and Requirements for use." BS3882:2015.

Imported material to be used in gardens will be compared against residential with plant uptake criteria (as used in the contamination risk assessment (Section 6-1)). Appropriate remedial target criteria are presented in Appendix F.

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:

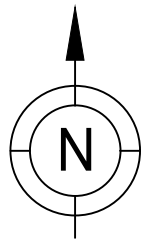
- Provision of waste transfer documents.
- Validation of the excavation and removal of hydrocarbon and naphthalene impacted ground.
- Validation of the installation of a suitable vapour barrier (required if a barrier is used rather than excavation of source)
- If option 1 (source removal): Validation of any made ground removal (photographic evidence that natural strata was reached).
- If option 2 (environmental capping layer): Validation of environmental cover system.
- Verification testing of all imported soil for garden and soft landscaping areas.
- Information on the installation of protective pipes and / or sterile trenches.
- 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.

Figures



Client: Mangrove Estates Ltd				Title: Site Location & Boundary Plan		LK CONSULT
Site: Former Chatsworth Mills, Gorton				Scale (see scale bar): 1:25,000 & 1:1,500 @ A4		
Job No.: LKC 21 1152	Drawn By: RW	Checked By: MT	Drawn: March 2021	Figure: 1	Revision:	



KEY

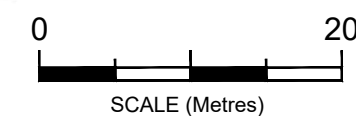


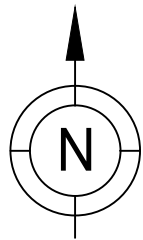
Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing 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:			
Mangrove Estates Ltd			
Site:			
Former Chatsworth Mills			
Title:			
Proposed Site Use			
Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 21 1152	1:500 @ A3	2	
Drawn By:	Checked By:	Drawn:	
AC	MT	Mar 2021	

Extract from: Grays Architecture Limited
Drawing Ref: Proposed Site Plan,
No.4402/101, Rev:A (January 2019)





KEY

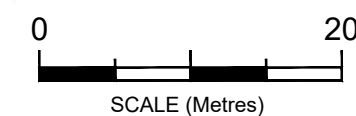
-  Site Boundary
-  Window Sample Borehole (WS)
-  Trial Pit (TP)
-  Boundary Wall
-  Inaccessible Area

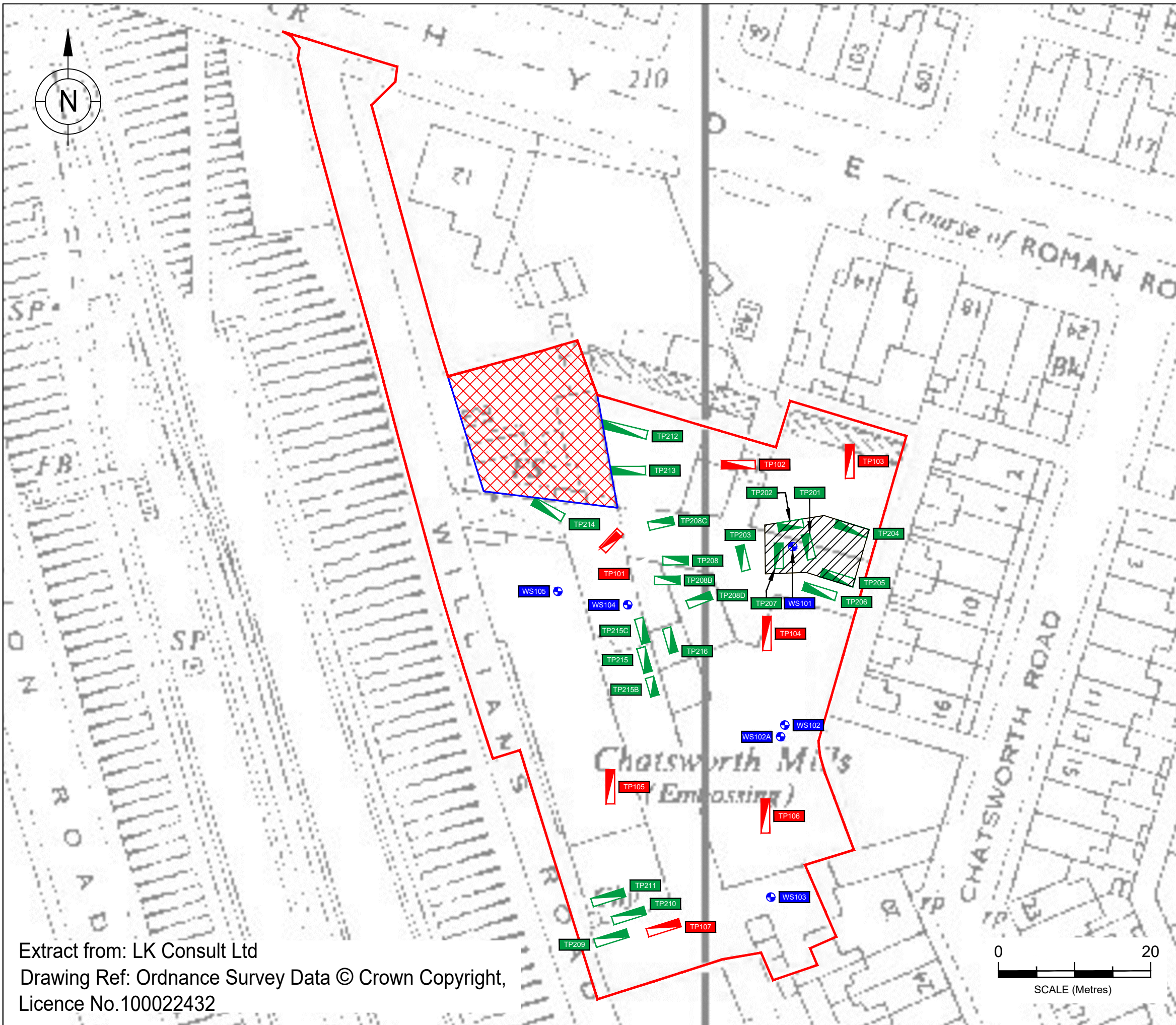
Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing 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:			
Mangrove Estates Ltd			
Site:			
Former Chatsworth Mills			
Title:			
Site Investigation Location Plan			
Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 21 1152	1:500 @ A3	3	
Drawn By:	Checked By:	Drawn:	
AC	RW	Jun 2021	

Extract from: Grays Architecture Limited
Drawing Ref: Proposed Site Plan,
No.4402/101, Rev:A (January 2019)





KEY

- Site Boundary
- Window Sample Borehole 2021 (WS)
- Trial Pit 2021 (TP)
- Trial Pit 2022 (TP)
- Boundary Wall
- Inaccessible Area
- Approximate Extent of Hydrocarbon Contamination

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:			
Mangrove Estates Ltd			
Site:			
Former Chatsworth Mills			
Title:			
Sample Locations on Historic Mapping (OS 1950-1951)			
Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 21 1152	1:500 @ A3	4	A
Drawn By:	Checked By:	Date:	
AC	RW	Jan 2022	

Extract from: LK Consult Ltd
Drawing Ref: Ordnance Survey Data © Crown Copyright,
Licence No.100022432

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 552⁶⁷. 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 result 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.

⁶⁷ 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 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

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

Former Chatsworth Mills, Gorton

Number
WS101**Excavation Method**Drive-in Windowless Sampler
to 5.45mbgl.**Dimensions****Location** (Handheld GPS)

388215 E 396119 N

Ground Level (mOD)

69.00

Client

Mangrove Estates Ltd

Job
Number
LKC 21 1152**Engineer**

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10-0.50	ES PID=75.6ppm.			68.90	(0.10)	MADE GROUND: Concrete.			
0.50-1.00	ES PID=1.20ppm.			68.50	0.50	MADE GROUND: Black and red gravelly silty SAND with frequent brick fragments, concrete fragments, ash, clinker and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies. Strong hydrocarbon odour noted.			
1.00-1.30	ES PID=1.30ppm.			68.00	1.00	MADE GROUND: Firm consistency brown slightly sandy CLAY. Sand is fine to coarse. Slight hydrocarbon odour noted. Possibly reworked material.			
1.20-1.65	SPT N=5 X		1,1/1,1,1,2			MADE GROUND: Soft to firm consistency brown and grey mottled slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies. Faint hydrocarbon odour noted. Possibly reworked material.			
1.65-2.00	B								
2.00-2.45	SPT N=4 X		1,1/1,1,1,1						
2.50-3.00	B				(2.70)				
3.00-3.45	SPT N=7 X		1,1/1,2,2,2						
4.00-4.45	SPT N=6 X		2,2/2,1,1,2	65.30	3.70	No recovery. Land drain noted at 3.70mbgl and no recovery 3.70-4.00mbgl.			
4.30-4.50	ES PID=1.70ppm.		Water strike(1) at 4.30m.	65.00	4.00	Stiff consistency brown sandy CLAY. Sand is fine to coarse Sand and gravel noted at 4.30mbgl with a faint hydrocarbon odour noted. Possibly from land drain at 3.70mbgl.			
5.00-5.45	SPT N=23 X		2,3/4,5,7,7		(1.45)				
5.00-5.45				63.55	5.45	Complete at 5.45m			

RemarksBorehole dry and unstable.
Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.
Water strike at 4.10mbgl.
Pocket penetrometer readings may appear high due to abundance of gravel.**Scale**
(approx)

1:40

Logged
By

NJ

Figure No.

LKC 21 1152.WS101

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

Former Chatsworth Mills, Gorton

Number
WS102**Excavation Method**Drive-in Windowless Sampler
to 2.44mbgl.**Dimensions****Ground Level (mOD)**

67.00

Client

Mangrove Estates Ltd

Job
Number
LKC 21 1152**Location** (Handheld GPS)

388210 E 396100 N

Dates

02/06/2021

Engineer

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.10 0.10-0.50	ES PID=0.90ppm. ES PID=0.30ppm.			66.90	(0.10)	MADE GROUND: Grey, red and brown gravelly SAND comprising brick, concrete fragments, ash, clinker and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies. 0.80m of made ground noted to have been removed from the original mill floor level to the current ground level. Stiff to very stiff consistency high to very high strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.			
0.60-1.00	PP =110kPa.								
1.20-1.65 1.20-1.65	SPT N=21 X		2,3/4,5,6,6		(2.34)				
1.65-2.00 1.65-2.00	B PP = >233kPa.								
2.00-2.44 2.00-2.44	SPT 50/285 X		7,10/12,13,13,12	64.56	2.44				
						Complete at 2.44m			

RemarksBorehole dry and unstable.
Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.
Refusal at 2.44mbgl on very stiff clay.
Pocket penetrometer readings may appear high due to abundance of gravel.
Borehole moved 1.00m south to WS102A.**Scale**
(approx)

1:40

Logged
By

NJ

Figure No.

LKC 21 1152.WS102

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

Former Chatsworth Mills, Gorton

Number**WS102A****Excavation Method**Drive-in Windowless Sampler
to 5.44mbgl.**Dimensions****Ground Level (mOD)**

67.00

Client

Mangrove Estates Ltd

Job**Number**

LKC 21 1152

Location (Handheld GPS)

388209 E 396100 N

Dates

02/06/2021

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.60-1.00	PP =184kPa.			66.70	(0.30) 0.30	MADE GROUND: Grey, black and brown gravelly SAND comprising frequent ash, clinker, concrete fragments, brick, and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.		
1.20-1.65 1.20-1.65	SPT N=18 X		2,3/3,4,5,6		(2.14)	Stiff to very stiff consistency high to very high strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.		
1.65-2.00	PP =>233kPa.							
2.00-2.44 2.00-2.44	SPT 50/285 X		6,9/12,13,14,11	64.56	2.44	Complete at 2.44m		

RemarksBorehole dry and unstable.
Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.
Pocket penetrometer readings may appear high due to abundance of gravel.
SPT refusal at 2.44mbgl on very stiff clay.**Scale (approx)**

1:40

Logged By

NJ

Figure No.

LKC 21 1152.WS102A

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

Former Chatsworth Mills, Gorton

Number
WS103**Excavation Method**Drive-in Windowless Sampler
to 2.95mbgl.**Dimensions****Ground Level (mOD)**

68.00

Client

Mangrove Estates Ltd

Job
Number

LKC 21 1152

Location (Handheld GPS)

388208 E 396078 N

Dates

02/06/2021

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.20	ES PID=0.60ppm.				(0.20)	MADE GROUND: Black, red and brown gravelly SAND comprising frequent plastic fragments, brick, concrete fragments, pottery fragments, ash, clinker and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies. Stiff to very stiff consistency high to very high strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.			
0.20-0.50	ES PID=0.20ppm.			67.80	0.20				
0.60-1.00	PP =135kPa.								
1.20-1.65	SPT N=12		2,2/3,3,3,3						
1.20-1.65	X				(2.75)				
1.65-2.00	U								
2.00-2.45	SPT N=37		5,7/7,8,10,12						
2.00-2.45	X								
2.50-2.94	SPT 50/290		7,9/11,13,13,13						
2.50-2.95	X								
				65.05	2.95	Complete at 2.95m			

Remarks

Borehole dry and unstable.
Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.
Pocket penetrometer readings may appear high due to abundance of gravel. No pocket penetrometers done between 1.65 - 2.00mbgl due to U100 sample.
Sampler refusal at 2.50mbgl. SPT refusal at 2.945mbgl on very stiff clay.

Scale (approx)

1:40

Logged By

NJ

Figure No.

LKC 21 1152.WS103

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

Former Chatsworth Mills, Gorton

Number
WS104**Excavation Method**Drive-in Windowless Sampler
to 3.25mbgl.**Dimensions****Location** (Handheld GPS)
388194 E 396111 N**Ground Level (mOD)**

66.00

Client

Mangrove Estates Ltd

Job
Number
LKC 21 1152**Engineer**

LKC

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.70	ES1 PID=4.90ppm			65.80	(0.20) 0.20	MADE GROUND: Concrete.		
0.70-1.20	ES2 PID=1.50ppm			65.30	(0.50) 0.70	MADE GROUND: Black, red and brown gravelly SAND comprising frequent plastic fragments, brick, concrete fragments, pottery fragments, ash, clinker and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.		
1.10-1.30	ES3 PID=1.20ppm		2,3/3,1,0,1	64.70	(0.60) 1.30	MADE GROUND: Brown and grey sandy CLAY with occasional brick fragments and coal. Sand is fine to coarse.		
1.20-1.65	SPT N=5							
1.20-1.65	X4							
1.30-1.60	B6			64.30	(0.40) 1.70	MADE GROUND: Soft consistency black very silty CLAY. Strata is noted to be sludge-like and has a strong hydrocarbon / organic odour. Strata present within a land drain 1.30-1.70mbgl.		
1.30-1.60	ESB5 PID=1.10ppm							
1.70-2.00	ESB7 PID=0.90ppm							
1.70-2.00	PP =184kPa.							
2.00-2.45	SPT N=36		4,7/7,8,10,11					
2.00-2.45	X8							
2.50-2.80	B9				(1.55)			
2.50-2.80	PP =>233kPa.							
2.80-3.25	SPT N=50		5,8/10,13,14,13					
2.80-3.25	X10			62.75	3.25	Stiff to very stiff consistency high to very high strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.		
						Complete at 3.25m		

Remarks

Borehole dry and unstable.
Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.
Pocket penetrometer readings may appear high due to abundance of gravel.
Sampler refusal at 2.80mbgl. SPT refusal at 3.25mbgl on very stiff clay.
Water strike at 1.30mbgl within the land drain.
No monitoring equipment installed and borehole backfilled with bentonite to seal contamination to 1.00m.

Scale
(approx)

1:40

Logged
By

NJ

Figure No.

LKC 21 1152.WS104

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

Former Chatsworth Mills, Gorton

Number**WS105****Excavation Method**Drive-in Windowless Sampler
to 3.25mbgl.**Dimensions****Location** (Handheld GPS)

388184 E 396120 N

Ground Level (mOD)

65.00

Client

Mangrove Estates Ltd

Job**Number**

LKC 21 1152

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.20	B				(0.20)	MADE GROUND: Concrete.			
0.30-1.00	ES PID=0.30ppm.			64.80	0.20	MADE GROUND: Grey gravelly SAND comprising concrete fragments, brick fragments. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.			
				64.60	0.40				
					(0.60)	MADE GROUND: Black, red and brown gravelly very sandy CLAY comprising frequent plastic fragments, brick, concrete fragments, pottery fragments, ash, clinker and coal. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.			
1.10-1.70	ES PID=0.30ppm.		2,3/3,3,4,3	64.00	1.00				
1.20-1.65	SPT N=13			63.90	(0.10)	MADE GROUND: Black SAND comprising ash and clinker. Sand is fine to coarse.			
1.20-1.65	X								
1.65-2.00	PP =135kPa.					Stiff to very stiff consistency high strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subangular of various lithologies.			
2.00-2.45	SPT N=37		5,7/8,8,10,11		(2.15)				
2.00-2.45	X								
2.50-2.80	U								
2.80-3.25	SPT 50/295		4,9/11,12,15,12						
2.80-3.25	X								
				61.75	3.25	Complete at 3.25m			

Remarks

Pocket penetrometer readings may appear high due to abundance of gravel. No pocket penetrometers done between 1.65 - 2.00mbgl due to U100 sample.

Sampler refusal at 2.80mbgl. SPT refusal at 3.245mbgl on very stiff clay.

Borehole dry and unstable.

Elevation and location estimated from handheld GPS accurate to 3.00-5.00m.

Scale (approx)

1:40

Logged By

NJ

Figure No.

LKC 21 1152.WS105

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP101****Excavation Method**

Machine excavated to 0.3mbgl.

Dimensions

2.0m x 1.0m x 0.3m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Observed measurements)

388174 E 396136 N

Dates

02/06/2021

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	ES1 PID=0.2ppm			63.70	(0.30) 0.30	MADE GROUND: Brown sandy silty GRAVEL with frequent plastic, fabric, metal, whole bricks and glass fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular comprising mixed lithologies. Metal pipe encountered at 0.3mbgl. Terminated at 0.30m		

**Remarks**Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.
Trial pit terminated due to presence of service.**Scale (approx)**

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP101

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP102****Excavation Method**

Machine excavated to 1.6mbgl.

Dimensions

2.0m x 1.0m x 1.6m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Observed measurements)

388193 E 396144 N

Dates

02/06/2021

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.50	ES1 PID=0.8ppm			63.80	(0.20) 0.20	MADE GROUND: Concrete and timber.		
0.50-1.60 0.50-1.60	B2 ES2			63.50	(0.30) 0.50	MADE GROUND: Dark brown very sandy silty GRAVEL with ash fragments. Sand is fine to medium. Gravel is fine, subangular comprising brick, ash and concrete fragments.		
1.40	SV 80kPa				(1.10) 1.60	Firm to stiff consistency brown slightly gravelly sandy silty CLAY with rare coal. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising mudstone.		
				62.40		Complete at 1.60m		

**Remarks**Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.**Scale (approx)**

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP102

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP103****Excavation Method**

Machine excavated to 1.5mbgl.

Dimensions

2.0m x 1.0m x 1.5m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Observed measurements)

388217 E 396134 N

Dates

02/06/2021

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	ES1 PID=0.1ppm			63.90	(0.10) 0.10	MADE GROUND: Concrete.		
0.30-1.50	B2			63.70	(0.20) 0.30	MADE GROUND: Red sandy GRAVEL comprising brick fragments. Sand is fine to medium. Gravel is fine, subangular.		
0.50-1.50	ES2				(1.20)	Firm to stiff consistency brownish grey slightly gravelly slightly sandy silty CLAY with rare coal. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising sandstone and mudstone.		
1.40	SV 95kPa			62.50	1.50	Complete at 1.50m		

**Remarks**Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.**Scale (approx)**

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP103

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number
TP104****Excavation Method**

Machine excavated to 1.4mbgl.

Dimensions

2.0m x 1.0m x 1.4m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number
LKC 21 1152****Location** (Observed measurements)

388209 E 396118 N

Dates

02/06/2021

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	ES1 PID=0.3ppm				(0.30)	MADE GROUND: Brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to medium, subangular comprising brick and concrete fragments.		
0.30-1.40 0.30-1.40	B2 ES2 PID=<0.1ppm			63.70	0.30	Stiff consistency brownish grey slightly gravelly sandy silty CLAY with rare coal. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising sandstone and mudstone.		
1.30	SV 108kPa			62.60	1.40	Complete at 1.40m		

**Remarks**Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.**Scale (approx)**

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP106



LK CONSULT LTD

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

Site

Former Chatsworth Mills, Gorton

**Trial Pit
Number
TP105**

Excavation Method

Machine excavated to 1.7mbgl.

Dimensions

2.0m x 1.0m x 1.7m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number
LKC 21 1152**

Location (Observed measurements)

388178 E 396113 N

Dates

02/06/2021

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40-0.70	ES1 PID=1.1ppm			63.80	(0.20)	MADE GROUND: Concrete and timber.		
0.70-1.70	B2			63.50	(0.30)	MADE GROUND: Dark brown very sandy silty GRAVEL with ash fragments. Sand is fine to medium. Gravel is fine, subangular comprising brick, ash and concrete fragments.		
0.70-1.70	ES2				0.50	Firm to stiff consistency brown slightly gravelly slightly sandy silty CLAY with rare coal. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising mudstone.		
1.40	SV 80kPa				(1.20)			
				62.30	1.70	Complete at 1.70m		



Remarks

Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.

Possible drain encountered at 0.5mbgl, moderate initial flow.

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP105

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP106****Excavation Method**

Machine excavated to 1.5mbgl.

Dimensions

2.0m x 1.0m x 1.5m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Observed measurements)

388214 E 396093 N

Dates

02/06/2021

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	ES1 PID=0.6ppm				(0.20)	MADE GROUND: Brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to medium, subangular comprising concrete and brick fragments.		
0.20-0.80	ES2 PID=<0.1ppm			63.80	0.20	MADE GROUND: Firm to stiff consistency brown very gravelly sandy silty CLAY with frequent bricks. Sand is fine to medium. Gravel is fine to coarse, subangular comprising bricks and mudstone. Brick wall present in the north side of trial pit to 0.8mbgl.		
0.80-1.50	B3			63.20	0.80	Stiff consistency brownish grey slightly gravelly slightly sandy silty CLAY with rare coal. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising sandstone and mudstone.		
0.80-1.50	ES3 PID=<0.1ppm				(0.70)			
1.40	SV 115kPa			62.50	1.50	Complete at 1.50m		

**Remarks**Grid reference estimated using www.gridreferencefinder.com
Elevation estimated using www.freemaptools.com/elevation-finder.htm
No groundwater encountered, trial pit was stable.**Scale (approx)**

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP106

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number
TP107****Excavation Method**

Machine excavated to 1.4mbgl.

Dimensions

2.0m x 1.0m x 1.4m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number
LKC 21 1152****Location (Observed measurements)**

388186 E 396077 N

Dates

02/06/2021

Engineer

LKC

**Sheet
1/1**

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40-0.90	ES1 PID=0.1ppm			63.60	0.40	MADE GROUND: Brick. In ground brick structure encountered at 0.3mbgl.		
0.90-1.40	B2 ES2 PID=<0.1ppm			63.10	0.90	MADE GROUND: Dark reddish gravelly slightly sandy silty CLAY with abundant brick fragments, frequent ash and concrete fragments. Sand is fine to medium. Gravel is fine to coarse, subangular comprising of mixed lithologies.		
0.90-1.40					(0.50)			
1.30	SV 60kPa			62.60	1.40	Firm to stiff consistency brown slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular comprising sandstone and mudstone.		
			Fast(1) at 1.40m.			Complete at 1.40m		∇1

**Remarks**

Grid reference estimated using www.gridreferencefinder.com
 Elevation estimated using www.freemaptools.com/elevation-finder.htm
 No groundwater encountered, trial pit was stable.
 Possible drain encountered at 0.5mbgl, initial moderate flow.

Scale (approx)

1:20

Logged By

RW

Figure No.

LKC 21 1152.TP107

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP201****Excavation Method**

Machine excavated trial pit to 1.40mbgl.

Dimensions

3.0m x 1.0m x 1.4m

Ground Level (mOD)**Location** (Handheld GPS)

388215 E 396121 N

Dates

19/01/2022

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-0.50 0.50-0.70	ES1 PID= 0.2 ppm ES2 PID= 2.0 ppm				(0.30) 0.30 (1.10) 1.40	MADE GROUND: Black sandy slightly silty GRAVEL with frequent ash, occasional clinker, brick fragments, wood fragments, rare coal fragments. Sand is fine to coarse. Gravel is fine to medium and subangular comprising sandstone and mudstone. Firm becoming stiff consistency grey and brown mottled slightly gravelly CLAY with rare rootlets and coal fragments. Gravel is fine to coarse and rounded to subrounded comprising mudstone and quartz. Becoming friable with depth. Seap of water at 0.30mbgl. on northern wall of trial pit only. Moderate hydrocarbon odour noted and oily sheen. Hydrocarbon odour noted in clay below 0.50mbgl where strata noted to be wet only. Seap of water at 0.30mbgl. on northern wall of trial pit only. Moderate hydrocarbon odour noted and oily sheen. Complete at 1.40m		

**Remarks**

Hydrocarbon odour noted in clay below 0.50mbgl which was noted to be wet.
Seap of water noted at 0.30mbgl and 0.70mbgl.
Trial pit stable.
Location accurate to 5.00-8.00m.
Trial pit not continued below 1.40mbgl due to pooling water at base of pit which was noted to contain hydrocarbon sheen and odour.

Scale (approx)

1:40

Logged By

HM

Figure No.

LKC 21 1152.TP201

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP203****Excavation Method**Machine excavated trial trench
to 1.00mbgl.**Dimensions**

5.0m x 1.0m x 2.6m

Ground Level (mOD)**Client**

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388207 E 396132 N

Dates

19/01/2022

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	ES1 PID = 0.3 ppm				(0.25) 0.25 (0.75) 1.00	MADE GROUND: Black sandy slightly silty GRAVEL with frequent ash, occasional clinker, brick fragments, occasional metal fragments, rare coal fragments. Sand is fine to coarse. Gravel is fine to medium and subangular comprising sandstone and mudstone. Firm to stiff consistency light brown and grey mottled slightly gravelly slightly sandy CLAY with rare coal fragments. Sand is fine to medium. Gravel is fine to medium and rounded to subrounded comprising mudstone. Brick arch at 0.30mbgl in centre of pit. Possible brick walled inspection chamber. Land drain at 0.90mbgl on N wall of pit. Complete at 1.00m		

**Remarks**

No visual or olfactory evidence of hydrocarbon contamination identified.
Trial pit stable.
Location accurate to 5.00-8.00m.
Trial pit dry.

Scale (approx)

1:40

Logged By

HM

Figure No.

LKC 21 1152.TP203

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP204****Excavation Method**Machine excavated trial trench
to 2.00mbgl.**Dimensions**

7.2m x 1.0m x 2.0m

Ground Level (mOD)**Location** (Handheld GPS)

388217 E 396118 N

Dates

19/01/2022

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-1.00	ES1 PID = 0.4ppm				(0.28) 0.28	MADE GROUND: Black sandy slightly silty GRAVEL with frequent ash, occasional clinker, brick fragments, wood fragments, rare coal fragments. Sand is fine to coarse. Gravel is fine to medium and subangular comprising sandstone and mudstone.		
1.10-1.20	ES2 PID = 70.1ppm				(1.12)	Firm becoming stiff consistency light brown and grey mottled slightly gravelly slightly sandy silty CLAY with occasional rootlets and rare coal fragments. Sand is fine to medium. Gravel is medium to coarse and subrounded comprising mudstone.		
1.40-1.70	ES3 PID = 0.2 ppm				1.40 (0.60)	Stiff consistency grey slightly gravelly CLAY. Gravel is fine to medium and subrounded comprising mudstone. Noted to be friable.		
					2.00	Complete at 2.00m		

**Remarks**No hydrocarbon odour noted until 3.5m west from furthest E wall of pit - samples from the area without contamination labelled as TP204A.
Trial trench stable.
Location accurate to 5.00-8.00m.**Scale (approx)**

1:40

Logged By

HM

Figure No.

LKC 21 1152.TP204

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP205****Excavation Method**

Machine excavated trial pit to 3.00mbgl.

Dimensions

3.0m x 1.0m x 3.0m

Ground Level (mOD)**Client**

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388207 E 396112 N

Dates

19/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-1.50	ES1 PID=0.5ppm				(0.20) 0.20	MADE GROUND: Black slightly silty sandy GRAVEL with frequent ash, brick fragments, occasional timber, tarmacadam and coal fragments. Sand is fine to coarse. Gravel fine to medium and sub angular to sub rounded comprising mudstone. Brick wall along S edge of pit between 0.10-0.25mbgl.		
1.70-2.00	ES2 PID=0.7ppm				(2.70)	Firm becoming stiff consistency brown and grey mottled slightly gravelly slight sandy silty CLAY wit rare coal fragments and rootlets. Sand is fine to medium. Gravel medium to coarse and subrounded comprising mudstone. Seep of water at 0.50mbgl. which had a slight hydrocarbon odour.		
					2.90	No hydrocarbon odour below 1.70mbgl.		
						Complete at 3.00m		

**Remarks**Hydrocarbon odour noted in clay below 0.50mbgl which was noted to be wet.
Trial pit stable.
Location accurate to 5.00-8.00m.**Scale (approx)**

1:40

Logged By

HM

Figure No.

LKC 21 1152.TP205

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP207****Excavation Method**

Machine excavated trial pit to 2.80mbgl.

Dimensions

3.0m x 1.0m x 2.8m

Ground Level (mOD)**Location** (Handheld GPS)

388212 E 396121 N

Dates

01/01/2022

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.60	ES1 PID = 0.5ppm				(0.20) 0.20 (0.60) 0.80	MADE GROUND: Black sandy slightly silty GRAVEL with frequent ash, occasional clinker, brick fragments, rare coal fragments. Sand is fine to coarse. Gravel is fine to medium and subangular comprising sandstone and mudstone. Soft becoming firm consistency yellowish brown slightly gravelly silty CLAY. Gravel is medium to coarse and subrounded comprising mudstone.		
1.90-2.00	ES2				(2.00)	Seep of water at 1.90mbgl, noted to have hydrocarbon odour.		
2.50-2.70	ES3				2.80	Complete at 2.80m		

**Remarks**Seep of water at 1.90mbgl, noted to have slight hydrocarbon odour.
Trial pit stable.
Location accurate to 5.00-8.00m.**Scale (approx)**

1:40

Logged By

JT

Figure No.

LKC 21 1152.TP207

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP208A****Excavation Method**

Machine excavated trial pit to 1.00mbgl.

Dimensions

3.0m x 1.0m x 1.0m

Ground Level (mOD)**Client**

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388197 E 396122 N

Dates

19/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND: Black sandy GRAVEL with frequent ash, bricks (whole and fragments) and rare metal. Sand is fine to coarse. Gravel is fine to medium and sub angular to sub rounded comprising mudstone and sandstone. Concrete floor at 1.00mbgl Complete at 1.00m		

**Remarks****Scale (approx)**

1:40

Logged By

JT

Figure No.

LKC 21 1152.TP208A



LK CONSULT LTD

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

Site

Former Chatsworth Mills, Gorton

**Trial Pit
Number**

TP208B

Excavation Method

Machine excavated trial pit to 2.00mbgl.

Dimensions

3.0m x 1.0m x 2.0m

Ground Level (mOD)

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388194 E 396118 N

Dates

19/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-1.00	ES1 PID = 0.0ppm				(0.25) 0.25	MADE GROUND: Black sandy GRAVEL with frequent ash, brick and rare metal. sand is fine to coarse, gravel is fine to medium and sub angular to sub rounded.		
					(1.75)	MADE GROUND: Brown grey slightly gravelly silty CLAY with occasional coal fragments and low cobble content. Gavel is medium to coarse and sub angular to sub rounded comprising mudstone. (Probably reworked strata).		
					2.00	Large land drain at 1.80mbgl.		
						Complete at 2.00m		



Remarks

Trial pit abandoned at 2.00mbgl due to large land drain.
Trial pit dry and stable.
No visual or olfactory evidence of hydrocarbon contamination.
Location accurate to 5.00-8.00m.

Scale (approx)

1:40

Logged By

JT

Figure No.

LKC 21 1152.TP208B

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP208C****Excavation Method**Machine excavated trial hole
to 1.60mbgl.**Dimensions**

3.0m x 1.0m x 1.6m

Ground Level (mOD)**Client**

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388194 E 396126 N

Dates

01/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.60	ES1 PID = 0.1 ppm				(0.60)	MADE GROUND: Black sandy GRAVEL with frequent ash, occasional clinker and brick (whole and fragments). Sand is fine to coarse, gravel is fine to medium and sub angular to sub rounded comprising mudstone. Old redundant metal pipe at 0.30mbgl on W side of pit.		
0.70-0.90	ES2 PID = 0.1 ppm				0.60 (1.00)	Soft to firm consistency grey and brown mottled slightly gravelly slightly sandy silty CLAY. Sand is fine to coarse. Gravel is fine to medium and sub angular to sub rounded comprising mudstone.		
					1.60	Complete at 1.60m		

**Remarks**Trial pit dry and stable
No visual or olfactory evidence of hydrocarbon contamination identified.
Location accurate to 5.00-8.00m.**Scale (approx)**

1:40

Logged By

JT

Figure No.

LKC 21 1152.TP208C

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP208D****Excavation Method**Machine excavated trial hole
to 1.40mbgl.**Dimensions**

3.0m x 1.0m x 1.4m

Ground Level (mOD)**Client**

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location (Handheld GPS)

388195 E 396118 N

Dates

01/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.90	ES1 PID = 0ppm					MADE GROUND: Black sandy gravel with frequent brick, ash, concrete and clinker, rare plastic. Sand is fine to coarse. Gravel is medium to coarse and sub angular to sub rounded.		
					0.90 (0.50)	Firm consistency grey and brown mottled slightly gravelly silty CLAY. Gravel is medium and sub angular to sub rounded comprising mudstone. Strata noted to be friable.		
					1.40	Complete at 1.40m		

**Remarks**Trial pit unstable.
Trial pit dry.
No visual or olfactory evidence of hydrocarbon contamination identified.
Location accurate to 5.00-8.00m.**Scale (approx)**

1:40

Logged By

JT

Figure No.

LKC 21 1152.TP208D

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP209****Excavation Method**

Machine excavated to 2.6mbgl.

Dimensions

3.0m x 1.0m x 2.6m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388193 E 396073 N

Dates

20/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.10	ES PID=<0.1ppm				(1.10)	MADE GROUND: Black sandy silty GRAVEL with abundant bricks, frequent ash, clinker and rare metal. Sand is fine to medium. Gravel is fine to coarse, subangular comprising mixed lithologies.		
1.10-1.60	ES PID=<0.1ppm			62.90	1.10 (0.50)	MADE GROUND: Red slightly sandy silty GRAVEL comprising bricks with occasional ash and clinker. Sand is fine to medium. Gravel is fine to coarse, subangular.		
1.60-2.60	ES PID=<0.1ppm		Slow(1) at 1.50m.	62.40	1.60	Stiff consistency brown with grey mottling slightly gravelly CLAY. Gravel is fine to medium, subangular to subrounded comprising mixed lithologies.		
2.00	SV 86.6kPa				(1.00)			
				61.40	2.60	Complete at 2.60m		

**Remarks**Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com
Pit was wet but stable.**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP209

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number
TP210****Excavation Method**

Machine excavated to 1.6mbgl.

DimensionsElevation estimated using
www.freemaptools.com/elevation-finder.htm
Pit was wet but stable. 3.0m x 1.0m x
1.6m**Ground Level (mOD)**

64.00

Client

Mangrove Estates Ltd

**Job
Number
LKC 21 1152****Location**

388184 E 396075 N

Dates

20/01/2022

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			63.60	(0.40) 0.40	MADE GROUND: Black sandy silty GRAVEL with abundant bricks, frequent ash, clinker and rare metal. Sand is fine to medium. Gravel is fine to coarse, subangular comprising mixed lithologies.		
					(1.10)	MADE GROUND: Red slightly sandy silty GRAVEL comprising bricks with rare ash and clinker. Noted to be wet. Sand is fine to medium. Gravel is fine to coarse, subangular.		
1.50-1.60	D		Fast(1) at 1.40m.	62.50	1.50	Terminated at 1.60m		∇1

**Remarks**Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com
Pit was wet but stable.
Pit terminated due to groundwater.**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP210

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP211****Excavation Method**

Machine excavated to 1.4mbgl.

Dimensions

2.0m x 1.0m x 1.4m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388183 E 396077 N

Dates

20/01/2022

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 PID=0.1ppm			63.80	(0.20) 0.20	MADE GROUND: Black sandy silty GRAVEL with abundant bricks, frequent ash, clinker, rare metal, plastic and timber fragments. Sand is fine to medium. Gravel is fine to coarse, subangular comprising mixed lithologies.		
0.50-1.00	ES PID=<0.1ppm		Water strike(1) at 1.10m.	62.60	(1.20) 1.40	MADE GROUND: Red slightly sandy silty GRAVEL comprising bricks. Noted to be wet. Sand is fine to medium. Gravel is fine to coarse, subangular.		∇1
						Complete at 1.40m		

**Remarks**Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com
Pit was wet and unstable.
Pit collapsing therefore terminated.**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP211

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP213****Excavation Method**

Machine excavated to 1.3mbgl.

Dimensions

2.0m x 1.0m x 1.3m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388188 E 396134 N

Dates

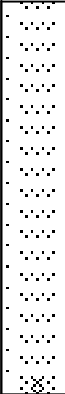
20/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.80-1.30	ES PID=<0.1ppm			62.70	(1.30) 1.30	MADE GROUND: Black sandy silty GRAVEL with abundant bricks, frequent ash, plastic bags and metal. Sand is fine to medium. Gravel is fine to coarse, subangular comprising mixed lithologies. Concrete floor encountered at 1.3mbgl. Terminated at 1.30m		

**Remarks**

Pit was dry and stable.
Terminated due to concrete floor obstruction.
Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP213

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number
TP214****Excavation Method**

Machine excavated to 1.3mbgl.

Dimensions

2.0m x 1.0m x 1.3m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number
LKC 21 1152****Location**

388178 E 396129 N

Dates

20/01/2022

Engineer

LKC

**Sheet
1/1**

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.15	ES PID=2.4ppm			63.85	(0.15)	MADE GROUND: Black sandy GRAVEL comprising cobblestone sets with frequent bitumen and ash. Sand is fine to coarse. Gravel is fine to coarse, subrounded.		
				63.70	(0.15)	MADE GROUND: Concrete. Mild bitumen type odour noted to 0.15mbgl.		
					(0.40)	MADE GROUND: Black gravelly silty SAND with frequent bricks, ash, plastic bags and metal. Sand is fine to medium. Gravel is fine to coarse, subangular comprising mixed lithologies.		
0.70-1.30	ES PID=0.1ppm			63.30	0.70	MADE GROUND: Stiff consistency brown slightly gravelly CLAY (reworked). Land drain encountered at 0.8mbgl.		
			Water strike(1) at 1.30m.	62.70	1.30	Lead pipe encountered at 1.3mbgl. Possible small gulley associated with pipe. Terminated at 1.30m		V1

**Remarks**

Pit was wet but stable.
 Terminated due to lead pipe encountered at 1.3mbgl.
 Elevation estimated using www.freemaptools.com/elevation-finder.htm
 Grid reference estimated using www.gridreferencefinder.com

Scale (approx)

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP214

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP215****Excavation Method**

Machine excavated to 1.6mbgl.

Dimensions

2.0m x 1.0m x 1.6m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388192 E 396108 N

Dates

20/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.40	SV 70kPa			63.40	(0.60) 0.60	MADE GROUND: Black sandy silty GRAVEL with frequent bricks, ash, metal and plastic. Sand is fine to medium. Gravel is fine to coarse, subangular to subrounded comprising mixed lithologies.		
					(1.00)	MADE GROUND: Stiff consistency brown slightly gravelly CLAY (reworked). Gravel is fine to medium, subangular to rounded comprising mudstone.		
				62.40	1.60	Land drain encountered at 1.1mbgl.		
						Complete at 1.60m		

**Remarks**Pit was dry and stable.
Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP215

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP215B****Excavation Method**

Machine excavated to 1.9mbgl.

Dimensions

2.0m x 1.0m x 1.9m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388192 E 396108 N

Dates

20/01/2022

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	D PID=<0.1ppm					MADE GROUND: Black gravelly silty SAND with frequent ash and brick. Sand is fine to coarse. Gravel is fine to medium, subangular comprising mixed lithologies.		
0.90-1.90	D PID=<0.1ppm			63.10	0.90	MADE GROUND: Stiff consistency brown slightly gravelly CLAY (reworked). Gravel is fine to medium, subangular to rounded comprising mudstone.		
1.70	SV 97.5kPa			62.10	1.90	Land drain encountered at 1.9mbgl. Complete at 1.90m		

**Remarks**Pit was dry and stable.
Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP215B

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP215C****Excavation Method**

Machine excavated to 1.8mbgl.

Dimensions

2.0m x 1.0m x 1.8m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388192 E 396109 N

Dates

20/01/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00-1.60	ES PID=<0.1ppm			63.40	0.60	MADE GROUND: Black sandy silty GRAVEL with frequent bricks, ash, metal and plastic. Sand is fine to medium. Gravel is fine to coarse, subangular to subrounded comprising mixed lithologies.		
						MADE GROUND: Stiff consistency brown slightly gravelly CLAY (reworked). Gravel is fine to medium, subangular to rounded comprising mudstone.		
1.60-1.80	ES PID=<0.1ppm			62.20	1.80	Black organic sandy clayey SILT at 1.2mbgl. Sand is fine to coarse. Land drain encountered at the same depth.		
						Complete at 1.80m		

**Remarks**Pit was dry and stable.
Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP215C

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

Former Chatsworth Mills, Gorton

**Trial Pit
Number****TP216****Excavation Method**

Machine excavated to 2.0mbgl.

Dimensions

2.0m x 1.0m x 2.0m

Ground Level (mOD)

64.00

Client

Mangrove Estates Ltd

**Job
Number**

LKC 21 1152

Location

388193 E 396110 N

Dates

20/01/2022

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	D PID=<0.1ppm					MADE GROUND: Black sandy silty GRAVEL with frequent bricks, ash and rare metal. Sand is fine to medium. Gravel is fine to coarse, subangular to subrounded comprising mixed lithologies.		
0.40-2.00	D PID=<0.1ppm			63.40	0.60			
1.00	SV 86kPa				(1.40)	MADE GROUND: Stiff consistency brown slightly gravelly CLAY. Gravel is fine to medium, subangular to rounded comprising mixed lithologies.		
1.50	SV 140kPa			62.00	2.00			
						Complete at 2.00m		

Plan

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RemarksPit was dry and stable.
Elevation estimated using www.freemaptools.com/elevation-finder.htm
Grid reference estimated using www.gridreferencefinder.com**Scale (approx)**

1:25

Logged By

RW

Figure No.

LKC 21 1152.TP216

Appendix C

Certificates of Analysis – Soil



Final Report

Report No.: 22-02550-1

Initial Date of Issue: 01-Feb-2022

Client LK Consult

Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS

Contact(s): Ben Smith
Contaminated Land

Project LKC 21 1152 Former Chatsworth Mills,
Gorton

Quotation No.:		Date Received:	26-Jan-2022
Order No.:	739946	Date Instructed:	26-Jan-2022
No. of Samples:	7		
Turnaround (Wkdays):	5	Results Due:	01-Feb-2022
Date Approved:	01-Feb-2022		

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:				22-02550	22-02550	22-02550	22-02550	22-02550	22-02550	22-02550
Quotation No.:	Chemtest Sample ID.:				1358351	1358352	1358353	1358354	1358355	1358356	1358357
Order No.: 739946	Client Sample Ref.:				TP202	TP203	TP204A	TP204B	TP205	TP206	TP208B
	Client Sample ID.:				ES1	ES1	ES1	ES2	ES2	ES2	ES1
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.3	0.3	0.3	1.1	1.7	1.5	0.3
	Bottom Depth (m):				0.5	0.9	1.0	1.2	2.0	2.0	1.0
	Date Sampled:				19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	10	12	9.8	10	12	7.8	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Organic Matter	M	2625	%	0.40	1.4	1.2	1.4	1.5	2.2	1.9	1.5
Diesel Present	N	2670		N/A	False	False	False	True	True	False	False
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	240	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	200	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	19	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	460	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	280	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	280	< 10	< 10	460	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	46	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
22-02550	1358351	S		TP202	ES1	0.3	No	N/A
22-02550	1358352	S		TP203	ES1	0.3	No	PAH
22-02550	1358353	S		TP204A	ES1	0.3	No	N/A
22-02550	1358354	S		TP204B	ES2	1.1	Yes	N/A
22-02550	1358355	S		TP205	ES2	1.7	Yes	Weathered Diesel
22-02550	1358356	S		TP206	ES2	1.5	No	N/A
22-02550	1358357	S		TP208B	ES1	0.3	No	N/A

Test Methods

SOP	Title	Parameters included	Method summary
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Final Report

Report No.: 22-02213-1

Initial Date of Issue: 28-Jan-2022

Client LK Consult

Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS

Contact(s): Ben Smith
Contaminated Land

Project LKC 21 1152 Former Chatsworth Mills,
Gorton

Quotation No.: **Date Received:** 24-Jan-2022

Order No.: 739949 **Date Instructed:** 25-Jan-2022

No. of Samples: 6

Turnaround (Wkdays): 5 **Results Due:** 31-Jan-2022

Date Approved: 28-Jan-2022

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:		22-02213	22-02213	22-02213	22-02213	22-02213	22-02213
Quotation No.:	Chemtest Sample ID.:		1356686	1356689	1356690	1356691	1356694	1356697
Order No.: 739949	Client Sample Ref.:		ES	ES	ES	ES	ES	ES
	Client Sample ID.:		TP209	TP210	TP211	TP212	TP214	TP215C
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.0	0.0	0.0	0.0	0.0	1.6
	Bottom Depth (m):		1.1	0.4	0.2	0.5	0.15	1.8
	Date Sampled:		20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD				
ACM Type	U	2192		N/A	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	20	23	21	18
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand
pH	M	2010		4.0	8.2	8.3	8.4	9.5
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	1.6	1.7	0.49	0.24
Arsenic	M	2450	mg/kg	1.0	40	320	62	24
Cadmium	M	2450	mg/kg	0.10	0.79	3.9	3.6	0.95
Chromium	M	2450	mg/kg	1.0	27	63	53	24
Copper	M	2450	mg/kg	0.50	190	440	290	190
Mercury	M	2450	mg/kg	0.10	1.7	0.74	0.53	0.33
Nickel	M	2450	mg/kg	0.50	30	82	47	21
Lead	M	2450	mg/kg	0.50	350	780	4600	840
Selenium	M	2450	mg/kg	0.20	1.3	< 0.20	3.5	0.50
Vanadium	U	2450	mg/kg	5.0	58	110	55	41
Zinc	M	2450	mg/kg	0.50	620	1400	2800	490
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	12	9.1	6.2	9.0
Diesel Present	N	2670		N/A				
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0				
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0				
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0				
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0				
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0				
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0				
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0				
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0				
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0				
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0				
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0				
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0				
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0				
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0				
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0				

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:				22-02213	22-02213	22-02213	22-02213	22-02213	22-02213
Quotation No.:	Chemtest Sample ID.:				1356686	1356689	1356690	1356691	1356694	1356697
Order No.: 739949	Client Sample Ref.:				ES	ES	ES	ES	ES	ES
	Client Sample ID.:				TP209	TP210	TP211	TP212	TP214	TP215C
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.0	0.0	0.0	0.0	0.0	1.6
	Bottom Depth (m):				1.1	0.4	0.2	0.5	0.15	1.8
	Date Sampled:				20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022	20-Jan-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0						< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0						< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0						< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0						< 10
Benzene	M	2760	µg/kg	1.0						< 1.0
Toluene	M	2760	µg/kg	1.0						< 1.0
Ethylbenzene	M	2760	µg/kg	1.0						< 1.0
m & p-Xylene	M	2760	µg/kg	1.0						< 1.0
o-Xylene	M	2760	µg/kg	1.0						< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0						< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.8	< 0.10	100	
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	0.19	< 0.10	31	
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.1	< 0.10	85	
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.2	< 0.10	68	
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	14	4.1	290	
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.8	0.70	130	
Fluoranthene	M	2800	mg/kg	0.10	0.74	0.26	25	4.7	350	
Pyrene	M	2800	mg/kg	0.10	0.74	0.27	22	4.4	310	
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.35	< 0.10	11	2.1	230	
Chrysene	M	2800	mg/kg	0.10	0.35	< 0.10	12	2.1	210	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.59	< 0.10	18	3.0	260	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.25	< 0.10	7.2	1.4	130	
Benzo[a]pyrene	M	2800	mg/kg	0.10	0.43	< 0.10	14	2.4	210	
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	12	1.7	190	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	1.9	0.45	48	
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	10	1.6	160	
Total Of 16 PAH's	N	2800	mg/kg	2.0	3.5	< 2.0	160	29	2800	

TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
22-02213	1356697	S		ES	TP215C	1.6	No	N/A

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS

Report Information

Key

U	UKAS accredited
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SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Final Report

Report No.: 22-02005-1

Initial Date of Issue: 31-Jan-2022

Client LK Consult

Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS

Contact(s): Ben Smith
Contaminated Land

Project LKC 21 1152 Former Chastworth Mills,
Gorton

Quotation No.:		Date Received:	21-Jan-2022
Order No.:	739949	Date Instructed:	25-Jan-2022
No. of Samples:	5		
Turnaround (Wkdays):	5	Results Due:	31-Jan-2022
Date Approved:	31-Jan-2022		

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: LKC 21 1152 Former Chastworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:				22-02005	22-02005	22-02005	22-02005	22-02005
Quotation No.:	Chemtest Sample ID.:				1355672	1355673	1355674	1355675	1355676
	Client Sample ID.:				ES2	ES	ES1	ES2	ES1
	Sample Location:				TP201	TP204B	TP205	TP205	TP207
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	1.4	0.5	1.7	0.2
	Bottom Depth (m):				0.7	1.7	1.5	2	0.6
	Date Sampled:				19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022	19-Jan-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD					
ACM Type	U	2192		N/A	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	14	13	12	17	20
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	None	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay
Organic Matter	M	2625	%	0.40	1.2	1.3	4.3	1.6	1.9
Diesel Present	N	2670		N/A	True	False	True	True	False
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	29	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	430	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	570	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	66	< 1.0	86	260	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	66	< 5.0	86	1300	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	38	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	130	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	130	< 5.0	< 5.0	38	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	200	< 10	86	1300	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
22-02005	1355672	S	TP201		ES2	0.5	Yes	Weathered Diesel
22-02005	1355673	S	TP204B		ES	1.4	No	N/A
22-02005	1355674	S	TP205		ES1	0.5	Yes	Weathered Diesel
22-02005	1355675	S	TP205		ES2	1.7	Yes	Weathered Diesel
22-02005	1355676	S	TP207		ES1	0.2	No	N/A

Test Methods

SOP	Title	Parameters included	Method summary
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

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SOP	Standard operating procedure
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None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

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Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

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customerservices@chemtest.com



Final Report

Report No.: 21-19227-1

Initial Date of Issue: 14-Jun-2021

Client LK Consult

Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS

Contact(s): Contaminated Land
Michelle Thorniley

Project LKC 21 1152 Former Chatsworth Mills,
Gorton

Quotation No.: **Date Received:** 08-Jun-2021

Order No.: 738723 **Date Instructed:** 08-Jun-2021

No. of Samples: 10

Turnaround (Wkdays): 5 **Results Due:** 14-Jun-2021

Date Approved: 14-Jun-2021

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:				21-19227	21-19227	21-19227	21-19227	21-19227	21-19227	21-19227	21-19227	21-19227
Quotation No.:	Chemtest Sample ID.:				1216292	1216293	1216295	1216297	1216299	1216300	1216301	1216302	1216303
Order No.: 738723	Client Sample Ref.:				ES1	ES1	ES1	ES1	ES1	ES2	ES1	ES2	ES1
	Client Sample ID.:				TP101	TP102	TP103	TP104	TP105	TP105	TP106	TP106	TP107
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.00	0.20	0.10	0.00	0.40	0.70	0.00	0.20	0.40
	Bottom Depth (m):				0.30	0.50	0.30	0.30	0.70	1.70	0.20	0.80	0.90
	Date Sampled:				02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-	-		-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	15	20	15	13	30	15	9.8	18	19
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	None	Stones	None	Stones	Stones	Stones	Stones	Stones	None
Soil Texture	N	2040		N/A	Sand	Sand	house brick	Sand	Clay	Clay	Sand	Clay	Clay
pH	M	2010		4.0	7.9	8.2	11.7	9.0	7.9	8.5	9.2	8.9	8.3
Magnesium (Water Soluble)	N	2120	g/l	0.010						0.011			
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.92	0.92	0.051	0.081	0.14	0.043	0.032	< 0.010	0.45
Chloride (Water Soluble)	M	2220	g/l	0.010						0.012			
Nitrate (Water Soluble)	N	2220	g/l	0.010						< 0.010			
Arsenic	M	2450	mg/kg	1.0	47	21	10	54	42		33	6.6	21
Cadmium	M	2450	mg/kg	0.10	1.0	2.4	0.13	0.44	0.96		2.6	0.14	0.36
Chromium	M	2450	mg/kg	1.0	25	21	12	25	25		27	25	25
Copper	M	2450	mg/kg	0.50	220	86	19	140	130		920	48	160
Mercury	M	2450	mg/kg	0.10	2.3	0.56	< 0.10	0.34	1.0		1.3	< 0.10	0.15
Nickel	M	2450	mg/kg	0.50	53	30	14	45	41		51	32	33
Lead	M	2450	mg/kg	0.50	420	530	20	110	210		370	36	160
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.83		0.46	< 0.20	0.40
Vanadium	U	2450	mg/kg	5.0	69	37	14	55	32		46	20	31
Zinc	M	2450	mg/kg	0.50	430	370	37	110	130		350	55	140
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	19	5.7	0.55	10	6.0		14	1.7	1.0
Naphthalene	M	2800	mg/kg	0.10	61	2.7	< 0.10	< 0.10	< 0.10		8.8	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	0.84	0.14	< 0.10	< 0.10	< 0.10		0.49	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	42	2.0	< 0.10	< 0.10	< 0.10		8.7	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	20	1.4	< 0.10	< 0.10	< 0.10		4.6	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	180	12	0.54	2.6	1.3		29	0.24	< 0.10
Anthracene	M	2800	mg/kg	0.10	46	2.5	0.13	0.39	0.21		6.9	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	180	15	0.65	1.1	2.0		22	0.19	< 0.10
Pyrene	M	2800	mg/kg	0.10	150	14	0.56	0.99	2.2		19	0.17	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	70	6.9	0.29	< 0.10	1.0		8.1	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	64	6.9	0.24	< 0.10	1.3		7.5	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	85	6.8	0.27	< 0.10	1.3		6.6	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	34	2.6	0.12	< 0.10	0.56		1.4	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	71	6.3	0.25	< 0.10	0.77		4.1	< 0.10	< 0.10

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:				21-19227	21-19227	21-19227	21-19227	21-19227	21-19227	21-19227	21-19227
Quotation No.:	Chemtest Sample ID.:				1216292	1216293	1216295	1216297	1216299	1216300	1216301	1216302
Order No.: 738723	Client Sample Ref.:				ES1	ES1	ES1	ES1	ES1	ES2	ES1	ES2
	Client Sample ID.:				TP101	TP102	TP103	TP104	TP105	TP105	TP106	TP106
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.00	0.20	0.10	0.00	0.40	0.70	0.00	0.20
	Bottom Depth (m):				0.30	0.50	0.30	0.30	0.70	1.70	0.20	0.80
	Date Sampled:				02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	48	4.8	0.22	< 0.10	0.94		2.8	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	20	0.93	< 0.10	< 0.10	0.17		< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	45	4.0	0.17	< 0.10	1.1		3.9	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	1100	89	3.4	5.1	13		130	< 2.0

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:		21-19227		
Quotation No.:	Chemtest Sample ID.:		1216304		
Order No.: 738723	Client Sample Ref.:		ES2		
	Client Sample ID.:		TP107		
	Sample Type:		SOIL		
	Top Depth (m):		0.90		
	Bottom Depth (m):		1.40		
	Date Sampled:		02-Jun-2021		
	Asbestos Lab:				
Determinand	Accred.	SOP	Units	LOD	
ACM Type	U	2192		N/A	
Asbestos Identification	U	2192		N/A	
Moisture	N	2030	%	0.020	18
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Stones
Soil Texture	N	2040		N/A	Clay
pH	M	2010		4.0	8.5
Magnesium (Water Soluble)	N	2120	g/l	0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.041
Chloride (Water Soluble)	M	2220	g/l	0.010	< 0.010
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010
Arsenic	M	2450	mg/kg	1.0	
Cadmium	M	2450	mg/kg	0.10	
Chromium	M	2450	mg/kg	1.0	
Copper	M	2450	mg/kg	0.50	
Mercury	M	2450	mg/kg	0.10	
Nickel	M	2450	mg/kg	0.50	
Lead	M	2450	mg/kg	0.50	
Selenium	M	2450	mg/kg	0.20	
Vanadium	U	2450	mg/kg	5.0	
Zinc	M	2450	mg/kg	0.50	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	
Organic Matter	M	2625	%	0.40	
Naphthalene	M	2800	mg/kg	0.10	
Acenaphthylene	N	2800	mg/kg	0.10	
Acenaphthene	M	2800	mg/kg	0.10	
Fluorene	M	2800	mg/kg	0.10	
Phenanthrene	M	2800	mg/kg	0.10	
Anthracene	M	2800	mg/kg	0.10	
Fluoranthene	M	2800	mg/kg	0.10	
Pyrene	M	2800	mg/kg	0.10	
Benzo[a]anthracene	M	2800	mg/kg	0.10	
Chrysene	M	2800	mg/kg	0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10	

Results - Soil

Project: LKC 21 1152 Former Chatsworth Mills, Gorton

Client: LK Consult	Chemtest Job No.:		21-19227	
Quotation No.:	Chemtest Sample ID.:		1216304	
Order No.: 738723	Client Sample Ref.:		ES2	
	Client Sample ID.:		TP107	
	Sample Type:		SOIL	
	Top Depth (m):		0.90	
	Bottom Depth (m):		1.40	
	Date Sampled:		02-Jun-2021	
	Asbestos Lab:			
Determinand	Accred.	SOP	Units	LOD
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Final Report

Report No.: 21-18817-1
Initial Date of Issue: 10-Jun-2021
Client LK Consult
Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS
Contact(s): Contaminated Land
Michelle Thorniley
Project LKC 21 1152 Former Chadworth Mill,
Gorton

Quotation No.:		Date Received:	04-Jun-2021
Order No.:	738719	Date Instructed:	04-Jun-2021
No. of Samples:	10		
Turnaround (Wkdays):	5	Results Due:	10-Jun-2021
Date Approved:	10-Jun-2021		

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:				ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):				0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:				02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-	-	-	-	-	Fibres/Clumps	-	Fibres/Clumps
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Chrysotile	No Asbestos Detected	Chrysotile
Asbestos by Gravimetry	U	2192	%	0.001						0.003		0.004
Total Asbestos	U	2192	%	0.001						0.003		0.004
Moisture	N	2030	%	0.020	14	16	16	22	3.9	16	13	47
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Black	Grey	Brown	Brown	Black
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Roots and Stones	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	8.6	8.5	8.6		10.3	9.2	10.8	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.55	1.1	< 0.40				0.69	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.18	0.027	0.011		0.059	0.028	0.23	0.22
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50				< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50				1.0	3.0
Arsenic	M	2450	mg/kg	1.0	20	10	4.6		17	60	27	67
Cadmium	M	2450	mg/kg	0.10	0.46	0.15	0.10		1.7	1.4	0.84	3.4
Chromium	M	2450	mg/kg	1.0	25	35	17		15	34	23	55
Copper	M	2450	mg/kg	0.50	130	31	15		52	400	610	840
Mercury	M	2450	mg/kg	0.10	0.71	0.16	0.11		0.15	0.79	0.39	4.5
Nickel	M	2450	mg/kg	0.50	58	49	23		19	49	36	61
Lead	M	2450	mg/kg	0.50	95	17	7.5		68	750	250	2100
Selenium	M	2450	mg/kg	0.20	< 0.20	0.34	< 0.20		< 0.20	0.54	0.29	1.3
Vanadium	U	2450	mg/kg	5.0	80	35	14		29	49	37	52
Zinc	M	2450	mg/kg	0.50	110	68	36		120	350	170	2200
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	21	1.4	1.1	< 0.40	3.8	10	13	26
Diesel Present	N	2670		N/A	True	False	False	False			False	False
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	180	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	740	< 1.0	< 1.0	< 1.0			37	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	3800	< 1.0	< 1.0	< 1.0			91	330
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	4000	< 1.0	< 1.0	< 1.0			130	2900
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	1800	< 1.0	< 1.0	33			1300	13000
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	99	< 1.0	< 1.0	< 1.0			< 1.0	1600

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:				ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):				0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:				02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	11000	< 5.0	< 5.0	33			1500	18000
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	110	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	520	< 1.0	< 1.0	< 1.0			65	83
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	3300	< 1.0	< 1.0	< 1.0			330	960
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	3200	< 1.0	< 1.0	< 1.0			880	5300
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	2200	< 1.0	< 1.0	190			3900	25000
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0			250	3400
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	9300	< 5.0	< 5.0	190			5500	35000
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	20000	< 10	< 10	220			7000	53000
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Chloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Bromomethane	M	2760	µg/kg	20	< 20	< 20	< 20				< 20	< 20
Chloroethane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0				< 2.0	< 2.0
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0				< 5.0	< 5.0
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Benzene	M	2760	µg/kg	1.0	4.3	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0				< 2.0	< 2.0
Trichloroethene	N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0				< 5.0	< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10				< 10	< 10
Toluene	M	2760	µg/kg	1.0	4.1	< 1.0	< 1.0	< 1.0			8.7	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10				< 10	< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	< 10	< 10				< 10	< 10

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:		21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:		1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:		ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):		0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:		02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0		< 2.0	< 2.0
Dibromochloromethane	U	2760	µg/kg	10	< 10	< 10	< 10		< 10	< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	19	< 5.0	< 5.0		< 5.0	< 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0		< 2.0	< 2.0
Ethylbenzene	M	2760	µg/kg	1.0	6.6	< 1.0	< 1.0	< 1.0	1.5	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	12	< 1.0	< 1.0	< 1.0	4.5	< 1.0
o-Xylene	M	2760	µg/kg	1.0	9.2	< 1.0	< 1.0	< 1.0	5.3	< 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	< 50	< 50		< 50	< 50
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	170	< 1.0	< 1.0		3.3	< 1.0
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	72	< 1.0	< 1.0		7.0	< 1.0
Sec-Butylbenzene	U	2760	µg/kg	1.0	11	1.5	< 1.0		< 1.0	< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	< 50	< 50		< 50	< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0		< 2.0	< 2.0
Carbon Disulphide	N	2760	µg/kg	50	< 50	< 50	< 50		< 50	< 50
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Phenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Chlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:		21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:		1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:		ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):		0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:		02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
1,3-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
1,2-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
4-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Nitrobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Isophorone	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,4-Dichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Naphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		4.3	4.1
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Hexachlorobutadiene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Methylnaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		2.3	3.1
4-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Chloronaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Acenaphthylene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Dimethylphthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,6-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Acenaphthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		4.3	7.6
3-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Dibenzofuran	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		2.1	3.8
4-Chlorophenylphenylether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2,4-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Fluorene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		3.1	5.7
Diethyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:		21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:		1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:		ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:		WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):		0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:		02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
4-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Azobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Hexachlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Phenanthrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		23	42
Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		6.4	14
Carbazole	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		1.7	4.6
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		29	100
Pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		24	83
Butylbenzyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Benzo[a]anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		13	44
Chrysene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		12	44
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50
Benzo[b]fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		16	54
Benzo[k]fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		5.4	19
Benzo[a]pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		12	40
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		6.2	20
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		1.7	5.3
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50		7.6	23
Naphthalene	M	2800	mg/kg	0.10				< 0.10	< 0.10	
Acenaphthylene	N	2800	mg/kg	0.10				< 0.10	< 0.10	
Acenaphthene	M	2800	mg/kg	0.10				< 0.10	< 0.10	
Fluorene	M	2800	mg/kg	0.10				< 0.10	< 0.10	
Phenanthrene	M	2800	mg/kg	0.10				0.45	1.8	
Anthracene	M	2800	mg/kg	0.10				< 0.10	0.37	
Fluoranthene	M	2800	mg/kg	0.10				0.39	3.3	
Pyrene	M	2800	mg/kg	0.10				0.27	3.0	
Benzo[a]anthracene	M	2800	mg/kg	0.10				< 0.10	1.3	
Chrysene	M	2800	mg/kg	0.10				< 0.10	1.4	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10				< 0.10	1.8	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10				< 0.10	0.52	
Benzo[a]pyrene	M	2800	mg/kg	0.10				< 0.10	1.6	

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214370	1214371	1214372	1214373	1214374	1214376	1214378	1214381
Order No.: 738719	Client Sample Ref.:				ES	ES	ES	ES	ES	ES	ES	ES
	Client Sample ID.:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Location:				WS101	WS101	WS101	WS101	WS102	WS103	WS104	WS104
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.50	1.00	4.30	0.00	0.00	0.20	1.30
	Bottom Depth (m):				0.50	1.00	1.30	4.50	0.10	0.20	0.70	1.60
	Date Sampled:				02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10					< 0.10	0.74		
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10					< 0.10	0.11		
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10					< 0.10	0.93		
Total Of 16 PAH's	N	2800	mg/kg	2.0					< 2.0	17		
Total Phenols	M	2920	mg/kg	0.10	0.53	< 0.10	< 0.10				0.23	0.60

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001		
Total Asbestos	U	2192	%	0.001		
Moisture	N	2030	%	0.020	14	19
Soil Colour	N	2040		N/A	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay
pH	M	2010		4.0	9.1	8.7
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010	0.052
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	
Arsenic	M	2450	mg/kg	1.0	11	9.1
Cadmium	M	2450	mg/kg	0.10	0.19	0.19
Chromium	M	2450	mg/kg	1.0	29	20
Copper	M	2450	mg/kg	0.50	48	35
Mercury	M	2450	mg/kg	0.10	0.13	0.18
Nickel	M	2450	mg/kg	0.50	41	28
Lead	M	2450	mg/kg	0.50	30	32
Selenium	M	2450	mg/kg	0.20	0.30	0.28
Vanadium	U	2450	mg/kg	5.0	25	18
Zinc	M	2450	mg/kg	0.50	80	50
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	1.3	2.1
Diesel Present	N	2670		N/A	False	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	
Chloromethane	M	2760	µg/kg	1.0	< 1.0	
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	
Bromomethane	M	2760	µg/kg	20	< 20	
Chloroethane	U	2760	µg/kg	2.0	< 2.0	
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	
Benzene	M	2760	µg/kg	1.0	< 1.0	
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	
Trichloroethene	N	2760	µg/kg	1.0	< 1.0	
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	
Toluene	M	2760	µg/kg	1.0	< 1.0	
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	
Dibromochloromethane	U	2760	µg/kg	10	< 10	
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0	
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	
o-Xylene	M	2760	µg/kg	1.0	< 1.0	
Styrene	M	2760	µg/kg	1.0	< 1.0	
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	
Carbon Disulphide	N	2760	µg/kg	50	< 50	
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	
N-Nitrosodimethylamine	M	2790	mg/kg	0.50	< 0.50	
Phenol	M	2790	mg/kg	0.50	< 0.50	
2-Chlorophenol	M	2790	mg/kg	0.50	< 0.50	
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50	< 0.50	

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
1,3-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	
1,2-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	
2-Methylphenol	M	2790	mg/kg	0.50	< 0.50	
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50	< 0.50	
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50	
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50	< 0.50	
4-Methylphenol	M	2790	mg/kg	0.50	< 0.50	
Nitrobenzene	M	2790	mg/kg	0.50	< 0.50	
Isophorone	M	2790	mg/kg	0.50	< 0.50	
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50	
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50	< 0.50	
2,4-Dichlorophenol	M	2790	mg/kg	0.50	< 0.50	
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50	< 0.50	
Naphthalene	M	2790	mg/kg	0.50	< 0.50	
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50	
Hexachlorobutadiene	M	2790	mg/kg	0.50	< 0.50	
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50	< 0.50	
2-Methylnaphthalene	M	2790	mg/kg	0.50	< 0.50	
4-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50	
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	
2-Chloronaphthalene	M	2790	mg/kg	0.50	< 0.50	
2-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	
Acenaphthylene	M	2790	mg/kg	0.50	< 0.50	
Dimethylphthalate	M	2790	mg/kg	0.50	< 0.50	
2,6-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	
Acenaphthene	M	2790	mg/kg	0.50	< 0.50	
3-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	
Dibenzofuran	M	2790	mg/kg	0.50	< 0.50	
4-Chlorophenylphenylether	M	2790	mg/kg	0.50	< 0.50	
2,4-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	
Fluorene	M	2790	mg/kg	0.50	< 0.50	
Diethyl Phthalate	M	2790	mg/kg	0.50	< 0.50	

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
4-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50	
Azobenzene	M	2790	mg/kg	0.50	< 0.50	
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50	< 0.50	
Hexachlorobenzene	M	2790	mg/kg	0.50	< 0.50	
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50	
Phenanthrene	M	2790	mg/kg	0.50	0.88	
Anthracene	M	2790	mg/kg	0.50	< 0.50	
Carbazole	M	2790	mg/kg	0.50	< 0.50	
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50	< 0.50	
Fluoranthene	M	2790	mg/kg	0.50	3.1	
Pyrene	M	2790	mg/kg	0.50	2.4	
Butylbenzyl Phthalate	M	2790	mg/kg	0.50	< 0.50	
Benzo[a]anthracene	M	2790	mg/kg	0.50	1.4	
Chrysene	M	2790	mg/kg	0.50	1.3	
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	< 0.50	
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50	< 0.50	
Benzo[b]fluoranthene	M	2790	mg/kg	0.50	1.6	
Benzo[k]fluoranthene	M	2790	mg/kg	0.50	0.58	
Benzo[a]pyrene	M	2790	mg/kg	0.50	1.2	
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50	0.58	
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50	< 0.50	
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50	0.66	
Naphthalene	M	2800	mg/kg	0.10		< 0.10
Acenaphthylene	N	2800	mg/kg	0.10		< 0.10
Acenaphthene	M	2800	mg/kg	0.10		< 0.10
Fluorene	M	2800	mg/kg	0.10		< 0.10
Phenanthrene	M	2800	mg/kg	0.10		0.38
Anthracene	M	2800	mg/kg	0.10		< 0.10
Fluoranthene	M	2800	mg/kg	0.10		0.43
Pyrene	M	2800	mg/kg	0.10		0.40
Benzo[a]anthracene	M	2800	mg/kg	0.10		0.17
Chrysene	M	2800	mg/kg	0.10		0.23
Benzo[b]fluoranthene	M	2800	mg/kg	0.10		< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10		< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10		< 0.10

Results - Soil

Project: LKC 21 1152 Former Chadworth Mill, Gorton

Client: LK Consult	Chemtest Job No.:				21-18817	21-18817
Quotation No.:	Chemtest Sample ID.:				1214382	1214383
Order No.: 738719	Client Sample Ref.:				ES	ES
	Client Sample ID.:				WS104	WS105
	Sample Location:				WS104	WS105
	Sample Type:				SOIL	SOIL
	Top Depth (m):				1.70	0.30
	Bottom Depth (m):				2.00	1.00
	Date Sampled:				02-Jun-2021	02-Jun-2021
	Asbestos Lab:				DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD		
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10		< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10		< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10		< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0		< 2.0
Total Phenols	M	2920	mg/kg	0.10	< 0.10	

TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
21-18817	1214370	S	WS101	ES	WS101	0.10	Yes	Diesel
21-18817	1214371	S	WS101	ES	WS101	0.50	No	N/A
21-18817	1214372	S	WS101	ES	WS101	1.00	No	N/A
21-18817	1214373	S	WS101	ES	WS101	4.30	No	PAH
21-18817	1214378	S	WS104	ES	WS104	0.20	No	PAH and Heavy Oil
21-18817	1214381	S	WS104	ES	WS104	1.30	No	PAH and Heavy Oil
21-18817	1214382	S	WS104	ES	WS104	1.70	No	N/A

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Appendix D

Certificates of Analysis - Geotechnical



TEST REPORT

Client LK Consult Ltd

Address Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Greater Manchester
M26 7ZS

Contract LKC 21 1152 -
Former Chatsworth Mill, Gorton

Job Number MRN 4066/110
Date of Issue 01 July 2021
Page 1 of 6

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



MURRAY RIX

ANDREW HOUSE HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE LIQUID AND PLASTIC LIMIT

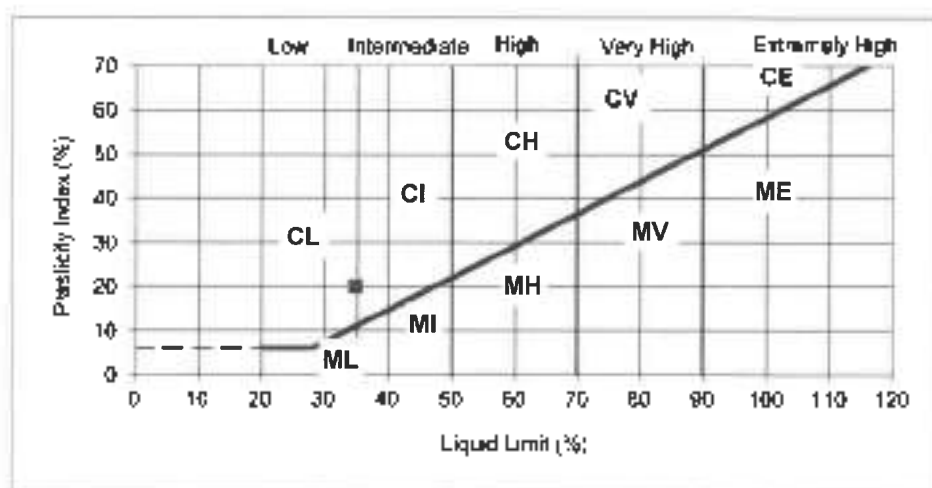
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 - Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4086/110

SAMPLE LABEL	TP105 0 7-1 7	DATE SAMPLED	Not advised
SAMPLE No.	99748	DATE RECEIVED	04-Jun-21
DATE TESTED	08-Jun-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21	35	15	20	92



REMARKS

Sample tested in natural condition

SIGNED

NAME O.P. Davies BA (Hons)
Page 2 of 8 (Laboratory Manager)

DATE 01-Jul-21

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

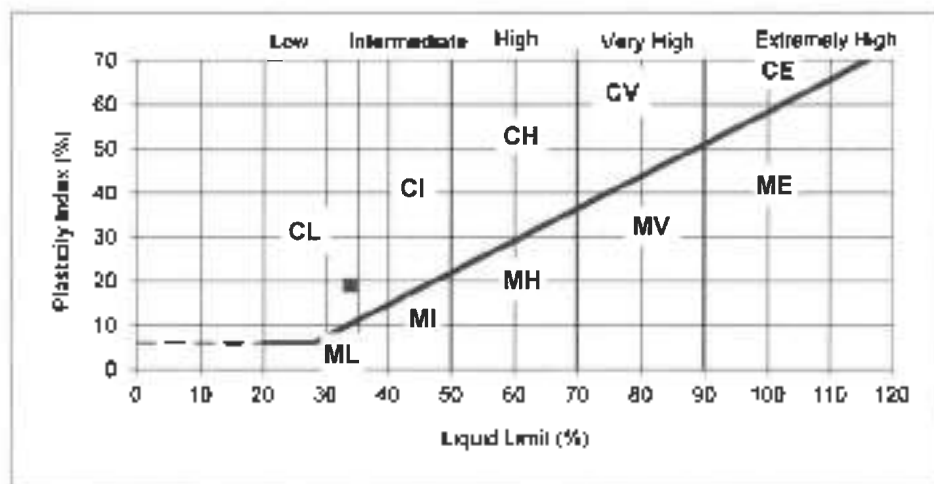
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 - Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4066/110

SAMPLE LABEL	TP107 0.9-1.4	DATE SAMPLED	Not advised
SAMPLE No	99749	DATE RECEIVED	04-Jun-21
DATE TESTED	08-Jun-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20	34	15	19	96



REMARKS

Sample tested in natural condition

SIGNED

NAME
Page 3 of 6

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 01-Jul-21

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 – Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4066/110

SAMPLE LABEL	WS105 U100 1.65-2.00	DATE SAMPLED	Not advised
LAB SAMPLE No	99755	DATE RECEIVED	04 June 2021
DATE TESTED	21 June 2021	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	168	mm
SPECIMEN DIAMETER	84	mm
MOISTURE CONTENT OF SAMPLE	16	%
BULK DENSITY	2.05	Mg/m ³
DRY DENSITY	1.77	Mg/m ³
DEPTH OF TOP OF SPECIMEN	1.70	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.4	mm

**SPECIMEN AT
FAILURE**



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress τ_c (kPa)
40	20	1.49	249.8	125

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 01 July 2021

MURRAY RIX

ANDREW HOUSE HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE LIQUID AND PLASTIC LIMIT

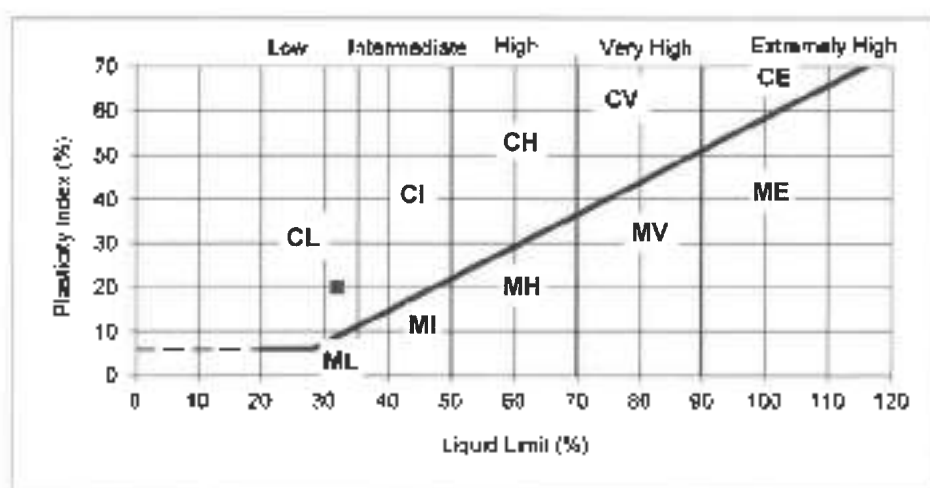
BS 1377: PART 2 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377 PART 2 1990 Clause 3.2

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 - Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4088/110

SAMPLE LABEL	WS105 1 65-2 0	DATE SAMPLED	Not advised
SAMPLE No.	98756	DATE RECEIVED	04-Jun-21
DATE TESTED	08-Jun-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15	32	12	20	96



REMARKS

Sample tested in natural condition

SIGNED

NAME
Page 5 of 6

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 01-Jul-21

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 – Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4066/110

SAMPLE LABEL	WS103 U100 2.5-2.8	DATE SAMPLED	Not advised
LAB SAMPLE No	99757	DATE RECEIVED	04 June 2021
DATE TESTED	21 June 2021	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	130	mm
SPECIMEN DIAMETER	64	mm
MOISTURE CONTENT OF SAMPLE	16	%
BULK DENSITY	2.01	Mg/m ³
DRY DENSITY	1.74	Mg/m ³
DEPTH OF TOP OF SPECIMEN	1.70	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.4	mm

**SPECIMEN AT
FAILURE**



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
50	20	1.49	259.7	130

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 01 July 2021

TEST REPORT

Client LK Consult Ltd

Address Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Greater Manchester
M26 7ZS

Contract LKC 21 1152 -
Former Chatsworth Mill, Gorton

Job Number MRN 4066/114
Date of Issue 01 July 2021
Page 1 of 2

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK18 4QX
TEL 0161 475 0870

TEST CERTIFICATE

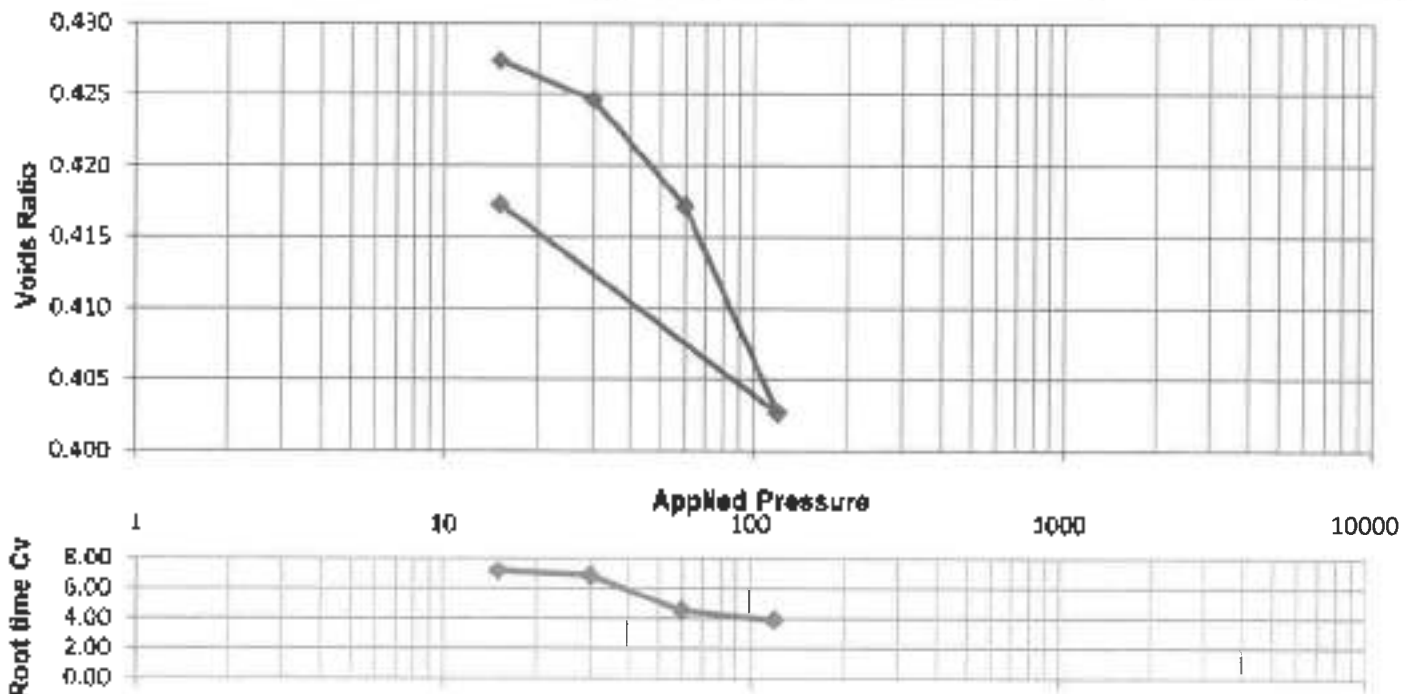
DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES
BS 1377 PART 5 Clause 3.1.990

CLIENT	LK Consult Ltd
SITE	LKC 21 1152 - Former Chatsworth Mill, Gorton
JOB NUMBER	MRN 4066/114

SAMPLE LABEL	WS105 U100 1.65-2.00	DATE SAMPLED	Not advised
LAB SAMPLE No.	99755	DATE RECEIVED	04-Jun-21
DATE TESTED	25-Jun-21	SAMPLED BY	Client
MATERIAL	Stiff brown silty sandy CLAY with rare gravel		
ADVISED SOURCE	Site Investigation Sample		

Specimen Location		Sample Length (mm)	400	Specimen depth from top of Sample (mm)	300
		Sample Orientation	Vertical	Specimen Condition	Undisturbed

INITIAL CONDITIONS				Load No.	Applied Pressure kPa	Sample Height mm	Void Ratio	Mv m2/MN	Temp °C	Cv (90 root m2/yr)	Qv (50 log m2/yr)
Height	20.0 mm	Particle density	2.65 Ass	1	15	19.92	0.427	0.14	20	7.17	9.03
Diameter	75.0 mm	Initial void ratio	0.43	2	30	19.88	0.425	0.13	20	6.67	5.89
Weight wet	138.0 g	Deg. of sat.	96 %	3	60	19.78	0.417	0.18	20	4.50	3.38
Moist. cont.	16 %	Swell. press.	5 kN/m2	4	120	19.57	0.403	0.17	20	3.90	3.54
Bulk Density	2.14 Mg/m3	Dry density	1.85 Mg/m3	5	15	19.78	0.417	0.10	20		
				6							
				7							



Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed 

Date 01 July 2021

Appendix E

Certificate of Analysis – Water



Final Report

Report No.: 21-19783-1
Initial Date of Issue: 18-Jun-2021
Client LK Consult
Client Address: Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Manchester
Lancashire
M26 2ZS
Contact(s): Contaminated Land
Michelle Thorniley
Project LKC 21 1152 Former Chatsworth Mill

Quotation No.:		Date Received:	11-Jun-2021
Order No.:	738730	Date Instructed:	14-Jun-2021
No. of Samples:	1		
Turnaround (Wkdays):	5	Results Due:	18-Jun-2021
Date Approved:	18-Jun-2021		

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Water

Project: LKC 21 1152 Former Chatsworth Mill

Client: LK Consult	Chemtest Job No.:				21-19783
Quotation No.:	Chemtest Sample ID.:				1218814
Order No.: 738730	Client Sample Ref.:				WS105
	Sample Type:				WATER
	Date Sampled:				10-Jun-2021
Determinand	Accred.	SOP	Units	LOD	
Diesel Present	N	1670		N/A	False
pH	U	1010		N/A	8.1
Sulphate	U	1220	mg/l	1.0	480
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050
Calcium	U	1455	mg/l	2.00	170
Total Hardness as CaCO3	U	1270	mg/l	15	600
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.70
Boron (Dissolved)	U	1455	µg/l	10.0	84
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	15
Copper (Dissolved)	U	1455	µg/l	0.50	2.7
Nickel (Dissolved)	U	1455	µg/l	0.50	2.6
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50
Selenium (Dissolved)	U	1455	µg/l	0.50	1.2
Vanadium (Dissolved)	U	1455	µg/l	0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	< 2.5
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Chromium (Hexavalent)	U	1490	µg/l	20	[B] < 20
Dissolved Organic Carbon	U	1610	mg/l	2.0	11
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0

Results - Water

Project: LKC 21 1152 Former Chatsworth Mill

Client: LK Consult	Chemtest Job No.:		21-19783		
Quotation No.:	Chemtest Sample ID.:		1218814		
Order No.: 738730	Client Sample Ref.:		WS105		
	Sample Type:		WATER		
	Date Sampled:		10-Jun-2021		
Determinand	Accred.	SOP	Units	LOD	
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0
Bromomethane	U	1760	µg/l	5	< 5
Chloroethane	U	1760	µg/l	2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5	< 5
Trichloromethane	U	1760	µg/l	1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0
Dibromomethane	U	1760	µg/l	10	< 10
Bromodichloromethane	U	1760	µg/l	5	< 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10
1,2-Dibromoethane	U	1760	µg/l	5	< 5
Chlorobenzene	N	1760	µg/l	1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0

Results - Water

Project: LKC 21 1152 Former Chatsworth Mill

Client: LK Consult	Chemtest Job No.:				21-19783
Quotation No.:	Chemtest Sample ID.:				1218814
Order No.: 738730	Client Sample Ref.:				WS105
	Sample Type:				WATER
	Date Sampled:				10-Jun-2021
Determinand	Accred.	SOP	Units	LOD	
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0
Carbon Disulphide	N	1760	µg/l	50	< 50
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50

Results - Water

Project: LKC 21 1152 Former Chatsworth Mill

Client: LK Consult	Chemtest Job No.:				21-19783
Quotation No.:	Chemtest Sample ID.:				1218814
Order No.: 738730	Client Sample Ref.:				WS105
	Sample Type:				WATER
	Date Sampled:				10-Jun-2021
Determinand	Accred.	SOP	Units	LOD	
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1800	µg/l	0.010	< 0.010
Acenaphthylene	N	1800	µg/l	0.010	< 0.010
Acenaphthene	N	1800	µg/l	0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010

Results - Water

Project: LKC 21 1152 Former Chatsworth Mill

Client: LK Consult	Chemtest Job No.:		21-19783		
Quotation No.:	Chemtest Sample ID.:		1218814		
Order No.: 738730	Client Sample Ref.:		WS105		
	Sample Type:		WATER		
	Date Sampled:		10-Jun-2021		
Determinand	Accred.	SOP	Units	LOD	
Anthracene	N	1800	µg/l	0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20
Total Phenols	U	1920	mg/l	0.030	< 0.030

TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
21-19783	1218814	W		WS105			No	N/A

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1218814	WS105			10-Jun-2021	B	Coloured Winchester 1000ml
1218814	WS105			10-Jun-2021	B	EPA Vial 40ml
1218814	WS105			10-Jun-2021	B	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44 Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Appendix F

Generic Assessment Criteria Values

Summary of Category 4 Screening Levels: 2015

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

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.

		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	6%	180	180	230	980	230	3,400
	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	4	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	1%	1,600 ^f	1,900 ^f	1,200 ^f	28,000 ^f	3,800 ^f	7,800 ^f
+Aromatic	2.5%	1,800 ^f	1,900 ^f	2,100 ^f	28,000 ^f	3,800 ^f	7,800 ^f
>EC44	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.

		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-Trinitrotoluene (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
	Endosulfans (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

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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}
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 G

HazWasteOnline Output Sheets

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)



TP325-4ZK22-M2ZTK

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

Job name

LKC 21 1152

Description/Comments

Project

LKC 21 1152

Site

Former Chatsworth Mill

Classified by

Name: **Peter Dunn**
Company: **LK Group**
Date: **05 Jul 2021 16:00 GMT**
Telephone: **0161 763 7200**

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

18 Sep 2019

Next 3 year Refresher due by Sep 2022

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101-02/06/2021-0.00	0.00-0.30	Non Hazardous		3
2	TP102-02/06/2021-0.20	0.20-0.50	Non Hazardous		5
3	TP103-02/06/2021-0.10	0.10-0.30	Hazardous	HP 8	7
4	TP104-02/06/2021-0.00	0.00-0.30	Non Hazardous		9
5	TP105-02/06/2021-0.40	0.40-0.70	Non Hazardous		11
6	TP105-02/06/2021-0.70	0.70-1.70	Non Hazardous		13
7	TP106-02/06/2021-0.00	0.00-0.20	Non Hazardous		14
8	TP106-02/06/2021-0.20	0.20-0.80	Non Hazardous		16
9	TP107-02/06/2021-0.40	0.40-0.90	Non Hazardous		18
10	TP107-02/06/2021-0.90	0.90-1.40	Non Hazardous		20
11	WS101-02/06/2021-0.10	0.10-0.50	Hazardous	HP 3(i), HP 7, HP 11	21
12	WS101-02/06/2021-0.50	0.50-1.00	Non Hazardous		27
13	WS101-02/06/2021-1.00	1.00-1.30	Non Hazardous		33
14	WS101-02/06/2021-4.30	4.30-4.50	Non Hazardous		39
15	WS102-02/06/2021-0.00	0.00-0.10	Non Hazardous		40
16	WS103-02/06/2021-0.00	0.00-0.20	Non Hazardous		42
17	WS104-02/06/2021-0.20	0.20-0.70	Hazardous	HP 3(i), HP 7, HP 11	44
18	WS104-02/06/2021-1.30	1.30-1.60	Hazardous	HP 3(i), HP 7, HP 11, HP 14	50
19	WS104-02/06/2021-1.70	1.70-2.00	Non Hazardous		56
20	WS105-02/06/2021-0.30	0.30-1.00	Non Hazardous		62

Related documents

#	Name	Description
1	HWOL_21-19227-20210614 175342.hwol	.hwol file used to create the Job
2	HWOL_21-18817-20210610 212300.hwol	.hwol file used to create the Job
3	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Peter Dunn

Created date: 05 Jul 2021 16:00 GMT

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	64
Appendix B: Rationale for selection of metal species	68
Appendix C: Version	69

Classification of sample: TP101-02/06/2021-0.00

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

Sample details

Sample name:	LoW Code:
TP101-02/06/2021-0.00	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)
0.00-0.30 m	
Moisture content:	
15%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				47	mg/kg	1.32	52.747	mg/kg	0.00527 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				1	mg/kg	1.142	0.971	mg/kg	0.0000971 %	✓	
	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	31.058	mg/kg	0.00311 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				220	mg/kg	1.126	210.541	mg/kg	0.0211 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	420	mg/kg		357	mg/kg	0.0357 %	✓	
	082-001-00-6											
7	mercury { mercury dichloride }				2.3	mg/kg	1.353	2.646	mg/kg	0.000265 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				53	mg/kg	2.976	134.081	mg/kg	0.0134 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc oxide }				430	mg/kg	1.245	454.943	mg/kg	0.0455 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	pH				7.9	pH		7.9	pH	7.9 pH		
			PH									
12	naphthalene				61	mg/kg		51.85	mg/kg	0.00519 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.84	mg/kg		0.714	mg/kg	0.0000714 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				42	mg/kg		35.7	mg/kg	0.00357 %	✓	
		201-469-6	83-32-9									
15	fluorene				20	mg/kg		17	mg/kg	0.0017 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				180	mg/kg		153	mg/kg	0.0153 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
17	anthracene	204-371-1	120-12-7		46	mg/kg		39.1	mg/kg	0.00391 %	✓	
18	fluoranthene	205-912-4	206-44-0		180	mg/kg		153	mg/kg	0.0153 %	✓	
19	pyrene	204-927-3	129-00-0		150	mg/kg		127.5	mg/kg	0.0127 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	70	mg/kg		59.5	mg/kg	0.00595 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	64	mg/kg		54.4	mg/kg	0.00544 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	85	mg/kg		72.25	mg/kg	0.00722 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	34	mg/kg		28.9	mg/kg	0.00289 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	71	mg/kg		60.35	mg/kg	0.00604 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		48	mg/kg		40.8	mg/kg	0.00408 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	20	mg/kg		17	mg/kg	0.0017 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		45	mg/kg		38.25	mg/kg	0.00382 %	✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	69	mg/kg	1.785	104.701	mg/kg	0.0105 %	✓	
Total:										0.23 %		

Key

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

Classification of sample: TP102-02/06/2021-0.20

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

Sample details

Sample name:	LoW Code:
TP102-02/06/2021-0.20	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)
0.20-0.50 m	
Moisture content:	
20%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				21	mg/kg	1.32	22.181	mg/kg	0.00222 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				2.4	mg/kg	1.142	2.193	mg/kg	0.000219 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21	mg/kg	1.462	24.554	mg/kg	0.00246 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				86	mg/kg	1.126	77.461	mg/kg	0.00775 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	530	mg/kg		424	mg/kg	0.0424 %	✓	
	082-001-00-6											
7	mercury { mercury dichloride }				0.56	mg/kg	1.353	0.606	mg/kg	0.0000606 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				30	mg/kg	2.976	71.43	mg/kg	0.00714 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc oxide }				370	mg/kg	1.245	368.435	mg/kg	0.0368 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	pH		PH		8.2	pH		8.2	pH	8.2 pH		
12	naphthalene				2.7	mg/kg		2.16	mg/kg	0.000216 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.14	mg/kg		0.112	mg/kg	0.0000112 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				2	mg/kg		1.6	mg/kg	0.00016 %	✓	
		201-469-6	83-32-9									
15	fluorene				1.4	mg/kg		1.12	mg/kg	0.000112 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				12	mg/kg		9.6	mg/kg	0.00096 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		2.5 mg/kg		2 mg/kg	0.0002 %	✓	
18	fluoranthene	205-912-4	206-44-0		15 mg/kg		12 mg/kg	0.0012 %	✓	
19	pyrene	204-927-3	129-00-0		14 mg/kg		11.2 mg/kg	0.00112 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	6.9 mg/kg		5.52 mg/kg	0.000552 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	6.9 mg/kg		5.52 mg/kg	0.000552 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	6.8 mg/kg		5.44 mg/kg	0.000544 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	2.6 mg/kg		2.08 mg/kg	0.000208 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	6.3 mg/kg		5.04 mg/kg	0.000504 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		4.8 mg/kg		3.84 mg/kg	0.000384 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.93 mg/kg		0.744 mg/kg	0.0000744 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		4 mg/kg		3.2 mg/kg	0.00032 %	✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	37 mg/kg	1.785	52.841 mg/kg	0.00528 %	✓	
Total:								0.112 %		

Key

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

Classification of sample: TP103-02/06/2021-0.10

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

Sample details

Sample name:	LoW Code:
TP103-02/06/2021-0.10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.10-0.30 m	
Moisture content:	
15%	
(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.: 11.7 pH)

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number					
1	arsenic { arsenic trioxide }							
	033-003-00-0	215-481-4	1327-53-3					
2	cadmium { cadmium oxide }							
	048-002-00-0	215-146-2	1306-19-0					
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }							
		215-160-9	1308-38-9					
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }							
	024-017-00-8							
5	copper { dicopper oxide; copper (I) oxide }							
	029-002-00-X	215-270-7	1317-39-1					
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }							
	082-001-00-6							
7	mercury { mercury dichloride }							
	080-010-00-X	231-299-8	7487-94-7					
8	nickel { nickel chromate }							
	028-035-00-7	238-766-5	14721-18-7					
9	selenium { nickel selenate }							
	028-031-00-5	239-125-2	15060-62-5					
10	zinc { zinc oxide }							
	030-013-00-7	215-222-5	1314-13-2					
11	pH							
12	naphthalene							
	601-052-00-2	202-049-5	91-20-3					
13	acenaphthylene							
		205-917-1	208-96-8					

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
15	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	phenanthrene	201-581-5	85-01-8		0.54 mg/kg		0.459 mg/kg	0.0000459 %		✓	
17	anthracene	204-371-1	120-12-7		0.13 mg/kg		0.111 mg/kg	0.0000111 %		✓	
18	fluoranthene	205-912-4	206-44-0		0.65 mg/kg		0.553 mg/kg	0.0000553 %		✓	
19	pyrene	204-927-3	129-00-0		0.56 mg/kg		0.476 mg/kg	0.0000476 %		✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.29 mg/kg		0.247 mg/kg	0.0000246 %		✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	0.24 mg/kg		0.204 mg/kg	0.0000204 %		✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.27 mg/kg		0.23 mg/kg	0.000023 %		✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.12 mg/kg		0.102 mg/kg	0.0000102 %		✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.25 mg/kg		0.213 mg/kg	0.0000212 %		✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.22 mg/kg		0.187 mg/kg	0.0000187 %		✓	
26	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
27	benzo[ghi]perylene	205-883-8	191-24-2		0.17 mg/kg		0.145 mg/kg	0.0000145 %		✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	14 mg/kg	1.785	21.244 mg/kg	0.00212 %		✓	
Total:									0.0162 %		

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

Classification of sample: TP104-02/06/2021-0.00

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

Sample details

Sample name:	LoW Code:
TP104-02/06/2021-0.00	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%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				54	mg/kg	1.32	62.029	mg/kg	0.0062 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.44	mg/kg	1.142	0.437	mg/kg	0.0000437 %	✓	
	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	31.789	mg/kg	0.00318 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				140	mg/kg	1.126	137.133	mg/kg	0.0137 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	110	mg/kg		95.7	mg/kg	0.00957 %	✓	
	082-001-00-6											
7	mercury { mercury dichloride }				0.34	mg/kg	1.353	0.4	mg/kg	0.00004 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				45	mg/kg	2.976	116.521	mg/kg	0.0117 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc oxide }				110	mg/kg	1.245	119.119	mg/kg	0.0119 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	pH				9	pH		9	pH	9pH		
			PH									
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
16	phenanthrene				2.6	mg/kg		2.262	mg/kg	0.000226 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.39 mg/kg		0.339 mg/kg	0.0000339 %	✓	
18	fluoranthene	205-912-4	206-44-0		1.1 mg/kg		0.957 mg/kg	0.0000957 %	✓	
19	pyrene	204-927-3	129-00-0		0.99 mg/kg		0.861 mg/kg	0.0000861 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	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
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	55 mg/kg	1.785	85.421 mg/kg	0.00854 %	✓	
Total:								0.0656 %		

Key

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

Classification of sample: TP105-02/06/2021-0.40

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

Sample details

Sample name:	LoW Code:
TP105-02/06/2021-0.40	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)
0.40-0.70 m	
Moisture content:	
30%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 30% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				42	mg/kg	1.32	38.818	mg/kg	0.00388 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.96	mg/kg	1.142	0.768	mg/kg	0.0000768 %	✓	
	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	25.577	mg/kg	0.00256 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				130	mg/kg	1.126	102.456	mg/kg	0.0102 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	210	mg/kg		147	mg/kg	0.0147 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				1	mg/kg	1.353	0.947	mg/kg	0.0000947 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				41	mg/kg	2.976	85.419	mg/kg	0.00854 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				0.83	mg/kg	2.554	1.484	mg/kg	0.000148 %	✓	
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				130	mg/kg	1.245	113.269	mg/kg	0.0113 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH		PH		7.9	pH		7.9	pH	7.9 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7								
16	phenanthrene				1.3	mg/kg		0.91	mg/kg	0.000091 %	✓	
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.21 mg/kg		0.147 mg/kg	0.0000147 %	✓	
18	fluoranthene	205-912-4	206-44-0		2 mg/kg		1.4 mg/kg	0.00014 %	✓	
19	pyrene	204-927-3	129-00-0		2.2 mg/kg		1.54 mg/kg	0.000154 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		1 mg/kg		0.7 mg/kg	0.00007 %	✓	
21	chrysene	601-048-00-0	205-923-4		1.3 mg/kg		0.91 mg/kg	0.000091 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		1.3 mg/kg		0.91 mg/kg	0.000091 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.56 mg/kg		0.392 mg/kg	0.0000392 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.77 mg/kg		0.539 mg/kg	0.0000539 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.94 mg/kg		0.658 mg/kg	0.0000658 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.17 mg/kg		0.119 mg/kg	0.0000119 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		1.1 mg/kg		0.77 mg/kg	0.000077 %	✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		32 mg/kg	1.785	39.988 mg/kg	0.004 %	✓	
Total:								0.0566 %		

Key

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

Classification of sample: TP105-02/06/2021-0.70

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

Sample details

Sample name:	LoW Code:	
TP105-02/06/2021-0.70	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)
0.70-1.70 m		
Moisture content:		
15%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	• pH				8.5 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: TP106-02/06/2021-0.00

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

Sample details

Sample name:	LoW Code:
TP106-02/06/2021-0.00	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)
0.00-0.20 m	
Moisture content:	
9.8%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				33	mg/kg	1.32	39.301	mg/kg	0.00393 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				2.6	mg/kg	1.142	2.679	mg/kg	0.000268 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	35.595	mg/kg	0.00356 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				920	mg/kg	1.126	934.307	mg/kg	0.0934 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	370	mg/kg		333.74	mg/kg	0.0334 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				1.3	mg/kg	1.353	1.587	mg/kg	0.000159 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				51	mg/kg	2.976	136.914	mg/kg	0.0137 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				0.46	mg/kg	2.554	1.06	mg/kg	0.000106 %	✓	
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				350	mg/kg	1.245	392.956	mg/kg	0.0393 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH				9.2	pH		9.2	pH	9.2 pH		
12	naphthalene				8.8	mg/kg		7.938	mg/kg	0.000794 %	✓	
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				0.49	mg/kg		0.442	mg/kg	0.0000442 %	✓	
			205-917-1	208-96-8								
14	acenaphthene				8.7	mg/kg		7.847	mg/kg	0.000785 %	✓	
			201-469-6	83-32-9								
15	fluorene				4.6	mg/kg		4.149	mg/kg	0.000415 %	✓	
			201-695-5	86-73-7								
16	phenanthrene				29	mg/kg		26.158	mg/kg	0.00262 %	✓	
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		6.9 mg/kg		6.224 mg/kg	0.000622 %	✓	
18	fluoranthene	205-912-4	206-44-0		22 mg/kg		19.844 mg/kg	0.00198 %	✓	
19	pyrene	204-927-3	129-00-0		19 mg/kg		17.138 mg/kg	0.00171 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		8.1 mg/kg		7.306 mg/kg	0.000731 %	✓	
21	chrysene	601-048-00-0	205-923-4		7.5 mg/kg		6.765 mg/kg	0.000677 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		6.6 mg/kg		5.953 mg/kg	0.000595 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		1.4 mg/kg		1.263 mg/kg	0.000126 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		4.1 mg/kg		3.698 mg/kg	0.00037 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		2.8 mg/kg		2.526 mg/kg	0.000253 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		3.9 mg/kg		3.518 mg/kg	0.000352 %	✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		46 mg/kg	1.785	74.071 mg/kg	0.00741 %	✓	
Total:								0.207 %		

Key

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

Classification of sample: TP106-02/06/2021-0.20

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

Sample details

Sample name:	LoW Code:
TP106-02/06/2021-0.20	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:	
18%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				6.6	mg/kg	1.32	7.146	mg/kg	0.000715 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.14	mg/kg	1.142	0.131	mg/kg	0.0000131 %	✓	
	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	29.962	mg/kg	0.003 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				48	mg/kg	1.126	44.315	mg/kg	0.00443 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	36	mg/kg		29.52	mg/kg	0.00295 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				32	mg/kg	2.976	78.097	mg/kg	0.00781 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				55	mg/kg	1.245	56.137	mg/kg	0.00561 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH				8.9	pH		8.9	pH	8.9 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7								
16	phenanthrene				0.24	mg/kg		0.197	mg/kg	0.0000197 %	✓	
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		0.19 mg/kg		0.156 mg/kg	0.0000156 %	✓	
19	pyrene	204-927-3	129-00-0		0.17 mg/kg		0.139 mg/kg	0.0000139 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		20 mg/kg	1.785	29.277 mg/kg	0.00293 %	✓	
Total:								0.0278 %		

Key

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

Classification of sample: TP107-02/06/2021-0.40

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

Sample details

Sample name:	LoW Code:
TP107-02/06/2021-0.40	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)
0.40-0.90 m	
Moisture content:	
19%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				21	mg/kg	1.32	22.459	mg/kg	0.00225 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.36	mg/kg	1.142	0.333	mg/kg	0.0000333 %	✓	
	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	29.597	mg/kg	0.00296 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				160	mg/kg	1.126	145.915	mg/kg	0.0146 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	160	mg/kg		129.6	mg/kg	0.013 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				0.15	mg/kg	1.353	0.164	mg/kg	0.0000164 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				33	mg/kg	2.976	79.556	mg/kg	0.00796 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium selenate }				0.4	mg/kg	2.554	0.827	mg/kg	0.0000827 %	✓	
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				140	mg/kg	1.245	141.151	mg/kg	0.0141 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH				8.3	pH		8.3	pH	8.3 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7								
16	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		31 mg/kg	1.785	44.826 mg/kg	0.00448 %	✓	
Total:								0.0597 %		

Key

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

Classification of sample: TP107-02/06/2021-0.90



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

Sample details

Sample name:	LoW Code:	
TP107-02/06/2021-0.90	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)
0.90-1.40 m		
Moisture content:		
18%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

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

Key

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

Classification of sample: WS101-02/06/2021-0.10

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

Sample details

Sample name:	LoW Code:	
WS101-02/06/2021-0.10	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
0.10-0.50 m		
Moisture content:		
14%		
(wet weight correction)		

Hazard properties

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 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 determinands:

benzene: (conc.: 3.7e-07%)
toluene: (conc.: 3.53e-07%)
ethylbenzene: (conc.: 5.68e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 1.72%)
xylene: (conc.: 1.82e-06%)
mesitylene; 1,3,5-trimethylbenzene: (conc.: 0.00001%)
1,2,4-trimethylbenzene: (conc.: 6.19e-06%)
sec-butylbenzene: (conc.: 9.46e-07%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 1.72%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 1.72%)

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	20	mg/kg	1.32	22.71	mg/kg	0.00227 %	✓	
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	0.55	mg/kg	3.22	1.523	mg/kg	0.000152 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.46	mg/kg	1.142	0.452	mg/kg	0.0000452 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		25	mg/kg	1.462	31.423	mg/kg	0.00314 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8			<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	130	mg/kg	1.126	125.874	mg/kg	0.0126 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			95	mg/kg		81.7	mg/kg	0.00817 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	0.71	mg/kg	1.353	0.826	mg/kg	0.0000826 %	✓	
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	58	mg/kg	2.976	148.456	mg/kg	0.0148 %	✓	
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5	<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	110	mg/kg	1.245	117.75	mg/kg	0.0118 %	✓	
12	TPH (C6 to C40) petroleum group		TPH		20000	mg/kg		17200	mg/kg	1.72 %	✓	
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
14	benzene	601-020-00-8	200-753-7	71-43-2	0.0043	mg/kg		0.0037	mg/kg	0.00000037 %	✓	
15	toluene	601-021-00-3	203-625-9	108-88-3	0.0041	mg/kg		0.0035	mg/kg	0.000000353 %	✓	
16	ethylbenzene	601-023-00-4	202-849-4	100-41-4	0.0066	mg/kg		0.0056	mg/kg	0.000000568 %	✓	
17	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]	0.0212	mg/kg		0.0182	mg/kg	0.00000182 %	✓	
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
19	pH		PH		8.6	pH		8.6	pH	8.6 pH		
20	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
21	acenaphthylene	205-917-1	208-96-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
22	acenaphthene	201-469-6	83-32-9		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
23	fluorene	201-695-5	86-73-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
24	phenanthrene	201-581-5	85-01-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
25	anthracene	204-371-1	120-12-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
26	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
27	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
29	chrysene	601-048-00-0	205-923-4	218-01-9	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
33	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
35	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
36	phenol	604-001-00-2	203-632-7	108-95-2	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %			<LOD
38	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
39	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
40	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
41	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
42	hexachlorobenzene	602-065-00-6	204-273-9	118-74-1	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
43	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	80 mg/kg	1.785	122.821 mg/kg	0.0123 %	✓		
44	dichlorodifluoromethane	200-893-9	75-71-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
45	chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
46	bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
47	chloroethane	602-009-00-0	200-830-5	75-00-3	<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
48	trichlorofluoromethane	200-892-3	75-69-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
49	1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
50	bromochloromethane	200-826-3	74-97-5		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
51	chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
52	1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
53	1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
54	1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
55	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-003-00-8	200-824-2	74-95-3								
56	bromodichloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
		200-856-7	75-27-4								
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]								
58	trans-1,3-dichloropropene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
		431-460-4	10061-02-6								
59	1,1,2-trichloroethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	602-014-00-8	201-166-9	79-00-5								
60	1,3-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
		205-531-3	142-28-9								
61	dibromochloromethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
		204-704-0	124-48-1								
62	1,2-dibromoethane				0.019 mg/kg		0.0163 mg/kg	0.00000163 %	✓		
	602-010-00-6	203-444-5	106-93-4								
63	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-033-00-1	203-628-5	108-90-7								
64	1,1,1,2-tetrachloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
		211-135-1	630-20-6								
65	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-026-00-0	202-851-5	100-42-5								
66	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-007-00-X	200-854-6	75-25-2								
67	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-060-00-9	203-623-8	108-86-1								
68	1,2,3-trichloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	602-062-00-X	202-486-1	96-18-4								
69	mesitylene; 1,3,5-trimethylbenzene				0.17 mg/kg		0.146 mg/kg	0.0000146 %	✓		
	601-025-00-5	203-604-4	108-67-8								
70	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		202-632-4	98-06-6								
71	1,2,4-trimethylbenzene				0.072 mg/kg		0.0619 mg/kg	0.00000619 %	✓		
	601-043-00-3	202-436-9	95-63-6								
72	sec-butylbenzene				0.011 mg/kg		0.0094 mg/kg	0.000000946 %	✓		
		205-227-0	135-98-8								
73	1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-067-00-7	208-792-1	541-73-1								
74	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		202-796-7	99-87-6								
75	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-035-00-2	203-400-5	106-46-7								
76	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		203-209-7	104-51-8								
77	1,2-dichlorobenzene; o-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-034-00-7	202-425-9	95-50-1								
78	1,2-dibromo-3-chloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	602-021-00-6	202-479-3	96-12-8								
79	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-087-00-6	204-428-0	120-82-1								
80	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		201-765-5	87-68-3								
81	1,2,3-trichlorobenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
		201-757-1	87-61-6								
82	carbon disulphide				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	006-003-00-3	200-843-6	75-15-0								
83	dimethylnitrosoamine; N-nitrosodimethylamine				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	612-077-00-3	200-549-8	62-75-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
84	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
85	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
86	hexachloroethane 200-666-4	67-72-1			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
87	nitrosodipropylamine 612-098-00-8	210-698-0	621-64-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
88	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
89	3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
90	2-nitrophenol 201-857-5	88-75-5			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
91	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
92	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
93	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
94	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
95	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
96	2-methyl naphthalene 202-078-3	91-57-6			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
97	4-nitrophenol; p-nitrophenol 609-015-00-2	202-811-7	100-02-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
98	hexachlorocyclopentadiene 602-078-00-7	201-029-3	77-47-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
99	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
100	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
101	2-chloronaphthalene 202-079-9	91-58-7			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
102	dimethyl phthalate 205-011-6	131-11-3			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
103	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
104	dibenzofuran 205-071-3	132-64-9			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
105	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
106	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
107	diethyl phthalate 201-550-6	84-66-2			<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
108	DNOC (ISO); 4,6-dinitro-o-cresol 609-020-00-X	208-601-1	534-52-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number								
109		azobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		611-001-00-6	203-102-5	103-33-3								
110	•	4-bromophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			202-952-4	101-55-3								
111		pentachlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		604-002-00-8	201-778-6	87-86-5								
112	•	carbazole				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			201-696-0	86-74-8								
113		dibutyl phthalate; DBP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-318-00-4	201-557-4	84-74-2								
114		BBP; benzyl butyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-430-00-3	201-622-7	85-68-7								
115		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-317-00-9	204-211-0	117-81-7								
116	•	di-n-octyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			204-214-7	117-84-0								
117	•	monohydric phenols				0.53 mg/kg		0.456 mg/kg	0.0000456 %	✓		
				P1186								
118		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD	
		604-004-00-9	203-577-9 [1]	108-39-4 [1]								
			202-423-8 [2]	95-48-7 [2]								
			203-398-6 [3]	106-44-5 [3]								
			215-293-2 [4]	1319-77-3 [4]								
119		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-026-00-3	208-750-2 [1]	540-59-0 [1]								
			205-859-7 [2]	156-59-2 [2]								
			205-860-2 [3]	156-60-5 [3]								
120		cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		601-024-00-X	202-704-5 [1]	98-82-8 [1]								
			203-132-9 [2]	103-65-1 [2]								
121		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-040-00-X	202-424-3 [1]	95-49-8 [1]								
			203-580-5 [2]	108-41-8 [2]								
			203-397-0 [3]	106-43-4 [3]								
			246-698-2 [4]	25168-05-2 [4]								
122		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD	
		612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2								
			202-729-1 [2]	[2] 100-01-6 [3]								
			202-810-1 [3]									
Total: 1.789 %												

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

Classification of sample: WS101-02/06/2021-0.50

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

Sample details

Sample name:	LoW Code:
WS101-02/06/2021-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50-1.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				10	mg/kg	1.32	11.091	mg/kg	0.00111 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.1	mg/kg	3.22	2.975	mg/kg	0.000298 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.15	mg/kg	1.142	0.144	mg/kg	0.0000144 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35	mg/kg	1.462	42.97	mg/kg	0.0043 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	29.318	mg/kg	0.00293 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	17	mg/kg		14.28	mg/kg	0.00143 %	✓	
	082-001-00-6											
8	mercury { mercury dichloride }				0.16	mg/kg	1.353	0.182	mg/kg	0.0000182 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				49	mg/kg	2.976	122.503	mg/kg	0.0123 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				0.34	mg/kg	2.554	0.729	mg/kg	0.0000729 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc oxide }				68	mg/kg	1.245	71.098	mg/kg	0.00711 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
12	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
15	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
17	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]		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
19	pH		PH		8.5	pH		8.5	pH	8.5 pH		
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
21	acenaphthylene 205-917-1	208-96-8			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
22	acenaphthene 201-469-6	83-32-9			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
23	fluorene 201-695-5	86-73-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
24	phenanthrene 201-581-5	85-01-8			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
25	anthracene 204-371-1	120-12-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
26	fluoranthene 205-912-4	206-44-0			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
27	pyrene 204-927-3	129-00-0			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
33	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
35	benzo[ghi]perylene 205-883-8	191-24-2			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
36	phenol 604-001-00-2	203-632-7	108-95-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5	107-06-2, 75-34-3			<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38	tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
39	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
40	trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
41	vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
42	hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD

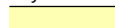
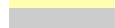
#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
43	vanadium { divanadium pentaoxide; vanadium pentoxide }				35 mg/kg	1.785	52.484 mg/kg	0.00525 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
44	dichlorodifluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-893-9	75-71-8							
45	chloromethane; methyl chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-001-00-7	200-817-4	74-87-3							
46	bromomethane; methylbromide				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	602-002-00-2	200-813-2	74-83-9							
47	chloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-009-00-0	200-830-5	75-00-3							
48	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4							
49	1,1-dichloroethylene; vinylidene chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-025-00-8	200-864-0	75-35-4							
50	bromochloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-826-3	74-97-5							
51	chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-006-00-4	200-663-8	67-66-3							
52	1,1,1-trichloroethane; methyl chloroform				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6							
53	1,1-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6							
54	1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5							
55	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
56	bromodichloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-856-7	75-27-4							
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
58	trans-1,3-dichloropropene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		431-460-4	10061-02-6							
59	1,1,2-trichloroethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
60	1,3-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		205-531-3	142-28-9							
61	dibromochloromethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-704-0	124-48-1							
62	1,2-dibromoethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
63	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
64	1,1,1,2-tetrachloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		211-135-1	630-20-6							
65	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
66	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
67	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
68	1,2,3-trichloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
69	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
70	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
71	1,2,4-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
72	●	sec-butylbenzene				0.0015 mg/kg		0.0012 mg/kg	0.000000126 %	✓	
			205-227-0	135-98-8							
73		1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
74	●	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6							
75		1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
76	●	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
			203-209-7	104-51-8							
77		1,2-dichlorobenzene; o-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
78		1,2-dibromo-3-chloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
79		1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
80	●	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
			201-765-5	87-68-3							
81	●	1,2,3-trichlorobenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
			201-757-1	87-61-6							
82		carbon disulphide				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		006-003-00-3	200-843-6	75-15-0							
83		dimethylnitrosoamine; N-nitrosodimethylamine				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
84		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
85		bis(2-chloroethyl) ether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
86	●	hexachloroethane				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
			200-666-4	67-72-1							
87		nitrosodipropylamine				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
88		nitrobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
89		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
90	●	2-nitrophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
			201-857-5	88-75-5							
91		3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
92	●	bis(2-chloroethoxy)methane				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
			203-920-2	111-91-1							
93		2,4-dichlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		604-011-00-7	204-429-6	120-83-2							
94		4-chloroaniline				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		612-137-00-9	203-401-0	106-47-8							
95		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		604-014-00-3	200-431-6	59-50-7							
96	●	2-methyl naphthalene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
			202-078-3	91-57-6							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
97	4-nitrophenol; p-nitrophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-015-00-2	202-811-7	100-02-7								
98	hexachlorocyclopentadiene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	602-078-00-7	201-029-3	77-47-4								
99	2,4,6-trichlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-018-00-5	201-795-9	88-06-2								
100	2,4,5-trichlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-017-00-X	202-467-8	95-95-4								
101	2-chloronaphthalene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		202-079-9	91-58-7								
102	dimethyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		205-011-6	131-11-3								
103	2,6-dinitrotoluene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-049-00-8	210-106-0	606-20-2								
104	dibenzofuran				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		205-071-3	132-64-9								
105	4-chlorophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		230-281-7	7005-72-3								
106	2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]								
107	diethyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		201-550-6	84-66-2								
108	DNOC (ISO); 4,6-dinitro-o-cresol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-020-00-X	208-601-1	534-52-1								
109	azobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	611-001-00-6	203-102-5	103-33-3								
110	4-bromophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		202-952-4	101-55-3								
111	pentachlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-002-00-8	201-778-6	87-86-5								
112	carbazole				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		201-696-0	86-74-8								
113	dibutyl phthalate; DBP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-318-00-4	201-557-4	84-74-2								
114	BBP; benzyl butyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-430-00-3	201-622-7	85-68-7								
115	bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-317-00-9	204-211-0	117-81-7								
116	di-n-octyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		204-214-7	117-84-0								
117	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
118	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]								
119	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]								
120	cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]								
121	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
122	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD
	612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2							
		202-729-1 [2]	[2] 100-01-6 [3]							
			202-810-1 [3]							
Total:								0.0389 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because 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:

sec-butylbenzene: (conc.: 1.26e-07%)

Classification of sample: WS101-02/06/2021-1.00

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

Sample details

Sample name:	LoW Code:
WS101-02/06/2021-1.00	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)
1.00-1.30 m	
Moisture content:	
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				4.6	mg/kg	1.32	5.102	mg/kg	0.00051 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				<0.4	mg/kg	3.22	<1.288	mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.1	mg/kg	1.142	0.096	mg/kg	0.0000096 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17	mg/kg	1.462	20.871	mg/kg	0.00209 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				15	mg/kg	1.126	14.186	mg/kg	0.00142 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	7.5	mg/kg		6.3	mg/kg	0.00063 %	✓	
	082-001-00-6											
8	mercury { mercury dichloride }				0.11	mg/kg	1.353	0.125	mg/kg	0.0000125 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				23	mg/kg	2.976	57.501	mg/kg	0.00575 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc oxide }				36	mg/kg	1.245	37.64	mg/kg	0.00376 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
12	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
15	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
17	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]		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
19	pH		PH		8.6	pH		8.6	pH	8.6 pH		
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
21	acenaphthylene 205-917-1	208-96-8			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
22	acenaphthene 201-469-6	83-32-9			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
23	fluorene 201-695-5	86-73-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
24	phenanthrene 201-581-5	85-01-8			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
25	anthracene 204-371-1	120-12-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
26	fluoranthene 205-912-4	206-44-0			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
27	pyrene 204-927-3	129-00-0			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
33	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
35	benzo[ghi]perylene 205-883-8	191-24-2			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
36	phenol 604-001-00-2	203-632-7	108-95-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38	tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
39	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
40	trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
41	vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
42	hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD

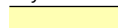
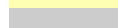
#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
43	vanadium { divanadium pentaoxide; vanadium pentoxide }				14 mg/kg	1.785	20.994 mg/kg	0.0021 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
44	dichlorodifluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-893-9	75-71-8							
45	chloromethane; methyl chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-001-00-7	200-817-4	74-87-3							
46	bromomethane; methylbromide				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	602-002-00-2	200-813-2	74-83-9							
47	chloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-009-00-0	200-830-5	75-00-3							
48	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4							
49	1,1-dichloroethylene; vinylidene chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-025-00-8	200-864-0	75-35-4							
50	bromochloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-826-3	74-97-5							
51	chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-006-00-4	200-663-8	67-66-3							
52	1,1,1-trichloroethane; methyl chloroform				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6							
53	1,1-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6							
54	1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5							
55	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
56	bromodichloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-856-7	75-27-4							
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
58	trans-1,3-dichloropropene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		431-460-4	10061-02-6							
59	1,1,2-trichloroethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
60	1,3-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		205-531-3	142-28-9							
61	dibromochloromethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-704-0	124-48-1							
62	1,2-dibromoethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
63	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
64	1,1,1,2-tetrachloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		211-135-1	630-20-6							
65	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
66	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
67	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
68	1,2,3-trichloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
69	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
70	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
71	1,2,4-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
72	sec-butylbenzene	205-227-0	135-98-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
73	1,3-dichlorobenzene	602-067-00-7	208-792-1	541-73-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
74	4-isopropyltoluene	202-796-7	99-87-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
75	1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
76	n-butylbenzene	203-209-7	104-51-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
77	1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
78	1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
79	1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
80	hexachlorobutadiene	201-765-5	87-68-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
81	1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
82	carbon disulphide	006-003-00-3	200-843-6	75-15-0	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
83	dimethylnitrosoamine; N-nitrosodimethylamine	612-077-00-3	200-549-8	62-75-9	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
84	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
85	bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
86	hexachloroethane	200-666-4	67-72-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
87	nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
88	nitrobenzene	609-003-00-7	202-716-0	98-95-3	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
89	3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
90	2-nitrophenol	201-857-5	88-75-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
91	3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7]	604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
92	bis(2-chloroethoxy)methane	203-920-2	111-91-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
93	2,4-dichlorophenol	604-011-00-7	204-429-6	120-83-2	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
94	4-chloroaniline	612-137-00-9	203-401-0	106-47-8	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
95	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol	604-014-00-3	200-431-6	59-50-7	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
96	2-methyl naphthalene	202-078-3	91-57-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
97	4-nitrophenol; p-nitrophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-015-00-2	202-811-7	100-02-7								
98	hexachlorocyclopentadiene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	602-078-00-7	201-029-3	77-47-4								
99	2,4,6-trichlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-018-00-5	201-795-9	88-06-2								
100	2,4,5-trichlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-017-00-X	202-467-8	95-95-4								
101	2-chloronaphthalene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		202-079-9	91-58-7								
102	dimethyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		205-011-6	131-11-3								
103	2,6-dinitrotoluene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-049-00-8	210-106-0	606-20-2								
104	dibenzofuran				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		205-071-3	132-64-9								
105	4-chlorophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		230-281-7	7005-72-3								
106	2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]								
107	diethyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		201-550-6	84-66-2								
108	DNOC (ISO); 4,6-dinitro-o-cresol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	609-020-00-X	208-601-1	534-52-1								
109	azobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	611-001-00-6	203-102-5	103-33-3								
110	4-bromophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		202-952-4	101-55-3								
111	pentachlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-002-00-8	201-778-6	87-86-5								
112	carbazole				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		201-696-0	86-74-8								
113	dibutyl phthalate; DBP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-318-00-4	201-557-4	84-74-2								
114	BBP; benzyl butyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-430-00-3	201-622-7	85-68-7								
115	bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	607-317-00-9	204-211-0	117-81-7								
116	di-n-octyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
		204-214-7	117-84-0								
117	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
118	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]								
119	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]								
120	cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]								
121	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
122	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD
	612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2							
		202-729-1 [2]	[2] 100-01-6 [3]							
		202-810-1 [3]								
Total:								0.0206 %		

Key

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

Classification of sample: WS101-02/06/2021-4.30

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

Sample details

Sample name:	LoW Code:
WS101-02/06/2021-4.30	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)
4.30-4.50 m	
Moisture content:	
22%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				220 mg/kg		171.6 mg/kg	0.0172 %	✓	
			TPH							
2	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
3	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
4	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
5	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
6	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<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]							
Total:								0.0172 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection
ND	Not detected

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.: 0.0172%)

Classification of sample: WS102-02/06/2021-0.00

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

Sample details

Sample name:	LoW Code:
WS102-02/06/2021-0.00	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)
0.00-0.10 m	
Moisture content:	
3.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 3.9% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				17	mg/kg	1.32	21.57	mg/kg	0.00216 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.866	mg/kg	0.000187 %	✓	
	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	21.068	mg/kg	0.00211 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				52	mg/kg	1.126	56.263	mg/kg	0.00563 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	68	mg/kg		65.348	mg/kg	0.00653 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				0.15	mg/kg	1.353	0.195	mg/kg	0.0000195 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				19	mg/kg	2.976	54.344	mg/kg	0.00543 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				120	mg/kg	1.245	143.54	mg/kg	0.0144 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH				10.3	pH		10.3	pH	10.3 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7								
16	phenanthrene				0.45	mg/kg		0.432	mg/kg	0.0000432 %	✓	
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		0.39 mg/kg		0.375 mg/kg	0.0000375 %	✓	
19	pyrene	204-927-3	129-00-0		0.27 mg/kg		0.259 mg/kg	0.0000259 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		29 mg/kg	1.785	49.751 mg/kg	0.00498 %	✓	
Total:								0.0418 %		

Key

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

Classification of sample: WS103-02/06/2021-0.00

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

Sample details

Sample name:	LoW Code:
WS103-02/06/2021-0.00	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)
0.00-0.20 m	
Moisture content:	
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				60	mg/kg	1.32	66.544	mg/kg	0.00665 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				1.4	mg/kg	1.142	1.343	mg/kg	0.000134 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				34	mg/kg	1.462	41.742	mg/kg	0.00417 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				400	mg/kg	1.126	378.298	mg/kg	0.0378 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	750	mg/kg		630	mg/kg	0.063 %	✓	
		082-001-00-6										
7	mercury { mercury dichloride }				0.79	mg/kg	1.353	0.898	mg/kg	0.0000898 %	✓	
		080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				49	mg/kg	2.976	122.503	mg/kg	0.0123 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				0.54	mg/kg	2.554	1.158	mg/kg	0.000116 %	✓	
		028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc oxide }				350	mg/kg	1.245	365.946	mg/kg	0.0366 %	✓	
		030-013-00-7	215-222-5	1314-13-2								
11	pH				9.2	pH		9.2	pH	9.2 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8								
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9								
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7								
16	phenanthrene				1.8	mg/kg		1.512	mg/kg	0.000151 %	✓	
			201-581-5	85-01-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.37 mg/kg		0.311 mg/kg	0.0000311 %	✓	
18	fluoranthene	205-912-4	206-44-0		3.3 mg/kg		2.772 mg/kg	0.000277 %	✓	
19	pyrene	204-927-3	129-00-0		3 mg/kg		2.52 mg/kg	0.000252 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		1.3 mg/kg		1.092 mg/kg	0.000109 %	✓	
21	chrysene	601-048-00-0	205-923-4		1.4 mg/kg		1.176 mg/kg	0.000118 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		1.8 mg/kg		1.512 mg/kg	0.000151 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.52 mg/kg		0.437 mg/kg	0.0000437 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		1.6 mg/kg		1.344 mg/kg	0.000134 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.74 mg/kg		0.622 mg/kg	0.0000622 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.11 mg/kg		0.0924 mg/kg	0.00000924 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		0.93 mg/kg		0.781 mg/kg	0.0000781 %	✓	
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		49 mg/kg	1.785	73.478 mg/kg	0.00735 %	✓	
29	asbestos	650-013-00-6	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.003 mg/kg		0.0025 mg/kg	0.000000252 %	✓	
Total:								0.17 %		

Key

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

Classification of sample: WS104-02/06/2021-0.20

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

Sample details

Sample name:	LoW Code:	
WS104-02/06/2021-0.20	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
0.20-0.70 m		
Moisture content:		
13%		
(wet weight correction)		

Hazard properties

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 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 determinands:

toluene: (conc.: 7.57e-07%)

ethylbenzene: (conc.: 1.31e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.609%)

xylene: (conc.: 8.53e-07%)

mesitylene; 1,3,5-trimethylbenzene: (conc.: 2.87e-07%)

1,2,4-trimethylbenzene: (conc.: 6.09e-07%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.609%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.609%)

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				27 mg/kg	1.32	31.014 mg/kg	0.0031 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	boron { diboron trioxide; boric oxide }				0.69 mg/kg	3.22	1.933 mg/kg	0.000193 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium oxide }				0.84 mg/kg	1.142	0.835 mg/kg	0.0000835 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23 mg/kg	1.462	29.246 mg/kg	0.00292 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
	024-017-00-8									
6	copper { dicopper oxide; copper (I) oxide }				610 mg/kg	1.126	597.509 mg/kg	0.0598 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	250 mg/kg		217.5 mg/kg	0.0217 %	✓	
	082-001-00-6									
8	mercury { mercury dichloride }				0.39 mg/kg	1.353	0.459 mg/kg	0.0000459 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				36 mg/kg	2.976	93.217 mg/kg	0.00932 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { nickel selenate }				0.29 mg/kg	2.554	0.644 mg/kg	0.0000644 %	✓	
	028-031-00-5	239-125-2	15060-62-5							
11	zinc { zinc oxide }				170 mg/kg	1.245	184.093 mg/kg	0.0184 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
12	TPH (C6 to C40) petroleum group		TPH		7000 mg/kg		6090 mg/kg	0.609 %	✓	
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
15	toluene				0.0087 mg/kg		0.0075 mg/kg	0.000000757 %	✓	
	601-021-00-3	203-625-9	108-88-3							
16	ethylbenzene				0.0015 mg/kg		0.0013 mg/kg	0.00000013 %	✓	
	601-023-00-4	202-849-4	100-41-4							
17	xylene				0.0098 mg/kg		0.0085 mg/kg	0.000000853 %	✓	
	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]							
18	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	1.639 mg/kg	0.000164 %	✓	
	006-007-00-5									
19	pH		PH		10.8 pH		10.8 pH	10.8 pH		
20	naphthalene				4.3 mg/kg		3.741 mg/kg	0.000374 %	✓	
	601-052-00-2	202-049-5	91-20-3							
21	acenaphthylene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8							
22	acenaphthene				4.3 mg/kg		3.741 mg/kg	0.000374 %	✓	
		201-469-6	83-32-9							
23	fluorene				3.1 mg/kg		2.697 mg/kg	0.00027 %	✓	
		201-695-5	86-73-7							
24	phenanthrene				23 mg/kg		20.01 mg/kg	0.002 %	✓	
		201-581-5	85-01-8							
25	anthracene				6.4 mg/kg		5.568 mg/kg	0.000557 %	✓	
		204-371-1	120-12-7							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
26	fluoranthene	205-912-4	206-44-0		29	mg/kg		25.23	mg/kg	0.00252 %	✓	
27	pyrene	204-927-3	129-00-0		24	mg/kg		20.88	mg/kg	0.00209 %	✓	
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	13	mg/kg		11.31	mg/kg	0.00113 %	✓	
29	chrysene	601-048-00-0	205-923-4	218-01-9	12	mg/kg		10.44	mg/kg	0.00104 %	✓	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	16	mg/kg		13.92	mg/kg	0.00139 %	✓	
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	5.4	mg/kg		4.698	mg/kg	0.00047 %	✓	
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	12	mg/kg		10.44	mg/kg	0.00104 %	✓	
33	indeno[123-cd]pyrene	205-893-2	193-39-5		6.2	mg/kg		5.394	mg/kg	0.000539 %	✓	
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	1.7	mg/kg		1.479	mg/kg	0.000148 %	✓	
35	benzo[ghi]perylene	205-883-8	191-24-2		7.6	mg/kg		6.612	mg/kg	0.000661 %	✓	
36	phenol	604-001-00-2	203-632-7	108-95-2	<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
39	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
40	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
41	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
42	hexachlorobenzene	602-065-00-6	204-273-9	118-74-1	<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
43	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	37	mg/kg	1.785	57.465	mg/kg	0.00575 %	✓	
44	dichlorodifluoromethane	200-893-9	75-71-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
45	chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
46	bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
47	chloroethane	602-009-00-0	200-830-5	75-00-3	<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
48	trichlorofluoromethane	200-892-3	75-69-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
49	1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
50	bromochloromethane	200-826-3	74-97-5		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
51	chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
52	1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
53	1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
54	1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
55	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
56	bromodichloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-856-7	75-27-4							
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
58	trans-1,3-dichloropropene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		431-460-4	10061-02-6							
59	1,1,2-trichloroethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
60	1,3-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		205-531-3	142-28-9							
61	dibromochloromethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-704-0	124-48-1							
62	1,2-dibromoethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
63	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
64	1,1,1,2-tetrachloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		211-135-1	630-20-6							
65	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
66	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
67	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
68	1,2,3-trichloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
69	mesitylene; 1,3,5-trimethylbenzene				0.0033 mg/kg		0.0028 mg/kg	0.000000287 %	✓	
	601-025-00-5	203-604-4	108-67-8							
70	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
71	1,2,4-trimethylbenzene				0.007 mg/kg		0.006 mg/kg	0.000000609 %	✓	
	601-043-00-3	202-436-9	95-63-6							
72	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
73	1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1							
74	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-796-7	99-87-6							
75	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7							
76	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		203-209-7	104-51-8							
77	1,2-dichlorobenzene; o-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-034-00-7	202-425-9	95-50-1							
78	1,2-dibromo-3-chloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-021-00-6	202-479-3	96-12-8							
79	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-087-00-6	204-428-0	120-82-1							
80	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		201-765-5	87-68-3							
81	1,2,3-trichlorobenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		201-757-1	87-61-6							
82	carbon disulphide				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	006-003-00-3	200-843-6	75-15-0							
83	dimethylnitrosoamine; N-nitrosodimethylamine				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	612-077-00-3	200-549-8	62-75-9							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
84	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
85	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
86	hexachloroethane 200-666-4	67-72-1			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
87	nitrosodipropylamine 612-098-00-8	210-698-0	621-64-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
88	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
89	3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
90	2-nitrophenol 201-857-5	88-75-5			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
91	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
92	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
93	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
94	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
95	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
96	2-methyl naphthalene 202-078-3	91-57-6			2.3	mg/kg		2.001	mg/kg	0.0002 %	✓	
97	4-nitrophenol; p-nitrophenol 609-015-00-2	202-811-7	100-02-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
98	hexachlorocyclopentadiene 602-078-00-7	201-029-3	77-47-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
99	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
100	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
101	2-chloronaphthalene 202-079-9	91-58-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
102	dimethyl phthalate 205-011-6	131-11-3			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
103	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
104	dibenzofuran 205-071-3	132-64-9			2.1	mg/kg		1.827	mg/kg	0.000183 %	✓	
105	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
106	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
107	diethyl phthalate 201-550-6	84-66-2			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
108	DNOC (ISO); 4,6-dinitro-o-cresol 609-020-00-X	208-601-1	534-52-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number								
109		azobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		611-001-00-6	203-102-5	103-33-3								
110	■	4-bromophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			202-952-4	101-55-3								
111		pentachlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		604-002-00-8	201-778-6	87-86-5								
112	■	carbazole				1.7 mg/kg		1.479 mg/kg	0.000148 %	✓		
			201-696-0	86-74-8								
113		dibutyl phthalate; DBP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-318-00-4	201-557-4	84-74-2								
114		BBP; benzyl butyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-430-00-3	201-622-7	85-68-7								
115		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-317-00-9	204-211-0	117-81-7								
116	■	di-n-octyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			204-214-7	117-84-0								
117	■	monohydric phenols				0.23 mg/kg		0.2 mg/kg	0.00002 %	✓		
				P1186								
118		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD	
		604-004-00-9	203-577-9 [1]	108-39-4 [1]								
			202-423-8 [2]	95-48-7 [2]								
			203-398-6 [3]	106-44-5 [3]								
			215-293-2 [4]	1319-77-3 [4]								
119		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-026-00-3	208-750-2 [1]	540-59-0 [1]								
			205-859-7 [2]	156-59-2 [2]								
			205-860-2 [3]	156-60-5 [3]								
120		cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		601-024-00-X	202-704-5 [1]	98-82-8 [1]								
			203-132-9 [2]	103-65-1 [2]								
121		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-040-00-X	202-424-3 [1]	95-49-8 [1]								
			203-580-5 [2]	108-41-8 [2]								
			203-397-0 [3]	106-43-4 [3]								
			246-698-2 [4]	25168-05-2 [4]								
122		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD	
		612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2								
			202-729-1 [2]	[2] 100-01-6 [3]								
			202-810-1 [3]									
Total:										0.748 %		

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

Classification of sample: **WS104-02/06/2021-1.30**

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

Sample details

Sample name:	LoW Code:	
WS104-02/06/2021-1.30	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
1.30-1.60 m		
Moisture content:		
47%		
(wet weight correction)		

Hazard properties

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 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.: 2.809%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 2.809%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 2.809%)

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

Hazard Statements hit:

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

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex: (Note 1 conc.: 0.111%)

zinc oxide: (compound conc.: 0.145%)

Aquatic Chronic 2; H411 "Toxic to aquatic life with long lasting effects."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 2.809%)

Determinands

Moisture content: 47% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				67	mg/kg	1.32	46.885	mg/kg	0.00469 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		boron { diboron trioxide; boric oxide }				<0.4	mg/kg	3.22	<1.288	mg/kg	<0.000129 %		<LOD
		005-008-00-8	215-125-8	1303-86-2									
3		cadmium { cadmium oxide }				3.4	mg/kg	1.142	2.058	mg/kg	0.000206 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
4		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				55	mg/kg	1.462	42.604	mg/kg	0.00426 %	✓	
			215-160-9	1308-38-9									
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
			024-017-00-8										
6		copper { dicopper oxide; copper (I) oxide }				840	mg/kg	1.126	501.245	mg/kg	0.0501 %	✓	
			029-002-00-X	215-270-7									
7		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	2100	mg/kg		1113	mg/kg	0.111 %	✓	
			082-001-00-6										
8		mercury { mercury dichloride }				4.5	mg/kg	1.353	3.228	mg/kg	0.000323 %	✓	
			080-010-00-X	231-299-8									
9		nickel { nickel chromate }				61	mg/kg	2.976	96.223	mg/kg	0.00962 %	✓	
			028-035-00-7	238-766-5									
10		selenium { nickel selenate }				1.3	mg/kg	2.554	1.76	mg/kg	0.000176 %	✓	
			028-031-00-5	239-125-2									
11		zinc { zinc oxide }				2200	mg/kg	1.245	1451.337	mg/kg	0.145 %	✓	
			030-013-00-7	215-222-5									
12		TPH (C6 to C40) petroleum group				53000	mg/kg		28090	mg/kg	2.809 %	✓	
				TPH									
13		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			603-181-00-X	216-653-1									
14		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			601-020-00-8	200-753-7									
15		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			601-021-00-3	203-625-9									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			601-023-00-4	202-849-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			601-022-00-9	202-422-2 [1]									
				203-396-5 [2]									
				203-576-3 [3]									
				215-535-7 [4]									
18		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	2.996	mg/kg	0.0003 %	✓	
			006-007-00-5										
19		pH				8.1	pH		8.1	pH	8.1 pH		
				PH									
20		naphthalene				4.1	mg/kg		2.173	mg/kg	0.000217 %	✓	
			601-052-00-2	202-049-5									
21		acenaphthylene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
				205-917-1									
22		acenaphthene				7.6	mg/kg		4.028	mg/kg	0.000403 %	✓	
				201-469-6									
23		fluorene				5.7	mg/kg		3.021	mg/kg	0.000302 %	✓	
				201-695-5									
24		phenanthrene				42	mg/kg		22.26	mg/kg	0.00223 %	✓	
				201-581-5									
25		anthracene				14	mg/kg		7.42	mg/kg	0.000742 %	✓	
				204-371-1									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
26	fluoranthene	205-912-4	206-44-0		100	mg/kg		53	mg/kg	0.0053 %	✓	
27	pyrene	204-927-3	129-00-0		83	mg/kg		43.99	mg/kg	0.0044 %	✓	
28	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	44	mg/kg		23.32	mg/kg	0.00233 %	✓	
29	chrysene	601-048-00-0	205-923-4	218-01-9	44	mg/kg		23.32	mg/kg	0.00233 %	✓	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	54	mg/kg		28.62	mg/kg	0.00286 %	✓	
31	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	19	mg/kg		10.07	mg/kg	0.00101 %	✓	
32	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	40	mg/kg		21.2	mg/kg	0.00212 %	✓	
33	indeno[123-cd]pyrene	205-893-2	193-39-5		20	mg/kg		10.6	mg/kg	0.00106 %	✓	
34	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	5.3	mg/kg		2.809	mg/kg	0.000281 %	✓	
35	benzo[ghi]perylene	205-883-8	191-24-2		23	mg/kg		12.19	mg/kg	0.00122 %	✓	
36	phenol	604-001-00-2	203-632-7	108-95-2	<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
39	carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
40	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
41	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
42	hexachlorobenzene	602-065-00-6	204-273-9	118-74-1	<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
43	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	52	mg/kg	1.785	49.2	mg/kg	0.00492 %	✓	
44	dichlorodifluoromethane	200-893-9	75-71-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
45	chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
46	bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
47	chloroethane	602-009-00-0	200-830-5	75-00-3	<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
48	trichlorofluoromethane	200-892-3	75-69-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
49	1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
50	bromochloromethane	200-826-3	74-97-5		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
51	chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
52	1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
53	1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
54	1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5	<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
55	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
56	bromodichloromethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		200-856-7	75-27-4							
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
58	trans-1,3-dichloropropene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		431-460-4	10061-02-6							
59	1,1,2-trichloroethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
60	1,3-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		205-531-3	142-28-9							
61	dibromochloromethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-704-0	124-48-1							
62	1,2-dibromoethane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
63	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
64	1,1,1,2-tetrachloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		211-135-1	630-20-6							
65	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
66	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
67	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
68	1,2,3-trichloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
69	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
70	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
71	1,2,4-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6							
72	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
73	1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1							
74	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-796-7	99-87-6							
75	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7							
76	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		203-209-7	104-51-8							
77	1,2-dichlorobenzene; o-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-034-00-7	202-425-9	95-50-1							
78	1,2-dibromo-3-chloropropane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-021-00-6	202-479-3	96-12-8							
79	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-087-00-6	204-428-0	120-82-1							
80	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		201-765-5	87-68-3							
81	1,2,3-trichlorobenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		201-757-1	87-61-6							
82	carbon disulphide				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	006-003-00-3	200-843-6	75-15-0							
83	dimethylnitrosoamine; N-nitrosodimethylamine				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	612-077-00-3	200-549-8	62-75-9							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
84	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
85	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
86	hexachloroethane 200-666-4	67-72-1			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
87	nitrosodipropylamine 612-098-00-8	210-698-0	621-64-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
88	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
89	3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
90	2-nitrophenol 201-857-5	88-75-5			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
91	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
92	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
93	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
94	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
95	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
96	2-methyl naphthalene 202-078-3	91-57-6			3.1	mg/kg		1.643	mg/kg	0.000164 %	✓	
97	4-nitrophenol; p-nitrophenol 609-015-00-2	202-811-7	100-02-7		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
98	hexachlorocyclopentadiene 602-078-00-7	201-029-3	77-47-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
99	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
100	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
101	2-chloronaphthalene 202-079-9	91-58-7			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
102	dimethyl phthalate 205-011-6	131-11-3			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
103	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
104	dibenzofuran 205-071-3	132-64-9			3.8	mg/kg		2.014	mg/kg	0.000201 %	✓	
105	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
106	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
107	diethyl phthalate 201-550-6	84-66-2			<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
108	DNOC (ISO); 4,6-dinitro-o-cresol 609-020-00-X	208-601-1	534-52-1		<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number								
109		azobenzene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		611-001-00-6	203-102-5	103-33-3								
110	■	4-bromophenylphenylether				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			202-952-4	101-55-3								
111		pentachlorophenol				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		604-002-00-8	201-778-6	87-86-5								
112	■	carbazole				4.6 mg/kg		2.438 mg/kg	0.000244 %	✓		
			201-696-0	86-74-8								
113		dibutyl phthalate; DBP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-318-00-4	201-557-4	84-74-2								
114		BBP; benzyl butyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-430-00-3	201-622-7	85-68-7								
115		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		607-317-00-9	204-211-0	117-81-7								
116	■	di-n-octyl phthalate				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
			204-214-7	117-84-0								
117	■	monohydric phenols				0.6 mg/kg		0.318 mg/kg	0.0000318 %	✓		
				P1186								
118		asbestos				0.004 mg/kg		0.0021 mg/kg	0.000000212 %	✓		
		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								
119		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD	
		604-004-00-9	203-577-9 [1]	108-39-4 [1]								
			202-423-8 [2]	95-48-7 [2]								
			203-398-6 [3]	106-44-5 [3]								
			215-293-2 [4]	1319-77-3 [4]								
120		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-026-00-3	208-750-2 [1]	540-59-0 [1]								
			205-859-7 [2]	156-59-2 [2]								
			205-860-2 [3]	156-60-5 [3]								
121		cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		601-024-00-X	202-704-5 [1]	98-82-8 [1]								
			203-132-9 [2]	103-65-1 [2]								
122		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-040-00-X	202-424-3 [1]	95-49-8 [1]								
			203-580-5 [2]	108-41-8 [2]								
			203-397-0 [3]	106-43-4 [3]								
			246-698-2 [4]	25168-05-2 [4]								
123		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD	
		612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2								
			202-729-1 [2]	[2] 100-01-6 [3]								
			202-810-1 [3]									
Total:									3.17 %			

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

Classification of sample: WS104-02/06/2021-1.70

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

Sample details

Sample name:	LoW Code:
WS104-02/06/2021-1.70	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)
1.70-2.00 m	
Moisture content:	
14%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				11	mg/kg	1.32	12.49	mg/kg	0.00125 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				<0.4	mg/kg	3.22	<1.288	mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.19	mg/kg	1.142	0.187	mg/kg	0.0000187 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				29	mg/kg	1.462	36.451	mg/kg	0.00365 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				48	mg/kg	1.126	46.477	mg/kg	0.00465 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	30	mg/kg		25.8	mg/kg	0.00258 %	✓	
	082-001-00-6											
8	mercury { mercury dichloride }				0.13	mg/kg	1.353	0.151	mg/kg	0.0000151 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				41	mg/kg	2.976	104.943	mg/kg	0.0105 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				0.3	mg/kg	2.554	0.659	mg/kg	0.0000659 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc oxide }				80	mg/kg	1.245	85.636	mg/kg	0.00856 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
12	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
15	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
16	ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
17	xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											
19	pH		PH		9.1	pH		9.1	pH	9.1 pH		
20	naphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
21	acenaphthylene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8									
22	acenaphthene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9									
23	fluorene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-695-5	86-73-7									
24	phenanthrene				0.88	mg/kg		0.757	mg/kg	0.0000757 %	✓	
		201-581-5	85-01-8									
25	anthracene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		204-371-1	120-12-7									
26	fluoranthene				3.1	mg/kg		2.666	mg/kg	0.000267 %	✓	
		205-912-4	206-44-0									
27	pyrene				2.4	mg/kg		2.064	mg/kg	0.000206 %	✓	
		204-927-3	129-00-0									
28	benzo[a]anthracene				1.4	mg/kg		1.204	mg/kg	0.00012 %	✓	
	601-033-00-9	200-280-6	56-55-3									
29	chrysene				1.3	mg/kg		1.118	mg/kg	0.000112 %	✓	
	601-048-00-0	205-923-4	218-01-9									
30	benzo[b]fluoranthene				1.6	mg/kg		1.376	mg/kg	0.000138 %	✓	
	601-034-00-4	205-911-9	205-99-2									
31	benzo[k]fluoranthene				0.58	mg/kg		0.499	mg/kg	0.0000499 %	✓	
	601-036-00-5	205-916-6	207-08-9									
32	benzo[a]pyrene; benzo[def]chrysene				1.2	mg/kg		1.032	mg/kg	0.000103 %	✓	
	601-032-00-3	200-028-5	50-32-8									
33	indeno[123-cd]pyrene				0.58	mg/kg		0.499	mg/kg	0.0000499 %	✓	
		205-893-2	193-39-5									
34	dibenz[a,h]anthracene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-041-00-2	200-181-8	53-70-3									
35	benzo[ghi]perylene				0.66	mg/kg		0.568	mg/kg	0.0000568 %	✓	
		205-883-8	191-24-2									
36	phenol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
37	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
38	tetrachloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
39	carbon tetrachloride; tetrachloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
40	trichloroethylene; trichloroethene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
41	vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
42	hexachlorobenzene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	602-065-00-6	204-273-9	118-74-1									

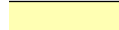
#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
43	vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	38.381	mg/kg	0.00384 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
44	dichlorodifluoromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		200-893-9	75-71-8									
45	chloromethane; methyl chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-001-00-7	200-817-4	74-87-3									
46	bromomethane; methylbromide				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	602-002-00-2	200-813-2	74-83-9									
47	chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	602-009-00-0	200-830-5	75-00-3									
48	trichlorofluoromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4									
49	1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-025-00-8	200-864-0	75-35-4									
50	bromochloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		200-826-3	74-97-5									
51	chloroform; trichloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-006-00-4	200-663-8	67-66-3									
52	1,1,1-trichloroethane; methyl chloroform				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6									
53	1,1-dichloropropene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6									
54	1,2-dichloropropane; propylene dichloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5									
55	dibromomethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3									
56	bromodichloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		200-856-7	75-27-4									
57	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
58	trans-1,3-dichloropropene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		431-460-4	10061-02-6									
59	1,1,2-trichloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5									
60	1,3-dichloropropane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		205-531-3	142-28-9									
61	dibromochloromethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		204-704-0	124-48-1									
62	1,2-dibromoethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	602-010-00-6	203-444-5	106-93-4									
63	chlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7									
64	1,1,1,2-tetrachloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		211-135-1	630-20-6									
65	styrene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5									
66	bromoform; tribromomethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2									
67	bromobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1									
68	1,2,3-trichloropropane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	602-062-00-X	202-486-1	96-18-4									
69	mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8									
70	tert-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6									
71	1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
72	sec-butylbenzene	205-227-0	135-98-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
73	1,3-dichlorobenzene	602-067-00-7	208-792-1	541-73-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
74	4-isopropyltoluene	202-796-7	99-87-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
75	1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
76	n-butylbenzene	203-209-7	104-51-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
77	1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
78	1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
79	1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
80	hexachlorobutadiene	201-765-5	87-68-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
81	1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
82	carbon disulphide	006-003-00-3	200-843-6	75-15-0	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
83	dimethylnitrosoamine; N-nitrosodimethylamine	612-077-00-3	200-549-8	62-75-9	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
84	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
85	bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
86	hexachloroethane	200-666-4	67-72-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
87	nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
88	nitrobenzene	609-003-00-7	202-716-0	98-95-3	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
89	3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
90	2-nitrophenol	201-857-5	88-75-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
91	3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7]	604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
92	bis(2-chloroethoxy)methane	203-920-2	111-91-1		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
93	2,4-dichlorophenol	604-011-00-7	204-429-6	120-83-2	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
94	4-chloroaniline	612-137-00-9	203-401-0	106-47-8	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
95	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol	604-014-00-3	200-431-6	59-50-7	<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
96	2-methyl naphthalene	202-078-3	91-57-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
97	4-nitrophenol; p-nitrophenol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	609-015-00-2	202-811-7	100-02-7									
98	hexachlorocyclopentadiene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	602-078-00-7	201-029-3	77-47-4									
99	2,4,6-trichlorophenol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	604-018-00-5	201-795-9	88-06-2									
100	2,4,5-trichlorophenol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	604-017-00-X	202-467-8	95-95-4									
101	2-chloronaphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		202-079-9	91-58-7									
102	dimethyl phthalate				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-011-6	131-11-3									
103	2,6-dinitrotoluene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	609-049-00-8	210-106-0	606-20-2									
104	dibenzofuran				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-071-3	132-64-9									
105	4-chlorophenylphenylether				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		230-281-7	7005-72-3									
106	2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
107	diethyl phthalate				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-550-6	84-66-2									
108	DNOC (ISO); 4,6-dinitro-o-cresol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	609-020-00-X	208-601-1	534-52-1									
109	azobenzene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	611-001-00-6	203-102-5	103-33-3									
110	4-bromophenylphenylether				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		202-952-4	101-55-3									
111	pentachlorophenol				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	604-002-00-8	201-778-6	87-86-5									
112	carbazole				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-696-0	86-74-8									
113	dibutyl phthalate; DBP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	607-318-00-4	201-557-4	84-74-2									
114	BBP; benzyl butyl phthalate				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	607-430-00-3	201-622-7	85-68-7									
115	bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	607-317-00-9	204-211-0	117-81-7									
116	di-n-octyl phthalate				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		204-214-7	117-84-0									
117	monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			P1186									
118	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
119	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
120	cumene; [1] propylbenzene [2]				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
121	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
122		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]									
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<1.5 mg/kg		<1.5 mg/kg	<0.00015 %		<LOD
Total:									0.04 %		

Key

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

Classification of sample: WS105-02/06/2021-0.30

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

Sample details

Sample name:	LoW Code:
WS105-02/06/2021-0.30	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30-1.00 m	
Moisture content:	
19%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				9.1	mg/kg	1.32	9.732	mg/kg	0.000973 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.19	mg/kg	1.142	0.176	mg/kg	0.0000176 %	✓	
	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	23.677	mg/kg	0.00237 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				35	mg/kg	1.126	31.919	mg/kg	0.00319 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	32	mg/kg		25.92	mg/kg	0.00259 %	✓	
	082-001-00-6											
7	mercury { mercury dichloride }				0.18	mg/kg	1.353	0.197	mg/kg	0.0000197 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				28	mg/kg	2.976	67.502	mg/kg	0.00675 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium selenate }				0.28	mg/kg	2.554	0.579	mg/kg	0.0000579 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc oxide }				50	mg/kg	1.245	50.411	mg/kg	0.00504 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	pH				8.7	pH		8.7	pH	8.7 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
14	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
15	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
16	phenanthrene				0.38	mg/kg		0.308	mg/kg	0.0000308 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		0.43 mg/kg		0.348 mg/kg	0.0000348 %	✓	
19	pyrene	204-927-3	129-00-0		0.4 mg/kg		0.324 mg/kg	0.0000324 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6		0.17 mg/kg		0.138 mg/kg	0.0000138 %	✓	
21	chrysene	601-048-00-0	205-923-4		0.23 mg/kg		0.186 mg/kg	0.0000186 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8		18 mg/kg	1.785	26.028 mg/kg	0.0026 %	✓	
Total:								0.024 %		

Key

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

Appendix A: Classifier defined and non CLP determinands

■ 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

CLP 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 CLP protocols, considers many simple lead compounds to be Carcinogenic category 2

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

■ 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

▪ **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)

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

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

CLP index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

▪ **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2 H225 , Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 1B H350 , Aquatic Chronic 3 H412

▪ **dichlorodifluoromethane** (EC Number: 200-893-9, CAS Number: 75-71-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3 H412 , Ozone 1 H420 , Press. Gas H280

▪ **trichlorofluoromethane** (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H312 , Ozone 1 H420

▪ **bromochloromethane** (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H312 , Skin Corr. 1B H314 , Eye Dam. 1 H318 , Acute Tox. 4 H332 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Ozone 1 H420

• **bromodichloromethane** (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302, Skin Irrit. 2 H315, Eye Dam. 1 H318, Eye Irrit. 2 H319, STOT SE 3 H335, Muta. 1B H340, Carc. 1B H350, Repr. 1A H360

• **trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226, Acute Tox. 3 H301, Asp. Tox. 1 H304, Acute Tox. 3 H311, Skin Irrit. 2 H315, Skin Sens. 1 H317, Eye Irrit. 2 H319, Acute Tox. 4 H332, STOT SE 3 H335, Aquatic Chronic 1 H410

• **1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H332, Flam. Liq. 2 H225, Flam. Liq. 3 H226, Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335

• **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Acute Tox. 4 H332, STOT SE 3 H335, STOT SE 3 H336, Muta. 2 H341, Aquatic Chronic 2 H411

• **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302, Acute Tox. 1 H310, Eye Irrit. 2 H319, Acute Tox. 3 H331, Eye Dam. 1 H318, Acute Tox. 4 H332, Carc. 2 H351, Acute Tox. 4 H312, Aquatic Chronic 3 H412, Skin Irrit. 2 H315

• **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Acute Tox. 3 H331, Acute Tox. 4 H332, STOT SE 3 H335, Asp. Tox. 1 H304, Aquatic Chronic 2 H411

• **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Aquatic Chronic 2 H411

• **4-isopropyltoluene** (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335, Aquatic Chronic 2 H411

• **n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Aquatic Acute 1 H400, Aquatic Chronic 1 H410

• **hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 3 H301, Acute Tox. 2 H310, Skin Irrit. 2 H315, Skin Sens. 1 H317, Eye Irrit. 2 H319, Acute Tox. 2 H330, Carc. 2 H351, Repr. 2 H361, STOT SE 2 H371, Aquatic Acute 1 H400, Aquatic Chronic 1 H410

▪ **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , STOT SE 3 H336 , Aquatic Acute 1 H400 , Aquatic Chronic 3 H410

▪ **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , STOT RE 2 H373

▪ **2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 4 H332 , STOT SE 3 H335 , STOT RE 2 H373 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **bis(2-chloroethoxy)methane** (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 4 H312 , Acute Tox. 1 H330 , Acute Tox. 2 H330 , STOT SE 1 H370 , STOT RE 2 H373

▪ **2-methyl naphthalene** (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , STOT SE 3 H336 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **2-chloronaphthalene** (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

▪ **dimethyl phthalate** (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 3 H331 , STOT SE 3 H335 , STOT SE 3 H336 , Repr. 2 H361 , Aquatic Chronic 3 H412

▪ **dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Acute Tox. 4 H332 , Aquatic Chronic 2 H411

▪ **4-chlorophenylphenylether** (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Dam. 1 H318 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **diethyl phthalate** (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Skin Irrit. 2 H315 , Acute Tox. 3 H331 , Acute Tox. 3 H311 , STOT SE 3 H335 , STOT RE 2 H373 , Repr. 2 H361 , Acute Tox. 4 H302 , STOT SE 3 H336 , Skin Sens. 1 H317 , Aquatic Chronic 1 H410

■ **4-bromophenylphenylether** (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Dam. 1 H318 , Eye Irrit. 2 H319 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Muta. 2 H341 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Acute Tox. 3 H331 , Acute Tox. 3 H311 , Acute Tox. 3 H301

■ **di-n-octyl phthalate** (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Repr. 2 H361 , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Eye Irrit. 2 H319 , Aquatic Chronic 4 H413

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

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xlenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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 (edit as required)

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. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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 (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

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. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

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.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc oxide}

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

vanadium {divanadium pentaoxide; vanadium pentoxide}

worst case/most likely scenario

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 (edit as required)

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] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**

HazWasteOnline Classification Engine Version: 2021.162.4804.9151 (21 Jun 2021)

HazWasteOnline Database: 2021.162.4804.9151 (21 Jun 2021)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix H

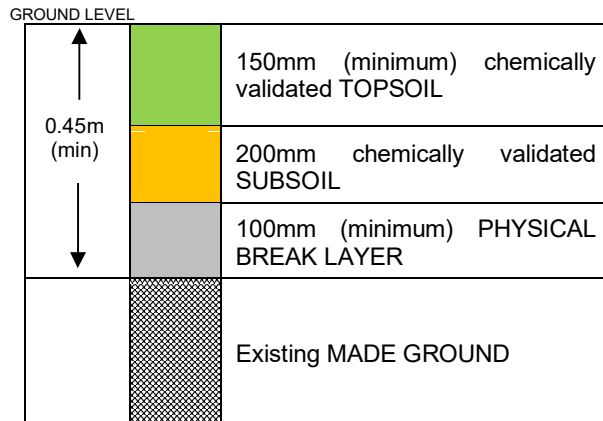
Environmental Cover System Construction

Shared Landscaping

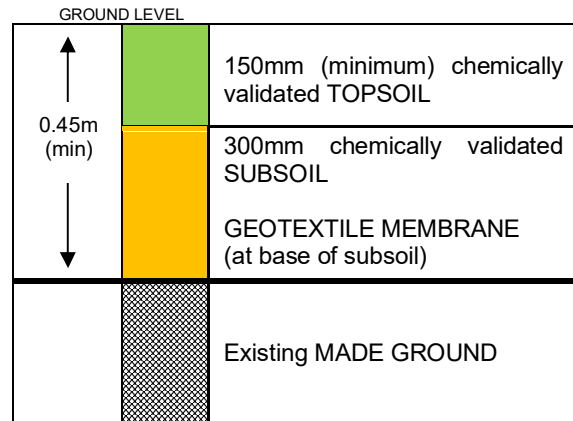
PRIVATE BACK GARDENS:

SHARED LANDSCAPING:

Either (physical break layer)



Or (geotextile membrane)



Hardstood Areas – No Remediation Required

Appendix I

JIWG Assessments

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	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
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		10
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.

Stage 2		Score
Emission Factors		
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Low quantities - >0.01 to <0.05 %wt/wt	2
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	Moderate disturbance, slight deterioration expected	3
Best description of primary host material matrix	Made Ground - Recycled Aggregate, Track Ballast	4
Sub-total		11
Exposure ranking		Medium

Stage 3		Score	
Pathway and Receptor Sensitivity			
Receptor category	Residential	No score required	
Age of Receptor	Infant (under 5)	4	
Duration of exposure/site occupancy	>> 10 hours per day (e.g. 24 hour residential exposure)	4	
Receptor ranking		8	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 present near the surface, potential to be disturbed during non-construction/routine use of land	D	
Pathway ranking		4D	Medium
Overall ranking			Medium

Project Reference	LKC 21 1152
Site Name	Former Chtasworth Mill
Client	Mangrove Estates Ltd
Run by	M Thorniley
Date	20.7.21
Reviewed by	PQ
Characterisation of scenario being evaluated	Chrysotile fibres in shallow soil
Interpretation of scenario ranking by DST	



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

Project Reference
Site Name
Client
Run by
Date
Scenario details

LKC 21 1152
Former Chatsworth Mill
Mangrove Estates Ltd
MT
20.7.21

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

Score

Select ACM type (run model for each type to generate 'Worst Case' output)
Extent of degradation of ACMs at outset of work
Friability and degree of bonding by matrix (ACM matrix, not ground materials)
Distribution of Visible Asbestos Across Affected Area
Amount of asbestos fibre in selected ACM/fibre type as % of host material

Free dispersed fibres/fibre bundles	2
Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
No visible ACMs/fibre bundles	0
Very Low quantities - <0.001 to 0.01 %wt/wt	1

Sub-total

11

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking

Medium

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It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

Stage 2

Exposure Factors

Score

Anticipated airborne fibre concentration - Control Limit or SALI?

<0.001 fibres/ml

0

Anticipated duration of exposure to asbestos

> 2 hours in a 7 day period and Up to 10 hours in a day (e.g. full time occupational exposure)

4

Activity type and effect on deterioration of ACMs during work

Low intensity, no or minimal deterioration expected

0

Best description of primary host material matrix (soil/made ground)

Made Ground - Recycled Aggregate, Track Ballast

4

Respirable fibre index for ACM - RIVM report 711701034 (2003)

Medium

3

Sub-total

11

Exposure ranking

Medium

Combined hazard and exposure ranking

22

Medium

Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	EN149 type FFP3 disposable
Dust Suppression**	Manual/localised dust suppression
Hygiene/Decontamination***	Localised and basic personal decontamination facilities

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.

**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)

***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis

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- » Asbestos
- » Invasive Species
- » Land Remediation
- » Project Management
- » Land Drilling